

**Bendix Wheels and Brakes Division**  
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P.O. Box 10  
South Bend, IN 46624 USA  
Telephone (219) 231-2000

Nov 14 12 09 PM '89

JND00546  
1165

OFFICE OF SOLID  
AND HAZARDOUS  
WASTE MGMT  
DEM.

November 13, 1989

Mr. Steve Pauly  
Indiana Department of Environmental Management  
105 South Meridian Street  
P.O. Box 6015  
Indianapolis, IN 46241

Dear Mr. Pauly:

Pursuant to your telephone conversation on November 13, 1989 with Mike Stepanek, Jr., our counsel, the following ground water monitoring reports for the South Bend Bendix Complex are enclosed:

- 1) Copy No. 12, 4th Quarter 1988
- 2) Copy No. 7, 1st Quarter 1989
- 3) Copy No. 3, 2nd Quarter 1989

You may contact me by phone (219) 231-2301 if you have any questions regarding this matter.

Sincerely,

*Richard L. Carpenter*

Richard L. Carpenter  
Manager, Environmental Control and Safety

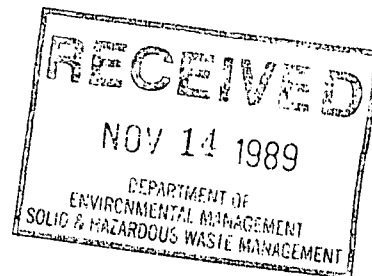
RLC:mbt

cc: L. E. Earleywine  
M. J. Stepanek, Jr., Esq.

Bendix  
+ a gleason  
associates  
IWD 005461165

GROUNDWATER MONITORING REPORT  
2ND QUARTER 1989  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND COMPLEX  
SOUTH BEND, INDIANA

October 6, 1989



PROJECT # ALCMPX SBIN 022

COPY NO. 3

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TABLE 1 - SAMPLE SUMMARY  
2ND QUARTER 1989

<u>Monitor Wells</u>		<u>Naptha Recovery Wells</u>	
1-D	S-14	E-3	
2-D	S-15	RWB-6	
5-D	S-16	RWB-16	
7-D	S-17	RWB-21	
8-D	S-20	RWB-22	
9-33	S-21		
86-10	S-22*		
86-15	S-23		
D-4	S-24		
D-7	S-25		
S-1*	S-26*		
S-4A*	S-27		
S-9			

<u>VOC Recovery Wells</u>		
<u>QA/QC Samples</u>	<u>Sample Location</u>	<u>Recovery Well(s)</u>
Field Blank 1	RW 1-7	RW 1, 2, 3, 3A, 4, 5, 6, 7
Field Blank 2	RW 8-12	RW 8, 9, 9A, 10, 11, 12
Field Blank 3	RW 13	RW 13
Field Blank 4	RW 17**	RW 14, 15, 16, 17
S-1 Duplicate	RW 18-19	RW 18, 19
S-22 Duplicate		
S-26 Duplicate		
S-4A Duplicate		

\*Duplicate Sample Taken

\*\*Not Sampled This Episode







WELL NO.	SAMPLE #	DATE	LAB	SPECIFIC													NOTES:		
				CONDUCTANCE	PH	TEMP C	ANTIMONY UG/L	ARSENIC UG/L	BERYLLIUM UG/L	CADMIUM UG/L	CHROMIUM UG/L	COPPER UG/L	LEAD UG/L	MERCURY UG/L	NICKEL UG/L	SELENIUM UG/L		SILVER UG/L	THALLIUM UG/L
S-15	27	11/06/86	AQUA				<6	<4	<1	16	48	<0.3	16	<12	<4	<3	120	<0.010	<0.010
	23	12/18/86	AQUA				<3	<4	<1	<10	20	<0.3	16	<4	8	<15	48	<0.010	<0.010
	6	06/05/87	AQUA	1700	7.27	16				<5							10	0.041	0.01
	5	09/03/87	AQUA	1625	7.18	15				<10							4	<0.005	<0.010
	6	09/03/87	AQUA	1625	7.18	15				<10							12	<0.005	<0.010
	24	01/14/88	AQUA	2300	6.42	12				<20							10	<0.02	0.01
	4	02/08/88	AQUA	2650	7.30	12				<20							10	<0.01	0.034
	6	05/18/88	AQUA	2300	7.22	14				<30							21	<0.01	0.04
														TABLE 3					
	6	09/23/88	AQUA	1800	6.85	18.5				<30							<20	<0.01	0.06
														GROUNDWATER QUALITY ANALYSIS					
														METALS, CYANIDE AND PHENOLS					
														PAGE 17 OF 28					
														MONITOR WELLS					
														GROUNDWATER INVESTIGATIONS					
														ALLIED CORPORATION					
														SOUTH BEND, INDIANA					
														PROJECT ALCHPK SBIN 013					
														T A GLEASON ASSOCIATES					
														Environmental and Geotechnical Services					

< = LESS THAN

METAL SAMPLES COLLECTED SINCE 6/05/87 WERE FILTERED IN THE FIELD THROUGH .45 MICRON FILTER

BLANK SPACE INDICATES ANALYSIS NOT PERFORMED



WELL NO.	SAMPLE #	DATE	LAB	SPECIFIC CONDUCTANCE	PH	TEMP C	ANTIMONY UG/L	ARSENIC UG/L	BERYLLIUM UG/L	CADMIUM UG/L	CHROMIUM UG/L	COPPER UG/L	LEAD UG/L	MERCURY UG/L	NICKEL UG/L	SELENIUM UG/L	SILVER UG/L	THALLIUM UG/L	ZINC UG/L	CYANIDE UG/L	PHENOLS UG/L	NOTES
S-16	11	11/06/86	AQUA				<6	<4	<1	<1	<10	310	65	<0.3	12	<16	<4	<3	220	<0.010	0.060	METAL SAMPLES COLLECTED SINCE 6/05/87 WERE FILTERED IN THE FIELD THROUGH .45 MICRON FILTER
	19	12/18/86	AQUA				<6	<4	<1	1	<10		<10	<0.3	12	<8	4	<9	52	<0.010	<0.010	BLANK SPACE INDICATES ANALYSIS NOT PERFORMED
	29	12/18/86	CCL				<3	<4	<1	1	<10		<9	0.4	<10	<8	4	<9	4	<0.010	<0.010	
	11	02/12/87	AQUA	1450		15					<10		13						40			
	12	06/05/87	AQUA	1150	7.57	19					<5		7						20	0.07	<0.010	CCL=COMPUCHER LABORATORY
	28	09/04/87	AQUA	1100	7.44	15					<10		<4						40	0.012	0.017	
	27	01/15/88	AQUA	1700	6.92	11					<20		<30						10	<0.02	0.01	
	12	02/09/88	AQUA	2100	7.62	12					<20		<3						10	0.04	<0.010	
	25	5/19/88	AQUA	1450	7.49	14					<30		<5						<20	<0.01	0.02	TABLE 3
	14	09/23/88	AQUA	1110	7.20	16.5					<30		<6						<20	<0.01	0.07	GROUNDWATER QUALITY ANALYSIS METALS, CYANIDE AND PHENOLS PAGE 18 OF 28 MONITOR WELLS
																						GROUNDWATER INVESTIGATIONS ALLIED CORPORATION SOUTH BEND, INDIANA PROJECT ALCHPX 88IN 013
																						T A GLEASON ASSOCIATES Environmental and Geotechnical Services





S17ACPMW  
07-Oct-88

WELL NO.	SAMPLE #	DATE	LAB	SPECIFIC CONDUCTANCE	PH	TEMP C	ANTHONY	ARSENIC	BERYLLIUM	CADMIUM	CHROMIUM	COPPER	LEAD	MERCURY	NICKEL	SELENIUM	SILVER	THALLIUM	ZINC	CYANIDE	PHENOLS	NOTES:	
				UMHOS/CH	SU		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	MG/L	MG/L	OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.
S-17	16	11/06/86	AQUA				<3	<4	<1	<10	12	23	<0.3	20	<24	<4	<3	150	<0.10	0.025		METAL SAMPLES COLLECTED SINCE 6/05/87 WERE FILTERED IN THE FIELD THROUGH .45 MICRON FILTER	
	15	06/05/87	AQUA	1350	7.55	15			<5				<3					<10	0.024	<0.010			
	20	09/03/87	AQUA	1275	7.62	15			<10				<3					4	<0.005	0.426			
	22	01/14/88	AQUA	1475	6.57	13			<20				<20					10	<0.02	0.01		BLANK SPACE INDICATES ANALYSIS NOT PERFORMED	
	33	02/10/88	AQUA	2100	7.25	12			30				<3					<10	0.01	<0.010			
	26	5/19/88	AQUA	1400	7.17	13			<30				<5					<20	<0.01	<0.01			
	12	09/23/88	AQUA	1120	7.10	17			<30				<6					<20	<0.01	<0.01			
TABLE 3																							
GROUNDWATER QUALITY ANALYSIS																							
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SOUTH BEND, INDIANA																							
PROJECT ALCHPX SBIN 013																							
T A GLEASON ASSOCIATES																							
Environmental and Geotechnical Services																							



WELL NO.	SAMPLE #	DATE	LAB	SPECIFIC													NOTES					
				CONDUCTANCE	PH	TEMP	ANTIMONY	ARSENIC	BERYLLIUM	CADMIUM	CHROMIUM	COPPER	LEAD	MERCURY	NICKEL	SELENIUM		SILVER	THALLIUM	ZINC	CYANIDE	PHENOLS
				UMHOS/CH	SU	C	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	MG/L	MG/L		
S-20	30	11/07/86	AQUA				<3	<4	<1	16	16	25	<10	<8	<4	<6	64	0.02	<0.010			
	16	06/05/87	AQUA			13				<5		<3										
	10	09/03/87	AQUA			14				<10		<3						10	0.026	<0.010		
	7	01/13/88	AQUA			12				<20		<30						12	<0.005	0.011		
	19	02/09/88	AQUA			12				<20		<3						10	<0.02	0.07		
	19	5/18/88	AQUA			14				<30		<5						10	<0.01	1.48		
	23	09/25/88	AQUA			14				<30		<6						<20	<0.01	0.16		
	24	09/25/88	AQUA							<30		<6						<20	<0.01	0.07		
TABLE 3																						
GROUNDWATER QUALITY ANALYSIS																						
METALS, CYANIDE AND PHENOLS																						
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METAL SAMPLES COLLECTED SINCE 6/05/87 WERE FILTERED IN THE FIELD THROUGH .45 MICRON FILTER

BLANK SPACE INDICATES ANALYSIS NOT PERFORMED

GROUNDWATER QUALITY ANALYSIS  
METALS, CYANIDE AND PHENOLS  
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MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED CORPORATION  
SOUTH BEND, INDIANA  
PROJECT ALCHPX SBIN 013

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services

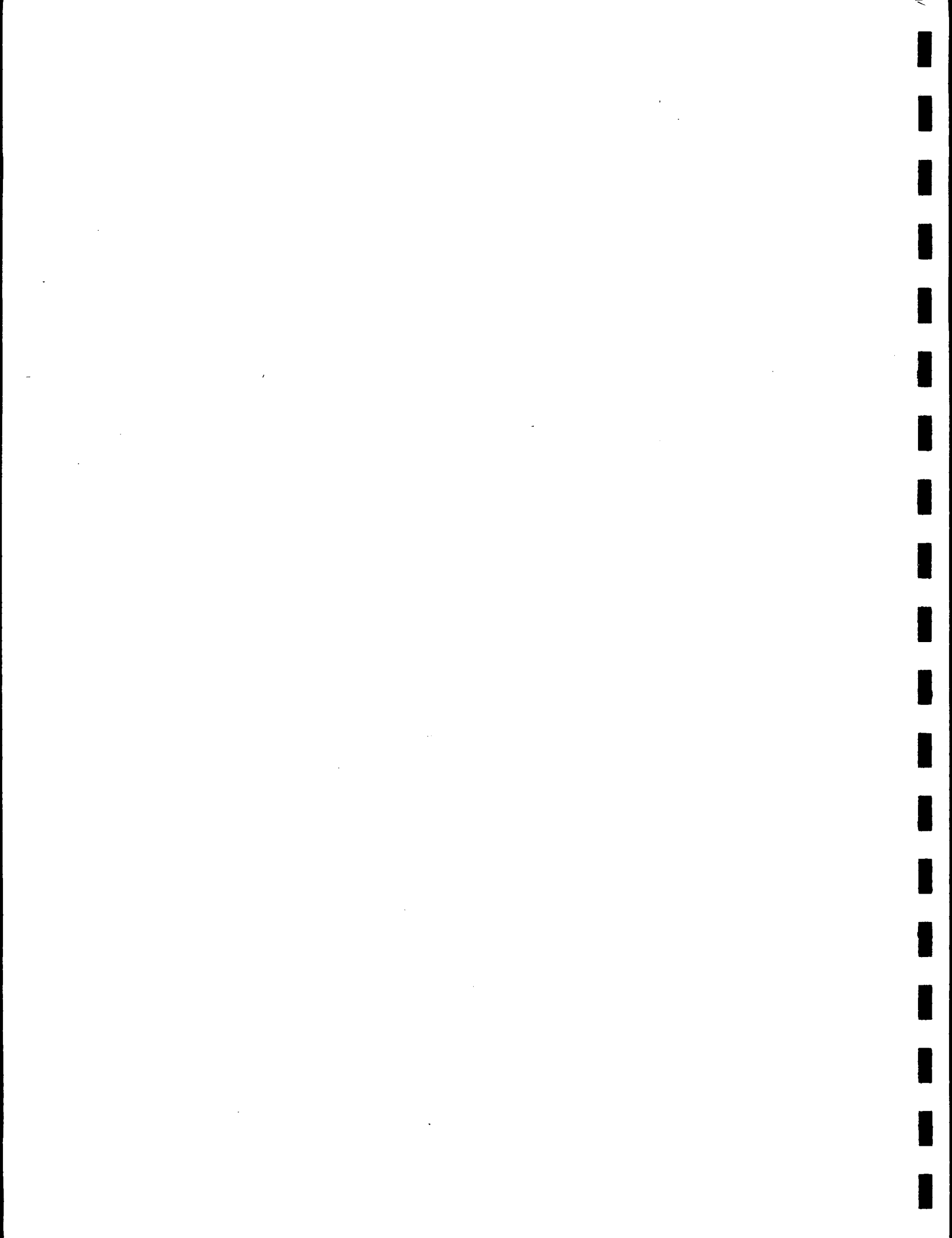


TABLE 1 - SAMPLE SUMMARY  
3RD QUARTER 1988

Quarterly Sampling  
Monitor Wells

Existing Naptha  
Recovery Wells

1-D	S-9	E-3
2-D	S-14	RWB-6
4-D	S-15	RWB-16
5-D	S-16	RWB-21**
7-D	S-17	RWB-22
8-D	S-20*	
7-25	S-21	
9-33	S-22	
D-4	S-23	
D-7	S-24	
S-1	S-25	
S-3	S-26	
S-4A*	S-27	

\* Duplicate Sample Taken

\*\* Not Sampled This Episode



NOTES:

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

1 = SURVEYED BY LANG, FEENEY & ASSOC., INC. 9/87.

WATER ELEVATIONS PRIOR TO JULY 1987 ARE BASED ON FORMER REFERENCE ELEVATIONS.

\* = FORMER REFERENCE ELEVATIONS

NM - NOT MEASURED THIS DATE

TABLE 2

WATER LEVEL MEASUREMENTS

GROUNDWATER INVESTIGATIONS

ALLIED COMPLEX  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX 013

T A GLEASON ASSOCIATES

Environmental and  
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WELL NO.	REFERENCE ELEVATION	09/21-25/88		05/17/88		02/03/88		01/2/88	
		WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION
S-1	728.09	NM	NM	NM	NM	NM	NM	NM	NM
S-2	721.82	NM	701.44	20.38	701.22	20.60	701.20	20.62	701.20
S-3	716.65	19.69	696.96	19.40	697.25	19.92	696.73	19.95	696.70
S-5	712.83	10.30	702.53	13.77	699.06	14.19	698.64	14.18	698.65
S-6	713.08	NM	NM	NM	NM	NM	NM	NM	NM
S-7	716.16	17.89	698.27	17.43	698.73	17.70	698.46	17.72	698.44
S-8	714.65	18.36	696.29	17.93	696.72	18.39	696.26	18.39	696.26
S-9	714.17	17.35	696.82	16.90	697.27	17.28	696.89	17.28	696.89
S-10	715.40 *	NM	NM	NM	NM	NM	NM	NM	NM
S-11	715.64 *	NM	NM	NM	NM	NM	NM	NM	NM
S-12	721.45	20.34	701.11	19.87	701.58	20.12	701.33	20.15	701.30
S-13	721.10 *	NM	NM	NM	NM	NM	NM	NM	NM
S-14	711.86	15.55	696.31	15.03	696.83	15.40	696.46	15.42	696.44
S-15	714.37	18.35	696.02	17.83	696.54	18.28	696.09	18.27	696.10
S-16	716.18	18.84	697.34	17.88	698.30	18.61	697.57	18.62	697.56
S-17	716.97	NM	NM	18.11	698.86	NM	NM	NM	NM
S-18	715.41	17.43	697.98	15.90	699.51	16.95	698.46	17.00	698.41
S-19	723.38	20.74	702.64	20.09	703.29	20.44	702.94	20.43	702.95
S-20	709.97	14.85	695.12	14.83	695.14	15.08	694.89	15.09	694.88
S-21	711.33	NM	NM	NM	NM	NM	NM	NM	NM
S-22	709.33	NM	NM	NM	NM	NM	NM	NM	NM
S-23	710.24	16.04	694.20	15.41	694.83	15.90	694.34	15.95	694.29
S-24	713.03	NM	NM	15.12	697.91	NM	NM	NM	NM
S-25	710.60	15.31	695.29	14.94	695.66	15.30	695.30	15.30	695.30
S-26	714.50	17.42	697.08	16.82	697.68	17.53	696.97	17.52	696.98
S-27	715.40	18.92	696.48	18.40	697.00	18.92	696.48	18.87	696.53





NOTES:

(1)

09/21-25/88

05/17/88

02/03/88

01/2/88

WELL NO.	REFERENCE ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	NOTES
D-1	720.73 *	NM		NM		NM		NM		OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.  1 = SURVEYED BY LANG, FEENEY & ASSOC., INC. 9/87. WATER ELEVATIONS PRIOR TO JULY 1987 ARE BASED ON FORMER REFERENCE ELEVATIONS.  * = FORMER REFERENCE ELEVATIONS
D-1A	721.69 *	NM		NM		NM		NM		
D-3	714.51	18.67	695.84	17.52	696.99	18.06	696.45	18.06	696.45	
D-4	717.85	21.27	696.58	20.26	697.59	20.70	697.15	20.70	697.15	
D-5	712.14	15.90	696.24	14.94	697.20	15.30	696.84	15.31	696.83	
D-7	713.83	17.04	696.79	16.00	697.83	16.40	697.43	16.42	697.41	
D-8	717.04	20.11	696.93	19.01	698.03	19.48	697.56	19.50	697.54	
D-9	717.00 *	NM		NM		NM		NM		
D-10	716.53	18.76	697.77	17.12	699.41	17.98	698.55	18.00	698.53	
D-11	723.47	20.83	702.64	20.14	703.33	20.52	702.95	20.53	702.94	
D-12	710.29	23.93	686.36	21.47	688.82	21.99	688.30	22.30	687.99	
I-1	711.52	17.34	694.18	16.38	695.14	16.69	694.83	16.76	694.76	
1-0	714.17	NM		15.84	698.33	16.35	697.82	16.32	697.85	
2-0	715.36	18.35	697.01	17.23	698.13	17.74	697.60	17.75	697.61	
3-0	713.29	19.40	693.89	17.81	695.48	18.20	695.09	18.22	695.07	
4-0	712.10	23.56	688.54	22.01	690.09	22.48	689.62	22.56	689.54	
5-0	712.01	25.05	686.96	22.81	689.20	23.10	688.91	23.53	688.48	
6-0	711.41	24.95	686.46	22.79	688.62	23.19	688.22	23.39	688.02	
7-0	714.85	18.63	696.22	17.55	697.30	17.84	697.01	17.85	697.00	
8-0	714.56	17.88	696.68	16.80	697.76	17.17	697.39	17.17	697.39	

TABLE 2

WATER LEVEL MEASUREMENTS

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GROUNDWATER INVESTIGATIONS

ALLIED COMPLEX

SOUTH BEND, INDIANA

PROJECT # ALCMPX 013

T A GLEASON ASSOCIATES

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WELL NO.	REFERENCE ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	NOTES:
	(1)											
86-1	715.70 *	NM		NM		NM		NM		NM		
86-2	714.98 *	NM		NM		NM		NM		NM		
86-4	715.09 *	NM		NM		NM		NM		NM		
86-5	715.04 *	NM		NM		NM		NM		NM		
86-6	***	NM		NM		NM		NM		NM		
86-7	714.15	16.81	697.34	15.54	698.61	16.12	698.03	16.12	698.03	16.12	698.03	
86-8	714.62 *	17.22	697.40	NM		NM		NM		NM		
86-9	715.25 *	17.86	697.39	NM		NM		NM		NM		
86-10	715.06	17.75	697.31	16.49	698.57	17.1	697.96	17.43	697.63	17.43	697.63	
86-11	715.14 *	18.89	696.25	NM		NM		NM		NM		
86-12	715.71 *	18.42	697.29	NM		NM		NM		NM		
86-13	714.75	17.44	697.31	NM		NM		NM		NM		
86-14	715.05 *	17.55	697.50	NM		NM		NM		NM		
86-15	715.06 *	17.24	697.82	16.34	697.63	17.1	697.63	NM		NM		
86-18	714.84	18.53	696.31	17.69	697.15	18.21	696.63	18.22	696.62	18.22	696.62	
86-19	714.33	NM		NM		NM		NM		NM		
86-20	713.07 *	NM		NM		NM		NM		NM		
86-21	713.76 *	NM		NM		NM		NM		NM		
7-25	720.47	NM		20.31	700.16	20.8	699.67	20.84	699.63	20.84	699.63	
7-50	719.83	11.24	708.59	19.97	699.86	20.21	699.62	20.24	699.59	20.24	699.59	
8-27	715.45 *	NM		NM		NM		NM		NM		
9-33	716.69	18.55	698.14	17.99	698.7	18.37	698.32	18.38	698.31	18.38	698.31	
OH-1	***	14.89		NM		NM		NM		NM		
OH-2	***	14.95		NM		NM		NM		NM		
S4-A	***	14.87		13.9		NM		14.21		14.21		
RWB-6	715.80	19.59	696.21	18.65	697.15	19.02	696.78	19.00	696.80	19.00	696.80	
RWB-16	715.30	NM		17.78	697.52	18.29	697.01	18.31	696.99	18.31	696.99	
RWB-21	717.62	NM		20.82	696.8	21.14	696.48	21.10	696.52	21.10	696.52	
RWB-22	715.11	22.13	692.98	18.01	697.1	18.43	696.68	18.44	696.67	18.44	696.67	
RWE-3	714.50	19.92	694.58	19.21	695.29	19.52	694.98	19.51	694.99	19.51	694.99	

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

1 = SURVEYED BY LANG, FEENEY & ASSOC., INC. 9/87.

WATER ELEVATIONS PRIOR TO JULY 1987 ARE BASED ON FORMER REFERENCE ELEVATIONS.

\* = FORMER REFERENCE ELEVATIONS

\*\*\* = NO REFERENCE ELEVATION

NM - NOT MEASURED THIS DATE

TABLE 2

WATER LEVEL MEASUREMENTS

PAGE 3 OF 3

GROUNDWATER INVESTIGATIONS

ALLIED COMPLEX

SOUTH BEND, INDIANA

PROJECT # ALCPX 013

T A GLEASON ASSOCIATES

Environmental and Geotechnical Services



1DMCPHW  
07-Oct-88

WELL NO.	SAMPLE #	DATE	LAB	SPECIFIC CONDUCTANCE	PH	TEMP C	SU	ANTIMONY UG/L	ARSENIC UG/L	BERYLLIUM UG/L	CADMIUM UG/L	CHROMIUM UG/L	COPPER UG/L	LEAD UG/L	MERCURY UG/L	NICKEL UG/L	SELENIUM UG/L	SILVER UG/L	THALLIUM UG/L	ZINC UG/L	CYANIDE MG/L	PHENOLS MG/L	
1-D	13	01/09/87	AQUA					<1	<8	<0.4	3	40	<4	240	<0.3	12	<4	<4	<1	44			
	1	02/12/87	AQUA	1300		11						18		52						14			
	13	06/05/87	AQUA	1250	7.62	13					<5			5						20	0.022	<0.010	
	22	09/04/87	AQUA	1200	7.71	14					20			39						160	0.009	0.048	
	13	01/14/88	AQUA	1400	6.47	10					<20			<30						10	<0.02	<0.010	
	16	02/09/88	AQUA	2200	7.32	13					30			<3						<10	<0.01	<0.010	
	11	05/18/88	AQUA	1400	7.26	14					<30			<5						21	<0.01	<0.01	
	11	09/23/88	AQUA	1380	6.95	13					<30			<6						<20	<0.01	0.02	

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
METALS, CYANIDE  
AND PHENOLS  
PAGE 1 OF 28  
MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED CORPORATION  
SOUTH BEND, INDIANA  
PROJECT ALCMPX SBIN 013  
T A GLEASON ASSOCIATES  
Environmental and  
Geotechnical Services

NOTES:  
OUR INTERPRETATIONS OF  
THESE DATA ARE LIMITED TO  
OUR WRITTEN REPORTS.  
< = LESS THAN

METAL SAMPLES COLLECTED  
SINCE 6/05/87 WERE  
FILTERED IN THE FIELD  
THROUGH .45 MICRON FILTER

BLANK SPACE INDICATES  
ANALYSIS NOT PERFORMED



WELL NO.	SAMPLE #	DATE	LAB	CONDUCTANCE	PH	TEMP C	ANTIMONY	ARSENIC	BERYLLIUM	CADMIUM	CHROMIUM	COPPER	LEAD	MERCURY	NICKEL	SELENIUM	SILVER	THALLIUM	ZINC	CYANIDE	PHENOLS	NOTES
				UMHOS/CH	SU		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	MG/L	MG/L	
2-D	2	12/18/86	AQUA				<6	7	<1	<1	<10	16	20	<0.3	16	<8	<4	<9	120			METAL SAMPLES COLLECTED SINCE 6/05/87 WERE FILTERED IN THE FIELD THROUGH .45 MICRON FILTER
	11	06/05/87	AQUA	1200	7.69	17				<5			<3									OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.
	19	09/03/87	AQUA	1150	7.81	15				<10			<3						12	<0.005	0.722	< = LESS THAN
	34	01/15/88	AQUA	1390	7.18	13				<20			<30						10	<0.02	0.015	
	11	02/09/88	AQUA	2550	7.39	13				<20			<3						10	<0.01	2.8	BLANK SPACE INDICATES ANALYSIS NOT PERFORMED
	24	05/19/88	AQUA	1470	7.39	15				<30			<5						<20	<0.01	<0.01	
	20	09/24/88	AQUA	1005	7.10	16				<30			<6						<20	<0.01	0.02	
TABLE 3																						
GROUNDWATER QUALITY ANALYSIS																						
METALS, CYANIDE AND PHENOLS																						
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MONITOR WELLS																						
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ALLIED CORPORATION																						
SOUTH BEND, INDIANA																						
PROJECT ALCHPX SBIN 013																						
T A GLEASON ASSOCIATES																						
Environmental and Geotechnical Services																						









WELL NO.	SAMPLE #	DATE	LAB	SPECIFIC													NOTES				
				CONDUC-	TANCE	PH	TEMP	ANTIMONY	ARSENIC	BERYLLIUM	CADMIUM	CHROMIUM	COPPER	LEAD	MERCURY	NICKEL		SELENIUM	SILVER	THALLIUM	ZINC
				UMHOS/CM	SU	C	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	MG/L	MG/L
5-D	4	12/18/86	AQUA				<6	<4	<1	<10	8	<6	<0.3	<10	<16	4	<12	52			
	5	12/18/86	AQUA				<6	<1	2	<10	8	<6	<0.3	<10	<16	<4	<9	40			
	19	06/15/87	AQUA	1000	7.90	14				<5		<3						10	0.013	<0.010	
	15	09/06/87	AQUA	950	7.81	13				<10		<3						16	<0.005	<0.010	
	12	01/14/88	AQUA	1240	6.71	9				<20		<30						10	<0.02	<0.010	
	21	02/09/88	AQUA	2050	6.95	13				20		<3						<10	<0.01	0.039	
	14	05/18/88	AQUA	1000	7.18	14				<30		<5						<20	<0.01	0.02	
	15	09/23/88	AQUA	1215	6.80	13				<30		<6						<20	<0.01	0.04	
GROUNDWATER QUALITY ANALYSIS																					
METALS, CYANIDE																					
AND PHENOLS																					
PAGE 4 OF 28																					
MONITOR WELLS																					
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ALLIED CORPORATION																					
SOUTH BEND, INDIANA																					
PROJECT ALCHPX SB1H 013																					
T A GLEASON ASSOCIATES																					
Environmental and																					
Geotechnical Services																					

<= LESS THAN

METAL SAMPLES COLLECTED SINCE 6/05/87 WERE FILTERED IN THE FIELD THROUGH .45 MICRON FILTER

BLANK SPACE INDICATES ANALYSIS NOT PERFORMED

TABLE 3

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80NCPM  
07-Oct-88

WELL NO.	SAMPLE #	DATE	LAB	SPECIFIC CONDUCTANCE		PH	TEMP C	ANTIMONY UG/L	ARSENIC UG/L	BERYLLIUM UG/L	CADMIUM UG/L	CHROMIUM UG/L	COPPER UG/L	LEAD UG/L	MERCURY UG/L	NICKEL UG/L	SELENIUM UG/L	SILVER UG/L	THALLIUM UG/L	ZINC UG/L	CYANIDE MG/L	PHENOLS MG/L	NOTES	
				SU	CM																			
8-0	30	09/06/87	AQUA	1300	7.29	16								<3										METAL SAMPLES COLLECTED SINCE 6/05/87 WERE FILTERED IN THE FIELD THROUGH .45 MICRON FILTER
	28	01/15/88	AQUA	2200	6.84	11								<30										OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.
	29	01/15/88	AQUA	2200	6.84	11								<30										< = LESS THAN
	13	02/09/88	AQUA	2700	7.40	13								<3										
	14	02/09/88	AQUA	2700	7.40	13								<3										BLANK SPACE INDICATES ANALYSIS NOT PERFORMED
	23	05/19/88	AQUA	2100	7.32	15								<5										
	19	09/24/88	AQUA	1480	6.90	17.5								<6										
TABLE 3																								
GROUNDWATER QUALITY ANALYSIS																								
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PROJECT ALCHPX SBIN 013																								
T A GLEASON ASSOCIATES																								
Environmental and Geotechnical Services																								







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WELL NO.	SAMPLE #	DATE	LAB	SPECIFIC CONDUCTANCE	PH	TEMP C	ANTIMONY UG/L	ARSENIC UG/L	BERYLLIUM UG/L	CADMIUM UG/L	CHROMIUM UG/L	COPPER UG/L	LEAD UG/L	MERCURY UG/L	NICKEL UG/L	SELENIUM UG/L	SILVER UG/L	THALLIUM UG/L	ZINC UG/L	CYANIDE MG/L	PHENOLS MG/L	NOTES:	
D-4	109	10/01/86	AQUA	870																			
	309	10/01/86	AQUA				<6	<4	<1	<10	4	30	<0.3	<10	10	<4			9280				METAL SAMPLES COLLECTED SINCE 6/05/87 WERE FILTERED IN THE FIELD THROUGH .45 MICRON FILTER
	13	02/12/87	AQUA	600		11				<10			53										
	8	05/05/87	AQUA	750	8.18	16				<5		26							20	0.098	1.33		BLANK SPACE INDICATES ANALYSIS NOT PERFORMED
	8	09/03/87	AQUA	725	8.15	15				<10			<3						44	<0.005	0.729		
	4	01/13/88	AQUA	840	7.06	12				<20			<30						10	<0.02	<0.010		
	5	01/13/88	AQUA	830	7.06	12				<20			<30						<10	<0.02	<0.010		
	7	02/08/88	AQUA	1390	7.70	12				30		3							10	<0.01	0.179		
	8	02/08/88	AQUA	1380	7.68	12				<20			<3						10	<0.01	0.056		
	10	05/18/88	AQUA	850	7.77	14				<30			<5						<20	<0.01	0.14		TABLE 3
																							GROUNDWATER QUALITY ANALYSIS METALS, CYANIDE AND PHENOLS
	10	09/23/88	AQUA	850	7.45	15				<30			<6						<20	<0.01	0.01		PAGE 10 OF 28 MONITOR WELLS
																							GROUNDWATER INVESTIGATIONS ALLIED CORPORATION SOUTH BEND, INDIANA PROJECT ALCHPX 891N 013
																							T A GLEASON ASSOCIATES Environmental and Geotechnical Services









S1MCPM  
07-Oct-88

WELL NO.	SAMPLE #	DATE	LAB	SPECIFIC CONDUCTANCE	PH	TEMP C	ANTIMONY UG/L	ARSENIC UG/L	BERYLLIUM UG/L	CADIUM UG/L	CHROMIUM UG/L	COPPER UG/L	LEAD UG/L	MERCURY UG/L	NICKEL UG/L	SELENIUM UG/L	SILVER UG/L	THALLIUM UG/L	ZINC UG/L	CYANIDE MG/L	PHENOLS MG/L
S-1	1	11/05/86	AQUA				<3	<4	<1	<1	<10	24	15	<0.3	<10	<12	<4	3	20	<0.010	0.02
	18	12/17/86	AQUA				<3	<4	<1	<10	44	<9	0.3	<10	<8	<10	<6	100	<0.010	<0.010	
	1	06/05/87	AQUA	625	7.15	14				<5			<3						<10	0.042	0.02
	1	09/03/87	AQUA	625	7.01	15				<10			<3						<8	<0.005	0.126
	1	01/13/88	AQUA	690	6.80	10				<20			<30						<10	<0.02	<0.010
	1	02/08/88	AQUA	1840	7.22	10				20			<3						10	<0.01	0.046
	1	5/18/88	AQUA	1000	7.17	13				<30			<5						<10	<0.01	<0.01
	1	09/22/88	AQUA	620	7.10	13				<30			<6						<20	<0.01	0.04

NOTES:

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

< = LESS THAN

METAL SAMPLES COLLECTED SINCE 6/05/87 WERE FILTERED IN THE FIELD THROUGH .45 MICRON FILTER

BLANK SPACE INDICATES ANALYSIS NOT PERFORMED

TABLE 3

GROUNDWATER QUALITY ANALYSIS METALS, CYANIDE AND PHENOLS PAGE 12 OF 28 MONITOR WELLS

GROUNDWATER INVESTIGATIONS ALLIED CORPORATION SOUTH BEND, INDIANA PROJECT ALCHPX S81N 013

T A GLEASON ASSOCIATES Environmental and Geotechnical Services



S34CPW  
07-Oct-88

WELL NO.	SAMPLE #	DATE	LAB	SPECIFIC CONDUCTANCE	PH	TEMP C	ANTIMONY UG/L	ARSENIC UG/L	BERYLLIUM UG/L	CADMIUM UG/L	CHROMIUM UG/L	COPPER UG/L	LEAD UG/L	MERCURY UG/L	NICKEL UG/L	SELENIUM UG/L	SILVER UG/L	THALLIUM UG/L	ZINC UG/L	CYANIDE UG/L	PHENOLS UG/L	NOTES:
S-3	9	11/05/86	AQUA				<15	<4	<1	<1	18	52	86	<0.3	<10	<300	<4	<6	415	<0.010	<0.010	METAL SAMPLES COLLECTED SINCE 6/05/87 WERE FILTERED IN THE FIELD THROUGH .45 MICRON FILTER
	18	12/12/87	AQUA			12					16		110									
	4	06/05/87	AQUA			14					<5		<3									
	4	09/03/87	AQUA			14					<10		<3									
	26	01/15/88	AQUA			9					<20		<30									
	3	02/08/88	AQUA			12					<20		<3									
	4	5/18/88	AQUA			14					<30		<5									
	4	09/23/88	AQUA			14.5					<30		<6									
TABLE 3																						
GROUNDWATER QUALITY ANALYSIS																						
METALS, CYANIDE AND PHENOLS																						
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MONITOR WELLS																						
GROUNDWATER INVESTIGATIONS																						
ALLIED CORPORATION																						
SOUTH BEND, INDIANA																						
PROJECT ALCHPX SBIM 013																						
T A GLEASON ASSOCIATES																						
Environmental and Geotechnical Services																						

























































WELL NO.	SAMPLE #	DATE	LAB	SPECIFIC CONDUCTANCE	PH	TEMP C	SU	ANTIMONY UG/L	ARSENIC UG/L	BERYLLIUM UG/L	CADMIUM UG/L	CHROMIUM UG/L	COPPER UG/L	LEAD UG/L	MERCURY UG/L	NICKEL UG/L	SELENIUM UG/L	SILVER UG/L	THALLIUM UG/L	ZINC UG/L	CYANIDE MG/L	PHENOLS MG/L
RWB-16	8	03/25/87	AQUA											<3						10	0.07	0.017
	20	01/14/88	AQUA											<30						10	0.03	0.020
	30	02/10/88	AQUA	2500	7.35	15								<3						20	0.02	<0.010
	35	05/19/88	AQUA	1400	7.29	15								<30						<20	<0.01	<0.02
	33	09/25/88	AQUA	2800	6.70	19								<30						<20	<0.01	0.03
<p>NOTES:</p> <p>OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.</p> <p>&lt; = LESS THAN</p> <p>METAL SAMPLES COLLECTED SINCE 1/14/88 WERE FILTERED IN THE FIELD THROUGH .45 MICRON FILTER</p> <p>BLANK SPACE INDICATES ANALYSIS NOT PERFORMED</p>																						
<p>TABLE 4</p> <p>GROUNDWATER QUALITY ANALYSIS</p> <p>METALS, CYANIDE AND PHENOLS</p> <p>PAGE 3 OF 5</p> <p>RECOVERY WELLS</p> <p>GROUNDWATER INVESTIGATIONS</p> <p>ALLIED CORPORATION</p> <p>SOUTH BEND, INDIANA</p> <p>PROJECT ALCHPX SB1H 013</p> <p>T A GLEASON ASSOCIATES</p> <p>Environmental and Geotechnical Services</p>																						









































WELL NO.	DATE	SAMPLE #	LAB	PRIORITY POLLUTANTS VOLATILE ORGANIC COMPOUNDS (VOC)										OTHER ORGANIC COMPOUNDS			
				1,1-DI- CHLORO- ETHANE	1,1,1-DI- CHLORO- ETHANE	1,1,2-DI- CHLORO- ETHANE	1,2-DI- CHLORO- ETHANE	1,1,1,2-TETRA- CHLORO- ETHANE	1,1,2,2-TETRA- CHLORO- ETHANE	1,1,1,2-TETRA- CHLORO- ETHANE	1,1,2,2-TETRA- CHLORO- ETHANE	1,1,1,2-TETRA- CHLORO- ETHANE	1,1,2,2-TETRA- CHLORO- ETHANE	1,1,2-DI- CHLORO- ETHANE	1,2-DI- CHLORO- ETHANE	1,1,2-DI- CHLORO- ETHANE	1,2-DI- CHLORO- ETHANE
7-D	07/10/87	3	AQUA	ND	ND	ND	17.0	ND	19.0	ND	ND	ND	ND	ND	ND	250.0	
	07/10/87	4	AQUA	ND	ND	ND	16.0	ND	17.0	ND	ND	ND	ND	ND	ND	250.0	
	09/04/87	29	AQUA	ND	ND	ND	ND	ND	20.0	14.0	ND	ND	ND	ND	ND	220.0	
	01/15/88	30	AQUA	ND	ND	ND	10.0	ND	17.0	ND	ND	ND	ND	ND	ND	142.0	
	02/09/88	15	AQUA	ND	ND	ND	20.0	ND	14.0	ND	ND	ND	ND	ND	ND	148.0	
	05/19/88	22	AQUA	ND	ND	ND	ND	ND	16.6	ND	ND	ND	ND	ND	ND	210.0	
	09/24/88	18	AQUA	ND	ND	ND	7.6	ND	9.2	ND	ND	ND	ND	ND	ND	52.0	
TABLE 5																	
GROUNDWATER QUALITY ANALYSIS																	
ORGANIC COMPOUNDS																	
PAGE 7 OF 43																	
MONITOR WELLS																	
GROUNDWATER INVESTIGATIONS																	
ALLIED CORPORATION																	
SOUTH BEND, INDIANA																	
PROJECT # ALCMPX SBIN 013																	
T A GLEASON ASSOCIATES																	
Environmental and Geotechnical Services																	

NOTES:  
OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.  
ND = NOT DETECTED. SEE LAB REPORT FOR DETECTION LIMITS.

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









































































































































PRIORITY POLLUTANTS

WELL NO.	DATE	SAMPLE #	LAB	VOLATILE ORGANIC COMPOUNDS (VOC)										OTHER ORGANIC COMPOUNDS							
				1,1-DI- CHLORO- ETHANE	1,2-DI- CHLORO- ETHANE	1,1,1- TRI- CHLORO- ETHANE	1,1-DI- CHLORO- ETHYLENE	1,2-DI- CHLORO- ETHYLENE	1,1,1,1- TETRA- CHLORO- ETHANE	1,2-DI- CHLORO- PROPANE	1,1,2- TRI- CHLORO- ETHANE	1,2-DI- CHLORO- ETHYLENE	VINYL CHLORO- FORM	TOLUENE	ETHYLENE ETHENE	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
S-24	07/10/87	2	AQUA	ND	ND	ND	145.0	ND	150.0	ND	ND	ND	ND	ND	ND	ND	ND	170.0			
	09/04/87	25	AQUA	ND	ND	ND	140.0	ND	170.0	ND	ND	ND	ND	ND	ND	ND	ND	150.0			
	05/19/88	28	AQUA	ND	ND	ND	230.0	ND	105.0	ND	ND	ND	ND	ND	ND	ND	ND	277.0			
	09/25/88	26	AQUA	ND	ND	ND	124.0	ND	85.0	ND	ND	ND	ND	ND	ND	ND	ND	75.0			

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.  
ND = NOT DETECTED. SEE LAB REPORT FOR DETECTION LIMITS.

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

TABLE 5

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 38 OF 43  
MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCHPX SBIN 013

T A GLEASON ASSOCIATES

Environmental and Geotechnical Services





WELL NO.	DATE	SAMPLE #	LAB	PRIORITY POLLUTANTS										OTHER ORGANIC COMPOUNDS	NOTES:
				VOLATILE ORGANIC COMPOUNDS (VOC)											
				1,1-DI- CHLORO- ETHANE	1,2-DI- CHLORO- ETHANE	1,1,1- TRI- CHLORO- ETHANE	1,1,2- DI- CHLORO- ETHANE	1,2-DI- CHLORO- ETHANE	1,2,3- TRI- CHLORO- ETHANE	1,2,4- TRI- CHLORO- ETHANE	1,1,1,2- TETRA- CHLORO- ETHANE	1,1,2,2- TETRA- CHLORO- ETHANE	1,1,2,2- TETRA- CHLORO- ETHANE		
UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
S-25	07/10/87	1	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	09/03/87	11	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	01/15/88	32	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/09/88	20	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	05/18/88	18	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.3	
	09/25/88	25	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

TABLE 5

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 39 OF 43  
MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCHPX S81N 013

T A GLEASON ASSOCIATES

Environmental and Geotechnical Services





















RVE30R  
25-Oct-88

SAMPLE SOURCE	DATE	SAMPLE #	LAB	TRANS-1,2										NOTES	
				1,1-DI- CHLORO- ETHANE	1,1-DI- CHLORO- ETHYLENE	ETHYL BENZENE	TOLUENE	DICHLORO- ETHYLENE	CHLORO- ETHYLENE	TOTAL XYLENES	1,2 DI- CHLORO- ETHANE	CHLORO- ETHANE	TRI- CHLORO- ETHENE		VINYL CHLORIDE
UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	
E-3	03/25/87	7	AQUA	72.0	56.0	ND	10.0	10.0	53.0	ND	23.0	ND	ND	ND	
	01/14/88	19	AQUA	60.0	25.0	ND	9.4	9.2	48.0	ND	19.0	ND	ND	ND	
	02/10/88	29	AQUA	60.0	26.0	ND	11.0	8.5	61.0	70.0	21.0	ND	ND	ND	
	05/19/88	34	AQUA	43.0	26.6	ND	7.8	ND	86.0	ND	15.0	ND	29.5	22.9	18.3
	09/25/88	32	AQUA	51.0	28.0	ND	5.6	ND	28.0	11.0	9.2	ND	ND	ND	ND

ND = NOT DETECTED.  
SEE LAB REPORT FOR DETECTION LIMITS.

TABLE 6

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 1 OF 5  
RECOVERY WELLS  
GROUNDWATER INVESTIGATIONS  
ALLIED CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCHPX SBIN 013  
T A GLEASON ASSOCIATES  
ENVIRONMENTAL AND GEOTECHNICAL SERVICES



RW060R  
25-Oct-88

SAMPLE SOURCE	DATE	SAMPLE #	LAB	1,1-DI-CHLORO-ETHANE		1,1-DI-CHLORO-ETHYLENE		1,1-DI-CHLORO-ETHYLENE		TRANS-1,2-DI-CHLORO-ETHYLENE		CIS-1,2-DI-CHLORO-ETHYLENE		TOTAL XYLENES		1,2-DI-CHLORO-ETHANE		TRI-CHLORO-ETHYLENE		VINYL CHLORIDE	
				UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
RWB-6	03/25/87	10	AQUA	ND	300.0	8.7	50.0	ND	410.0	54.0	65.0	ND	ND	ND	65.0	ND	ND	ND	ND	ND	ND
	03/25/87	11	AQUA	ND	300.0	12.0	50.0	ND	410.0	72.0	69.0	ND	ND	ND	69.0	ND	ND	ND	ND	ND	ND
	09/04/87	33	AQUA	ND	ND	ND	ND	ND	700.0	45.0	ND	290.0	ND	ND	ND	290.0	ND	ND	ND	ND	ND
	01/14/88	16	AQUA	ND	ND	ND	ND	ND	460.0	ND	ND	250.0	ND	ND	ND	250.0	ND	ND	ND	ND	ND
	02/10/88	26	AQUA	ND	ND	ND	ND	ND	550.0	55.0	57.0	230.0	ND	ND	57.0	230.0	ND	ND	ND	ND	ND
	05/19/88	31	AQUA	ND	ND	ND	23.4	ND	672.0	41.8	ND	391.0	ND	ND	ND	391.0	ND	ND	ND	ND	ND
	09/25/88	31	AQUA	29.0	8.3	ND	30.0	ND	230.0	35.0	49.0	ND	ND	49.0	ND	ND	17.0	ND	ND	ND	ND

ND = NOT DETECTED.  
SEE LAB REPORT FOR DETECTION LIMITS.

NOTES:

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

TABLE 6

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 2 OF 5  
RECOVERY WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED CORPORATION  
SOUTH-BEND, INDIANA  
PROJECT #.ALCMPX S81N 013

T A GLEASON ASSOCIATES

ENVIRONMENTAL AND GEOTECHNICAL SERVICES













RW220R  
25-Oct-88

SAMPLE SOURCE	DATE	SAMPLE #	LAB	TRANS-1,2												NOTES	
				1,1-DI- CHLORO- ETHANE	1,1-DI- CHLORO- ETHYLENE	ETHYL BENZENE	TOLUENE	CIS-1,2 DICHLORO- ETHANE	DI- CHLORO- ETHYLENE	TOTAL XYLENES	1,2 DI- CHLORO- ETHANE	CHLORO- ETHANE	CHLORO- ETHYLENE	TRI- CHLORO- ETHANE	VINYL CHLORIDE		
				UG/L	UG/L	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	
RW-22	05/25/87	9	AQUA	184.0	124.0	ND	94.0	ND	ND	60.0	199.0	ND	ND	ND	ND	ND	
	09/04/87	34	AQUA	ND	ND	81.0	ND	ND	ND	ND	160.0	ND	420.0	ND	ND	ND	
	01/14/88	17	AQUA	117.0	48.0	ND	47.0	22.0	36.0	ND	85.0	ND	70.0	ND	ND	ND	
	01/14/88	18	AQUA	122.0	53.0	ND	51.0	24.0	38.0	ND	91.0	ND	90.0	ND	ND	ND	
	02/10/88	27	AQUA	170.0	59.0	ND	73.0	61.0	44.0	14.0	140.0	ND	110.0	ND	ND	ND	
	02/10/88	28	AQUA	151.0	51.0	ND	70.0	50.0	46.0	11.0	140.0	ND	ND	ND	ND	ND	
	05/19/88	32	AQUA	119.0	48.2	ND	103.0	79.5	92.5	ND	133.0	ND	33.6	ND	ND	ND	
	05/19/88	33	AQUA	118.0	47.9	ND	58.8	34.7	113.0	ND	113.0	ND	35.7	29.1	ND	ND	
	09/25/88	30	AQUA	ND	8.3	ND	ND	RD	ND	ND	ND	ND	ND	ND	ND	ND	
GROUNDWATER QUALITY ANALYSIS																	
ORGANIC COMPOUNDS																	
PAGE 5 OF 5																	
RECOVERY WELLS																	
GROUNDWATER INVESTIGATIONS																	
ALLIED CORPORATION																	
SOUTH BEND, INDIANA																	
PROJECT # ALCHPX S81N 013																	
T A GLEASON ASSOCIATES																	
ENVIRONMENTAL AND GEOTECHNICAL SERVICES																	

TABLE 6













11-Jul-89  
WLM3

WELL NO.	(1) REFERENCE ELEVATION	12/06-07/88		09/21-25/88		05/17/88		02/03/88		01/02/88	
		WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION
86-1	715.70 *	NM		NM		NM		NM		NM	
86-2	714.98 *	NM		NM		NM		NM		NM	
86-4	715.09 *	NM		NM		NM		NM		NM	
86-5	715.04 *	NM		NM		NM		NM		NM	
86-6	***	NM		NM		NM		NM		NM	
86-7	714.15	16.27	697.88	16.81	697.34	15.54	698.61	16.12	698.03	16.12	698.03
86-8	714.82 *	17.20	697.42	17.22	697.40	NM		NM		NM	
86-9	715.25 *	17.91	697.34	17.86	697.39	NM		NM		NM	
86-10	715.06	18.02	697.04	17.75	697.31	16.49	698.57	17.1	697.96	17.43	697.63
86-11	715.14 *	18.17	696.97	18.89	696.25	NM		NM		NM	
86-12	715.71 *	18.72	696.99	18.42	697.29	NM		NM		NM	
86-13	714.75	17.47	697.28	17.44	697.31	NM		NM		NM	
86-14	715.05 *	17.95	697.10	17.55	697.50	NM		NM		NM	
86-15	715.06 *	17.96	697.10	17.24	697.82	16.34	697.15	17.1	697.63	NM	
86-18	714.84	NM		18.53	696.31	17.69	697.15	18.21	696.63	18.22	696.62
86-19	714.33	NM		NM		NM		NM		NM	
86-20	713.07 *	NM		NM		NM		NM		NM	
86-21	713.76 *	NM		NM		NM		NM		NM	
7-25	720.47	NM		NM		20.31	700.16	20.8	699.67	20.84	699.63
7-50	719.83	20.12	699.71	11.24	708.59	19.97	699.86	20.21	699.62	20.24	699.59
8-27	715.45 *	NM		NM		NM		NM		NM	
9-33	716.69	18.20	698.49	18.55	698.14	17.99	698.7	18.37	698.32	18.38	698.31
OW-1	***	15.05		14.89		NM		NM		14.36	
OW-2	***	15.12		14.95		NM		NM		14.40	
S4-A	***	15.42		14.87		13.9		NM		14.21	
RWB-6	715.80	NM		19.59	696.21	18.65	697.15	19.02	696.78	19.00	696.80
RWB-16	715.30	18.92	696.38	NM		17.78	697.52	18.29	697.01	18.31	696.99
RWB-21	717.62	21.96	695.66	NM		20.82	696.8	21.14	696.48	21.10	696.52
RWB-22	715.11	NM		22.13	692.98	18.01	697.1	18.43	696.68	18.44	696.67
RWE-3	714.50	NM		19.92	694.58	19.21	695.29	19.52	694.98	19.51	694.99

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

1 = SURVEYED BY LANG, FEENEY & ASSOC., INC. 9/87.  
WATER ELEVATIONS PRIOR TO JULY 1987 ARE BASED ON FORMER REFERENCE ELEVATIONS.

\* = FORMER REFERENCE ELEVATIONS

\*\*\* = NO REFERENCE ELEVATION

NM = NOT MEASURED THIS DATE

TABLE 2

WATER LEVEL MEASUREMENTS

GROUNDWATER INVESTIGATIONS  
ALLIED CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX 022

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services







11-Jul-89  
WLM2

WELL NO.	(1) REFERENCE ELEVATION	12/06-07/88		09/21-25/88		05/17/88		02/03/88		01/02/88	
		WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION	WATER DEPTH	WATER ELEVATION
D-1	720.73 *	NM		NM		NM		NM		NM	
D-1A	721.69 *	NM		NM		NM		NM		NM	
D-3	714.51	18.88	695.63	18.67	695.84	17.52	696.99	18.06	696.45	18.08	696.45
D-4	717.85	22.12	695.73	21.27	696.58	20.26	697.59	20.70	697.15	20.70	697.15
D-5	712.14	16.01	696.13	15.90	696.24	14.94	697.20	15.30	696.84	15.31	696.83
D-7	713.83	17.15	696.68	17.04	696.79	16.00	697.83	16.40	697.43	16.42	697.41
D-8	717.04	21.61	695.43	20.11	696.93	19.01	698.03	19.48	697.56	19.50	697.54
D-9	717.00 *	NM		NM		NM		NM		NM	
D-10	716.53	18.65	697.88	18.76	697.77	17.12	699.41	17.98	698.55	18.00	698.53
D-11	723.47	20.07	703.40	20.83	702.84	20.14	703.33	20.52	702.95	20.53	702.94
D-12	710.29	22.90	687.39	23.93	686.36	21.47	688.82	21.99	688.30	22.30	687.99
I-1	711.52	16.85	694.67	17.34	694.18	16.38	695.14	16.69	694.33	16.76	694.76
1-D	714.17	17.35	696.82	NM		15.84	698.33	16.35	697.32	16.32	697.85
2-D	715.36	19.11	696.25	18.35	697.01	17.23	698.13	17.74	697.60	17.75	697.61
3-D	713.29	NM		19.40	693.89	17.81	695.48	18.20	695.09	18.22	695.07
4-D	712.10	NM		23.56	688.54	22.01	690.09	22.48	689.82	22.56	689.54
5-D	712.01	NM		25.05	686.96	22.81	689.20	23.10	688.91	23.53	688.48
6-D	711.41	23.96	687.45	24.95	686.46	22.79	688.62	23.19	688.22	23.39	688.02
7-D	714.85	21.98	692.87	18.63	696.22	17.55	697.30	17.84	697.01	17.85	697.00
8-D	714.56	20.78	693.78	17.88	696.68	16.80	697.76	17.17	697.39	17.17	697.39

NOTES:

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

1 = SURVEYED BY LANG, FEENEY & ASSOC., INC. 9/87. WATER ELEVATIONS PRIOR TO JULY 1987 ARE BASED ON FORMER REFERENCE ELEVATIONS.

\* = FORMER REFERENCE ELEVATIONS

NM = NOT MEASURED THIS DATE

TABLE 2

WATER LEVEL MEASUREMENTS

GROUNDWATER INVESTIGATIONS  
ALLIED CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX 022

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services



## 1.0 INTRODUCTION AND BACKGROUND

This report presents the results of the 2nd Quarter, June 1989 groundwater sampling and groundwater elevation measurements performed at the Allied-Signal Corporation, South Bend Complex, South Bend, Indiana (see Figure 1). These results are a continuation of the groundwater monitoring program initiated by Allied in 1981.

## 2.0 GROUNDWATER MONITORING PROGRAM

Included in the monitoring program are twenty-five (25) monitor wells, five (5) naptha recovery wells and twenty-one (21) VOC recovery wells. (see Table 1). The locations of the wells are shown in Figures 2 through 5.

## 3.0 SAMPLING METHODOLOGY

### 3.1 PURGING

All monitor wells were purged a total of three well volumes before samples were collected. The wells were purged using a centrifugal pump connected to the water outlet side of the dedicated bladder pumps. The dedicated bladder pumps were used to purge the low yielding wells. The naptha recovery well taps were allowed to run approximately five minutes before samples were collected. The VOC recovery wells were discharging and did not require additional purging, but were allowed to discharge through the sample tap for 5 minutes prior to sample collection.





### 3.3.2 Water Level Measurements

Water elevations were measured from thirty-seven (37) ground-water wells in and around the Bendix Complex (see Figure 2). Elevations were measured to the nearest 0.01 ft using an electronic water level indicator manufactured by Solinst Inc., Ontario, Canada. The new monitor wells and most of the existing monitor wells were surveyed by Lang, Feeney & Assoc., Inc. during September 1987 to verify the reference elevations. Water levels and flow rates were measured in the VOC Recovery System Wells.

Water level measurements and the calculated water elevations are presented in Table 2.

Flow and drawdown data from the VOC Recovery System are presented in Table 2A.

### 4.0 QA/QC

As part of our quality assurance procedures, duplicate samples were taken at monitor wells S-1, S-22 and S-26 and S4-A. Four (4) field blanks were prepared and submitted for analysis along with the other samples.

### 5.0 ANALYTICAL RESULTS

The analytical results of the June 1989 sampling are presented in Tables 3, 4, and 5. Tables 3 and 4 present the organic results of monitor wells and naptha recovery wells. Table 5 presents the organic analyses of the VOC recovery wells.



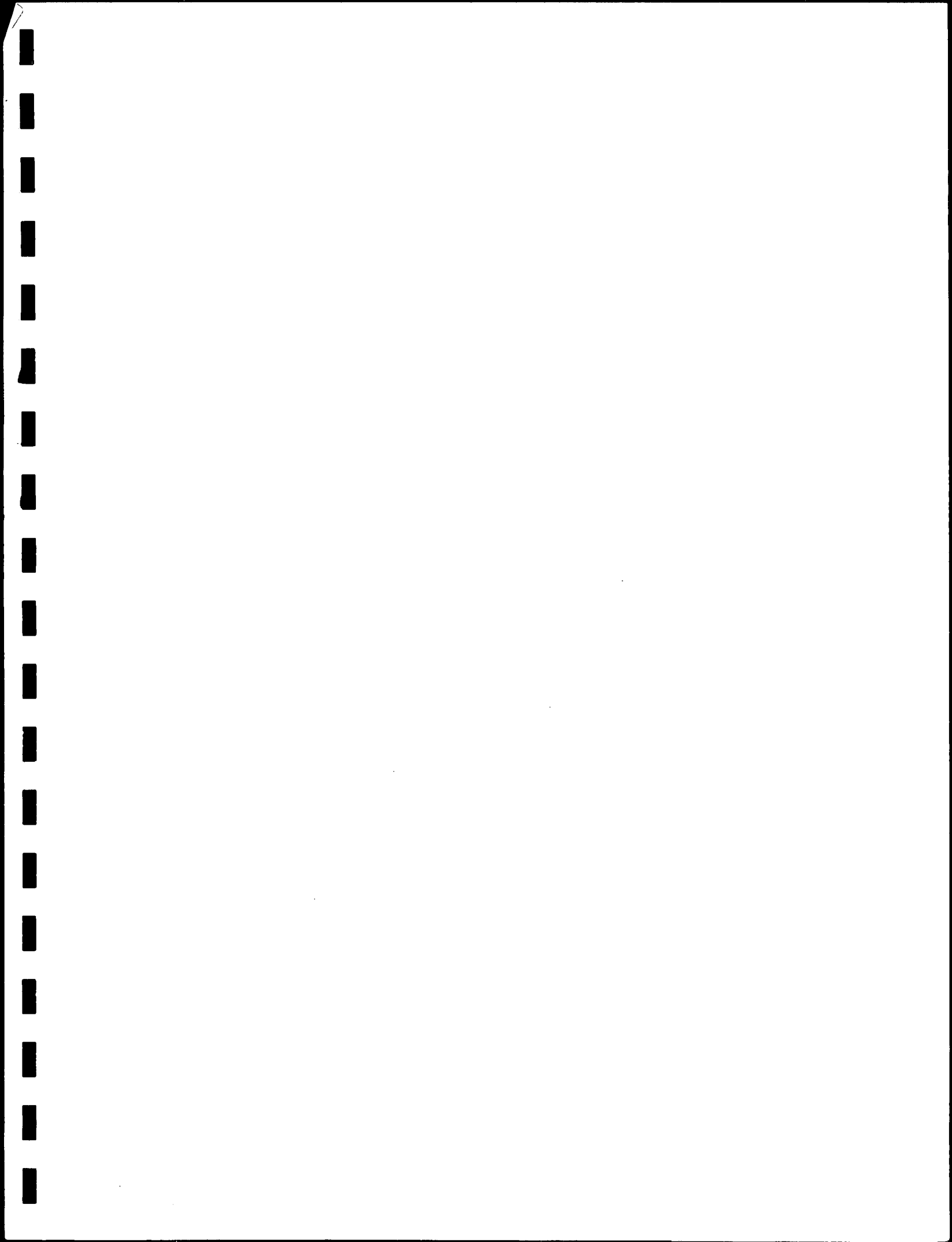


Table 3, monitor well organic results, indicates that total VOC is decreasing in the shallow wells nearest the VOC Recovery System (S-4A, S-16, 86-15, S-9, and S-17). No shallow monitor well detected vinyl chloride this episode. The deep monitor well VOC concentrations have remained relatively consistent or have increased slightly in total VOC with the exception of Monitor Well D-7 which showed a significant decrease in total VOC throughout 1988 and 1989.

Table 4 shows that total VOC in the naphtha recovery wells furthest from the geographic center of the naphtha recovery area (RWB-16 and RWB-21) appear to be decreasing in total VOC while total VOC has increased slightly in the three wells nearest the center (E-3, RWB-22, and RWB-6).

Table 5 shows that the shallow VOC recovery wells have indicated a slight increase in total VOC since their initial installation. The only exception, RW 1-7, has been steadily decreasing in total VOC while TCE concentrations have increased. Table 5 also shows a slight increase in total VOC in the deep VOC recovery well RW-13. While a slight increase in total VOC was detected, no vinyl chloride was detected this episode.

The field blank analysis showed that all compounds measured were below laboratory detection limits. The duplicate sample analysis showed that all parameters were within acceptable ranges for comparability. The laboratory results, QA/QC data, and sample data sheets are maintained in TAGA files and are available upon request.





TABLE 2A  
 WATER LEVEL MEASUREMENTS  
 VOC RECOVERY SYSTEM  
 PROJECT # ALCMPX SBIN 022  
 JUNE 11, 1989

<u>VOC WELL #</u>	<u>WATER LEVEL (FT)</u>	<u>CONTROL WATER LEVEL (FT)</u>	<u>FLOW GPM</u>	<u>DRAWDOWN (FT)</u>
1	23.35	13.30		10.05
2	26.00	13.40		12.60
3	17.00	14.15		2.85
3A	17.95	14.60		3.35
4	21.02	14.90		6.12
5	19.50	15.55		3.95
6	18.70	15.00		3.20
7	18.00+	15.70	25*	2.30+
8	20.45	15.60	12**	4.35
9A	19.10	15.80		3.30
9	20.45	16.10		4.35
10	16.65	15.50		1.15
11	23.90	15.15		8.75
12	19.80	14.50		5.30
13	25.51	18.60	54	6.91
14	16.77	15.80		0.91
15	16.90	15.20		1.70
16	16.77	14.50		2.27
17	16.95	15.40	0	1.55
18			41***	
19				
S-17	20.54	18.92		1.62

\* = RW 1-7

\*\* = RW 8-12

\*\*\* = RW 18 & 19









### 3.2 SAMPLE COLLECTION

All monitor wells were sampled using a dedicated bladder pump. Samples from these wells were collected from the tap on the bladder pump outlet pipe. Wells S-16, 86-10, and 86-15 were sampled with a dedicated PVC bailer which was carefully lowered into and withdrawn from the well to avoid aeration of the samples. Samples from the naptha recovery wells were collected directly from a tap. Samples from the VOC recovery wells were collected at five locations along the recovery system. Each of the five points were representative of the recovery wells as listed on Table 1. The samples were collected from a sample tap on the outlet side of the recovery pumps.

### 3.3 SAMPLE HANDLING AND FIELD MEASUREMENTS

#### 3.3.1 Water Quality

Samples were measured in the field for pH, specific conductivity, and temperature immediately upon collection. All field measurement data were recorded on the sample data sheets. All samples were placed in insulated coolers with ice packs and shipped to Aqua Tech Environmental Laboratories, Inc., under the appropriate chain-of-custody. Samples were analyzed for volatile organic compounds (VOC) using method 624.



200CMW  
23-Jul-89

LABORATORY ANALYTICAL PARAMETERS

NOTES

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

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

BLANK SPACE INDICATES ANALYSIS NOT PERFORMED.

NPL = NO U.S. EPA PUBLISHED LEVEL

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

WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS											
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L	TOLUENE UG/L	OTHER VOC UG/L	
2-D	12/18/86	2	AQUA		NPL	5	7	70	100	200	5	5	2	NPL	2000	
	06/05/87	11	AQUA		ND	20.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/03/87	19	AQUA		ND	25.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	01/15/88	34	AQUA		ND	34.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/09/88	11	AQUA		ND	25.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	05/19/88	24	AQUA		ND	34.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/24/88	20	AQUA		ND	26.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/10/88	27	AQUA		ND	22.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/10/88	28	AQUA		ND	21.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/24/89	19	AQUA		ND	24.6	ND	13.4	ND	ND	ND	ND	ND	ND	ND	ND
06/08/89	16	AQUA		ND	25.6	ND	22.4	ND	ND	ND	ND	ND	ND	ND	ND	

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 2 OF 26  
MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services



500CMW  
23-Jul-89

LABORATORY ANALYTICAL PARAMETERS

NOTES:  
OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.  
ND = NOT DETECTED AT DETECTION LIMIT SPECIFIED BY THE LABORATORY.  
SEE LAB REPORT.  
BLANK SPACE INDICATED ANALYSIS NOT PERFORMED.  
NPL = NO U.S. EPA PUBLISHED LEVEL  
VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.  
\*\*NOTE: TOLUENE WAS NOT DETECTED IN 6 PREVIOUS SAMPLINGS. A RESAMPLING ON 3/14/88 DETECTED NO TOLUENE. BASED ON PREVIOUS DATA & THE RETEST, WE CONCLUDED THAT THE 2/9/88 SAMPLING DATA IS AN ANOMOLY.

WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	MAXIMUM CONTAMINANT LEVEL (MCL):											
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	CIS 1,2-DICHLORO-ETHENE UG/L	TRANS 1,2-DICHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L	TOLUENE UG/L	OTHER VOC UG/L
5-D	12/18/86	4	AQUA		NPL	5	7	PROPOSED=70	100	200	5	5	5	NPL	PROPOSED=2000	
	12/18/86	5	AQUA		ND	ND	ND	10.0	ND	ND	ND	ND	ND	ND	ND	ND
	02/11/87	4	AQUA		ND	ND	ND	10.0	ND	ND	ND	ND	ND	ND	ND	ND
	06/05/87	19	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/09/87	15	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	01/14/88	12	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/09/88	21	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/14/88	2	AQUA		ND	ND	ND	6.1	ND	ND	ND	ND	ND	ND	6.7**	ND
	05/19/88	14	AQUA		ND	ND	ND	10.4	ND	ND	ND	ND	ND	ND	ND	ND
	08/23/88	15	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/09/88	9	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
02/25/89	31	AQUA		ND	ND	ND	5.4	ND	ND	ND	ND	ND	ND	ND	ND	
06/09/89	23	AQUA	824		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
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MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX-SBIN 022

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services





8DOCMW  
22-Jul-89

LABORATORY ANALYTICAL PARAMETERS

NOTES:

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BLANK SPACE INDICATES ANALYSIS NOT PERFORMED.

NPL = NO U.S. EPA PUBLISHED LEVEL

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WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	MAXIMUM CONTAMINANT LEVEL (MCL):										OTHER VOC UG/L	
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	CIS 1,2-DICHLORO-ETHYLENE UG/L	TRANS 1,2-DICHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L		TOLUENE UG/L
8-D	07/10/87	5	AQUA		NPL	5	7	70	100	200	5	5	2	NPL	2000	
	09/04/87	30	AQUA		ND	ND	ND	720.0	27.0	ND	ND	ND	ND	ND	ND	ND
	01/15/88	28	AQUA		ND	ND	ND	840.0	ND	ND	ND	ND	ND	ND	ND	ND
	01/15/88	29	AQUA		ND	ND	ND	855.0	ND	ND	ND	ND	ND	ND	ND	ND
	02/09/88	13	AQUA		ND	ND	ND	770.0	ND	ND	ND	ND	ND	ND	ND	ND
	02/09/88	14	AQUA		ND	ND	ND	630.0	ND	ND	ND	ND	ND	ND	ND	ND
	05/19/88	23	AQUA		ND	ND	ND	1600.0	24.0	ND	ND	ND	67.9	ND	ND	ND
	09/24/88	19	AQUA		ND	ND	ND	420.0	32.0	20.0	ND	ND	ND	ND	ND	ND
	12/10/88	32	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/25/89	35	AQUA		ND	ND	ND	570.0	33.1	ND	ND	ND	24.5	ND	ND	ND
	06/08/89	11	AQUA	824		ND	ND	600.0	37.2	ND	ND	ND	18.3	ND	ND	ND

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
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MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services



8610CMW  
22-Jul-89

LABORATORY ANALYTICAL PARAMETERS

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WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS										OTHER VOC UG/L	
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	CIS 1,2-DICHLORO-ETHYLENE UG/L	TRANS 1,2-DICHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L		TOLUENE UG/L
96-10	08/02/88	7	AQUA		NPL	5	7	70	100	200	5	5	2	NPL	2000	
	10/10/88	18	AQUA		ND	ND	ND	ND	85.4	ND	308.0	ND	ND	ND	ND	ND
	02/24/89	22	AQUA		5.7	ND	ND	100.0	130.0	99.7	440.0	ND	ND	ND	ND	ND
	06/08/89	10	AQUA	624	ND	ND	ND	67.3	41.0	ND	340.0	ND	19.8	ND	ND	ND
					ND	ND	ND	35.3	380.0	ND	ND	ND	ND	ND	ND	ND

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
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MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX\_SBIN 022

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9330CMW  
22-Jul-89

LABORATORY ANALYTICAL PARAMETERS

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WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS										OTHER VOC UG/L
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	1,1,1-TRICHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-ETHANE UG/L	VINYL CHLORIDE UG/L	CHLOROFORM UG/L	TOLUENE UG/L	
9-33	01/08/87	11	AQUA		NPL	70	100	200	5	5	2	NPL	2000		
	06/05/87	3	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	09/03/87	3	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	01/13/88	3	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/10/88	31	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	05/18/88	3	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	09/22/88	3	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	12/09/88	15	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/22/89	4	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	06/10/89	35	AQUA	624		ND	ND	ND	ND	ND	ND	ND	ND	ND	

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 6 OF 26  
MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

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7DOCMW  
23-Jul-89

LABORATORY ANALYTICAL PARAMETERS

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WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS										OTHER VOC		
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	CIS 1,2-DICHLORO-ETHYLENE UG/L	1,2-DICHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L		TOLUENE UG/L	
					NPL	5	7	70	PROPOSED= 100	PROPOSED= 200	5	5	PROPOSED= 5	2	NPL	PROPOSED= 2000	
7-D	07/10/87	3	AQUA		ND	ND	ND	250.0	17.0	ND	19.0	ND	ND	ND	ND	ND	
	07/10/87	4	AQUA		ND	ND	ND	250.0	16.0	ND	17.0	ND	ND	ND	ND	ND	
	09/04/87	29	AQUA		ND	ND	ND	220.0	ND	ND	20.0	ND	14.0	ND	ND	ND	
	01/15/88	30	AQUA		ND	ND	ND	142.0	10.0	ND	17.0	ND	ND	ND	ND	ND	
	02/09/88	15	AQUA		ND	ND	ND	148.0	20.0	ND	14.0	ND	ND	ND	ND	ND	
	05/19/88	22	AQUA		ND	ND	ND	210.0	ND	ND	18.6	ND	ND	ND	ND	ND	
	09/24/88	18	AQUA		ND	ND	ND	52.0	7.6	ND	9.2	ND	ND	ND	ND	ND	
	12/10/88	31	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/25/89	34	AQUA		ND	ND	ND	106.0	7.0	ND	ND	ND	ND	12.6	ND	ND	
	06/08/89	13	AQUA	824	ND	ND	ND	110.0	5.7	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
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MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services





8615CMW  
23-Jul-89

LABORATORY ANALYTICAL PARAMETERS

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UNITS  
MAXIMUM CONTAMINANT LEVEL (MCL):

WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	1,1-DI-CHLORO-ETHANE		1,2-DI-CHLORO-ETHANE		1,1-DI-CHLORO-ETHYLENE		CIS 1,2-DICHLORO-ETHYLENE		TRANS 1,2-DICHLORO-ETHYLENE		1,1,1-TRICHLORO-ETHANE		TRI-CHLORO-ETHYLENE		1,2-DI-CHLORO-PROPANE		VINYL CHLORIDE		CHLORO-FORM		TOLUENE		OTHER VOC		
					UG/L	NPL	UG/L	5	UG/L	7	PROPOSED=	70	UG/L	100	UG/L	200	UG/L	5	UG/L	5	UG/L	PROPOSED=	2	UG/L	NPL	UG/L	PROPOSED=	2000	UG/L
86-15	09/02/88	4	AQUA			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/10/88	13	AQUA			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/24/89	24	AQUA			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/08/89	9	AQUA	624		ND	ND	ND	18.2	33.5	9.2	9.1	64.9	1620.0	48.1	38.0	400.0	600.0	7.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 8 OF 26  
MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

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23-Jul-89

LABORATORY ANALYTICAL PARAMETERS

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WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS										OTHER VOC UG/L	
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	CIS 1,2-DICHLORO-ETHYLENE UG/L	1,2-DICHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L		TOLUENE UG/L
D-4	10/01/86	11	AQUA		NPL	5	7	70	100	200	5	5	2	NPL	2000	
	02/12/87	13	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/05/87	8	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/03/87	8	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	01/13/88	4	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	01/13/88	5	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/08/88	7	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/08/88	8	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	05/18/88	10	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/22/88	10	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/08/88	3	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/23/89	14	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	05/10/89	34	AQUA	824		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 9 OF 26  
MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

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Environmental and Geotechnical  
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D70CMW  
23-Jul-89

LABORATORY ANALYTICAL PARAMETERS

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WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	1,1-DI-CHLORO-ETHANE UG/L		1,2-DI-CHLORO-ETHANE UG/L		1,1-DI-CHLORO-ETHYLENE UG/L		1,1,1-TRICHLORO-ETHANE UG/L		TRI-CHLORO-ETHYLENE UG/L		1,2-DI-CHLORO-PROPANE UG/L		VINYL CHLORIDE UG/L		CHLORO-FORM UG/L		TOLUENE UG/L		OTHER VOC UG/L		
					NPL	5	7	PROPOSED=70	CIS 1,2-DICHLORO-ETHENE UG/L	PROPOSED=100	TRANS 1,2-DICHLORO-ETHYLENE UG/L	200	5	5	PROPOSED=5	2	NPL	2000							
D-7	10/01/88	10	AQUA		ND	689.0	ND	ND	20.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	11/06/88	26	AQUA		ND	437.0	ND	ND	15.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	01/07/87	9	AQUA		ND	902.0	ND	40.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/12/87	14	AQUA		ND	812.0	ND	ND	30.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/05/87	9	AQUA		ND	890.0	ND	33.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/05/87	10	AQUA		ND	900.0	ND	31.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/03/87	17	AQUA		ND	800.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/03/87	18	AQUA		ND	750.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	01/14/88	14	AQUA		ND	710.0	ND	30.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/08/88	10	AQUA		ND	680.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	05/18/88	20	AQUA		ND	1165.0	ND	48.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/24/88	29	AQUA		ND	780.0	ND	26.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/09/88	16	AQUA		ND	483.0	ND	22.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/09/88	17	AQUA		ND	435.0	ND	21.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/24/89	21	AQUA		ND	380.0	ND	16.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/10/89	35	AQUA	624	ND	310.0	ND	15.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
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MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services













S210CMW  
22-Jul-89

LABORATORY ANALYTICAL PARAMETERS:

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MAXIMUM CONTAMINANT LEVEL (MCL):

WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	1,1-DI-CHLORO-ETHANE	1,2-DI-CHLORO-ETHANE	1,1-DI-CHLORO-ETHYLENE	CIS 1,2-DICHLORO-ETHYLENE	TRANS 1,2-DICHLORO-ETHYLENE	1,1,1-TRICHLORO-ETHANE	TRI-CHLORO-ETHYLENE	1,2-DI-CHLORO-PROPANE	VINYL CHLORIDE	CHLORO-FORM	TOLUENE	OTHER VOC	
					UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
S-21	11/06/86	17	AQUA		NPL			PROPOSED= 70	PROPOSED= 100	200	5	PROPOSED= 5	2	NPL	PROPOSED= 2000		
	12/17/88	13	AQUA		ND	ND	ND	116.0	89.3	ND	ND	ND	ND	ND	ND	ND	
	02/11/87	5	AQUA		ND	ND	ND	88.5	ND	ND	ND	ND	ND	ND	ND	ND	
	06/05/87	17	AQUA		ND	ND	ND	5.0	30.0	ND	ND	ND	ND	ND	ND	ND	
	06/05/87	18	AQUA		ND	ND	ND	5.8	34.0	ND	ND	ND	ND	ND	ND	ND	
	09/03/87	14	AQUA		ND	ND	ND	50.0	13.0	ND	ND	ND	ND	ND	ND	ND	
	01/14/88	11	AQUA		ND	ND	ND	53.2	20.4	ND	ND	ND	ND	ND	ND	ND	
	02/09/88	22	AQUA		ND	ND	ND	60.0	33.0	ND	ND	ND	ND	ND	ND	ND	
	05/18/88	13	AQUA		ND	ND	ND	137.0	11.1	ND	ND	ND	ND	ND	ND	ND	
	09/23/88	13	AQUA		ND	ND	ND	58.0	49.0	ND	ND	ND	ND	ND	ND	ND	
	12/08/88	10	AQUA		ND	ND	ND	66.0	32.8	ND	ND	ND	ND	ND	ND	ND	
	02/23/89	10	AQUA		ND	ND	ND	64.1	32.7	ND	ND	ND	ND	ND	ND	ND	
	06/09/89	24	AQUA		824	ND	ND	48.3	24.0	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 19 OF 26  
MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

T A GLEASON ASSOCIATES  
Environmental and Geotechnical  
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S1500MW  
23-Jul-89

LABORATORY ANALYTICAL PARAMETERS

NOTES:

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

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

BLANK SPACE INDICATES ANALYSIS NOT PERFORMED.

NPL = NO U.S.EPA PUBLISHED LEVEL

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

\* = BIS (2-ETHYLHEXYL) PHTHALATE REPORTED AS 8.5 UG/L

WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS										OTHER VOC UG/L			
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	CIS 1,2-DICHLORO-ETHYLENE UG/L	TRANS 1,2-DICHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L		TOLUENE UG/L		
S-15	11/06/86	27*	AQUA		NPL				PROPOSED= 100		200			PROPOSED= 5	2	NPL	PROPOSED= 2000	
	12/18/88	22	AQUA		ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/05/87	6	AQUA		ND		ND	ND										
	09/03/87	6	AQUA		ND		ND	ND										
	06/03/87	5	AQUA		ND		ND	ND										
	01/14/88	24	AQUA		22.0		ND	ND										
	02/08/88	4	AQUA		19.0		ND	ND										
	05/18/88	6	AQUA		5.2		ND	ND										
	09/23/88	6	AQUA		ND		ND	ND										
	12/10/88	24	AQUA		ND		ND	ND										121.0
	02/23/89	15	AQUA		ND		ND	ND										ND
06/10/89	31	AQUA		624		ND	ND										ND	

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
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MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

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23-Jul-89

LABORATORY ANALYTICAL PARAMETERS

NOTES:

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WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS										OTHER VOC UG/L			
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L	TOLUENE UG/L					
S-20	11/07/88	30	AQUA		NPL	5	7	PROPOSED=70	1,2-DICHLORO-ETHYLENE UG/L	PROPOSED=100	200	5	5	PROPOSED=5	2	NPL	PROPOSED=2000	
	02/12/87	9	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/05/87	16	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/03/87	10	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	01/13/88	7	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/09/88	19	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	05/19/88	19	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/25/88	23	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/25/88	24	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/08/88	5	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/22/89	9	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/09/89	22	AQUA	624		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 18 OF 28  
MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

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S220C1W  
23-Jul-89

LABORATORY ANALYTICAL PARAMETERS

NOTES:  
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BLANK SPACE INDICATES ANALYSIS NOT PERFORMED.  
NPL = NO U.S. EPA PUBLISHED LEVEL  
VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS										OTHER VOC UG/L	
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-ETHYLENE UG/L	TRANS 1,2-DI-CHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L		TOLUENE UG/L
S-22	11/06/86	18	AQUA		NPL	5	7	70	100			5	5	2	2000	
	01/07/87	6	AQUA		ND	ND	ND	50.0	164.0	ND	ND	ND	ND	ND	ND	ND
	01/07/87	7	AQUA		ND	ND	ND	50.0	75.8	ND	ND	ND	ND	ND	ND	ND
	02/12/87	6	AQUA		ND	ND	ND		73.8	ND	ND	ND	ND	ND	ND	ND
	02/12/87	7	AQUA		ND	ND	ND		132.0	ND	ND	ND	ND	ND	ND	ND
	06/05/87	20	AQUA		ND	ND	ND	41.0	109.0	ND	ND	ND	ND	ND	ND	ND
	09/03/87	12	AQUA		ND	ND	ND	57.0	69.0	ND	ND	ND	ND	ND	ND	ND
	01/13/88	8	AQUA		ND	ND	ND	41.5	41.0	ND	ND	ND	ND	ND	ND	ND
	02/09/88	23	AQUA		ND	ND	ND	48.0	61.0	ND	ND	ND	ND	ND	ND	ND
	05/18/88	15	AQUA		ND	ND	ND	77.5	27.7	ND	ND	ND	ND	ND	ND	ND
	05/18/88	16	AQUA		ND	ND	ND	82.0	25.2	ND	ND	ND	ND	ND	ND	ND
	09/25/88	22	AQUA		ND	ND	ND	21.0	45.0	ND	ND	ND	ND	ND	ND	ND
	02/22/89	6	AQUA		ND	ND	ND	43.1	38.8	ND	ND	ND	ND	ND	ND	ND
	02/22/89	7	AQUA		ND	ND	ND	35.7	37.5	ND	ND	ND	ND	ND	ND	ND
	06/09/89	19	AQUA	624		ND	ND	33.0	40.7	ND	ND	ND	ND	ND	ND	ND
	06/09/89	20	AQUA	624		ND	ND	37.9	42.1	ND	ND	ND	ND	ND	ND	ND

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 20 OF 28  
MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX.SBIN 022

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WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS											
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	CIS 1,2-DICHLORO-ETHENE UG/L	TRANS 1,2-DICHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L	TOLUENE UG/L	OTHER VOC UG/L
MAXIMUM CONTAMINANT LEVEL (MCL):					NPL	PROPOSED= 5	7	PROPOSED= 70	PROPOSED= 100	200	5	PROPOSED= 5	2	NPL	PROPOSED= 2000	
S-14	11/08/86	21	AQUA		ND	120.0	ND	ND	42.2	ND	ND	3.6	ND	ND	ND	ND
	02/12/87	15	AQUA		77.0	217.0	20.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/05/87	5	AQUA		58.0	180.0	ND	150.0	12.0	ND	8.5	ND	ND	ND	ND	ND
	09/03/87	7	AQUA		ND	140.0	ND	120.0	ND	ND	8.0	ND	ND	ND	ND	ND
	01/14/88	23	AQUA		113.0	108.0	15.0	240.0	ND	21.0	14.0	ND	ND	55.0	ND	ND
	02/08/88	5	AQUA		120.0	115.0	ND	250.0	16.0	15.0	11.0	ND	ND	ND	ND	ND
	05/18/88	5	AQUA		135.0	59.3	8.9	396.0	12.3	12.7	10.1	ND	ND	ND	ND	ND
	09/23/88	5	AQUA		62.0	55.0	9.3	98.0	10.9	ND	ND	ND	ND	ND	ND	ND
	12/10/88	23	AQUA		30.5	43.1	ND	91.0	6.6	6.5	11.5	ND	ND	ND	ND	ND
	02/23/89	16	AQUA		170.0	ND	12.6	155.0	8.6	17.9	16.1	ND	15.1	ND	ND	ND
	08/10/89	32	AQUA	624	170.0	30.5	25.4	180.0	18.1	44.7	15.2	ND	ND	ND	ND	ND

NOTES:  
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 SEE LAB REPORT.

BLANK SPACE INDICATES ANALYSIS NOT PERFORMED.  
 NPL = NO U.S. EPA PUBLISHED LEVEL

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

TABLE 3  
 GROUNDWATER QUALITY ANALYSIS  
 ORGANIC COMPOUNDS  
 PAGE 14 OF 26  
 MONITOR WELLS  
 GROUNDWATER INVESTIGATIONS  
 ALLIED-SIGNAL CORPORATION  
 SOUTH BEND, INDIANA  
 PROJECT # ALCMPX SBIN 022  
 T A GLEASON ASSOCIATES  
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S160CMW  
22-Jul-89

LABORATORY ANALYTICAL PARAMETERS

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NPL = NO U.S. EPA PUBLISHED LEVEL  
VOC RESULTS ARE A SUMMARY OF A GOMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.  
\* = BIS-(2-ETHYLHEXYL) PHTHALATE REPORTED AS 6.1 UG/L

WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS										OTHER VOC UG/L	
					1,1-DI-ETHANE UG/L	1,2-DI-ETHANE UG/L	1,1-DI-ETHYLENE UG/L	CIS 1,2-DICHLORO-ETHYLENE UG/L	TRANS 1,2-DICHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L		TOLUENE UG/L
S-16	11/16/86	11*	AQUA		NPL	5	7	70	PROPOSED=100	200	5	PROPOSED=5	2	NPL	2000	
	12/18/86	19	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/18/86	29	AQUA		ND	ND	ND	ND	ND	21.5	63.8	ND	ND	ND	ND	ND
	02/12/87	11	AQUA		ND	ND	ND	ND	4.4	23.3	95.0	ND	ND	ND	ND	ND
	06/05/87	12	AQUA		ND	ND	ND	5.6	5.6	18.0	57.0	ND	ND	ND	ND	ND
	09/04/87	28	AQUA		ND	ND	ND	ND	ND	ND	65.0	ND	ND	ND	ND	ND
	01/15/88	27	AQUA		ND	ND	ND	ND	ND	15.0	58.0	ND	ND	ND	ND	ND
	02/09/88	12	AQUA		ND	ND	ND	ND	ND	13.5	53.0	ND	ND	ND	ND	ND
	05/19/88	25	AQUA		ND	ND	ND	6.8	ND	10.9	52.0	ND	ND	ND	ND	ND
	09/23/88	14	AQUA		ND	ND	ND	ND	ND	20.0	76.0	ND	ND	ND	ND	ND
	12/10/88	29	AQUA		ND	ND	ND	6.2	ND	18.7	62.1	ND	ND	ND	ND	ND
	02/24/89	20	AQUA		ND	ND	ND	6.1	ND	15.7	60.4	ND	ND	ND	ND	ND
06/02/89	12	AQUA	624		ND	ND	9.2	9.4	18.3	66.7	ND	ND	ND	ND	ND	

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
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MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

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Environmental and Geotechnical  
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S900MW  
23-Jul-89

LABORATORY ANALYTICAL PARAMETERS

WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS											OTHER VOC UG/L
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-ETHYLENE UG/L	TRANS 1,2-DICHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L	TOLUENE UG/L	
					NPL	PROPOSED= 5	7	PROPOSED= 70	100	200	5	2	NPL	PROPOSED= 2000		
S-B	10/01/88	12	AQUA		ND	81.3	ND		2.2	ND	ND	ND	ND	ND		
	11/05/88	4*	AQUA		ND	29.0	ND		2.3	ND	ND	ND	ND	ND		
	12/18/88	20	AQUA		ND	210.0	ND	15.0	ND	ND	ND	ND	ND	ND		
	12/18/88	30	AQUA		ND	43.3	ND		ND	ND	ND	ND	ND	ND		
	02/12/87	12	AQUA		ND	313.0	ND		23.0	ND	ND	ND	ND	ND		
	06/05/87	7	AQUA		ND	460.0	ND	17.0	ND	ND	ND	ND	ND	ND		
	09/03/87	9	AQUA		ND	170.0	ND	13.0	ND	ND	ND	ND	ND	ND		
	01/13/88	6	AQUA		ND	810.0	ND	43.0	ND	ND	ND	ND	ND	ND		
	02/08/88	9	AQUA		ND	440.0	ND	ND	ND	ND	ND	ND	ND	ND		
	05/18/88	9	AQUA		ND	440.0	ND	47.6	ND	ND	ND	ND	ND	ND		
	09/23/88	9	AQUA		ND	240.0	ND	ND	ND	ND	ND	ND	ND	ND		
	12/08/88	4	AQUA		ND	12.3	ND	ND	ND	ND	ND	ND	ND	ND		
	2/23/89	13	AQUA		ND	9.2	ND	ND	ND	ND	ND	ND	ND	ND		
	06/10/89	33	AQUA	624	ND	6.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	

UNITS  
MAXIMUM CONTAMINANT LEVEL (MCL):

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\* = BIS (2-ETHYLHEXY) PHTHALATE REPORTED AS 6.8 UG/L

TABLE 3  
GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 13 OF 26  
MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022  
T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services



S230CMMW  
22-Jul-89

WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS													
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	CIS 1,2-DICHLORO-ETHENE UG/L	TRANS 1,2-DICHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L	TOLUENE UG/L	OTHER VOC UG/L		
S-23	11/09/86	19*	AQUA		NPL	5	7	70	PROPOSED=	100	200	5	PROPOSED=	2	NPL	PROPOSED=	2000	
	01/07/87	8	AQUA		ND	ND	ND	ND	4.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/11/87	8	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/05/87	21	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/03/87	13	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	01/13/88	9	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/09/88	24	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/18/88	17	AQUA		ND	ND	ND	ND	6.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/24/88	7	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/08/88	5	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/22/89	5	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/09/89	17	AQUA	624		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES:

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 SEE LAB REPORT.

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\* = BIS (2-ETHYLHEXYL) PHTHALATE REPORTED AS 3.4 UG/L

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
 ORGANIC COMPOUNDS  
 PAGE 21 OF 26  
 MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
 ALLIED-SIGNAL CORPORATION  
 SOUTH BEND, INDIANA  
 PROJECT # ALCMPX SBIN 022

T A GLEASON ASSOCIATES  
 Environmental and Geotechnical Services







S260CMW  
22-Jul-89

LABORATORY ANALYTICAL PARAMETERS

NOTES:

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NPL = NO U.S. EPA PUBLISHED LEVEL

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UNITS  
MAXIMUM CONTAMINANT LEVEL (MCL):

WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS												
					1,1-DI-ETHANE UG/L	1,2-DI-ETHANE UG/L	1,1-DI-ETHYLENE UG/L	1,2-DI-ETHYLENE UG/L	1,1,1-ETHANE UG/L	TRI-ETHYLENE UG/L	1,2-DI-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLOROFORM UG/L	TOLUENE UG/L	OTHER VOC UG/L		
S-25	07/10/87	7	AQUA		NPL	5	7	PROPOSED=70	1,2-DI-ETHYLENE UG/L	PROPOSED=100	200	5	PROPOSED=5	2	NPL	2000	
	09/03/87	16	AQUA		ND	ND	ND	ND	ND	ND	ND	18.0	ND	ND	ND	ND	
	01/15/88	31	AQUA		ND	ND	ND	ND	ND	ND	ND	14.0	ND	ND	ND	ND	
	02/09/88	18	AQUA		ND	ND	ND	ND	ND	ND	ND	17.0	ND	ND	ND	ND	
	05/19/88	29	AQUA		ND	ND	ND	ND	ND	ND	ND	18.0	ND	ND	ND	ND	
	09/24/88	21	AQUA		ND	ND	ND	ND	ND	ND	ND	15.8	ND	ND	ND	ND	
	02/23/89	18	AQUA		ND	ND	ND	ND	ND	ND	ND	17.0	ND	ND	ND	ND	
	08/30/89	29	AQUA	624		ND	ND	ND	ND	ND	ND	20.1	ND	ND	ND	ND	ND
	08/10/89	30	AQUA	624		ND	ND	ND	ND	ND	ND	17.3	ND	ND	ND	ND	ND
						ND	ND	ND	ND	ND	ND	17.6	ND	ND	ND	ND	ND

TABLE 3.

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 24 OF 26  
MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services













FBOCMW-1  
23-Jul-89

LABORATORY ANALYTICAL PARAMETERS

NOTES:  
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NPL = NO U.S. EPA PUBLISHED LEVEL  
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\*\* - OTHER VOC; DICHLOROBROMOMETHANE

WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	MAXIMUM CONTAMINANT LEVEL (MCL):										OTHER VOC UG/L	
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	CIS 1,2-DICHLORO-ETHYLENE UG/L	TRANS 1,2-DICHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L		TOLUENE UG/L
BLANK	10/07/86	1000	AQUA		NPL	5	7	70	100	200	5	5	2	NPL	2000	
	11/06/86	10	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	11/06/86	28	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/18/86	24	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/18/86	25	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	01/07/87	10	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/12/87	23	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/05/87	23	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	07/10/87	9	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/04/87	36	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	01/13/88	10	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	01/13/88	35	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/10/88	34	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/10/88	35	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	05/18/88	21	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	05/19/88	36	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/25/88	28	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/10/88	30	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/11/88	35	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/22/89	3	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/23/89	11	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/26/89	36	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/07/89	1	AQUA	624	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/08/89	8	AQUA	624	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/09/89	18	AQUA	624	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/10/89	28	AQUA	624	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 3

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 26 OF 26  
MONITOR WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED-SIGNAL CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALOMPX SBIN 020

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services



RWE30R  
24-Jul-89

LABORATORY ANALYTICAL PARAMETERS

NOTES:  
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SAMPLE SOURCE	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS												
					BENZENE UG/L	1,1-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	ETHYL BENZENE UG/L	TOLUENE UG/L	DICHLORO-ETHYLENE UG/L	TRANS-1,2-DICHLORO-ETHYLENE UG/L	TOTAL XYLENES UG/L	1,2-DI-CHLORO-ETHANE UG/L	CHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	VINYL CHLORIDE UG/L	OTHER VOC
MAXIMUM CONTAMINANT LEVEL (MCL):					5	NPL	7	PROPOSED=700	PROPOSED=2000	PROPOSED=70	PROPOSED=100	PROPOSED=10000	5	NPL	5	2	
E-3	03/25/87	7	AQUA		72.0	56.0	ND	10.0	10.0	53.0	ND	23.0	ND	ND	ND	ND	
	01/14/88	19	AQUA		60.0	25.0	ND	9.4	9.2	48.0	ND	19.0	ND	ND	ND	ND	
	02/10/88	29	AQUA		60.0	25.0	ND	11.0	8.5	81.0	70.0	21.0	ND	ND	ND	ND	
	05/19/88	34	AQUA		43.0	25.6	ND	7.8	ND	86.0	ND	15.0	ND	29.5	22.9	18.3	
	09/25/88	32	AQUA		51.0	25.0	ND	5.6	ND	28.0	11.0	9.2	ND	ND	ND	ND	
	12/09/88	21	AQUA		30.4	21.6	ND	ND	ND	64.2	ND	ND	ND	41.7	ND	26.7	489.0
	02/24/89	28	AQUA		42.7	26.8	ND	ND	ND	74.0	7.2	ND	ND	49.5	ND	26.3	520.0
	05/07/89	5	AQUA	824	92.1	18.7	ND	ND	ND	45.8	6.9	7.1	ND	106.0	ND	19.2	ND

TABLE 4

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 1 OF 5  
NAPHTHA RECOVERY WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services









RWE30R  
24-Jul-89

LABORATORY ANALYTICAL PARAMETERS

SAMPLE SOURCE	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS												
					BENZENE UG/L	1,1-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	ETHYL BENZENE UG/L	TOLUENE UG/L	CIS-1,2-DICHLORO-ETHYLENE UG/L	TRANS-1,2-DICHLORO-ETHYLENE UG/L	TOTAL XYLENES UG/L	1,2-DI-CHLORO-ETHANE UG/L	CHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	VINYL CHLORIDE UG/L	OTHER VOC
UNITS					5	NPL	7	PROPOSED=700	PROPOSED=2000	PROPOSED=70	PROPOSED=100	PROPOSED=10000	5	NPL	5	2	
MAXIMUM CONTAMINANT LEVEL (MCL):																	
E-3	03/25/87	7	AQUA		72.0	56.0	ND	10.0	10.0	53.0	ND	23.0	ND	ND	ND	ND	
	01/14/88	19	AQUA		60.0	25.0	ND	9.4	9.2	48.0	ND	19.0	ND	ND	ND	ND	
	02/10/88	29	AQUA		60.0	26.0	ND	11.0	8.5	61.0	70.0	21.0	ND	ND	ND	ND	
	05/19/88	34	AQUA		43.0	26.6	ND	7.8	ND	86.0	ND	15.0	ND	29.5	22.9	18.3	
	09/25/88	32	AQUA		51.0	28.0	ND	5.6	ND	28.0	11.0	9.2	ND	ND	ND	ND	
	12/09/88	21	AQUA		30.4	21.6	ND	ND	ND	64.2	ND	ND	ND	41.7	ND	28.7	489.0
	02/24/89	28	AQUA		42.7	26.8	ND	ND	ND	74.0	7.2	ND	ND	49.5	ND	26.3	520.0
	06/07/89	5	AQUA	624	92.1	18.7	ND	ND	ND	45.8	6.9	7.1	ND	100.0	ND	19.2	ND

TABLE 4

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 1 OF 5  
NAPHTHA RECOVERY WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services

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RW220R  
24-Jul-89

LABORATORY ANALYTICAL PARAMETERS

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SAMPLE SOURCE	SAMPLE DATE	SAMPLE #	LAB METHOD	MAXIMUM CONTAMINANT LEVEL (MCL):											OTHER VOC UG/L								
				BENZENE UG/L	1,1-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	ETHYL BENZENE MG/L	TOLUENE UG/L	CIS-1,2-DICHLORO-ETHYLENE UG/L	PROPOSED=70	TRANS-1,2-DICHLORO-ETHYLENE UG/L	PROPOSED=100	TOTAL XYLENES UG/L	1,2-DI-CHLORO-ETHANE UG/L		PROPOSED=5	CHLORO-ETHANE UG/L	NPL	CHLORO-ETHYLENE UG/L	PROPOSED=5	TRI-CHLORO-ETHYLENE UG/L	5	VINYL CHLORIDE UG/L
RWB-22	03/25/87	9	AQUA	184.0	124.0	ND	94.0	ND	60.0	199.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	09/04/87	34	AQUA	ND	ND	ND	81.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	01/14/88	17	AQUA	117.0	48.0	ND	47.0	22.0	38.0	ND	85.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	01/14/88	18	AQUA	122.0	53.0	ND	51.0	24.0	38.0	ND	91.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/10/88	27	AQUA	170.0	59.0	ND	73.0	61.0	44.0	14.0	140.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/10/88	28	AQUA	151.0	51.0	ND	70.0	50.0	45.0	11.0	140.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	05/19/88	32	AQUA	119.0	48.2	ND	103.0	79.5	92.5	ND	133.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	05/19/88	33	AQUA	118.0	47.9	ND	58.8	34.7	113.0	ND	113.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	09/25/88	30	AQUA	ND	8.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/09/88	20	AQUA	65.6	29.7	ND	41.0	16.4	55.7	12.5	90.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	641.0
02/24/89	27	AQUA	110.0	29.9	ND	52.9	34.4	62.5	13.6	100.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	720.0	
06/07/89	4	AQUA	150.0	23.4	ND	51.9	42.1	61.2	14.4	97.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 4  
GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
PAGE 5 OF 5  
NAPHTHA RECOVERY WELLS  
GROUNDWATER INVESTIGATIONS  
ALLIED CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022  
T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services



RW210R  
24-Jul-89

SAMPLE SOURCE	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS												
					BENZENE UG/L	1,1-DI-CHLOROETHANE UG/L	1,1-DI-CHLOROETHYLENE UG/L	ETHYL BENZENE UG/L	TOLUENE UG/L	CIS-1,2-DICHLOROETHYLENE UG/L	TRANS-1,2-DICHLOROETHYLENE UG/L	TOTAL XYLENES UG/L	1,2-DI-CHLOROETHANE UG/L	CHLOROETHANE UG/L	TRI-CHLOROETHYLENE UG/L	VINYL CHLORIDE UG/L	OTHER VOC UG/L
					5	NPL	7	PROPOSED=700	2000	PROPOSED=70	100	PROPOSED=10000	5	NPL	5	2	
RWB-21	03/25/87	12	AQUA		ND	15.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	09/04/87	32	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	01/14/88	15	AQUA		ND	7.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/10/88	25	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	05/19/88	30	AQUA		ND	5.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	12/09/88	18	AQUA		ND	5.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/24/89	25	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	06/07/89	2	AQUA	824	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

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TABLE 4

GROUNDWATER QUALITY ANALYSIS  
 ORGANIC COMPOUNDS  
 PAGE 4 OF 5  
 NAPTHA RECOVERY WELLS  
 GROUNDWATER INVESTIGATIONS  
 ALLIED CORPORATION  
 SOUTH BEND, INDIANA  
 PROJECT # ALCMPX SBIN 022  
 T A GLEASON ASSOCIATES  
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RW160R  
24-Jul-89

LABORATORY ANALYTICAL PARAMETERS

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SAMPLE SOURCE	SAMPLE DATE	SAMPLE #	LAB	METHOD	MAXIMUM CONTAMINANT LEVEL (MCL):												
					BENZENE UG/L	1,1-DI-CHLOROETHANE UG/L	1,1-DI-CHLOROETHYLENE UG/L	ETHYL BENZENE UG/L	TOLUENE UG/L	CIS-1,2-DICHLOROETHYLENE UG/L	TRANS-1,2-DICHLOROETHYLENE UG/L	TOTAL XYLENES UG/L	1,2-DI-CHLOROETHANE UG/L	CHLOROETHANE UG/L	TRI-CHLOROETHENE UG/L	VINYL CHLORIDE UG/L	OTHER VOC UG/L
					5	NPL	7	PROPOSED=700	2000	PROPOSED=70	100	PROPOSED=10000	5	NPL	5	2	
RWB-16	03/25/87	8	AQUA		22.0	16.0	ND	ND	ND	16.0	ND	ND	ND	ND	ND	ND	
	09/04/87	35	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	01/14/88	20	AQUA		ND	ND	ND	ND	ND	8.5	ND	ND	ND	ND	ND	ND	
	02/10/88	30	AQUA		ND	ND	ND	ND	ND	8.2	ND	ND	ND	ND	ND	ND	
	05/19/88	35	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	09/25/88	33	AQUA		152.0	ND	ND	ND	ND	6.0	ND	ND	ND	149.0	22.5	ND	
	12/09/88	22	AQUA		ND	ND	ND	ND	ND	5.4	ND	ND	ND	140.0	ND	ND	
	02/24/89	29	AQUA		100.0	ND	ND	ND	ND	ND	ND	ND	ND	170.0	ND	ND	15.0
	06/07/89	6	AQUA	624	53.0	ND	ND	ND	ND	ND	ND	ND	ND	170.0	ND	ND	140.0

TABLE 4

GROUNDWATER QUALITY ANALYSIS  
 ORGANIC COMPOUNDS  
 PAGE 3 OF 5  
 NAPTHA RECOVERY WELLS  
 GROUNDWATER INVESTIGATIONS  
 ALLIED CORPORATION  
 SOUTH BEND, INDIANA  
 PROJECT # ALCMPX SBIN 022  
 T A GLEASON ASSOCIATES  
 Environmental and Geotechnical Services







RW210R  
24-Jul-89

LABORATORY ANALYTICAL PARAMETERS

SAMPLE SOURCE	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS												
					BENZENE UG/L	1,1-DI-CHLOROETHANE UG/L	1,1-DI-CHLOROETHYLENE UG/L	ETHYL BENZENE UG/L	TOLUENE UG/L	CIS-1,2-DICHLOROETHYLENE UG/L	TRANS-1,2-DICHLOROETHYLENE UG/L	TOTAL XYLENES UG/L	1,2-DI-CHLOROETHANE UG/L	CHLOROETHANE UG/L	TRI-CHLOROETHYLENE UG/L	VINYL CHLORIDE UG/L	OTHER VOC UG/L
					5	NPL	7	PROPOSED=700	2000	PROPOSED=70	100	PROPOSED=10000	5	NPL	5	2	
RWB-21	03/25/87	12	AQUA		ND	15.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	09/04/87	32	AQUA		ND	7.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	01/14/88	15	AQUA		ND	5.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/10/88	25	AQUA		ND	5.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	05/19/88	30	AQUA		ND	5.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	12/09/88	18	AQUA		ND	5.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/24/89	25	AQUA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	06/07/89	2	AQUA	624	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

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

TABLE 4

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
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NAPHTHA RECOVERY WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services









RW220R  
24-Jul-89

LABORATORY ANALYTICAL PARAMETERS

NOTES:

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SEE LAB REPORT.

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SAMPLE SOURCE	SAMPLE DATE	SAMPLE #	LAB	METHOD	BENZENE		1,1-DI-CHLORO-ETHANE		1,1-DI-CHLORO-ETHYLENE		ETHYL BENZENE		TOLUENE		CIS-1,2-DICHLORO-ETHYLENE		TRANS-1,2-DICHLORO-ETHYLENE		TOTAL XYLENES		1,2-DI-CHLORO-ETHANE		TRI-CHLORO-ETHYLENE		VINYL CHLORIDE		OTHER VOC		
					UG/L	NPL	UG/L	7	MG/L	PROPOSED=700	UG/L	PROPOSED=2000	UG/L	PROPOSED=70	UG/L	PROPOSED=100	UG/L	PROPOSED=10000	UG/L	5	UG/L	5	UG/L	5	UG/L	2	UG/L	2	
RWB-22	03/25/87	9	AQUA		184.0	124.0	ND	94.0	ND	ND	60.0	199.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	09/04/87	34	AQUA		ND	ND	ND	81.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	01/14/88	17	AQUA		117.0	48.0	ND	47.0	ND	22.0	36.0	85.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	01/14/88	18	AQUA		122.0	53.0	ND	51.0	ND	24.0	38.0	91.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/10/88	27	AQUA		170.0	59.0	ND	73.0	ND	61.0	44.0	140.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/10/88	28	AQUA		151.0	51.0	ND	70.0	ND	50.0	46.0	140.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	05/19/88	32	AQUA		119.0	48.2	ND	103.0	ND	79.5	92.5	133.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	05/19/88	33	AQUA		118.0	47.9	ND	58.8	ND	34.7	113.0	113.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	09/25/88	30	AQUA		ND	8.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/09/88	20	AQUA		65.6	29.7	ND	41.0	ND	16.4	55.7	12.5	90.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
02/24/89	27	AQUA		110.0	29.9	ND	52.9	ND	34.4	62.5	13.6	100.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
08/07/89	4	AQUA		150.0	23.4	ND	51.9	ND	42.1	61.2	14.4	97.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

TABLE 4

GROUNDWATER QUALITY ANALYSIS  
ORGANIC COMPOUNDS  
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NAPHTHA RECOVERY WELLS

GROUNDWATER INVESTIGATIONS  
ALLIED CORPORATION  
SOUTH BEND, INDIANA  
PROJECT # ALCMPX SBIN 022

T A GLEASON ASSOCIATES  
Environmental and Geotechnical Services



WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS											
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	CIS 1,2-DICHLORO-ETHENE UG/L	TRANS 1,2-DICHLORO-ETHYLENE UG/L	1,1,1-TRICHLORO-ETHANE UG/L	TRI-CHLORO-ETHYLENE UG/L	1,2-DI-CHLORO-PROPANE UG/L	VINYL CHLORIDE UG/L	CHLORO-FORM UG/L	TOLUENE UG/L	
RW1-7	10/04/88	NSM-1	AQUA		NPL	5	7	70	PROPOSED=70	100	200	5	5	2	NPL	2000
	10/06/88	NSM-5	AQUA		1450.0	ND	220.0	770.0	87.0	260.0	235.0	ND	136.0	ND	ND	ND
	12/11/88	NSM-1	AQUA		1100.0	ND	180.0	731.0	77.0	273.0	280.0	ND	125.0	ND	ND	ND
	02/26/89	37	AQUA		422.0	ND	53.6	659.0	45.6	211.0	374.0	ND	102.0	ND	ND	ND
	06/11/89	39	AQUA	624	394.0	ND	63.4	500.0	53.0	240.0	390.0	ND	80.0	ND	ND	ND
					290.0	ND	56.2	450.0	41.4	200.0	360.0	ND	74.8	ND	ND	ND

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TABLE 5

GROUNDWATER QUALITY ANALYSIS ORGANIC COMPOUNDS

PAGE 1 OF 5 RECOVERY WELLS

GROUNDWATER INVESTIGATIONS ALLIED CORPORATION SOUTH BEND, INDIANA PROJECT # ALAUBR SBIN 022

T A GLEASON ASSOCIATES Environmental and Geotechnical Services













RW18-19  
22-Jul-89

WELL NO.	SAMPLE DATE	SAMPLE #	LAB	METHOD	LABORATORY ANALYTICAL PARAMETERS																	
					1,1-DI-CHLORO-ETHANE UG/L	1,2-DI-CHLORO-ETHANE UG/L	1,1-DI-CHLORO-ETHYLENE UG/L	PROPOSED=70	CIS-1,2-DICHLORO-ETHENE UG/L	PROPOSED=	1,2-DICHLORO-ETHYLENE UG/L	100	TRANS-1,1,1-TRICHLORO-ETHANE UG/L	200	TRI-CHLORO-ETHYLENE UG/L	5	1,2-DI-CHLORO-PROPANE UG/L	PROPOSED=5	VINYL CHLORIDE UG/L	2	CHLORO-FORM UG/L	NPL
RW18-19	10/04/88	NSM-3	AQUA		ND	ND	ND	ND	19.0	58.0	ND	47.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/06/88	NSM-3	AQUA		ND	ND	ND	ND	19.0	57.0	ND	45.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/11/88	NSM-3	AQUA		ND	ND	ND	ND	128.0	217.0	ND	37.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/26/89	41	AQUA		ND	ND	ND	ND	22.8	38.4	ND	47.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/26/89	42	AQUA		ND	ND	ND	ND	24.7	41.1	ND	53.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/11/89	42	AQUA	624	ND	ND	ND	ND	26.8	49.1	ND	51.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

UNITS  
MAXIMUM CONTAMINANT LEVEL (MCL):

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