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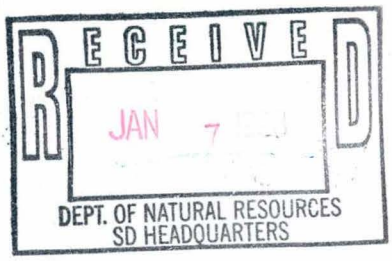
1-7-98

HSI GEOTRANS
A TETRA TECH COMPANY

175 N. Corporate Drive
Suite 100
Brookfield, Wisconsin
53045

414-792-1282 FAX 414-792-1310

December 31, 1997
(N734/101)



Mr. Steve Ales
Wisconsin Department of Natural Resources
Southern District Headquarters
3911 Fish Hatchery Road
Fitchburg, WI 53711

Dear Mr. Ales:

Enclosed please find two copies of the Semi-Annual Status Report for the Remedial Action work at the FF/NN Landfill in Ripon, Wisconsin. Should you have any questions or comments, please do not hesitate to call.

Sincerely,

HSI GEOTRANS, INC.

Judy L. Fassbender
Senior Hydrogeologist

JLF:dmv
Enc.

cc: Ray Roder, Rienhart, Boerner, Van Deuren, Norris, Rieselbach, S.C. (1 copy)
Jane Lemke/Environmental Response and Repair Section (SW/3), WDNR (1 copy)
Phil Hoopman, City of Ripon, Department of Public Works (1 copy)
Nelson Olavarria - Cooper Industries (1 copy)

CONTRACT SF-92-01

MONTHLY STATUS REPORT

July through December 1997

SITE NAME/ACTIVITY:

FF/NN Landfill
Ripon, Wisconsin
Remedial Action

PREPARED BY:

Mr. Ray Roder
Rienhart, Boerner, Van Deuren, Norris
& Rieselbach, S.C.
7617 Mineral Point Road
Milwaukee, Wisconsin 53701-2020

Ms. Judy Fassbender
HSI GeoTrans, Inc.
175 N. Corporate Drive, Suite 100
Brookfield, Wisconsin 53045

PREPARED FOR:

Ms. Jane Lemke
Environmental Repair and
Response Section (SW/3)
Wisconsin Department of
Natural Resources
P.O. Box 7921
Madison, Wisconsin 53707 (1 copy)

Mr. Steve Ales
District Solid and
Hazardous Waste Program Supervisor
Wisconsin Department of Natural
Resources, Southern District Headquarters
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711 (2 copies)

DATE:

December 31, 1997

PERIOD:

July 1 - December 31, 1997

PROGRESS MADE THIS REPORTING PERIOD:

- Groundwater and leachate samples were collected on October 26-28, 1997.
- Analytical results from sampling four private wells near the landfill were sent to the respective homeowners.

DATA TRANSMITTED WITH REPORT:

- Groundwater VOC Sampling Results Summary Table.

ANTICIPATED PROBLEMS AND RECOMMENDED SOLUTIONS:

- None.

DOCUMENTS SUBMITTED:

- Monitor well data was submitted to the WDNR in disk format, private well data was submitted on disk and TADs as requested.

UPCOMING ACTIVITIES PLANNED:

- The next semiannual groundwater and gas sampling event will be conducted in May 1998.

PERSONNEL/SUBCONTRACTORS:

- Judy Fassbender coordinates groundwater monitoring activities. Todd Thomson conducts the field sampling. Laboratory analyses were completed by NET in Watertown, Wisconsin. Data validation of the results from the Fall 1997 sampling was conducted by the M.A. Kuehl Company of Green Bay, Wisconsin.

OTHER:

VOC concentrations in groundwater as measured in samples from site monitor wells have remained fairly consistent over the last few years. Four of the wells sampled on a semiannual basis have had nondetectable levels of VOCs for the past two or more events. These four wells include MW-102, P-103, P-104 and MW-108.

- MW-102 has been free from VOCs for the past two sampling events and the VOCs detected during events prior to 1997 are of suspect origin (toluene in April 1994 and May 1996 and chloromethane in October 1996) or at estimated quantities.

- P-103 contained estimated concentrations of VOCs in the two 1996 sampling events.

  VOCs have not been detected in either of the 1997 sampling events.

- P-104 contained an estimated amount of chloromethane in October 1996 which was believed to be a laboratory artifact. No other VOCs have been detected in samples from this well.

- MW-108 also contained the chloromethane of laboratory suspected origin in October 1996 and some estimated concentrations of cis-1,2-dichloroethene and toluene in May 1996. No VOCs were detected in water samples from this well in the two sampling events conducted in 1997.

The VOC concentrations measured in groundwater samples from wells with highest impacts have not changed substantially over the past four years. Groundwater flow directions and hydraulic gradients have also remained relatively the same.

We request that MW-102, P-103, P-104 and MW-108 be removed from the semiannual sampling schedule. We will continue to measure the groundwater elevation at these locations semi-annually but would no longer collect samples from these wells unless there is a significant change in VOC concentrations in an adjacent well or a significant variation in groundwater flow configuration.

We request your approval to remove these wells from the sampling schedule effective with the Spring 1998 sampling event.

Table 3. Groundwater VOC Sampling Results

Sampling Point:	MW-101						P-101		WDNR NR140	
Collection Date:	10/15/93	4/19/94	5/8/96	10/30/96	5/12/97	10/26/97	10/15/93	4/19/94	PAL	ES
PARAMETER										
Chloromethane				0.89 J					0.3	3
Vinyl Chloride									0.02	0.2
cis-1,2-dichloroethene									7	70
Toluene								0.5J	68.6	343
Benzene									0.5	5
Chlorobenzene									20	100
1,4-dichlorobenzene									15	75
Trichloroethene									0.5	5
Tetrachloroethene	0.7 J	0.6J	0.6J	0.72 J		0.70			0.5	5

Results in µg/ℓ
B = analyte found in method blank as well as sample
E = exceeds calibration range
J = estimated value
ND = not detected
PAL = Preventive Action Limit
ES = Enforcement Standard
Partial Shading = Exceeds WDNR NR140 PAL
Total Shading = Exceeds WDNR NR140 ES

Sampling Point:	MW-102						P-102		WDNR NR140	
Collection Date:	10/26/93	4/11/94	5/8/96	10/30/96	5/12/97	10/26/97	10/26/93	4/11/94	PAL	ES
PARAMETER										
Chloromethane				0.99 J					0.3	3
Vinyl Chloride									0.02	0.2
cis-1,2-dichloroethene									7	70
Toluene		3	0.4J						68.6	343
Benzene									0.5	5
Chlorobenzene									20	100
1,4-dichlorobenzene									15	75
Trichloroethene									0.5	5
Tetrachloroethene				0.30 J					0.5	5

Results in µg/ℓ
B = analyte found in method blank as well as sample
E = exceeds calibration range
J = estimated value
ND = not detected
PAL = Preventive Action Limit
ES = Enforcement Standard
Partial Shading = Exceeds WDNR NR140 PAL
Total Shading = Exceeds WDNR NR140 ES

Table 3. Groundwater VOC Sampling Results

Sampling Point:	MW-103								WDNR NR140	
Collection Date:	10/27/93	4/11/94	4/11/94 DUP	5/9/96	5/9/96 DUP	10/30/96	5/13/97	10/26/97	PAL	ES
PARAMETER										
Chloromethane					9J	1.1			0.3	3
Vinyl Chloride	75	440	410	170	180	98 E	230	220J	0.02	0.2
Chloroethane						1.9	2.7	2.4	80	400
1,1-Dichloroethane						.99 J	1.2	0.89	85	850
1,1-Dichloroethene						0.30 J	0.75		0.7	7
cis-1,2-dichloroethene	410	1100	970	740	840	520 E	790	550J	7	70
trans-1,2-Dichloroethene				9J	10J	5	4.7	5.2	20	100
1,2-dichloropropane						1.9	1.6	1.5	0.5	5
Benzene						3.3	4.3	4.2	0.5	5
Chlorobenzene				7J	8J	8.1 J	8.5	7.9	20	100
1,4-dichlorobenzene						0.76 J	0.98	1.4	15	75
Trichloroethene				10J	11J	4.7	5.6	6.6	0.5	5
Tetrachloroethene									0.5	5
1,2-dichloroethane							0.52	0.38	0.5	5
MTBE							0.27	0.38	12	60
DisIsopropyl Ether								0.57	NS	NS
Tetrahydrofuran								3.1	10	50

Results in µg/ℓ
B = analyte found in method blank as well as sample
E = exceeds calibration range
J = estimated value
ND = not detected
PAL = Preventive Action Limit
ES = Enforcement Standard
Partial Shading = Exceeds WDNR NR140 PAL
Total Shading = Exceeds WDNR NR140 ES

Table 3. Groundwater VOC Sampling Results

Sampling Point:	P-103						WDNR NR140	
Collection Date:	10/27/93	4/12/94	5/9/96	10/31/96	5/13/97	10/27/97	PAL	ES
PARAMETER								
Chloromethane				0.84 J			0.3	3
Vinyl Chloride			0.1J				0.02	0.2
Chloroethane							80	400
1,1-Dichloroethane							85	850
cis-1,2-dichloroethene			0.1J				7	70
trans-1,2-Dichloroethene							20	100
Toluene			0.1J				68.6	343
Benzene							0.5	5
Chlorobenzene							20	100
1,4-dichlorobenzene							15	75
Trichloroethene							0.5	5
Tetrachloroethene							0.5	5

Results in µg/ℓ
B = analyte found in method blank as well as sample
E = exceeds calibration range
J = estimated value
ND = not detected
PAL = Preventive Action Limit
ES = Enforcement Standard
Partial Shading = Exceeds WDNR NR140 PAL
Total Shading = Exceeds WDNR NR140 ES

Table 3. Groundwater VOC Sampling Results

Sampling Point:	MW-104						P-104						WDNR NR140	
Collection Date:	10/27/93	4/19/94	5/9/96	10/30/96	5/12/97	10/27/97	10/27/94	4/19/94	5/9/96	10/30/96	5/12/97	10/27/97	PAL	ES
PARAMETER														
Chloromethane			0.3J	0.46 J						0.20 J			0.3	3
Vinyl Chloride		6	10	4.3	4.5	18							0.02	0.2
Chloroethane			1	0.34 J	1.5								80	400
1,1-Dichloroethane			0.2 J										85	850
cis-1,2-dichloroethene	1 JB	10	6	3.6	1.1	7.3							7	70
trans-1,2-Dichloroethene			0.3 J	0.22 J									20	100
Toluene	31		0.2 J										68.6	343
Benzene	2	1	6	0.64 J	4.8	0.63							0.5	5
Chlorobenzene	2	1	5	1.1	4.5	1.3							20	100
Ethylbenzene			0.1J	0.80 J									140	700
1,4-dichlorobenzene	2	1			0.91	0.85							15	75
Trichloroethene		0.8J	0.5J	0.31 J									0.5	5
Tetrachloroethene													0.5	5
Total Xylenes				0.77 J									124	620
MTBE					0.32								12	60

Results in µg/ℓ
B = analyte found in method blank as well as sample
E = exceeds calibration range
J = estimated value
ND = not detected
PAL = Preventive Action Limit
ES = Enforcement Standard
Partial Shading = Exceeds WDNR NR140 PAL
Total Shading = Exceeds WDNR NR140 ES

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Table 3. Groundwater VOC Sampling Results

Sampling Point:	MW-105		P-105		WDNR NR140	
Collection Date:	10/26/93	4/13/94	10/26/94	4/13/94	PAL	ES
PARAMETER						
Vinyl Chloride					0.02	0.2
cis-1,2-dichloroethene					7	70
Toluene					68.6	343
Benzene					0.5	5
Chlorobenzene					20	100
1,4-dichlorobenzene					15	75
Trichloroethene					0.5	5
Tetrachloroethene					0.5	5
TOTAL VOCs	ND	ND	ND	ND		

Results in µg/ℓ
B = analyte found in method blank as well as sample
E = exceeds calibration range
J = estimated value
ND = not detected
PAL = Preventive Action Limit
ES = Enforcement Standard
Partial Shading = Exceeds WDNR NR140 PAL
Total Shading = Exceeds WDNR NR140 ES

Table 3. Groundwater VOC Sampling Results

Sampling Point:	MW-106		P-106						WDNR NR140	
Collection Date:	10/26/93	4/19/94	10/26/93	4/19/94	5/8/96	10/31/96	5/12/97	10/26/97	PAL	ES
PARAMETER										
Vinyl Chloride									0.02	0.2
Chloromethane						0.62 J			0.3	3
cis-1,2-dichloroethene					0.2 J				7	70
Toluene		11							68.6	343
Benzene									0.5	5
Chlorobenzene									20	100
1,4-dichlorobenzene									15	75
Trichloroethene			0.6 J	0.8 J	0.8 J	0.22 J	0.65	0.67	0.5	5
Tetrachloroethene									0.5	5

Results in µg/ℓ
B = analyte found in method blank as well as sample
E = exceeds calibration range
J = estimated value
ND = not detected
PAL = Preventive Action Limit
ES = Enforcement Standard
Partial Shading = Exceeds WDNR NR140 PAL
Total Shading = Exceeds WDNR NR140 ES

Sampling Point:	MW-107						WDNR NR140	
Collection Date:	10/27/93	4/12/94	5/9/96	10/21/96	5/13/97	10/27/97	PAL	ES
PARAMETER								
Chloromethane				0.80 J			0.3	3
Vinyl Chloride							0.02	0.2
Chloroethane							80	400
cis-1,2-dichloroethene							7	70
Toluene							68.6	343
Benzene							0.5	5
Chlorobenzene							20	100
1,4-dichlorobenzene							15	75
Trichloroethene	2	2	2	2.2	2.6	2.0	0.5	5
Tetrachloroethene							0.5	5
Dichlorodifluoromethane					0.9	0.7	200	1000

Results in µg/ℓ
B = analyte found in method blank as well as sample
E = exceeds calibration range
J = estimated value
ND = not detected
PAL = Preventive Action Limit
ES = Enforcement Standard
Partial Shading = Exceeds WDNR NR140 PAL
Total Shading = Exceeds WDNR NR140 ES

Table 3. Groundwater VOC Sampling Results

Sampling Point:	P-107										P-107D						WDNR NR140	
Collection Date:	10/27/93	4/12/94	4/12/94 DUP	5/9/96	10/23/96	10/23/96 DUP	5/14/97	5/14/97 DUP	10/27/97	10/27/97 DUP	10/27/93	4/13/94	5/9/96	10/23/96	5/14/97	10/27/97	PAL	ES
PARAMETER																		
Chloromethane					0.79 J	0.49 J							0.3J	0.44 J			0.3	3
Vinyl Chloride	6	3	3	2	2.3	2.7	2.0	1.7	2.6	2.3	6		0.6J	3.9	2.4	5.1	0.02	0.2
Chloroethane				0.2 J	0.19	0.21											80	400
cis-1,2-dichloroethene	4	2	2	2	1.9	2.1	1.3	1.1	2.2	1.8	2B		0.2J		0.49	1.7	7	70
Toluene		0.7J	0.7J	0.1 J									0.3J				68.6	343
Benzene				0.1 J									0.1J				0.5	5
Chlorobenzene																	20	100
1,4-dichlorobenzene																	15	75
Trichloroethene				0.1 J													0.5	5
Tetrachloroethene																	0.5	5

Results in µg/ℓ
B = analyte found in method blank as well as sample
E = exceeds calibration range
J = estimated value
ND = not detected
PAL = Preventive Action Limit
ES = Enforcement Standard
Partial Shading = Exceeds WDNR NR140 PAL
Total Shading = Exceeds WDNR NR140 ES

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Sampling Point:	MW-108						P-108				WDNR NR140	
Collection Date:	10/18/93	4/13/94	5/8/96	10/23/96	5/12/97	10/27/97	10/25/93	10/25/93 DUP	4/13/94	4/13/94 DUP	PAL	ES
PARAMETER												
Chloromethane				0.85 J							0.3	3
Vinyl Chloride											0.02	0.2
cis-1,2-dichloroethene			0.2 J								7	70
Toluene	11	2	0.2 J								68.6	343
Benzene											0.5	5
Chlorobenzene											20	100
1,4-dichlorobenzene											15	75
Trichloroethene											0.5	5
Tetrachloroethene											0.5	5

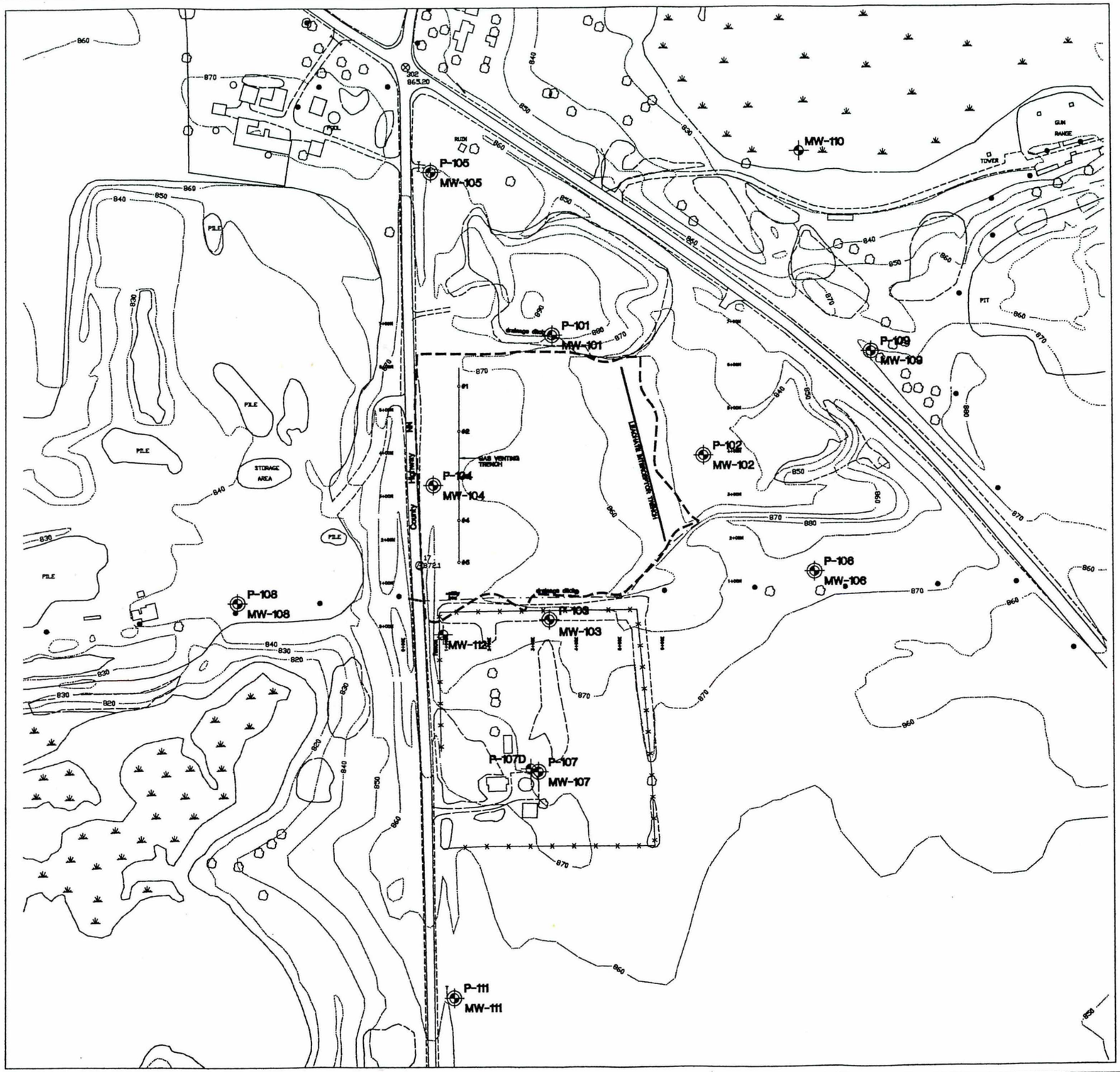
Results in µg/ℓ
B = analyte found in method blank as well as sample
E = exceeds calibration range
J = estimated value
ND = not detected
PAL = Preventive Action Limit
ES = Enforcement Standard
Partial Shading = Exceeds WDNR NR140 PAL
Total Shading = Exceeds WDNR NR140 ES

Sampling Point:	P-109		MW-110		MW-111	P-111	WDNR NR140	
Collection Date:	10/21/93	4/13/94	10/19/93	4/13/94	4/19/94	4/19/94	PAL	ES
PARAMETER								
Vinyl Chloride							0.02	0.2
cis-1,2-dichloroethene							7	70
Toluene				6		2	68.6	343
Benzene							0.5	5
Chlorobenzene							20	100
1,4-dichlorobenzene							15	75
Trichloroethene							0.5	5
Tetrachloroethene							0.5	5

Results in µg/ℓ
B = analyte found in method blank as well as sample
E = exceeds calibration range
J = estimated value
ND = not detected
PAL = Preventive Action Limit
ES = Enforcement Standard
Partial Shading = Exceeds WDNR NR140 PAL
Total Shading = Exceeds WDNR NR140 ES

Sampling Point:	MW-112				WDNR NR140	
Collection Date:	11/27/96	11/27/96 DUP	5/12/97	10/26/97	PAL	ES
PARAMETER						
Chloroethane	2 J	2 J			80	400
Chloromethane					0.3	3
Vinyl Chloride	15	16	2.2		0.02	0.2
cis-1,2-dichloroethene	59	58	5.4	1.3	7	70
Trans-1,2-Dichloroethene	1 J	1 J			20	100
Toluene					68.6	343
Benzene	0.6 J	0.7 J	0.59	0.5	0.5	5
Chlorobenzene			0.27	0.29	20	100
1,4-dichlorobenzene					15	75
Trichloroethene	3 J	4 J			0.5	5
Tetrachloroethene					0.5	5

Results in µg/ℓ
B = analyte found in method blank as well as sample
E = exceeds calibration range
J = estimated value
ND = not detected
PAL = Preventive Action Limit
ES = Enforcement Standard
Partial Shading = Exceeds WDNR NR140 PAL
Total Shading = Exceeds WDNR NR140 ES



EXPLANATION

P-104
MW-104 — MONITOR WELL, PIEZOMETER LOCATION AND DESIGNATION

N

SCALE
0 500
Feet

RIPON FF/NN LANDFILL RIPON, WISCONSIN	DATE: 1/5/98
SITE LAYOUT AND SAMPLE LOCATIONS	DESIGNED: BOB CHECKED: JLF APPROVED: JLF DRAWN: BOB PROJ.: N734
HSI GEOTRANS A TETRA TECH COMPANY	Figure 1

/hsi/473/3096/3096-b12