4. Maximum concentrations (off site). Please list the following maximum contaminant concentrations (ppb) for contaminants detected off site: *Highest benzene and total hydrocarbons are reported at the Tobies site:*

Benzene *11,000 ug/l* (Well No. *MW-1*, Date *1/23/91*)

Total Hydrocarbons *150,000 ug/l* (Well No. *MW-3*, Date *1/23/91*)

5. Drinking water criteria. Do contaminant concentrations for any compound exceed the Recommended Allowable Limits (RALs) at or beyond the site boundaries? (Yes/No) ..... [Y]

Compound *Benzene @ 1,400 ug/l* ..... (Well No. *MW-1*, Date *12/6/94*)

6. Source. Do sources of contamination (including contaminated soil) remain at the site? (Yes/No) ..... [N]
If yes, briefly describe. *No apparent source of hydrocarbons in soil remains beneath the site. Source of hydrocarbons in ground water is unknown.*

7. Municipal water supply available. Is municipal water supply available at the site and within 1 mile downgradient of the site? (Yes/No) ..... [Y]

8. Drinking water wells. Are there presently any drinking water wells which use the impacted aquifer located within ½ mile downgradient of the site, or 1 mile downgradient of the site if the aquifer material is fractured? (Yes/No) ..... [N]

9. Water development. Are there any plans for ground water development in the impacted aquifer within ½ mile downgradient of the site, or 1 mile downgradient of the site if the aquifer material is fractured? (Yes/No) ..... [N]

If you answered No to questions 8 AND 9, please skip to question 10 and continue.

If you answered yes to questions 8 OR 9, AND yes to question 5, corrective action will likely be required to remediate ground water contamination at the site. The RI Report should include a proposed CAD to meet the following clean-up goal and compliance point.

Clean-up goal: The RALs for VOCs and 1 part per million total hydrocarbons. Collect free product where technically feasible.

Compliance point: At and beyond the site boundaries.

At some LUST sites, corrective actions may not be technically capable of achieving remediation to RALs. For a discussion of the options, which should be considered when designing corrective actions for sites of this type, please see "LUST Program Clean-up Strategy" (Guidance Document #16).

10. Are there nonpotable water supply wells which use the impacted unit within ½ mile downgradient of the site? (Yes/No) ..... [N]

11. Does the plume currently discharge to surface water? (Yes/No) ..... [N]
If yes, what is the estimated width of the plume at the shore of the surface water body; and what are the estimated concentrations of the following contaminants at the shore of the surface water body: (The estimation method should be described in the text of the RI Report).

Benzene ____, Ethylbenzene ____, Toluene ____, Xylenes ____, Total Hydrocarbons ____

If the answer to question number 11 is yes, determine and report the use category of the surface water body, in accordance with Minn. Rules ch. 7050. Call _____ for help.

12. Does the plume have a projected point of entry to surface water? (Yes/No) ... [Y]
If yes, what is the distance from the downgradient edge of the plume to the surface water body?
1500 feet

If you answered yes to question 12, the RI Report should characterize the hydrogeologic conditions and land use between the site and the surface water body, and should assess the potential for the plume to discharge to surface water and the likelihood of future ground water use in the vicinity of the plume.

13. Is the impacted unit a bedrock aquifer? (Yes/No) ..... [N]

14. Has contamination from the site impacted a quaternary surficial or buried aquifer that is presently used as a drinking water aquifer anywhere within a 2-mile radius of the site? (Yes/No) ..... [N]

15. Uppermost drinking water aquifer.

geologic description *Quaternary sand and gravel alluvium*

depth to top *0 - 4'*

water level *15'- 20'*

karst? (yes/no) ..... [N]

sole source? (yes/no) ..... [N]

16. Confining unit. Is there a confining unit between the impacted unit and the uppermost drinking water aquifer? (yes/no) ..... [Y]

If yes: thickness: *Approximately 20 feet*

extent: *laterally extensive (from well drillers logs)*

formation name or material description: *clay till*

17. Are there any abandoned wells within approximately 1,000 feet downgradient of the site? (yes/no) . . . . . [Y]

If yes, describe: *One abandoned well and one inactive well are reported within 500 feet down gradient of Tobies site (EnecoTech).*

18. List other site specific conditions which increase the risk of cross contamination from the impacted unit to a drinking water aquifer.

None

19. Based on the answers to questions 14 through 17 and any other site specific information available, summarize and assess the risk of cross contamination from the impacted unit to the uppermost drinking water aquifer.

Hydrocarbons in ground water at the site is not likely to migrate through the confining clay till to the sandstone bedrock.

APPENDIX D

Horizon
Laboratories, Inc.

5155 East River Road, Suite #416 Minneapolis, MN. 55421 Tel. (612) 572-0425 Fax (612) 572-0441

LABORATORY RESULTS

Client: Delta Environmental Consultants, Inc
3900 Northwoods Drive, Suite 200
St. Paul, MN 55112
Attn: Paul Carter

Project: Holiday Store 226
Hinckley, MN

Date Sampled: 11/29/94 - 11/30/94
Date Analyzed: 12/07/94 - 12/08/94
Physical State: Soil

Report Date: 12/08/94
Lab P.N.: 1000-324
Client P.N.: A094-158

Sample I.D.	Benzene mg/kg EPA 8020	Toluene mg/kg EPA 8020	Ethyl-benzene mg/kg EPA 8020	Total, Xylenes mg/kg EPA 8020	GRO mg/kg Wis. DNR	% Moisture
SB-1/MW-1 14-16	0.040	0.053	2.7	4.1	170	6.3
SB-1/MW-1 24-26	0.033	<0.050	0.15	<0.080	<0.50	13
SB-2 6-8	0.025	<0.050	<0.020	<0.080	<0.50	5.7
SB-2 14-16	0.15	0.26	0.026	0.25	0.79	12
SB-3/MW-2 21-23	<0.020	<0.050	<0.020	<0.080	<0.50	15
SB-4 21-23	0.19	0.10	0.25	0.73	2.5	12
SB-4 14-16	0.051	0.070	0.064	0.16	0.89	13
SB-5/MW-3 14-16	<0.020	<0.050	<0.20	<0.080	<0.50	11
MDL, mg/kg	0.020	0.050	0.020	0.080	0.50	

MDL; Method Detection Limit
GRO; Gasoline Range Organics
All results are in mg/kg which is equal to parts-per-million (ppm) and are based on a "dry weight" basis.
The Laboratory Results are only a part of the Laboratory Report.

Horizon
Laboratories, Inc.

5155 East River Road, Suite #416 Minneapolis, MN. 55421 Tel. (612) 572-0425 Fax (612) 572-0441

LABORATORY REPORT

Client: Delta Environmental Consultants, Inc
3900 Northwoods Drive, Suite 200
St. Paul, MN 55112
Attn: Paul Carter

Project: Holiday Store 226
Hinckley, MN

Date Sampled: 11/29/94 - 11/30/94
Date Received: 12/01/94
Date Analyzed: 12/07/94 - 12/08/94
Physical State: Soil

Report Date: 12/08/94
Lab P.N.: 1000-324
Client P.N.: A094-158

Quality Assurance / Quality Control Summary

Parameter (Method)	QC Type	Percent Recovery	Acceptable Range	Percent Reproducibility	Acceptable Range
Benzene (EPA 8020)	M	89	127 - 76	95	127 - 76
Toluene (EPA 8020)	M	92	125 - 76	95	125 - 76
Ethylbenzene (EPA 8020)	M	96	125 - 76	96	125 - 76
m,p-Xylenes (EPA 8020)	M	99	125 - 76	95	125 - 76
o-Xylenes (EPA 8020)	M	96	125 - 76	94	125 - 76
GRO (Wis. DNR)	M	91	117 - 85	89	115 - 84

M = Matrix Spike / Matrix Spike Duplicate

L = Laboratory Control Sample

Reviewed

Approved

Compounds were identified by column retention time and quantified by peak area of known standards using a Hewlett Packard ChemStation Data System. The samples were received by HORIZON LABORATORIES, INC. and accompanied by the Chain-of-Custody record. The Laboratory Report is the sole property of the client to whom it is addressed. The Laboratory Results are only a part of the Laboratory Report.

CHAIN–OF–CUSTODY RECORD

Delta
Environmental
Consultants, Inc.
3900 Northwoods Dr., Suite 200
St. Paul, MN 55112

DELTA PROJECT NO. A094-158 | INVOICE CODE | PAGE 1 OF 1

PROJECT MANAGER Paul Carter

PROJECT NAME Holiday Store 226

PROJECT LOCATION Hinckley MN

SAMPLER'S SIGNATURE Megan Tenley

TURN AROUND REQUESTED: [X] NORMAL [ ] RUSH _____ [ ] OTHER _____

LAB NAME Horizon

LAB USE ONLY

LABORATORY PROJECT NO. 1000-324

SAMPLE ID	SAMPLE LOCATION/DESCRIPTION	DATE/TIME SAMPLED	SAMPLE MATRIX: SOIL(S): AIR(A): BULK(B): AQUEOUS(Q): SLUDGE(L): OTHER(O)	ANALYSIS REQUESTED: BTEX/GRO	NUMBER OF CONTAINERS	ACCEPT (A) REJECT (R)	SAMPLE CONDITION AS RECEIVED: CHILLED YES/NO SEALED YES/NO SAMPLE CONDITION/ COMMENTS	LABORATORY SAMPLE NUMBER
SB-1/MW-1	14-16	11/29/94 10:15	S	X	2			12713
SB-1/MW-1	21-26	10:50		X	2			12714
SB-2	6-8	2:15		X	2			12715
SB-2	14-16	2:30		X	2			12716
SB-3/MW-2	21-23	11/30/94 7:45		X	2			12717
SB-4	21-23	1:00		X	2			12718
SB-4	14-16	11:45		X	2			12719
SB-5/MW-3	14-16	3:30		X	2			12720
~~SB-3/MW-2~~	~~14-16~~	~~11/30/94 4:00~~			2			
					16		TOTAL NUMBER OF CONTAINERS	

GENERAL COMMENTS: Results to Paul Carter

1 RELINQUISHED BY (SIGNATURE)	DATE 12/1/94	3 RELINQUISHED BY (SIGNATURE)	DATE	5 RELINQUISHED BY (SIGNATURE)	DATE
COMPANY Delta	TIME 1:00	COMPANY	TIME	COMPANY	TIME
2 RECEIVED BY (SIGNATURE)	DATE 12/1	4 RECEIVED BY (SIGNATURE)	DATE	6 RECEIVED BY (SIGNATURE)	DATE
COMPANY Horizon	TIME 16:30	COMPANY	TIME	COMPANY	TIME

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy

APPENDIX E

Horizon
Laboratories, Inc.

5155 East River Road, Suite #416 Minneapolis, MN. 55421 Tel. (612) 572-0425 Fax (612) 572-0441

LABORATORY RESULTS

Client: Delta Environmental Consultants, Inc
3900 Northwoods Drive, Suite 200
St. Paul, MN 55112
Attn: Megan Tewinkle

Project: Holiday #226
Hinckley, MN

Date Sampled: 12/06/94
Date Analyzed: 12/14/94
Physical State: Aqueous

Report Date: 12/15/94
Lab P.N.: 1000-324.2
Client P.N.: A094-158

MDH 465D

Sample I.D.	MW-1	MW-2	MW-3	MDL
Parameter	µg/l	µg/l	µg/l	µg/l
Acetone	<750	<30	<30	30
Allyl Chloride	<20	<0.8	<0.8	0.8
Benzene	1,400	2.7	1.6	0.2
Bromobenzene	<10	<0.4	<0.4	0.4
Bromochloromethane	<13	<0.5	<0.5	0.5
Bromodichloromethane	<15	<0.6	<0.6	0.6
Bromoform	<5.0	<0.2	<0.2	0.2
Bromomethane	<23	<0.9	<0.9	0.9
n-Butylbenzene	52	<0.2	<0.2	0.2
sec-Butylbenzene	15	<0.2	<0.2	0.2
tert-Butylbenzene	<5.0	<0.2	<0.2	0.2
Carbon Tetrachloride	<13	<0.5	<0.5	0.5
Chlorobenzene	<5.0	<0.2	6.0	0.2
Chloroethane	<250	<10	<10	10
Chloroform	<13	<0.5	<0.5	0.5
Chloromethane	<250	<10	<10	10
2-Chlorotoluene	<7.5	<0.3	<0.3	0.3
4-Chlorotoluene	<18	<0.7	<0.7	0.7
Dibromochloromethane	<10	<0.4	<0.4	0.4
1,2-Dibromo-3-Chloropropane	<7.5	<0.3	<0.3	0.3
1,2-Dibromoethane	<15	<0.6	<0.6	0.6
Dibromomethane	<23	<0.9	<0.9	0.9
1,2-Dichlorobenzene	<10	<0.4	16	0.4
1,3-Dichlorobenzene	<7.5	<0.3	0.82	0.3
1,4-Dichlorobenzene	<13	<0.5	2.3	0.5
Dichlorodifluoromethane	<150	<6.0	<6.0	6.0
1,1-Dichloroethane	<10	<0.4	<0.4	0.4
1,2-Dichloroethane	<28	<1.1	<1.1	1.1
1,1-Dichloroethene	<30	<1.2	<1.2	1.2
cis-1,2-Dichloroethene	<2.5	<0.1	<0.1	0.1
trans-1,2-Dichloroethene	<13	<0.5	<0.5	0.5
Dichlorofluoromethane	<500	<20	<20	20
1,2-Dichloropropane	<13	<0.5	<0.5	0.5
1,3-Dichloropropane	<10	<0.4	<0.4	0.4

MDL; Method Detection Limit
All results are in µg/l which is equal to parts-per-billion (ppb).
The Laboratory Results are only a part of the Laboratory Report.

Horizon
Laboratories, Inc.

5155 East River Road, Suite #416 Minneapolis, MN. 55421 Tel. (612) 572-0425 Fax (612) 572-0441

LABORATORY RESULTS

Client: Delta Environmental Consultants, Inc
3900 Northwoods Drive, Suite 200
St. Paul, MN 55112
Attn: Megan Tewinkle

Project: Holiday #226
Hinckley, MN

Date Sampled: 12/06/94
Date Analyzed: 12/14/94
Physical State: Aqueous

Report Date: 12/15/94
Lab P.N.: 1000-324.2
Client P.N.: A094-158

MDH 465D

Sample I.D.	MW-1	MW-2	MW-3	MDL
Parameter	µg/l	µg/l	µg/l	µg/l
*2,2-Dichloropropane	<18	<0.7	<0.7	0.7
1,1-Dichloropropene	<13	<0.5	<0.5	0.5
cis-1,3-Dichloropropene	<13	<0.5	<0.5	0.5
trans-1,3-Dichloropropene	<7.5	<0.3	<0.3	0.3
Ethyl Benzene	1,700	<0.2	<0.2	0.2
Ethyl Ether	<130	<5.0	<5.0	5.0
Hexachlorobutadiene	<15	<0.6	<0.6	0.6
Isopropyl Benzene	88	<0.2	<0.2	0.2
p-Isopropyltoluene	8.4	<0.2	<0.2	0.2
Methyl Ethyl Ketone	<380	<15	<15	15
Methyl Isobutyl Ketone	<1500	<60	<60	60
Methyl tert-Butyl Ether	<130	<5.0	<5.0	5.0
Methylene Chloride	<10	<0.4	<0.4	0.4
Naphthalene	420	<0.2	0.26	0.2
*n-Propylbenzene	<5.0	<0.2	<0.2	0.2
o-Xylene	1,500	<0.2	0.39	0.2
Styrene	<13	<0.5	<0.5	0.5
1,1,1,2-Tetrachloroethane	<15	<0.6	<0.6	0.6
1,1,2,2-Tetrachloroethane	<10	<0.4	<0.4	0.4
Tetrachloroethene	<13	<0.5	<0.5	0.5
Tetrahydrofuran	<380	<15	<15	15
Toluene	230	<0.6	<0.6	0.6
1,2,3-Trichlorobenzene	<25	<1.0	<1.0	1.0
1,2,4-Trichlorobenzene	<7.5	<0.3	<0.3	0.3
1,1,1-Trichloroethane	<25	<1.0	<1.0	1.0
1,1,2-Trichloroethane	<10	<0.4	<0.4	0.4
Trichloroethene	<15	<0.6	<0.6	0.6
Trichlorofluoromethane	<130	<5.0	<5.0	5.0
1,2,3-Trichloropropane	<10	<0.4	<0.4	0.4
1,1,2-Trichlorotrifluoroethane	<20	<0.8	<0.8	0.8
1,2,4-Trimethylbenzene	530	<0.3	<0.3	0.3
*1,3,5-Trimethylbenzene	150	<0.2	<0.2	0.2
Vinyl Chloride	<130	<5.0	<5.0	5.0
m,p-Xylenes	1,800	<0.5	<0.5	0.5

*; coeluting compounds
MDL; Method Detection Limit
All results are in µg/l which is equal to parts-per-billion (ppb).
The Laboratory Results are only a part of the Laboratory Report.

Horizon
Laboratories, Inc.

5155 East River Road, Suite #416 Minneapolis, MN. 55421 Tel. (612) 572-0425 Fax (612) 572-0441

LABORATORY RESULTS

Client: Delta Environmental Consultants, Inc
3900 Northwoods Drive, Suite 200
St. Paul, MN 55112
Attn: Megan Tewinkle

Project: Holiday #226
Hinckley, MN

Date Sampled: 12/06/94
Date Analyzed: 12/09/94 - 12/14/94
Physical State: Aqueous

Report Date: 12/15/94
Lab P.N.: 1000-324.2
Client P.N.: A094-158

Sample I.D.	GRO µg/l Wis. DNR	DRO µg/l Wis. DNR
MW-1	13,000	6,000
MW-2	35	<29
MW-3	42	<29
MDL, µg/l	20	29

MDL; Method Detection Limit for undiluted samples.
GRO; Gasoline Range Organics
DRO; Diesel Range Organics
All results are in µg/l which is equal to parts-per-billion (ppb).
The Laboratory Results are only a part of the Laboratory Report.

Horizon
Laboratories, Inc.

5155 East River Road, Suite #416 Minneapolis, MN. 55421 Tel. (612) 572-0425 Fax (612) 572-0441

LABORATORY REPORT

Client:	Delta Environmental Consultants, Inc 3900 Northwoods Drive, Suite 200 St. Paul, MN 55112 Attn: Megan Tewinkle	Date Sampled: Date Received: Date Analyzed: Physical State:	12/06/94 12/06/94 12/09/94 - 12/14/94 Aqueous
Project:	Holiday #226 Hinckley, MN	Report Date: Lab P.N.: Client P.N.:	12/15/94 1000-324.2 A094-158

Quality Assurance / Quality Control Summary

Parameter: (Method)	QC Type	Percent Recovery	Acceptable Range	Percent Reproducibility	Acceptable Range
MtBE (MDH 465D)	M	98	120 - 80	106	120 - 80
Benzene (MDH 465D)	M	98	120 - 80	101	120 - 80
Toluene (MDH 465D)	M	97	120 - 80	101	120 - 80
Ethylbenzene (MDH 465D)	M	98	120 - 80	100	120 - 80
m,p-Xylenes (MDH 465D)	M	98	120 - 80	100	120 - 80
o-Xylene (MDH 465D)	M	99	120 - 80	99	120 - 80
Dibromomethane (MDH 465D)	M	101	120 - 80	109	120 - 80
Bromomethane (MDH 465D)	M	88	120 - 80	98	120 - 80
GRO (Wis. DNR)	M	105	117 - 85	97	115 - 84
DRO (Wis. DNR)	M	97	130 - 60	101	130 - 60

M = Matrix Spike / Matrix Spike Duplicate

L = Laboratory Control Sample

Reviewed

Approved

Compounds were identified by column retention time and quantified by peak area to those of known standards using a Hewlett Packard ChemStation data system. The samples were received by HORIZON LABORATORIES, INC. and accompanied by the Chain-of-Custody Record. The Laboratory Report is the sole property of the client to whom it is addressed. The Laboratory Results are only a part of the Laboratory Report.

CHAIN–OF–CUSTODY RECORD

Delta Environmental Consultants, Inc.
St. Paul, MN

DELTA PROJECT NO. 7094-158 | INVOICE CODE ☐ | PAGE 1 OF 1

PROJECT NAME: HCL-IPHY' # 226

PROJECT LOCATION: # BUCKLEY', MN

SAMPLER'S SIGNATURE: Kelly L. Anderson

TURN AROUND REQUESTED: ☒ NORMAL ☐ RUSH ☐ OTHER

LAB USE ONLY
LABORATORY PROJECT NO. 1000-324.2

SAMPLE ID	SAMPLE LOCATION/DESCRIPTION	DATE/TIME SAMPLED	SAMPLE MATRIX: SOIL(S): AIR(A): BULK(B): AQUEOUS(Q): SLUDGE(L): OTHER(O)	ANALYSIS REQUESTED: 4450, 624	ANALYSIS REQUESTED: DRO	NUMBER OF CONTAINERS	ACCEPT (A) REJECT (R)	SAMPLE CONDITION AS RECEIVED: CHILLED (YES/NO) SEALED (YES/NO) SAMPLE CONDITION/ COMMENTS	LABORATORY SAMPLE NUMBER
MW-1		12-6 / 10:05	Q	X	X	4			12801
MW-2		12-6 / 09:00	↓	X	X	4			12802
MW-3		12-6 / 09:30		X	X	4			12803

GENERAL COMMENTS: RESULTS TO MEGAN TEWINCKLE

12 ◀ TOTAL NUMBER OF CONTAINERS

1 RELINQUISHED BY (SIGNATURE): Kelly L. Anderson	DATE: 12-6-94	3 RELINQUISHED BY (SIGNATURE):	DATE:	5 RELINQUISHED BY (SIGNATURE):	DATE:
COMPANY: Delta Environmental	TIME: 13:00	COMPANY:	TIME:	COMPANY:	TIME:
2 RECEIVED BY (SIGNATURE):	DATE:	4 RECEIVED BY (SIGNATURE): Donald Horan	DATE: 12/6	6 RECEIVED BY (SIGNATURE):	DATE:
COMPANY:	TIME:	COMPANY: Horizon Labs	TIME: 1400	COMPANY:	TIME:

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy

Horizon
Laboratories, Inc.

5155 East River Road, Suite #416 Minneapolis, MN. 55421 Tel. (612) 572-0425 Fax (612) 572-0441

LABORATORY RESULTS

Client: Delta Environmental Consultants, Inc
3900 Northwoods Drive, Suite 200
St. Paul, MN 55112
Attn: Paul Carter

Project: Holiday #226
Hinckley, MN

Date Sampled: 01/20/95
Date Analyzed: 01/25/95 - 01/26/95
Physical State: Aqueous

Report Date: 01/26/95
Lab P.N.: 1000-324.3
Client P.N.: A094-158-1.0001

Sample I.D.	Benzene µg/l EPA 8020	Toluene µg/l EPA 8020	Ethyl-benzene µg/l EPA 8020	Total Xylenes µg/l EPA 8020	GRO µg/l Wis. DNR	DRO µg/l Wis. DNR
MW-1	1,100	360	1,600	2,900	12,000	4,300
MW-2	< 0.20	< 0.50	< 0.20	< 0.80	< 20	< 31
MW-3	1.3	< 0.50	< 0.20	0.82	300	40
MDL, µg/l	0.20	0.50	0.20	0.80	20	31

MDL; Method Detection Limit for undiluted samples.
GRO; Gasoline Range Organics
DRO; Diesel Range Organics
All results are in µg/l which is equal to parts-per-billion (ppb).
The Laboratory Results are only a part of the Laboratory Report.

Horizon
Laboratories, Inc.

5155 East River Road, Suite #416 Minneapolis, MN. 55421 Tel. (612) 572-0425 Fax (612) 572-0441

LABORATORY REPORT

Client:	Delta Environmental Consultants, Inc	Date Sampled:	01/20/95
	3900 Northwoods Drive, Suite 200	Date Received:	01/20/95
	St. Paul, MN 55112	Date Analyzed:	01/25/95 - 01/26/95
	Attn: Paul Carter	Physical State:	Aqueous
Project:	Holiday #226	Report Date:	01/26/95
	Hinckley, MN	Lab P.N.:	1000-324.3
		Client P.N.:	A094-158-1.0001

Quality Assurance / Quality Control Summary

Parameter (Method)	QC Type	Percent Recovery	Acceptable Range	Percent Reproducibility	Acceptable Range
Benzene (EPA 8020)	M	101	127 - 76	98	127 - 76
Toluene (EPA 8020)	M	99	125 - 76	98	125 - 76
Ethylbenzene (EPA 8020)	M	100	125 - 76	98	125 - 76
m,p-Xylenes (EPA 8020)	M	103	125 - 76	98	125 - 76
o-Xylenes (EPA 8020)	M	96	125 - 76	98	125 - 76
GRO (Wis. DNR)	M	98	117 - 85	99	115 - 84
DRO (Wis. DNR)	M	79	130 - 60	100	130 - 60

M = Matrix Spike / Matrix Spike Duplicate

L = Laboratory Control Sample

Reviewed

Approved

Compounds were identified by column retention time and quantified by peak area of known standards using a Hewlett Packard ChemStation Data System. The samples were received by HORIZON LABORATORIES, INC. and accompanied by the Chain-of-Custody record. The Laboratory Report is the sole property of the client to whom it is addressed. The Laboratory Results are only a part of the Laboratory Report.

CHAIN–OF–CUSTODY RECORD

Delta
Environmental
Consultants, Inc.
3900 Northwoods Dr., Suite 200
St. Paul, MN 55112

DELTA PROJECT NO. HOLI-158-10001 | INVOICE CODE | PAGE 1 OF 1

PROJECT MANAGER: PAUL CARTER

PROJECT NAME: HOLIDAY #226

PROJECT LOCATION: HINCKLEY, MN

SAMPLER'S SIGNATURE: Paul Carter

TURN AROUND REQUESTED: [X] NORMAL [ ] RUSH _____ [ ] OTHER _____

LAB NAME: HORIZON

LAB USE ONLY

LABORATORY PROJECT NO. 1000-324.3

SAMPLE ID	SAMPLE LOCATION/DESCRIPTION	DATE/TIME SAMPLED	SAMPLE MATRIX: SOIL(S): AIR(A): BULK(B): AQUEOUS(Q): SLUDGE(L): OTHER(O)	ANALYSIS REQUESTED: BTEX	GRO	DRO	NUMBER OF CONTAINERS	ACCEPT (A) REJECT (R)	SAMPLE CONDITION AS RECEIVED: CHILLED YES/NO; SEALED YES/NO; SAMPLE CONDITION/ COMMENTS	LABORATORY SAMPLE NUMBER
MW-1		1-20/11:10		X	X	X	3			13634
MW-2		1-20/11:40		X	X	X	3			13635
MW-3		1-20/12:00		X	X	X	3			13636

GENERAL COMMENTS: RESULTS TO PAUL CARTER

TOTAL NUMBER OF CONTAINERS: 9

1 RELINQUISHED BY (SIGNATURE): Paul Carter	DATE 1-20-95	3 RELINQUISHED BY (SIGNATURE)	DATE	5 RELINQUISHED BY (SIGNATURE)	DATE
COMPANY: Delta Environmental	TIME 1715	COMPANY	TIME	COMPANY	TIME
2 RECEIVED BY (SIGNATURE)	DATE	4 RECEIVED BY (SIGNATURE): Gerald Hamm	DATE 1/20/95	6 RECEIVED BY (SIGNATURE)	DATE
COMPANY	TIME	COMPANY: Horizon Labs	TIME 1725	COMPANY	TIME

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy

APPENDIX F

GROUND WATER RECEPTOR SURVEY
Holiday Station No. 226
Hinkley, Minnesota
DELTA #A094-158

Unique Well Number	Ground Surface Elevation	Base of Well Elevation	Base of Casing Elevation	Water Level Elevation	Aquifer	Use	Date Drilled
232461	NA	*-452	*-125	*-21	NA	Municipal	1974
241991	NA	*-425	NA	NA	NA	Municipal	1918
242926	1033	759	1001	1016	Hinkley S.Stone-Fon du Lac	Commercial	NA
H-001 (433518)	NA	*-145	*-61	*-15	NA	Commercial	1986
H-002 (433519)	NA	*-132	*-71	*-15	NA	Commercial	1986
H-003 (441194)	NA	*-110	*-89	*-24	NA	Domestic	1988
H-004 (441243)	NA	*-350	*-199	*-24	NA	Commercial	1988
H-005 (111370)	1010	905	919	987	Hinkley S.Stone	Domestic	1976
H-006 (436787)	NA	*-79	*-73	*-17	NA	Domestic	1987
H-007	NA	*-74	*-70	*-37	NA	Domestic	1988

Elevations are in feet
*=base elevation level not available, value could not be calculated

MINNESOTA COUNTY WELL INDEX/WELL LOG.
UN.NO./CO. : 109566/58 NAME : PHILIP FAGERSTROM SR.

WELL CONSTRUCTION.

	DIAM(IN)	FROM(FT)	TO(FT)	[GROUT MATERIAL	AMNT	UNITS]
CASING 1 :	005	0	0053			

SCREEN.
PRESENT?: NO OPEN HOLE FROM: 0053 FT. TO: 061FT.

PUMP.
INSTLLD?: YES DATE : / /
MAKE : GOULD MODEL: 10EJ05412
SIZE : 00.5 H.P. VOLTS: 0230 CAPACITY: GPM
TYPE : SUBMERSIBLE DROP PIPE: 0055 FT. MATERIAL:

PUMPAGE TEST(S).
STATIC WATER LEVEL: 015 FT. DATE: 1975/11/

	LEVEL(FT)	HOURS	GPM	DRAWDOWN(FT)
TEST 1:	75	001	0012	60.0

DRILLER S/GEOLOGIC LOG

DEPTH INTERVAL [EL.TOP]	DRILLER S DESCRIPTION [INTERPRETED LITHOLOGY	][CODE]	COLOR HARDNESS [STRATIGRAPHIC UNIT(S)	] [AGE]
0000 0047 [1030]	RED CLAY [CLAY	][QTUR]	[TILL,RED	] [QUA]
0047 061 [983]	SANDROCK [SANDSTONE	][PMHN]	[HINCKLEY SANDSTONE	] [PCM]

MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 111370/58 ENTERED: 1988/04/17
NAME : PAUL HOLMES UPDATED: 1991/08/18

COUNTY : PINE USE : DOMESTIC DRILLED: 1976/06/01
T/R/SEC. : 41/21/25ADDDDA DEPTH : 105 FT. DEPTH D: 105 FT.
ELEVATION: 1010 FT.(TOPO) CASED : 0091 FT. GROUT :
DIAM. : 4 IN. DRL/DS : 58069 :ROSGA WELL CO.
LOC.METH.: LOC.BY : MGS COORDS.:
STATUS : ACTIVE WHPA : DNR PA#:

DPTH BDRK: 0086 FT. BEDROCK: HINCKLEY SANDSTONE
OPEN HOLE: HINCKLEY SANDSTONE
AQUIFER : HINCKLEY SANDSTONE

ADDRESS : , , MN
QUAD(7.5): 188 CONTACT:

CWI/WL: YES CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1976/06/01				023	987	

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MINNESOTA COUNTY WELL INDEX/WELL LOG.
UN.NO./CO. : 219363/58 NAME : MOBIL OIL COMPANY

WELL CONSTRUCTION.

	DIAM(IN)	FROM(FT)	TO(FT)	[GROUT MATERIAL	AMNT	UNITS]
CASING 1 :	006	0	0040			

SCREEN.
PRESENT?: NO OPEN HOLE FROM: 0040 FT. TO: 155FT.

PUMP : DATA UNAVAILABLE.

PUMPAGE TEST(S).
STATIC WATER LEVEL: 025 FT. DATE: 1967/05/

	LEVEL(FT)	HOURS	GPM	DRAWDOWN(FT)
TEST 1:	65	012	0030	40.0

DRILLER S/GEOLOGIC LOG

DEPTH INTERVAL [EL.TOP]	DRILLER S DESCRIPTION [INTERPRETED LITHOLOGY	][CODE]	COLOR HARDNESS [STRATIGRAPHIC UNIT(S)	] [AGE]
0000 0036	SAND & GRAVEL			
[1020]	[SAND, GRAVEL	][QFUU]	[SAND	] [QUA]
0036 155	PINK SANDROCK			
[984]	[SANDSTONE	][PMHN]	[HINCKLEY SANDSTONE	] [PCM]

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 232461/58 ENTERED: 1992/08/20
NAME : HINCKLEY #2 UPDATED: 1992/08/20

COUNTY : PINE USE : MUNICIPAL DRILLED: 1974/04/30
T/R/SEC. : 41/21/24 DEPTH : 452 FT. DEPTH D: 452 FT.
ELEVATION: FT.( ) CASED : 125 FT. GROUT :
DIAM. : 12 IN. DRL/DS :

ADDRESS : , , MN
QUAD(7.5): HINCKLEY CONTACT:
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
/ /				21		

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 242926/58 ENTERED: 1990/10/09
NAME : OLD CREAMERY WELL HINCKL UPDATED: 1991/08/18

COUNTY	: PINE	USE	: COMMERCIAL	DRILLED:	/ /
T/R/SEC.	: 41/21/24CDABCD	DEPTH	: 274 FT.	DEPTH D:	274 FT.
ELEVATION:	1033 FT.(TOPO)	CASED	: 32 FT.	GROUT	:
DIAM.	: 8 IN.	DRL/DS	:		
LOC.METH.:		LOC.BY	: MGS	COORDS.:	
STATUS	: ACTIVE	WHPA	:	DNR PA#:	

DPTH BDRK: 26 FT. BEDROCK: HINCKLEY SANDSTONE
OPEN HOLE: HINCKLEY SANDSTONE-FOND DU LAC FORMATION
AQUIFER : MULTIPLE

ADDRESS : , , MN
QUAD(7.5): HINCKLEY CONTACT:
CWI/WL: YES CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
/ /				17	1016	

COMMENTS: GAMMA LOGGED + TV. 7-13-90.
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MINNESOTA COUNTY WELL INDEX/WELL LOG.
UN.NO./CO. : 242926/58 NAME : OLD CREAMERY WELL HINCKL

WELL CONSTRUCTION.

	DIAM(IN)	FROM(FT)	TO(FT)	[GROUT MATERIAL	AMNT	UNITS]
CASING 1 :	8	0	32			

SCREEN.
PRESENT?: NO OPEN HOLE FROM: 32 FT. TO: 274FT.

PUMP : DATA UNAVAILABLE.

PUMPAGE TEST: DATA UNAVAILABLE.

DRILLER S/GEOLOGIC LOG

DEPTH INTERVAL [EL.TOP]	DRILLER S DESCRIPTION [INTERPRETED LITHOLOGY	][CODE]	COLOR HARDNESS [STRATIGRAPHIC UNIT(S)	] [AGE]
0 26	GLACIAL DRIFT			
[1033]	[DRIFT	][QUUU]	[PLEISTOCENE DEPOSIT	] [QUA]
26 164	HINCKLEY FORMATION			
[1007]	[SANDSTONE	][PMHN]	[HINCKLEY SANDSTONE	] [PCM]
164 274	FOND DU LAC FORMATION			
[869]	[SANDSTONE, SILTSTONE	][PMFL]	[FOND DU LAC FORMATION	] [PCM]

MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 401026/58 ENTERED: 1989/02/28
NAME : SCHRADE, JOHN UPDATED: 1993/08/19

COUNTY : PINE USE : DOMESTIC DRILLED: 1984/05/17
T/R/SEC. : 41/20/30BBA DEPTH : 165 FT. DEPTH D: 165 FT.
ELEVATION: FT.( ) CASED : 85 FT. GROUT : NO
DIAM. : 4 IN. DRL/DS : 58069 :ROSGA WELL CO.
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : RR 2 , HINCKLEY , MN 55037
POTENTIAL POLLUTION SOURCE: 50 FT. DIR.: E TYPE: OTHER
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1984/05/17				18		58069

MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 411060/58 ENTERED: 1989/02/28
NAME : WORLICKY, BOB UPDATED: 1993/08/22

COUNTY : PINE USE : DOMESTIC DRILLED: 1985/07/09
T/R/SEC. : 41/21/25 BD DEPTH : 72 FT. DEPTH D: 72 FT.
ELEVATION: FT.( ) CASED : 68 FT. GROUT : YES
DIAM. : 4 IN. DRL/DS : 58069 :ROSGA WELL CO.
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : , HINCKLEY , MN 55037
POTENTIAL POLLUTION SOURCE: 50 FT. DIR.: E TYPE: SEPTIC/DFL
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1985/07/09				13		58069

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 423277/58 ENTERED: 1991/02/26
NAME : PIEPER, KEN UPDATED: 1993/09/03

COUNTY : PINE USE : DOMESTIC DRILLED: 1986/09/12
T/R/SEC. : 41/20/25BCB DEPTH : 140 FT. DEPTH D: 140 FT.
ELEVATION: FT.( ) CASED : 95 FT. GROUT : NO
DIAM. : 6 IN. DRL/DS : 82054 :MCCULLOUGH & SONS
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : , , MN
CNTCT.ADD: 9219 2ND AV. S , BLOOMINGTON , MN 55420
POTENTIAL POLLUTION SOURCE: 60 FT. DIR.: E TYPE: SEPTIC/DFL
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1986/09/12				35		58069

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 425137/58 ENTERED: 1988/04/17
NAME : MCALLEN, SCOTT UPDATED: 1993/08/22

COUNTY : PINE USE : DOMESTIC DRILLED: 1986/09/09
T/R/SEC. : 41/21/24DAD DEPTH : 80 FT. DEPTH D: 80 FT.
ELEVATION: FT.( ) CASED : 25 FT. GROUT : YES
DIAM. : 4 IN. DRL/DS : 58069 :ROSGA WELL CO.
ABANDONED: / / UNUSED?: NO SEALED?:
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : , HINCKLEY , MN 55037
POTENTIAL POLLUTION SOURCE: 50 FT. DIR.: W TYPE: SEPTIC/DFL
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1986/09/09				8		58069

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 433518/58 ENTERED: 1989/02/24
NAME : TOBIES ENTERPRISES UPDATED: 1993/08/22

COUNTY : PINE USE : COMMERCIAL DRILLED: 1986/10/30
T/R/SEC. : 41/21/25 AA DEPTH : 145 FT. DEPTH D: 145 FT.
ELEVATION: FT.( ) CASED : 61 FT. GROUT : YES
DIAM. : 6 IN. DRL/DS : 58069 :ROSGA WELL CO.
ABANDONED: / / UNUSED?: NO SEALED?:
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : , HINCKLEY , MN 55037
POTENTIAL POLLUTION SOURCE: 100 FT. DIR.: E TYPE: SEPTIC/DFL
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1987/10/30				15		58069

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 433519/58 ENTERED: 1989/02/24
NAME : TOBIES ENTERPRISES UPDATED: 1993/08/22

COUNTY : PINE USE : COMMERCIAL DRILLED: 1986/11/29
T/R/SEC. : 41/21/25 AA DEPTH : 132 FT. DEPTH D: 132 FT.
ELEVATION: FT.( ) CASED : 71 FT. GROUT : YES
DIAM. : 6 IN. DRL/DS : 58069 :ROSGA WELL CO.
ABANDONED: / / UNUSED?: NO SEALED?:
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : , HINCKLEY , MN 55037
POTENTIAL POLLUTION SOURCE: 150 FT. DIR.: NE TYPE: SEPTIC/DFL
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1986/11/29				14		58069

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 433520/58 ENTERED: 1989/02/24
NAME : TOBIES ENTERPRISES UPDATED: 1993/08/22

COUNTY : PINE USE : COMMERCIAL DRILLED: 1987/04/16
T/R/SEC. : 41/21/25 AA DEPTH : 110 FT. DEPTH D: 110 FT.
ELEVATION: FT.( ) CASED : 74 FT. GROUT : YES
DIAM. : 6 IN. DRL/DS : 58069 :ROSGA WELL CO.
ABANDONED: / / UNUSED?: NO SEALED?:
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : , HINCKLEY , MN 55037
POTENTIAL POLLUTION SOURCE: 100 FT. DIR.: N TYPE: SEPTIC/DFL
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1987/04/16				11		58069

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 433546/58 ENTERED: 1991/02/26
NAME : TRYGGESTAD, CURT UPDATED: 1993/08/19

COUNTY : PINE USE : DOMESTIC DRILLED: 1987/06/08
T/R/SEC. : 41/20/30CCA DEPTH : 149 FT. DEPTH D: 149 FT.
ELEVATION: FT.( ) CASED : 145 FT. GROUT : YES
DIAM. : 4 IN. DRL/DS : 58069 :ROSGA WELL CO.
ABANDONED: / / UNUSED?: NO SEALED?:
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : , HINCKLEY , MN 55037
POTENTIAL POLLUTION SOURCE: 50 FT. DIR.: S TYPE: SEPTIC/DFL
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1987/06/08				32		58069

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 436716/58 ENTERED: 1991/02/26
NAME : JANSEN, ARDELL UPDATED: 1993/08/19

COUNTY : PINE USE : UNKNOWN DRILLED: 1987/08/25

T/R/SEC. : 41/20/25ABA DEPTH : 165 FT. DEPTH D: 165 FT.
ELEVATION: FT.( ) CASED : 42 FT. GROUT : YES
DIAM. : 6 IN. DRL/DS : 58069 :ROSGA WELL CO.
ABANDONED: / / UNUSED?: NO SEALED?:
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : RR 1 BOX 23 , HINCKLEY , MN 55037
POTENTIAL POLLUTION SOURCE: 50 FT. DIR.: TYPE: SEPTIC/DFL
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1987/08/25				15		58069

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 436744/58 ENTERED: 1991/03/07
NAME : SEVESTA, BERNARD UPDATED: 1993/09/03

COUNTY : PINE USE : DOMESTIC DRILLED: 1987/10/02
T/R/SEC. : 41/21/24BAA DEPTH : 55 FT. DEPTH D: 55 FT.
ELEVATION: FT.( ) CASED : 32 FT. GROUT : NO
DIAM. : 4 IN. DRL/DS : 58069 :ROSGA WELL CO.
ABANDONED: / / UNUSED?: YES SEALED?: TEM
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : , HINCKLEY , MN 55037
POTENTIAL POLLUTION SOURCE: 50 FT. DIR.: W TYPE: SEPTIC/DFL
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1987/10/02				16		58069

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 436770/58 ENTERED: 1991/03/07
NAME : GOEBEL, BERNARD UPDATED: 1993/08/22

COUNTY : PINE USE : DOMESTIC DRILLED: 1987/03/02
T/R/SEC. : 41/21/24 BA DEPTH : 50 FT. DEPTH D: 50 FT.
ELEVATION: FT.( ) CASED : 32 FT. GROUT : YES
DIAM. : 4 IN. DRL/DS : 58069 :ROSGA WELL CO.
ABANDONED: / / UNUSED?: YES SEALED?: TEM
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : BOX 448 , HINCKLEY , MN 55037
POTENTIAL POLLUTION SOURCE: 50 FT. DIR.: E TYPE: SEPTIC/DFL
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1987/03/02				17		58069

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 436787/58 ENTERED: 1991/03/07
NAME : BOHNS ARK ANIML FRM UPDATED: 1993/08/22

COUNTY : PINE USE : DOMESTIC DRILLED: 1987/11/24
T/R/SEC. : 41/21/25ADC DEPTH : 79 FT. DEPTH D: 79 FT.
ELEVATION: FT.( ) CASED : 73 FT. GROUT : NO
DIAM. : 4 IN. DRL/DS : 58069 :ROSGA WELL CO.
ABANDONED: / / UNUSED?: NO SEALED?:
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : , HINCKLEY , MN 55037
POTENTIAL POLLUTION SOURCE: 50 FT. DIR.: S TYPE: SEPTIC/DFL
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1987/11/24				17		58069

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 441194/58 ENTERED: 1991/03/07
NAME : TM & MC RAILROAD UPDATED: 1993/08/22

COUNTY : PINE USE : DOMESTIC DRILLED: 1988/05/20
T/R/SEC. : 41/21/25 AD DEPTH : 110 FT. DEPTH D: 110 FT.
ELEVATION: FT.( ) CASED : 89 FT. GROUT : YES
DIAM. : 4 IN. DRL/DS : 58069 :ROSGA WELL CO.
ABANDONED: / / UNUSED?: NO SEALED?:
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : , HINCKLEY , MN 55037
POTENTIAL POLLUTION SOURCE: 65 FT. DIR.: W TYPE: SEPTIC/DFL
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1988/05/20				24		58069

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 441243/58 ENTERED: 1991/03/07
NAME : TM & MC RAILROAD UPDATED: 1993/08/22

COUNTY : PINE USE : COMMERCIAL DRILLED: 1988/06/02
T/R/SEC. : 41/21/25 AD DEPTH : 350 FT. DEPTH D: 350 FT.
ELEVATION: FT.( ) CASED : 199 FT. GROUT : YES
DIAM. : 6 IN. DRL/DS : 58069 :ROSGA WELL CO.
ABANDONED: / / UNUSED?: NO SEALED?:
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : , HINCKLEY , MN 55037
POTENTIAL POLLUTION SOURCE: 50 FT. DIR.: W TYPE: SEPTIC/DFL
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1988/06/02				24		58069

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****
MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 444087/58 ENTERED: 1993/02/05
NAME : PINE CO HIGHWAY DEPT UPDATED: 1993/09/03

COUNTY : PINE USE : TEST/MON. DRILLED: 1990/04/27
T/R/SEC. : 41/21/24BDD DEPTH : 19 FT. DEPTH D: 19 FT.
ELEVATION: FT.( ) CASED : 9 FT. GROUT : YES
DIAM. : 2 IN. DRL/DS : M0029 :DRILLING & ENG
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : 304 LAWERAY AV. , HINCKLEY , MN 55037
CNTCT.ADD: RR 3 BOX 69 , PINE CITY , MN 55063
CWI/WL: NO CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1990/04/27				14		M0029

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MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 444088/58 ENTERED: 1993/02/05
NAME : PINE CO HIGHWAY DEPT UPDATED: 1993/09/03

COUNTY : PINE USE : TEST/MON. DRILLED: 1990/04/27
T/R/SEC. : 41/21/24BDD DEPTH : 14 FT. DEPTH D: 14 FT.
ELEVATION: FT.( ) CASED : 4 FT. GROUT : YES
DIAM. : 2 IN. DRL/DS : M0029 :DRILLING & ENG
STATUS : ACTIVE WHPA : DNR PA#:

ADDRESS : 304 LAWERAY AV. , HINCKLEY , MN 55037

Minnesota Statutes 156A.01-.08 — for Water Sample

1. LOCATION OF WELL

County Name: Pine

Township Name	Township Number	Range Number	Section	Fraction
Barry	41 N	20 W	10	NE NW SE

Distance and Direction from Road Intersection or Street Address and City of Well Location

Show exact location of well in section grid with "X." — Sketch map of well location.

Addition Name / Block Number / Lot Number

2. PROPERTY OWNER'S NAME: Lee Klap
Address: Rt 2, Hinckley, Mn 55037

4. WELL DEPTH (completed): 74 ft. — Date of Completion: 7-15-88

5. DRILLING METHOD: 1☐ Cable tool 2☐ Hollow rod 3☒ Rotary 4☐ Reverse 5☐ Air 6☐ Jetted 7☐ Driven 8☐ Bored 9☐ Power auger 10☐ Dug 11☐ ____

6. DRILLING FLUID: Bentonite

7. USE: 1☒ Domestic 2☐ Irrigation 3☐ Test Well 4☐ Monitoring 5☐ Public 6☐ Municipal 7☐ Air Conditioning 8☐ Heat Pump 9☐ Industry 10☐ Commercial 11☐ ____

8. CASING: 1☒ Black 2☐ Galv. 3☐ Plastic 4☒ Threaded 5☐ Welded 6☐
HEIGHT: Above/Below Surface 1 ft. Drive Shoe? Yes ___ No X
4 in. to 70 ft. Weight ____ lbs./ft.
HOLE DIAM.: 6 in. to 74 ft.

3. FORMATION LOG

FORMATION LOG	COLOR	HARDNESS OF FORMATION	FROM	TO
Clay & Cobbles	Brown	M	0	8
Sand & Gravel	Brown	M	8	25
Clay & Sand	Brown	MH	25	64
Med Sand	Brown	S	64	74

Use a second sheet, if needed

9. SCREEN: Make Johnson — Type Stainless Steel — Dia. 2" — Slot/Gauze 10 — Length 4' — Set between 70 ft. and 74 ft. — FITTINGS: 2x4 Lead Packer
Or open hole from ____ ft. to ____ ft.

10. STATIC WATER LEVEL: 17 ft. ☒ below ☐ above land surface — Date Measured 7-15-88

11. PUMPING LEVEL (below land surface)
70 ft. after 1 hrs. pumping 20 g.p.m.
55 ft. after 4 hrs. pumping 15 g.p.m.

12. HEAD WELL COMPLETION: 1☐ Pitless adapter, manufacturer ____ model ____ 2☐ Basement offset 3☐ At least 12" above ground 4☐ Plastic casing protection

13. WELL GROUTED? ☐ Yes ☐ No — 1☐ Neat Cement 2☐ Bentonite 3☐ ____ Grout material ____ from ____ to ____ ft. cu. yds.

14. NEAREST SOURCES OF POSSIBLE CONTAMINATION: 50 feet W direction Sewer type
Well disinfected upon completion? ☒ Yes ☐ No

15. PUMP: ☒ Not installed
Date installed ____ Manufacturer's name ____ Model number ____ HP ____ Volts ____ Length of drop pipe ____ ft. capacity ____ g.p.m. Material of drop pipe ____
Type: 1☐ Submersible 2☐ Jet 3☐ L.S. Turbine 4☐ Centrifugal 5☐ Reciprocating 6☐ ____

#H-007

16. EXISTING WELLS: Unused well on property? ☐ Yes ☒ No
Abandoned ☐ Permanent ☐ Temporary ☐ Not sealed

17. REMARKS, ELEVATION, SOURCE OF DATA, etc.
Well ... Tobies Boring 1982 Klap's

18. WATER WELL CONTRACTORS CERTIFICATION
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Rosga Well Drilling — Licensee Business Name — License No. 5800
Address: 410 2nd St. S.E.
Signed ____ Authorized Representative — Date ____

Delta
Environmental
Consultants, Inc.

3900 Northwoods Drive
Suite 240
St. Paul, MN 55112
612/486-8021
FAX: 612/486-8021

February 21, 1996

Ms. Jean Hanson
Minnesota Pollution Control Agency
Hazardous Waste Division
Tanks and Spills Section
520 Lafayette Road North
St. Paul, MN 55155-3898

Subject: QUARTERLY MONITORING WORKSHEET (Fact Sheet No. 7)
Holiday Station No. 226
Hinckley, Minnesota
MPCA Leak No. 7487
Delta No. A094-158

Dear Ms. Hanson:

On behalf of the Holiday Companies, Inc., Delta Environmental Consultants, Inc. (Delta), is submitting the quarterly ground water monitoring worksheet, completed for the above referenced site. This information supplements the Remedial Investigation/Corrective Action Design Report, dated April 7, 1995.

This quarterly monitoring worksheet is completed for the first quarter 1996 ground water sampling event, which was conducted at the site on January 22, 1996. Delta will continue the ground water monitoring program at the site through the remainder of 1996. Recommendations for future site activities will be discussed in the annual progress report, which will be submitted to the Minnesota Pollution Control Agency in August 1996.

If you have any questions regarding this information, please contact me at (612) 486-5845.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Chai Insook
Project Manager

CI/bjc

Enclosures

cc: Mr. Keith Yokom - Holiday Company Inc.
cc: Mr. Bruce Anthony - Holiday Company Inc. (no enclosures)

bcc: Angela Gowan - Delta Environmental Consultants, Inc.

SITE MONITORING WORKSHEET
Fact Sheet #7
Minnesota Pollution Control Agency
LUST Cleanup Program
April 1993

The Minnesota Pollution Control Agency (MPCA) staff expect this worksheet to simplify the required post-investigation site monitoring reports. Submit this worksheet:

- quarterly, after the remedial investigation (RI) is complete but before corrective action is taken.
- quarterly, during corrective action design (CAD) installation.
- quarterly, after CAD is operational, along with "CAD System Monitoring Worksheet," (fact sheet #11).

Completion and submittal according to the above schedule fulfills your quarterly site monitoring report requirements. You may include a short cover letter whenever circumstances require. However, you must still submit an annual progress report as described in "Petroleum Tank Release Reports" (fact sheet #3). [NOTE: MPCA staff may reduce the frequency of progress reporting on a site specific basis.]

Where attachments are requested (tables, maps, graphs, etc.), please check off those items attached. The only table not mandatory is that for dissolved oxygen.

MPCA Leak Number: 7487
1st Quarter 1996
Holiday Station No. 226
Hinckley, MN
Delta No. A094-158

I. Ground Water Monitoring

Please attach the following:

X	Cumulative table of ground water monitoring results, including all sample blanks.
X	Copies of most recent laboratory reports for ground water analyses, including a copy of the Chain-of-Custody.
X	Cumulative table of ground water elevation and product thickness results.
X	Hydrograph for all monitoring and recovery wells.
X	Graph(s) showing contaminant concentrations over time for all monitoring and recovery wells.
X	Ground water contour map based on the most recent ground water elevation data.
N/A	Table of dissolved oxygen sample results (if collected).

Please describe unusual circumstances that may have influenced the sampling results: _____
None

Please detail significant observations made at the site: _____
BTEX concentrations in MW-2 and MW-3 remain non-detectable or below the Health Risk Limits, except for benzene in MW-2, which has decreased to 19 ug/L, from 22 ug/L in October 1995. The GRO concentration in MW-2 also decreased (to 160 ug/L), but the GRO concentration increased in MW-3 (from 49 ug/L to 84 ug/L) from the previous sampling event. Petroleum hydrocarbons concentrations in MW-1 increased over the monitoring period.

II. Vapor Impact Monitoring *Not applicable.*

If vapor impacts were detected during the remedial investigation, please attach:

_____ a cumulative table of vapor monitoring results. The table should identify the location of all vapor monitoring points (i.e., sewer manholes, basements, etc.).

_____ a map of vapor monitoring locations.

Sampling instrument used: _____
Sampling method: _____

NOTE: If vapor concentrations exceed 10 percent of the lower explosive limit, exit the building and contact the local fire department immediately. Then contact the MPCA spills unit at voice (612) 297-8610, TDD (612) 297-5353 or Greater Minnesota TDD 1-800-627-3529.

Vapor mitigation is required.

III. Recommendations

Use this space to detail any recommendations for modifying the current monitoring schedule:

No modifications, continue quarterly monitoring of BTEX, GRO, and DRO (MW-1).

TABLE 1 GROUND WATER ELEVATIONS

Holiday Station No. 226
Hinckley, Minnesota
DELTA NO. A094-158

Holiday Station Wells and Top of Casing Elevations						
	MW-1	1031.11	MW-2	1034.02	MW-3	1029.71
Date	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation
06-Dec-94	21.26	1009.85	24.91	1009.11	15.56	1014.15
20-Dec-94	21.20	1009.91	24.96	1009.06	15.90	1013.81
20-Jan-95	21.93	1009.18	25.41	1008.61	19.32	1010.39
20-Apr-95	21.00	1010.11	24.17	1009.85	19.69	1010.02
27-Oct-95	15.53	1015.58	18.63	1015.39	13.89	1015.82
22-Jan-96	19.02	1012.09	23.19	1010.83	15.68	1014.03

Tobies Service Station Wells and Top of Casing Elevations (reported by HTCT)												
MW-1	104.66	MW-2	106.78	MW-3	105.13	MW-4	97.65	MW-5	96.63	MW-6	101.13	MW-7A	102.48

Tobies Service Station Wells and Top of Casing Elevations (adjusted to Holiday elevations datum)													
	MW-1	1029.49	MW-2	1031.61	MW-3	1029.96	MW-4	1022.48	MW-5	1021.46	MW-6	1025.96	MW-7A	1027.31
Date	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation
20-Dec-94	15.40	1014.09	16.78	1014.83	16.71	1013.25	12.45	1010.03	7.83	1013.63	12.67	1013.29	17.64	1009.67
20-Jan-95			16.89	1014.72	16.57	1013.39					13.36	1012.60		
27-Oct-95	13.52	1015.97	15.12	1016.49	14.22	1015.74	10.63	1011.85	3.81	1017.65	9.92	1016.04	11.55	1015.76
22-Jan-96	14.88	1014.61	16.35	1015.26	15.49	1014.47			12.25	1009.21	16.67	1009.29		

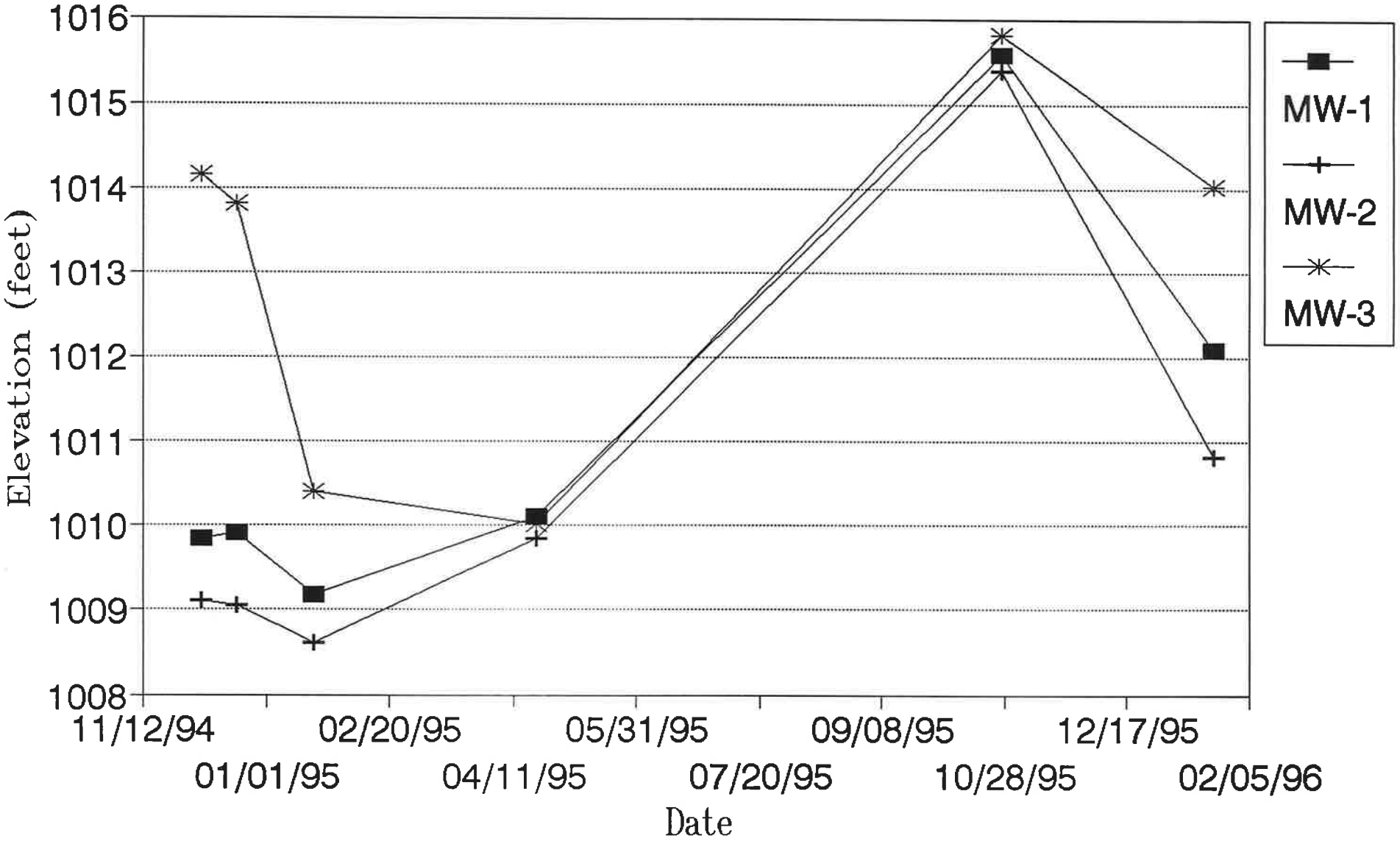
NOTE:

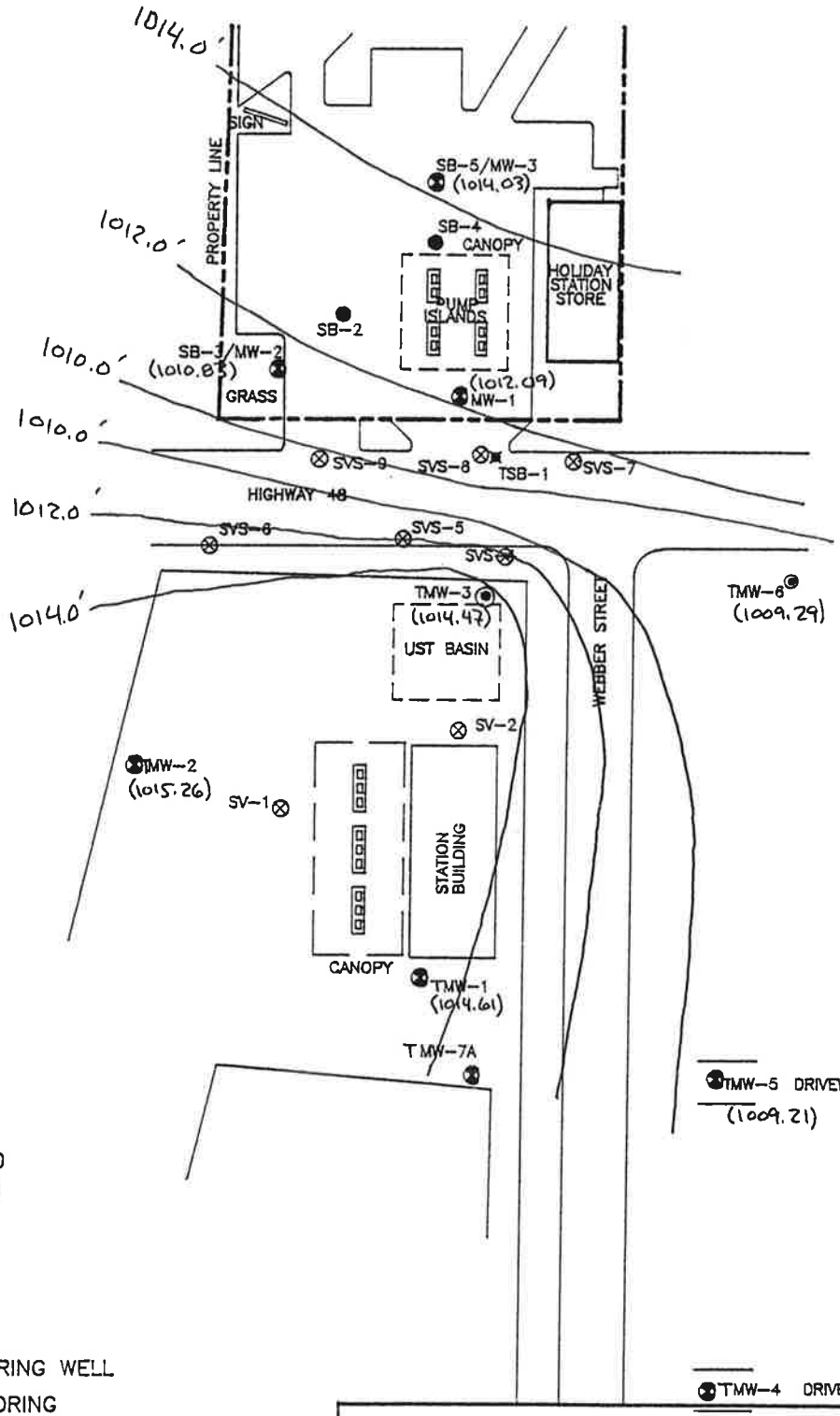
Elevations are reported in feet - NGVD (National Geodetic Vertical Datum)
TOC elevations for Holiday station wells are provided by Kemper & Associates, Inc.
TOC elevations for Tobies Service Station wells are normalized to Holiday wells.

Stadia rod readings of Holiday well MW-2 and Tobies well MW-3 (surveyed on 12/20/94)
Holiday MW-2 = 2.96
Tobies MW-3 = 7.02
Tobies well MW-3 is 4.06 feet lower than Holiday well MW-2

Holiday No. 226 Hinckley, MN

Delta No. A094-158-1





LEGEND:

- MONITORING WELL
- SOIL BORING
- MONITORING WELL (TOBIES)
- SOIL VAPOR SURVEY POINT (TOBIES)
- SOIL BORING (TOBIES)

(1015.26) Ground Water Elevation (feet)

—1014.0' Ground Water Contour Line

FIGURE 1

GROUND WATER CONTOUR MAP- 1/22/96

HOLIDAY STATION NO. 226

HINCKLEY, MINNESOTA

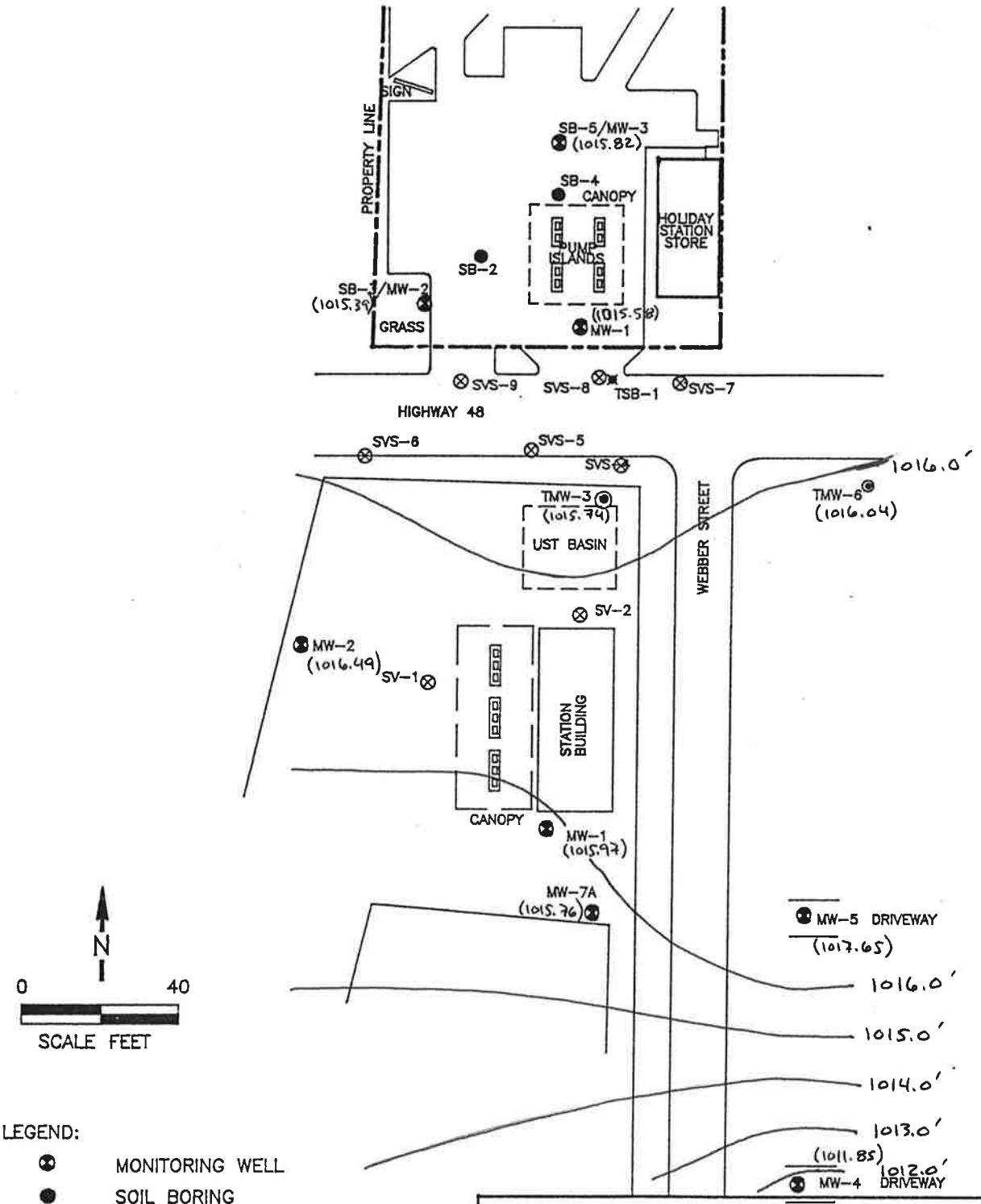
PROJECT NO.	PREPARED BY	DRAWN BY	
A094-158	PJC	DL	
DATE	REVIEWED BY	FILE NAME	
12/30/94		A094158	Delta Environmental Consultants, Inc.

TABLE 2 GROUND WATER CHEMISTRY (ug/l)

Holiday Station No. 226
Hinckley, Minnesota
Delta No. A094-158-1

Sample I.D.	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO
MW-1	06-Dec-94	1400	230	1700	3300	13000	6000
	20-Jan-95	1100	360	1600	2900	12000	4300
	20-Apr-95	1200	310	1500	2800	10000	NA
	27-Oct-95	1000	280	1500	4600	18000	8600
	22-Jan-96	1800	310	2000	5800	23000	8900
MW-2	06-Dec-94	2.7	<0.6	<0.2	<0.5	35	<29
	20-Jan-95	<0.2	<0.5	<0.2	<0.8	<20	<31
	20-Apr-95	0.42	<0.5	<0.2	<0.8	<20	NA
	27-Oct-95	22	<0.65	<0.75	<1.8	240	NA
	22-Jan-96	19	<1.3	<0.55	<2.7	160	NA
MW-3	06-Dec-94	1.6	<0.6	<0.2	0.39	42	<29
	20-Jan-95	1.3	<0.5	<0.2	0.82	300	40
	20-Apr-95	3.4	<0.5	<0.2	<0.8	140	NA
	27-Oct-95	0.72	<0.65	<0.75	<1.8	49	NA
	22-Jan-96	0.85	<1.3	<0.55	<2.7	84	na

DRO = Diesel-range organics
GRO = Gasoline-range organics
ug/l = micrograms per liter, which is equivalent to parts per billion (ppb)



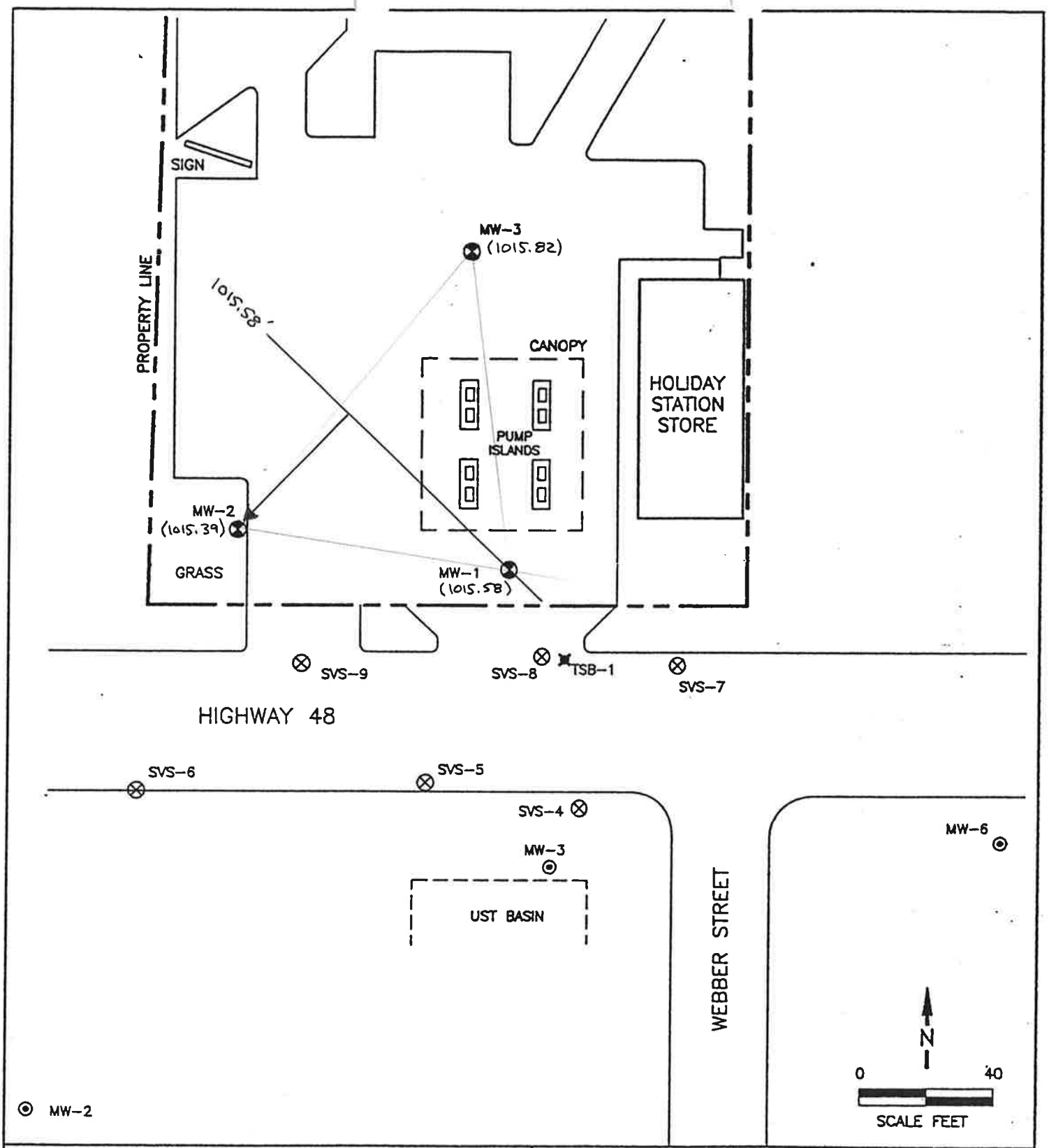
LEGEND:

- ⊗ MONITORING WELL
- ● SOIL BORING
- ◉ MONITORING WELL (TOBIES)
- ⊗ SOIL VAPOR SURVEY POINT (TOBIES)
- ✖ SOIL BORING (TOBIES)
- (1015.76) GROUND WATER ELEVATION (IN FEET ASL)
- —1014.0'— WATER TABLE CONTOUR LINE CONTOUR INTERVAL = 1.0 FT

FIGURE 1
WATER TABLE CONTOUR MAP
OCTOBER 27, 1995
HOLIDAY STATION NO. 226
HINCKLEY, MINNESOTA

PROJECT NO.	PREPARED BY	DRAWN BY	
A094-158	PJC	DL	
DATE	REVIEWED BY	FILE NAME	
12/30/94		A094158	

Delta Environmental Consultants, Inc.



LEGEND:

- MONITORING WELL (HOLIDAY)
- MONITORING WELL (TOBIES)
- SOIL VAPOR SURVEY POINT (TOBIES)
- SOIL BORING (TOBIES)

(1015.58) Ground water elevation (in feet)

1015.58' Water Table contour Line

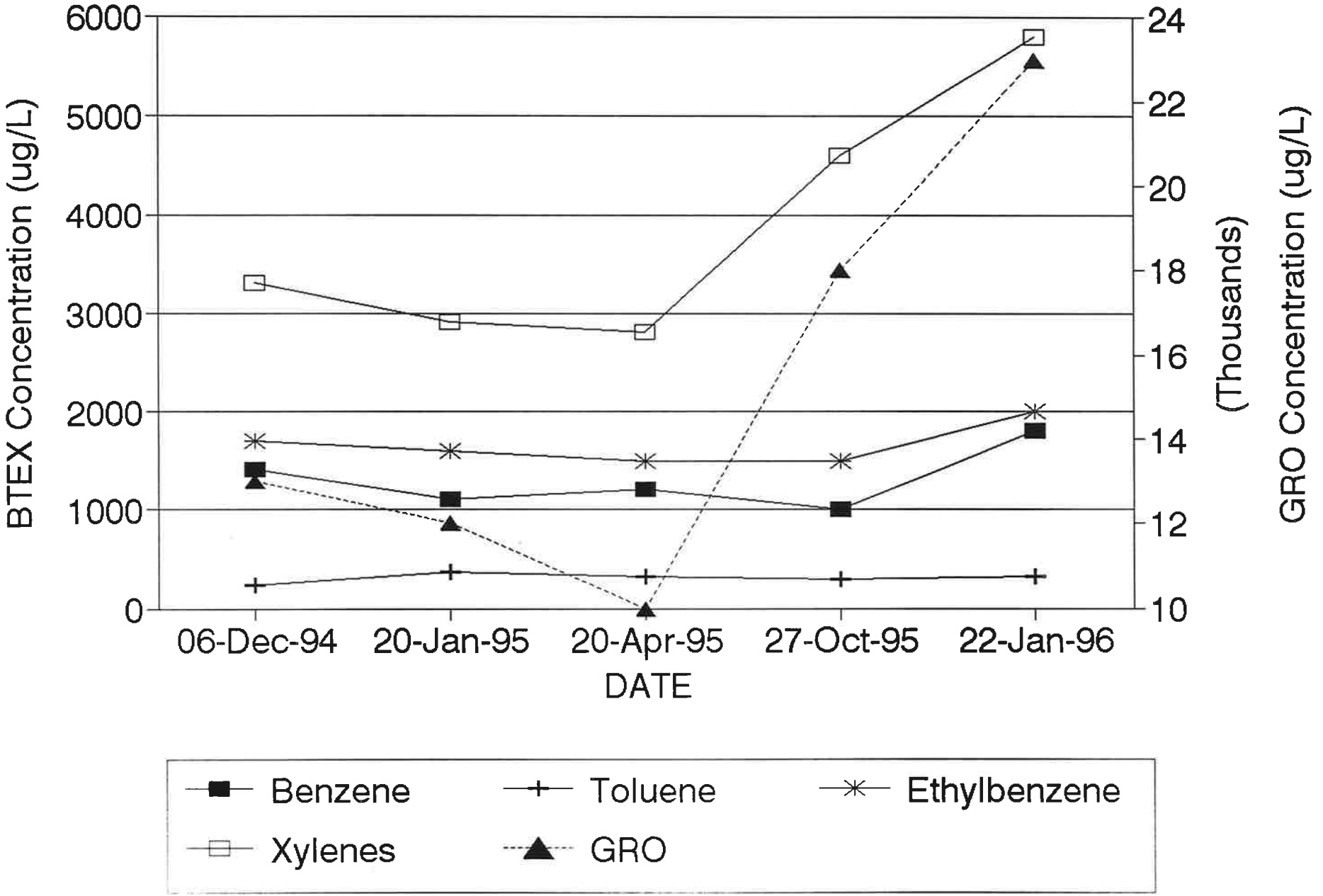
Inferred Ground Water Flow Direction

FIGURE 2
WATER TABLE FLOW MAP - 10/27/95
HOLIDAY STATION NO. 226
HINCKLEY, MINNESOTA

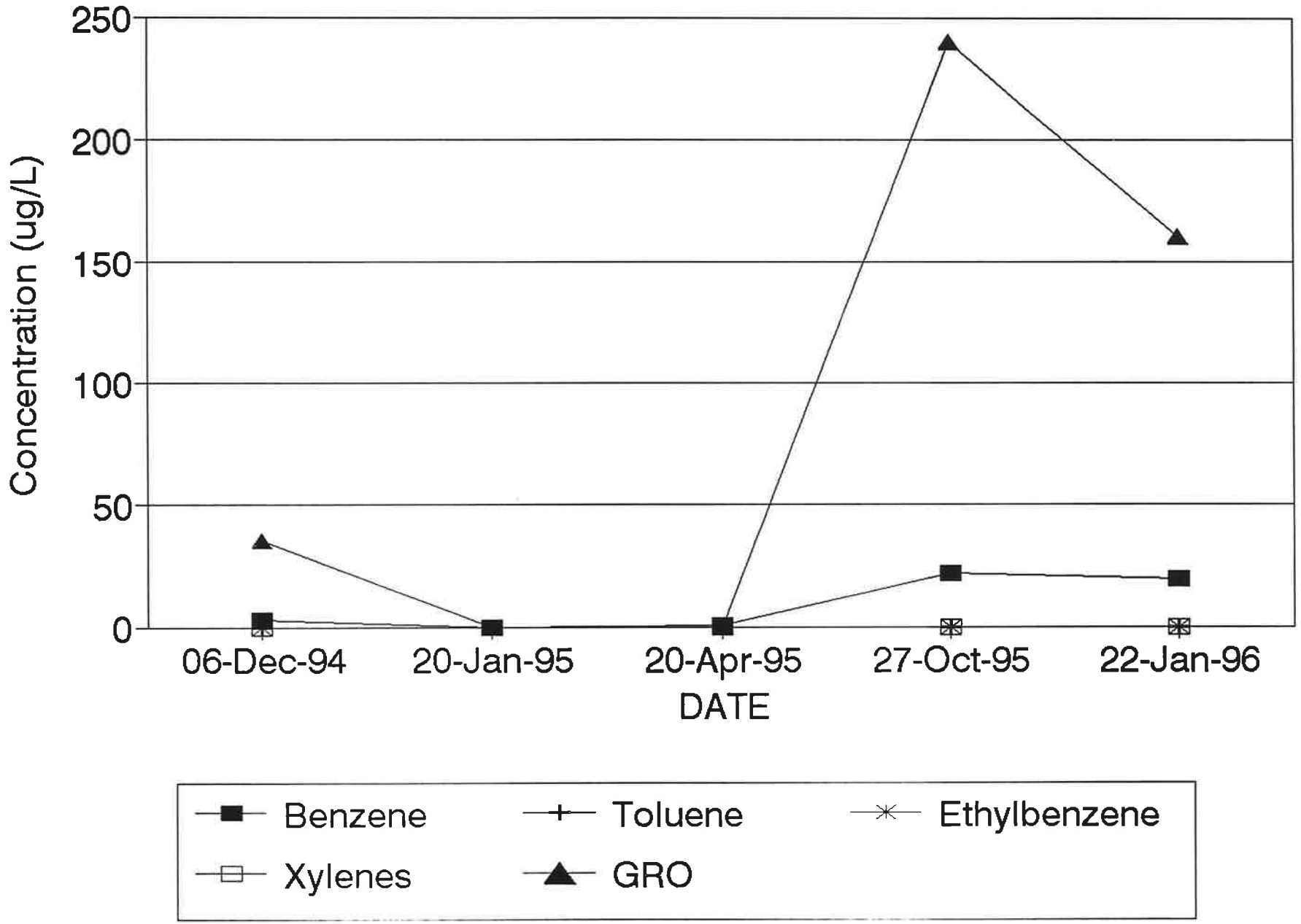
PROJECT NO.	PREPARED BY	DRAWN BY
A094-158	CI	DD
DATE	REVIEWED BY	FILE NAME
3/16/95		94158-2

Delta Environmental Consultants, Inc.

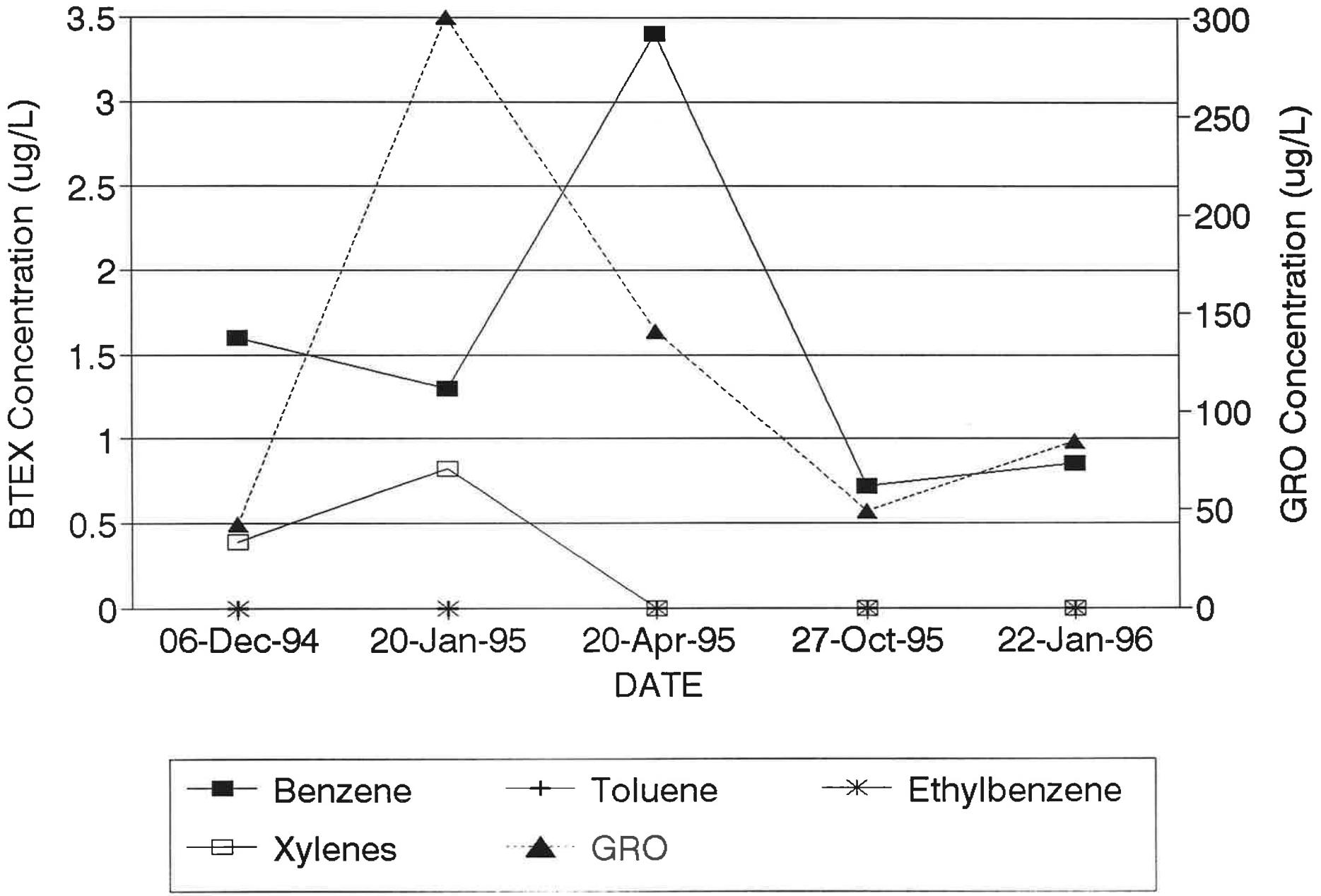
HOLIDAY STATION NO. 226
MW-1: BTEX & GRO Concentrations



HOLIDAY STATION NO. 226
MW-2: BTEX & GRO Concentrations



HOLIDAY STATION NO. 226
MW-3: BTEX & GRO Concentrations



Horizon
Laboratories, Inc.

4463 White Bear Parkway, Suite #105 St. Paul, MN. 55110 Tel. (612) 653-3471 Fax (612) 653-3475

LABORATORY REPORT

Client:	Delta Environmental Consultants, Inc	Date Sampled:	01/22/96
	3900 Northwoods Drive, Suite 200	Date Received:	01/24/96
	St. Paul, MN 55112	Date Analyzed:	01/29/96
	Attn: Chai Insook	Physical State:	Aqueous
Project:	Holiday #226	Report Date:	01/30/96
	Hinkley, MN	Lab P.N.:	1000-324.4
		Client P.N.:	A094-158.1

Quality Assurance / Quality Control Summary

Parameter (Method)	QC Type	Percent Recovery	Acceptable Range	Relative Percent Difference	Acceptable Range
Benzene (EPA 8020)	M	106	87 - 116	1.2	0 - 20
Toluene (EPA 8020)	M	108	87 - 115	0.63	0 - 20
Ethylbenzene (EPA 8020)	M	106	84 - 120	0.70	0 - 20
m,p-Xylenes (EPA 8020)	M	108	90 - 120	0.28	0 - 20
o-Xylenes (EPA 8020)	M	107	92 - 115	0.68	0 - 20
GRO (Wis. DNR)	M	118	80 - 120	0.23	0 - 20
DRO (Wis. DNR)	M	90	75 - 115	2.2	0 - 20

M = Matrix Spike / Matrix Spike Duplicate

L = Laboratory Control Sample

Reviewed

Approved

Compounds were identified by column retention time and quantified by peak area of known standards using a Hewlett Packard ChemStation Data System. The samples were received by HORIZON LABORATORIES, INC. and accompanied by the Chain-of-Custody record. The Laboratory Report is the sole property of the client the whom it is addressed. The Laboratory Results are only a part of the Laboratory Report.

Horizon
Laboratories, Inc.

4463 White Bear Parkway, Suite #105 St. Paul, MN. 55110 Tel. (612) 653-3471 Fax (612) 653-3475

LABORATORY RESULTS

Client: Delta Environmental Consultants, Inc
3900 Northwoods Drive, Suite 200
St. Paul, MN 55112
Attn: Chai Insook

Project: Holiday #226
Hinkley, MN

Date Sampled: 01/22/96
Date Analyzed: 01/29/96
Physical State: Aqueous

Report Date: 01/30/96
Lab P.N.: 1000-324.4
Client P.N.: A094-158.1

Sample I.D.	Benzene µg/l EPA 8020	Toluene µg/l EPA 8020	Ethyl-benzene µg/l EPA 8020	Total, Xylenes µg/l EPA 8020	GRO µg/l Wis. DNR	DRO µg/l Wis. DNR
MW-1	1,800	310	2,000	5,800	23,000	8,900†
MW-2	19	< 1.3	< 0.55	< 2.7	160	---
MW-3	0.85	< 1.3	< 0.55	< 2.7	84	---
PQL, µg/l	0.6	1.3	0.6	2.7	22	65
MDL, µg/l	0.1	0.3	0.1	0.5	4.3	13

†; Peaks present outside of DRO range

PQL; Practical Quantitation Limit for undiluted samples.

MDL; Method Detection Limit for undiluted samples.

GRO; Gasoline Range Organics

DRO; Diesel Range Organics

All results are in µg/l which is equal to parts-per-billion (ppb).

The Laboratory Results are only a part of the Laboratory Report.

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

RECEIVED
FEB 2 1996

324060

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client Delta
Address
Phone 612-486-5845

Report To: Chai Insook
Bill To:
P.O. # / Billing Reference
Project Name / No. Holiday No. 226, Hinckley Delta No. A0-94-158-1

Pace Client No.
Pace Project Manager
Horizon
~~Pace~~ Project No. 1000-324.4
*Requested Due Date:

Sampled By (PRINT): David Anderson
Sampler Signature: David Anderson
Date Sampled: 1-22-96

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA - HCl	Qt. Amber HCl	ANALYSES REQUEST: BTEX/GRO	DRO	REMARKS
1	MW-3	1140	H20		6				6		✓		20881
2	MW-2	1230	↓		6				6		✓		20882
3	MW-1	1325	↓		7				6	1	✓	✓	20883
4													
5													
6													
7													
8													

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT/DATE	SHIPMENT METHOD RETURNED/DATE

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
1-3	David Anderson/Pace	"on ice"	1-24-96	11:30

Additional Comments

Samples go to Horizon for analysis

ORIGINAL

SEE REVERSE SIDE FOR INSTRUCTIONS

Delta
Environmental
Consultants, Inc.

3900 Northwoods Drive
Suite 200
St. Paul, MN 55112
612/486-8022
FAX: 612/486-8021

November 28, 1995

Ms. Jean Hanson
Minnesota Pollution Control Agency
Hazardous Waste Division
Tanks and Spills Section
520 Lafayette Road North
St. Paul, MN 55155-3898

Subject: QUARTERLY MONITORING WORKSHEET (Fact Sheet No. 7)
Holiday Station No. 226
Hinckley, Minnesota
MPCA Leak No. 7487
Delta No. A094-158

Dear Ms. Hanson:

On behalf of the Holiday Companies, Inc., Delta Environmental Consultants, Inc. (Delta), is submitting the quarterly ground water monitoring report, completed for the above referenced site. This report supplements the information provided in the Remedial Investigation/Corrective Action Design (RI/CAD) Report (dated April 7, 1995).

This quarterly monitoring worksheet is completed for the fourth quarter 1995 ground water sampling event, which was conducted at the site on October 27, 1995. The sampling and reporting requirements for the third quarter 1995 sampling event was waived by the Minnesota Pollution Control Agency (MPCA), during the review period of the RI/CAD report. Delta will continue the ground water monitoring program at the site in 1996. Recommendations for future site activities will be discussed in the annual progress report, which will be submitted to the MPCA in August 1996.

If you have any questions regarding this information, please contact me at (612) 486-5845.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Chai Insook
Project Manager

CI/bjc

Enclosures

cc: Mr. Keith Yokom - Holiday Company Inc.
cc: Mr. Bruce Anthony - Holiday Company Inc. (no enclosures)

SITE MONITORING WORKSHEET
Fact Sheet #7
Minnesota Pollution Control Agency
LUST Cleanup Program
April 1993

The Minnesota Pollution Control Agency (MPCA) staff expect this worksheet to simplify the required post-investigation site monitoring reports. Submit this worksheet:

- quarterly, after the remedial investigation (RI) is complete but before corrective action is taken.
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- quarterly, after CAD is operational, along with "CAD System Monitoring Worksheet," (fact sheet #11).

Completion and submittal according to the above schedule fulfills your quarterly site monitoring report requirements. You may include a short cover letter whenever circumstances require. However, you must still submit an annual progress report as described in "Petroleum Tank Release Reports" (fact sheet #3). [NOTE: MPCA staff may reduce the frequency of progress reporting on a site specific basis.]

Where attachments are requested (tables, maps, graphs, etc.), please check off those items attached. The only table not mandatory is that for dissolved oxygen.

MPCA Leak Number: 7487
4th Quarter 1995
Holiday Station No. 226
Hinckley, MN
Delta No. A094-158

I. Ground Water Monitoring

Please attach the following:

X	Cumulative table of ground water monitoring results, including all sample blanks.
X	Copies of most recent laboratory reports for ground water analyses, including a copy of the Chain-of-Custody.
X	Cumulative table of ground water elevation and product thickness results.
X	Hydrograph for all monitoring and recovery wells.
X	Graph(s) showing contaminant concentrations over time for all monitoring and recovery wells.
X	Ground water contour map based on the most recent ground water elevation data.
N/A	Table of dissolved oxygen sample results (if collected).

Please describe unusual circumstances that may have influenced the sampling results: _____
None

Please detail significant observations made at the site: _____
BTEX concentrations in MW-2 and MW-3 remain non-detectable or below the Health Risk Limits, except for benzene in MW-2, which has increased to 22 ug/L. The GRO concentration in MW-2 also increased (to 240 ug/L), but the GRO concentration again decreased in MW-3 (from 140 ug/L to 49 ug/L) from the previous sampling event. In general, petroleum hydrocarbons concentrations in MW-1 have remained relatively stable over the monitoring period, though the xylenes, GRO, and DRO concentrations did show significant increases this quarter.

II. Vapor Impact Monitoring *Not applicable.*

If vapor impacts were detected during the remedial investigation, please attach:

_____ a cumulative table of vapor monitoring results. The table should identify the location of all vapor monitoring points (i.e., sewer manholes, basements, etc.).

_____ a map of vapor monitoring locations.

Sampling instrument used: _____
Sampling method: _____

NOTE: If vapor concentrations exceed 10 percent of the lower explosive limit, exit the building and contact the local fire department immediately. Then contact the MPCA spills unit at voice (612) 297-8610, TDD (612) 297-5353 or Greater Minnesota TDD 1-800-627-3529.

Vapor mitigation is required.

III. Recommendations

Use this space to detail any recommendations for modifying the current monitoring schedule:

No modifications, continue quarterly monitoring of BTEX, GRO, and DRO (MW-1).

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Hinckley, Minnesota
DELTA NO. A094-158

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	MW-1	1029.49	MW-2	1031.61	MW-3	1029.96	MW-4	1022.48	MW-5	1021.46	MW-6	1025.96	MW-7A	1027.31
Date	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation
20-Dec-94	15.40	1014.09	16.78	1014.83	16.71	1013.25	12.45	1010.03	7.83	1013.63	12.67	1013.29	17.64	1009.67
20-Jan-95			16.89	1014.72	16.57	1013.39					13.36	1012.60		
27-Oct-95	13.52	1015.97	15.12	1016.49	14.22	1015.74	10.63	1011.85	3.81	1017.65	9.92	1016.04	11.55	1015.76

NOTE:

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TOC elevations for Holiday station wells are provided by Kemper & Associates, Inc.
TOC elevations for Tobies Service Station wells are normalized to Holiday wells.

Stadia rod readings of Holiday well MW-2 and Tobies well MW-3 (surveyed on 12/20/94)
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Tobies well MW-3 is 4.06 feet lower than Holiday well MW-2

Holiday No. 226 Hinckley, MN

Delta No. A094-158-1

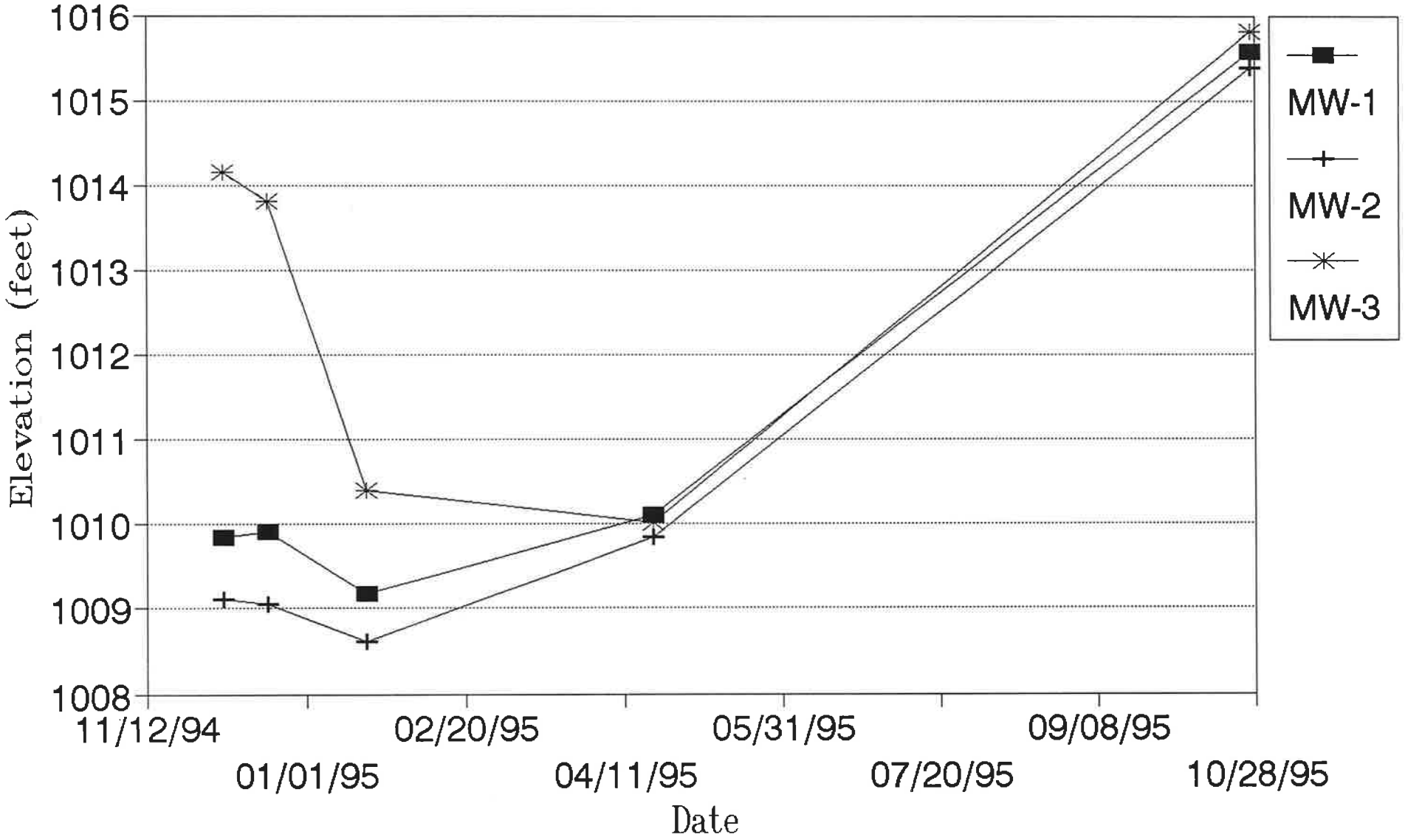


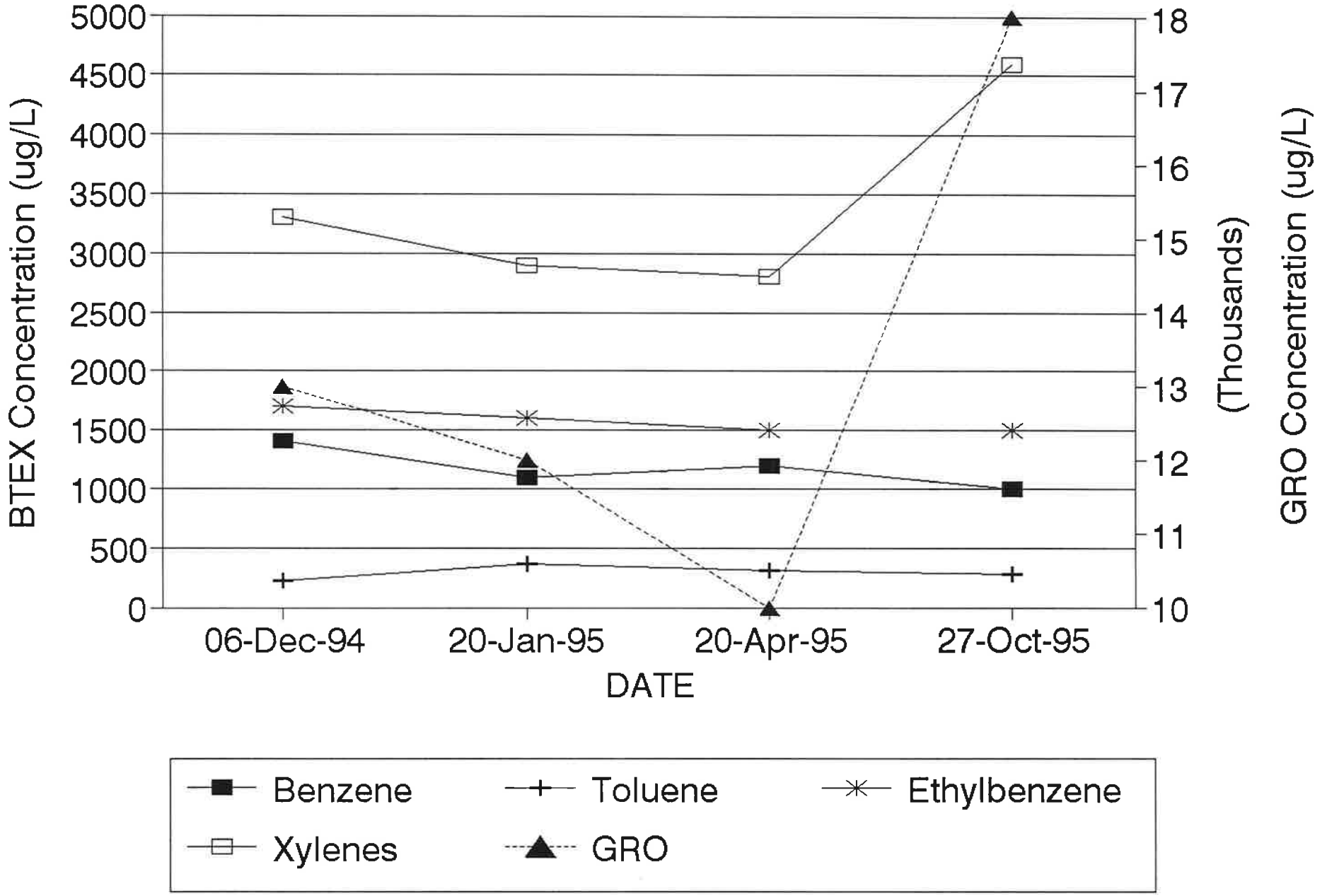
TABLE 2 GROUND WATER CHEMISTRY (ug/l)

Holiday Station No. 226
Hinckley, Minnesota
Delta No. A094-158-1

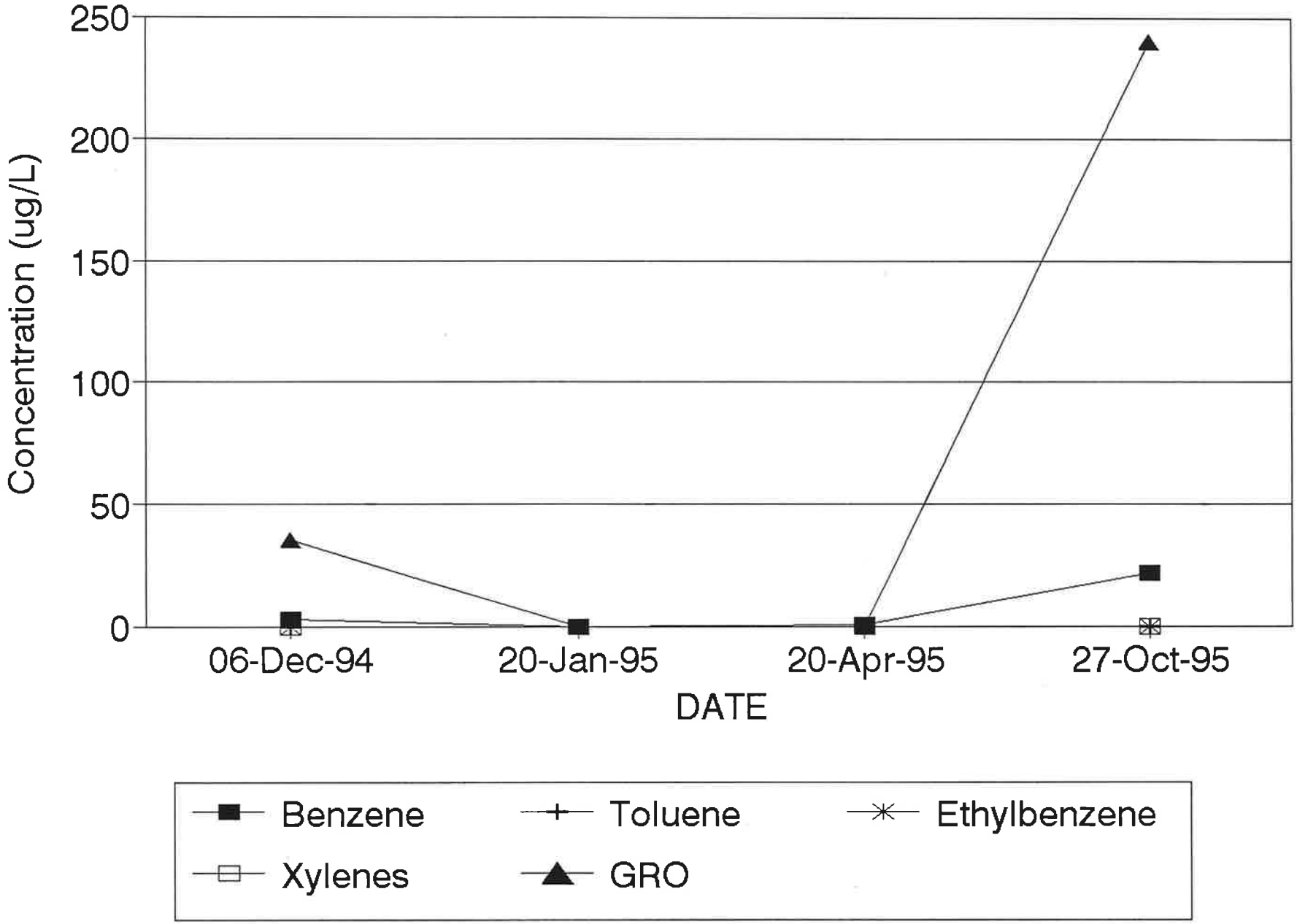
Sample I.D.	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO
MW-1	06-Dec-94	1400	230	1700	3300	13000	6000
	20-Jan-95	1100	360	1600	2900	12000	4300
	20-Apr-95	1200	310	1500	2800	10000	NA
	27-Oct-95	1000	280	1500	4600	18000	8600
MW-2	06-Dec-94	2.7	<0.6	<0.2	<0.5	35	<29
	20-Jan-95	<0.2	<0.5	<0.2	<0.8	<20	<31
	20-Apr-95	0.42	<0.5	<0.2	<0.8	<20	NA
	27-Oct-95	22	<0.65	<0.75	<1.8	240	NA
MW-3	06-Dec-94	1.6	<0.6	<0.2	0.39	42	<29
	20-Jan-95	1.3	<0.5	<0.2	0.82	300	40
	20-Apr-95	3.4	<0.5	<0.2	<0.8	140	NA
	27-Oct-95	0.72	<0.65	<0.75	<1.8	49	NA

DRO = Diesel-range organics
GRO = Gasoline-range organics
ug/l = micrograms per liter, which is equivalent to parts per billion (ppb)

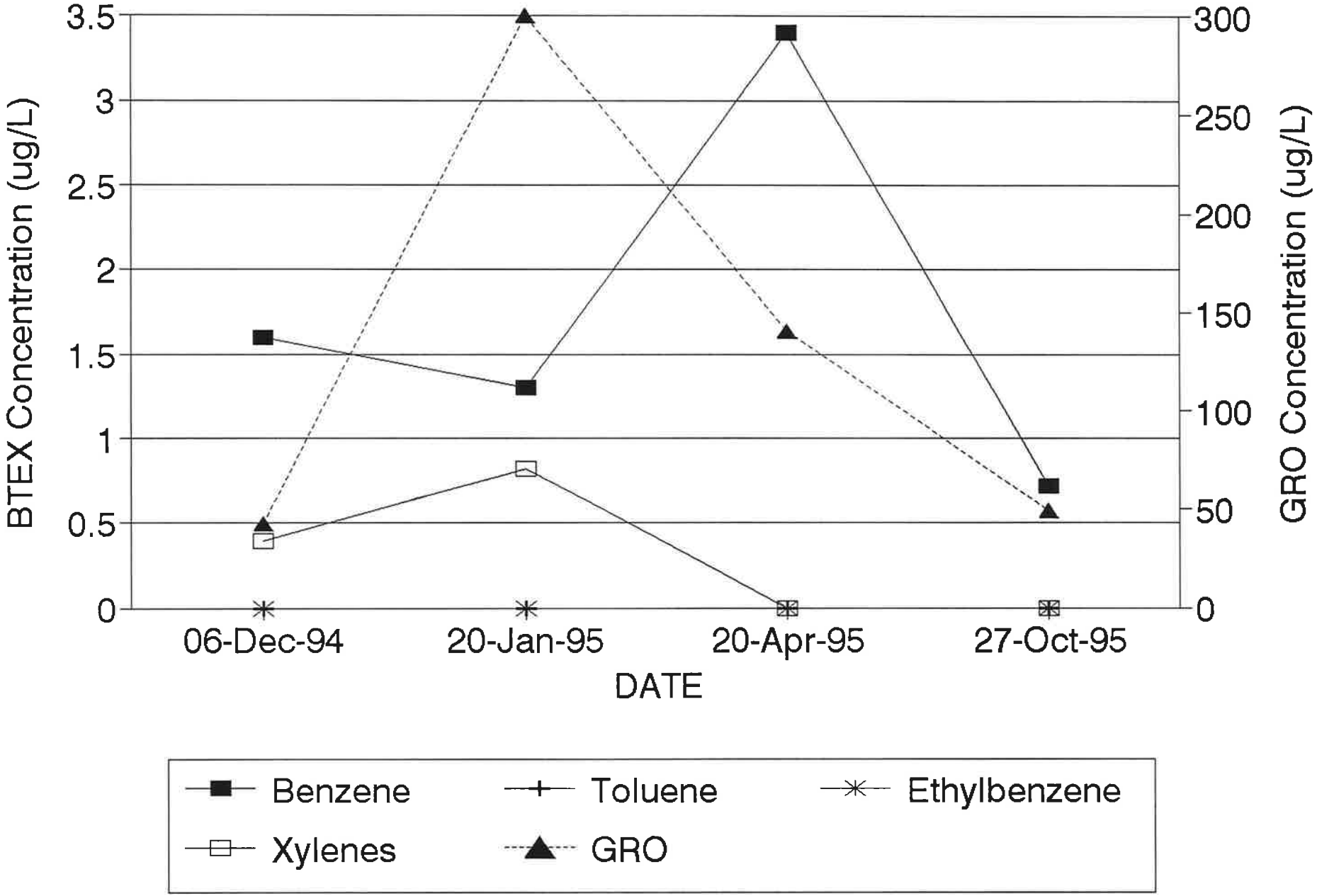
HOLIDAY STATION NO. 226
MW-1: BTEX & GRO Concentrations



HOLIDAY STATION NO. 226
MW-2: BTEX & GRO Concentrations



HOLIDAY STATION NO. 226
MW-3: BTEX & GRO Concentrations



Horizon
Laboratories, Inc.

4463 White Bear Parkway, Suite #105 St. Paul, MN. 55110 Tel. (612) 653-3471 Fax (612) 653-3475

LABORATORY RESULTS

Client: Delta Environmental Consultants, Inc
3900 Northwoods Drive, Suite 200
St. Paul, MN 55112
Attn: Chai Insook

Project: Holiday Station #226
Hinckley, MN

Date Sampled: 10/27/95
Date Analyzed: 11/03/95
Physical State: Aqueous

Report Date: 11/07/95
Lab P.N.: 1000-324.3
Client P.N.: A094-158

Sample I.D.	Benzene µg/l EPA 8020	Toluene µg/l EPA 8020	Ethyl-benzene µg/l EPA 8020	Total, Xylenes µg/l EPA 8020	GRO µg/l Wis. DNR	DRO µg/l Wis. DNR
MW-1	1,000	280	1,500	4,600	18,000	8,600†
MW-2	22	< 0.65	< 0.75	< 1.8	240	—
MW-3	0.72	< 0.65	< 0.75	< 1.8	49	—
PQL, µg/l	0.70	0.65	0.75	1.8	7.0	65
MDL, µg/l	0.14	0.13	0.15	0.36	1.4	13

PQL; Practical Quantitation Limit for undiluted samples.
MDL; Method Detection Limit for undiluted samples.
GRO; Gasoline Range Organics
DRO; Diesel Range Organics
†; Chromatogram contains peaks outside the DRO window
All results are in µg/l which is equal to parts-per-billion (ppb).
The Laboratory Results are only a part of the Laboratory Report.

Horizon
Laboratories, Inc.

4463 White Bear Parkway, Suite #105 St. Paul, MN. 55110 Tel. (612) 653-3471 Fax (612) 653-3475

LABORATORY REPORT

Client:	Delta Environmental Consultants, Inc	Date Sampled:	10/27/95
	3900 Northwoods Drive, Suite 200	Date Received:	10/27/95
	St. Paul, MN 55112	Date Analyzed:	11/03/95
	Attn: Chai Insook	Physical State:	Aqueous
Project:	Holiday Station #226	Report Date:	11/07/95
	Hinckley, MN	Lab P.N.:	1000-324.3
		Client P.N.:	A094-158

Quality Assurance / Quality Control Summary

Parameter (Method)	QC Type	Percent Recovery	Acceptable Range	Percent Reproducibility	Acceptable Range
Benzene (EPA 8020)	M	98	87 - 116	104	91 - 111
Toluene (EPA 8020)	M	98	87 - 115	104	90 - 112
Ethylbenzene (EPA 8020)	M	99	84 - 120	105	89 - 112
m,p-Xylenes (EPA 8020)	M	102	90 - 120	103	91 - 110
o-Xylenes (EPA 8020)	M	99	92 - 115	103	93 - 108
GRO (Wis. DNR)	M	100	85 - 117	104	84 - 115
DRO (Wis. DNR)	M	73	60 - 130	85	60 - 130

M = Matrix Spike / Matrix Spike Duplicate

L = Laboratory Control Sample

Reviewed

Approved

Compounds were identified by column retention time and quantified by peak area of known standards using a Hewlett Packard ChemStation Data System. The samples were received by HORIZON LABORATORIES, INC. and accompanied by the Chain-of-Custody record. The Laboratory Report is the sole property of the client the whom it is addressed. The Laboratory Results are only a part of the Laboratory Report.

CHAIN-OF-CUSTODY RECORD

Delta Environmental Consultants, Inc.
3900 Northwoods Dr., Suite 200
St. Paul, MN 55112

DELTA PROJECT NO. A094158 | INVOICE CODE | PAGE 1 OF 1

PROJECT MANAGER: Chai Insook

PROJECT NAME: Holiday Station #226

PROJECT LOCATION: Hinckley, MN

SAMPLER'S SIGNATURE: E S Bustillos

TURN AROUND REQUESTED:
- ☑ NORMAL
- ☐ RUSH
- ☐ OTHER

LAB NAME: Horizon

LAB USE ONLY

LABORATORY PROJECT NO.: 1000-324.3

SAMPLE ID	SAMPLE LOCATION/DESCRIPTION	DATE/TIME SAMPLED	SAMPLE MATRIX: SOIL(S): AIR(A): BULK(B): AQUEOUS(Q): SLUDGE(L): OTHER(O)	ANALYSIS REQUESTED: BTEX GRO	ANALYSIS REQUESTED: DRO	NUMBER OF CONTAINERS	ACCEPT (A) REJECT (R)	SAMPLE CONDITION AS RECEIVED: CHILLED YES/NO, SEALED YES/NO / SAMPLE CONDITION/ COMMENTS	LABORATORY SAMPLE NUMBER
	MW 1	10/27/95 10:15	Q	X	X	4			19622
	MW 2	10/27/95 10:38	Q	X		3			19623
	MW 3	10/27/95 10:56	Q	X		3			19624

Send Report to: Angela Gowan

GENERAL COMMENTS: TRIP BLANK Supplied by Horizon - Client requests not to Analyze.

10 ◀ TOTAL NUMBER OF CONTAINERS

1 RELINQUISHED BY (SIGNATURE)	DATE	3 RELINQUISHED BY (SIGNATURE)	DATE	5 RELINQUISHED BY (SIGNATURE)	DATE
E S Bustillos	10/27/95				
COMPANY: Delta Envir Consultants	TIME: 4:45	COMPANY	TIME	COMPANY	TIME
2 RECEIVED BY (SIGNATURE)	DATE: 10/27/95	4 RECEIVED BY (SIGNATURE)	DATE	6 RECEIVED BY (SIGNATURE)	DATE
COMPANY: Horizon	TIME: 4:45	COMPANY	TIME	COMPANY	TIME

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy

bcc: Angela Gowan - Delta Environmental Consultants, Inc.

Delta
Environmental
Consultants, Inc.

3900 Northwoods Drive
Suite 200
St. Paul, MN 55112
612/486-8022
FAX: 612/486-8021

June 7, 1995

Ms. Jean Hanson
Minnesota Pollution Control Agency
Hazardous Waste Division
Tanks and Spills Section
520 Lafayette Road North
St. Paul, MN 55155-3898

Subject: QUARTERLY MONITORING WORKSHEET (Fact Sheet No. 7)
Holiday Station No. 226
Hinckley, Minnesota
MPCA Leak No. 7487
Delta No. A094-158

Dear Ms. Hanson:

On behalf of Holiday Companies, Inc., Delta Environmental Consultants, Inc. (Delta), is submitting the quarterly ground water monitoring report, completed for the above referenced site. The Remedial Investigation/Corrective Action Design Report was submitted to your attention on April 7, 1995.

This quarterly monitoring worksheet is completed for the second quarterly ground water sampling event, which was conducted at the site on April 20, 1995. The next two monitoring events for 1995 are scheduled for July and October. Delta will recommend site closure if analytical results for the next two sampling events do not change significantly.

If you have any questions regarding this information, please contact me at (612) 486-5845.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Chai Insook
Project Manager

CI/bjc

Enclosures

cc: Mr. Keith Yokom - Holiday Company Inc.
cc: Mr. Bruce Anthony - Holiday Company Inc. (no enclosures)

SITE MONITORING WORKSHEET
Fact Sheet #7
Minnesota Pollution Control Agency
LUST Cleanup Program
April 1993

The Minnesota Pollution Control Agency (MPCA) staff expect this worksheet to simplify the required post-investigation site monitoring reports. Submit this worksheet:

- quarterly, after the remedial investigation (RI) is complete but before corrective action is taken.
- quarterly, during corrective action design (CAD) installation.
- quarterly, after CAD is operational, along with "CAD System Monitoring Worksheet," (fact sheet #11).

Completion and submittal according to the above schedule fulfills your quarterly site monitoring report requirements. You may include a short cover letter whenever circumstances require. However, you must still submit an annual progress report as described in "Petroleum Tank Release Reports" (fact sheet #3). [NOTE: MPCA staff may reduce the frequency of progress reporting on a site specific basis.]

Where attachments are requested (tables, maps, graphs, etc.), please check off those items attached. The only table not mandatory is that for dissolved oxygen.

MPCA Leak Number: 7487
2nd Quarter 1995
Holiday Station No. 226
Hinckley, MN
Delta No. A094-158

I. Ground Water Monitoring

Please attach the following:

X — Cumulative table of ground water monitoring results, including all sample blanks.

X — Copies of most recent laboratory reports for ground water analyses, including a copy of the Chain-of-Custody.

X — Cumulative table of ground water elevation and product thickness results.

X — Hydrograph for all monitoring and recovery wells.

X — Graph(s) showing contaminant concentrations over time for all monitoring and recovery wells.

X — Ground water contour map based on the most recent ground water elevation data.

N/A — Table of dissolved oxygen sample results (if collected).

Please describe unusual circumstances that may have influenced the sampling results: _____
None

Please detail significant observations made at the site: _____
BTEX concentrations in MW-2 and MW-3 remain non-detectable or below the Health Risk Limits. GRO concentration in MW-2 remained non-detectable, and GRO concentration decreased in MW-3 (from 300 ug/L to 140 ug/L) since the previous sampling event. In general, petroleum hydrocarbons concentrations in MW-1 remain relatively stable over the previous three sampling events.

II. Vapor Impact Monitoring *Not applicable.*

If vapor impacts were detected during the remedial investigation, please attach:

_____ a cumulative table of vapor monitoring results. The table should identify the location of all vapor monitoring points (i.e., sewer manholes, basements, etc.).

_____ a map of vapor monitoring locations.

Sampling instrument used: _____
Sampling method: _____

NOTE: If vapor concentrations exceed 10 percent of the lower explosive limit, exit the building and contact the local fire department immediately. Then contact the MPCA spills unit at voice (612) 297-8610, TDD (612) 297-5353 or Greater Minnesota TDD 1-800-627-3529.

Vapor mitigation is required.

III. Recommendations

Use this space to detail any recommendations for modifying the current monitoring schedule:

No modifications, continue quarterly monitoring of BTEX, GRO, and DRO (which was omitted this quarter).

TABLE 1 GROUND WATER ELEVATIONS

Holiday Station No. 226
Hinckley, Minnesota
DELTA NO. A094-158

Holiday Station Wells and Top of Casing Elevations						
	MW-1	1031.11	MW-2	1034.02	MW-3	1029.71
Date	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation
06-Dec-94	21.26	1009.85	24.91	1009.11	15.56	1014.15
20-Dec-94	21.20	1009.91	24.96	1009.06	15.90	1013.81
20-Jan-95	21.93	1009.18	25.41	1008.61	19.32	1010.39
20-Apr-95	21.00	1010.11	24.17	1009.85	19.69	1010.02

Tobies Service Station Wells and Top of Casing Elevations (reported by HTCT)												
MW-1	104.66	MW-2	106.78	MW-3	105.13	MW-4	97.65	MW-5	96.63	MW-6	101.13	MW-7A	102.48

Tobies Service Station Wells and Top of Casing Elevations (adjusted to Holiday elevations datum)														
	MW-1	1029.49	MW-2	1031.61	MW-3	1029.96	MW-4	1022.48	MW-5	1021.46	MW-6	1025.96	MW-7A	1027.31
Date	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation
20-Dec-94	15.40	1014.09	16.78	1014.83	16.71	1013.25	12.45	1010.03	7.83	1013.63	12.67	1013.29	17.64	1009.67
20-Jan-95			16.89	1014.72	16.57	1013.39					13.36	1012.60		

NOTE:

Elevations are reported in feet - NGVD (National Geodetic Vertical Datum)
TOC elevations for Holiday station wells are provided by Kemper & Associates, Inc.
TOC elevations for Tobies Service Station wells are normalized to Holiday wells.

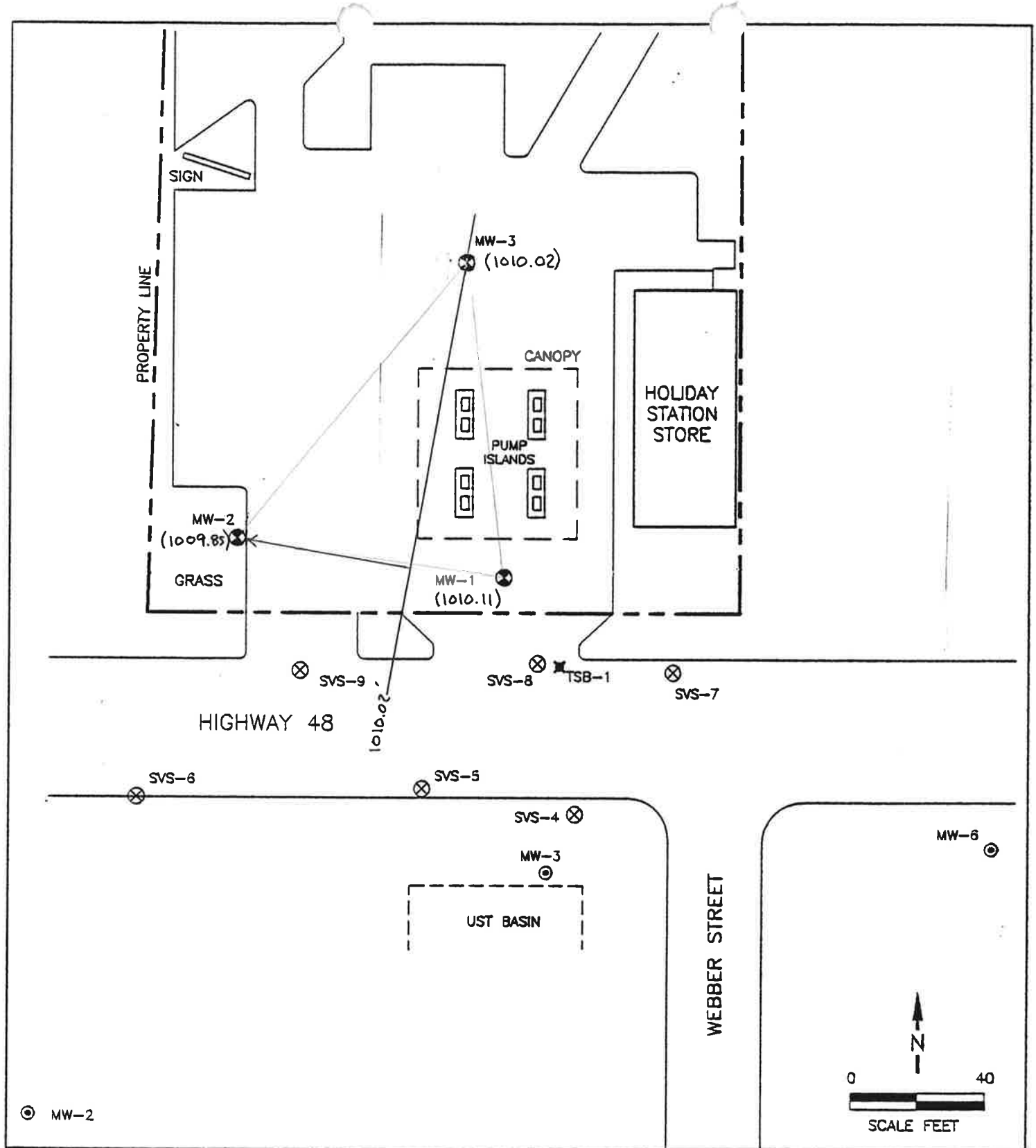
Stadia rod readings of Holiday well MW-2 and Tobies well MW-3 (surveyed on 12/20/94)
Holiday MW-2 = 2.96
Tobies MW-3 = 7.02
Tobies well MW-3 is 4.06 feet lower than Holiday well MW-2

TABLE 2 GROUND WATER CHEMISTRY (ug/l)

Holiday Station No. 226
Hinckley, Minnesota
Delta No. A094-158-1

Sample I.D.	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO
MW-1	06-Dec-94	1400	230	1700	3300	13000	6000
	20-Jan-95	1100	360	1600	2900	12000	4300
	20-Apr-95	1200	310	1500	2800	10000	NA
MW-2	06-Dec-94	2.7	<0.6	<0.2	<0.5	35	<29
	20-Jan-95	<0.2	<0.5	<0.2	<0.8	<20	<31
	20-Apr-95	0.42	<0.5	<0.2	<0.8	<20	NA
MW-3	06-Dec-94	1.6	<0.6	<0.2	0.39	42	<29
	20-Jan-95	1.3	<0.5	<0.2	0.82	300	40
	20-Apr-95	3.4	<0.5	<0.2	<0.8	140	NA

DRO = Diesel-range organics
GRO = Gasoline-range organics
ug/l = micrograms per liter, which is equivalent to parts per billion (ppb)



LEGEND:

- MONITORING WELL (HOLIDAY)
- MONITORING WELL (TOBIES)
- SOIL VAPOR SURVEY POINT (TOBIES)
- SOIL BORING (TOBIES)

(1009.85) GROUND WATER ELEVATION (IN FEET)

1010.02' GROUND WATER CONTOUR LINE

INFERRED GROUND WATER FLOW DIRECTION

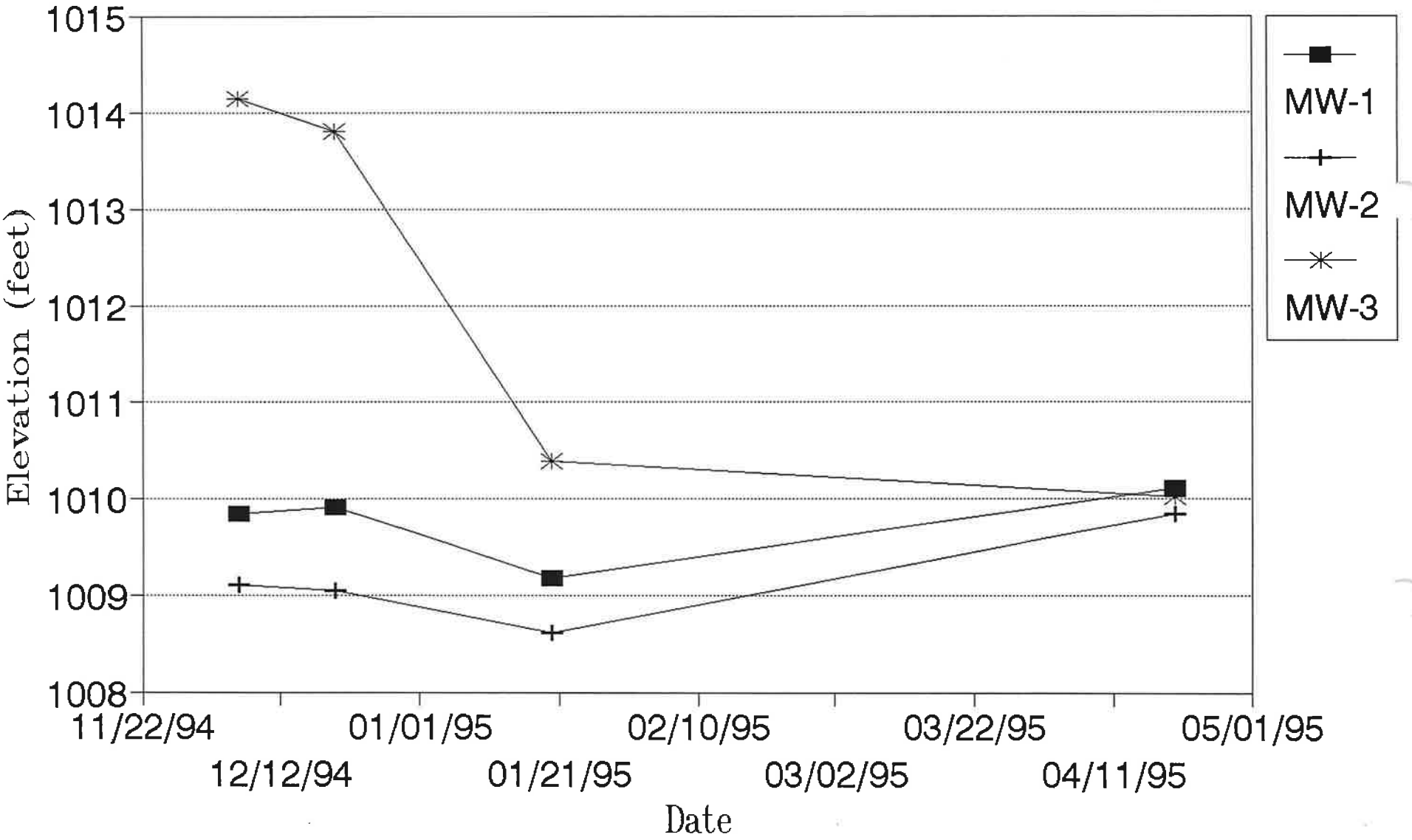
FIGURE 1
GROUND WATER FLOW MAP - 4/20/95
HOLIDAY STATION NO. 226
HINCKLEY, MINNESOTA

PROJECT NO.	PREPARED BY	DRAWN BY
A094-158	CI	DD
DATE	REVIEWED BY	FILE NAME
3/16/95		94158-2

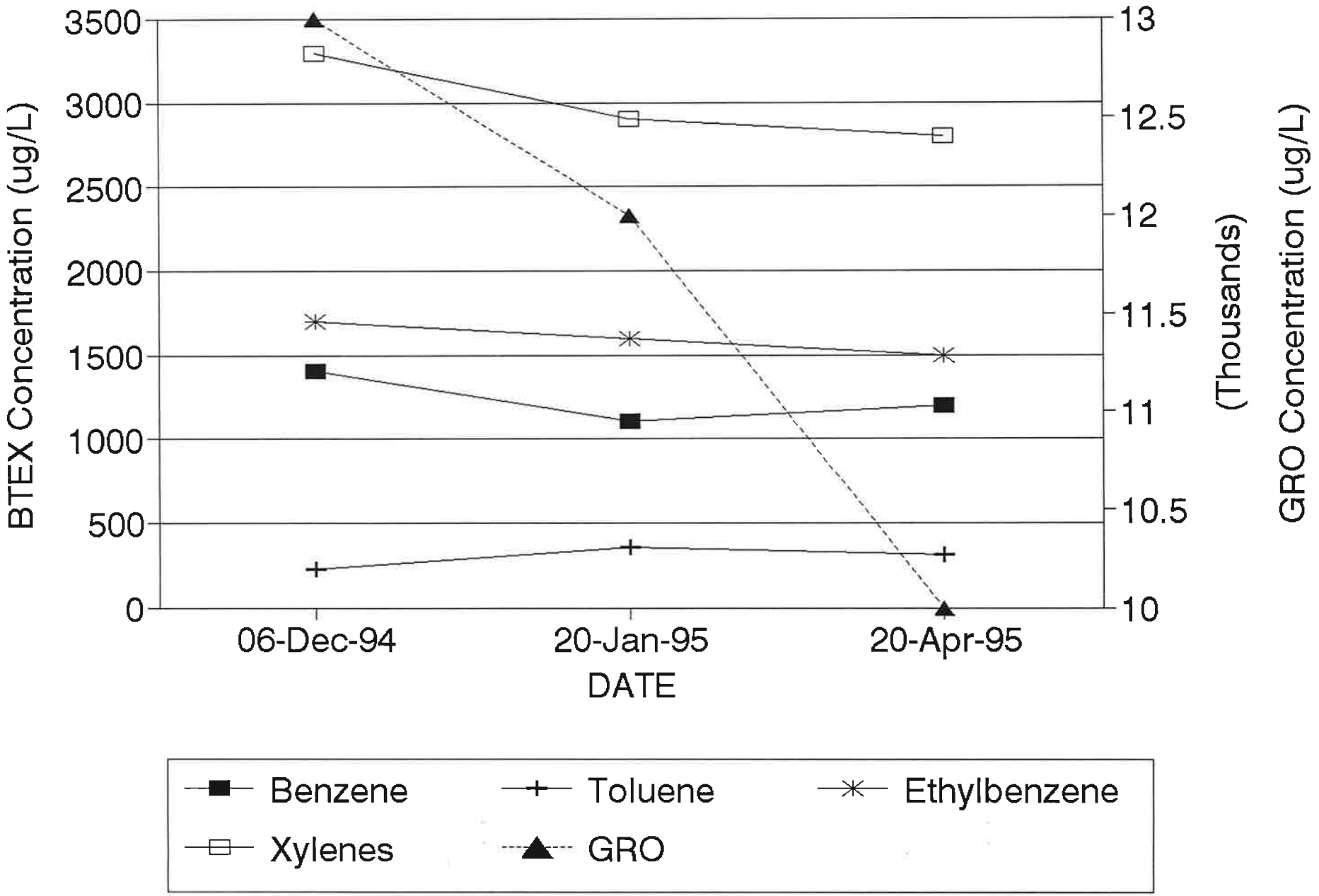
Delta Environmental Consultants, Inc.

Holiday No. 226 Hinckley, MN

Delta No. A094-158-1



HOLIDAY STATION NO. 226
MW-1: BTEX & GRO Concentrations



Horizon
Laboratories, Inc.

4463 White Bear Parkway, Suite #105 St. Paul, MN. 55110 Tel. (612) 653-3471 Fax (612) 653-3475

LABORATORY REPORT

Client:	Delta Environmental Consultants, Inc	Date Sampled:	04/20/95
	3900 Northwoods Drive, Suite 200	Date Received:	04/21/95
	St. Paul, MN 55112	Date Analyzed:	04/27/95 - 04/28/95
	Attn: Chai Insook	Physical State:	Aqueous
Project:	Holiday	Report Date:	05/01/95
	Hinckley, MN	Lab P.N.:	1000-324.4
		Client P.N.:	A094-158

Quality Assurance / Quality Control Summary

Parameter (Method)	QC Type	Percent Recovery	Acceptable Range	Percent Reproducibility	Acceptable Range
Benzene (EPA 8020)	M	99	128 - 81	105	112 - 78
Toluene (EPA 8020)	M	98	129 - 84	105	113 - 78
Ethylbenzene (EPA 8020)	M	98	127 - 84	105	113 - 79
m,p-Xylenes (EPA 8020)	M	103	134 - 90	105	113 - 79
o-Xylenes (EPA 8020)	M	108	141 - 80	103	113 - 78
GRO (Wis. DNR)	M	93	123 - 83	104	120 - 74

M = Matrix Spike / Matrix Spike Duplicate

L = Laboratory Control Sample

Reviewed

Approved

Compounds were identified by column retention time and quantified by peak area of known standards using a Hewlett Packard ChemStation Data System. The samples were rec by HORIZON LABORATORIES, INC. and accompanied by the Chain-of-Custody record. The Laboratory Report is the sole property of the client to whom it is addressed. The Laboratory Results are only a part of the Laboratory Report.

Horizon
Laboratories, Inc.

4463 White Bear Parkway, Suite #105 St. Paul, MN. 55110 Tel. (612) 653-3471 Fax (612) 653-3475

LABORATORY RESULTS

Client: Delta Environmental Consultants, Inc
3900 Northwoods Drive, Suite 200
St. Paul, MN 55112
Attn: Chai Insook

Project: Holiday
Hinckley, MN

Date Sampled: 04/20/95
Date Analyzed: 04/27/95 - 04/28/95
Physical State: Aqueous

Report Date: 05/01/95
Lab P.N.: 1000-324.4
Client P.N.: A094-158

Sample I.D.	Benzene µg/l EPA 8020	Toluene µg/l EPA 8020	Ethyl-benzene µg/l EPA 8020	Total, Xylenes µg/l EPA 8020	GRO µg/l Wis. DNR
MW-3	3.4	<0.50	<0.20	<0.80	140
MW-2	0.42	<0.50	<0.20	<0.80	<20
MW-1	1,200	310	1,500	2,800	10,000
PQL, µg/l	0.20	0.50	0.20	0.80	20
MDL, µg/l	0.14	0.13	0.15	0.36	1.4

PQL; Practical Quantitation Limit for undiluted samples

MDL; Method Detection Limit for undiluted samples

GRO; Gasoline Range Organics

All results are in µg/l which is equal to parts-per-billion (ppb).

The Laboratory Results are only a part of the Laboratory Report.

CHAIN–OF–CUSTODY RECORD

Delta
Environmental
Consultants, Inc.
3900 Northwoods Dr., Suite 200
St. Paul, MN 55112

DELTA PROJECT NO. 1094-158 | INVOICE CODE | PAGE 1 OF 1

PROJECT MANAGER: Chai Insook

PROJECT NAME: Holiday

PROJECT LOCATION: Hinckley, MN

SAMPLER'S SIGNATURE: JoEllen Kuszmaul

TURN AROUND REQUESTED: ☒ NORMAL ☐ RUSH ☐ OTHER

LAB NAME: Horizon

LAB USE ONLY

LABORATORY PROJECT NO. 1000-324-4

SAMPLE ID	SAMPLE LOCATION/DESCRIPTION	DATE/TIME SAMPLED	SAMPLE MATRIX: SOIL(S): AIR(A): BULK(B): AQUEOUS(Q): SLUDGE(L): OTHER(O)	ANALYSIS REQUESTED: BTEX	GRO	hold	NUMBER OF CONTAINERS	ACCEPT (A) REJECT (R)	SAMPLE CONDITION AS RECEIVED: CHILLED YES/NO SEALED YES/NO / SAMPLE CONDITION/ COMMENTS	LABORATORY SAMPLE NUMBER
MW-3	monitoring well	4/20/95 10:25	Q	X	X		3			15240
MW-2	" "	4/20/95 10:45	Q	X	X		3			15241
MW-1	" "	4/20/95 10:50	Q	X	X		3			15242
Trip Blank		—	Q			X	2			15243

GENERAL COMMENTS:

11 ◀ TOTAL NUMBER OF CONTAINERS

1 RELINQUISHED BY (SIGNATURE): JoEllen Kuszmaul	DATE: 4/21/95	3 RELINQUISHED BY (SIGNATURE):	DATE:	5 RELINQUISHED BY (SIGNATURE):	DATE:
COMPANY: Delta Environmental	TIME: 8:00	COMPANY:	TIME:	COMPANY:	TIME:
2 RECEIVED BY (SIGNATURE): [illegible]	DATE: 4/21	4 RECEIVED BY (SIGNATURE):	DATE:	6 RECEIVED BY (SIGNATURE):	DATE:
COMPANY: Horizon Labs	TIME: 16:45	COMPANY:	TIME:	COMPANY:	TIME:

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy

GROUND WATER LEVEL DATA

PROJECT: Hinckley Holiday DELTA PROJECT NO. A094-158

DATE: 4/20/95 RECORDED BY: J. Kuszmaul MEASURING DEVICE: WLI #12007

WELL NO.	TIME	REFERENCE ELEVATION	DEPTH TO G.W.*	ELEVATION	FREE PRODUCT THICKNESS	PHYSICAL OBSERVATIONS/COMMENTS
MW-3	9:25	1029.71	19.69	1010.02		DTB @ 25 lock rusted well box full of water
MW-2	9:45	1034.02	24.17	1009.85		
MW-1	9:50	1031.11	21.00	1010.11		lock rusted

* Measured from top of riser unless otherwise noted.

1012/10-88

WATER SAMPLING INFORMATION SHEET

Project No. A094-158
Project Name: Holiday
Location: Hinckley, MN

Date: 4/20/95

Weather Conditions: cool, overcast
Cloud Cover: 100 % Temp:
Wind Speed:

Sample I.D.: MW-3
Depth to water (ft below MP): 19.69 Date Time
Time: 10:25 Well depth (ft below MP): ~25 Describe Sampling Point: near grade Casing Size:
Bailer/Volume: Tap Other/Rate/Volume/Intake Depth: bailed 4 gallons
Appearance: brown, silty Odor: none
Samples Collected: GRO/BTEX
Comments/Problems/Decon: well bails down needs new lock

Sample I.D.: MW-2
Depth to water (ft below MP): 24.17 Date Time
Time: 10:45 Well depth (ft below MP): Describe Sampling Point: above grade Casing Size:
Bailer/Volume: Tap Other/Rate/Volume/Intake Depth: bailed 5 gallons
Appearance: clear Odor: slight
Samples Collected: GRO/BTEX
Comments/Problems/Decon: good recharge

Sample I.D.: MW-1
Depth to water (ft below MP): ~~24~~ 21.00 Date Time
Time: 10:30 Well depth (ft below MP): Describe Sampling Point: near grade Casing Size:
Bailer/Volume: Tap Other/Rate/Volume/Intake Depth: bailed 4. gallons
Appearance: Odor: moderate diesel (?) odor
Samples Collected: light brown
Comments/Problems/Decon: well bails down needs new lock

Gallons per linear foot: 2-inch I.D. = 0.163; 4-inch I.D. = 0.0661; 6-inch I.D. = 1.50; 12-inch I.D. = 5.88

Sampled by: J. Kuszmaul
Transportation: Ford truck
Form Completed by: J. Kuszmaul

T00-021
Rev. 1/94

(Evacuation/Stabilization Data on Reverse Side)

Delta
Environmental
Consultants, Inc.

3900 Northwoods Drive
Suite 200
St. Paul, MN 55112
612/486-8022
FAX: 612/486-8021

December 2, 1996

Mr. Jim Joslyn
Minnesota Pollution Control Agency
Hazardous and Solid Waste Division
Tanks and Spills Section
520 North Lafayette Road
St. Paul, Minnesota 55155

Subject: Annual Monitoring Report/Request for Site Closure
Holiday Station Store No. 226
Hinckley, Minnesota
MPCA Leak No. 7487
Delta Project No. A094-158

Dear Mr. Joslyn:

Enclosed is an Annual Monitoring Report for ground water sampling conducted at the above-referenced site. Monitoring wells MW-2 and MW-3 did not exceed the Minnesota Department of Health (MDH) Health Risk Limits (HRLs) for benzene, toluene, ethylbenzene, or xylenes (BTEX), during the past two monitoring events. MW-1 did not exceed the HRLs for toluene or xylenes, but did exceed the HRLs for benzene and ethylbenzene on both sampling dates. BTEX concentrations in MW-1 are stable to decreasing.

The threat to potential receptors of the remaining petroleum hydrocarbons in the soil and ground water was evaluated during the remedial investigation conducted at this site (see Delta Environmental Consultants, Inc.'s (Delta) *Remedial Investigation/Corrective Action Design Report* dated April 7, 1995). No active water supply wells were identified within one mile downgradient of the site. Normal atmospheric conditions were detected in the storm and sanitary sewers adjacent to the site. Additionally, according to the Minnesota Pollution Control Agency's (MPCA) April 1996 guidance document, the saturated unit at this site is not a resource aquifer. The hydrocarbon plume is stable and located within 200 feet of the release area. Based on the above information, site closure is requested.

If you have any questions, please call me at (612) 486-5771.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Megan Tewinkel
Project Manager

MT/raw

Enclosure

cc: Mr. Bruce Anthony - Holiday Companies

Tanks and Emergency Response Section
Minnesota Pollution Control Agency
MPCA

Annual Monitoring Report

Fact Sheet 3.26
April 1996

==========

After the Corrective Action Design (CAD) has been approved, this worksheet should be submitted on an annual schedule. If an active remediation system has been installed, the " CAD System Monitoring Worksheet", fact sheet #3.31 should be submitted along with this worksheet. The "Corrective Action Design System Monitoring Worksheet" documents data collection of system emissions and operating parameters, as well as any changes to the system.

Under certain circumstances Minnesota Pollution Control Agency (MPCA) staff may request submittal of the monitoring information on a quarterly schedule. This should be conducted according to fact sheet 3.25, "Quarterly Monitoring Report."

==========

Site name and address: Holiday Station Store No. 226

Hinckley, Minnesota

MPCA Leak Number: *LEAK #: 7487*

Date submitted: 12/02/96

Section I. DISCUSSION

Discuss the results of the monitoring performed since the remedial investigation (RI) report or the last progress report has been submitted. Include any notable trends in the discussion.

Two ground water monitoring events have been conducted since the last progress report was submitted in February 1996. MW-2 and MW-3 did not exceed the Minnesota Department of Health (MDH) Health Risk Limits (HRLs) for benzene, toluene, ethylbenzene, or xylenes (BTEX). MW-1 did not exceed the HRL for toluene or xylene, but did exceed the HRL for benzene and ethylbenzene on both sampling dates. BTEX concentrations in MW-1 have remained stable or decreased during the past three monitoring events.

The ground water flow pattern on April 22, 1996 was similar to historical flow patterns observed at the site.

MW-3 was abandoned in April 1996 with the permission of the MPCA.

If vapor impacts were reported during the RI , discuss the results of the vapor monitoring survey completed during this reporting period. Include in your discussion the sampling instrument and sampling method.

Vapor impacts were not detected during the RI.

NOTE: If vapor concentrations exceed 10 percent of the lower explosive limit, exit the building and contact the local fire department immediately. Then contact the Minnesota Duty Officer (24 hours) at 612/649-5451 (metro and outside Minnesota) or 1-800/422-0798 (Greater Minnesota). TTY users call 612/297-5353 (V/TTY) or 1-800/627-3529 (V/TTY). **Vapor mitigation is required.**

Section II. RECOMMENDATIONS

The recommendations section should present recommendations for additional corrective action, modifications to corrective action, additional monitoring or site closure. If cleanup goals have been achieved at the site, recommendations for termination of corrective actions may be presented.

The risk of petroleum impacts in the soil and ground water reaching potential receptors was evaluated during the RI conducted at the site. The results of the receptor survey indicated that the hydrocarbons detected at the site should not impact local utilities or area aquifers (see Delta's Remedial Investigation/Corrective Action Design Report dated April 7, 1995 for more information).

According to the MPCA's April 1996 guidance documents, the saturated unit at this site is not a resource aquifer. Also, the plume at this site is less than 200 feet and is not migrating.

Since potential receptors are not threatened and BTEX levels in MW-1 are stable or decreasing, site closure is recommended.

Section III: TABLES

Table 1. (Attached)

Water table summary.

Well Number	Date Sampled	Depth of Water from Top of Casing	Product Thickness	Depth of Water Below Grade	Relative Ground water Elevation

Notes: (ground water above/below screen, etc.)

Table 2. (Attached)

Indicate the laboratory analytical results for water samples collected from each well. All analytical results collected from each well should be included on this table.

Well #	Date	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	GRO	DRO
MW-1								
MW-2								
MW-3								
MW-								

Notes: show BTEX/MTBE in ppb and DRO/GRO in ppm (e.g., free product, dry well, etc.)

Table 3.

Indicate other notable contaminants (either petroleum or non-petroleum derived) detected in water samples.

Well #	Date Analyzed						

Notes: units

Section IV. FIGURES

Figures - (all maps must include a north arrow, scale and legend) *Approximate scales are not acceptable*.

1. Site location map. Adapt this map from a U.S. Geological Survey 7.5 minute quadrangle and identify the name of the 7.5 minute quadrangle.
2. Site map showing the locations of all ground water and vapor monitoring points.
3. Updated ground water contour map, using water level elevations from the most recent round of water level measurements. Show all wells at the site, and differentiate wells constructed in different aquifers. Label ground water contours and elevations at each data point used for contouring.
4. Copies of most recent laboratory reports for ground water analyses, including a copy of the Chain of Custody.
5. Hydrograph for all monitoring and recovery wells.
6. Graph(s) showing contaminant concentrations over time for all monitoring and recovery wells.
7. Table of dissolved oxygen sample results (if collected)

Section V. APPENDICES

The appendices section of the report contains sufficient information to document all activities completed since the last report. All reproduced data must be legible. In general this should include all applicable information required for the Appendices section of a RI report.

TABLE 1 GROUND WATER ELEVATIONS

Holiday Station No. 226
Hinckley, Minnesota
DELTA NO. A094-158

Holiday Station Wells and Top of Casing Elevations						
	MW-1	1031.11	MW-2	1034.02	MW-3	1029.71
Date	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation
06-Dec-94	21.26	1009.85	24.91	1009.11	15.56	1014.15
20-Dec-94	21.20	1009.91	24.96	1009.06	15.90	1013.81
20-Jan-95	21.93	1009.18	25.41	1008.61	19.32	1010.39
20-Apr-95	21.00	1010.11	24.17	1009.85	19.69	1010.02
27-Oct-95	15.53	1015.58	18.63	1015.39	13.89	1015.82
22-Jan-96	19.02	1012.09	23.19	1010.83	15.68	1014.03
22-Apr-96	19.16	1011.95	18.99	1015.03	15.25	1014.46
23-Jul-96	16.01	1015.10	19.10	1014.92	Abandoned	

Tobies Service Station Wells and Top of Casing Elevations (reported by HTCT)												
MW-1	104.66	MW-2	106.78	MW-3	105.13	MW-4	97.65	MW-5	96.63	MW-6	101.13	MW-7A	102.48

Tobies Service Station Wells and Top of Casing Elevations (adjusted to Holiday elevations datum)														
	MW-1	1029.49	MW-2	1031.61	MW-3	1029.96	MW-4	1022.48	MW-5	1021.46	MW-6	1025.96	MW-7A	1027.31
Date	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation	Water Level	GW Elevation
20-Dec-94	15.40	1014.09	16.78	1014.83	16.71	1013.25	12.45	1010.03	7.83	1013.63	12.67	1013.29	17.64	1009.67
20-Jan-95			16.89	1014.72	16.57	1013.39					13.36	1012.60		
27-Oct-95	13.52	1015.97	15.12	1016.49	14.22	1015.74	10.63	1011.85	3.81	1017.65	9.92	1016.04	11.55	1015.76
22-Jan-96	14.88	1014.61	16.35	1015.26	15.49	1014.47					16.67	1009.29		
22-Apr-96	14.89	1014.60	15.28	1016.33	15.51	1014.45			5.15	1016.31			13.42	1013.89
23-Jul-96	13.74	1015.75	15.38	1016.23	14.54	1015.42			5.42	1016.04			11.85	1015.46

NOTE:

Elevations are reported in feet - NGVD (National Geodetic Vertical Datum)
TOC elevations for Holiday station wells are provided by Kemper & Associates, Inc.
TOC elevations for Tobies Service Station wells are normalized to Holiday wells.

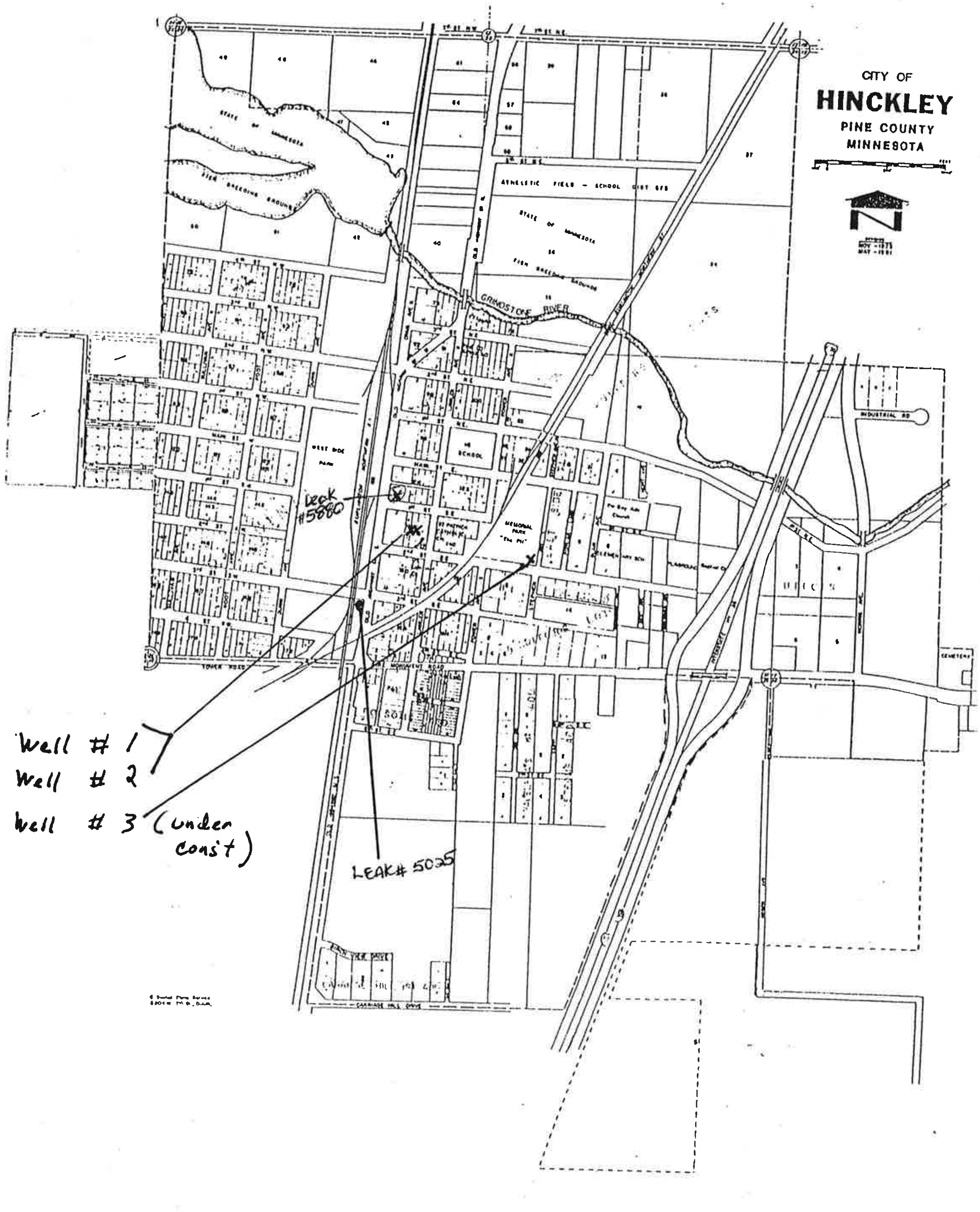
Stadia rod readings of Holiday well MW-2 and Tobies well MW-3 (surveyed on 12/20/94)
Holiday MW-2 = 2.96
Tobies MW-3 = 7.02
Tobies well MW-3 is 4.06 feet lower than Holiday well MW-2

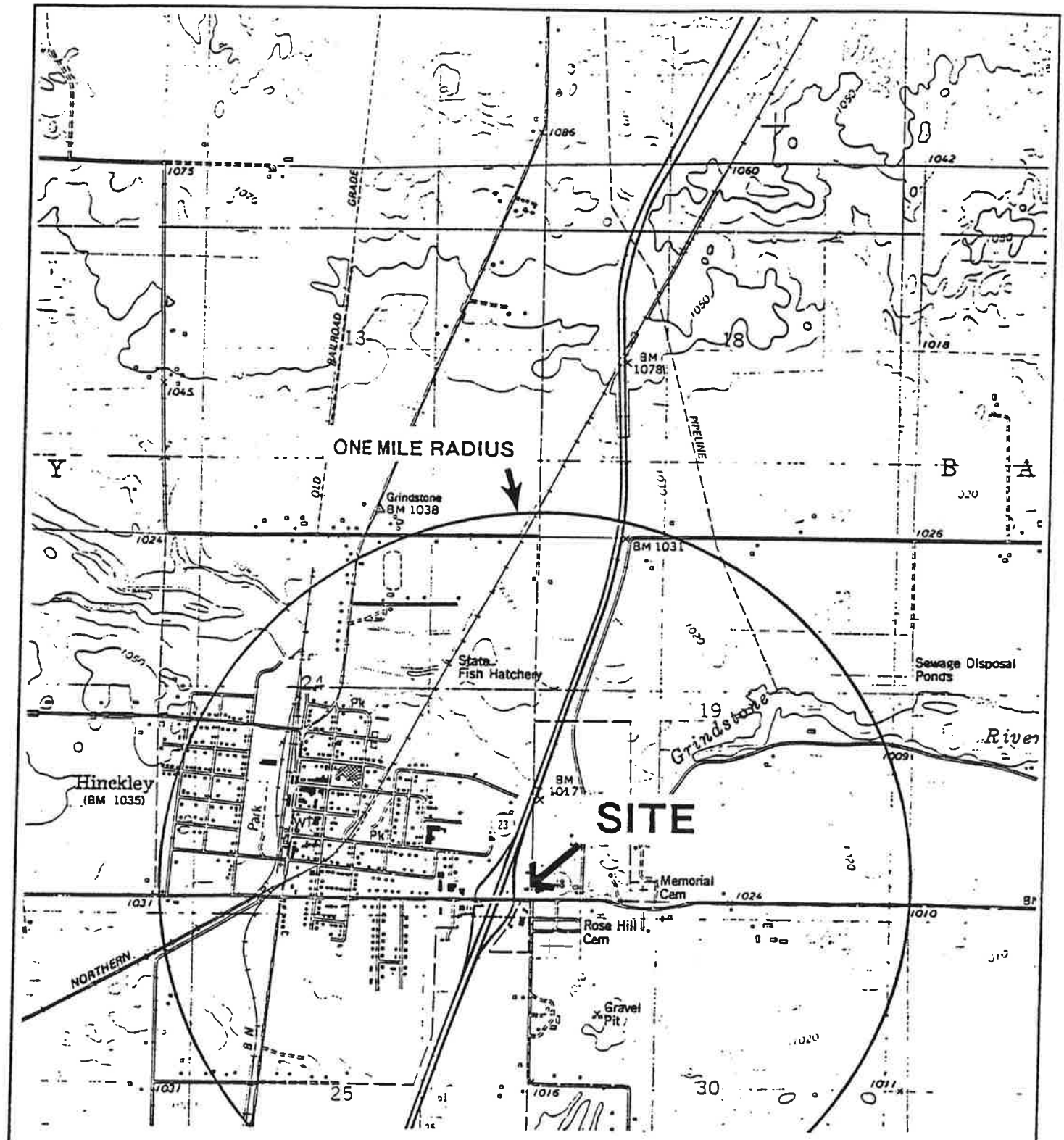
TABLE 2 GROUND WATER CHEMISTRY (ug/l)

Holiday Station No. 226
Hinckley, Minnesota
Delta No. A094-158-1

Sample I.D.	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO
MW-1	06-Dec-94	1400	230	1700	3300	13000	6000
	20-Jan-95	1100	360	1600	2900	12000	4300
	20-Apr-95	1200	310	1500	2800	10000	NA
	27-Oct-95	1000	280	1500	4600	18000	8600
	22-Jan-96	1800	310	2000	5800	23000	8900
	29-Apr-96	1300	160	1600	3400	17000	9000
	23-Jul-96	1000	280	1400	4700	18000	4700
MW-2	06-Dec-94	2.7	<0.6	<0.2	<0.5	35	<29
	20-Jan-95	<0.2	<0.5	<0.2	<0.8	<20	<31
	20-Apr-95	0.42	<0.5	<0.2	<0.8	<20	NA
	27-Oct-95	22	<0.65	<0.75	<1.8	240	NA
	22-Jan-96	19	<1.3	<0.55	<2.7	160	NA
	29-Apr-96	<0.60	<1.3	<0.55	<2.7	<22	NA
	23-Jul-96	<0.60	<1.3	<0.55	<2.7	<22	NA
MW-3	06-Dec-94	1.6	<0.6	<0.2	0.39	42	<29
	20-Jan-95	1.3	<0.5	<0.2	0.82	300	40
	20-Apr-95	3.4	<0.5	<0.2	<0.8	140	NA
	27-Oct-95	0.72	<0.65	<0.75	<1.8	49	NA
	29-Apr-96	<0.60	<1.3	<0.55	<2.7	64	NA
	22-Jan-96	0.85	<1.3	<0.55	<2.7	84	NA
		Abandoned 4-96					

DRO = Diesel-range organics
GRO = Gasoline-range organics
ug/l = micrograms per liter, which is equivalent to parts per billion (ppb)


CITY OF
HINCKLEY
PINE COUNTY
MINNESOTA
Well # 1
Well # 2
Well # 3 (under const)
Leak #5880
LEAK# 5025
GRINDSTONE RIVER
STATE OF MINNESOTA
FISH BREEDING GROUNDS
ATHLETIC FIELD - SCHOOL DIST 675
WEST SIDE PARK
SCHOOL
MEMORIAL PARK "The Pit"
TOWER ROAD
MONUMENT ROAD
INDUSTRIAL RD
INTERSTATE 35
CEMETERY
CARRIAGE HILLS DRIVE



QUADRANGLE LOCATION

HINCKLEY QUADRANGLE
MINNESOTA–PINE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

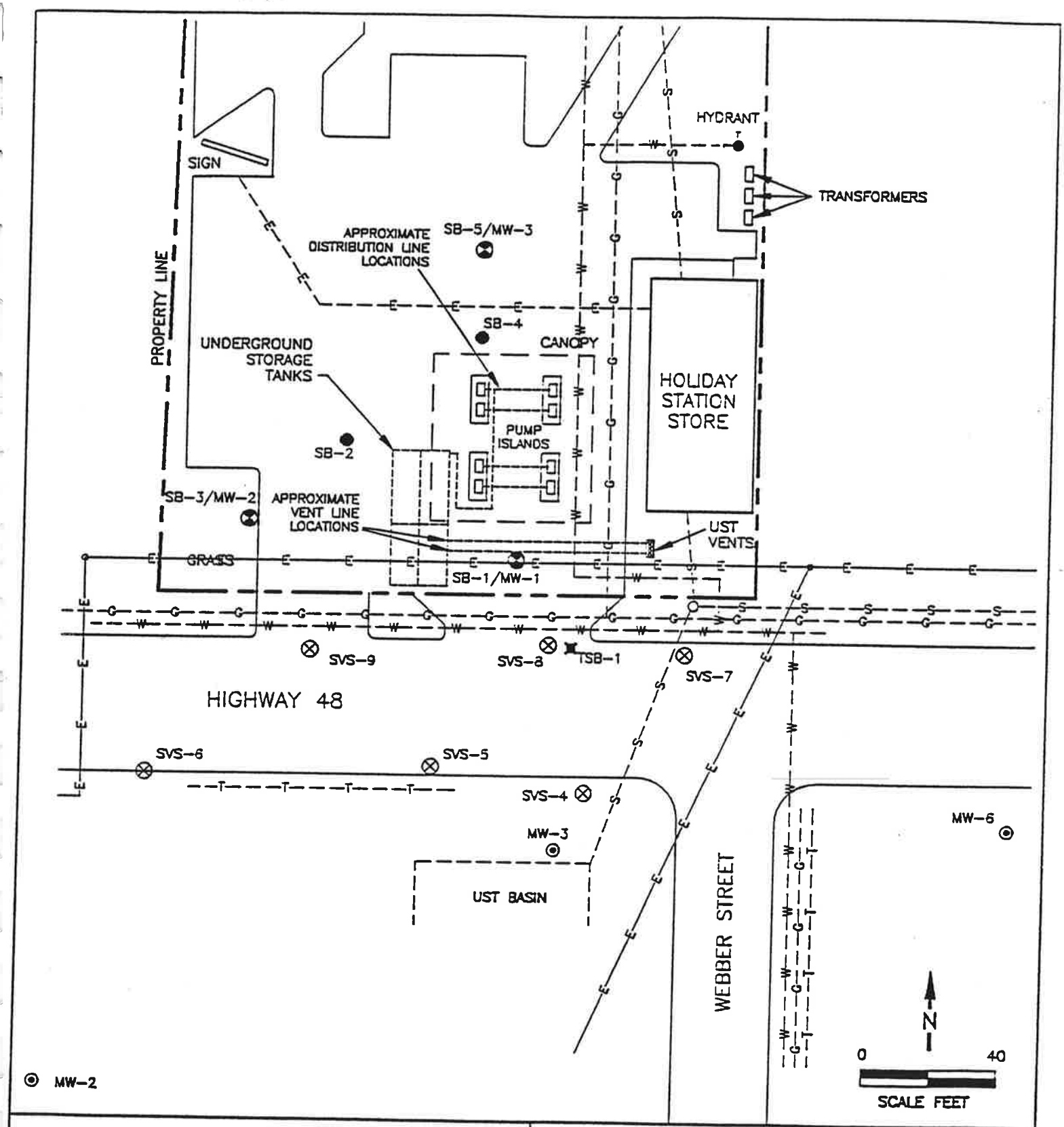
0 NORTH 2000

SCALE IN FEET

FIGURE 1
SITE LOCATION MAP
HOLIDAY STATION NO. 226
HINCKLEY, MINNESOTA

PROJECT NO.	PREPARED BY
A094–158	CI
DATE	REVIEWED BY
3/7/95	

Delta Environmental Consultants, Inc.



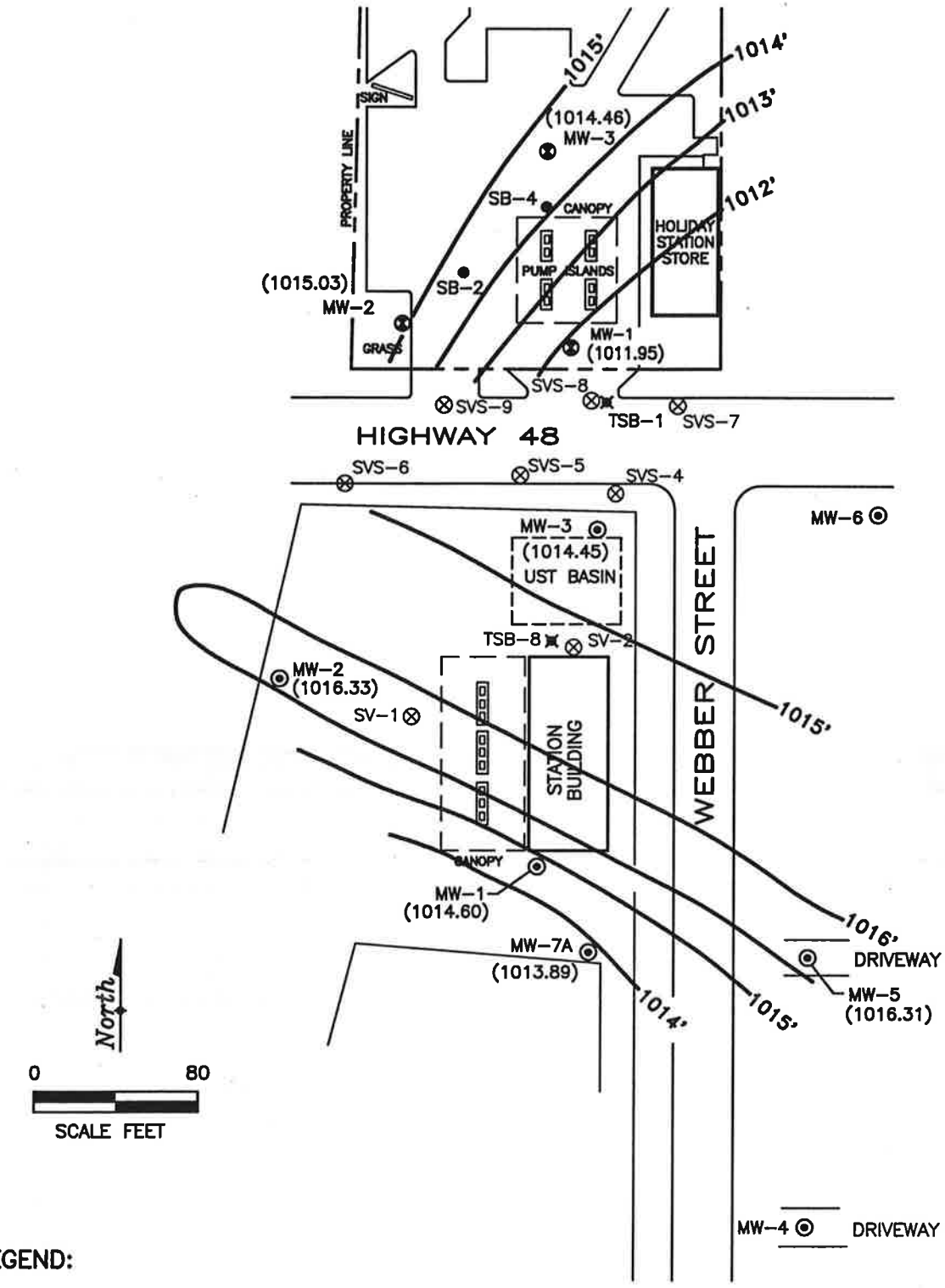
LEGEND:

- MONITORING WELL (HOLIDAY)
- SOIL BORING (HOLIDAY)
- MONITORING WELL (TOBIES)
- SOIL VAPOR SURVEY POINT (TOBIES)
- SOIL BORING (TOBIES)
- OVERHEAD POWER LINE
- SEWER LINE
- NATURAL GAS LINE
- TELEPHONE LINE
- WATER LINE

FIGURE 2
DETAILED SITE MAP
HOLIDAY STATION NO. 226
HINCKLEY, MINNESOTA

PROJECT NO.	PREPARED BY	DRAWN BY
A094-158	CI	DD
DATE	REVIEWED BY	FILE NAME
3/15/95		94158-2

Delta Environmental Consultants, Inc.



LEGEND:

- ⊗ MONITORING WELL (HOLIDAY)
- ● SOIL BORING (HOLIDAY)
- ⊙ MONITORING WELL (TOBIES)
- ⊗ SOIL VAPOR SURVEY POINT (TOBIES)
- ✖ SOIL BORING (TOBIES)
- (1014.72) GROUND WATER ELEVATION (IN FEET)
- —1012' GROUND WATER CONTOUR LINE

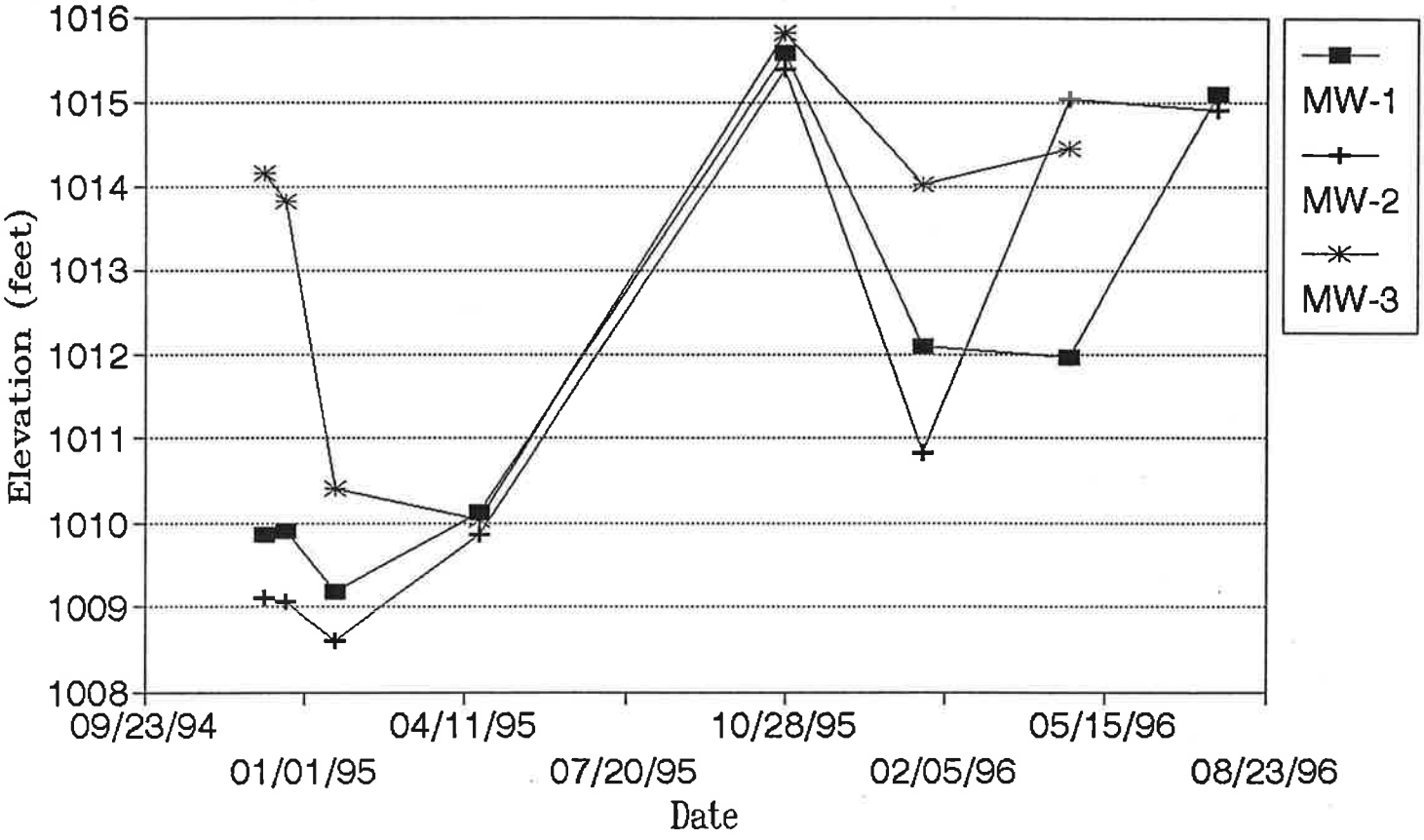
FIGURE 3
GROUND WATER CONTOUR MAP
APRIL 22, 1996
HOLIDAY STATION NO. 226
HINCKLEY, MINNESOTA

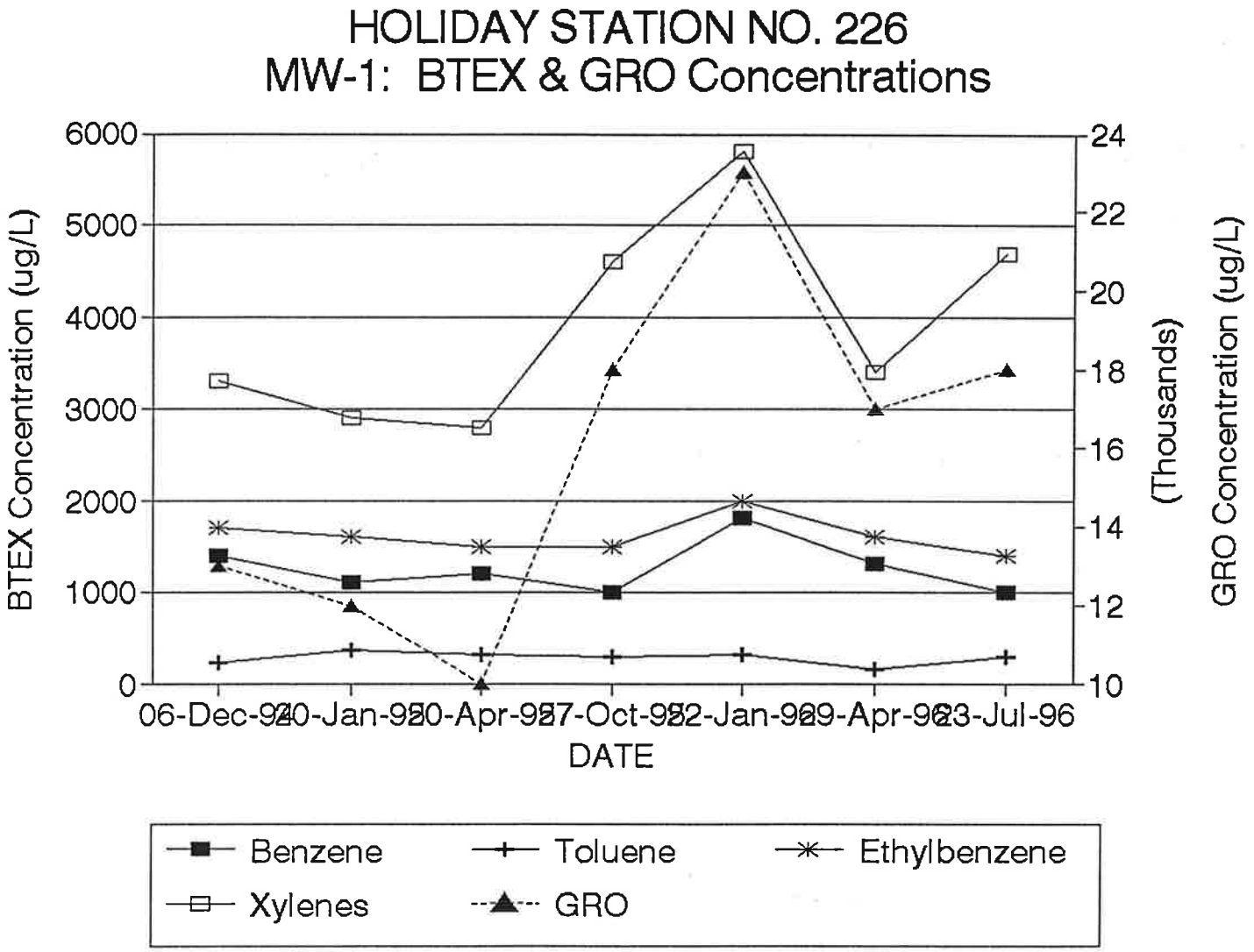
PROJECT NO.	PREPARED BY	DRAWN BY
A094-158	MT	DD
DATE	REVIEWED BY	FILE NAME
10/18/96		94158SM

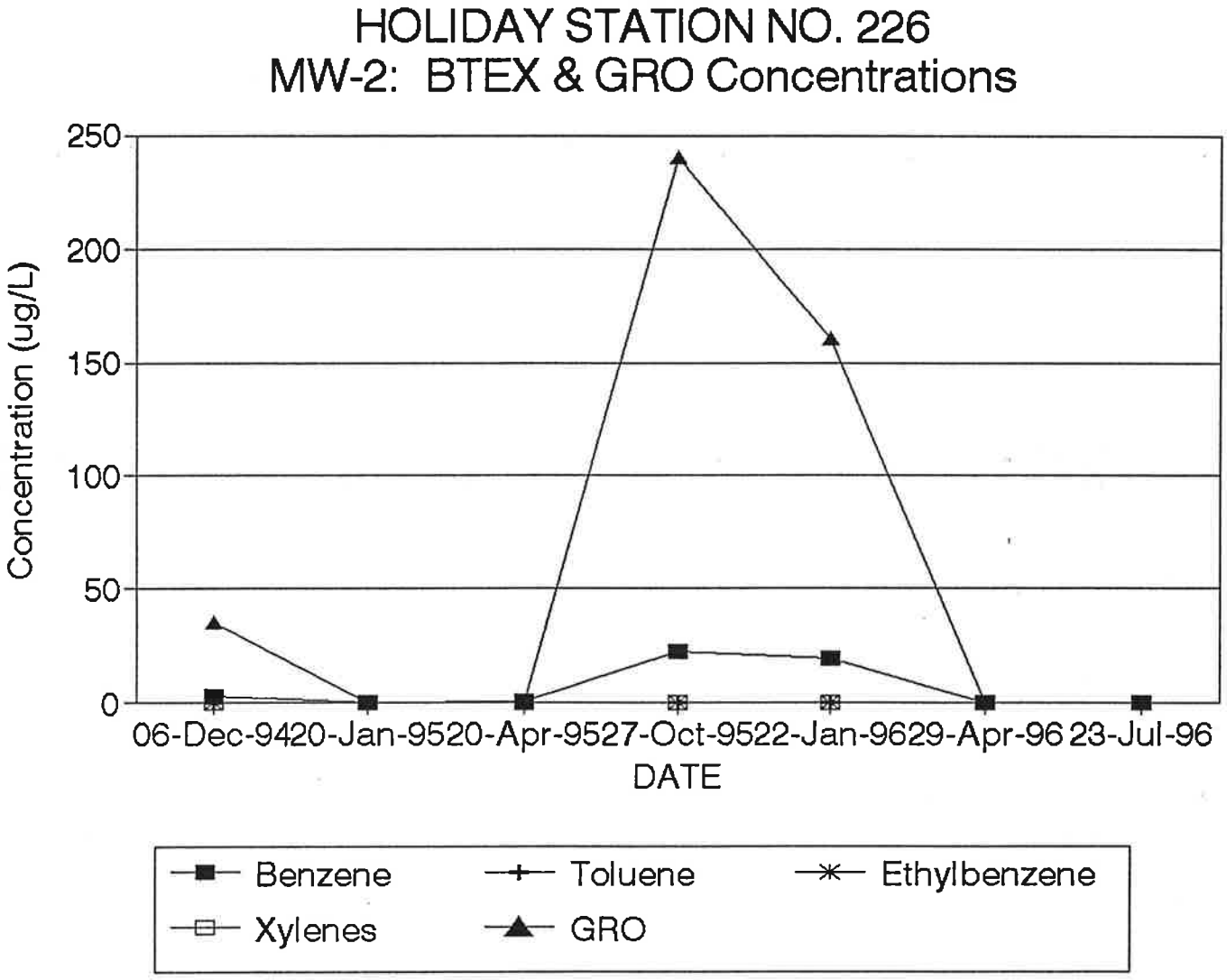
Delta Environmental Consultants, Inc.

Holiday No. 226 Hinckley, MN

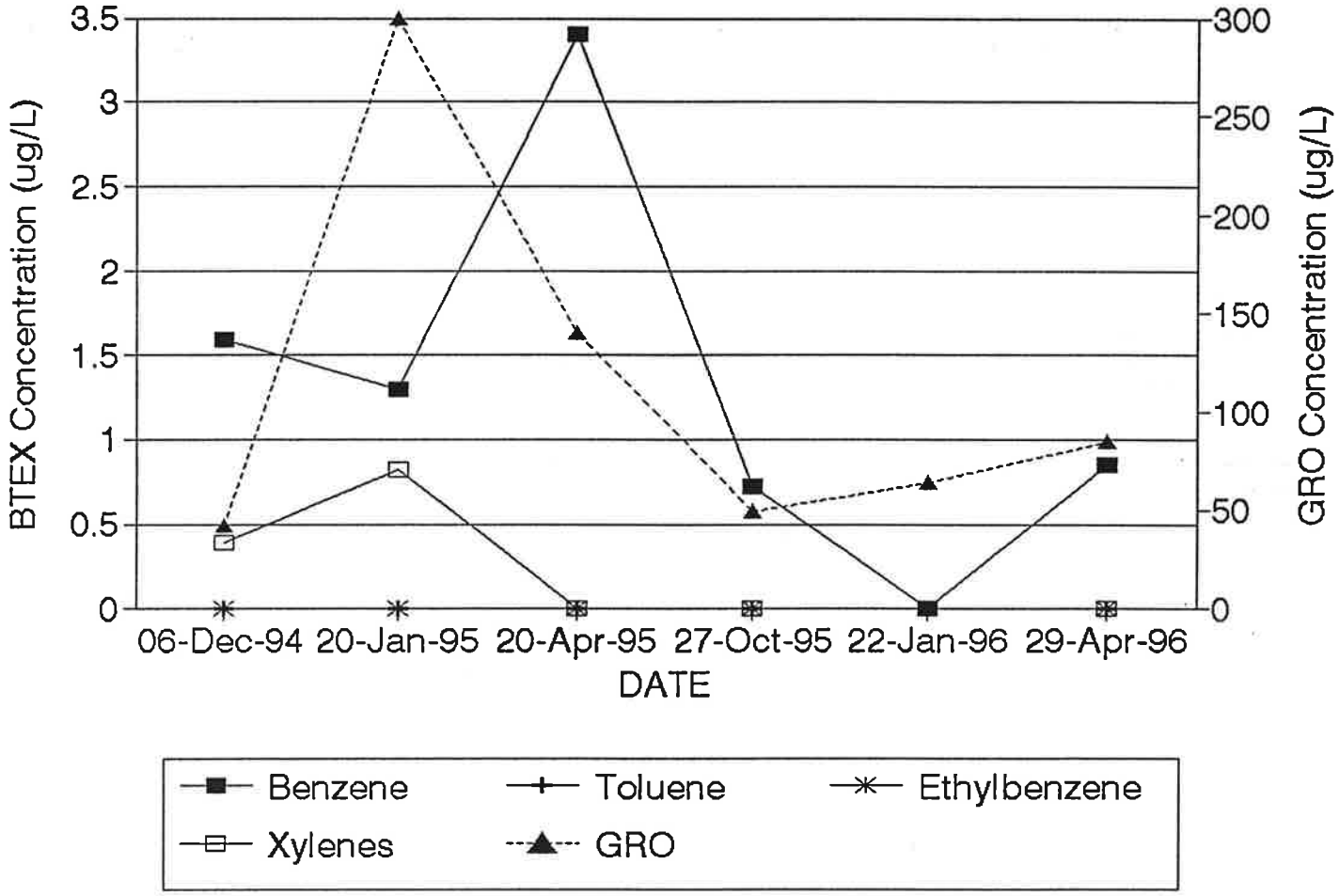
Monitoring Well Hydrographs




HOLIDAY STATION NO. 226
MW-1: BTEX & GRO Concentrations
BTEX Concentration (ug/L)
GRO Concentration (ug/L)
(Thousands)
6000
5000
4000
3000
2000
1000
0
24
22
20
18
16
14
12
10
06-Dec-92
20-Jan-93
20-Apr-93
27-Oct-93
02-Jan-96
09-Apr-96
23-Jul-96
DATE
Benzene
Toluene
Ethylbenzene
Xylenes
GRO


HOLIDAY STATION NO. 226
MW-2: BTEX & GRO Concentrations
Concentration (ug/L)
250
200
150
100
50
0
06-Dec-94
20-Jan-95
20-Apr-95
27-Oct-95
22-Jan-96
29-Apr-96
23-Jul-96
DATE
Benzene
Toluene
Ethylbenzene
Xylenes
GRO

HOLIDAY STATION NO. 226
MW-3: BTEX & GRO Concentrations



Horizon
Laboratories, Inc.

4463 White Bear Parkway, Suite #105 *St. Paul, MN. 55110* *Tel. (612) 653-3471* *Fax (612) 653-3475*

LABORATORY RESULTS

Client: Delta Environmental Consultants, Inc
3900 Northwoods Drive, Suite 200
St. Paul, MN 55112
Attn: Chai Insook

Project: Holiday No. 226

Date Sampled: 04/22/96
Date Analyzed: 04/24/96 - 04/25/96
Physical State: Aqueous

Report Date: 04/29/96
Lab P.N.: 1000-324.5
Client P.N.: A094-158-1

Sample I.D.	Benzene µg/l EPA 8020	Toluene µg/l EPA 8020	Ethyl-benzene µg/l EPA 8020	Total, Xylenes µg/l EPA 8020	GRO µg/l Wis. DNR	DRO µg/l Wis. DNR
MW-3	< 0.60	< 1.3	< 0.55	< 2.7	64	---
MW-2	< 0.60	< 1.3	< 0.55	< 2.7	< 22	---
MW-1	1,300	160	1,600	3,400	17,000	9,000†
PQL, µg/l	0.60	1.3	0.55	2.7	22	65
MDL, µg/l	0.12	0.25	0.11	0.53	4.3	13

†; Compounds present outside of DRO range

PQL; Practical Quantitation Limit for undiluted samples.

MDL; Method Detection Limit for undiluted samples.

GRO; Gasoline Range Organics

DRO; Diesel Range Organics

All results are in µg/l which is equal to parts-per-billion (ppb).

The Laboratory Results are only a part of the Laboratory Report.

Horizon
Laboratories, Inc.

4463 White Bear Parkway, Suite #105 St. Paul, MN. 55110 Tel. (612) 653-3471 Fax (612) 653-3475

LABORATORY REPORT

Client:	Delta Environmental Consultants, Inc	Date Sampled:	04/22/96
	3900 Northwoods Drive, Suite 200	Date Received:	04/23/96
	St. Paul, MN 55112	Date Analyzed:	04/24/96 - 04/25/96
	Attn: Chai Insook	Physical State:	Aqueous
Project:	Holiday No. 226	Report Date:	04/29/96
		Lab P.N.:	1000-324.5
		Client P.N.:	A094-158-1

Quality Assurance / Quality Control Summary

Parameter (Method)	QC Type	Percent Recovery	Acceptable Range	Relative Percent Difference	Acceptable Range
Benzene (EPA 8020)	M	95	116 - 87	5.7	0 - 20
Toluene (EPA 8020)	M	95	115 - 87	6.0	0 - 20
Ethylbenzene (EPA 8020)	M	95	120 - 84	5.8	0 - 20
m,p-Xylenes (EPA 8020)	M	93	120 - 90	6.4	0 - 20
o-Xylenes (EPA 8020)	M	94	115 - 92	5.6	0 - 20
GRO (Wis. DNR)	M	101	120 - 80	5.9	0 - 20
DRO (Wis. DNR)	M	80	115 - 75	1.5	0 - 20

M = Matrix Spike / Matrix Spike Duplicate

L = Laboratory Control Sample

Reviewed

Approved

Compounds were identified by column retention time and quantified by peak area of known standards using a Hewlett Packard ChemStation Data System. The samples were received by HORIZON LABORATORIES, INC. and accompanied by the Chain-of-Custody record. The Laboratory Report is the sole property of the client to whom it is addressed. The Laboratory Results are only a part of the Laboratory Report.

pace INCORPORATED
THE ASSURANCE OF QUALITY

77991

RECEIVED MAY 2 1996

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: Delta
Address:
Phone:

Report To: Chai Insook
Bill To:
P.O. # / Billing Reference
Project Name / No.: Holiday No. 226 94-158-1

Pace Client No.
Pace Project Manager
~~Pace~~ HORIZON Project No. 1000-324.5
*Requested Due Date:

Sampled By (PRINT): Terence J. Borgerding
Sampler Signature: [signature]
Date Sampled: 4/22/96

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	UNPRESERVED	H_2SO_4	HNO_3	VOA (HCl)	GL (HCl)	BTEX/GRO	DRO	REMARKS
1	MW-3	1040	H2O		3				3		✓		22144
2	MW-2	1120	↓		3				3		✓		22147
3	MW-1	1155	↓		4				3	1	✓	✓	22148
4													
5													
6													
7													
8													

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT / DATE	RETURNED / DATE

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
1-3	[signature] / PACE	[signature] HORIZON	4/23/96	11:20

Additional Comments
received on ice

ORIGINAL

SEE REVERSE SIDE FOR INSTRUCTIONS

Horizon
Laboratories, Inc.

4463 White Bear Parkway, Suite #105 St. Paul, MN. 55110 Tel. (612) 653-3471 Fax (612) 653-3475

LABORATORY RESULTS

Client: Delta Environmental Consultants, Inc
3900 Northwoods Drive, Suite 200
St. Paul, MN 55112
Attn: Chai Insook

Project: Holiday #226
Hinkley, MN

Date Sampled: 01/22/96
Date Analyzed: 01/29/96
Physical State: Aqueous

Report Date: 01/30/96
Lab P.N.: 1000-324.4
Client P.N.: A094-158.1

Sample I.D.	Benzene µg/l EPA 8020	Toluene µg/l EPA 8020	Ethyl-benzene µg/l EPA 8020	Total, Xylenes µg/l EPA 8020	GRO µg/l Wis. DNR	DRO µg/l Wis. DNR
MW-1	1,800	310	2,000	5,800	23,000	8,900†
MW-2	19	< 1.3	< 0.55	< 2.7	160	---
MW-3	0.85	< 1.3	< 0.55	< 2.7	84	---
PQL, µg/l	0.6	1.3	0.6	2.7	22	65
MDL, µg/l	0.1	0.3	0.1	0.5	4.3	13

†; Peaks present outside of DRO range

PQL; Practical Quantitation Limit for undiluted samples.

MDL; Method Detection Limit for undiluted samples.

GRO; Gasoline Range Organics

DRO; Diesel Range Organics

All results are in µg/l which is equal to parts-per-billion (ppb).

The Laboratory Results are only a part of the Laboratory Report.

Horizon
Laboratories, Inc.

4463 White Bear Parkway, Suite #105 St. Paul, MN. 55110 Tel. (612) 653-3471 Fax (612) 653-3475

LABORATORY REPORT

Client:	Delta Environmental Consultants, Inc	Date Sampled:	01/22/96
	3900 Northwoods Drive, Suite 200	Date Received:	01/24/96
	St. Paul, MN 55112	Date Analyzed:	01/29/96
	Attn: Chai Insook	Physical State:	Aqueous
Project:	Holiday #226	Report Date:	01/30/96
	Hinkley, MN	Lab P.N.:	1000-324.4
		Client P.N.:	A094-158.1

Quality Assurance / Quality Control Summary

Parameter (Method)	QC Type	Percent Recovery	Acceptable Range	Relative Percent Difference	Acceptable Range
Benzene (EPA 8020)	M	106	87 - 116	1.2	0 - 20
Toluene (EPA 8020)	M	108	87 - 115	0.63	0 - 20
Ethylbenzene (EPA 8020)	M	106	84 - 120	0.70	0 - 20
m,p-Xylenes (EPA 8020)	M	108	90 - 120	0.28	0 - 20
o-Xylenes (EPA 8020)	M	107	92 - 115	0.68	0 - 20
GRO (Wis. DNR)	M	118	80 - 120	0.23	0 - 20
DRO (Wis. DNR)	M	90	75 - 115	2.2	0 - 20

M = Matrix Spike / Matrix Spike Duplicate

L = Laboratory Control Sample

Reviewed

Approved

Compounds were identified by column retention time and quantified by peak area of known standards using a Hewlett Packard ChemStation Data System. The samples were received by HORIZON LABORATORIES, INC. and accompanied by the Chain-of-Custody record. The Laboratory Report is the sole property of the client the whom it is addressed. The Laboratory Results are only a part of the Laboratory Report.

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

RECEIVED
FEB 2 1996

324060

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client Delta
Address
Phone 612-486-5845

Report To: Chai Insook
Bill To:
P.O. # / Billing Reference
Project Name / No. Holiday No. 226, Hinckley Delta No. A0-94-158-1

Pace Client No.
Pace Project Manager
Horizon
~~Pace~~ Project No. 1000-324.4
*Requested Due Date:

Sampled By (PRINT): David Anderson
Sampler Signature: David Anderson
Date Sampled: 1-22-96

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA - HCl	Qt. Amber HCl	ANALYSES REQUEST: BTEX/GRO	DRO	REMARKS
1	MW-3	1140	H20		6				6		✓		20881
2	MW-2	1230			6				6		✓		20882
3	MW-1	1325	↓		7				6	1	✓	✓	20883
4													
5													
6													
7													
8													

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT/DATE	SHIPMENT METHOD RETURNED/DATE

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
1-3	David Anderson/Pace	"on ice"	1-24-96	11:30

Additional Comments

Samples go to Horizon for analysis

ORIGINAL

SEE REVERSE SIDE FOR INSTRUCTIONS

Horizon
Laboratories, Inc.

4463 White Bear Parkway, Suite #105 St. Paul, MN. 55110 Tel. (612) 653-3471 Fax (612) 653-3475

LABORATORY RESULTS

Client: Delta Environmental Consultants, Inc
3900 Northwoods Drive, Suite 200
St. Paul, MN 55112
Attn: Chai Insook

Project: Holiday Station #226
Hinckley, MN

Date Sampled: 10/27/95
Date Analyzed: 11/03/95
Physical State: Aqueous

Report Date: 11/07/95
Lab P.N.: 1000-324.3
Client P.N.: A094-158

Sample I.D.	Benzene µg/l EPA 8020	Toluene µg/l EPA 8020	Ethyl-benzene µg/l EPA 8020	Total, Xylenes µg/l EPA 8020	GRO µg/l Wis. DNR	DRO µg/l Wis. DNR
MW-1	1,000	280	1,500	4,600	18,000	8,600†
MW-2	22	< 0.65	< 0.75	< 1.8	240	—
MW-3	0.72	< 0.65	< 0.75	< 1.8	49	—
PQL, µg/l	0.70	0.65	0.75	1.8	7.0	65
MDL, µg/l	0.14	0.13	0.15	0.36	1.4	13

PQL; Practical Quantitation Limit for undiluted samples.
MDL; Method Detection Limit for undiluted samples.
GRO; Gasoline Range Organics
DRO; Diesel Range Organics
†; Chromatogram contains peaks outside the DRO window
All results are in µg/l which is equal to parts-per-billion (ppb).
The Laboratory Results are only a part of the Laboratory Report.

Horizon
Laboratories, Inc.

4463 White Bear Parkway, Suite #105 St. Paul, MN. 55110 Tel. (612) 653-3471 Fax (612) 653-3475

LABORATORY REPORT

Client:	Delta Environmental Consultants, Inc	Date Sampled:	10/27/95
	3900 Northwoods Drive, Suite 200	Date Received:	10/27/95
	St. Paul, MN 55112	Date Analyzed:	11/03/95
	Attn: Chai Insook	Physical State:	Aqueous
Project:	Holiday Station #226	Report Date:	11/07/95
	Hinckley, MN	Lab P.N.:	1000-324.3
		Client P.N.:	A094-158

Quality Assurance / Quality Control Summary

Parameter (Method)	QC Type	Percent Recovery	Acceptable Range	Percent Reproducibility	Acceptable Range
Benzene (EPA 8020)	M	98	87 - 116	104	91 - 111
Toluene (EPA 8020)	M	98	87 - 115	104	90 - 112
Ethylbenzene (EPA 8020)	M	99	84 - 120	105	89 - 112
m,p-Xylenes (EPA 8020)	M	102	90 - 120	103	91 - 110
o-Xylenes (EPA 8020)	M	99	92 - 115	103	93 - 108
GRO (Wis. DNR)	M	100	85 - 117	104	84 - 115
DRO (Wis. DNR)	M	73	60 - 130	85	60 - 130

M = Matrix Spike / Matrix Spike Duplicate

L = Laboratory Control Sample

Reviewed

Approved

Compounds were identified by column retention time and quantified by peak area of known standards using a Hewlett Packard ChemStation Data System. The samples were received by HORIZON LABORATORIES, INC. and accompanied by the Chain-of-Custody record. The Laboratory Report is the sole property of the client the whom it is addressed. The Laboratory Results are only a part of the Laboratory Report.

CHAIN-OF-CUSTODY RECORD

Delta Environmental Consultants, Inc.
3900 Northwoods Dr., Suite 200
St. Paul, MN 55112

DELTA PROJECT NO. AO 94158 | INVOICE CODE | PAGE 1 OF 1

PROJECT MANAGER: Chai Insook

PROJECT NAME: Holiday Station #226

PROJECT LOCATION: Hinckley, MN

SAMPLER'S SIGNATURE: E S Bustillos

TURN AROUND REQUESTED:
- ☑ NORMAL
- ☐ RUSH
- ☐ OTHER

LAB NAME: Horizon

LAB USE ONLY

LABORATORY PROJECT NO.: 1000-3741.3

SAMPLE ID	SAMPLE LOCATION/DESCRIPTION	DATE/TIME SAMPLED	SAMPLE MATRIX: SOIL(S); AIR(A); BULK(B); AQUEOUS(Q); SLUDGE(L); OTHER(O)	ANALYSIS REQUESTED: BTEX GRO	ANALYSIS REQUESTED: DRO	NUMBER OF CONTAINERS	ACCEPT (A) REJECT (R)	SAMPLE CONDITION AS RECEIVED: CHILLED YES/NO, SEALED YES/NO; SAMPLE CONDITION/ COMMENTS	LABORATORY SAMPLE NUMBER
	MW 1	10/27/95 10:15	Q	X	X	4			19622
	MW 2	10/27/95 10:38	Q	X		3			19623
	MW 3	10/27/95 10:56	Q	X		3			19624

RECEIVED OCT 27 1995

Send Report to: Angela Gowan

GENERAL COMMENTS: TRIP BLANK Supplied by Horizon - Client Requests not to Analyze. 10 ◀ TOTAL NUMBER OF CONTAINERS

1 RELINQUISHED BY (SIGNATURE)	DATE	3 RELINQUISHED BY (SIGNATURE)	DATE	5 RELINQUISHED BY (SIGNATURE)	DATE
E S Bustillos	10/27/95				
COMPANY: Delta Envir Consltants.	TIME: 4:45	COMPANY	TIME	COMPANY	TIME
2 RECEIVED BY (SIGNATURE): Brian Hawke	DATE: 10/27/95	4 RECEIVED BY (SIGNATURE)	DATE	6 RECEIVED BY (SIGNATURE)	DATE
COMPANY: Horizon	TIME: 4:45	COMPANY	TIME	COMPANY	TIME

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy