Progress Report

7 February 1994

Groundwater Monitoring Well Sampling

Introduction:

Site: MNDOT Jordan Truck Station
MPCA Leak #: 1388
Sampling Dates: 8-20-90, 5-30-91, 9-5-91, 12-10-91, 3-16-92, 6-18-92, 9-21-92, 12-21-92, 3-15-93, 6-10-93, 9-8-93.

This progress report summarizes follow-up groundwater sampling results for the site mentioned above. This information will be used to determine future site actions. The work was authorized and completed by MNDOT personnel.

Background:

A 1,200 gallon regular/unleaded gasoline and a 3,000 gallon diesel fuel underground storage tank (UST) were removed from the MNDOT Jordan Truck Station on October 20, 1989.

A remedial investigation was performed by Braun Intertec, including installation of monitoring wells on August 15 and 16, 1990. Braun describes native soils as being lean clay and organic silt to a depth of 7 to 10 feet below grade. Beneath these soils is a coarse alluvium of poorly graded sand to poorly graded sand with silt to a depth of at least 15 feet. The water table is approximately 7 to 8 feet below the ground surface. A fourth monitoring well was installed December 1992 in response to changes in groundwater flow direction.

Discussion:

According to the results of both the tank removal and remedial investigations, low level petroleum contamination is present in soils near the south and west side of the former UST basin. Braun determined the soil contamination to be limited and relatively low in concentration.

Significant petroleum constituents have been detected in only one of the four wells on site. This well is located downgradient of soil boring ST-5 which revealed the highest level of petroleum contaminated soil encountered on site. Therefore, MW-2 water samples should represent the greatest magnitude of petroleum impacted groundwater on site. However, groundwater elevations taken on 12-10-91 and 9-21-92 reveal a more northerly groundwater flow direction. In these instances, the location of MW-2 may actually be regarded as side gradient rather than downgradient. Therefore, MNDOT installed a fourth monitoring well north of the tank basin, representing an additional downgradient well.

No petroleum or volatile organic compounds have been detected at concentrations greater than the recommended allowable limits (RAL's) during any sampling event. Maximum total hydrocarbon concentrations detected are 2.1 ppm as gasoline and 12 ppm as fuel oil.

Conclusions:

Levels of petroleum contamination remaining in soils appear to be limited and low level. No free product has been detected in any of the wells. All petroleum constituents detected in monitoring well #2 have been below RAL's during the eleven quarterly sampling rounds. No significant petroleum or volatile organic compounds have been detected in the other three monitoring wells on site, including the additional downgradient well (MW-4). Braun did not identify any potential groundwater or vapor receptors within a one mile radius of the site.

Recommendations:

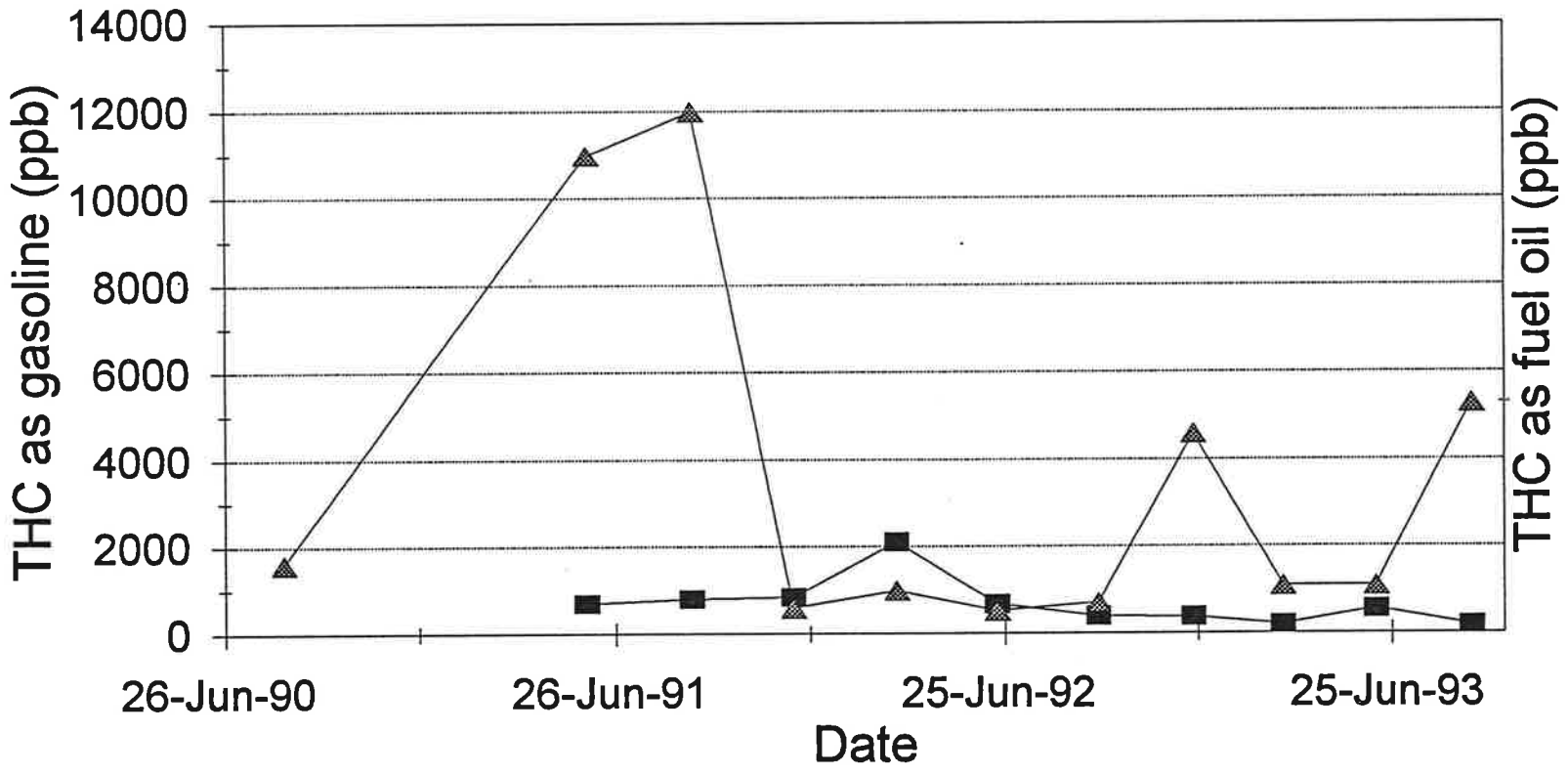
Braun determined it unlikely that any impact to drinking water sources of potential groundwater receptors is likely from this petroleum release since no users of the unconsolidated aquifer were identified directly downgradient of the site. Also, the release should not pose a threat to nearby surface waters since petroleum compounds did not exceed RAL's. Based on the low levels of petroleum contamination detected in one downgradient well on-site and the absence of any possible receptors near the property, MNDOT requests closure of this site.

MW-3		20-Aug-90	30-May-91	05-Sep-91	10-Dec-91	16-Mar-92	18-Jun-92	21-Sep-92	21-Dec-92	15-Mar-93	10-Jun-93	08-Sep-93
parameter (ppb)	*RAL*											
benzene	*10*	ND	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	*700*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	*1000*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	*10000*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
THC as Gasoline	*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
THC as Fuel Oil	*	ND	ND	ND	ND	ND	ND	ND	290	ND	ND	ND
MTBE	*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

MW-4		21-Dec-92	15-Mar-93	10-Jun-93	08-Sep-93
parameter (ppb)	*RAL*				
benzene	*10*	ND	ND	ND	ND
ethylbenzene	*700*	ND	ND	ND	ND
Toluene	*1000*	ND	ND	ND	ND
Xylene	*10000*	ND	ND	ND	ND
THC as Gasoline	*	ND	ND	ND	ND
THC as Fuel Oil	*	290	ND	ND	ND
MTBE	*	ND	ND	ND	ND

Jordan Truck Station MW-2

Total Hydrocarbon Concentrations



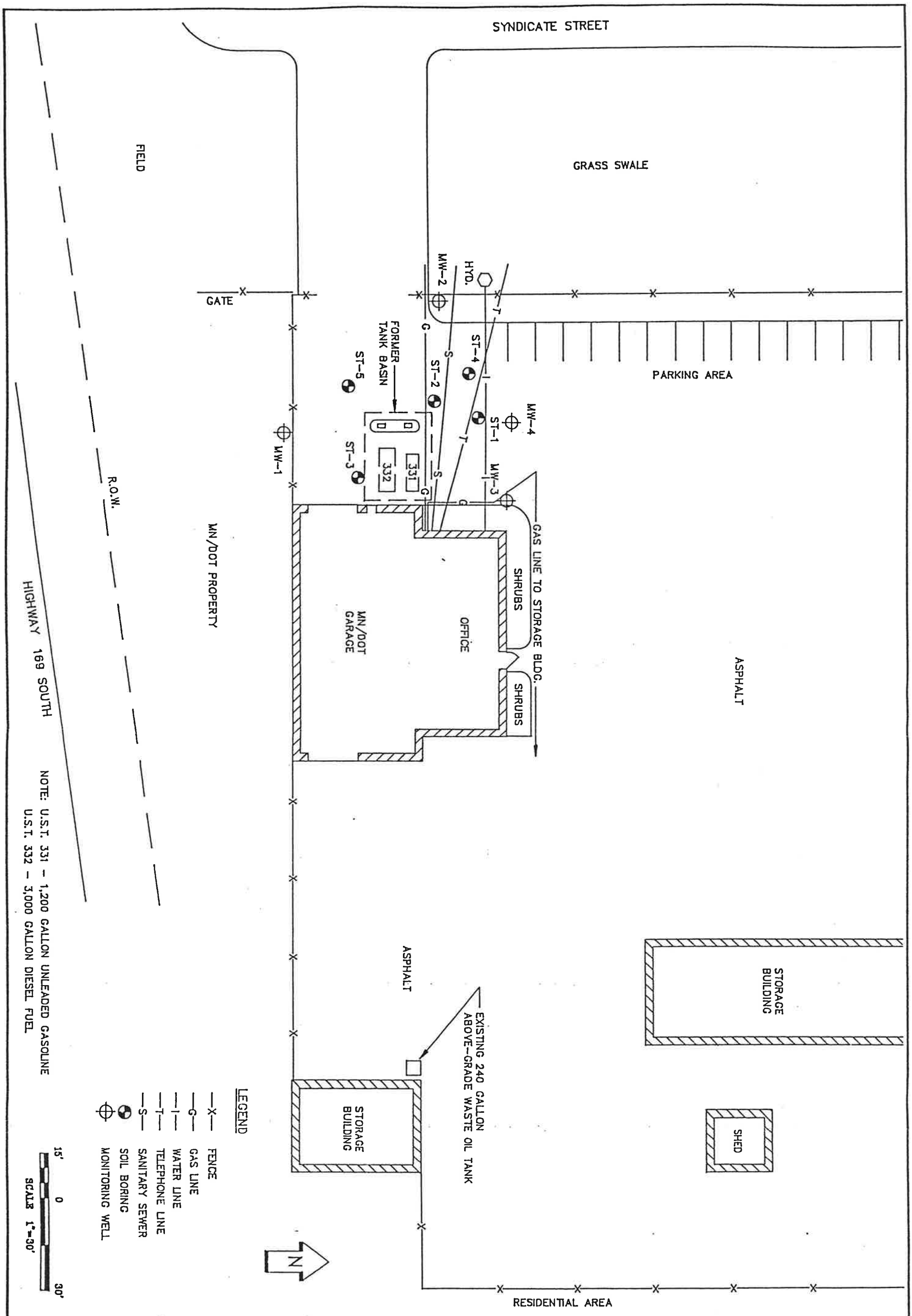
Jordan Groundwater Elevations

Water Level Measurements (feet)

	MW-1	MW-2	MW-3	MW-4
20-Aug-90	747.22	747.04	747.11	NA
30-May-91	749.53	749.23	749.38	NA
05-Sep-91	746.62	746.36	746.45	NA
10-Dec-91	747.18	747.08	747.03	NA
16-Mar-92 *	748.10	750.96	750.95	NA
18-Jun-92	747.84	747.66	747.75	NA
21-Sep-92	749.26	748.52	748.35	NA
21-Dec-92	747.43	747.22	747.37	747.25
15-Mar-93	746.86	746.73	746.75	746.71
10-Jun-93	747.82	747.61	747.73	747.83
08-Sep-93	747.85	747.63	747.77	747.67

* Error suspected in water level measurements on this date.

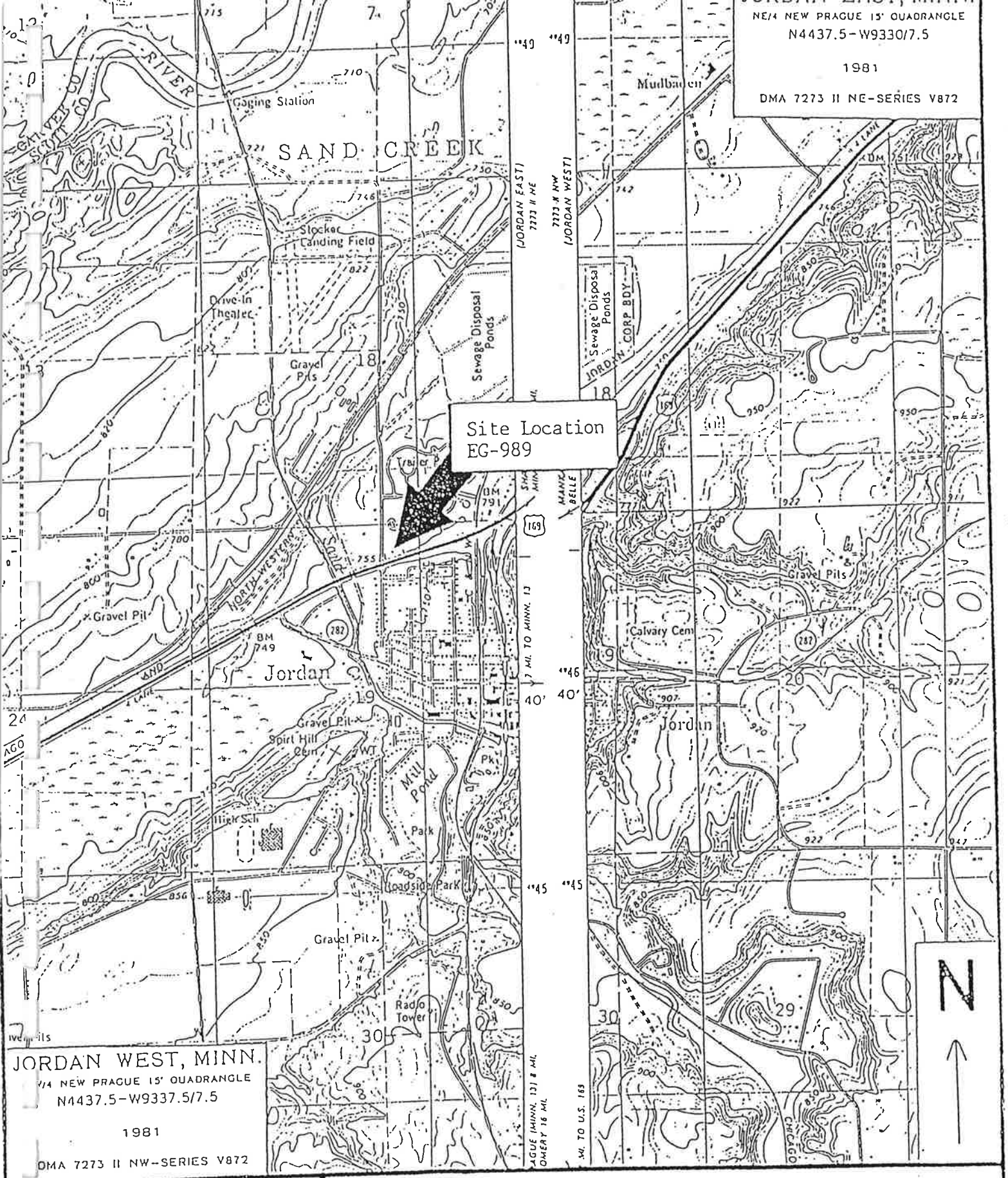
SITE MAP
AND
GROUNDWATER CONTOUR
AND FLOW MAPS



	INT	DATE
FIGURE # 2	DRAWN BY: NTM	12-15-92
	APP'D BY: GB	
	JOB No. CMKX-92-0192 C1	
	DWG.No. MK20192	SHEET 1 OF 2
	SCALE 1"=30'	

SITE LOCATION MAP
GROUNDWATER MONITORING WELL INSTALLATION
Minnesota Department of Transportation
Jordan MnDOT Truck Station
Jordan, Minnesota

BRAUN INTERTEC

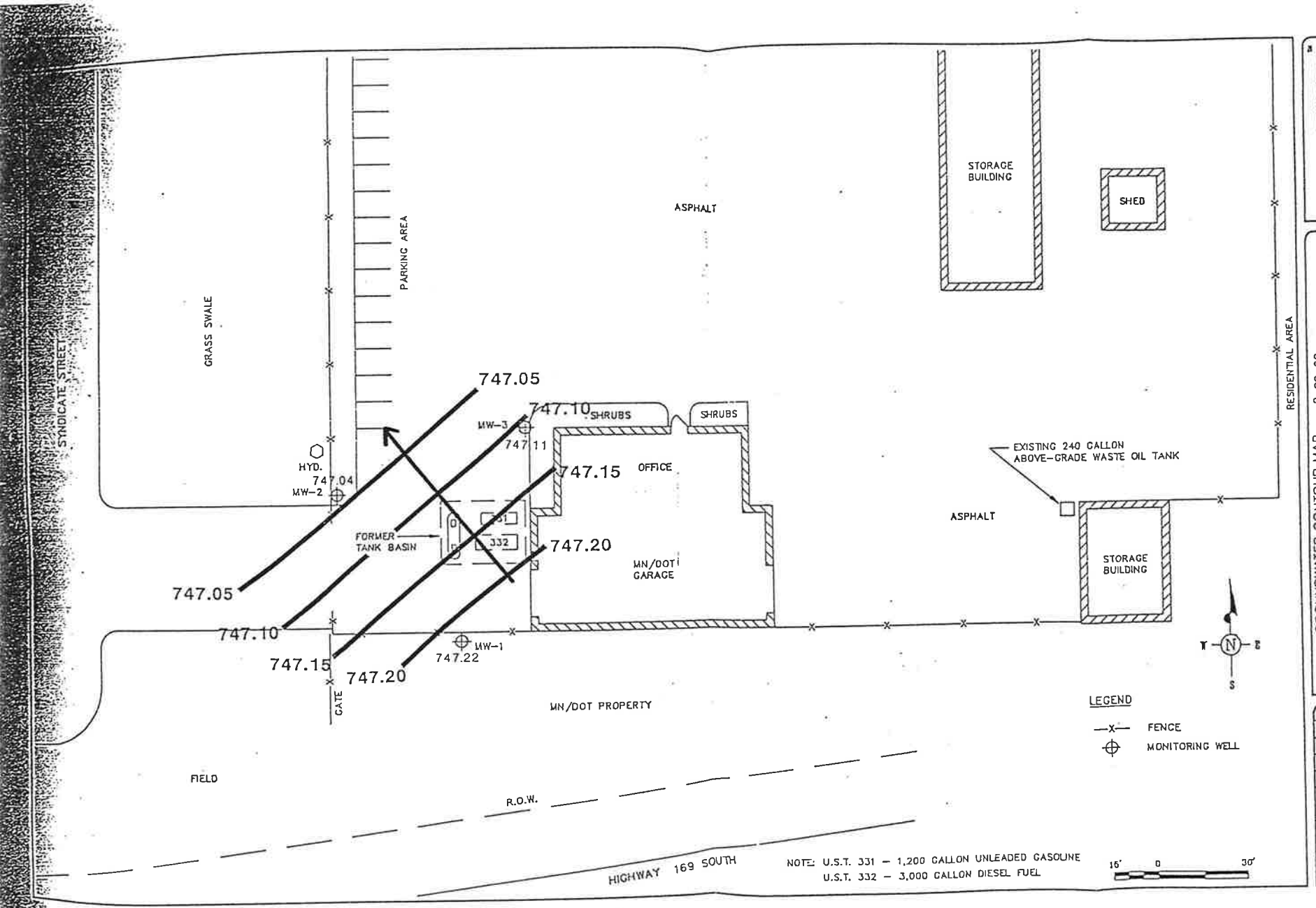


BRAUN

Figure 1
SITE Location Map
UST Remedial Investigation
EG-989

MN Dept. of Transportation
Jordan, MN

Date: 9-11-90	Revised:	Drawn: RCW	Scale: 1"=2000'



BRAUN ENVIRONMENTAL LABORATORIES INCORPORATED

GROUNDWATER CONTOUR MAP 8-20-90
U.S.T. Remedial Investigation
MN/DOT Jordan Truck Station
Jordan, Minnesota

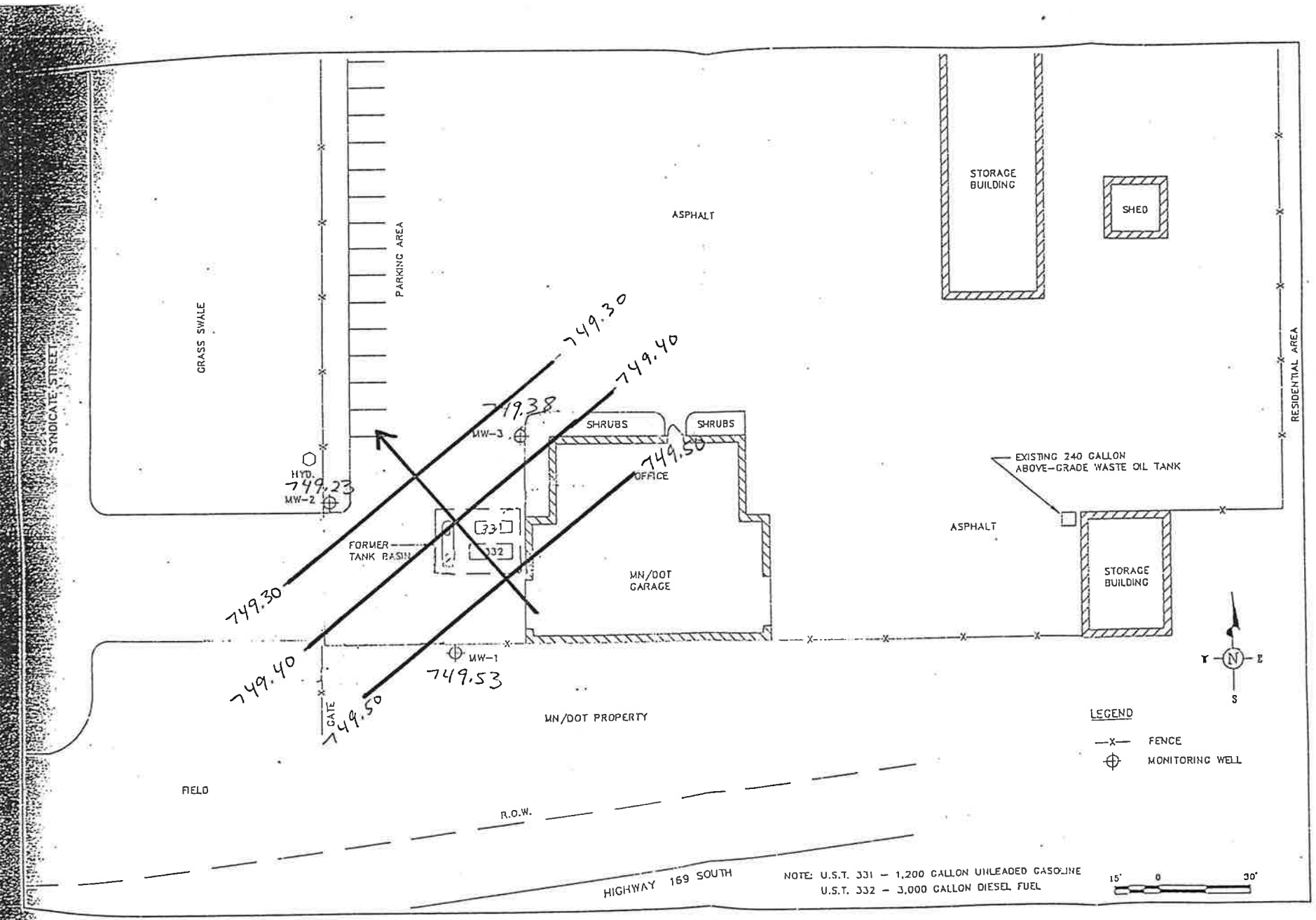
DRAWN BY: KWR
DWG.No. EG-989
JOB NO.# EG-989
APP'D BY: TCS
PLOT SCALE 1:30
PLOT TIME:

REVISED	
DATE	INT
10-4-90	KWR

SHEET	OF
1	1

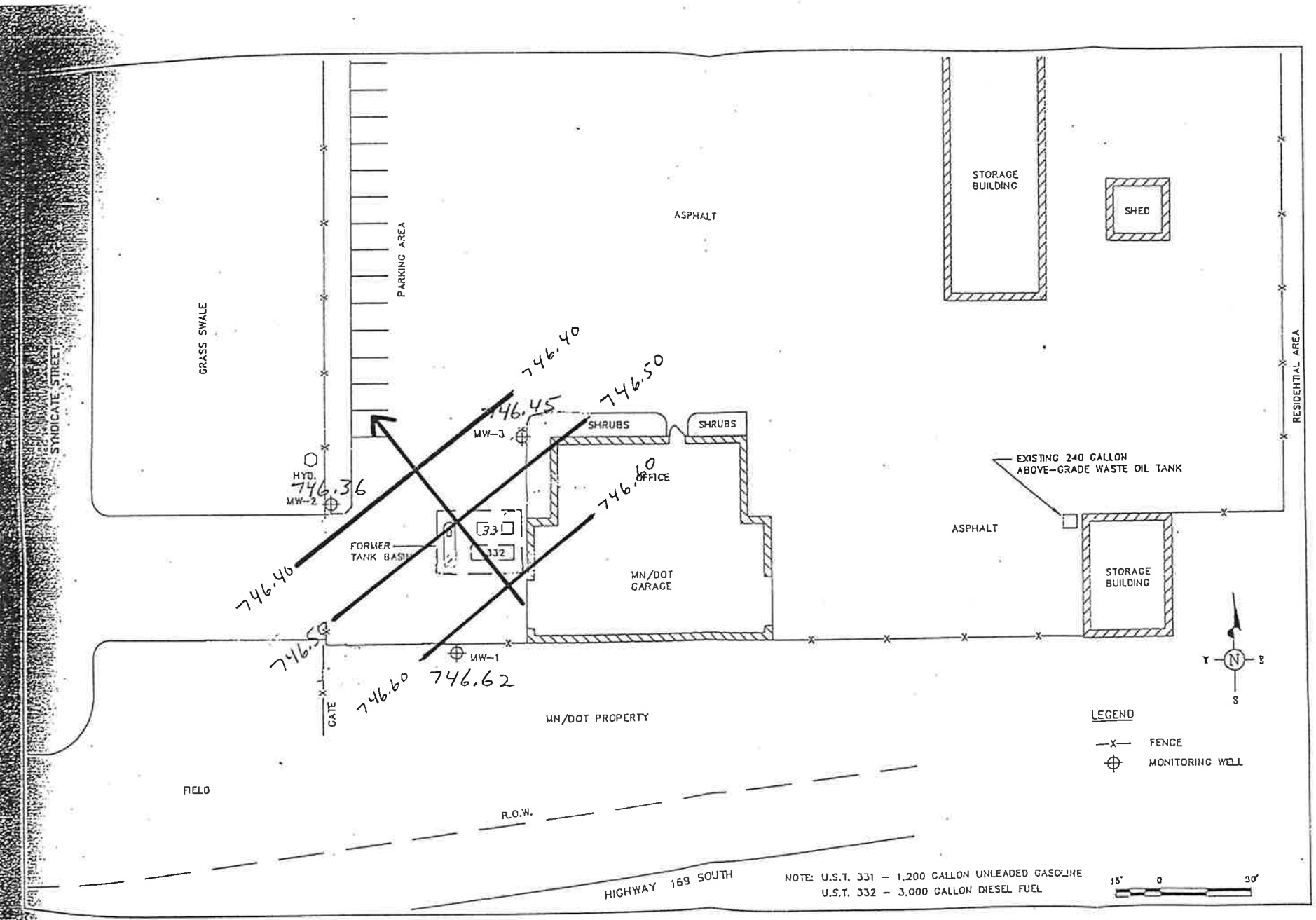
SCALE 1"=30'

FIGURE # 6



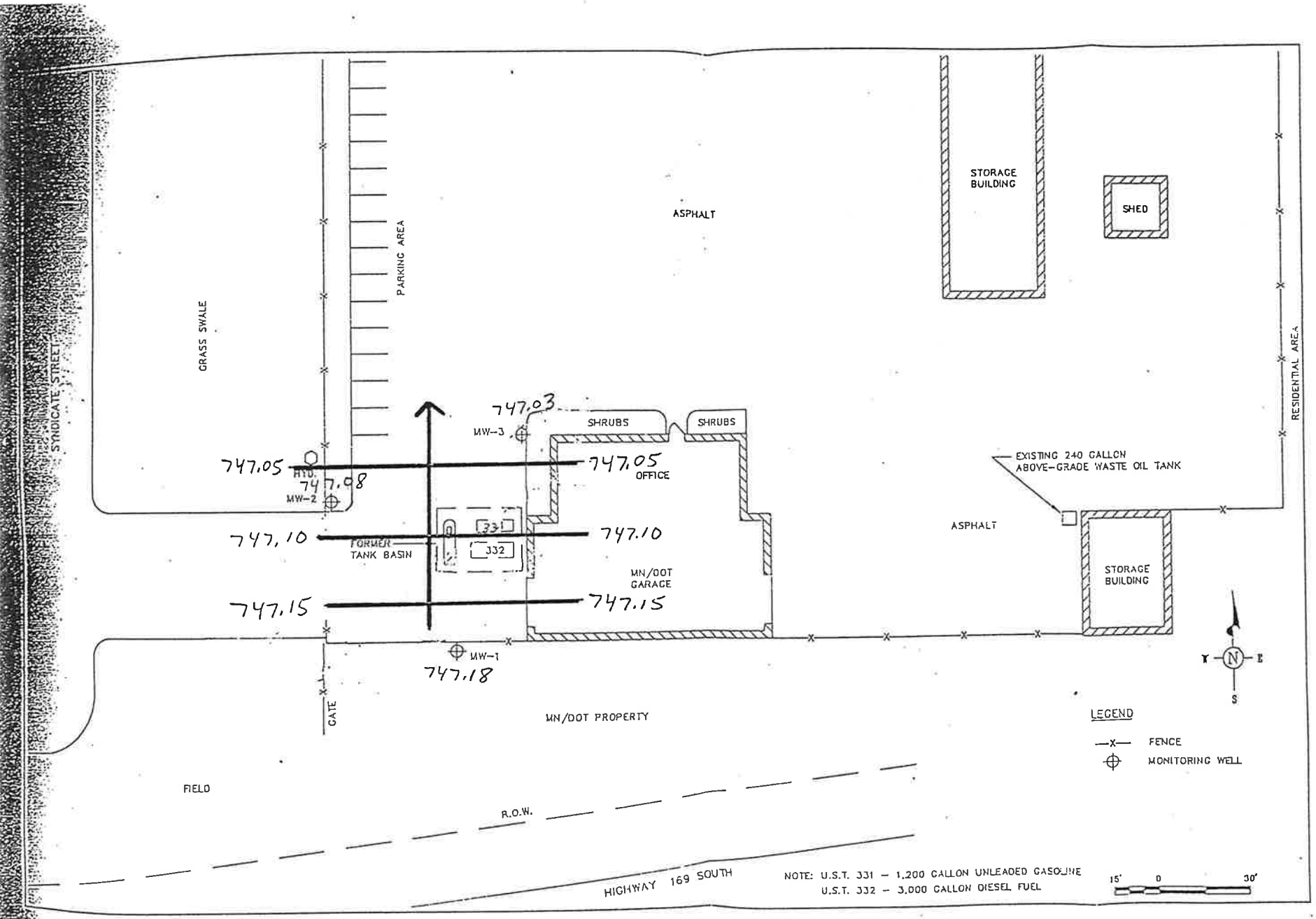
Groundwater Flow Direction

5-30-91



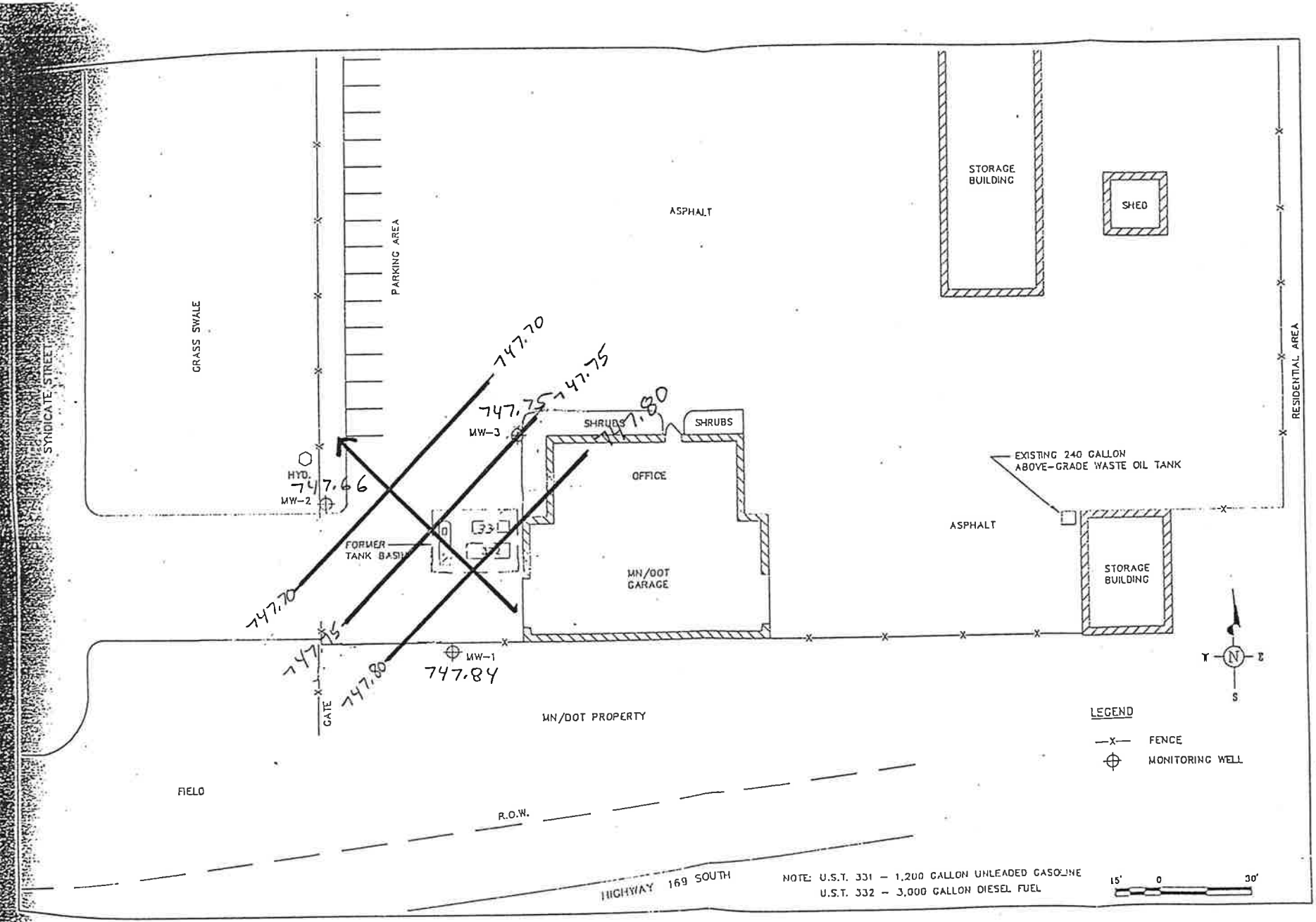
Groundwater Flow Direction

9-5-91



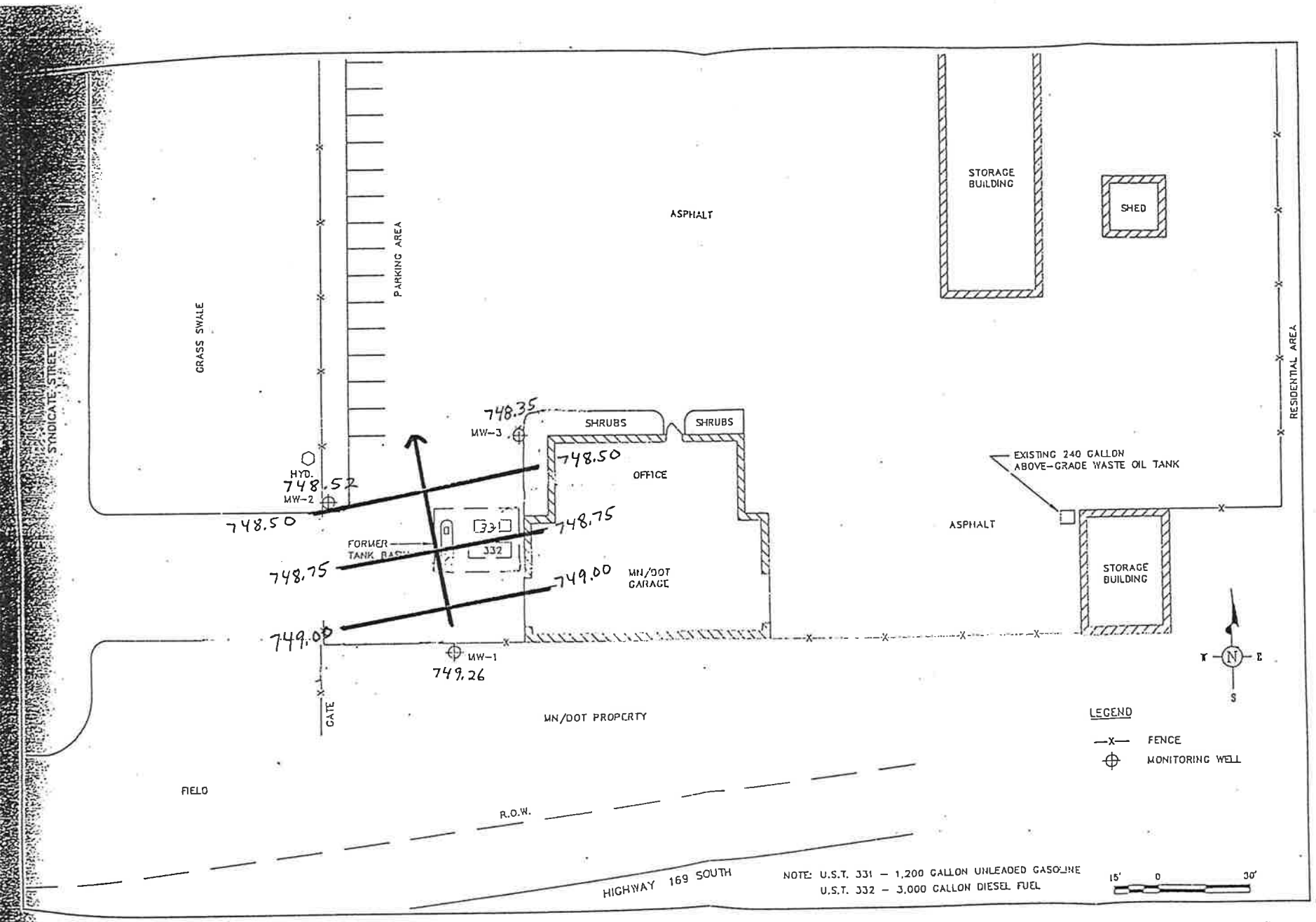
Groundwater Flow Direction

12-10-91



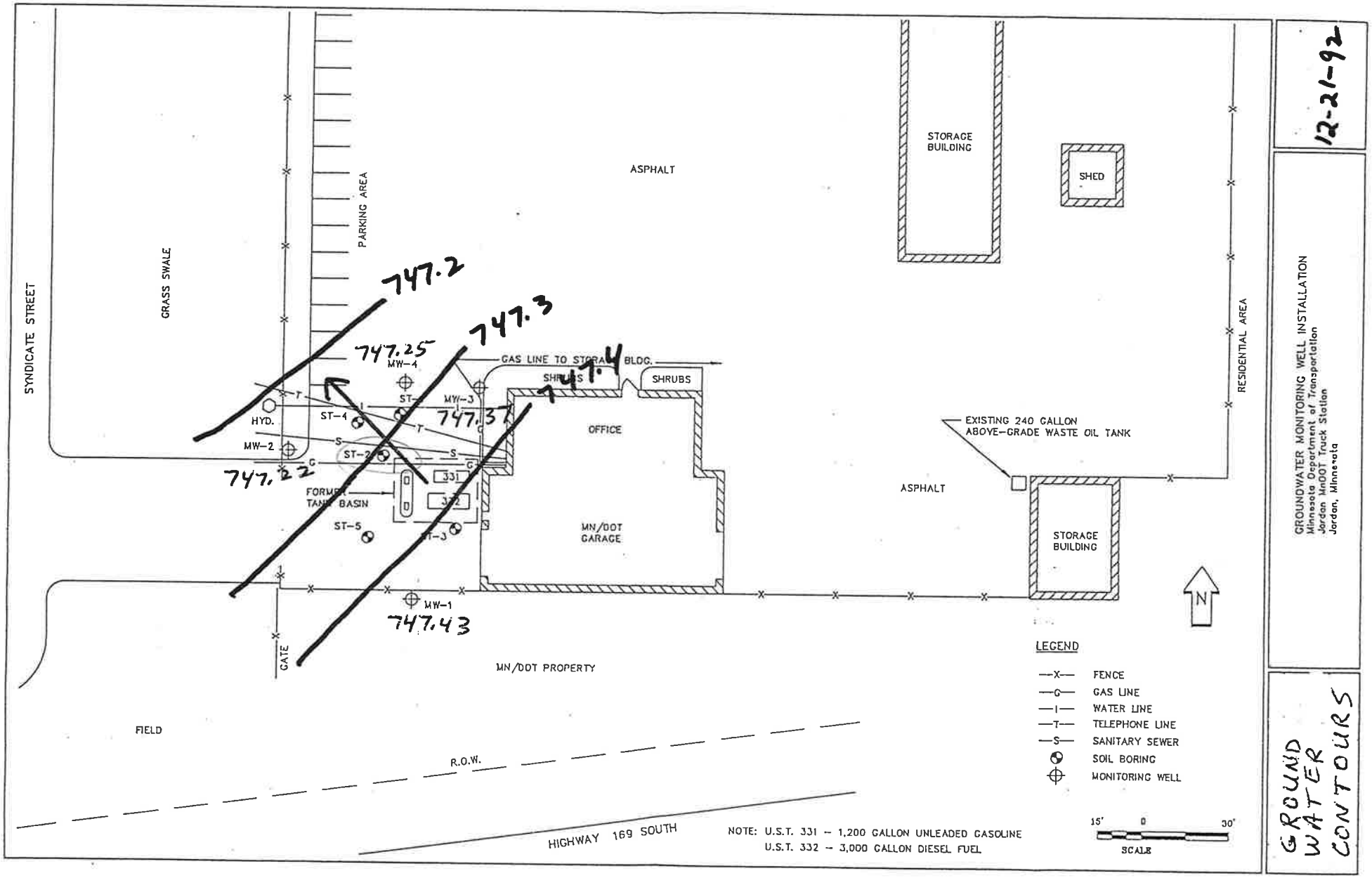
Groundwater Flow Direction

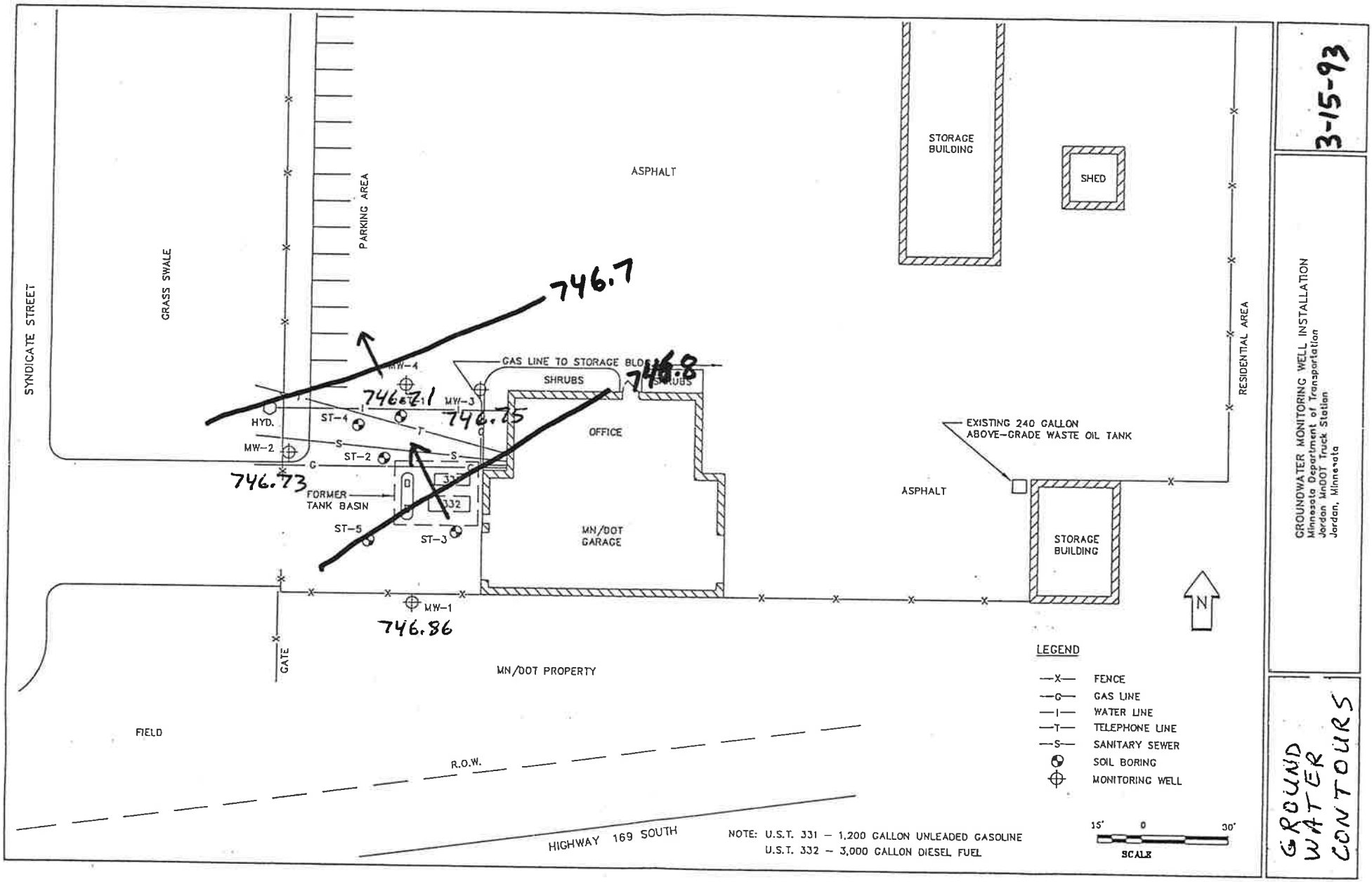
6-18-92



Groundwater Flow Direction

9-21-92


12-21-92
GROUNDWATER MONITORING WELL INSTALLATION
Minnesota Department of Transportation
Jordan MnDOT Truck Station
Jordan, Minnesota
GROUND WATER CONTOURS
SYNDICATE STREET
GRASS SWALE
PARKING AREA
ASPHALT
STORAGE BUILDING
SHED
RESIDENTIAL AREA
747.2
747.3
747.25
747.4
747.37
747.22
GAS LINE TO STORAGE BLDG.
SHRUBS
SHRUBS
HYD.
MW-4
MW-3
MW-2
MW-1
ST-1
ST-2
ST-3
ST-4
ST-5
OFFICE
EXISTING 240 GALLON ABOVE-GRADE WASTE OIL TANK
ASPHALT
FORMER TANK BASIN
331
332
MN/DOT GARAGE
STORAGE BUILDING
N
747.43
GATE
MN/DOT PROPERTY
FIELD
R.O.W.
HIGHWAY 169 SOUTH
LEGEND
FENCE
GAS LINE
WATER LINE
TELEPHONE LINE
SANITARY SEWER
SOIL BORING
MONITORING WELL
15' 0 30'
SCALE
NOTE: U.S.T. 331 – 1,200 GALLON UNLEADED GASOLINE
U.S.T. 332 – 3,000 GALLON DIESEL FUEL


3-15-93
GROUNDWATER MONITORING WELL INSTALLATION
Minnesota Department of Transportation
Jordan MnDOT Truck Station
Jordan, Minnesota
GROUND WATER CONTOURS
SYNDICATE STREET
GRASS SWALE
PARKING AREA
ASPHALT
STORAGE BUILDING
SHED
RESIDENTIAL AREA
746.7
746.71
746.75
746.8
746.73
746.86
MW-4
MW-3
MW-2
MW-1
ST-4
ST-2
ST-5
ST-3
HYD.
GAS LINE TO STORAGE BLDG.
SHRUBS
OFFICE
FORMER TANK BASIN
331
332
MN/DOT GARAGE
EXISTING 240 GALLON ABOVE-GRADE WASTE OIL TANK
ASPHALT
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R.O.W.
HIGHWAY 169 SOUTH
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GAS LINE
WATER LINE
TELEPHONE LINE
SANITARY SEWER
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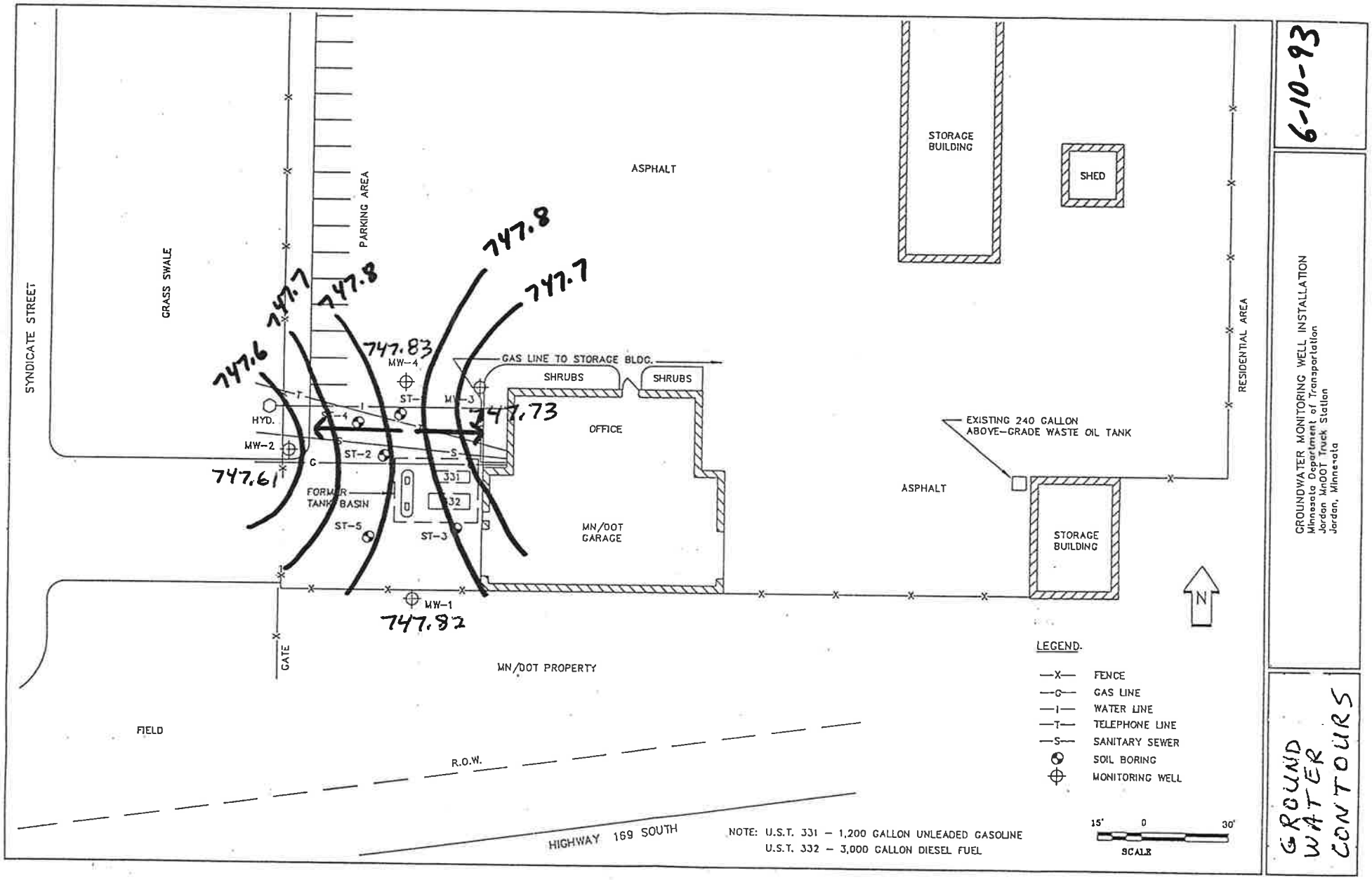
MONITORING WELL
NOTE: U.S.T. 331 – 1,200 GALLON UNLEADED GASOLINE
U.S.T. 332 – 3,000 GALLON DIESEL FUEL
15' 0 30'
SCALE


6-10-93
GROUNDWATER MONITORING WELL INSTALLATION
Minnesota Department of Transportation
Jordan MnDOT Truck Station
Jordan, Minnesota
GROUND WATER CONTOURS
SYNDICATE STREET
GRASS SWALE
PARKING AREA
ASPHALT
STORAGE BUILDING
SHED
RESIDENTIAL AREA
747.8
747.7
747.8
747.7
747.6
747.83
747.73
747.61
747.82
GAS LINE TO STORAGE BLDG.
SHRUBS
SHRUBS
OFFICE
HYD.
MW-2
MW-4
MW-3
ST-1
ST-2
ST-4
ST-5
ST-3
331
332
FORMER TANK BASIN
EXISTING 240 GALLON ABOVE-GRADE WASTE OIL TANK
ASPHALT
MN/DOT GARAGE
STORAGE BUILDING
MW-1
GATE
MN/DOT PROPERTY
FIELD
R.O.W.
HIGHWAY 169 SOUTH
N
LEGEND.
FENCE
GAS LINE
WATER LINE
TELEPHONE LINE
SANITARY SEWER
SOIL BORING
MONITORING WELL
15' 0 30'
SCALE
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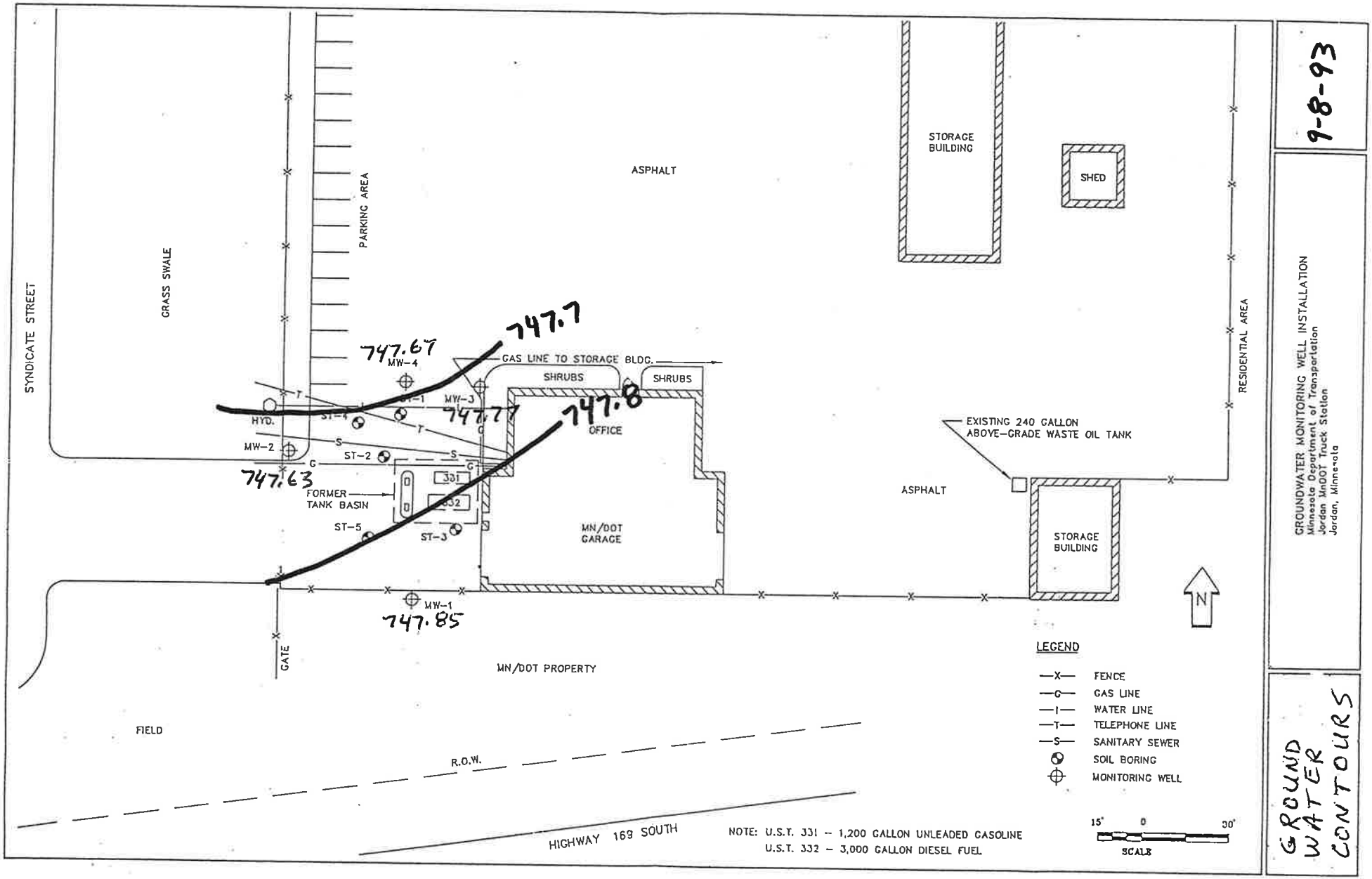
9-8-93
GROUNDWATER MONITORING WELL INSTALLATION
Minnesota Department of Transportation
Jordan MnDOT Truck Station
Jordan, Minnesota
GROUND WATER CONTOURS
SYNDICATE STREET
GRASS SWALE
PARKING AREA
ASPHALT
STORAGE BUILDING
SHED
RESIDENTIAL AREA
747.7
747.67
MW-4
GAS LINE TO STORAGE BLDG.
SHRUBS
SHRUBS
MW-3
747.77
747.8
HYD.
OFFICE
MW-2
ST-2
747.63
EXISTING 240 GALLON ABOVE-GRADE WASTE OIL TANK
FORMER TANK BASIN
331
332
ST-5
ST-3
ASPHALT
MN/DOT GARAGE
STORAGE BUILDING
MW-1
747.85
N
GATE
MN/DOT PROPERTY
FIELD
R.O.W.
HIGHWAY 169 SOUTH
LEGEND
FENCE
GAS LINE
WATER LINE
TELEPHONE LINE
SANITARY SEWER
SOIL BORING
MONITORING WELL
NOTE: U.S.T. 331 – 1,200 GALLON UNLEADED GASOLINE
U.S.T. 332 – 3,000 GALLON DIESEL FUEL
15' 0 30'
SCALE

STABILIZATION
TEST
FORMS

notes: bailer shows possible gw stratification
- bottom third lighter color
- water color grey green; odor moderate

Site Jordan Truck Station
Date 5-30-91
Well number MW-2

STABILIZATION TEST

note: preserve [illegible]
well volume = 1.5

Pumping rate (gallons/minute) _____
Type of pump Bailer (Teflon)
Water level before pumping (nearest 0.01 ft. below top of casing) gross level - 7.85
Approximate well location 30' W. of bldg. by entrance gate
Calculated volume of water in casing _____
Weather conditions cloudy, 65-70° - drizzle

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm) [temp. corrected]	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
12:50	6.66	141x10 [1639]	16		5 gal
12:57	6.71	142x10 [1651]	16.1		7 gal
1:03	6.73	141x10 [1602]	17		

Total Depth to bottom of well - 16.92'

Sample for: VOC's

Site	Jordan Truck Station
Date	5/30/91
Well number	MW-3

STABILIZATION TEST

Preservative: all samples w/ 1:1 HCl
Well volume: 1.1
Pumping rate (gallons/minute) _____
Type of pump Bailer Teflon Rinsed Bailer dedicated MW 1
Water level before pumping (nearest 0.01 ft. below top of casing) Gross Level - 7.87'
Approximate well location NW Corner of Bldg. in parking Lot
Calculated volume of water in casing _____
Weather conditions Cloudy ~ 65-70°

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
11:55	6.72	110x10 [1309]	15		
12:03	6.82	110x10 [1309]	15.1		6 gal
12:15	6.85	100x10 [1190]	15.1		8 gal
12:23	6.82	105x10 [1280]	15		10 gal

Total Depth To Bottom 17.05'

sample for: VOCs

Site	Jordan Truck Station
Date	5/30/91
Well number	MW1

STABILIZATION TEST

note: all samples preserved w/ 1:1 HCl

well volume = 1.3 gal

Pumping rate (gallons/minute) _____

Type of pump Teflon Bailer

Water level before pumping (nearest 0.01 ft. below top of casing) Gross - 8.25' (plugged)

Approximate well location South Side of Bldg Next to fence

Calculated volume of water in casing 0

Weather conditions Cloudy, Humid ~ 65-70°

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm) raw [corrected]	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1030		67.5x10	8.1 (Cooler)		practice
~10:35	6.48	78x10 [950]	14 (use this thermometer)		initial
10:47	6.58	83x10 [1037]	13		5 gal
10:55	6.83	85x10 [1062]	13		10 gal
11:00	6.62	85x10 [1062]	13		15 gal
11:06	6.60	85x10 [1062]	13		20 gal

Total depth To Bottom 17.05'

STABILIZATION TEST

Site Jordan
Date 9-5-91
Well number MW1

Pumping rate (gallons/minute) _____
Type of pump Field washed BailER
Water level before pumping (nearest 0.01 ft. below top of casing) 11.16'
Approximate well location _____
Calculated volume of water in casing 1.03 gal Bottom 17.46'
Weather conditions cloudy, windy 20°C

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1020				11.16	
1025	7.6	830	15		1.0
1027	7.5	830	15		2.0
1029	7.4	830	15		2.5
1031	7.4	850	14		3.0
1033	7.3	850	14		4.0
1035	sample			11.70	

- NO petrol odor
- water lt. Brown

STABILIZATION TEST

Site JORDAN
Date 9-5-91
Well number MW2

Pumping rate (gallons/minute) _____
Type of pump Dedicated Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 10.72'
Approximate well location _____
Calculated volume of water in casing 1.09 gal Bottom 17.40'
Weather conditions Cloudy, windy 20°C

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
0925				10.72	
0927	6.8	1400	17		1.0
0929	6.7	1250	17		2.0
0931	6.7	1250	17		3.0
0934	6.7	1200	17		4.5
0940	Sample			10.72	

- NOTICABLE petrol odor
- water Blackish

STABILIZATION TEST

Site Jordan
Date 9-5-91
Well number MW3

Pumping rate (gallons/minute) _____
Type of pump Dedicated Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 10.80
Approximate well location _____
Calculated volume of water in casing 1.08 gal Bottom 17.43
Weather conditions cloudy, windy 20°C

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
0905				10.80	
0908	6.4	410	16		1.0
0911	6.6	450	16		1.5
0915	6.6	630	16		2.0
0918	Dry slow recharge			16.78	
	too slow to Bail				
0945	sample			11.20	
1000	Bailer BLANK				

- NO petrol odor
- water lt. Brown

STABILIZATION TEST

Site Jordan
Date 12-10-91
Well number JMW1

Pumping rate (gallons/minute) _____
Type of pump Field Wastel Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 10.60
Approximate well location 17.46
Calculated volume of water in casing 1.12 Gal
Weather conditions _____

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1200	7.3	780	11		1
1205	7.2	780	11		2
1208	7.1	780	11		3
1210	7.1	780	11		4
1215	Sample			11.24	

Brownish Gray in color
Skunky Smell

STABILIZATION TEST

Site Jordan
Date 12-10-91
Well number JMW2

Pumping rate (gallons/minute) _____
Type of pump _____
Water level before pumping (nearest 0.01 ft. below top of casing) 10.00
Approximate well location 1,20gal 1940
Calculated volume of water in casing _____
Weather conditions _____

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1105				10.00	
1107	7.2	1500	12		1.0
1110	7.1	1400	12		2.0
1113	7.0	1300	12		3.0
1119	6.9	1300	12		4.0
1121	6.9	1300	12		5.0
1125	sample			10.04	
1145	BB.				

~~NOTICEABLE~~ strong petrol odor

STABILIZATION TEST

Site	Jordan
Date	12-10-91
Well number	JMW3

Pumping rate (gallons/minute) _____
Type of pump _____
Water level before pumping (nearest 0.01 ft. below top of casing) 10.22
Approximate well location 1.18
Calculated volume of water in casing 1.18 17.43
Weather conditions _____

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1014				10.22	
1022	6.6	430	13		1.0
1024	6.7	500	13		1.5
- slow recharge				16.40	
1100	sample			11.20	

Walter Burns

STABILIZATION TEST

Site JORDAN TRUCK STATION
Date 3-16-92
Well number JMW 1

Pumping rate (gallons/minute) _____
Type of pump Dedicated Line / Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 9.68
Approximate well location 17.46
Calculated volume of water in casing 1.26 gal
Weather conditions pc windy 40's

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1205				9.68	
	7.4	1000	8		1
	7.4	920	8		2
	7.3	920	8		3
	7.2	960	9		4
	7.1	960	9		5
	7.1	960	9		6
1220	Sample			9.82	

STABILIZATION TEST

Site _____

Date 3-16-92

Well number JMW2

Pumping rate (gallons/minute) _____

Type of pump Dedicated Line / Bailer

Water level before pumping (nearest 0.01 ft. below top of casing) 6.12

Approximate well location 17.40

Calculated volume of water in casing 1.8 gal

Weather conditions pc windy 40's

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1120				6.12	
	6.8	2300	8		1
	6.8	2000	8		2
	6.8	1800	8		3
	6.8	1700	8		4
	6.8	1600	8		5
	6.8	1500	8		6
	6.8	1400	8		7
	6.8	1500	8		8
1150 Sample				6.20	
1200	DI Blank				

Strong fuel oil odor

STABILIZATION TEST

Site
Date 3-16-92
Well number JMW3

Pumping rate (gallons/minute)
Type of pump Dedicated line / Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 6.30
Approximate well location 17.43
Calculated volume of water in casing 1.8 gal
Weather conditions PC windy 40's

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1100				6.30	
	7.0	1300	11		2
	7.0	1000	11		3
	7.0	1000	11		4
Recharge too low to purge				16.80	
1130	Sample			9.86	

STABILIZATION TEST

Site Jordan T.S.
Date 6-18-92
Well number JMW1

Pumping rate (gallons/minute) _____
Type of pump Dedicated Teflon / FW Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 9.94
Approximate well location 17.46
Calculated volume of water in casing 1.23 gal
Weather conditions pc +19

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1100				9.94	
1	7.4	1000	13		1.0
	7.4	~~1000~~ 990	12		2.0
	7.3	990	12		3.0
1130 - Sample				11.54	

STABILIZATION TEST

Site _____

Date _____

Well number MW2

Pumping rate (gallons/minute) _____

Type of pump dedicated Line/Bailer

Water level before pumping (nearest 0.01 ft. below top of casing) 9.42 / 17.40

Approximate well location _____

Calculated volume of water in casing 1.30 gal

Weather conditions pc +19

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
11					
1025				9.42	
	7.1	1500	13		1.0
	7.1	1200	13		2.0
	7.1	1100	13		3.0
	7.1	1100	12		4.0
	7.1	1100	12		5.0
1035	Sample			10.58	
BG					
1045					

- Water Black at Beginning
- strong petrol odor

STABILIZATION TEST

Site _____

Date _____

Well number JMW3

Pumping rate (gallons/minute) _____
Type of pump dedicated Tube / Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 9.50
Approximate well location _____ 17.43
Calculated volume of water in casing 1.29 gal.
Weather conditions cloudy ↑17

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
0950				9.50	
	6.6	370	17		1.5
	6.6	410	16		2.5
pumped down,		let recharge		16.80	
1010	Sample			11.42	

STABILIZATION TEST

Site Jordan
Date 8-21-92
Well number JMW1

Pumping rate (gallons/minute)
Type of pump Dedicated line / Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 8.52 / 17.46
Approximate well location -
Calculated volume of water in casing 1.46 gal
Weather conditions Cloudy windy +15

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
10 20	6.6	800	17		1
	6.6	930	16		2
	6.6	930	16		3
	6.6	930	16		4
	level	after	pumping		14.0'

STABILIZATION TEST

Site	Jordan T.S
Date	9-21-92
Well number	JMW-2

Pumping rate (gallons/minute) _____
Type of pump Dedicated Line/Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 8.56
Approximate well location _____ Bottom 17.40
Calculated volume of water in casing 1.44 gal
Weather conditions _____

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
		,$4,150			
1110	7.4	1700	17		1
	7.2	1400	16		2
	7.2	1200	16		~~3~~ 4
	7.1	1200	16		~~4~~ 5
	7.0	1100	17		6
	7.0	1100	17		7
	7.0	1100	17		8
	Level after pumping				8.76'
		Black Tinge, Petro. odor			

STABILIZATION TEST

Site JORDAN

Date 9-21-92

Well number JMW3

Pumping rate (gallons/minute) _____

Type of pump Dedicated Bailer

Water level before pumping (nearest 0.01 ft. below top of casing) _____

Approximate well location _____ 8.90

Calculated volume of water in casing 1.39 gal 17.43

Weather conditions _____

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1130					
	7.1	830	15		1
	7.2	790	14		2
	7.1	790	14		3
	7.1	790	14		4
1145	Sample			11.26	

STABILIZATION TEST

Site JORDAN T.5
Date 12-21-92
Well number JMW1

Pumping rate (gallons/minute) _____
Type of pump Dedicated Pump / Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 10.35 / 17.46
Approximate well location _____
Calculated volume of water in casing 1.16 gal
Weather conditions SUNNY windy F1

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1035					
	7.2	740	9		1
	7.1	820	10		2
	7.0	820	10		3
	7.0	820	10		4
1050	Sample			10.66	

STABILIZATION TEST

Site Jordan
Date 12-21-92
Well number JMW2

Pumping rate (gallons/minute)
Type of pump Dedicated Line / Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 9.86
Approximate well location
Calculated volume of water in casing 1.23 gal 17.40
Weather conditions

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1105					
	6.8	2000	10		1
	6.8	1400	11		2
	6.8	1300	11		3
	6.8	1300	11		4
	6.8	1300	11		5
1130				9.94	

-strong petrol smell

STABILIZATION TEST

Site Jordan
Date 12-21-92
Well number SMW3

Pumping rate (gallons/minute) _____
Type of pump Dedicated Line / Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 9.88 / 17.43
Approximate well location _____
Calculated volume of water in casing 1.23 gal
Weather conditions _____

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
0955					
	6.7	250	11		1
	6.7	470	12		2
	6.6	560	11		3
	6.6	570	11		4
	6.6	570	11		5
1015	Sample			11.25	

STABILIZATION TEST

Site Jordan
Date 12-21-92
Well number JMW4

Pumping rate (gallons/minute)
Type of pump Dedicated Line/Bailer - F.W.
Water level before pumping (nearest 0.01 ft. below top of casing) 6.98
Approximate well location 13, 42
Calculated volume of water in casing 1,105 gal
Weather conditions

Time	pH (units)	Temperature Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1145					
	7.2	1100	10		1
	7.1	930	11		2
				12.75	
Dry					
recharge					
1210				8.32	

STABILIZATION TEST

Site JORDAN
Date 3-15-93
Well number MW1

Pumping rate (gallons/minute) _____
Type of pump Dedicated line / Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 10.92
Approximate well location _____
Calculated volume of water in casing 1.1 gal 17.46
Weather conditions Sunny -2

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1240	8.0	1300	7		1
	7.9	1200	7		2
	7.8	1200	8		3
	7.8	1200	8		4
	7.8	1200	8		5

STABILIZATION TEST

Site Jordan
Date 3-15-93
Well number MW2

Pumping rate (gallons/minute) _____
Type of pump D. Sme / Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 10.35
Approximate well location _____
Calculated volume of water in casing 1.15 gal 17.40
Weather conditions _____

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1220	7.5	3500	7		1
	7.6	2900	8		2
	7.6	2500	8		3
	7.7	2200	8		4
	7.7	2200	8		5
	7.7	2100	8		6

Petrol odor

STABILIZATION TEST

Site Jordan

Date 3-15-93

Well number MW3

Pumping rate (gallons/minute) _____

Type of pump Dedicated Line / Bailer

Water level before pumping (nearest 0.01 ft. below top of casing) 10.50

Approximate well location _____

Calculated volume of water in casing 1.13 gal 17.43

Weather conditions _____

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1150	7.6	1200	10		1
	7.6	1200	10		2
	7.7	1300	10		3

STABILIZATION TEST

Site Jordan
Date 3-15-93
Well number MW4

Pumping rate (gallons/minute)
Type of pump Dedicated Line/Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 7.52
Approximate well location
Calculated volume of water in casing 0.96 13.42
Weather conditions

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1210	7.5	1800	7		1
			Dry		
		Set Recharge.			

STABILIZATION TEST

Site Jordan
Date 6-10-93
Well number MW 1

Pumping rate (gallons/minute)
Type of pump Dedicated Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 9.96
Approximate well location 17.46
Calculated volume of water in casing 1.2 gal
Weather conditions SUNNY +23

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1055	7.3	1200	10		1
	7.1	1200	9		2
	7.1	1300	9		3
	7.1	1300	9		4
	7.1	1300	9		5

STABILIZATION TEST

Site Jordan
Date 6-10-93
Well number MW2

Pumping rate (gallons/minute) _____
Type of pump Submersible
Water level before pumping (nearest 0.01 ft. below top of casing) 9.47
Approximate well location 17.40
Calculated volume of water in casing 1.3 gal
Weather conditions _____

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1040	7.0	2000	10		1
	7.0	1800	10		2
	7.0	1700	10		3
	7.0	1600	10		4
	7.0	1600	10		5

petrol smell.

STABILIZATION TEST

Site Jordan
Date 6-10-93
Well number MW3

Pumping rate (gallons/minute)
Type of pump Ded. Sue Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 9.52
Approximate well location 17.43
Calculated volume of water in casing 1.13 gal
Weather conditions

3

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1005	6.9	1000	13		1
	6.9	1000	13		2
	6.8	1100	13		3

STABILIZATION TEST

Site Jordan
Date 6-10-93
Well number MW 4

Pumping rate (gallons/minute) _____
Type of pump Ded Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 6.40
Approximate well location _____ 13.42
Calculated volume of water in casing 1.1 gal.
Weather conditions _____

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1020	6.8	3000	12		1
	6.8	2900	12		2
	6.8	2700	12		3

STABILIZATION TEST

Site Jordan
Date 9-8-93
Well number MW1

Pumping rate (gallons/minute) _____
Type of pump dedicated Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 9.93
Approximate well location 17.46
Calculated volume of water in casing 1.2 gal.
Weather conditions SUNNY H16

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1025	7.7	880	14		1
	7.6	870	13		2
	7.6	890	13		3

STABILIZATION TEST

Site Jordan
Date 9-8-93
Well number MW2

Pumping rate (gallons/minute) _____
Type of pump Dedicated Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 9.45
Approximate well location 17.40
Calculated volume of water in casing 1.3 gal
Weather conditions Sunny 70's

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1045	7.2	1700	16		1
	7.3	1400	16		2
	7.3	1400	16		3
	7.3	1400	16		4

STABILIZATION TEST

Site Jordan

Date 9-8-93

Well number MW3

Pumping rate (gallons/minute) _____

Type of pump Dedicated Bailer

Water level before pumping (nearest 0.01 ft. below top of casing) 9.48 / 17.43

Approximate well location _____

Calculated volume of water in casing 1.3 gal

Weather conditions _____

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
0930	7.2	710	17		1
	7.2	670	16		2
	7.1	650	16		3
	7.1	650	16		4

STABILIZATION TEST

Site Jordan
Date 9-8-93
Well number MW4

Pumping rate (gallons/minute)
Type of pump Dedicated Bailer
Water level before pumping (nearest 0.01 ft. below top of casing) 6.56
Approximate well location 13-42
Calculated volume of water in casing 1.1 gal
Weather conditions

Time	pH (units)	Temperature-Corrected Conductance (umhos/cm)	Temperature (°C)	Water Level (nearest 0.01 ft.)	Cumulative Volume of Water Removed From Well (measured in gallons)
1005	7.1	2100	17		1
	7.1	1700	16		2
	7.2	1600	15		3
	7.2	1700	15		4

ANALYTICAL RESULTS

9.7.90
ORG.FORM.FY91.1

MINNESOTA DEPARTMENT OF HEALTH
Chemical Laboratory Section
Organic Chemistry Unit

WATER ANALYSES ONLY

Date Collected: 5/30/91
Date Received: 5-30-91
Collected by: BK

Chain of Custody #: 012

Budget #: DA
Report To: LANETTE ZAUGER
BRIAN KAMANIKAR

Field Blank #:

RECD 26 JUN 91

Laboratory Number		Field Number	Sample Description	- Container - Number	Type
9111160	a	MW-1	JORDAN T.S.	4	40 mil
9111161	b	MW-2	PETRO ODORS JUN 24 1991		
9111162	c	MW-3			
9111163	d	BLK	BAILER BLANK - FIELD CLEANING		
	e				

Analyses Request Options		ALL	a 9111160	b 9111161	c 9111162	d 9111163	e
VOLATILE ORGANICS	465						
VOLATILE HALOGENATED ORGANICS (THM)	464						
GASOLINE/FUEL OIL + HALOGENATED	463	X					
VOLATILE ORGANICS by GC/MS	468						
CHLOROPHENOXY ACID HERBICIDES (CPA)	574						
POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)	470						
POLYCHLORINATED BIPHENYLS (PCBs)	420						
PHTHALATE ESTERS	490						
PESTICIDES, CHLORINATED	502						
TOXAPHENE	520						
TECHNICAL CHLORDANE	530						
DDT GROUP	550						
PESTICIDES, NITROGEN/PHOSPHOROUS	571						
SPECIAL SAMPLE HOURS	560						

Field Notes:
TRIP BLANK ACCOMPANIED SAMPLES. WILL GO WITH SAMPLES ALSO ON 5-31-91 (NEW ULM TS)

Laboratory Notes:

DOT 023-0 0)

Minnesota Department of Transportation

Transportation Building
St. Paul, MN 55155

ENVIRONMENTAL COMPLIANCE AND INVESTIGATION UNIT

№ 012

CHAIN OF CUSTODY RECORD

Project Name: Jordan Truck Station

Name of Sampler: Brian Kaminkar, Bruce Johnson, Nancy Radle

Field Number	Date	Time	Sample Type (s): Monitoring well	Existing well	Surface water	Wastewater	Waste	Other	Sample Location	Analyses Requested	Comments on Samples
	5/30/91	12:30	X						MW-3	VOC's	-preserved w/ 2 drops 1:1 HCl -no Sheen observed
	5/30/91	11:00	X						MW-1	VOC's	-preserved w/ 2 drops 1:1 HCl -no Sheen observed
	5/30/91	1300	X						MW-2	VOC's	-preserved w/ 2 drops 1:1 HCl moderate odor, very silty
	5/30/91	1145						X	field blk; bailer rinse	VOC's	-taken between MW-3 and MW-1 sampling, preserved w/ 1:1 HCl

Remarks on Site: MW-2 - the inner casing threaded cap was not screwed in - outer casing was locked.

Samples Relinquished by: Brian Kaminkar	Samples Received by	Comments	Date/Time: 5-30-91 3:00 PM
Samples Relinquished by	Samples Received by	Comments	Date/Time
Samples Relinquished by	Samples Received by	Comments	Date/Time
Means of Delivery		Seals intact: ☐ YES ☐ NO ☐ N.A.	

Original and yellow copies to Lab. Pink copy to Mn/DOT. Lab forwards completed yellow copy to Mn/DOT with analytical results.

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY
VOLATILE HYDROCARBONS (code 463)

mw/

SAMPLED: 05/30/91
ANALYZED: 06/11/91
REPORTED: 06/19/91

LAB SAMPLE #: 9111160

FIELD BLANK #: NONE

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
ichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
hloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
romomethane	< 2.0		2-Chlorotoluene	< 0.5	
hloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
richlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
richloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
llyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
ethylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
romochloromethane	< 0.5		Tetrahydrofuran	< 10	
,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	0.6
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
richloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE : < 30. UG/L

FUEL OIL : < 200. UG/L

Legend:
< = less than
PP = peak present

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY
VOLATILE HYDROCARBONS (code 463)

mw2

SAMPLED: 05/30/91
ANALYZED: 06/11/91
REPORTED: 06/19/91

LAB SAMPLE #: 9111161

FIELD BLANK #: NONE

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	4.8
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	2.8
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	15
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	5.4
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	6.7
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	12
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	10
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	3.2
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	25
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	10
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	4.7
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	7.1
Chlorobenzene	< 0.2		Naphthalene	< 0.5	1.1
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE : 700 UG/L

FUEL OIL : 11000 UG/L

Legend:
< = less than
PP = peak present

502.4G MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY 1
VOLATILE HYDROCARBONS (code 463)

mw 3

SAMPLED: 05/30/91
ANALYZED: 06/11/91
REPORTED: 06/19/91

LAB SAMPLE #: 9111162
FIELD BLANK #: NONE

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
trans-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
cis-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
trans-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
cis-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE : < 30 UG/L

FUEL OIL : < 200 UG/L

Legend:
< = less than
PP = peak present

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 05/30/91
ANALYZED: 06/11/91
REPORTED: 06/19/91

LAB SAMPLE #: 9111163

FIELD BLANK #: NONE

BB

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	0.2
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30 UG/L
FUEL OIL :	<	200 UG/L

Legend:
< = less than
PP = peak present

09120956 09120957 09120958 09120959

120855 ORG.FORM.FY91.1

MINNESOTA DEPARTMENT OF HEALTH
Chemical Laboratory Section
Organic Chemistry Unit

WATER ANALYSES ONLY

RECD 15 OCT 91

Date Collected: 9-5-91
Date Received: _____
Collected by: Mn/DOT

Chain of Custody #: 031

Budget #: DA
Report To: Mn/DOT
Field Blank #: 9120959

Laboratory Number		Field Number	Sample Description	- Container - Number	Type
9120955	a	JMW1	Jordan, Scott. Mn/DOT Truckstation well 1035	4	40ml
9120956	b	JMW2	" " " 0940	"	"
9120957	c	JMW3	" " " 0945	"	"
9120958	d	BB	" " " Bailer Blank 1000	"	"
9120959	e		Field BLANK	3	"

Analyses Request Options		ALL	a 9120955	b 9120956	c 9120957	d 9120958	e 9120959
VOLATILE ORGANICS	465						
VOLATILE HALOGENATED ORGANICS (THM)	464						
GASOLINE/FUEL OIL + HALOGENATED	463	X					
VOLATILE ORGANICS by GC/MS	468						
CHLOROPHENOXY ACID HERBICIDES (CPA)	574						
POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)	470						
POLYCHLORINATED BIPHENYLS (PCBs)	420						
PHTHALATE ESTERS	490					OCT 11 1991	
PESTICIDES, CHLORINATED	502						
TOXAPHENE	520						
TECHNICAL CHLORDANE	530						
DDT GROUP	550						
PESTICIDES, NITROGEN/PHOSPHOROUS	571						
SPECIAL SAMPLE HOURS C/C ~~550~~ 990		X					

Field Notes:

Laboratory Notes:

...-23-01 (...)

Minnesota Department of Transportation

Transportation Building
St. Paul, MN 55155

ENVIRONMENTAL COMPLIANCE AND INVESTIGATION UNIT

№ 031

CHAIN OF CUSTODY RECORD

Project Name: Mn/DOT Jordan Truck Station

Name of Sampler: TIC #3 Lonette Gauger

Field Number	1991 Date	Time	Sample Type (s): Monitoring well	Existing well	Surface water	Wastewater	Waste	Other	Sample Location	Analyses Requested	Comments on Samples
JMW1	9-5	1035	X						Jordan T.S.	463	TAN WATER COLOR
JMW2	9-5	0940	X						" "	463	NOTICABLE PETROL ODOR, BLACK
JMW3	9-5	0945	X						" "	463	TAN WATER COLOR
BB	9-5	1000						X	" "	463	
FB	-	-						X		463	

Remarks on Site: cloudy, 20°C, windy

Samples Relinquished by: Lonette Gauger 9-5-91 1135	Samples Received by:	Comments	Date/Time: 9/5/91 @ 11:35
Samples Relinquished by	Samples Received by	Comments	Date/Time
Samples Relinquished by	Samples Received by	Comments	Date/Time
Means of Delivery		Seals intact: ☐ YES ☐ NO ☐ N.A.	

Original and yellow copies to Lab. Pink copy to Mn/DOT. Lab forwards completed yellow copy to Mn/DOT with analytical results.

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 09/05/91
ANALYZED: 10/01/91
REPORTED: 10/08/91

LAB SAMPLE #: 9120955 MW1

FIELD BLANK #: 9120959

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0	
Chloromethane	< 2.0	
Vinyl Chloride	< 1.0	
Bromomethane	< 2.0	
Chloroethane	< 1.0	
Dichlorofluoromethane	< 1.0	
Trichlorofluoromethane	< 2.0	
Trichloro-trifluoroethane	< 0.2	
1,1-Dichloroethene	< 0.5	
Allyl Chloride	< 0.5	
Methylene Chloride	< 0.5	
t-1,2-Dichloroethene	< 0.1	
1,1-Dichloroethane	< 0.2	
2,2-dichloropropane	< 0.5	
c-1,2 Dichloroethene	< 0.2	
Chloroform	< 0.1	
Bromochloromethane	< 0.5	
1,1,1-Trichloroethane	< 0.2	
1,1-Dichloropropene	< 0.2	
Carbon Tetrachloride	< 0.2	
1,2-Dichloroethane	< 0.2	
Trichloroethene	< 0.1	
1,2-Dichloropropane	< 0.2	
Bromodichloromethane	< 0.2	
Dibromomethane	< 1.0	
c-1,3-Dichloropropene	< 0.2	
t-1,3-Dichloropropene	< 0.2	
1,1,2-Trichloroethane	< 0.2	
1,3-Dichloropropane	< 0.2	
Tetrachloroethene	< 0.2	
Chlorodibromomethane	< 0.5	
1,2-Dibromoethane	< 1.0	
Chlorobenzene	< 0.2	
1112-Tetrachloroethane	< 0.2	
Bromoform	< 1.0	
1122-Tetrachloroethane	< 0.2	
123-Trichloropropane	< 0.5	
Bromobenzene	< 0.2	
2-Chlorotoluene	< 0.5	
4-Chlorotoluene	< 0.5	
1,3-Dichlorobenzene	< 0.2	
1,4-Dichlorobenzene	< 0.2	
1,2-Dichlorobenzene	< 0.2	
1,2-Dibromo-3-Chloropropane	< 2.0	
124-Trichlorobenzene	< 0.5	
Hexachlorobutadiene	< 0.5	
123-Trichlorobenzene	< 0.5	
Ethyl Ether	< 2.0	
Acetone	< 20	
Methyl tertiary-Butyl Ether	< 2.0	
Methyl Ethyl Ketone	< 10	
Tetrahydrofuran	< 10	
Benzene	< 0.2	
Methyl Isobutyl Ketone	< 5.0	
Toluene	< 0.2	
Ethyl Benzene	< 0.2	
m+p-Xylene	< 0.2	
o-Xylene	< 0.2	
Styrene	< 0.5	
Isopropyl Benzene	< 0.5	
n-Propyl Benzene	< 0.5	
135-Trimethylbenzene	< 0.5	
tert-Butyl Benzene	< 0.5	
124-Trimethylbenzene	< 0.5	
sec-Butylbenzene	< 0.5	
p-Isopropyltoluene	< 0.5	
n-Butylbenzene	< 0.5	
Naphthalene	< 0.5	

COMMENTS:
ANALYZED AFTER THE 14 DAYS HOLDING TIME.

GASOLINE & FUEL OIL (463)

GASOLINE : < 30.0 UG/L

FUEL OIL : < 200.0 UG/L

Legend:
< = less than
PP = peak present

ST

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY
VOLATILE HYDROCARBONS (code 463)

SAMPLED: 09/05/91
ANALYZED: 10/01/91
REPORTED: 10/08/91

LAB SAMPLE #: 9120956

MW2

FIELD BLANK #: 9120959

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 2.0		1122-Tetrachloroethane	< 0.4	
Chloromethane	< 4.0		123-Trichloropropane	< 1.0	
Vinyl Chloride	< 2.0		Bromobenzene	< 0.4	
Bromomethane	< 4.0		2-Chlorotoluene	< 1.0	
Chloroethane	< 2.0		4-Chlorotoluene	< 1.0	
Dichlorofluoromethane	< 2.0		1,3-Dichlorobenzene	< 0.4	
Trichlorofluoromethane	< 4.0		1,4-Dichlorobenzene	< 0.4	
Trichloro-trifluoroethane	< 0.4	0.6	1,2-Dichlorobenzene	< 0.4	
1,1-Dichloroethene	< 1.0		1,2-Dibromo-3-Chloropropane	< 4.0	
Allyl Chloride	< 1.0		124-Trichlorobenzene	< 1.0	
Methylene Chloride	< 1.0		Hexachlorobutadiene	< 1.0	
t-1,2-Dichloroethene	< 0.2		123-Trichlorobenzene	< 1.0	
1,1-Dichloroethane	< 0.4		Ethyl Ether	< 4.0	
2,2-dichloropropane	< 1.0		Acetone	< 40	
c-1,2 Dichloroethene	< 0.4		Methyl tertiary-Butyl Ether	< 4.0	
Chloroform	< 0.2		Methyl Ethyl Ketone	< 20	
Bromochloromethane	< 1.0		Tetrahydrofuran	< 20	
1,1,1-Trichloroethane	< 0.4		Benzene	< 0.4	1.4
1,1-Dichloropropene	< 0.4		Methyl Isobutyl Ketone	< 10.0	
Carbon Tetrachloride	< 0.4		Toluene	< 0.4	0.4
1,2-Dichloroethane	< 0.4		Ethyl Benzene	< 0.4	10
Trichloroethene	< 0.2		m+p-Xylene	< 0.4	2.4
1,2-Dichloropropane	< 0.4		o-Xylene	< 0.4	3.3
Bromodichloromethane	< 0.4		Styrene	< 1.0	
Dibromomethane	< 2.0		Isopropyl Benzene	< 1.0	
c-1,3-Dichloropropene	< 0.4		n-Propyl Benzene	< 1.0	11
t-1,3-Dichloropropene	< 0.4		135-Trimethylbenzene	< 1.0	
1,1,2-Trichloroethane	< 0.4		tert-Butyl Benzene	< 1.0	
1,3-Dichloropropane	< 0.4		124-Trimethylbenzene	< 1.0	8.4
Tetrachloroethene	< 0.4		sec-Butylbenzene	< 1.0	13
Chlorodibromomethane	< 1.0		p-Isopropyltoluene	< 1.0	4.0
1,2-Dibromoethane	< 2.0		n-Butylbenzene	< 1.0	7.4
Chlorobenzene	< 0.4		Naphthalene	< 1.0	4.4
1112-Tetrachloroethane	< 0.4				
Bromoform	< 2.0				

COMMENTS:
ANALYZED AFTER THE 14 DAY HOLDING TIME.

GASOLINE & FUEL OIL (463)

GASOLINE :	800	UG/L
FUEL OIL :	12000	UG/L

Legend:
< = less than
PP = peak present

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY
VOLATILE HYDROCARBONS (code 463)

SAMPLED: 09/05/91
ANALYZED: 10/01/91
REPORTED: 10/08/91

LAB SAMPLE #: 9120957 mw3

FIELD BLANK #: 9120959

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:
ANALYZED AFTER THE 14 DAYS HOLDING TIME.

GASOLINE & FUEL OIL (463)

GASOLINE : < 30. UG/L

FUEL OIL : < 200. UG/L

Legend:
< = less than
PP = peak present

DT

502.4G MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY 1
VOLATILE HYDROCARBONS (code 463)

SAMPLED: 09/05/91 LAB SAMPLE #: 9120958 BB
ANALYZED: 10/01/91
REPORTED: 10/08/91 FIELD BLANK #: 9120959

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1	0.2	Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	0.4
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:
ANALYZED AFTER THE 14 DAYS HOLDING TIME.

GASOLINE & FUEL OIL (463)

GASOLINE : < 30. UG/L

FUEL OIL : < 200. UG/L

Legend:
< = less than
PP = peak present

DT

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 09/05/91
ANALYZED: 10/01/91
REPORTED: 10/08/91

LAB SAMPLE #: 9120959

FIELD BLANK #: 9120959

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:
ANALYZED AFTER THE 14 DAY HOLDING TIME.

GASOLINE & FUEL OIL (463)

GASOLINE : < 30. UG/L

FUEL OIL : < 200. UG/L

Legend:
< = less than
PP = peak present

FIELD NOTES

CREW	LZ, MV	DATE	12-10-91
SITE NAME		LOCATION	Jonah

SITE NUMBER	J SP1	JSP2		
AIR TEMPERTURE (°C)				
SKY COVER				
WIND (DIRECTION & SPEED)				
METHOD (boat, wading, Etc.)				
ICE THICKNESS (inches)				
WATER TEMPERATURE				
D.O. METER CAL___ TEMP___				
DISSOLVED OXYGEN KIT				
D.O. % SATURATION				
MAXIMUM SITE DEPTH (FEET)				
SECCHI DISK READING (FEET)				
LABORATORY SAMPLES (TYPE)	G, FO, BTEX	MTBE, Lead		
SAMPLE TIME	0945	1000		
SAMPLE DEPTH (FEET)				
FIELD SAMPLES				
SAMPLER TYPE				
LAB. NO.				
pH				
CONDUCTIVITY (mho's)				
TURBIDITY (NTU's)	Brown	Brn		
CHLORIDE (mg/l)	clay			
STREAM METERED	Defunkt			
TYPE OF METER	petrol	petrol		
VELOCITY (fps)	odor	odor		
DISCHARGE (CFS)				
GAUGE HEIGHT*				
FINISH TIME				
	S	N		

* Discribe bench used

REMARKS:

Xtra Copy

twin city testing corporation
662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

REPORT OF: CHEMICAL ANALYSES

For L.Z.

PROJECT: JORDAN, 68639

DATE: January 6, 1992

REPORTED TO: Minnesota Department of Transportation
Attn: John Sampson
6000 Minnehaha Avenue South
St. Paul, MN 55111

LABORATORY NO: 4410 92-0654

INTRODUCTION

This report presents the results of the analyses of seven samples received on December 10, 1991, from a representative of Minnesota Department of Transportation. The scope of our services was limited to the parameters listed in the attached tables.

METHODOLOGY

Analyses are performed according to Twin City Testing Standard Operating Procedures. The procedures are based on the references stated in the analytical results tables.

RESULTS

The results are listed in the attached tables.

REMARKS

The samples were collected on December 10, 1991, and were consumed in the analyses.

TWIN CITY TESTING CORPORATION

Stephanie A. Kidder
Project Manager

Susan D. Max, Director
Laboratory Operations

SAK\SDM\clj

Collected
12-10-91

VOLATILE ORGANIC COMPOUND RESULTS
EPA METHOD 8020

(All values are in µg/L which is equivalent to parts-per-billion)

Client ID:	JMW1	JMW2	JMW3	
TCT ID:	271722	271723	271724	
Parameter:				PQL
Benzene	ND	ND	ND	5
Toluene	ND	ND	ND	5
Ethyl benzene	ND	5	ND	5
Total xylenes	ND	ND	ND	5
Methyl-tert-butyl ether	ND	ND	ND	5
Surrogate Recovery:				
α,α,α-Trifluorotoluene	97%	111%	86%	
Total hydrocarbons as gasoline	ND	850*	ND	30
Surrogate Recovery:				
α,α,α-Trifluorotoluene	96%	110%	90%	
Date Analyzed:	12/16/91 and 12/17/91	12/16/91 and 12/17/91	12/16/91 and 12/17/91	

*The chromatographic profile is not typical of gasoline.

PQL = Practical Quantitation Limit

ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

Leaking Underground Fuel Tank (LUFT) Field Manual, California State Water Resources Control Board, Division of Water Quality, December 17, 1987

LABORATORY NO: 4410 92-0654

VOLATILE ORGANIC COMPOUND RESULTS
EPA METHOD 8020

(All values are in µg/L which is equivalent to parts-per-billion)

Client ID:	BB	FB	Method Blank	
TCT ID:	271725	271726		
Parameter:				PQL
Benzene	ND	ND	ND	5
Toluene	ND	ND	ND	5
Ethyl benzene	ND	ND	ND	5
Total xylenes	ND	ND	ND	5
Methyl-tert-butyl ether	ND	ND	ND	5
Surrogate Recovery:				
α,α,α-Trifluorotoluene	97%	98%	109%	
Total hydrocarbons as gasoline	ND	ND	ND	30
Surrogate Recovery:				
α,α,α-Trifluorotoluene	97%	98%	109%	
Date Analyzed:	12/16/91	12/16/91	12/16/91	

PQL = Practical Quantitation Limit

ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

Leaking Underground Fuel Tank (LUFT) Field Manual, California State Water Resources Control Board, Division of Water Quality, December 17, 1987

LABORATORY NO: 4410 92-0654

soil pile

VOLATILE ORGANIC COMPOUND RESULTS
EPA METHOD 8020

(All values are in µg/Kg which is equal to parts-per-billion)

Client ID:	JSP1	JSP2	
TCT ID:	271727	271728	
Parameter:			**PQL**
Benzene	ND	ND	5
Toluene	ND	6	5
Ethyl benzene	6	11	5
Total xylenes	15	16	5
Methyl-tert-butyl ether	ND	ND	5
Surrogate Recovery:			
α,α,α-Trifluorotoluene	90%	109%	
Total hydrocarbons as gasoline	3,100*	2,700*	30
Surrogate Recovery:			
α,α,α-Trifluorotoluene	102%	107%	
Date Analyzed:	12/18/91	12/18/91	

* The chromatographic profile is not typical of gasoline.

PQL = Practical Quantitation Limit

ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

Leaking Underground Fuel Tank (LUFT) Field Manual, California State Water Resources Control Board, Division of Water Quality, December 17, 1987

LABORATORY NO: 4410 92-0654

FUEL OIL RESULTS
USGS METHOD 82-1004

(All values are in mg/L which is equivalent to parts-per-million)

Sample Identification	TCT ID	Total Hydrocarbons as #2 Fuel Oil	Pentacosane Recovery (%)
JMW1	271722	ND	98
JMW2	271723	0.6	102
JMW3	271724	ND	84
BB	271725	ND	105
Blank		ND	117
Spike		76% Recovery	119
Spike Duplicate		70% Recovery	122
Method Detection Limit		0.2	
Date Extracted:		12/16/91	
Date Analyzed:		12/18/91	

ND = Not Detected

Reference: Methods for the Determination of Organic Substances in Water and Fluvial Sediments, U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Laboratory Analysis, Chapter A3.

Leaking Underground Fuel Tank (LUFT) Field Manual, California State Water Resources Control Board, Division of Water Quality, December 17, 1987.

LABORATORY NO: 4410 92-0654

FUEL OIL RESULTS
USGS METHOD 82-1004

(All values are in mg/Kg which is equal to parts-per-million)

Sample Identification	TCT ID	Total Hydrocarbons as #2 Fuel Oil	Pentacosane Recovery (%)
JSP1	271727	ND	116
JSP2	271728	27*	85
Blank		ND	85
Spike		76% Recovery	119
Spike Duplicate		70% Recovery	122
Method Detection Limit		2	
Date Extracted:		12/16/91	
Date Analyzed:		12/18/91	

* Chromatographic profile contains lower boiling hydrocarbons and is not typical of #2 fuel oil.

ND = Not Detected

Reference: Methods for the Determination of Organic Substances in Water and Fluvial Sediments, U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Laboratory Analysis, Chapter A3.

Leaking Underground Fuel Tank (LUFT) Field Manual, California State Water Resources Control Board, Division of Water Quality, December 17, 1987.

LABORATORY NO: 4410 92-0654

soil pile

METAL RESULTS

(All values are in mg/Kg which is equal to parts-per-million)

Client ID:	JSP1	JSP2			
TCT ID:	271727	271728			
Parameter			LDL	Test Date	Test Method
Lead	12	9.0	2.5	01/02/92	7420

ND = Not Detected

LDL = Lower Detectable Limit

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4410 92-0654

twin city testing corporation
737 PELHAM AVENUE
DOCK 4
ST. PAUL, MN 55114
PHONE 612 659 7555

CHAIN-OF-CUSTODY RECORD

TCT NO. 34491

TCT CONTACT: Stephanie Kidder
PROJECT NAME: JordAN
CLIENT P.O. # / PROJECT NO.: Contract #63638?
BILL TO (CO. NAME, ADDRESS): John Sampson
REPORT TO: SAME

CLIENT NAME: Mn/DOT
CLIENT ADDRESS (STREET NUMBER, SUITE, ETC.): 6000 Minnehaha Ave S
CLIENT ADDRESS (CITY, STATE, ZIP): St. Paul MN
CLIENT CONTACT/ADDRESS IF DIFFERENT FROM ABOVE: Mark Vogel PHONE: 725-2384
SAMPLED BY PRINT NAME/SIGNATURE: MV 83

TCT USE ONLY
PROJ. MGR.: Stephanie
PRIORITY: Normal
INVOICE #: 4410 92-0654
JOB NAME: MN-DOT.5
CUSTODY SEAL INTACT/NUMBER Y/N: N
TEMPERATURE OF CONTAINER: Dropped 4°
SAMPLE CONDITION: OK

PREPAY Y/N: N
CHECK NO.:
CHECK AMOUNT:

POSSIBLE HAZARD: YES ____ UNKNOWN X (COMMENT BELOW)

SAMPLE DISPOSAL: RETURN TO CLIENT ____ DISPOSAL BY LAB X
(ADDITIONAL CHARGES MAY BE ASSESSED)

ANALYSES REQUEST

CODE A - NONE
B - HNO3
C - H_2SO_4
D - NaOH
E - HCl
F - ____

	Gas, BTEX, MTBE	Fuel oil	Gas, BTEX, MTBE	Fuel oil	Lead
FILTERED (YES/NO)	N	N	N	N	N
PRESERVED (CODE)	E	A	A	A	A
REFRIGERATED (Y/N)	Y	Y	Y	Y	Y

ITEM NO.	CLIENT SAMPLE ID.	MATRIX	DATE SAMPLED	TIME SAMPLED	Gas, BTEX, MTBE	Fuel oil	Gas, BTEX, MTBE	Fuel oil	Lead				NO. OF CONTAINERS	CONTAINER TYPE	TCT NO.
1	JMW1	WATER	12-10-91	1215	X	X							4	3 40 ml, 1 LT	27172
2	JMW2	"		1125	X	X							"		27172
3	JMW3	"		1100	X	X							"		27172
4	BB	"		1145	X	X							"		27172
5	FB	"		—	X	X							"	40 ml Vial	27173
6	JSP1	Soil		0945			X	X	X				4	2 250 ml, 2 4oz	2717
7	JSP2	"		1000			X	X	X				4	2, 2	2717
8															
9															
10															

Additional Comments: Internal Chain of Custody

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Ronelle Zaugg	12-10-91	1350	Paula Kaus	12/10/91	1:5

SEE REVERSE SIDE FOR INSTRUCTIONS

ORIGINAL COPY

INTERNAL CHAIN-OF-CUSTODY FORM

MW-DOT.5

Sample Description: Water

Client Identification Number: JMW1, JMW2, JMW3 & BF

CT Identification Number: 27122-25

Fuel-Oil (Dispose of samples 3 months upon Receipt as per stephanie. 12/1/91 PS)

Relinquished By	Received By	Date/Time	Sample Location

PARTIAL SAMPLE DISTRIBUTION

Description	Released To	Date/Time

Final Sample Disposition:

orginal

INTERNAL CHAIN-OF-CUSTODY FORM

MN-DOT 5

Sample Description: Water / Soil

Client Identification Number: Waters - JMW1, JMW2, JMW3 + BB, FB
Soils - JSP1 + JSP2

TST Identification Number: Waters - 271722-26
Soils - 271727-28
BTX + MTBE

Relinquished By	Received By	Date/Time	Sample Location
Paula [illegible]	Craig S. Foxhoven	12-12-91/ 11:30 a.m.	Volatiles Lab
Craig S. Foxhoven	[illegible]	12/18/91 4:00 p.m.	LOG-IN

PARTIAL SAMPLE DISTRIBUTION

Released By	Released To	Date/Time

Final Disposition:

Original

INTERNAL CHAIN-OF-CUSTODY FORM

MN-DOT-5

Sample Description: Soil

Client Identification Number: JSP1 + JSP2

TCT Identification Number: 271727 + 271728

Fuel-oil (Dispose of sample 3 months upon Receipt as per Stephanie. 12/16/91)

Relinquished By	Received By	Date/Time	Sample Location
Paula Kraus	Charles Miller	12-16-91 10:25	EXT
Charles Miller	Erica A. Eggers	12/16/91 11:05	Bag. In Cooler

PARTIAL SAMPLE DISTRIBUTION

Description	Released To	Date/Time

Final Sample Disposition:

Original

INTERNAL CHAIN-OF-CUSTODY FORM

MN-DOT.5

Sample Description: Soil

Client Identification Number: JSP1 + JSP2

CT Identification Number: 27727 + 27728

Metals Dispose-3 months upon Receipt as per stephanie, 12/10/91 (PB)

Relinquished By	Received By	Date/Time	Sample Location
Paula Krause	J. Cebe	12-16-91	For Organic
J. Cebe	Paula Krause	1/3/92 2:00	Log-Cooler.

PARTIAL SAMPLE DISTRIBUTION

	Released To	Date/Time

Disposition:

X

twin city testing corporation
662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

REPORT OF: CHEMICAL ANALYSES

PROJECT: JORDON, #68639

DATE: April 6, 1992

REPORTED TO: Minnesota Department of Transportation
Attn: John Sampson
6000 Minnehaha Avenue South
St. Paul, MN 55111

LABORATORY NO: 4410 92-1267

INTRODUCTION

This report presents the results of the analyses of five samples received on March 17, 1992, from a representative of Minnesota Department of Transportation. The scope of our services was limited to the parameters listed in the attached tables.

METHODOLOGY

Analyses are performed according to Twin City Testing Standard Operating Procedures. The procedures are based on the references stated in the analytical results tables.

RESULTS

The results are listed in the attached tables.

REMARKS

The samples were collected on March 16, 1992, and were consumed in the analyses.

TWIN CITY TESTING CORPORATION

Stephanie A. Kidder
Project Manager

Susan D. Max, Director
Laboratory Operations

SAK\SDM\tlv

VOLATILE ORGANIC COMPOUND RESULTS
EPA METHOD 8020

(All values are in µg/L which is equivalent to parts-per-billion)

Client ID:	JMW-1	JMW-3	JBB	Field Blank	Method Blank	
TCT ID:	279374	279376	279377	279378		
Parameter:						PQL
Benzene	ND	ND	ND	ND	ND	5
Toluene	ND	ND	ND	ND	ND	5
Ethyl benzene	ND	ND	ND	ND	ND	5
Total xylenes	ND	ND	ND	ND	ND	5
Methyl-tert-butyl ether	ND	ND	ND	ND	ND	5
Surrogate Recovery:						
α,α,α-Trifluorotoluene	118%	112%	120%	117%	118%	
Total hydrocarbons as gasoline	ND	ND	ND	ND	ND	30
Surrogate Recovery:						
α,α,α-Trifluorotoluene	114%	108%	116%	113%	112%	
Date Analyzed:	3/21/92	3/21/92	3/20/92	3/20/92	3/20/92	

PQL = Practical Quantitation Limit

ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

Collected 3-16-92

LABORATORY NO: 4410 92-1267

VOLATILE ORGANIC COMPOUND RESULTS
EPA METHOD 8020

(All values are in µg/L which is equivalent to parts-per-billion)

Client ID: JMW-2

TCT ID: 279375

Parameter:		**PQL**
Benzene	ND	17
Toluene	ND	17
Ethyl benzene	27	17
Total xylenes	23	17
Methyl-tert-butyl ether	ND	17
Surrogate Recovery:		
α,α,α-Trifluorotoluene	106%	
Total hydrocarbons as gasoline	2,100	100
Surrogate Recovery:		
α,α,α-Trifluorotoluene	101%	
Date Analyzed:	3/23/92	

PQL = Practical Quantitation Limit

ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

collected 3-16-92

LABORATORY NO: 4410 92-1267

FUEL OIL RESULTS
USGS METHOD 82-1004

(All values are in mg/L which is equivalent to parts-per-million)

Sample Identification	TCT ID	Total Hydrocarbons as #2 Fuel Oil	Pentacosane Recovery (%)	Method Detection Limit
JMW-1	279374	ND	82	0.2
JMW-2	279375	1.0[1]	105	0.2
JMW-3	279376	ND	110	0.2
JBB	279377	ND	77	0.2
Field Blank	279378	ND	78	0.2
Blank		ND	82	0.2
Method Spike		79% Recovery	86	
Method Spike Duplicate		91% Recovery	104	

Date Extracted: 3/20/92

Date Analyzed: 3/26/92

---

[1] Chromatographic profile is not typical of #2 fuel oil.

ND = Not Detected

Reference: Methods for the Determination of Organic Substances in Water and Fluvial Sediments, U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Laboratory Analysis, Chapter A3.

Leaking Underground Fuel Tank (LUFT) Field Manual, California State Water Resources Control Board, Division of Water Quality, December 17, 1987.

collected 3-16-92

LABORATORY NO: 4410 92-1267

twin city testing corporation
662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

REPORT OF: CHEMICAL ANALYSES

PROJECT: JORDON TRUCK STATION, #68639 **DATE:** July 7, 1992

REPORTED TO: Minnesota Department of Transportation
Attn: John Sampson
6000 Minnehaha Avenue
St. Paul, MN 55111

LABORATORY NO: 4410 92-2031

INTRODUCTION

This report presents the results of the analyses of five samples received on June 18, 1992, from a representative of Minnesota Department of Transportation. The scope of our services was limited to the parameters listed in the attached tables.

METHODOLOGY

Analyses are performed according to Twin City Testing Standard Operating Procedures. The procedures are based on the references stated in the analytical results tables.

RESULTS

The results are listed in the attached tables.

REMARKS

The samples were collected on June 18, 1992. If samples are not consumed in the analysis, they are held for three months from the date of sample receipt and then disposed, unless written instructions to the contrary are received.

TWIN CITY TESTING CORPORATION

Stephanie A. Kidder
Project Manager

Susan D. Max
Director, Environmental Chemistry

SAK\SDM\lml

VOLATILE ORGANIC COMPOUND RESULTS
EPA METHOD 8020

(All values are in µg/L which is equivalent to parts-per-billion)

Client ID:	JMW1	JMW2	JMW3	Bailer Blank	Field Blank	Method Blank	
TCT ID:	287930	287933*	287934	287935	287936		
Parameter:							PQL
Benzene	ND	ND	ND	ND	ND	ND	5
Toluene	ND	ND	ND	ND	ND	ND	5
Ethyl benzene	ND	11	ND	ND	ND	ND	5
Total xylenes	ND	7	ND	ND	ND	ND	5
Methyl-tert-butyl ether	ND	ND	ND	ND	ND	ND	5
Surrogate Recovery:							
α,α,α-Trifluorotoluene	89%	93%	93%	89%	92%	91%	
Same as Total HC as gasoline Gasoline Range Organics	ND	680*	ND	ND	ND	ND	30
Surrogate Recovery:							
α,α,α-Trifluorotoluene	101%	107%	108%	103%	105%	105%	
Date Collected:	6/18/92	6/18/92	6/18/92	6/18/92	6/18/92		
Date Analyzed:	6/23/92	6/24/92	6/24/92	6/24/92	6/23/92	6/23/92	

* Chromatographic profile also contains higher boiling hydrocarbons.

PQL = Practical Quantitation Limit
ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

Wisconsin Department of Natural Resources, PUBL-SW-140, April 1992.

LABORATORY NO: 4410 92-2031

DIESEL RANGE ORGANIC RESULTS
MODIFIED DRO METHOD

(All values are in µg/L which is equivalent to parts-per-billion)

Sample Identification	TCT ID	Diesel Range Organics	Triacontane Recovery (%)	Practical Quantitation Limit
JMW1	287930	ND	74	200
JMW2	287933	520[1]	61	200
JMW3	287934	ND	79	200
Bailer Blank	287935	ND	92	200
Field Blank	287936	ND	98	200
Blank		ND	67	200
Method Spike		88% Recovery	96	
Method Spike Duplicate		100% Recovery	100	
Date Collected:		6/18/92		
Date Extracted:		6/25/92		
Date Analyzed:		6/29-30/92		

[1] Chromatographic profile also contains lower boiling hydrocarbons.

ND = Not Detected

Reference: Wisconsin Department of Natural Resources, PUBL-SW-141, April 1992.

LABORATORY NO: 4410 92-2031

twin city testing corporation
662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

REPORT OF: CHEMICAL ANALYSES

PROJECT: JORDAN, 69474

DATE: October 6, 1992

REPORTED TO: Minnesota Department of Transportation
Attn: John Sampson
6000 Minnehaha Avenue
St. Paul, MN 55111

LABORATORY NO: 4410 92-2768

INTRODUCTION

This report presents the results of the analyses of five samples received on September 21, 1992, from a representative of Minnesota Department of Transportation. The scope of our services was limited to the parameters listed in the attached tables.

METHODOLOGY

Analyses are performed according to Twin City Testing Standard Operating Procedures. The procedures are based on the references stated in the analytical results tables.

RESULTS

The results are listed in the attached tables.

REMARKS

The samples were collected on September 21, 1992. If samples are not consumed in the analysis, they are held for three months from the date of sample receipt and then disposed, unless written instructions to the contrary are received.

TWIN CITY TESTING CORPORATION

Stephanie A. Kidder
Project Manager

Susan D. Max
Director, Environmental Chemistry

SAK\SDM\lml

VOLATILE ORGANIC COMPOUND RESULTS
EPA METHOD 8020

(All values are in µg/L which is equivalent to parts-per-billion)

Client ID:	JMW1 1040	JMW2 1115	JMW3 1145	BB	TB	Method Blank	
TCT ID:	296647	296648*	296649	296650	296651		
Parameter:							PQL
Benzene	ND	ND	ND	ND	ND	ND	5
Toluene	ND	ND	ND	ND	ND	ND	5
Ethyl benzene	ND	6	ND	ND	ND	ND	5
Total xylenes	ND	ND	ND	ND	ND	ND	5
Surrogate Recovery:							
α,α,α-Trifluorotoluene	93%	101%	94%	97%	116%	100%	
Gasoline Range Organics	ND	410	ND	ND	ND	ND	30
Surrogate Recovery:							
α,α,α-Trifluorotoluene	96%	104%	97%	101%	105%	104%	
Date Collected:	9/21/92	9/21/92	9/21/92	9/21/92	9/21/92		
Date Analyzed:	9/22/92	9/23/92	9/22/92	9/22/92	9/23/92	9/22/92	

* Chromatographic profile also contains higher boiling hydrocarbons.

PQL = Practical Quantitation Limit
ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

Wisconsin Department of Natural Resources, PUBL-SW-140, April 1992.

LABORATORY NO: 4410 92-2768

VOLATILE ORGANIC COMPOUNDS
MNDH METHOD 465D

(All values are in µg/L which is equivalent to parts-per-billion)

Client ID:	JMW1 1040	JMW2 115	JMW3 1145	BB	
TCT ID:	296647	296648*	296649	296650	
Compound:					**PQL**
Acetone	ND	ND	ND	200	10
Allyl Chloride	ND	ND	ND	ND	10
Benzene	ND	ND	ND	ND	1
Bromobenzene	ND	ND	ND	ND	1
Bromochloromethane	ND	ND	ND	ND	1
Bromodichloromethane	ND	ND	ND	ND	1
Bromoform	ND	ND	ND	ND	5
Bromomethane	ND	ND	ND	ND	2
n-Butylbenzene	ND	3	ND	ND	1
sec-Butylbenzene	ND	9	ND	ND	1
tert-Butylbenzene	ND	ND	ND	ND	1
Carbon tetrachloride	ND	ND	ND	ND	1
Chlorobenzene	ND	ND	ND	ND	1
Chloroethane	ND	ND	ND	ND	2
Chloroform	ND	ND	ND	ND	1
Chloromethane	ND	ND	ND	ND	5
2-Chlorotoluene	ND	ND	ND	ND	1
4-Chlorotoluene	ND	ND	ND	ND	1
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	1
1,2-Dibromoethane	ND	ND	ND	ND	2
Dibromomethane	ND	ND	ND	ND	1
1,2-Dichlorobenzene	ND	ND	ND	ND	1
1,3-Dichlorobenzene	ND	ND	ND	ND	1
1,4-Dichlorobenzene	ND	ND	ND	ND	1
Dichlorodifluoromethane	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	1
1,2-Dichloroethane	ND	ND	ND	ND	1
1,1-Dichloroethene	ND	ND	ND	ND	1
cis-1,2-Dichloroethene	ND	ND	ND	ND	1
trans-1,2-Dichloroethene	ND	ND	ND	ND	1
Dichlorofluoromethane	ND	ND	ND	ND	2
1,2-Dichloropropane	ND	ND	ND	ND	1
1,3-Dichloropropane	ND	ND	ND	ND	1
2,2-Dichloropropane	ND	ND	ND	ND	1

(continued)

* Unidentified high boiling hydrocarbons present.
PQL = Practical Quantitation Limit
ND = Not Detected

LABORATORY NO: 4410 92-2768

VOLATILE ORGANIC COMPOUNDS (continued)
MNDH METHOD 465D

(All values are in µg/L which is equivalent to parts-per-billion)

Client ID:	**JMW1 1040**	**JMW2 1115**	**JMW3 1145**	**BB**	
TCT ID:	296647	296648	296649	296650	
Compound:					**PQL**
1,1-Dichloropropene	ND	ND	ND	ND	1
cis-1,3-Dichloropropene	ND	ND	ND	ND	1
trans-1,3-Dichloropropene	ND	ND	ND	ND	1
Ethyl Ether	ND	ND	ND	ND	5
Ethylbenzene	ND	5	ND	ND	1
Hexachlorobutadiene	ND	ND	ND	ND	1
Isopropylbenzene	ND	6	ND	ND	1
p-Isopropyltoluene	ND	2	ND	ND	1
Methyl Ethyl Ketone	ND	ND	ND	ND	5
Methyl Isobutyl Ketone	ND	ND	ND	ND	5
Methyl Tertiarty Butyl Ether	ND	ND	ND	ND	1
Methylene chloride	ND	ND	ND	ND	1
Naphthalene	ND	ND	ND	ND	1
n-Propylbenzene	ND	5	ND	ND	1
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	1
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	1
Tetrachloroethene	ND	ND	ND	ND	1
Tetrahydrofuran	ND	ND	ND	ND	10
Toluene	ND	ND	ND	ND	1
1,2,3-Trichlorobenzene	ND	ND	ND	ND	1
1,2,4-Trichlorobenzene	ND	ND	ND	ND	1
1,1,1-Trichloroethane	ND	ND	ND	ND	2
1,1,2-Trichloroethane	ND	ND	ND	ND	1
Trichloroethene	ND	ND	ND	ND	1
Trichlorofluoromethane	ND	ND	ND	ND	2
1,2,3-Trichloropropane	ND	ND	ND	ND	1
Trichlorotrifluoroethane	ND	ND	ND	ND	1
1,2,4-Trimethylbenzene	ND	ND	ND	ND	1
1,3,5-Trimethylbenzene	ND	ND	ND	ND	1
Vinyl chloride	ND	ND	ND	ND	2
o-Xylene, Styrene[1]	ND	ND	ND	ND	1
m-p-Xylenes[1]	ND	ND	ND	ND	1
Date Analyzed:	10/1/92	10/2/92	10/1-2/92	10/1-2/92	

[1]Compounds not separated by this method.

PQL = Practical Quantitation Limit
ND = Not Detected

Reference: Minnesota Department of Health, Method 465D.

LABORATORY NO: 4410 92-2768

VOLATILE ORGANIC COMPOUNDS
MNDH METHOD 465D

(All values are in µg/L which is equivalent to parts-per-billion)

Client ID:	TB	Method Blank	Method Blank	
TCT ID:	296651			
Compound:				**PQL**
Acetone	220	ND	12	10
Allyl Chloride	ND	ND	ND	10
Benzene	ND	ND	ND	1
Bromobenzene	ND	ND	ND	1
Bromochloromethane	ND	ND	ND	1
Bromodichloromethane	ND	ND	ND	1
Bromoform	ND	ND	ND	5
Bromomethane	ND	ND	ND	2
n-Butylbenzene	ND	ND	ND	1
sec-Butylbenzene	ND	ND	ND	1
tert-Butylbenzene	ND	ND	ND	1
Carbon tetrachloride	ND	ND	ND	1
Chlorobenzene	ND	ND	ND	1
Chloroethane	ND	ND	ND	2
Chloroform	ND	ND	ND	1
Chloromethane	ND	ND	ND	5
2-Chlorotoluene	ND	ND	ND	1
4-Chlorotoluene	ND	ND	ND	1
1,2-Dibromo-3-chloropropane	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	1
1,2-Dibromoethane	ND	ND	ND	2
Dibromomethane	ND	ND	ND	1
1,2-Dichlorobenzene	ND	ND	ND	1
1,3-Dichlorobenzene	ND	ND	ND	1
1,4-Dichlorobenzene	ND	ND	ND	1
Dichlorodifluoromethane	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	1
1,2-Dichloroethane	ND	ND	ND	1
1,1-Dichloroethene	ND	ND	ND	1
cis-1,2-Dichloroethene	ND	ND	ND	1
trans-1,2-Dichloroethene	ND	ND	ND	1
Dichlorofluoromethane	ND	ND	ND	2
1,2-Dichloropropane	ND	ND	ND	1
1,3-Dichloropropane	ND	ND	ND	1
2,2-Dichloropropane	ND	ND	ND	1

(continued)

PQL = Practical Quantitation Limit
ND = Not Detected

LABORATORY NO: 4410 92-2768

VOLATILE ORGANIC COMPOUNDS (continued)
MNDH METHOD 465D

(All values are in µg/L which is equivalent to parts-per-billion)

Client ID:	TB	Method Blank	Method Blank	
TCT ID:	296651			
Compound:				**PQL**
1,1-Dichloropropene	ND	ND	ND	1
cis-1,3-Dichloropropene	ND	ND	ND	1
trans-1,3-Dichloropropene	ND	ND	ND	1
Ethyl Ether	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	1
Hexachlorobutadiene	ND	ND	ND	1
Isopropylbenzene	ND	ND	ND	1
p-Isopropyltoluene	ND	ND	ND	1
Methyl Ethyl Ketone	ND	ND	ND	5
Methyl Isobutyl Ketone	ND	ND	ND	5
Methyl Tertiarty Butyl Ether	ND	ND	ND	1
Methylene chloride	ND	1	ND	1
Naphthalene	ND	ND	ND	1
n-Propylbenzene	ND	ND	ND	1
1,1,1,2-Tetrachloroethane	ND	ND	ND	1
1,1,2,2-Tetrachloroethane	ND	ND	ND	1
Tetrachloroethene	ND	ND	ND	1
Tetrahydrofuran	ND	ND	ND	10
Toluene	ND	ND	ND	1
1,2,3-Trichlorobenzene	ND	ND	ND	1
1,2,4-Trichlorobenzene	ND	ND	ND	1
1,1,1-Trichloroethane	ND	ND	ND	2
1,1,2-Trichloroethane	ND	ND	ND	1
Trichloroethene	ND	ND	ND	1
Trichlorofluoromethane	ND	ND	ND	2
1,2,3-Trichloropropane	ND	ND	ND	1
Trichlorotrifluoroethane	ND	ND	ND	1
1,2,4-Trimethylbenzene	ND	ND	ND	1
1,3,5-Trimethylbenzene	ND	ND	ND	1
Vinyl chloride	ND	ND	ND	2
o-Xylene, Styrene[1]	ND	ND	ND	1
m-p-Xylenes[1]	ND	ND	ND	1
Date Analyzed:	10/1/92	10/1-2/92	10/2-3/92	

[1]Compounds not separated by this method.

PQL = Practical Quantitation Limit
ND = Not Detected

Reference: Minnesota Department of Health, Method 465D.

LABORATORY NO: 4410 92-2768

DIESEL RANGE ORGANIC RESULTS
MODIFIED DRO METHOD

(All values are in µg/L which is equivalent to parts-per-billion)

Sample Identification	TCT ID	Diesel Range Organics	Triacontane Recovery (%)	Practical Quantitation Limit
JMW1 1040	296647	ND	93	220
JMW2 1115	296648	710[1]	97	200
JMW3 1145	296649	ND	94	200
BB	296650	ND	128	220
TB	296651	ND	93	200
Blank		ND	96	200
Matrix Spike		78% Recovery	94	
Matrix Spike Duplicate		78% Recovery	93	

Date Collected:	9/21/92
Date Extracted:	9/25/92
Date Analyzed:	9/28-29/92

[1] Chromatographic profile also contains lower boiling hydrocarbons.

ND = Not Detected

Reference: Wisconsin Department of Natural Resources, PUBL-SW-141, April 1992.

LABORATORY NO: 4410 92-2768

J64

twin city testing corporation
737 PELHAM AVENUE
DOCK 4
ST. PAUL, MN 55114
PHONE 612/659-7555

CHAIN OF CUSTODY RECORD — TCT NO. 35723

CLIENT NAME: Mn/DOT
CLIENT ADDRESS (STREET NUMBER, SUITE, ETC.): 6000 Minnehaha Ave S
CLIENT ADDRESS (CITY, STATE, ZIP): St. Paul MN 55111
CLIENT CONTACT/ADDRESS IF DIFFERENT FROM ABOVE: Mark Vogel PHONE 725-2384
SAMPLED BY PRINT NAME/SIGNATURE: MV

TCT CONTACT: Stephanie Kidder
PROJECT NAME: Jordan
CLIENT P.O. # / PROJECT NO.: Mn/DOT #68639
BILL TO (CO. NAME, ADDRESS): Same
REPORT TO: John Sampson 725-2365

TCT USE ONLY
PROJ. MGR.: Steph
PRIORITY: Normal
INVOICE #: 441092-2768
JOB NAME: MN-DOT.70
CUSTODY SEAL INTACT/NUMBER Y/N: N/A
TEMPERATURE OF CONTAINER: ice / Dropped off
SAMPLE CONDITION: OK

PREPAY Y/N: N
CHECK NO.: ✓
CHECK AMOUNT:

POSSIBLE HAZARD: YES ____ UNKNOWN X (COMMENT BELOW)

SAMPLE DISPOSAL: RETURN TO CLIENT ____ DISPOSAL BY LAB X
(ADDITIONAL CHARGES MAY BE ASSESSED)

ANALYSES REQUEST

	3 VOC kits	1 lt amber
FILTERED (YES/NO)	N	N
PRESERVED (CODE)	E	A
REFRIGERATED (Y/N)	Y	Y

CODE A - NONE
B - HNO3
C - H_2SO_4
D - NaOH
E - HCl
F - ____

ITEM NO.	CLIENT SAMPLE ID.		MATRIX	DATE SAMPLED	TIME SAMPLED	3 VOC kits	1 lt amber							NO. OF CONTAINERS	CONTAINER TYPE	TCT NO.
1	JMW1	1040	water	9-21-92		✓	✓							7	6, 40 ml; 1, 1 lt.	
2	JMW2	1115	↓	↓		✓	✓							↓	↓	
3	JMW3	1145	↓	↓		✓	✓							↓	↓	
4	BB	1050	↓	↓		✓	✓							↓	↓	
5	TB		↓	↓		✓										
6																
7																
8																
9																
10																

Additional Comments
BTEX + Gas EPA Method 8020
Total Hydrocarbons MnDH ~~4650~~ 465D
Fuel oil DRO Method
SK as per ? MV 9-22-92
Internal Chain of Custody

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	9/21/92	1330	Karla Kraus	9/21/92	13:40

* SEE REVERSE SIDE FOR INSTRUCTIONS

INTERNAL CHAIN-OF-CUSTODY FORM

MN-DOT.70

Sample Description: water

Client Identification Number: JMW1 1040, JMW2 1115, JMW3 1145, BB, TB

TCT Identification Number: 296647-651

Relinquished By	Received By	Date/Time	Sample Location
Erica A. Eggers	Craig S. Foxhoven	9-22-92 9:30 a.m.	Volatiles Lab
Craig S. Foxhoven	Erica A. Eggers	7:10 9-9?csk	V-64 log. in

PARTIAL SAMPLE DISTRIBUTION

Description	Released To	Date/Time

Final Sample Disposition: ______

INTERNAL CHAIN-OF-CUSTODY FORM

MN-DOT 70

Sample Description: water

Client Identification Number: JMW1 1040, JMW2 1115, JMW3 1145, BB, TB

TCT Identification Number: 296647 - 651

Relinquished By	Received By	Date/Time	Sample Location
E Eggers	J. Ostl - (1)	9/21/92 14:10	EXT. LAB
J. Ostl -	Tina A. Eggers	9/28/92 8:00 a.m.	(1)

PARTIAL SAMPLE DISTRIBUTION

Description	Released To	Date/Time

Final Sample Disposition: (1) all samples were used up during extraction process MO 9-28-92

C-825 (5/90)

09227703 09227704 09227705 09227706

09227703

8.4.90
ORG.FORM.FY91.1

MINNESOTA DEPARTMENT OF HEALTH
Chemical Laboratory Section
Organic Chemistry Unit

WATER ANALYSES ONLY

RECD 25 JAN 9 3

Date Collected: 12-21-92
Date Received: 12-21-92
Collected by: Mn/DOT

Chain of Custody #: 213

Budget #: DA
Report To: Mn/DOT
Field Blank #: 9227708

Laboratory Number		Field Number	Sample Description	- Container - Number	Type
9227703	a	JMW1	Jordan Truck station well	4	40
9227704	b	JMW2	1130		
9227705	c	JMW3	1015		
9227706	d	JMW4	1210		
	e				

Analyses Request Options		ALL	a 9227703	b 9227704	c 9227705	d 9227706	e
VOLATILE ORGANICS	465						
VOLATILE HALOGENATED ORGANICS (THM)	464						
GASOLINE/FUEL OIL + HALOGENATED	463	X					
VOLATILE ORGANICS by GC/MS	468						
CHLOROPHENOXY ACID HERBICIDES (CPA)	574						
POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)	470						
POLYCHLORINATED BIPHENYLS (PCBs)	420						
PHTHALATE ESTERS	490						
PESTICIDES, CHLORINATED	502						
TOXAPHENE	520						
TECHNICAL CHLORDANE	530						
DDT GROUP	550						
PESTICIDES, NITROGEN/PHOSPHOROUS	571						
SPECIAL SAMPLE HOURS 990 4C ~~500~~		X					

JAN 25 1993

Field Notes:

Laboratory Notes: JMW2 strong petrol smell

Mn[illegible]TP-03[illegible]1 (8/9[illegible]

Minnesota Department of Transportation

Transportation Building
St. Paul, MN 55155

ENVIRONMENTAL COMPLIANCE AND INVESTIGATION UNIT

No 212

CHAIN OF CUSTODY RECORD

Project Name	Name of Sampler
Jordan Truck Station	JJ

Field Number	Date	Time	Sample Type (s): Monitoring well	Existing well	Surface water	Wastewater	Waste	Other	Sample Location	Analyses Requested	Comments on Samples
	1992										
JMW1	12-21	1050	X						TS. well	4/63	
JMW2	12-21	1130	X						"	4/63	
JMW3	12-21	1015	X						"	4/63	
JMW4	12-21	1210	X						"	4/63	
BB	12-21	1715						X	Bottle Blank	4/63	
TB								X	Trip Blank	4/63	

Remarks on Site: SUNNY windy 41

Samples Relinquished by	Samples Received by	Comments	Date/Time
Jennifer Allen 12-21-92 1840	Pat McKay		12-21-92 1:40
Samples Relinquished by	Samples Received by	Comments	Date/Time
Samples Relinquished by	Samples Received by	Comments	Date/Time
Means of Delivery		Seals intact: ☐ YES ☐ NO ☐ N.A.	

Original and yellow copies to Lab. Pink copy to Mn/DOT. Lab forwards completed yellow copy to Mn/DOT with analytical results.

502.4G MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY 1
VOLATILE HYDROCARBONS (code 463)

SAMPLED: 12/21/92 LAB SAMPLE #: 9227703
ANALYZED: 01/01/93
REPORTED: 01/21/93 FIELD BLANK #: 9227708

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE : < 30. UG/L

FUEL OIL : < 200. UG/L

Legend:
< = less than
PP = peak present

502.4G MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY 1
VOLATILE HYDROCARBONS (code 463)

SAMPLED: 12/21/92 LAB SAMPLE #: 9227704
ANALYZED: 01/01/93
REPORTED: 01/21/93 FIELD BLANK #: 9227708

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	0.5
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	0.8
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	17
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	6.6
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	7.8
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	15
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	18
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	2.9
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	25
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	2.5
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	5.0
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	7.3
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE : 390. UG/L

FUEL OIL : 4600. UG/L

Legend:
< = less than
PP = peak present

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 12/21/92
ANALYZED: 01/01/93
REPORTED: 01/21/93

LAB SAMPLE #: 9227705

FIELD BLANK #: 9227708

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE : < 30. UG/L

FUEL OIL : 290. UG/L

Legend:
< = less than
PP = peak present

502.4G MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY
VOLATILE HYDROCARBONS (code 463)

SAMPLED: 12/21/92
ANALYZED: 01/01/93
REPORTED: 01/21/93

LAB SAMPLE #: 9227706

FIELD BLANK #: 9227708

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0	
Chloromethane	< 2.0	
Vinyl Chloride	< 1.0	
Bromomethane	< 2.0	
Chloroethane	< 1.0	
Dichlorofluoromethane	< 1.0	
Trichlorofluoromethane	< 2.0	
Trichloro-trifluoroethane	< 0.2	
1,1-Dichloroethene	< 0.5	
Allyl Chloride	< 0.5	
Methylene Chloride	< 0.5	
t-1,2-Dichloroethene	< 0.1	
1,1-Dichloroethane	< 0.2	
2,2-dichloropropane	< 0.5	
c-1,2 Dichloroethene	< 0.2	
Chloroform	< 0.1	
Bromochloromethane	< 0.5	
1,1,1-Trichloroethane	< 0.2	
1,1-Dichloropropene	< 0.2	
Carbon Tetrachloride	< 0.2	
1,2-Dichloroethane	< 0.2	
Trichloroethene	< 0.1	
1,2-Dichloropropane	< 0.2	
Bromodichloromethane	< 0.2	
Dibromomethane	< 1.0	
c-1,3-Dichloropropene	< 0.2	
t-1,3-Dichloropropene	< 0.2	
1,1,2-Trichloroethane	< 0.2	
1,3-Dichloropropane	< 0.2	
Tetrachloroethene	< 0.2	
Chlorodibromomethane	< 0.5	
1,2-Dibromoethane	< 1.0	
Chlorobenzene	< 0.2	
1112-Tetrachloroethane	< 0.2	
Bromoform	< 1.0	
1122-Tetrachloroethane	< 0.2	
123-Trichloropropane	< 0.5	
Bromobenzene	< 0.2	
2-Chlorotoluene	< 0.5	
4-Chlorotoluene	< 0.5	
1,3-Dichlorobenzene	< 0.2	
1,4-Dichlorobenzene	< 0.2	
1,2-Dichlorobenzene	< 0.2	
1,2-Dibromo-3-Chloropropane	< 2.0	
124-Trichlorobenzene	< 0.5	
Hexachlorobutadiene	< 0.5	
123-Trichlorobenzene	< 0.5	
Ethyl Ether	< 2.0	
Acetone	< 20	
Methyl tertiary-Butyl Ether	< 2.0	
Methyl Ethyl Ketone	< 10	
Tetrahydrofuran	< 10	
Benzene	< 0.2	
Methyl Isobutyl Ketone	< 5.0	
Toluene	< 0.2	
Ethyl Benzene	< 0.2	
m+p-Xylene	< 0.2	
o-Xylene	< 0.2	
Styrene	< 0.5	
Isopropyl Benzene	< 0.5	
n-Propyl Benzene	< 0.5	
135-Trimethylbenzene	< 0.5	
tert-Butyl Benzene	< 0.5	
124-Trimethylbenzene	< 0.5	
sec-Butylbenzene	< 0.5	
p-Isopropyltoluene	< 0.5	
n-Butylbenzene	< 0.5	
Naphthalene	< 0.5	

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE : < 30. UG/L

FUEL OIL : < 200. UG/L

Legend:
< = less than
PP = peak present

DT

09227707 09227708

9.7.90
ORG.FORM.FY91.1

MINNESOTA DEPARTMENT OF HEALTH
Chemical Laboratory Section
Organic Chemistry Unit

WATER ANALYSES ONLY

Date Collected: 12-21-92
Date Received: 12-21-92
Collected by: Mn/DOT

RECD 25 JAN 93

Chain of Custody #: 213

Budget #: PA
Report To: Mn/DOT
Field Blank #: 9227708

Laboratory Number		Field Number	Sample Description	- Container - Number	Type
9227707	a	BB	Jordan T.S. Bucket Blank 12/15	4	40
9227708	b	TB	Trip Blank	3	L
	c				
	d				
	e				

JAN 25 1993

Analyses Request Options		ALL	a 9227707	b 9227708	c	d	e
VOLATILE ORGANICS	465						
VOLATILE HALOGENATED ORGANICS (THM)	464						
GASOLINE/FUEL OIL + HALOGENATED	463	X					
VOLATILE ORGANICS by GC/MS	468						
CHLOROPHENOXY ACID HERBICIDES (CPA)	574						
POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)	470						
POLYCHLORINATED BIPHENYLS (PCBs)	420						
PHTHALATE ESTERS	490						
PESTICIDES, CHLORINATED	502						
TOXAPHENE	520						
TECHNICAL CHLORDANE	530						
DDT GROUP	550						
PESTICIDES, NITROGEN/PHOSPHOROUS	571						
SPECIAL SAMPLE HOURS c/c 990	~~560~~	X					

Field Notes:

Laboratory Notes:

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 12/21/92 LAB SAMPLE #: 9227707
ANALYZED: 01/01/93
REPORTED: 01/21/93 FIELD BLANK #: 9227708

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE : < 30. UG/L

FUEL OIL : < 200. UG/L

Legend:
< = less than
PP = peak present

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 12/21/92
ANALYZED: 01/01/93
REPORTED: 01/21/93

LAB SAMPLE #: 9227708

FIELD BLANK #: 9227708

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE : < 30. UG/L

FUEL OIL : < 200. UG/L

Legend:
< = less than
PP = peak present

BT

09304422 09304423 09304424 09304425

9.7.90
ORG.FORM.FY91.1

MINNESOTA DEPARTMENT OF HEALTH
Chemical Laboratory Section
Organic Chemistry Unit

WATER ANALYSES ONLY

Date Collected: 3-15-93
Date Received: 3-17-93
Collected by: MN/DOT

Chain of Custody #: 246

Budget #: OA
Report To: MN/DOT
Field Blank #: 9304427

Laboratory Number		Field Number	Sample Description	- Container - Number	Type
9304422	a	JMW1	Jordan Truck Station well	4	40
9304423	b	JMW2	"	"	"
9304424	c	JMW3	"	"	"
9304425	d	JMW4	"	"	"
	e				

Analyses Request Options		ALL	a 9304422	b 9304423	c 9304424	d 9304425	e
VOLATILE ORGANICS	465						
VOLATILE HALOGENATED ORGANICS (THM)	464						
GASOLINE/FUEL OIL + HALOGENATED	463	X					
VOLATILE ORGANICS by GC/MS	468						
CHLOROPHENOXY ACID HERBICIDES (CPA)	574						
POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)	470						
POLYCHLORINATED BIPHENYLS (PCBs)	420						
PHTHALATE ESTERS	490						
PESTICIDES, CHLORINATED	502						
TOXAPHENE	520						
TECHNICAL CHLORDANE	530						
DDT GROUP	550						
PESTICIDES, NITROGEN/PHOSPHOROUS	571						
SPECIAL SAMPLE HOURS c/c 990	~~550~~	X					

Field Notes:

Laboratory Notes:

MAR 31 1993

Mn/DOT TP-03023-01 (8/90)

Minnesota Department of Transportation

Transportation Building
St. Paul, MN 55155

ENVIRONMENTAL COMPLIANCE AND INVESTIGATION UNIT

№ 246

CHAIN OF CUSTODY RECORD

Project Name: Jordan Truck Station									Name of Sampler: [illegible]
Field Number	Date 1993	Time	Monitoring well	Existing well	Surface water	Wastewater	Waste	Other	Sample Location	Analyses Requested	Comments on Samples
JM01	3-15		X						[illegible]	463	
JM02			X								Petrol odor
JM03			X								
JM04			X								

Remarks on Site: Sunny - 2

Samples Relinquished by	Samples Received by	Comments	Date/Time
[signature] 3-17-93 1030	[signature]		3-17 1030
Samples Relinquished by	Samples Received by	Comments	Date/Time
Samples Relinquished by	Samples Received by	Comments	Date/Time

Means of Delivery

Seals intact: ☐ YES ☐ NO ☐ N.A.

Original and yellow copies to Lab. Pink copy to Mn/DOT. Lab forwards completed yellow copy to Mn/DOT with analytical results.

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 03/15/93
ANALYZED: 03/24/93
REPORTED: 03/29/93

LAB SAMPLE #: 9304422

FIELD BLANK #: 9304427

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlcrofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichlcro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichlcroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromcmethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 03/15/93
ANALYZED: 03/23/93
REPORTED: 03/29/93

LAB SAMPLE #: 9304423

FIELD BLANK #: 9304427

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlcrofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichlcro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	0.6
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	7.3
Trichlcroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	1.0
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromcmethane	< 1.0		Isopropyl Benzene	< 0.5	14
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	13
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	0.6
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	0.7
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	17
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	5.3
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	8.9
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	210	UG/L
FUEL OIL :	1100	UG/L

Legend:
< = less than
PP = peak present

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 03/15/93
ANALYZED: 03/23/93
REPORTED: 03/29/93

LAB SAMPLE #: 9304424

FIELD BLANK #: 9304427

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlcrofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichlcro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichlcroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromcmethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromofcrm	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 03/15/93
ANALYZED: 03/23/93
REPORTED: 03/29/93

LAB SAMPLE #: 9304425

FIELD BLANK #: 9304427

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlcrofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichlcro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichlcroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromcmethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromofcrm	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

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MINNESOTA DEPARTMENT OF HEALTH
Chemical Laboratory Section
Organic Chemistry Unit

WATER ANALYSES ONLY

Date Collected: 3-15-93
Date Received: 3-17-93
Collected by: MN/DOT

Chain of Custody #: 247

Budget #: OA
Report To: MN/DOT
Field Blank #: 9304427

Laboratory Number		Field Number	Sample Description	Container Number	Container Type
9304426	a	BB	Jordan Truckstation Bailer Blank	4	40
9304427	b	TB	" " Trip Blank	3	40
	c				
	d				
	e				

Analyses Request Options		ALL	a 9304426	b 9304427	c	d	e
VOLATILE ORGANICS	465						
VOLATILE HALOGENATED ORGANICS (THM)	464						
GASOLINE/FUEL OIL + HALOGENATED	463	X					
VOLATILE ORGANICS by GC/MS	468						
CHLOROPHENOXY ACID HERBICIDES (CPA)	574						
POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)	470						
POLYCHLORINATED BIPHENYLS (PCBs)	420						
PHTHALATE ESTERS	490						
PESTICIDES, CHLORINATED	502						
TOXAPHENE	520						
TECHNICAL CHLORDANE	530						
DDT GROUP	550						
PESTICIDES, NITROGEN/PHOSPHOROUS	571						
SPECIAL SAMPLE HOURS c/c 990 ~~560~~		X					

Field Notes:

Laboratory Notes:

MAR 31 1993

Mn/DOT TP-03023-01 (8/90)

Minnesota Department of Transportation

Transportation Building
St. Paul, MN 55155

ENVIRONMENTAL COMPLIANCE AND INVESTIGATION UNIT

№ 247

CHAIN OF CUSTODY RECORD

Project Name: Jordan Tank #1

Name of Sampler: JK & J

Field Number	Date (1993)	Time	Sample Type (s): Monitoring well	Existing well	Surface water	Wastewater	Waste	Other	Sample Location	Analyses Requested	Comments on Samples
BB	3-15							X	Bailer Blank	4163	
TB	L							X	Trip Blank	4163	

Remarks on Site

Samples Relinquished by: Lynette Zeugner 3-17-93 1030	Samples Received by: PMK	Comments	Date/Time: 3-17-93 1030
Samples Relinquished by:	Samples Received by:	Comments	Date/Time
Samples Relinquished by:	Samples Received by:	Comments	Date/Time
Means of Delivery		Seals intact: ☐ YES ☐ NO ☐ N.A.	

Origi d ye opie ab. F opy t DOT forw comp yello y to M DOT wit analytic results.

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 03/15/93
ANALYZED: 03/21/93
REPORTED: 03/29/93

LAB SAMPLE #: 9304426

FIELD BLANK #: 9304427

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlcrofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichlcro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	160
2,2-dichloropropane	< 0.5		Acetone	< 20	270
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichlcroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromcmethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromofcrm	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 03/15/93
ANALYZED: 03/21/93
REPORTED: 03/29/93

LAB SAMPLE #: 9304427

FIELD BLANK #: 9304427

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlcrofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichlcro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichlcroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromcmethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

09310291

09310288 09310289 09310290

9.7.90
ORG.FORM.FY91.1

MINNESOTA DEPARTMENT OF HEALTH
Chemical Laboratory Section
Organic Chemistry Unit

WATER ANALYSES ONLY

Date Collected: 6-10-93
Date Received: 6-10-93
Collected by: MnDOT

Chain of Custody #: 293

Budget #: DA
Report To: MnDOT
Field Blank #: 9310293

JUN10'93 PM 1:07

Laboratory Number		Field Number	Sample Description	- Container - Number	Type
9310288	a	JMW1	Jordan, Truck Station Well	4	40
9310289	b	JMW2	"	"	"
9310290	c	JMW3	"	"	"
9310291	d	JMW4	"	"	"
	e				

Analyses Request Options		ALL	a 9310288	b 9310289	c 9310290	d 9310291	e
VOLATILE ORGANICS	465						
VOLATILE HALOGENATED ORGANICS (THM)	464						
GASOLINE/FUEL OIL + HALOGENATED	463	X					
VOLATILE ORGANICS by GC/MS	468						
CHLOROPHENOXY ACID HERBICIDES (CPA)	574						
POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)	470						
POLYCHLORINATED BIPHENYLS (PCBs)	420						
PHTHALATE ESTERS	490						
PESTICIDES, CHLORINATED	502						
TOXAPHENE	520						
TECHNICAL CHLORDANE	530						
DDT GROUP	550						
PESTICIDES, NITROGEN/PHOSPHOROUS	571						
SPECIAL SAMPLE HOURS C/C 790 ~~SDT~~		X					

Field Notes:

Laboratory Notes:

Mn/DOT TP-03023-01 (8/90)

Minnesota Department of Transportation

Transportation Building
St. Paul, MN 55155

ENVIRONMENTAL COMPLIANCE AND INVESTIGATION UNIT

№ 293

CHAIN OF CUSTODY RECORD

JUN 10 '93 PM 1:07

Project Name	Name of Sampler
Jordan Truck Station	

Field Number	Date 1993	Time	Monitoring well	Existing well	Surface water	Wastewater	Waste	Other	Sample Location	Analyses Requested	Comments on Samples
JM-01	6-10		X						well	4603	
JM-02			X								petrol odor
JM-03	↓		X							↓	
JM-04	↓		X							↓	
BB	↓							X	Bailer Blank	↓	
TB	↓							X	Trip Blank	↓	

Sample Type (s): Monitoring well, Existing well, Surface water, Wastewater, Waste, Other

Remarks on Site

Samples Relinquished by	Samples Received by	Comments	Date/Time
[signature] D45 6-10-93	Donna L. Smith		6/10/93 12:47 pm

Means of Delivery	Seals intact: ☐ YES ☐ NO ☐ N.A.

Return to [illegible] completed yellow copy to Mn/DOT with analytical result

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 06/10/93
ANALYZED: 06/14/93
REPORTED: 06/21/93

LAB SAMPLE #: 9310288

FIELD BLANK #: 9310293

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 06/10/93
ANALYZED: 06/14/93
REPORTED: 06/21/93

LAB SAMPLE #: 9310289

FIELD BLANK #: 9310293

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	12
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	1.4
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	13
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	3.8
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	26
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	9.3
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	7.4
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	20
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	27
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	1.4
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	22
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	22
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	9.2
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	15
Chlorobenzene	< 0.2		Naphthalene	< 0.5	2.2
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE : 570 UG/L

FUEL OIL : 1100 UG/L

Legend:
< = less than
PP = peak present

502.4G MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 06/10/93
ANALYZED: 06/14/93
REPORTED: 06/21/93

LAB SAMPLE #: 9310290

FIELD BLANK #: 9310293

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

502.4G MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY
VOLATILE HYDROCARBONS (code 463)

SAMPLED: 06/10/93
ANALYZED: 06/14/93
REPORTED: 06/21/93

LAB SAMPLE #: 9310291

FIELD BLANK #: 9310293

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0	
Chloromethane	< 2.0	
Vinyl Chloride	< 1.0	
Bromomethane	< 2.0	
Chloroethane	< 1.0	
Dichlorofluoromethane	< 1.0	
Trichlorofluoromethane	< 2.0	
Trichloro-trifluoroethane	< 0.2	
1,1-Dichloroethene	< 0.5	
Allyl Chloride	< 0.5	
Methylene Chloride	< 0.5	
t-1,2-Dichloroethene	< 0.1	
1,1-Dichloroethane	< 0.2	
2,2-dichloropropane	< 0.5	
c-1,2 Dichloroethene	< 0.2	
Chloroform	< 0.1	
Bromochloromethane	< 0.5	
1,1,1-Trichloroethane	< 0.2	
1,1-Dichloropropene	< 0.2	
Carbon Tetrachloride	< 0.2	
1,2-Dichloroethane	< 0.2	
Trichloroethene	< 0.1	
1,2-Dichloropropane	< 0.2	
Bromodichloromethane	< 0.2	
Dibromomethane	< 1.0	
c-1,3-Dichloropropene	< 0.2	
t-1,3-Dichloropropene	< 0.2	
1,1,2-Trichloroethane	< 0.2	
1,3-Dichloropropane	< 0.2	
Tetrachloroethene	< 0.2	
Chlorodibromomethane	< 0.5	
1,2-Dibromoethane	< 1.0	
Chlorobenzene	< 0.2	
1112-Tetrachloroethane	< 0.2	
Bromoform	< 1.0	
1122-Tetrachloroethane	< 0.2	
123-Trichloropropane	< 0.5	
Bromobenzene	< 0.2	
2-Chlorotoluene	< 0.5	
4-Chlorotoluene	< 0.5	
1,3-Dichlorobenzene	< 0.2	
1,4-Dichlorobenzene	< 0.2	
1,2-Dichlorobenzene	< 0.2	
1,2-Dibromo-3-Chloropropane	< 2.0	
124-Trichlorobenzene	< 0.5	
Hexachlorobutadiene	< 0.5	
123-Trichlorobenzene	< 0.5	
Ethyl Ether	< 2.0	
Acetone	< 20	
Methyl tertiary-Butyl Ether	< 2.0	
Methyl Ethyl Ketone	< 10	
Tetrahydrofuran	< 10	
Benzene	< 0.2	
Methyl Isobutyl Ketone	< 5.0	
Toluene	< 0.2	
Ethyl Benzene	< 0.2	
m+p-Xylene	< 0.2	
o-Xylene	< 0.2	
Styrene	< 0.5	
Isopropyl Benzene	< 0.5	
n-Propyl Benzene	< 0.5	
135-Trimethylbenzene	< 0.5	
tert-Butyl Benzene	< 0.5	
124-Trimethylbenzene	< 0.5	
sec-Butylbenzene	< 0.5	
p-Isopropyltoluene	< 0.5	
n-Butylbenzene	< 0.5	
Naphthalene	< 0.5	

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

9.7.90
ORG.FORM.FY91.1

09310292 09310293

MINNESOTA DEPARTMENT OF HEALTH
Chemical Laboratory Section
Organic Chemistry Unit

WATER ANALYSES ONLY

JUN 10 '93 PM 1:07

Date Collected: 6-10-93
Date Received: 6-10-93
Collected by: Mn/DOT

Chain of Custody #: 293

Budget #: DA
Report To: Mn/DOT
Field Blank #: 9310293

Laboratory Number		Field Number	Sample Description	Container Number	Container Type
9310292	a	BB	Jordan Basin Blank	4	40
9310293	b	TB	Trip Blank	3	L
	c				
	d				
	e				

JUN 17 1993

Analyses Request Options		ALL	a 9310292	b 9310293	c	d	e
VOLATILE ORGANICS	465						
VOLATILE HALOGENATED ORGANICS (THM)	464						
GASOLINE/FUEL OIL + HALOGENATED	463	X					
VOLATILE ORGANICS by GC/MS	468						
CHLOROPHENOXY ACID HERBICIDES (CPA)	574						
POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)	470						
POLYCHLORINATED BIPHENYLS (PCBs)	420						
PHTHALATE ESTERS	490						
PESTICIDES, CHLORINATED	502						
TOXAPHENE	520						
TECHNICAL CHLORDANE	530						
DDT GROUP	550						
PESTICIDES, NITROGEN/PHOSPHOROUS	571						
SPECIAL SAMPLE HOURS c/c 990	~~560~~	X					

Field Notes:

Laboratory Notes:

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 06/10/93
ANALYZED: 06/14/93
REPORTED: 06/21/93

LAB SAMPLE #: 9310292

FIELD BLANK #: 9310293

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2 Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	18
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	1.3
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2	0.9	Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 06/10/93
ANALYZED: 06/14/93
REPORTED: 06/21/93

LAB SAMPLE #: 9310293

FIELD BLANK #: 9310293

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

67

09318934 09318935 09318936 09318937

9.7.90
ORG.FORM.FY91.1

MINNESOTA DEPARTMENT OF HEALTH
Chemical Laboratory Section
Organic Chemistry Unit

WATER ANALYSES ONLY

SEP 24 1993

Date Collected: 9-8-93
Date Received: 9-8-93
Collected by: Mn/DOT

Chain of Custody #: 302

Budget #: DA
Report To: Mn/DOT
Field Blank #: 9318939

Laboratory Number		Field Number	Sample Description	- Container - Number	Type
9318934	a	JMW1	Jordan Truckstop well	4	40
9318935	b	JMW2	"	"	"
9318936	c	JMW3	"	"	"
9318937	d	JMW4	"	"	"
	e				

Analyses Request Options		ALL	a 9318934	b 9318935	c 9318936	d 9318937	e
VOLATILE ORGANICS	465						
VOLATILE HALOGENATED ORGANICS (THM)	464						
GASOLINE/FUEL OIL + HALOGENATED	463	X					
VOLATILE ORGANICS by GC/MS	468						
CHLOROPHENOXY ACID HERBICIDES (CPA)	574						
POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)	470						
POLYCHLORINATED BIPHENYLS (PCBs)	420						
PHTHALATE ESTERS	490						
PESTICIDES, CHLORINATED	502						
TOXAPHENE	520						
TECHNICAL CHLORDANE	530						
DDT GROUP	550						
PESTICIDES, NITROGEN/PHOSPHOROUS	571						
SPECIAL SAMPLE HOURS C/C 990	~~500~~	X					

Field Notes:

Laboratory Notes:

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 09/08/93
ANALYZED: 09/21/93
REPORTED: 09/22/93

LAB SAMPLE #: 9318934

FIELD BLANK #: 9318939

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 09/08/93
ANALYZED: 09/21/93
REPORTED: 09/22/93

LAB SAMPLE #: 9318935

FIELD BLANK #: 9318939

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	0.8
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	1.0
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	0.9
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	1.2
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	1.1
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	5.2
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	5.6
Chlorobenzene	< 0.2		Naphthalene	< 0.5	2.3
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE : 200 UG/L

FUEL OIL : 5300 UG/L

Legend:
< = less than
PP = peak present

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 09/08/93
ANALYZED: 09/21/93
REPORTED: 09/22/93

LAB SAMPLE #: 9318936

FIELD BLANK #: 9318939

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 09/08/93
ANALYZED: 09/21/93
REPORTED: 09/22/93

LAB SAMPLE #: 9318937

FIELD BLANK #: 9318939

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 0.2		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

09318939

9.7.90
ORG.FORM.FY91.1

MINNESOTA DEPARTMENT OF HEALTH
Chemical Laboratory Section
Organic Chemistry Unit

WATER ANALYSES ONLY

SEP 24 1993

Date Collected: 9-8-93
Date Received: 9-8-93
Collected by: Mn/DOT

Chain of Custody #: 302

Budget #: DA
Report To: Mn/DOT
Field Blank #: 9318939

Laboratory Number		Field Number	Sample Description	- Container - Number	Type
9318938	a	JBB	Jordan Bailer Blank	4	40
9318939	b	TB	Trip Blank	3	L
	c				
	d				
	e				

Analyses Request Options		ALL	a 9318938	b 9318939	c	d	e
VOLATILE ORGANICS	465						
VOLATILE HALOGENATED ORGANICS (THM)	464						
GASOLINE/FUEL OIL + HALOGENATED	463	X					
VOLATILE ORGANICS by GC/MS	468						
CHLOROPHENOXY ACID HERBICIDES (CPA)	574						
POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)	470						
POLYCHLORINATED BIPHENYLS (PCBs)	420						
PHTHALATE ESTERS	490						
PESTICIDES, CHLORINATED	502						
TOXAPHENE	520						
TECHNICAL CHLORDANE	530						
DDT GROUP	550						
PESTICIDES, NITROGEN/PHOSPHOROUS	571						
SPECIAL SAMPLE HOURS c/c 990	~~500~~	X					

Field Notes:

Laboratory Notes:

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 09/08/93
ANALYZED: 09/21/93
REPORTED: 09/22/93

LAB SAMPLE #: 9318938

FIELD BLANK #: 9318939

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1	0.2	Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1;1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present

MINNESOTA DEPT OF HEALTH - CHEMICAL LABORATORY

VOLATILE HYDROCARBONS (code 463)

SAMPLED: 09/08/93
ANALYZED: 09/21/93
REPORTED: 09/22/93

LAB SAMPLE #: 9318939

FIELD BLANK #: 9318939

COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)	COMPOUND	REPORTING LIMIT (UG/L)	AMOUNT FOUND (UG/L)
Dichlorodifluoromethane	< 1.0		1122-Tetrachloroethane	< 0.2	
Chloromethane	< 2.0		123-Trichloropropane	< 0.5	
Vinyl Chloride	< 1.0		Bromobenzene	< 0.2	
Bromomethane	< 2.0		2-Chlorotoluene	< 0.5	
Chloroethane	< 1.0		4-Chlorotoluene	< 0.5	
Dichlorofluoromethane	< 1.0		1,3-Dichlorobenzene	< 0.2	
Trichlorofluoromethane	< 2.0		1,4-Dichlorobenzene	< 0.2	
Trichloro-trifluoroethane	< 0.2		1,2-Dichlorobenzene	< 0.2	
1,1-Dichloroethene	< 0.5		1,2-Dibromo-3-Chloropropane	< 2.0	
Allyl Chloride	< 0.5		124-Trichlorobenzene	< 0.5	
Methylene Chloride	< 0.5		Hexachlorobutadiene	< 0.5	
t-1,2-Dichloroethene	< 0.1		123-Trichlorobenzene	< 0.5	
1,1-Dichloroethane	< 0.2		Ethyl Ether	< 2.0	
2,2-dichloropropane	< 0.5		Acetone	< 20	
c-1,2 Dichloroethene	< 0.2		Methyl tertiary-Butyl Ether	< 2.0	
Chloroform	< 0.1		Methyl Ethyl Ketone	< 10	
Bromochloromethane	< 0.5		Tetrahydrofuran	< 10	
1,1,1-Trichloroethane	< 0.2		Benzene	< 0.2	
1,1-Dichloropropene	< 0.2		Methyl Isobutyl Ketone	< 5.0	
Carbon Tetrachloride	< 0.2		Toluene	< 0.2	
1,2-Dichloroethane	< 0.2		Ethyl Benzene	< 0.2	
Trichloroethene	< 0.1		m+p-Xylene	< 0.2	
1,2-Dichloropropane	< 0.2		o-Xylene	< 0.2	
Bromodichloromethane	< 0.2		Styrene	< 0.5	
Dibromomethane	< 1.0		Isopropyl Benzene	< 0.5	
c-1,3-Dichloropropene	< 0.2		n-Propyl Benzene	< 0.5	
t-1,3-Dichloropropene	< 0.2		135-Trimethylbenzene	< 0.5	
1,1,2-Trichloroethane	< 0.2		tert-Butyl Benzene	< 0.5	
1,3-Dichloropropane	< 0.2		124-Trimethylbenzene	< 0.5	
Tetrachloroethene	< 0.2		sec-Butylbenzene	< 0.5	
Chlorodibromomethane	< 0.5		p-Isopropyltoluene	< 0.5	
1,2-Dibromoethane	< 1.0		n-Butylbenzene	< 0.5	
Chlorobenzene	< 0.2		Naphthalene	< 0.5	
1112-Tetrachloroethane	< 0.2				
Bromoform	< 1.0				

COMMENTS:

GASOLINE & FUEL OIL (463)

GASOLINE :	<	30	UG/L
FUEL OIL :	<	200	UG/L

Legend:
< = less than
PP = peak present