

---

**NTH Consultants, Ltd.**

**APPENDIX B**  
**Laboratory Data Reports for**  
**Analytical Testing**

**TABLE 2  
SUMMARY OF CHEMICAL ANALYSES: IN-PLACE UST CLOSURE**

**ANN ARBOR MAIN GARAGE  
NTH PROJECT NO. 13-5000-04**

SAMPLE DESIGNATION	SAMPLE DEPTH [']	PARAMETER [µG/KG OR µG/L]																			
		POLYNUCLEAR AROMATICS (PNAs)															BTX				
		ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO (a) ANTHRACENE	BENZO (b) FLUORANTHENE	BENZO (k) FLUORANTHENE	BENZO (g,h,i) PERYLENE	BENZO (e) PYRENE	CHRYSENE	DIBENZO (a,h) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO (1,2,3-c,d) PYRENE	NAPHTHALENE	PHENANTHRENE	PYRENE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES
<b>SOIL SAMPLING (AUGUST 1995):</b>																					
GP-1 : S-2	4.0-6.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
GP-2 : S-2	4.5-6.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,800	ND	ND	ND	44	34	6,400	1,200
GP-3 : S-2	4.5-6.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
GP-4 : S-2	5.0-6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	470	85	ND	43	ND	
GP-5 : S-2	4.5-7.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
GP-6 : S-2	4.5-7.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13	ND	51	
GP-7 : S-2	4.0-7.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	nd	ND	ND	ND	ND	ND	ND	
GP-8 : S-2	5.0-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	nd	ND	ND	ND	18	370	120	
GP-9 : S-2	5.0-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	nd	ND	ND	ND	ND	ND	ND	
GP-10 : S-2	4.5-6.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	nd	ND	ND	ND	ND	ND	ND	
<b>GROUNDWATER SAMPLING (AUGUST &amp; SEPTEMBER 1995):</b>																					
GP-2 : WS-1	—	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
GP-5 : WS-1	—	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
GP-7 : WS-1	—	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MW-101	—	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MW-102	—	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MW-103	—	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.8	
MW-104	—	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MW-105	—	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
LABORATORY-REPORTED METHOD DETECTION LIMIT	SOIL	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	10	10	10	30
	GROUNDWATER	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	1	1	1	3
P.A. 451 RBCA RESIDENTIAL RISK-BASED SCREENING LEVELS	CS	76,000,000	1,500,000	420,000,000	14,000	140,000	14,000	1,500,000	1,400	1,400,000	1,400	51,000,000	51,000,000	14,000	15,000,000	1,500,000	32,000,000	88,000	24,000,000	11,000,000	200,000,000
	LEACHING TO GROUNDWATER	120,000	1,400	150,000	14,000	140,000	14,000	1,500,000	3,700	1,400,000	4,200	68,000	89,000	14,000	5,500	7,400	56,000	100	16,000	4,700	74,000
	CGW	1,300	26	7,300	1.2	12	1.2	26	0.20	120	0.12	880	880	1.2	260	26	550	5	790*	74*	280*
	GSI	3.8	(b)	110,000	0.31	0.31	0.31	(b)	0.31	0.31	0.31	370	14,000	0.31	29	(b)	11,000	53	110	31	59

**NOTES:**

- [1] Samples collected by NTH Consultants personnel and analyzed by NET, Inc. of Auburn Hills, MI.
- [2] µG/KG - Micrograms per kilogram; µG/L - Micrograms per liter (= parts per billion).
- [3] ND - Not detected at or above laboratory-reported method detection limit for indicated parameter.

- [4] (b) - Chemical has either not been evaluated or an inadequate data base precludes the development of a GIS value.
- [5] CS - Concentration in soil, if not exceeded, is considered safe for human exposure via direct (oral and dermal) contact.
- [6] "LEACHING TO GROUNDWATER" - Concentration in soil, if not exceeded, does not require leachate analysis to demonstrate compliance with groundwater criteria.
- [7] CGW - Concentration in groundwater, if not exceeded, is considered safe for exposure.
- [8] \* - Aesthetic-based criteria—Use of the most restrictive criteria is required, therefore health-based criteria not presented.
- [9] - Concentration exceeds "Leaching to Groundwater" criterion.

**TABLE 3  
SUMMARY OF CHEMICAL ANALYSES: EXCAVATION SAMPLING**

**ANN ARBOR MAIN GARAGE  
NTH PROJECT NO. 13-5000-04**

SAMPLE DESIGNATION	SAMPLE LOCATION	PARAMETER [µG/KG OR µG/L]																			
		POLYNUCLEAR AROMATICS (PNAs)															BTX				
		ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO (a) ANTHRACENE	BENZO (b) FLUORANTHENE	BENZO (k) FLUORANTHENE	BENZO (g,h,i) PERYLENE	BENZO (a) PYRENE	CHRYSENE	DIBENZO (a,h) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO (1,2,3-c,d) PYRENE	NAPHTHALENE	PHENANTHRENE	PYRENE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES
<b>SOIL SAMPLING (JUNE 1995):</b>																					
S-1	SOUTH WALL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,200	ND	3,900	ND	ND	< 100	4,800	12,000	7,200
S-2	EAST WALL	ND	ND	ND	810	ND	ND	ND	ND	ND	ND	ND	1,600	ND	6,500	8,400	2,900	< 50	< 50	7,400	5,100
S-3	NORTH WALL	ND	ND	1,600	1,600	ND	ND	ND	940	850	ND	6,400	2,200	ND	8,200	9,300	4,400	< 100	< 100	6,000	8,700
S-4	WEST WALL	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	ND	ND	< 1,000	ND	< 1,000	11,000	ND	52,000	ND	< 1,000	2,300	9,900	34,000	45,000
S-5	BOTTOM	ND	ND	2,500	1,500	ND	ND	ND	1,100	850	ND	6,900	2,500	ND	12,000	9,700	4,600	780	< 100	14,000	4,800
<b>GROUNDWATER SAMPLING (JUNE 1995):</b>																					
WS-1	—	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	67	ND	190	250	66	ND	ND	32	51
LABORATORY-REPORTED METHOD DETECTION LIMIT	SOIL	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	10	10	10	30
	GROUNDWATER	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	1	1	1	3
P.A. 451 RBCA RESIDENTIAL RISK-BASED SCREENING LEVELS	CS	76,000,000	1,500,000	420,000,000	14,000	140,000	14,000	1,500,000	1,400	1,400,000	1,400	51,000,000	51,000,000	14,000	15,000,000	1,500,000	32,000,000	88,000	24,000,000	11,000,000	200,000,000
	LEACHING TO GROUNDWATER	120,000	1,400	150,000	14,000	140,000	14,000	1,500,000	3,700	1,400,000	4,200	68,000	89,000	14,000	5,500	7,400	56,000	100	16,000	4,700	74,000
	CGW	1,300	26	7,300	1.2	12	1.2	26	0.20	120	0.12	880	880	1.2	260	26	550	5	790*	74*	280*
	GSI	3.8	(8)	110,000	0.31	0.31	0.31	(8)	0.31	0.31	0.31	370	14,000	0.31	29	(8)	11,000	53	110	31	59

**NOTES:**

- [1] Samples collected by NTH Consultants personnel on 06/16/95 and analyzed by N&T, Inc. of Auburn Hills, MI.
- [2] µG/KG - Micrograms per kilogram; µG/L - Micrograms per liter (= parts per billion).
- [3] ND - Not detected at or above laboratory-reported method detection limit for individual parameter.

- [4] (8) - Chemical has either not been evaluated or an inadequate data base precludes the development of a GSI value.
- [5] CS - Concentration in soil, if not exceeded, is considered safe for human exposure via direct (oral and dermal) contact.
- [6] "LEACHING TO GROUNDWATER" - Concentration in soil, and if not exceeded, does not require leachate analysis to demonstrate compliance with groundwater criteria.
- [7] CGW - Concentration in groundwater, if not exceeded, is considered safe for exposure.
- [8] \* - Aesthetic-based criteria-Use of the most restrictive criteria is required, therefore health-based criteria not presented.
- [9] - Concentration exceeds "Leaching to Groundwater" criterion for soil samples or "CGW" criterion for groundwater samples.

**TABLE 4  
SUMMARY OF CHEMICAL ANALYSES: TGI GROUNDWATER SAMPLING EVENTS**

**ANN ARBOR MAIN GARAGE  
NTH PROJECT NO. 13-5000-04**

SAMPLE & EVENT DESIGNATION	SAMPLE DEPTH [1]	PARAMETER																				
		POLYNUCLEAR AROMATICS (PNAs) [2] (µg/L)														BTEX [2] (µg/L)				TPH [2] (mg/L)		
		ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO (a) ANTHRACENE	BENZO (b) FLUORANTHENE	BENZO (k) FLUORANTHENE	BENZO (g,h,i) PERYLENE	BENZO (e) PYRENE	CHRYSENE	DIBENZO (a,h) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO (1,2,3-c,d) PYRENE	NAPHTHALENE	PHENANTHRENE	PYRENE	BENZENE	TOLUENE		ETHYL BENZENE	XYLENES
AH-01 (8/90)	11.0-13.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	43	27	14	27	ND
AH-01 (8/90)	19.0-21.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	ND	ND	ND	ND
AH-01 (8/90)	24.0-26.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	ND	ND	ND	ND
AH-02 (8/90)	11.0-13.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-02 (8/90)	18.0-20.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-03 (8/90)	11.0-13.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	3.7
AH-03 (8/90)	17.0-19.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-04 (8/90)	11.0-13.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	2	5	ND
AH-05 (8/90)	14.0-16.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	4	ND
AH-05 (8/90)	23.0-25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-05 (8/90)	27.0-29.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-06 (8/90)	9.0-11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28	7	ND	ND	ND
AH-06 (8/90)	17.0-20.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	2	ND	ND	ND
AH-07 (8/90)	9.0-11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	2	5	ND
AH-07 (8/90)	20.0-22.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	1	3	ND
BARREL/PURGE WELL (8/90)	7.0-12.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8,120	10,300	1,050	10,200	—
AH-09 (3/93)	12.0-17.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
AH-09 (3/93)	22.0-27.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	—
AH-10 (3/93)	8.0-13.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
AH-12 (3/93)	8.0-13.0	8	44	ND	4	ND	ND	ND	ND	ND	26	ND	ND	10	7	54	320	98	45	110	—	
AH-13b (3/93)	8.0-13.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
AH-13b (3/93)	12.0-17.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
HA-01 (3/93)	8.0-10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	—
MW-1 (6/90)	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-1 (7/90)	2.0-7.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	830
MW-2 (7/90)	3.0-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	28
MW-3 (7/90)	3.0-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	130	15	ND	ND	89
MW-3 (3/93)	3.0-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	60	180	ND	19	—
MW-4 (3/93)	2.0-7.0	ND	ND	6	18	ND	ND	ND	ND	ND	27	7	ND	13	6	ND	23	ND	44	—	—	
MW-5 (3/93)	7.0-12.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	51	6	1	20	—	
MW-5 (4/93)	7.0-12.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
MW-6 (3/93)	10.0-15.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
MW-7 (3/93)	13.0-18.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
MW-8b (3/93)	9.0-14.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
MW-8b (3/93)	11.0-13.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
MW-9 (3/93)	7.0-12.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
MW-9 (3/93)	19.0-24.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
LABORATORY-REPORTED METHOD DETECTION LIMIT		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	1	1	1	3	50	
P.A. 451 RBCA RESIDENTIAL RISK-BASED SCREENING LEVELS	Cgw	1,300	26	7,300	1.2	12	1.2	26	0.20	120	0.12	880	880	1.2	260	26	550	5	790*	74*	280*	—
	GSI	3.8	(8)	110,000	0.31	0.31	0.31	(8)	0.31	0.31	0.31	370	14,000	0.31	29	(8)	11,000	53	110	31	59	—

**NOTES:**

[1] Samples collected by TGI personnel and analyzed by Traverse Analytical Laboratories, of Traverse City, MI.

[2] µg/L - Micrograms per liter (= parts per billion); mg/L - Milligrams per liter (= parts per million).

[3] ND - Not detected at or above laboratory-reported method detection limit for indicated parameter.

[4] CGW - Concentration in groundwater, if not exceeded, is considered safe for exposure.

[5] (8) - Chemical has either not been evaluated or an inadequate data base precludes the development of a GSI value.

[6] \* - Aesthetic-based criteria—Use of the most restrictive criteria is required, therefore health-based criteria not presented.

[7] — - Not-tested for indicated parameter.

[8] - Concentration exceeds "Cgw" criterion.

[9] Sources: (1) Gasoline Tank Supplemental Site Investigation Report for an Underground Storage Tank Release, Ann Arbor City Garage, 721 N. Main Street, Ann Arbor, MI (June 21, 1993) by Traverse Group, Inc. (TGI).  
(2) Feasibility Study, City of Ann Arbor, City Garage, 721 N. Main Street, Ann Arbor, MI (April 15, 1994) by TGI.

**TABLE 5**  
**SUMMARY OF CHEMICAL ANALYSES: TGI SOIL SAMPLING EVENT**  
**ANN ARBOR MAIN GARAGE**  
**NTH PROJECT NO. 13-5000-04**

SAMPLE DESIGNATION	SAMPLE DEPTH FT	PARAMETER																				
		POLYNUCLEAR AROMATICS (PNAs) [µg/kg]														BTEX [µg/kg]				TPH [µg/kg]		
		ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO (a) ANTHRACENE	BENZO (b) FLUORANTHENE	BENZO (k) FLUORANTHENE	BENZO (ghi) PERYLENE	BENZO (a) PYRENE	CHRYSENE	DIBENZO (a,h) ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO (1,2,3-c,d) PYRENE	NAPHTHALENE	PHENANTHRENE	PYRENE	BENZENE	TOLUENE		ETHYL BENZENE	XYLENES
BO-01 (JUN 90)	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MW-1a (JUN 90)	1.0-3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MW-1b (JUN 90)	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140	
AH-01 (AUG 90)	5.0-7.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	1,000	2,400	5,700	ND
AH-01 (AUG 90)	11.0-13.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-02 (AUG 90)	5.0-7.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	630
AH-02 (AUG 90)	11.0-13.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-03 (AUG 90)	5.0-7.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-03 (AUG 90)	11.0-13.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-04 (AUG 90)	5.0-7.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-04 (AUG 90)	11.0-13.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	280
AH-05 (AUG 90)	7.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-05 (AUG 90)	14.0-16.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-07 (AUG 90)	5.0-7.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-07 (AUG 90)	13.0-15.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND
AH-08 (MAR 93)	12.0-14.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
AH-09 (MAR 93)	6.0-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
AH-09 (MAR 93)	10.0-12.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
AH-10 (MAR 93)	6.0-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
AH-12 (MAR 93)	6.0-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	14	21	49	—
AH-13b (MAR 93)	8.0-10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
HA-01 (MAR 93)	3.5-4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
HA-01 (MAR 93)	6.5-7.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
HA-02b (MAR 93)	7.5-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
MW-5 (MAR 93)	6.0-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
MW-6 (MAR 93)	4.0-6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
MW-6 (MAR 93)	6.0-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
MW-7 (MAR 93)	6.0-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21	ND	28	220	—
MW-7 (MAR 93)	8.0-10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	45	ND	ND	33	—
MW-8b (MAR 93)	6.0-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
MW-8b (MAR 93)	12.0-14.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
MW-9 (MAR 93)	9.0-11.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
MW-9 (MAR 93)	15.0-17.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
LABORATORY-REPORTED METHOD DETECTION LIMIT		330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	10	10	10	30	50
P.A. 451 RBCA RESIDENTIAL RISK-BASED SCREENING LEVELS	Cs	76,000,000	1,500,000	420,000,000	14,000	140,000	14,000	1,500,000	1,400	1,400,000	1,400	51,000,000	51,000,000	14,000	15,000,000	1,500,000	32,000,000	88,000	24,000,000	11,000,000	200,000,000	—
	LEACHING TO GROUNDWATER	120,000	1,400	180,000	14,000	140,000	14,000	1,500,000	3,700	1,400,000	4,200	68,000	89,000	14,000	5,500	7,400	56,000	100	16,000	4,700	74,000	—

NOTES:

[1] Samples collected by TGI personnel and analyzed by Traverse Analytical Laboratories of Traverse City, MI.  
[2] µg/KG - Micrograms per kilogram (= parts per billion); mg/KG - Milligrams per kilogram (= parts per million).  
[3] ND - Not detected at or above laboratory-reported method detection limit for indicated parameter.

[4] Cs - Concentration in soil, if not exceeded, is considered safe for human exposure via direct (oral and dermal) contact.  
[5] "LEACHING TO GROUNDWATER" - Concentration in soil, if not exceeded, does not require leachate analysis to demonstrate compliance with groundwater criteria.  
[6] — - Not tested for indicated parameter.  
[7] Sources: (1) Gasoline Tank Supplemental Site Investigation Report for an Underground Storage Tank Release, Ann Arbor City Garage, 721 N. Main Street, Ann Arbor, MI (June 21, 1993) by Traverse Group, Inc. (TGI).  
(2) Feasibility Study, City of Ann Arbor, City Garage, 721 N. Main Street, Ann Arbor, MI (April 15, 1994) by TGI.

**TABLE 6  
ANALYTICAL RESULTS FOR SVE-1 WATER SAMPLES  
PILOT STUDY PUMP TEST**

**ANN ARBOR MAIN GARAGE  
NTH PROJECT NO. 13-5000-04**


SAMPLE LOCATION	PUMP TEST DURATION AT SAMPLE COLLECTION (HRS)	PARAMETERS					
		BTEX (µG/L)				LEAD (MG/L)	
		BENZENE	TOLUENE	ETHYL BENZENE	XYLENES	DISSOLVED	TOTAL
WS #1	0	170	230	23	100	ND	0.010
WS #2	3	10	10	1.6	5.6	ND	0.004
WS #3	6	14	8.1	1.9	5.2	ND	ND
LABORATORY-REPORTED METHOD DETECTION LIMIT		1	1	1	3	0.003	
P.A. 451 PART 213 RESIDENTIAL RISK-BASED SCREENING LEVELS (RBSLs)	Cgw	5	790*	74*	280*	0.004 (A,L)	
	GSI	53	110	31	59	0.0066 (A,D)	

**NOTES:**

- [1] Samples collected by NTH Consultants personnel in April 1995 and analyzed by Nation Environmental Testing, Inc. (NET) of Auburn Hills, MI.
- [2] µG/L - Micrograms per liter (= parts per billion); MG/L - Milligrams per liter (= parts per million).
- [3] ND - Not detected at or above laboratory-reported method detection limit for indicated parameter.
- [4] CGW - Concentration in groundwater, if not exceeded, is considered safe for exposure.
- [5] GSI - Presented only to establish groundwater criteria which are protective of surface water.
- [6] \* - Aesthetic-based criteria-Use of the most restrictive criteria is required, therefore health-based criteria is not presented.
- [7] (A) - Background, as defined in Rule 701(c), may be substituted as the cleanup criteria if higher than the cleanup criteria.
- [8] (D) - GSI value is pH, temperature and water-hardness dependent.
- [9] (L) - Higher level may be acceptable if soil concentration is less than 400 ppm and groundwater migrating off site will not impact adjacent properties.
- [10]   - Concentration exceeds "Cgw" criterion for groundwater samples.

DEPARTMENT OF ENVIRONMENTAL  
QUALITY  
UNDERGROUND STORAGE TANK DIVISION

LUST AUDIT REPORT  
Authorized by 1994 PA 451, as amended

<b>SITE NAME &amp; ADDRESS:</b> Ann Arbor City Garage 721 N. Main Street Ann Arbor, Michigan		<b>CONSULTANT NAME &amp; ADDRESS:</b> D. Nona NTH Consultants, Ltd. 38955 Hills Tech Drive Farmington Hills, MI 48331-3432							
<b>MERA SITE ID#:</b> 810141	<b>FACILITY ID#:</b> 0-008427	<b>DEQ REVIEWER:</b> Terry Hiske	<b>AUDIT DATE:</b> 06/20/96						
<b>COUNTY:</b> Washtenaw		<b>AUDIT DATE:</b> 06/20/96							
<b>REPORT REVIEWED: (Check one only)</b>  <table style="width:100%; border:none;"> <tr> <td style="width:33%;">Free Product Report</td> <td style="width:33%;">Final Assessment Report (365 day)</td> <td style="width:33%;">Release Closure</td> </tr> <tr> <td>Initial Assessment Report (90 day)</td> <td>X Corrective Action Plan (CAP)</td> <td></td> </tr> </table> <b>On-Site Activity</b> <b>Date:</b> <b>OTHER (specify):</b>				Free Product Report	Final Assessment Report (365 day)	Release Closure	Initial Assessment Report (90 day)	X Corrective Action Plan (CAP)	
Free Product Report	Final Assessment Report (365 day)	Release Closure							
Initial Assessment Report (90 day)	X Corrective Action Plan (CAP)								
<b>FINDINGS:</b>		The CAP has been reviewed and found acceptable.							
<b>RECOMMENDATIONS:</b>		Please proceed as proposed. Please notify this office 48 hours prior to on-site activities.							
<b>ACTION TAKEN:</b>									
<b>DEQ PROJECT MANAGER'S SIGNATURE:</b> 		<b>RECEIVED BY:</b>							



**DEQ**

**DEPARTMENT OF ENVIRONMENTAL  
QUALITY  
UNDERGROUND STORAGE TANK  
DIVISION**

**LUST AUDIT REPORT**  
Authorized by 1988 PA 451, as amended

<b>SITE NAME &amp; ADDRESS:</b> Ann Arbor City Garage 721 N Main Ann Arbor, MI Ms. Sandra Kenzie City of Ann Arbor 100 N. Fifth Ave. Ann Arbor, MI 48107	<b>CONSULTANT NAME &amp; ADDRESS:</b> Mr. D.E. Nona NTH Consultants, Ltd 38955 Hills Tech Drive Farmington Hills, MI 48331			
<b>Facility ID#:</b> 0-008427	<b>DEQ REVIEWER:</b> Terry Hiske			
<b>COUNTY:</b> Washtenaw	<b>AUDIT DATE:</b> February 5, 1996			
<b>REPORT REVIEWED: (check one only)</b>				
<table> <tr> <td><input checked="" type="checkbox"/> Free Product Report Initial Assessment Report (90 day)</td> <td><input type="checkbox"/> Final Assessment Report (365 day)</td> <td><input type="checkbox"/> Release Closure</td> </tr> </table>		<input checked="" type="checkbox"/> Free Product Report Initial Assessment Report (90 day)	<input type="checkbox"/> Final Assessment Report (365 day)	<input type="checkbox"/> Release Closure
<input checked="" type="checkbox"/> Free Product Report Initial Assessment Report (90 day)	<input type="checkbox"/> Final Assessment Report (365 day)	<input type="checkbox"/> Release Closure		
<b>On-Site Activity</b>	<b>Date:</b> <b>OTHER (specify):</b>			
<b>FINDINGS:</b> Initial Assessment Report was found to be acceptable. Please continue as proposed.				
<b>RECOMMENDATIONS:</b>				
<b>ACTION TAKEN:</b>				
<b>DEQ PROJECT MANAGER'S SIGNATURE:</b> 	<b>RECEIVED BY:</b>			

*CAP:  
combining  
with  
other releases*



DNR

Michigan Department of Natural Resources  
Underground Storage Tank Division

Fax Transmittal Sheet  
Notice of On-Site Work Activity

Authorized by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, (Act 451), Part 213.

INSTRUCTIONS: Complete this sheet to notify the Underground Storage Tank Division (USTD) 48 hours in advance of on-site activities as required under Act 451. Failure to provide this notification may result in fines as provided in Act 451. See reverse side for a complete list of USTD District Offices and fax numbers.

Today's Date: 8 - 25 - 95  
Time: 10:30 AM

No. of Pages including Transmittal Sheet 1

Sent To:

MDNR Project Manager or District Supervisor: TERRY HISKE

Department of Natural Resources - Underground Storage Tank Division

District Office: JACKSON

Telephone Number: 517 780-7928 Fax Number: 517 780-7855

Sent By:

Site Contact Person: R. ANDERSON

Company/Division: NTH CONSULTANTS LTD

Address: 38955 Hills Tech Dr.

Telephone Number: 810 553 6300 Fax Number: 810 489-0727

Site Information:

Facility Name: CITY OF ANN ARBOR MAINTENANCE GARAGE

Contact Person: MS. SANDRA KEZIE Telephone Number: 313 994-6095

Address: 721 N. Main St. County: WASHTENAW

Facility ID#: 0-008427 MERA Site ID#: 810141

On-Site Work Dates: AUGUST 29-31, 1995

Note: Telephone District Office ASAP if schedule changes.

Starting Time: 9:00 AM Ending Time: 5:00 PM

Type of Activity: DRILLING AND GROUNDWATER SAMPLE COLLECTION @ SOUTH TANK AREA

Location \_\_\_\_\_

FR3801(6/95)

STATE OF MICHIGAN

NATURAL RESOURCES  
COMMISSION

JERRY C. BARTNIK  
KEITH J. CHARTERS  
LARRY DEVUYST  
PAUL EISELE  
JAMES P. HILL  
DAVID HOLLI  
JOEY M. SPANO



JOHN ENGLER, Governor  
**DEPARTMENT OF NATURAL RESOURCES**  
STEVENS T MASON BUILDING, PO BOX 30028, LANSING MI 48909-7528  
ROLAND HARMES, Director

REPLY TO:  
UNDERGROUND STORAGE TANK DIVISION  
TOWN CENTER  
PO BOX 30157  
LANSING MI 48909-7657

June 26, 1995

CERTIFIED MAIL

Dear Owner/Operator:

SUBJECT:

Underground Storage Tank System Release  
Facility ID No. 0-008427  
MERA Site No. 810141  
CITY GARAGE  
721 N MAIN  
ANN ARBOR, MI 48104



On 06-16-95, the Michigan Department of Natural Resources (MDNR), Underground Storage Tank Division (USTD), was notified that there was a release of a regulated substance from an underground storage tank (UST) system at the above mentioned location. Attached is a copy of the confirmed release report. This letter and attachments are to help your understanding of the following: the need to retain a Qualified UST Consultant (QC); site investigation and cleanup requirements; reporting requirements; forms requirements; penalties for late reports and fraud; possible funds available to assist in paying for the cleanup and pollution liability insurance. Please seek assistance from the USTD JACKSON DISTRICT OFFICE at (517) 780-7900 for further guidance, if necessary. (A copy of the district offices and boundaries is attached for your reference.)

Qualified UST Consultant (QC)

The requirements for site investigation and cleanup, reporting, penalties, funds to assist cleanup and pollution liability insurance are in the Natural Resources and Environmental Response Act 1994 PA 451, as amended (Act 451). Part 213 of Act 451 requires you to retain a QC to perform the activities required at a LUST site. The USTD prepares a list of QC's as defined by Part 215 of Act 451 of 1994. Those on the current interim list (attached) are eligible to perform LUST corrective action services. The permanent Qualified UST Consultant list should be available in the Fall of 1995. If you have any questions regarding the QC list, please contact the QC List Coordinator at 517-335-7244.

Cleanup Requirements

Part 213 specifies actions a UST owner or operator are required to take when a leak is discovered. Please refer to Part 213 and the attached flow chart to help guide you through the requirements.

The Qualified Consultant is allowed to proceed with the preparation and implementation of corrective action workplans without prior USTD review or approval. USTD approval is needed for any institutional controls that are a part of the cleanup program. The USTD may audit or oversee all aspects of corrective actions undertaken pursuant to Part 213. To assist the USTD in this capacity, the QC is required to contact our District Office at least 48 hours prior to conducting on-site activities, using the attached form.

Forms and Reports

The USTD has created and requires the use of forms to assist in the reporting requirements. The required forms are available from our office. Please submit a LUST report cover sheet with each report (enclosed). In addition, you are required to notify USTD of any changes to your UST system on a registration form (copy attached).

Penalties

Be advised that pursuant to Section 21321, the owner or operator is subject to penalties for not preparing and submitting the reports outlined in Part 213. The owner or operator may, by contract, transfer the responsibility for paying these administrative penalties to a consultant retained by the owner or operator. Section 21324 provides that a person who submits or causes to be submitted false or misleading information may be found guilty of fraud.

MUSTFA Funds and Pollution Liability Insurance

Under Part 215 of Act 451, previously referenced as the MUSTFA Act, 1988 PA 518, the Michigan Legislature created a fund to, among other things, help qualifying owners and operators of certain UST systems meet the financial responsibility requirements they have under both federal and state law.

Funding under MUSTFA will no longer be available for claims, work invoices, or requests for indemnification which are received after 5:00 p.m. on June 29, 1995. Be aware that revenues are insufficient to pay invoices already submitted on a regular basis and revenues will not be able to pay new claims for releases reported after March 31, 1995, unless additional revenues become available. Claims, work invoices, and requests for indemnification that are received prior to this deadline may be paid only if money becomes available.

All new claims should be sent to the MUSTFA Fund Administrator at P.O. Box 30453, Lansing, MI 48909-7953, or delivered to the Underground Storage Tank Division, MUSTFA Fund, 333 South Capitol Avenue, 2nd Floor, Lansing, Michigan. For specific questions regarding MUSTFA, invoices, and claims please contact the MUSTFA office at 517-373-6247.

After the final date of receipt of claims, June 29, 1995, an owner or operator of a UST will be required to secure their own pollution liability insurance, or another mechanism of financial assurance in order to remain in compliance with state and federal law.

Please include the Facility ID No. and MERA Site ID No., found under "Subject" at the top of this notification, with each submittal and on any future correspondence. Should you have questions regarding this notification letter, or need additional information, please contact the USTD JACKSON DISTRICT OFFICE at (517) 780-7900.

Sincerely,



Terri Harmon  
Enforcement Unit  
Underground Storage Tank Division

Enclosures

cc: JACKSON DISTRICT OFFICE

## LEAKING UNDERGROUND STORAGE TANK SUPPLEMENTAL REPORT COVER SHEET

*Authorized by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), Part 213.*

**INSTRUCTIONS:** Complete this form with all applicable information. Attach this form to all supplemental LUST submittals; this includes all reports other than the Initial Assessment, Final Assessment, and Closure Reports. The Certified Underground Storage Tank Professional (CP) **MUST** sign below.

**IDENTIFY TYPE OF SUPPLEMENTAL REPORT:** Corrective Action Plan

FACILITY NAME: Ann Arbor City Garage		FACILITY ID NUMBER: 0-008427	
STREET ADDRESS: 721 N. Main Street		MERA SITE ID NUMBER: 810141	
CITY: Ann Arbor	STATE: Michigan	ZIP CODE: 48104	COUNTY: Washtenaw
DATE(S) RELEASE(S) DISCOVERED: 14 Dec. 1989, 16 June 1995		CONFIRMED RELEASE NUMBER(S): C-753-95	
O/O NAME: City of Ann Arbor		MUSTEA CLAIM NUMBER: 0128	
O/O STREET ADDRESS: 100 N. Fifth Ave. P.O. Box 8647	CITY: Ann Arbor	STATE: MI	ZIP CODE: 48107-8647
CONTACT PERSON: Mr. Homavoon Pirooz		PHONE NUMBER: (313) 994-6148	

### ANSWER ALL QUESTIONS

1. Type(s) of product released: Gasoline + Diesel Fuel
2. Free product present:
 

a. Currently?	___ YES	X NO	If YES, total gallons recovered since last report:
b. Previously?	X YES	___ NO	If YES, total gallons recovered to date: = 1.65
3. Have vapors been identified in any confined spaces (basement, sewers)? \_\_\_ YES X NO
4. Estimated depth to groundwater: 6.25'      Estimated groundwater flow direction: Southeast
5. Estimated distance and direction from point of release to nearest:
 

a. Private well: > 1/2 Mile	b. Municipal well: > 1/2 Mile	c. Surface water/wetland: Huron River 1600' NE
-----------------------------	-------------------------------	--
6. Since last report:
 

a. cubic yards of soil remediated: 4	b. gallons of groundwater remediated: 1155
--------------------------------------	--
7. Totals to date:
 

a. cubic yards of soil remediated: 49	b. gallons of groundwater remediated: 1155
---------------------------------------	--
8. Michigan RBCA Site Classification (1-4): 4

### CERTIFICATION OF REPORT COMPLETION

I, the undersigned CP, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate, and complete. I certify that it was submitted to the USD on 5/13/96.

(date submitted-Required)

CP Original Signature - Required

Date

PRINT QC Project Manager's Name

D. Nona

NTH Consultants, Ltd.

PRINT CP's Name

38955 Hills Tech Drive  
Farmington Hills, MI 48331

NAME OF CONSULTING FIRM

(810) 553-6300

(810) 489-0727

ADDRESS

PHONE NO.

FAX NO.

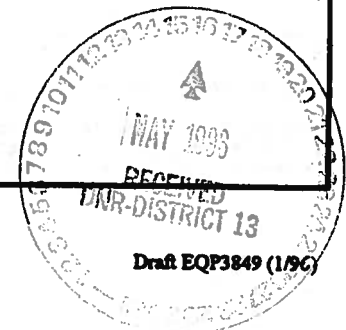
Please return this completed report cover sheet and associated attachments to the appropriate USD District Office listed on the back of this page.

## UNDERGROUND STORAGE TANK DIVISION OFFICES AND LOCATIONS

Determine in which county the UST release occurred. Return all completed forms and associated reports to the USTD office listed next to that county in the following table. Addresses for the USTD offices are listed below.

COUNTY	USTD OFFICE	COUNTY	USTD OFFICE	COUNTY	USTD OFFICE	COUNTY	USTD OFFICE
Alcona	Grayling	Dickinson	Marquette	Lake	Grayling	Oceana	Grand Rapids
Alger	Marquette	Eaton	Shiawassee	Lapeer	Shiawassee	Ogemaw	Grayling
Allegan	Plainwell	Emmet	Grayling	Leelanau	Grayling	Ontonagon	Marquette
Alpena	Grayling	Genesee	Shiawassee	Lenawee	Jackson	Osceola	Grayling
Antrim	Grayling	Gladwin	Grayling	Livingston	Shiawassee	Oscoda	Grayling
Arenac	Grayling	Gogebic	Marquette	Luce	Marquette	Otsego	Grayling
Baraga	Marquette	Grand Traverse	Grayling	Mackinac	Marquette	Ottawa	Grand Rapids
Barry	Plainwell	Graiot	Shiawassee	Macomb	SE Michigan	Presque Isle	Grayling
Bay	Saginaw-Bay	Hillsdale	Jackson	Manistee	Grayling	Roscommon	Grayling
Benzie	Grayling	Houghton	Marquette	Marquette	Marquette	Saginaw	Saginaw-Bay
Berrien	Plainwell	Huron	Saginaw-Bay	Mason	Grayling	Sanilac	Saginaw-Bay
Branch	Jackson	Ingham	Shiawassee	Mecosta	Grand Rapids	Schoolcraft	Marquette
Calhoun	Jackson	Ionia	Grand Rapids	Menominee	Marquette	Shiawassee	Shiawassee
Cass	Plainwell	Iosco	Grayling	Midland	Saginaw-Bay	St Clair	SE Michigan
Charlevoix	Grayling	Iron	Marquette	Missaukee	Grayling	St Joseph	Plainwell
Cheboygan	Grayling	Isabella	Saginaw-Bay	Monroe	SE Michigan	Tuscola	Saginaw-Bay
Chippewa	Marquette	Jackson	Jackson	Montcalm	Grand Rapids	Van Buren	Plainwell
Clare	Grayling	Kalamazoo	Plainwell	Montmorency	Grayling	Washtenaw	Jackson
Clinton	Shiawassee	Kalkaska	Grayling	Muskegon	Grand Rapids	Wayne	SE Michigan
Crawford	Grayling	Kent	Grand Rapids	Newaygo	Grand Rapids	Wexford	Grayling
Delta	Marquette	Keweenaw	Marquette	Oakland	SE Michigan		

<b><u>CADILLAC OFFICE</u></b> ROUTE #1 8015 MACKINAW TRAIL CADILLAC MI 49601  616-775-9727 (PHONE) 616-775-9671 (FAX)	<b><u>JACKSON OFFICE</u></b> 301 E LOUIS GLICK HIGHWAY JACKSON MI 49201  517-780-7900 (PHONE) 517-780-7855 (FAX)	<b><u>SAGINAW BAY OFFICE</u></b> 503 N EUCLID AVE SUITE 9 BAY CITY MI 48706  517-684-9141 (PHONE) 517-684-9799 (FAX)
<b><u>GAYLORD OFFICE</u></b> PO BOX 667 GAYLORD MI 49735  517-732-3541 (PHONE) 517-732-0794 (FAX)	<b><u>MARQUETTE OFFICE</u></b> 1990 US 41 SOUTH MARQUETTE MI 49855  906-228-6561 (PHONE) 906-228-5245 (FAX)	<b><u>SHIAWASSEE OFFICE</u></b> 10650 BENNETT DR MORRICE MI 48857-9792  517-625-4600 (PHONE) 517-625-5000 (FAX)
<b><u>GRAND RAPIDS OFFICE</u></b> 350 OTTAWA ST NW GRAND RAPIDS MI 49503  616-456-5071 (PHONE) 616-456-1239 (FAX)	<b><u>PLAINWELL OFFICE</u></b> 1342 SR-89 SUITE B PLAINWELL MI 49080-1915  616-692-2120 (PHONE) 616-692-3050 (FAX)	<b><u>SE MICHIGAN OFFICE</u></b> 38980 SEVEN MILE RD LIVONIA MI 48152  313-953-0241 (PHONE) 313-432-1295 (FAX)
<b><u>GRAYLING OFFICE</u></b> 1955 NORTH I-75 BL GRAYLING MI 49738  517-348-6371 (PHONE) 517-348-8825 (FAX)		



Department of Natural Resources  
 Underground Storage Tank Division  
 District 3

CONFIRMED RELEASE REPORT

MEPA #  
 810141

<p><b>Owner Information</b></p> <p>CITY OF ANN ARBOR              100 N FIFTH AVENUE              ANN ARBOR, MI 48107</p> <p>Owner Phone: (313) 994-2744</p> <p>Contact: JOHN GOULD              Phone: (313) 994-2815</p>	<p><b>Location of Tanks</b></p> <p>CITY GARAGE              721 N MAIN              ANN ARBOR, MI 48104</p> <p>County: WASHTENAW              City:</p> <p>Location Phone: (313) 994-2744</p>
--	---

Date Release Discovered: CONFIRMED RE, 06/16/95

Time Release Discovered/Reported:  
 11 AM

Date Release Reported: 06/16/95

Tank Information and Product Released:

Cause: 1000 STEEL

Product: DIESEL

Estimated Quantity Lost: invalid quantity datum

Detection Method:

1) STAINED SOIL & OLFACTORY ODOR

Comments (For USTD use only):

11 AM, REPORTED 6/16/95 11:36 AM, FAX

Reporting Party Information:

ROBERT ANDERSON - NTH  
 CONSULTANT  
 (810) 553-6300

Department of Natural Resources  
Underground Storage Tank Division  
District 3

CONFIRMED RELEASE REPORTOwner Information

CITY OF ANN ARBOR  
100 N FIFTH AVENUE  
ANN ARBOR, MI 48107

Owner Phone: (313) 994-2744

Contact: JOHN GOULD  
Phone: (313) 994-2815

Location of Tanks

CITY GARAGE  
721 N MAIN  
ANN ARBOR, MI 48104

County: WASHTENAW  
City:

Location Phone: (313) 994-2744

Date Release Discovered: CONFIRMED RE, 06/16/95

Time Release Discovered/Reported:

11 AM

Date Release Reported: 06/16/95

Tank Information and Product Released:

Cause: 1000 STEEL

Product: DIESEL

Estimated Quantity Lost: invalid quantity datum

Detection Method:

1) STAINED SOIL & OLFACTORY ODOR

Comments (For USTD use only):

11 AM, REPORTED 6/16/95 11:36 AM, FAX

Reporting Party Information:

ROBERT ANDERSON - NTH  
CONSULTANT  
(810) 553-6300

INSTRUCTIONS: Complete this form with all the applicable information and submit with each report listed below as required. The Certified Underground Storage Tank Professional (CUSTP) MUST sign below. Failure to submit a report within the stated time period may result in Administrative Penalties under Section 11a. Return all completed forms to the appropriate ERD District Office listed on the back of this form.

FACILITY NAME: City Garage MUSTFA CLAIM #: 021690-128  
ADDRESS: 721 N. Main St. MERA SITE ID #: 810141  
O/O NAME: City of Ann Arbor RELEASE DATE: 12-15-89  
O/O ADDRESS: 100 N. Fifth Ann Arbor, MI 48107 PHONE NO: 313-994-2744  
CONTACT PERSON: Ms Sandra Kenzie PHONE NO: 313-994-2744

REPORT SUBMITTED:

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Initial Abatement (20 day)              | <input type="checkbox"/> Soil Remediation Corrective Action Plan (210 day)  | <input type="checkbox"/> Free Product           |
| <input type="checkbox"/> Initial Assessment (60 day)             | <input type="checkbox"/> Phase II Hydrogeological Work Plan (210 day)       | <input type="checkbox"/> Release Closure        |
| <input type="checkbox"/> Soil Corrective Action Plan (75 day)    | <input type="checkbox"/> Phase II Hydrogeological Study                     | <input type="checkbox"/> Soil & Groundwater     |
| <input type="checkbox"/> Soil Feasibility Analysis (150 day)     | <input checked="" type="checkbox"/> Soil & Groundwater Feasibility Analysis | <input type="checkbox"/> Remediation Corrective |
| <input type="checkbox"/> Phase I Hydrogeological Study (150 Day) | <input type="checkbox"/> Risk Assessment and Type C Corrective Action Plan  | <input type="checkbox"/> Action Plan            |
|  | <input type="checkbox"/> Request for Review of Closed Loop System           |   |

COMPLETE FOR ALL REPORTS:

- Free Product Present: Currently? YES  NO  If YES, total gallons recovered since last report: \_\_\_\_\_  
Previously? YES  NO  If YES, total gallons recovered to date: \_\_\_\_\_
- Has the UST been emptied? YES  NO
- Site identified as a "lower priority" per Sec. 6e? YES  NO
- Distance from point of release to nearest municipal well supply: 2.5 miles No. of wells impacted: 0
- Distance from point of release to nearest private well: 2.5 miles No. of wells impacted: 0  
Number of homes where drinking water is impacted: 0
- Distance from point of release to nearest surface water/wetlands: 0.5 miles
- Have vapors been identified in any confined spaces (basement, sewers, etc.)? YES  NO
- Estimated cost of proposed investigation or remedy: \$150,000  
(Feasibility Studies, Corrective Action Plans and Hydrogeological Workplans ONLY)
- What type of technology is being proposed/used as a remedy? Soil Vapor extraction / Air Sparging
- Since last report: Total cu. yards soil remediated: 0 Total gallons groundwater remediated: 0
- Projected amount of time required to complete investigation or remedy: 3 years
- Date(s) when on-site activities will be conducted: November 1994

CERTIFICATION OF REPORT

I, John J. D'Addona, hereby attest to the accuracy of the statements in this document  
(print CUSTP name)

and all attachments. I certify that it was submitted to the MDNR on August 5, 1994  
(date submitted)

John J. D'Addona 8/5/94  
CUSTP Signature/Date - Required

Eric P. Helger 8/5/94  
QUSTC Project Manager's Signature/Date

CONSULTANT: The Traverse Group PHONE NO: (313) 747-9300

ADDRESS: 3772 Plaza Drive Ann Arbor, MI 48108





# CITY OF ANN ARBOR, MICHIGAN

100 North Fifth Avenue, P.O. Box 8647, Ann Arbor, Michigan 48107-8647

Engineering Division	(313) 994-2744	Fax (313) 994-1744
Fleet Services Division	(313) 994-2815	Fax (313) 994-2701
Transportation Division	(313) 994-2818	Fax (313) 994-1765

Public Services Department

August 18, 1994

MDNR - Underground Storage Tank Division  
Jackson District Office  
Jackson State Office Building  
301 East Louis Glick Highway  
Jackson, Michigan 49201

Attention: Mr. Terry Hiske

Re: Feasibility Study  
Ann Arbor City Garage  
721 N. Main Street  
Ann Arbor, Michigan  
File No. 93115 (smk)



Ladies and Gentleman:

Enclosed is the Feasibility Study, prepared by The Traverse Group, Inc., for the Site Remediation of the Ann Arbor City Garage site located at 721 North Main Street for your review. In addition, enclosed is the proposed schedule, prepared by NTH, dated August 15, 1994, for the site remediation.

Currently the City of Ann Arbor is in the process of executing a Professional Service Agreement (PSA) for a consultant to design and conduct the remediation at the site. The consultant that has been selected to perform the work is NTH Consultant, Ltd., 38955 Hill Tech Drive, Farmington Hills, Michigan. It is anticipated that the PSA will be executed October 1994.

MDNR - Underground Storage Tank Division

Re: Feasibility Study  
Ann Arbor City Garage  
721 N. Main Street  
Ann Arbor, Michigan

File No. 93115 (smk)


Page 2

Since the Feasibility Study has not been reviewed by NTH, the recommended selected alternative described in the Feasibility Study may be revised. Prior to finalizing the recommended site remediation alternative, NTH will conduct a pilot study at the site. The pilot study will include a pump test, a vapor extraction pilot test, an air sparging pilot test, and a bioventing pilot test. The pilot study will determine the most efficient system(s) for site remediation. Following the completion of the pilot study a Corrective Action Plan (CAP) will be prepared and submitted to your office for your review.

If you have any questions, please call us at (313) 994-6095.

Very truly yours,

PUBLIC SERVICES DEPARTMENT

  
Sandra M. Kenzie, P.E.  
Project Engineer  
Engineering Division

SMK:pjs (fsmdnr.ust)

Enclosures

cc: Homayoon Pirooz, P.E., Senior Project Manager  
Lee Carter, District Supervisor, MDNR Jackson  
Dave Nona, Vice President, NTH Consultants, Ltd.



Ms. Sandra Kenzie  
City of Ann Arbor  
100 North Fifth Avenue  
P.O. Box 8647  
Ann Arbor, Michigan 48107-8647

August 15, 1994

RE: Project Schedule  
UST Remediation  
Ann Arbor, Michigan  
Ann Arbor File No. 93115

Dear Ms. Kenzie:

Please find enclosed our proposed schedule for your review:

TASK NO.	DESCRIPTION	721 NORTH MAIN	415 WEST WASHINGTON
1	Review previous data	by 10/15/94	by 10/15/94
2	Prepare MUSTFA invoices	ongoing	ongoing
3	Complete pilot testing	by 06/30/95	by 06/30/95
4	Finalize CAP	by 08/15/95	by 08/15/95
5	Finalize remedial design and bid preparation	by 09/30/95	by 09/30/95
6	Obtain permit(s)	by 09/30/95	by 09/30/95
7	Contractor selection	by 10/30/95	by 10/30/95
8	Install system	by 11/30/95	by 11/30/95
11	Prepare closure report	by 11/30/97	by 11/30/99
12	Conduct site closure activities	by 11/30/97	by 11/30/99

---

NTH Consultants, Ltd.

Ms. Sandra Kenzie  
August 15, 1994

I hope the above schedule is satisfactory to you and should you have questions please call.

Sincerely,

NTH Consultants, Ltd.



Robert C. Anderson, P.G.  
Senior Project Geologist



D. Nona, P.E.  
Vice President/Senior Project Consultant

RCA/DN/pmb

STATE OF MICHIGAN



JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

ROLAND HARMES, Director

4th Floor State Office Building  
301 E. Louis Glick Hwy., Jackson, Michigan 49201

July 26, 1993

NATURAL RESOURCES

COMMISSION

JERRY C. BARTNIK  
LARRY DEVUYST  
PAUL EISELE  
JAMES P. HILL  
DAVID HOLLI  
JOEY M. SPANO  
JORDAN B. TATTER

Mr. Dan Cullen  
City of Ann Arbor  
100 North Fifth Avenue  
P.O. Box 8647  
Ann Arbor, Michigan 48107

Dear Mr. Cullen:

The "Gasoline Tank Supplemental Site Investigation Report For An Underground Storage Tank Release", dated June 21, 1993, for your facility at Ann Arbor City Garage, 721 North Main Street, Ann Arbor, Michigan, has been reviewed. The extent of contamination related to this release has been adequately defined to allow for the development of a corrective action plan (CAP). Please proceed with the development of the CAP. It is understood, however, that further site study may be necessary upon review of these study findings.

As indicated in Sec. 8(6) of the Leaking Underground Storage Tank Act, P.A. 478 of 1988, as amended, once you have completed all corrective actions in full at the site, the Michigan Department of Natural Resources (MDNR) may provide you with a document stating that the corrective actions have been completed. To receive this document, you must:

1. be in compliance with the Act,
2. provide the MDNR a written statement asserting all corrective actions have been completed,
3. provide sufficient documentation to show full compliance with the approved corrective action plan.

If you have any further questions, please contact Terry Hiske at 517-780-7928.

Sincerely,

A handwritten signature in cursive script that reads "R. Dave Parsons, Ady".

Gary Klepper  
District Supervisor  
Environmental Response Division

cc: Mr. Robert Blake, WCHD  
Mr. Eric Helzer, TGI  
Mr. Peter Ollila, MDNR



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
UNDERGROUND STORAGE TANK DIVISION

**NOTICE OF ON-SITE WORK ACTIVITY FAX TRANSMITTAL**

Authorized by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, (Act 451), Part 213

**INSTRUCTIONS:** Complete this form to notify the Underground Storage Tank Division (USTD) 48 hours in advance of on-site activities as required under Act 451. Failure to provide this notification may result in fines as provided in Act 451. See reverse side for a complete list of USTD District Offices and fax numbers.

Today's Date 7-11-97 Time 8:55 am No. of pages including transmittal sheet 1

**SENT TO:**

MDEQ Project Manager or District Supervisor: Terry Hiske

District Office: Jackson Office

Telephone Number: (517) 780-7900 Fax Number: (517) 780-7855

**SENT BY:**

Site Contact Person: Rad Bouchard

Company/Division: NTH Consultants, Ltd

Address: Farmington Hills, MI

Telephone Number: (810) 553-6300 Fax Number: (810) 489-0727

**SITE INFORMATION:**

Facility Name: City of Ann Arbor - City Maintenance Dept <sup>Garage</sup>

Contact Person: Liz Rolla Phone Number: (313) 994-6155

Address: <sup>721</sup> ~~721~~ North Main, Ann Arbor County, Washtenaw

Facility ID#: 0-008427 MERA Site ID#: 810141

On-Site Work Dates: 7-12-97

**NOTE - TELEPHONE THE DISTRICT OFFICE ASAP IF SCHEDULE CHANGES.**

Starting Time: 3:00 pm Ending Time: when completed

Type of Activity: Collect groundwater samples from on-site wells

Location: 721 N. Main, Ann Arbor



Michigan Department of Natural Resources  
Environmental Response Division

**FREE-PRODUCT FAX TRANSMITTAL SHEET**

(Authorized by Section 299.836i of the Leaking Underground Storage Tank Act, 1988 PA 475, as amended.)

**INSTRUCTIONS:** Use this transmittal sheet to notify the Department **within 24 hours** of the discovery of free-product as required by Section 299.836(2)(f) of the Leaking Underground Storage Tank Act, 1988 PA 475, as amended. See Reverse side for a complete list of ERD District Offices and fax numbers.

Today's Date: APRIL 26, 1995

**RECEIVER:**

Project Manager: TERRY HISKE

(if not known, Tom Kohl, L.U.S.T. Program Manager)

District Office: DEPARTMENT OF NATURAL RESOURCES -- ENVIRONMENTAL RESPONSE DIVISION

JACKSON DISTRICT OFFICE, 301 E. LOUIS GLICK HWY., JACKSON, MI 49201

Telephone Number: (517) 780 - 7900 Fax Number: (517) 780 - 7855

**SENT BY:**

Contact Person: ROBERT C. ANDERSON, PG

Company / Division: NTM CONSULTANTS, LTD. / ENVIRONMENTAL SERVICES

Address: 31955 HILLS TECH DRIVE City / State: FARMINGTON HILLS, MI

Telephone Number: (810) 553 - 5300 Fax Number: (810) 489 - 0727

Signature of Sender: *Robert C. Anderson*

**FREE-PRODUCT RELEASE SITE:**

Facility Name: CITY GARAGE MERA No: 810266  
Unknown

Address: 701 N. MAIN STREET City / State: ANN ARBOR, MI

Estimated Release Quantity: UNKNOWN - 6" MEASURED IN MONTH Release Date: REL MW-1

Number of Transmittal Sheets: 1

# FAX TRANSMITTAL SHEET NOTICE OF ON-SITE WORK ACTIVITY

(Authorized by Section 299.836h of the Leaking Underground Storage Tank Act, 1988 PA 478, as amended.)

INSTRUCTIONS: Complete this sheet to notify the Department 3 working days in advance of any on-site activities. See reverse side for a complete list of ERD District Offices and fax numbers.

Today's Date: 4/17/95

RECEIVER:

Project Manager: TERRY HISKE

DEPARTMENT OF NATURAL RESOURCES - ENVIRONMENTAL RESPONSE DIVISION

District Office: JACKSON DISTRICT OFFICE, 301 E. Louis Blaine Highway,  
JACKSON, Michigan

Telephone Number: 517 780-7928 Fax Number: 517 780-7855

SENT BY:

Contact Person: ROBERT ANDERSON

Company / Division: NTH Consultants, Ltd. / Environmental

Address: 38955 Hills Tech Dr. City / State: Farmington Hills, MI

Telephone Number: 810 555-6500 Fax Number: 810 489-0727

SITE INFORMATION:

Facility Name: CITY GARAGE (City of Ann Arbor) MERA No: UNKNOWN

Address: 721 N. Main St. City / State: Ann Arbor MI

On-Site Work Dates: 4/24 thru 4/27/95

Starting Time: 8:00 AM Ending Time: 5:00 PM

Type of Activity: Implement Pilot Study

Number of pages including transmittal sheet: 1





**NTH CONSULTANTS, LTD.**

A Neyer, Tiseo & Hinds Company  
38955 Hills Tech Drive, Farmington Hills, Michigan 48331-3432 Tel: (810) 553-6300

**FACSIMILE TRANSMITTAL**

NTH PROJECT NO. 13-5001-03

DATE: 4/3/95

TO: TERRY HISILE MDNR - ULSTD  
Person Department

COMPANY: MICHIGAN DEPARTMENT OF NATURAL  
FAX NO.: 517 780-~~7400~~ 7855 RESOURCES

TOTAL PAGES: 1  
(Including This Page)

FROM: ROBERT ANDERSON

FAX NO.: (810) 489-0727 (Downstairs)

TIME: 2<sup>15</sup> PM

Message: We will begin drilling at the City of Ann Arbor's PARK & RECREATION facility at 415 W. WASHINGTON WEDNESDAY, April 5, 1995, to install our pilot test observation wells. We will begin @ 8:00AM. We ANTICIPATE being ON-SITE for three (3) DAYS.

PLEASE CONFIRM RECEIPT:  Yes  No



**NTH CONSULTANTS, LTD.**

A Neyer, Tiseo & Hindo Company  
38955 Hills Tech Drive, Farmington Hills, Michigan 48331-3432 Tel: (810) 553-6300

**FACSIMILE TRANSMITTAL**

NTH PROJECT NO. 13-5001-03

DATE: 4/3/95

TO: TERRY HISILE MDNR - USTD  
Person Department

COMPANY: MICHIGAN DEPARTMENT OF NATURAL

FAX NO.: 517 780-~~7400~~ 7855 RESOURCES

TOTAL PAGES: 1  
(Including This Page)

FROM: ROBERT ANDERSON

FAX NO.: (810) 489-0727 (Downstairs)

TIME: 2<sup>15</sup> PM

Message: We will begin drilling at the City of Ann Arbor's PARK & RECREATION facility at 415 W. WASHINGTON WEDNESDAY, April 5, 1995, to install our pilot test observation wells. We will begin @ 8:00AM. We ANTICIPATE being ON-SITE for three (3) DAYS.

PLEASE CONFIRM RECEIPT:  Yes  No

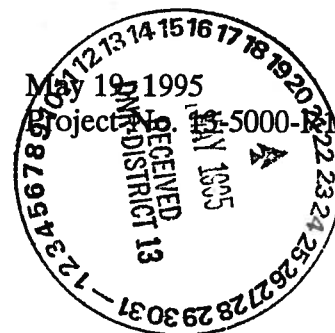
**NTH Consultants, Ltd.**

Professional Engineering and  
Environmental Services



38955 Hills Tech Drive  
P.O. Box 9173  
Farmington Hills, MI 48333-9173  
(810) 553-6300  
(810) 489-0727 Fax

Mr. Terry Hiske  
Jackson District Office  
Michigan Department of Natural Resources  
UST Division  
301 E. Louis Glick Highway  
Jackson, Michigan 49201



RE: Waiver - 20 Day Free Product Report  
721 N. Main Street  
Ann Arbor, Michigan

Dear Mr. Hiske:

This letter has been prepared to document our telephone conversation of May 15, 1995. The purpose of my telephone call to you was to discuss the necessity of submitting the 20 day free product abatement report as required under the October, 1993 amendments to Michigan Public Act 478 of 1988, the Leaking Underground Storage Tank (LUST) Act. You indicated this report was not required under the April, 1995 LUST Amendment. Thus, no free product report will be submitted.

Should you need additional information, please contact Sandra Kenzie at (313) 994-6095 or myself.

Sincerely,

NTH Consultants, Ltd.

A handwritten signature in cursive script that reads 'Robert C. Anderson'.

Robert C. Anderson, P.G.  
Senior Project Geologist

RCA/pmb

cc: Ms. Sandra Kenzie, P.E. (City of Ann Arbor)

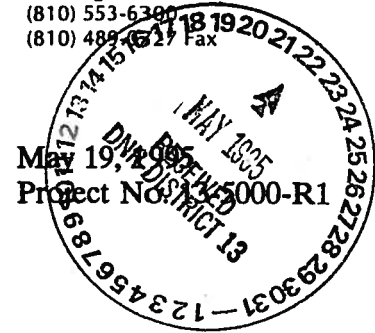
**NTH Consultants, Ltd.**

Professional Engineering and  
Environmental Services



38955 Hills Tech Drive  
P.O. Box 9173  
Farmington Hills, MI 48333-9173  
(810) 553-6380  
(810) 489-6527 Fax

Mr. Terry Hiske  
Jackson District Office  
Michigan Department of Natural Resources  
UST Division  
301 E. Louis Glick Highway  
Jackson, Michigan 49201



RE: Waiver - 20 Day Free Product Report  
721 N. Main Street  
Ann Arbor, Michigan

Dear Mr. Hiske:

This letter has been prepared to document our telephone conversation of May 15, 1995. The purpose of my telephone call to you was to discuss the necessity of submitting the 20 day free product abatement report as required under the October, 1993 amendments to Michigan Public Act 478 of 1988, the Leaking Underground Storage Tank (LUST) Act. You indicated this report was not required under the April, 1995 LUST Amendment. Thus, no free product report will be submitted.

Should you need additional information, please contact Sandra Kenzie at (313) 994-6095 or myself.

Sincerely,

NTH Consultants, Ltd.

A handwritten signature in cursive script that reads 'Robert C. Anderson'.

Robert C. Anderson, P.G.  
Senior Project Geologist

RCA/pmb

cc: Ms. Sandra Kenzie, P.E. (City of Ann Arbor)

# FAX TRANSMITTAL SHEET NOTICE OF ON-SITE WORK ACTIVITY

(Authorized by Section 299.836h of the Leaking Underground Storage Tank Act, 1988 PA 478, as amended.)

**INSTRUCTIONS:** Complete this sheet to notify the Department 3 working days in advance of any on-site activities. See reverse side for a complete list of ERD District Offices and fax numbers.

Today's Date: 4/5/95

**RECEIVER:**

Project Manager: TERRY HISKE

DEPARTMENT OF NATURAL RESOURCES - ENVIRONMENTAL RESPONSE DIVISION

District Office: JACKSON DISTRICT OFFICE, 301 E. LOUIS GLICK HWY,  
JACKSON, MI

Telephone Number: 517 780-7928 Fax Number: 517 780 7855

**SENT BY:**

Contact Person: R. ANDERSON

Company / Division: NTH CONSULTANTS, Ltd.

Address: 38955 Hills Ter L Dr. City / State: Farmington Hills, MI

Telephone Number: 810 553-6300 Fax Number: 2 489-07

**SITE INFORMATION:**

Facility Name: CITY GARAGE (City of Ann Arbor) MERA No: UNKNOW

Address: 721 N. Main St. City / State: Ann Arbor MI

On-Site Work Dates: 4/10 thru 4/13/95

Starting Time: 8:00 AM Ending Time: 5:00 PM

Type of Activity: INSTALLATION OF OBSERVATION WELLS

Number of pages including transmittal sheet: 1



**EASTERN OPERATIONS**

3772 Plaza Drive  
Ann Arbor, Michigan 48108  
(313) 747-9300  
FAX: (313) 747-9229

June 21, 1993

RECEIVED  
JUN 23 1993  
DISTRICT OFFICE

**Mr. Terry Hiske**  
Jackson District Office  
MDNR-Environmental Response Division  
Jackson State Office Building  
301 East Louis Glick Highway  
Jackson, Michigan 49201

**RE: Gasoline Tank Supplemental Site Investigation Report**  
**Ann Arbor City Garage**  
**721 N. Main Street**  
**Ann Arbor, Michigan**

TGI REF:#246


Dear Terry:

The Traverse Group, Inc. (TGI) has been retained by the owner/operator of the former underground storage tank (UST) system at the Ann Arbor City Garage site located at 721 N. Main street to conduct environmental consulting services relating to permanent closure of the UST systems at the site.


Enclosed, please find a copy of the *Gasoline Tank Supplemental Site Investigation Report* for 721 N. Main street, Ann Arbor, Michigan. The report summarizes the activities in chronological order starting with the removal of the UST and ending with the ground water monitoring results. Supporting documentation including monitoring well and soil boring logs and analytical results have been attached as appendices.

If you have any questions, please call Mark Tussing or me at your earliest convenience.

Sincerely,

  
Eric P. Helzer  
Staff Engineer

Reviewed by:

  
Mark Tussing  
Operations Manager

cc: Mr. Dan Cullen, City of Ann Arbor Risk Manager

enclosure



**NATURAL RESOURCES  
COMMISSION**

LARRY DEVUYST  
PAUL EISELE  
JAMES P. HILL  
DAVID HOLLI  
O. STEWART MYERS  
JOEY M. SPANO  
JORDAN B. TATTER



JOHN ENGLER, Governor

**DEPARTMENT OF NATURAL RESOURCES**

ROLAND HARMES, Director

4th Floor State Office Building  
301 E. Louis Glick Hwy., Jackson, Michigan 49201

March 10, 1993

Mr. Dan Cullen  
City of Ann Arbor  
100 North Fifth Avenue  
P.O. Box 8647  
Ann Arbor, Michigan 48107

Dear Mr. Cullen:

Subject: Department review of Supplemental Site Investigation Work Plan for  
Ann Arbor City Garage, 721 N. Main Street, Ann Arbor, Washtenaw  
County

The Michigan Department of Natural Resources (MDNR) is in receipt of the Ann Arbor City Garage Supplemental Site Investigation Work Plan prepared by The Traverse Group, Incorporated (TGI). Due to current staffing levels and excessive workload, a detailed review of the work plan was not completed by department staff. The work plan has been provided with a general screening. Based on this review, you are hereby authorized to proceed with the proposed investigation provided the following conditions and project goals are accomplished:

1. The investigation must effectively define the vertical and horizontal extent of soils contamination and should be conducted in compliance with the Leaking Underground Storage Tank Act 478, of 1988, as amended. A list of Department guidance documents is outlined below. (If you wish to receive a copy of these guidance documents, please contact this office.)
  - Operational Memoranda #1 through #10.
  - Verification of Soils Remediation, October 25, 1990
  - Draft Hydrogeologic Study Guidance Document, November, 1990
2. Determine if groundwater has been impacted by the confirmed release. If groundwater has been impacted, complete initial hydrogeologic investigation to determine basic hydrogeological conditions at the site, including groundwater flow direction and gradient.



**EASTERN OPERATIONS**

3772 Plaza Drive  
Ann Arbor, Michigan 48108  
(313) 747-9300  
FAX: (313) 747-9229

February 23, 1993

**Mr. Terry Hiske**  
**Jackson District Office**  
**MDNR-Environmental Response Division**  
**Jackson State Office Building**  
**301 East Louis Glick Hwy.**  
**Jackson, Michigan 49201**

RECEIVED  
FEB 25 1993  
MDNR  
DISTRICT 13 HDQTS

**RE: Gasoline Tank**  
**Supplemental Site Investigation Work Plan**  
**UST Release at**  
**Ann Arbor City Garage**  
**721 N. Main Street**  
**Ann Arbor, Michigan**

**TGI REF: 246**

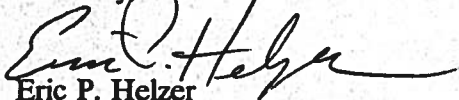
Dear Mr. Hiske:

The Traverse Group, Inc. (TGI) has been retained by the owner/operator of the underground storage tank (UST) system at the Ann Arbor City Garage located at 721 N. Main Street to conduct environmental consulting services relating to permanent closure of a 2,000-gallon gasoline UST system.


Enclosed, please find a copy of the *Gasoline Tank Supplemental Site Investigation Work Plan* for 721 N. Main Street, Ann Arbor, Michigan. The work plan outlines the activities to be conducted at the site.

If you have any questions, please call Mark Tussing or myself at your earliest convenience.

Sincerely,

  
Eric P. Helzer  
Staff Engineer

Reviewed by

  
Mark Tussing  
Operations Manager

cc: Mr. Dan Cullen  
enclosure







The Traverse Group, Inc.  
3772 Plaza Drive, Suite 5  
Airport Plaza Park  
Ann Arbor, Michigan 48108

RECEIVED  
APR 9 1992

(313) 747-9300 Phone  
(313) 747-9229 Fax

- DISTRICT TO UDO
- Groundwater and Soil Contamination Assessment and Cleanup
  - Underground Storage Tank Management
  - Industrial Environmental Audits
  - Property Development Risk Assessments

April 8, 1992

Mr. Terry Hiske  
Jackson District Office  
MDNR-Environmental Response Division  
Jackson State Office Building  
301 East Louis Glick Highway  
Jackson, Michigan 49201

**RE: Type A Closure Report  
Underground Storage Tank Waste Oil Release  
Ann Arbor City Garage  
721 North Main Street  
Ann Arbor, Michigan 48104**

**TGI REF: 574**


Dear Terry:

The Traverse Group, Inc. (TGI) has been retained by the owner/operator of the underground storage tank (UST) at the facility named herein, to conduct environmental consulting services relating to a confirmed release from the waste oil UST at the above-mentioned site.

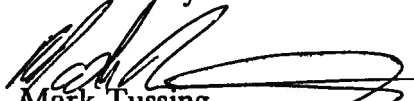
Enclosed, please find a copy of the *Type A Closure Report* for the waste oil tank release at the Ann Arbor City Garage located at 721 North Main Street, Ann Arbor, Michigan.

If you have any questions, please call TGI at your earliest convenience.

Sincerely,

  
Peter J. Weglinski  
Staff Engineer

Reviewed by:

  
Mark Tussing  
Project Coordinator

Enc.: Type A Closure Report

cc: Dan Cullen, City of Ann Arbor Risk Manager

600 South Wagner Road  
Ann Arbor, MI 48106-1448 U.S.A.  
Telex: 810-223-6036  
Fax: 313-761-1208  
(313) 665-0651

City of Jackson Waste  
→ ~~Down P~~ - Pls. respond.  
RECEIVED

SEP 8 1992

DNR  
DISTRICT 13 HDQTS

vicki -  
please call  
me about  
this. Paul



September 2, 1992

Mr. Gary Klepper  
Jackson District Supervisor  
Environmental Response Division  
Michigan Department of Natural Resources  
301 E. Louis Glick Highway  
Jackson, MI 49201

Dear Mr. Klepper:

Since my letter to you yesterday about the contamination along Main Street, I've talked to my daughter about the house on 630 North Main Street which she owns and which I'm managing for her. We are concerned for the health of the tenants in the house. We have also had concern from Alex Krotov, a tenant in the house who is occupying it now, about smells which may be emanating from benzene and other fumes resident in the 307 sites close by the house. We understand tenants in the neighborhood are getting concerned about the continuing existence of these sites and would like a public informational hearing about what is being done to clean up these sites. The community center across the street is usually available for these public informational hearings.

Sincerely yours,

Charles Gelman

CG/dr

KLEP9-2.DOC



*Charles Gelman*

Charles Gelman

September 1, 1992

Mr. Gary Klepper  
Jackson District Supervisor  
Environmental Response Division  
Michigan Department of Natural Resources  
301 E. Louis Glick Highway  
Jackson, MI 49201

RECEIVED

SEP 3 1992

DNR  
DISTRICT 13 HDOTS

*all files*  
*Allen Creek Dna*  
*Much Cost*  
*Lansing Scrap*  
*City of Ann Arbor*  
*(LUST)*

Dear Mr. Klepper:

I own property on 630 North Main Street, Ann Arbor. It has come to my attention that the city is contaminating my area with dangerous fumes. I am distressed to find out that the Allen Creek running in front of my house is contaminated and has been for the last ten years with nothing being done about remediation. In addition to the Depot Street contamination site, which I have been able to find records about as attached, I understand there is another 307 site up the street from me which has not been remediated in the same period of time.

In addition to that, neighbors told me that the city garage across the street is contaminated with two underground storage tanks and that massive amounts of material have been dumped in the parking lot by city employees. I am concerned about my daughter and I are renting our property on Main Street. I question whether or not we should vacate the property because of the possibilities of these fumes being detrimental to the health of people who occupy the property.

I fail to understand how the DNR could allow the City of Ann Arbor to not remediate three very dangerous sites on Main Street. This is a very heavily populated area and contains a primarily older population who may be more susceptible to the toxic fumes generated from these three locations.

I would appreciate your immediate attention to this matter. If your office does not have all the records, Mr. Mike Mansfield at the Washtenaw County Public Health Department does have records of the contaminated site at 910 North Main Street and the city garage. I would appreciate your prompt response to this matter. Enclosed are the documents on the Depot Street site.

Sincerely,

*Charles Gelman*

Charles Gelman

CG/dr/9-1.DOC  
Enclosures



# The Traverse Group, Inc.

3772 Plaza Drive, Suite 5  
Airport Plaza Park  
Ann Arbor, Michigan 48108

(313) 747-9300 Phone  
(313) 747-9229 Fax

- Groundwater and Soil Contamination Assessment and Cleanup
- Underground Storage Tank Management
- Industrial Environmental Audits
- Property Development Risk Assessments

June 1, 1992

Mr. Terry Hiske  
Environmental Response Division  
Michigan Department of Natural Resources  
301 East Louis Glick Highway  
Jackson, Michigan

RECEIVED  
JUN 2 - 1992

**RE: City Garage**  
**721 North Main Street**  
**Ann Arbor, Michigan**

DISTRICT

Dear Mr. Hiske:

The Traverse Group, Inc. (TGI) has been retained by the City of Ann Arbor to provide environmental consulting services relating to the permanent closure of a waste oil underground storage tank (UST) at the above referenced location. Remedial activities to date include the removal and disposal of the UST, excavation of hydrocarbon impacted soil, remediation verification sampling, backfilling of the excavation and a background metals investigation that exhibited a wide variance in metals concentrations from both background and verification soil samples collected at the site.

On April 7, 1992 a closure report was submitted to the Jackson District Office of the Michigan Department of Natural Resources (MDNR). Subsequent correspondence from the MDNR on May 6, 1992 stated that "Extensive use of fill material has occurred at the site; therefore, it appears that background levels of lead, cadmium and chromium in the soil cannot be determined by normal means." A suggestion was made by the MDNR to use Administrative Rule 5711, Subrule (2) of P.A. 307 of 1982, as amended, to determine if the site could be closed under Type B closure criteria. This rule allows for a Type B closure of sites where the concentrations of hazardous substances in soil are greater than 20 times the drinking water criteria if leachate tests or other methods support the use of a higher value.

The complication with closing the City Garage UST site by the method described above is that MERA Operational Memorandum #8, Revision 1, dated March 16, 1992, states that for a Type B closure of a site, the lower of the health-based and the aesthetic drinking

Terry Hiske - MDNR  
City of Ann Arbor - City Garage

2  
June 1, 1992

water values must be used as the remediation target. In the case of lead, cadmium and chromium these values have not been established and the remediation target is based on the method detection limit rather than risk assessment.

Due to the measured concentrations of metals at the site to date, samples collected from the extent of the excavation for a leachability study would most likely create a leachate with a concentration of lead, cadmium and chromium greater than the applicable method detection limits, so that the site would not be eligible for a Type B closure.

An alternative to the study described above would be to determine background concentrations of hazardous substances in the soils using a leachability study, then to compare these levels with the concentrations generated by a leachability study of the soil samples collected from the extent of the excavation. This method of closing the site requires the concentrations of metals in the leachate generated from the samples collected in the background samples to be statistically greater than or equal to the concentration of metals in the leachate generated from the samples collected from the extent of the excavation. This approach, regardless of whether or not a release has occurred at the site, presumes that a relationship exists between the background native soil types and the excavation pit soil types that allows for a comparison. At the City Garage UST site the soil strata is not native but consists of fill material that includes soil, household debris and cinders.

When comparing naturally occurring metal concentrations in soil samples collected from the same lithology at different locations, an assumption is made that the soils are from the same depositional environment. It has been shown that statistically high fluctuations in metal concentrations can occur even when samples collected from the same lithology/depositional environment are compared. The MDNR Waste Management Division published the Michigan Background Soil Survey in August of 1989, which contained the results of a study regarding background concentrations of metals in soils distributed throughout Michigan. The results of the survey illustrated the importance of depositional environment on the concentration of metals in soil types of the same grain size distribution collected from different glacial lobes. For example, the mean of the naturally occurring background concentrations for lead in samples collected from clay soils from different glacial lobes of Michigan ranged from 2.5 parts per million in the western upper peninsula (Superior glacial lobe) to 19.1 parts per million in the Michigan glacial lobe. A similar range in the concentrations of other metals contained in soil was also demonstrated by this study. With regards to the subject site where

**The Traverse Group, Inc.**

Terry Hiske - MDNR  
City of Ann Arbor - City Garage

3  
June 1, 1992

native soils do not exist and depositional environments cannot be assumed to be the same within the same "lithology", a comparison between background leachate concentrations and excavation verification sample leachate concentrations is not applicable. For these reasons, the measured range of the concentrations of the metals at the site is understandable.

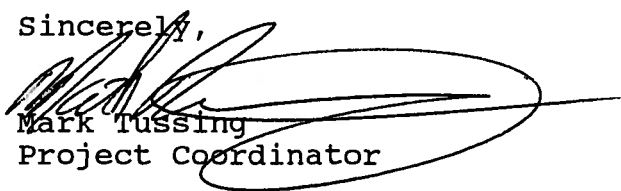
A comparison of background versus verification sample metal concentrations, whether obtained from analyses of the soil or a TCLP extraction of that soil, is not applicable if the depositional environment of the soil samples is not the same. Additionally, metals concentrations of soil samples collected at the site cannot be assumed to be naturally occurring concentrations for two reasons: the site was formerly a landfill; and burning of debris was common, as it was with most historical landfills. Both of these activities at the site could have increased the metals concentrations in the soils at the site.

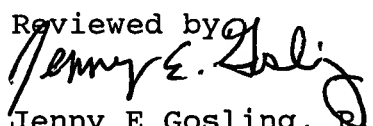
In conclusion, the two possible methods of closing the UST site using Type B criteria would not result in permanent closure as the leachate from the verification samples is expected to contain concentrations of metals higher than the MDNR recommended method detection limits, and a background metals investigation, whether conducted on the soils or an extractant of the soil, is only applicable if the soils being compared were deposited in the same environment.

Based on the discussion above, the City of Ann Arbor requests that the MDNR allow this issue to be addressed at a later time when Type B cleanup criteria for these parameters have been established.

If you have any question or comments please feel free to call at any time.

Sincerely,

  
Mark Tussing  
Project Coordinator

Reviewed by  
  
Jenny E Gosling, P.E.  
Operations Manager

The Traverse Group, Inc.



The Traverse Group, Inc.

3772 Plaza Drive, Suite 5  
Airport Plaza Park  
Ann Arbor, Michigan 48108

(313) 747-9300 Phone  
(313) 747-9229 Fax

- Groundwater and Soil Contamination Assessment and Cleanup
- Underground Storage Tank Management
- Industrial Environmental Audits
- Property Development Risk Assessments

February 4, 1992

Mr. Terry Hiske  
Jackson District Office  
MDNR - Environmental Response Division  
Jackson State Office Building  
301 East Louis Glick Highway  
Jackson, Michigan 49201

**RE: City of Ann Arbor Site Investigation Schedule  
Fire Station #2, Fire Station #4, City Garage, 428 South Main Street**

Dear Terry:

This letter serves to follow up on our telephone conversation regarding the site investigation schedule for the City of Ann Arbor. Below, please find the tentative schedule for the site investigations to be performed at the above mentioned City of Ann Arbor underground storage tank sites. Each of these site investigations has been approved by the MDNR. Included is the work to be performed and the tentative start date for each site.

SITE	WORK TO BE PERFORMED	TENTATIVE DATE
City Garage	Background Metals	Thursday 2/06/92
428 S. Main St.	Background Metals	Friday 2/07/92
Fire Station #2	Soil Boring Investigation	Monday 2/10/92
Fire Station #4	Monitor Well Placement	Tuesday 2/11/92

Please call if you have any questions.

Sincerely,

Peter J. Weglinski  
Staff Engineer

RECEIVED  
FEB 5 1992

JACKSON DISTRICT  
ENVIR. RESPONSE DIV  
SURFACE WATER QUALITY DIV  
WASTE MGMT. DIV.

*file*

NATURAL RESOURCES COMMISSION

MARLENE J. FLUHARTY  
GORDON E. GUYER  
O. STEWART MYERS  
RAYMOND POUPORE



JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

ROLAND HARMES, Director  
~~SELBERT RECTOR, Director~~

4th Floor State Office Building  
301 E. Louis Glick Hwy., Jackson, Michigan 49201

January 7, 1992

Mr. Dan Cullen  
City of Ann Arbor  
100 North Fifth Ave.  
P.O. Box 8647  
Ann Arbor, Michigan 48107

Dear Mr. Cullen:

The work plan dated December 5, 1991, for your facility at Ann Arbor City Garage, 721 North Main Street, Ann Arbor, Michigan, appears to be adequate. Please proceed with the project as specified in the work plan. It is understood, however, that further site study may be necessary upon review of these study findings.

Some of the actions approved implicitly or explicitly in this work plan may not be eligible expenditures from the Michigan Underground Storage Tank Financial Assurance (MUSTFA) fund, such as resurfacing, building construction or canopy installation. Please contact Mr. John Connelly, Department of Management and Budget, at 1-800-4MUSTFA if you have questions regarding MUSTFA-eligible expenditures.

As indicated in Sec. 8(6) of the Leaking Underground Storage Tank Act, P.A. 478 of 1988, as amended, once you have completed all corrective actions in full at the site, the Michigan Department of Natural Resources (MDNR) may provide you with a document stating that the corrective actions have been completed. To receive this document, you must:

1. be in compliance with the Act,
2. provide the MDNR a written statement asserting all corrective actions have been completed,
3. provide sufficient documentation to show full compliance with the approved corrective action plan.

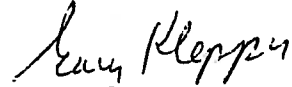




Mr. Dan Cullen  
Page 2  
January 7, 1992

If you have any further questions, please contact Cheryl English at  
517-788-9598.

Sincerely,



Gary Klepper  
District Supervisor  
Environmental Response Division

GK/hd

cc: Mr. Robert Blake, Washtenaw County Health Dept.  
Mr. John Connelly, Dept. of Management and Budget  
Ms. Cheryl English, Michigan Dept. of Natural Resources



NATURAL RESOURCES COMMISSION

LARRY DEVUYST  
PAUL EISELE  
GORDON E. GUYER  
JAMES P. HILL  
DAVID HOLLI  
O. STEWART MYERS  
JOEY M. SPANO

JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

ROLAND HARMES, Director

4th Floor State Office Building  
301 E. Louis Glick Hwy., Jackson, Michigan 49201

May 6, 1992

Mr. Dan Cullen  
City of Ann Arbor  
100 North Fifth Avenue  
P.O. Box 8647  
Ann Arbor, Michigan 48107

Dear Mr. Cullen:

The Type A Closure Report dated April 8, 1992, for your facility at Ann Arbor City Garage, 721 North Main Street, Ann Arbor, Michigan, has been reviewed. Based on the data presented, closure of this site cannot be granted at this time.

Extensive use of fill material has occurred at this site; therefore, it appears that background levels of lead, cadmium, and chromium in the soil cannot be determined by normal means. Administrative Rule 5711, Subrule (2) of P.A. 307, of 1982, as amended, allows for the use of TCLP to determine the background concentration of hazardous substances in soils. If soil samples collected from the walls and floor of the excavation, when analyzed using the TCLP test method, did not exceed Type B levels for groundwater, closure of this site could be granted.

Please supply this office, within 45 days, with a work plan that will address the above issue.

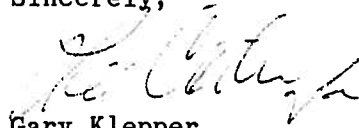
As indicated in Sec. 8(6) of the Leaking Underground Storage Tank Act, P.A. 478 of 1988, as amended, once you have completed all corrective actions in full at the site, the Michigan Department of Natural Resources (MDNR) may provide you with a document stating that the corrective actions have been completed. To receive this document, you must:

1. be in compliance with the Act,
2. provide the MDNR a written statement asserting all corrective actions have been completed,
3. provide sufficient documentation to show full compliance with the approved corrective action plan.

Mr. Dan Cullen  
Page 2  
May 6, 1992

If you have any further questions, please contact Terry Hiske at  
517-780-5000.

Sincerely,



Gary Klepper  
District Supervisor  
Environmental Response Division

cc: Mr. John Connelly, DMB  
Mr. Peter Weglinski, TGI

Formerly a landfill where burning occurred

Waste oil

73 yd<sup>3</sup> to 76<sup>cu</sup>

		cd	cr	Pb
11-8-91	Type B Fluorinated 390 ppb N wall	1036	3	13.2
		2 wall	4.4	6.6
		N wall	5.1	14.2

		cd	cd	Pb
11-27-91				
80 yd <sup>3</sup>	N wall	108	3.6	6.0

Final Excavation 22 x 13 x 7.5

		cd	Cr	Pb
BTEX PNA PCB NO	E. Floor	433	6.6	45.2
	W. Floor	1036	3.0	13.2
	E. wall	1042	4.4	6.6
	W. wall	1054	6.5	3.6
	N wall	108	3.6	6.0
	S wall	1052	6.6	6.2
		OK	OK	

Background

1.4 - 23.8 Sand & gravel

3.3 - 69.6 Sand/clay

2.8 - 10.8 Silty sand

Close waste oil

2k 6953

1/4/89 12-14-89

GW 8'

45 yd<sup>3</sup>

SB	MV	Soil	GW	Samples
1	3 12	30	6	
2	4	1	1	

Release from AST ~ 12 yrs ago

purge wells installed (55 gallon barrels) after execution  
not for BTEX (29760 ppm)

MW 4 GW 3' MW 5 GW 8' MW 6 GW 9'  
MW 7 GW 8' MW 8 B 10' HA-1 8' MW-9 8' ~~not~~

GW (45) 45' L gradient 2.5/100

Between Felky & Summit

A<sup>2</sup> City Garage 721 N Main

12-15-89

2000 Dipsol Yank 12-14-89

GW 8' Hot 240 12 tol 180 ext 1100 X

Soil? Sand 40 360 tol 60 ext 560 X

Soft Clay 0-6, med sand 6-8+

45 yd<sup>3</sup> 1-2-90

10-22-91

500 gal Waste Oil? 28 yd<sup>3</sup> 16 X 10 X 6

Yank 10-15-91

6 Samples + (3 Fm Samples)

Fill

0-1 sand/gravel, 1-4 sand, 4-6 clayey sand, 6-7.5 <sup>med silty</sup> sand

GW 3-4 (porched?) (dry hole at 11')

Alley Crack Drain below <sup>middle</sup> property (Sewer)

50' SE of former waste oil 457

SD

45 yds<sup>total</sup> + 7 Waste

		Ld	Cr	PB
waste oil	W 499	.054	6.5	3.4
	S 491	.1052	6.4	6.2
10-24-91	S 491	.042	4.4	6.4
	N 491	.1042	5.1	14.2
	W Floor	.1036	3	13.2
	S Floor	.0960	6.4	14.7

W 6.5' x 6.5'

	S/B 1	2	3	4	5	6	
Sand Gravel							
2-3	1.4	2.0	4.5				NO
Sand Gravel							
3-4	6.2	2.0	5.0				
3.5-4	23.8	1.5	10.0				
					2.0	1.1	9.6
5-6							OK
5-6	13.3	0.85	15.8	69.0	0.73	18.8	
Sand Gravel							
5-6							OK
Silty Sand							
5.5-6.5							
7-8				7.3	0.28	5.9	NO
8-9	2.8	4.50	4.6				
9.5-10				7.3	0.28	5.9	

OK, 3/11, 5-6

Type B GW levels