



Memorandum

July 28, 2016

To: Grant Trigger, RACER

Ref. No.: 017358

BT

From: Beth Landale/bw/162

Tel: 734-357-5528

CC: Mike Reece, GHD

**Subject: Focused RCRA Facility Investigation of Out-Parcel IV
Former Willow Run Powertrain
Ypsilanti, Michigan**

1. Introduction

GHD has prepared this memorandum to summarize a Focused RCRA Facility Investigation (FRFI) conducted for out-parcel (Parcel) IV located at the Former Willow Run Powertrain located in Ypsilanti, Michigan (Site). Parcel IV is located to the northeast of the former Powertrain building. The location of Parcel IV is depicted on Figure 1. Figure 1 also depicts utilities located on or adjacent to Parcel IV.

2. Information Review

As part of the FRFI, GHD reviewed historical aerial photographs for Parcel IV, files at the Benson Ford Research Center in Dearborn, Michigan, a figure from the 1980 Hazardous Waste Part A Treatment, Storage, Disposal, Facility (TSDF) Permit for the Site, and analytical data results from soil and groundwater samples collected as part of a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) for the Site.

2.1 Historical Aerial Photographs

Aerial photographs assist in the identification of out-parcel features and outdoor activities of potential environmental concern. Aerial photographs of the Site for the years 1937, 1940, 1949, 1952, 1956, 1961, 1969, 1972, 1978, 1983, 1987, 1997, 1999, 2005, 2006, 2009, 2010, and 2012 were available from Environmental Data Resources (EDR) and were reviewed by GHD. The specific details observed for the out-parcel are dependent on the scale and quality of the aerial photographs reviewed. The aerial photographs were reviewed at a scale of one inch equals approximately 500 feet. A 1952 aerial photograph was obtained from the DTE/Wayne State University on-line aerial photograph collection. The scale of the 1952 aerial photograph is unknown. Following is a summary of observations based on the review of the aerial photographs.



- 1937: The 1937 aerial photograph depicts Parcel IV as cultivated land with an area that is lightly wooded.
- 1940: The 1940 aerial photograph depicts the parcels as essentially unchanged from the 1937 aerial photograph.
- 1949: The 1949 aerial photograph depicts the Parcel IV as vacant land with several trees located at the west end of the parcel.
- 1952: The 1952 aerial photograph depicts the parcels as essentially unchanged from the 1949 aerial photograph.
- 1956: The 1956 aerial photograph is essentially unchanged from the 1949 aerial photograph.
- 1961: The 1961 aerial photograph is essentially unchanged from the 1956 aerial photograph, with the exception that additional trees and brush are observed on the Parcel.
- 1969: The 1969 aerial photograph is essentially unchanged from the 1961 aerial photograph.
- 1972: The 1972 aerial photograph is essentially unchanged from the 1969 aerial photograph.
- 1978: The 1978 aerial photograph is essentially unchanged from the 1969 aerial photograph.
- 1983: The 1983 aerial photograph is essentially unchanged from the 1978 aerial photograph.
- 1987: The 1987 aerial photograph is essentially unchanged from the 1983 aerial photograph.
- 1997: The 1997 aerial photograph is essentially unchanged from the 1987 aerial photograph.
- 1999: The 1999 aerial photograph is essentially unchanged from the 1997 aerial photograph.
- 2005: The 2005 aerial photograph is essentially unchanged from the 1999 aerial photograph.
- 2006: The 2006 aerial photograph is essentially unchanged from the 2005 aerial photograph.
- 2009: The 2009 aerial photograph is essentially unchanged from the 2006 aerial photograph.
- 2010: The 2010 aerial photograph is essentially unchanged from the 2009 aerial photograph.
- 2012: The 2012 aerial photograph is essentially unchanged from the 2010 aerial photograph.

Based on a review of aerial photographs, no hazardous waste management units or development activities were observed at the Parcel IV.

Copies of the historical aerial photographs are included as Attachment A.

2.2 Benson Ford Research Center Information

No specific information related to Parcel IV was found during a March 29, 2016 visit to the Benson Ford Research Center in Dearborn, Michigan.



2.3 Hazardous Waste Part A TSDF Permit Figure

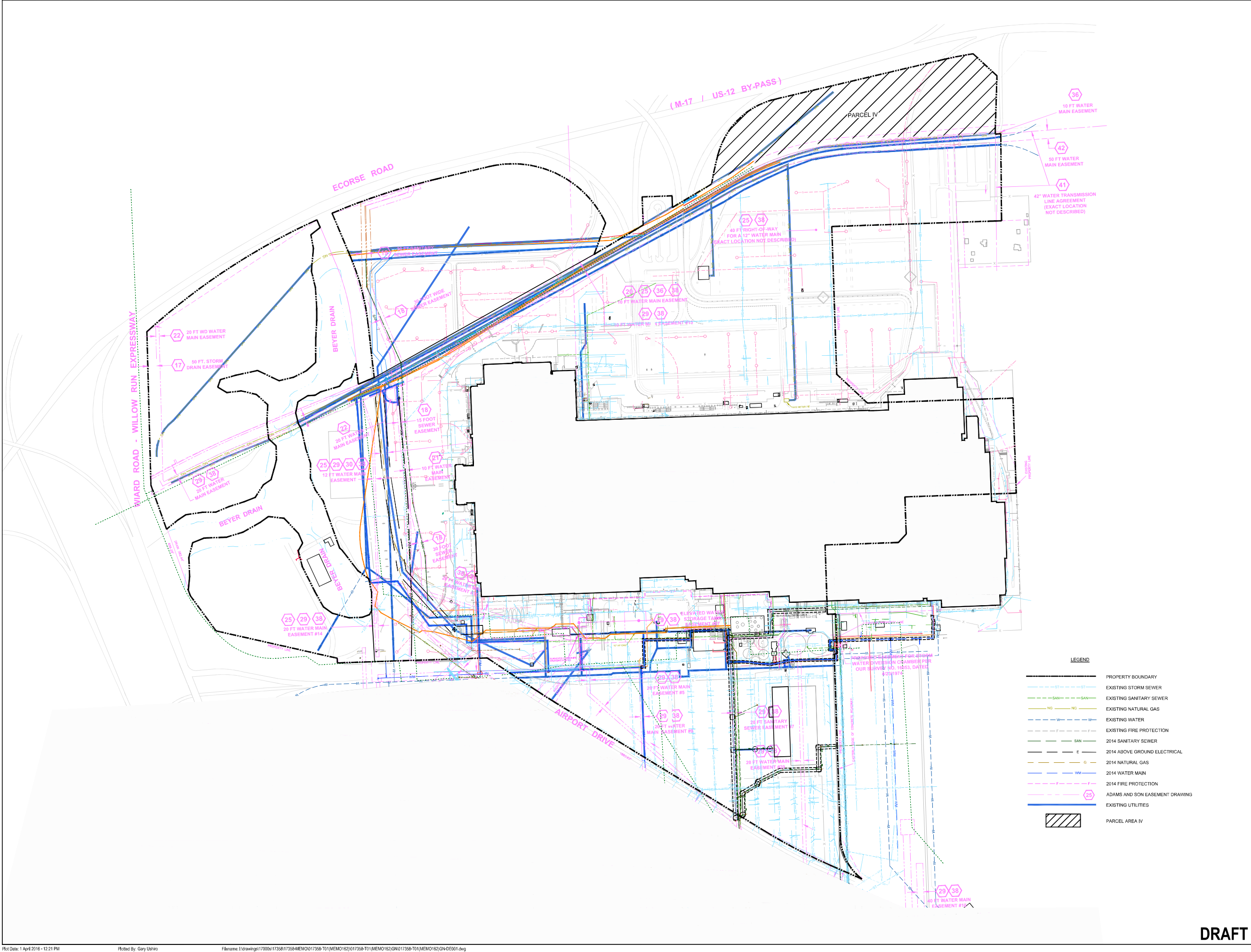
A review of a figure included with the 1980 Hazardous Waste Part A TSDF Permit depicts that no hazardous waste management units were located on any of the out-parcels. The hazardous waste units were located in the eastern portion of the Former Willow Run Powertrain building, south of the building at the Waste Treatment Plant (WTP) and adjacent to the WTP. A copy of the figure from the Part A TSDF Permit is included as Attachment B.

2.4 RFI Analytical Data Results

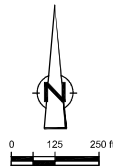
No soil or groundwater samples were collected at Parcel IV as part of the RFI activities.

3. Summary

Based on a review of historical aerial photographs and a figure from the 1980 Hazardous Waste Part A Permit for the Former Willow Run Powertrain, Parcel IV does not appear to have been associated with hazardous waste management units. Parcel IV also does not appear to have associated with development activities, with the exception of utilities located on the parcel.



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Client
**FORMER POWERTRAIN PLANT
YPSILANTI, MICHIGAN**

Project
**REDEVELOPMENT
SUPPORT**

No.	Issue	Drawn	Approved	Date
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Drawn **DMG** Designer

Drafting Check **MR** Design Check **MR**

Project Manager **B.L.** Date **Apr 1, 2016**

This document shall not be used for construction unless signed and sealed for construction.

Original Size Scale **AS SHOWN**

Arch D Bar is one inch on original size drawing 1"

Project No. **017358-T01**

Title

OUT-PARCEL IV

Sheet No.

FIGURE 1

Sheet 1 of 1

Attachment A

Historical Aerial Photos



INQUIRY #: 4514327.1

YEAR: 1937

| = 500'



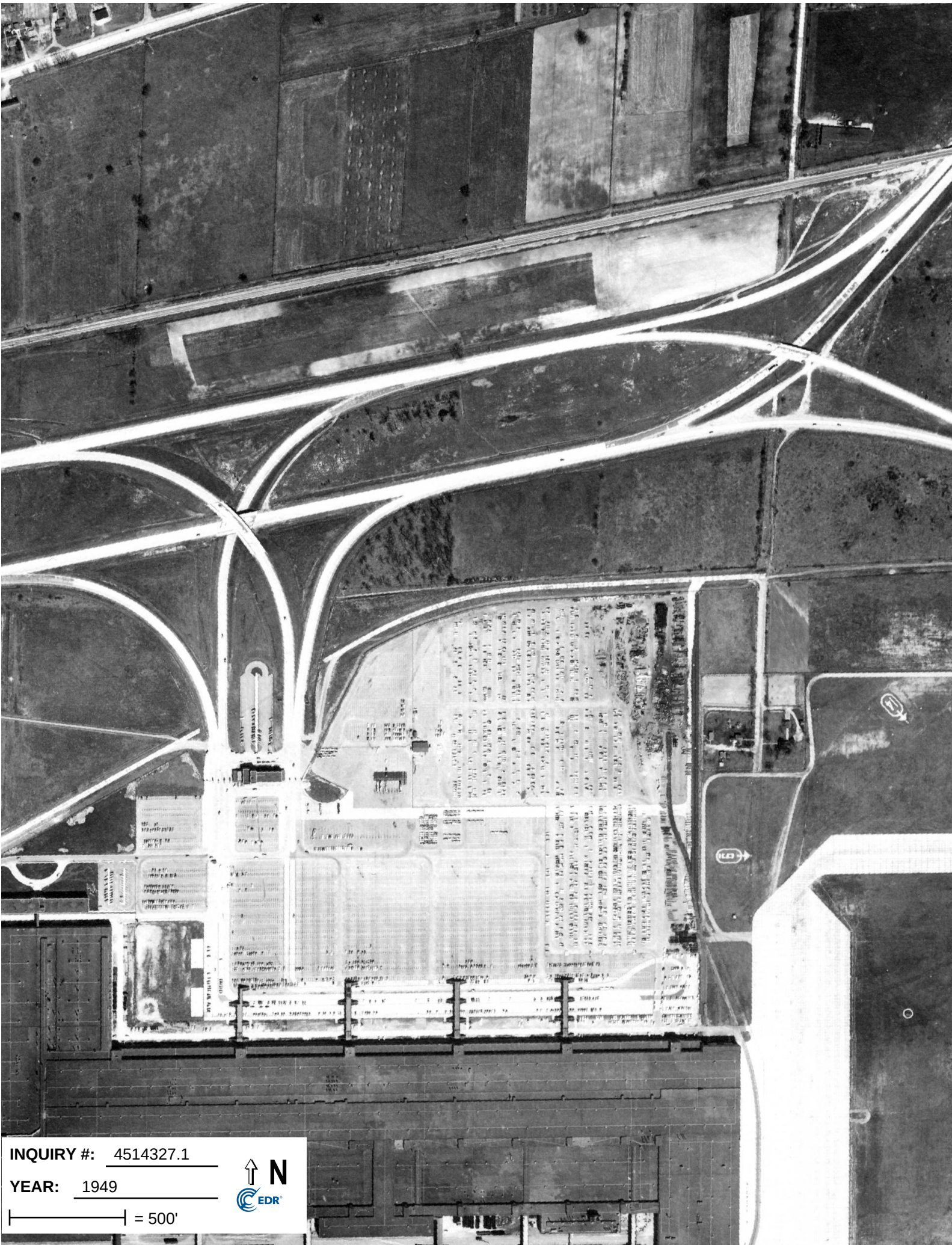


INQUIRY #: 4514327.1

YEAR: 1940

| = 500'





INQUIRY #: 4514327.1

YEAR: 1949

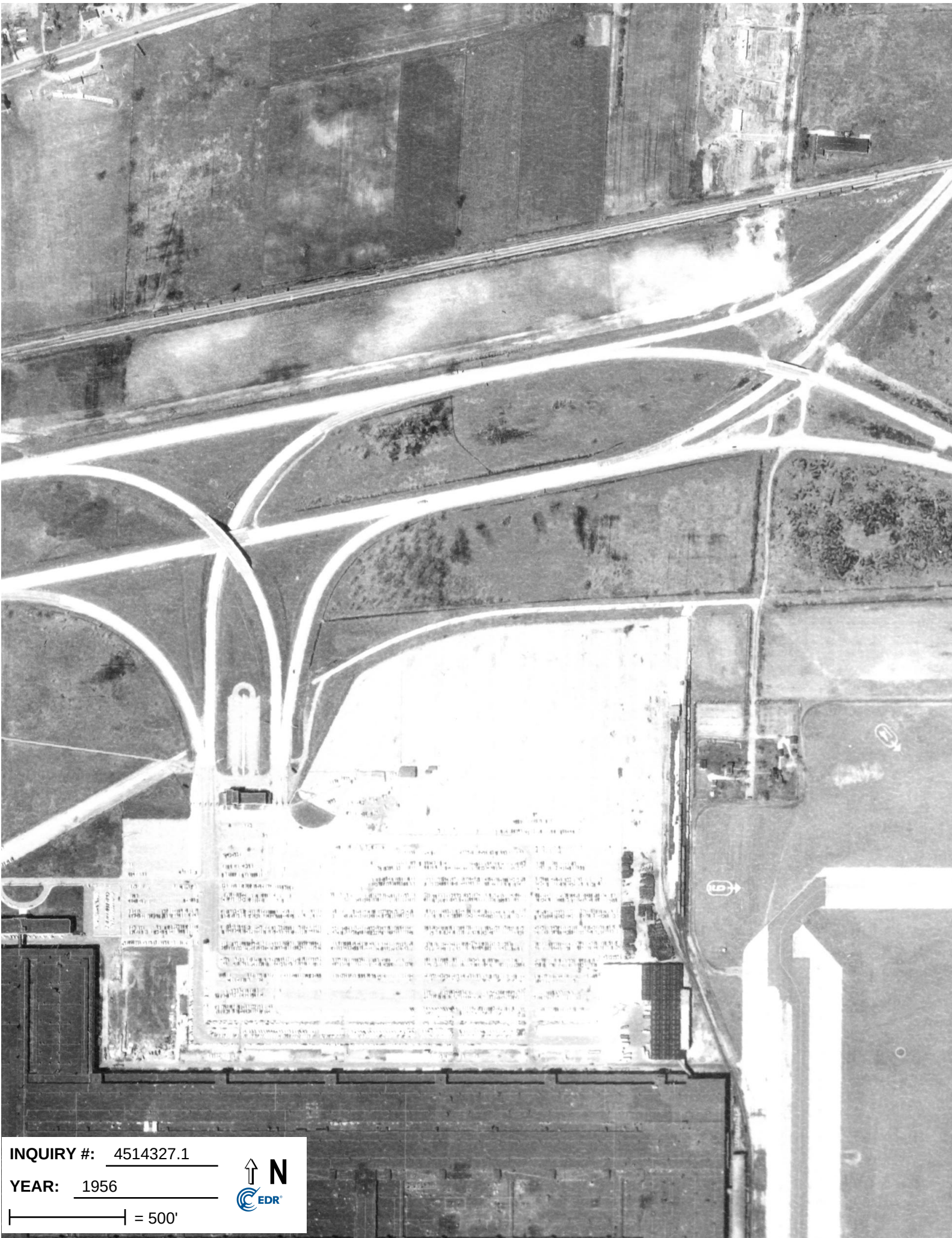
— = 500'



6-10-52

DE-28-15



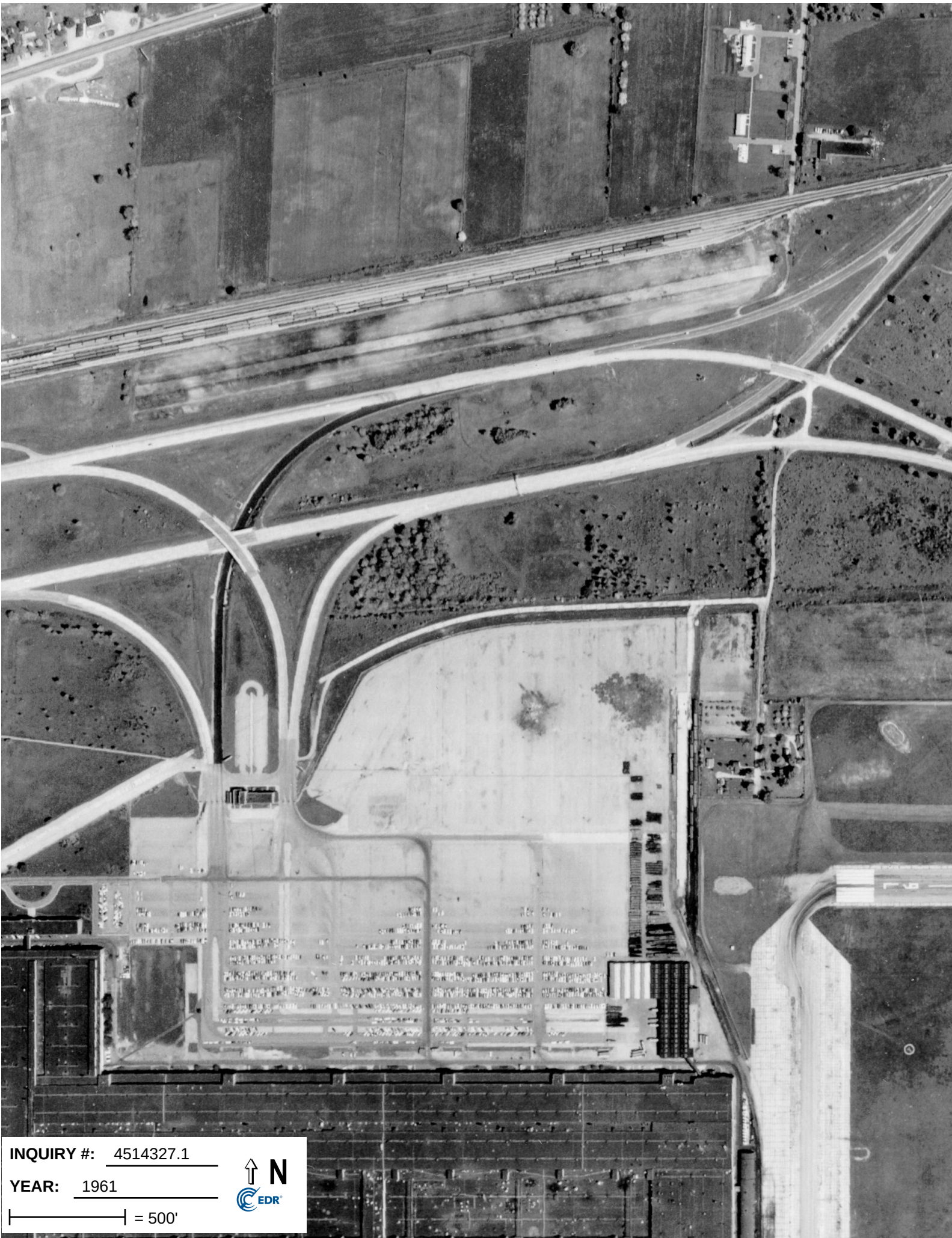


INQUIRY #: 4514327.1

YEAR: 1956

| = 500'





INQUIRY #: 4514327.1

YEAR: 1961

| = 500'





INQUIRY #: 4514327.1

YEAR: 1969

— = 500'



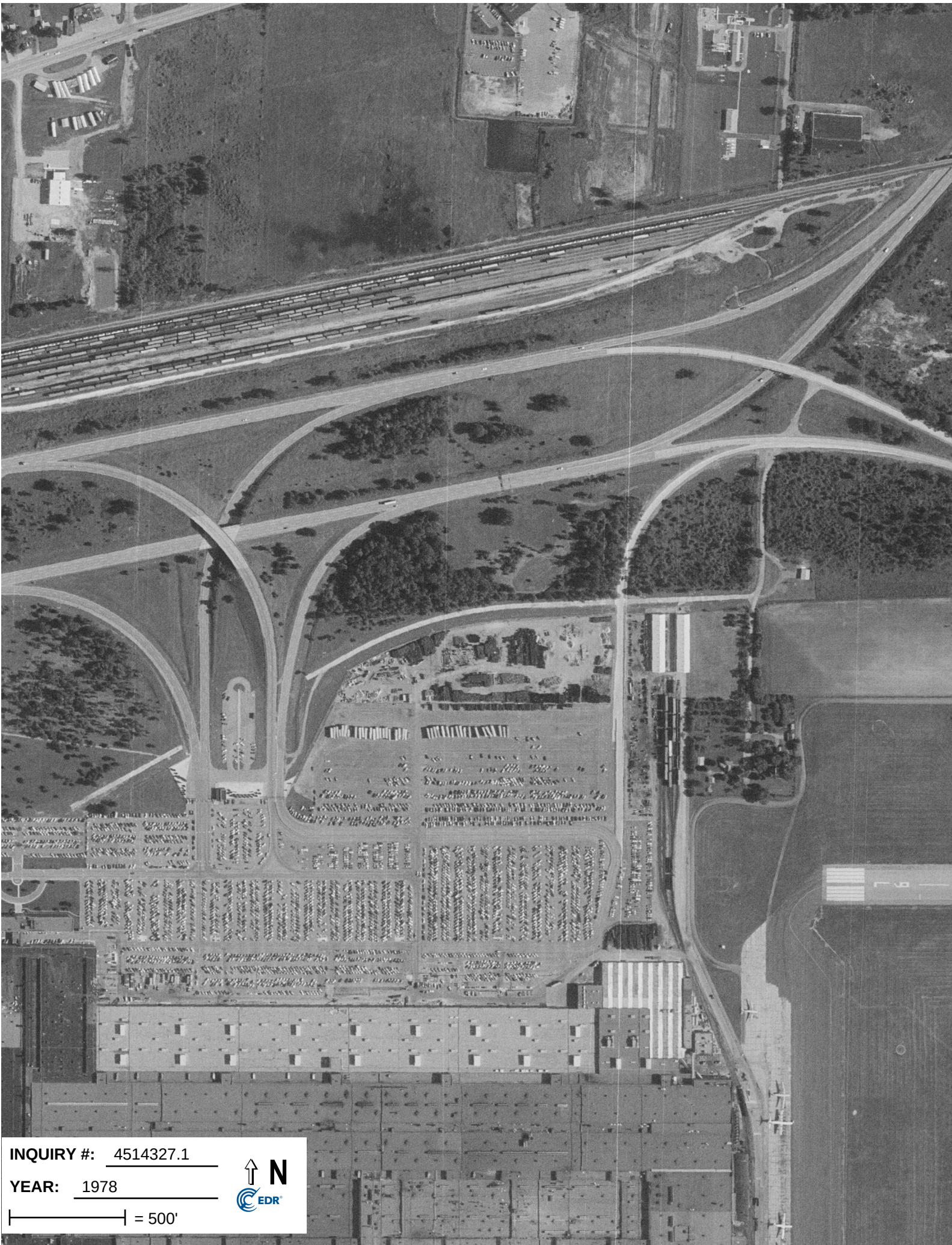


INQUIRY #: 4514327.1

YEAR: 1972

| = 500'





INQUIRY #: 4514327.1

YEAR: 1978

— = 500'





INQUIRY #: 4514327.1

YEAR: 1983

| = 500'



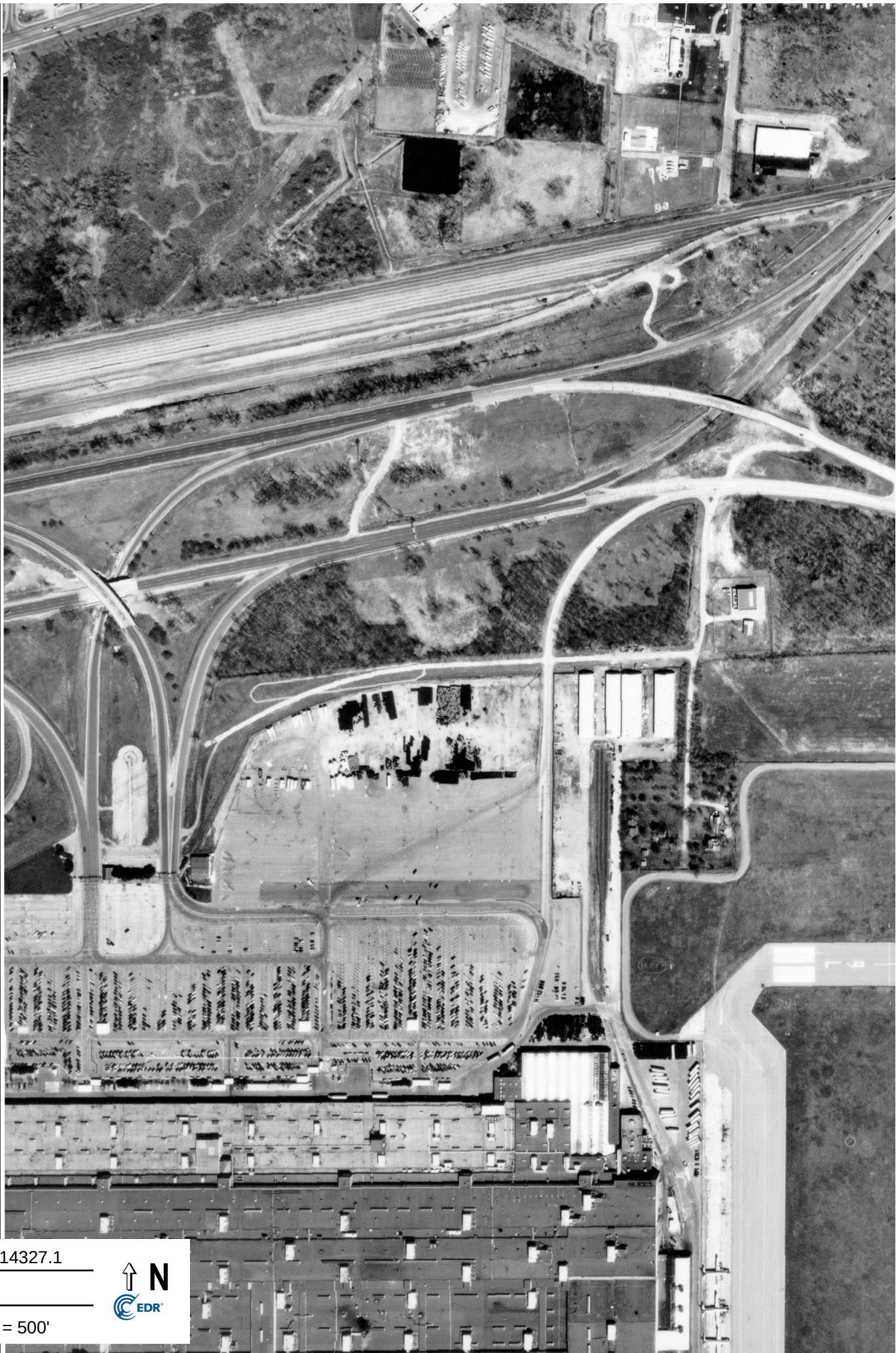


INQUIRY #: 4514327.1

YEAR: 1987

| = 500'





INQUIRY #: 4514327.1

YEAR: 1997

— = 500'





INQUIRY #: 4514327.1

YEAR: 1999

| = 500'





INQUIRY #: 4514327.1

YEAR: 2005

| = 500'





INQUIRY #: 4514327.1

YEAR: 2006

| = 500'





INQUIRY #: 4514327.1

YEAR: 2009

| = 500'





INQUIRY #: 4514327.1

YEAR: 2010

| = 500'





INQUIRY #: 4514327.1

YEAR: 2012

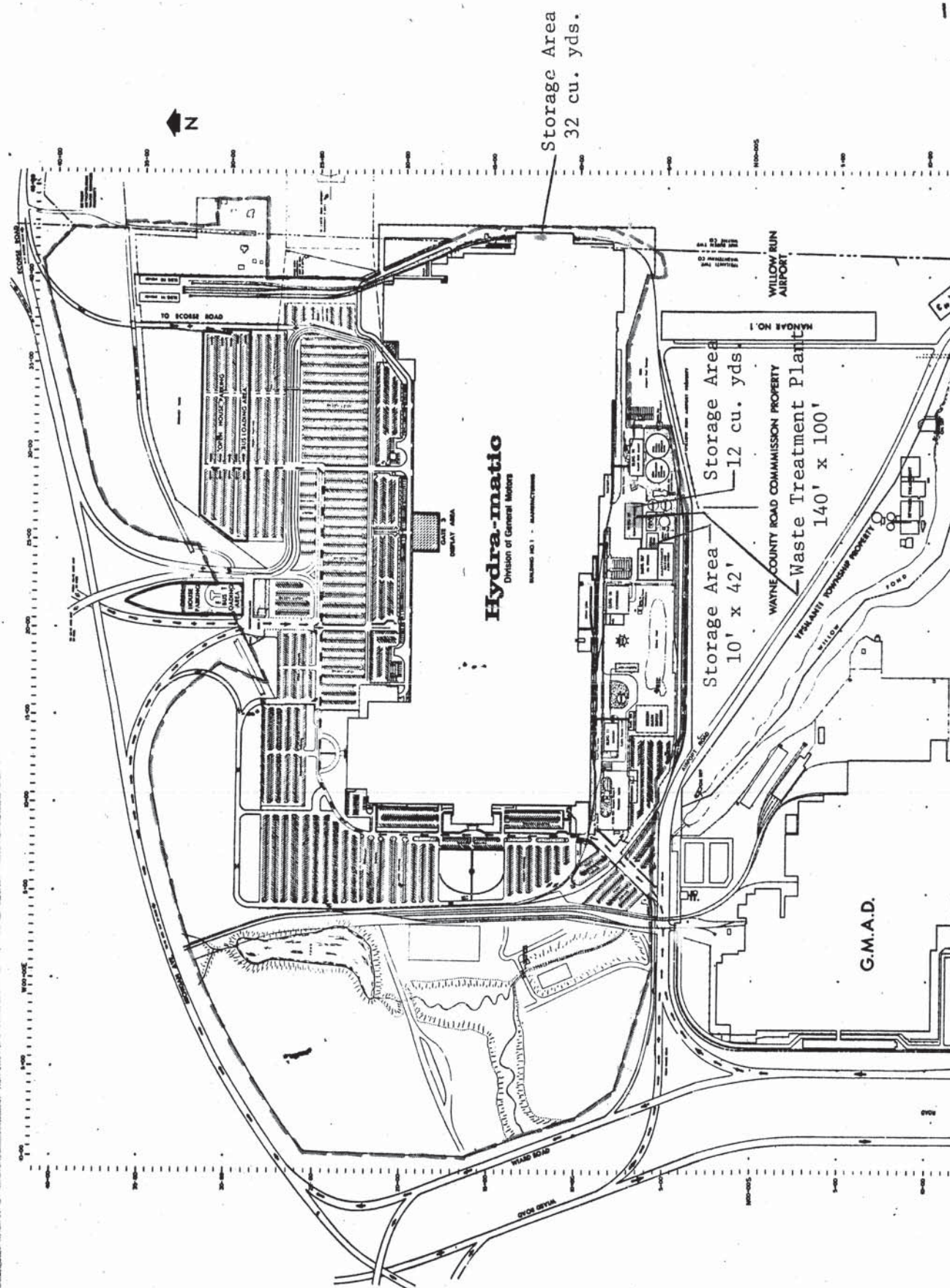
| = 500'



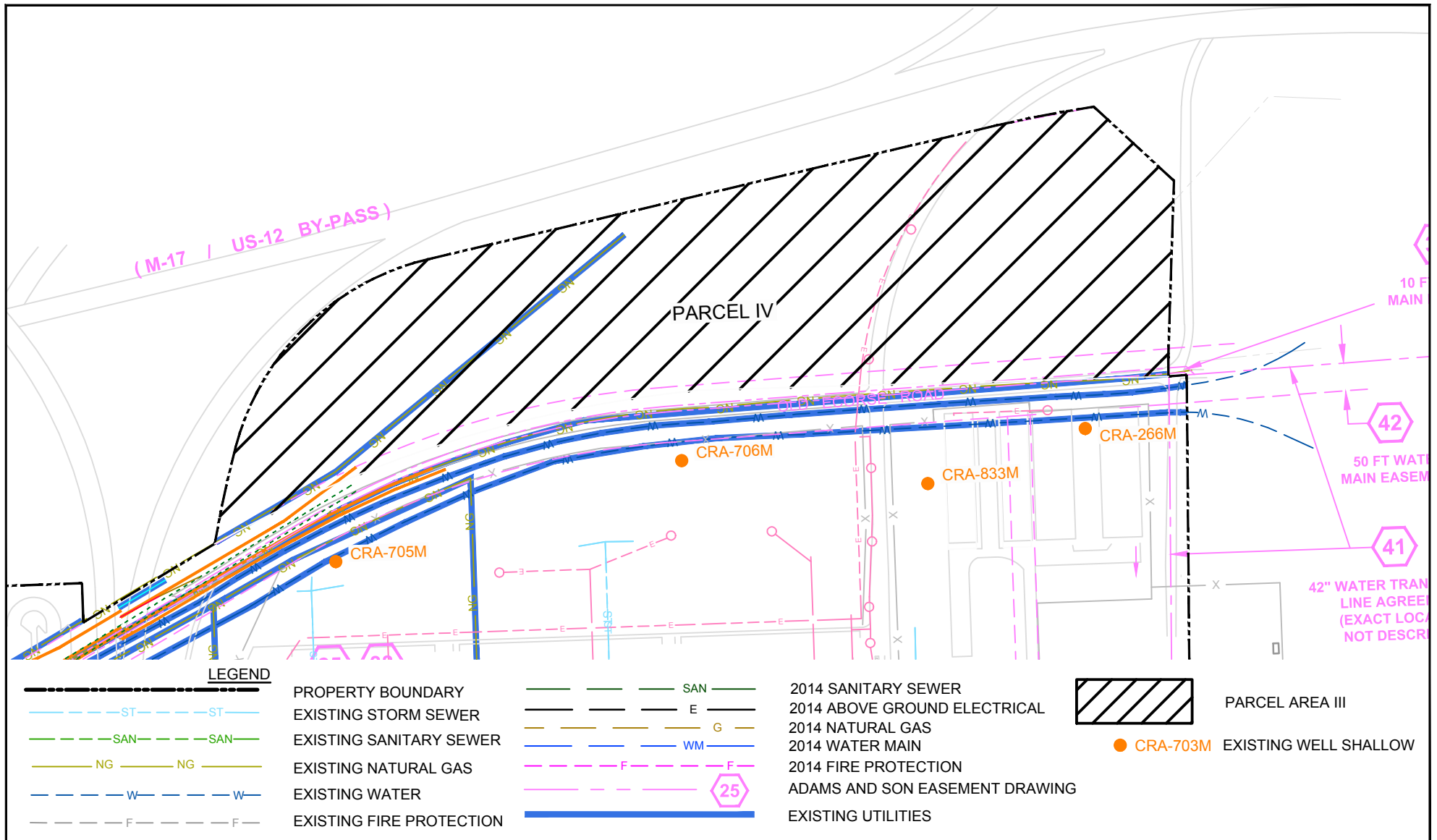
Attachment B

Figure from Part A TSDF Permit

V. FACILITY DRAWING (see page 4)



Attachment C
March 2016 Analytical Data Table and
Sample Location Figure



0 125 250ft



FORMER POWERTRAIN PLANT
YPSILANTI, MICHIGAN
REDEVELOPMENT SUPPORT

OUT-PARCEL IV

017358-T01
Apr 18, 2016

FIGURE C-1

ANALYTICAL RESULTS SUMMARY
SAMPLING

Sample Location:		MDEQ Generic Cleanup Criteria: Residential and Nonresidential ⁽¹⁾																
Sample Identification:	Site Background	Drinking Water	Nonresidential Drinking Water	Groundwater Surface Water	Soil Volatilization to Indoor Air	Nonresidential Soil Volatilization to Indoor Air	Infinite Source Volatile Soil Inhalation	Nonresidential Infinite Source Volatile Soil Inhalation	Finite VSIC for 5 Meter Source Thickness	Nonresidential Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation	Nonresidential Particulate Soil Inhalation	Direct Contact	Nonresidential Direct Contact	Soil Saturation Concentration	
Sample Date:	Levels ⁽²⁾	Protection	Protection	Interface Protection	Inhalation	Inhalation	Inhalation	Inhalation	Thickness	Thickness	Thickness	Thickness	m	n	o	p	Screening Levels	
Sample Type:	a	b	c	d	e	f	g	h	i	j	k	l					q	
Sample Depth:																		
Units																		
Volatile Organic Compounds (VOCs)																		
1,1,1-Trichloroethane	mg/kg	4	4	1.8	250	460	3800	4500	12000	15000	28000	31000	67000000	29000000	500000	1000000	460	
1,1,1,2,2-Tetrachloroethane	mg/kg	0.17	0.7	1.6	4.3	23	10	34	10	34	14	34	54000	68000	53	240	870	
1,1,1,2-Trichloroethane	mg/kg	0.1	0.1	6.6	4.6	24	17	57	21	57	44	120	190000	250000	180	840	920	
1,1,1-Dichloroethane	mg/kg	18	50	15	230	430	2100	2500	5900	6000	14000	14000	33000000	15000000	27000	87000	890	
1,1-Dichloroethene	mg/kg	0.14	0.14	2.6	0.062	0.33	1.1	3.7	5.3	15	13	37	62000	78000	200	660	570	
1,2,4-Trichlorobenzene	mg/kg	4.2	4.2	5.9	9600	18000	28000	34000	28000	34000	28000	34000	25000000	11000000	990	5800	1100	
1,2-Dibromo-3-chloropropane	mg/kg	0.01	0.01	ID	0.22	1.2	0.26	0.9	0.26	0.9	0.26	0.9	560	700	4400	20000	1.2	
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.02	0.02	0.11	0.67	3.6	1.7	5.8	1.7	5.8	3.3	9.8	14000	18000	0.092	0.43	890	
1,2-Dichlorobenzene	mg/kg	14	14	0.28	11000	20000	39000	46000	39000	46000	52000	55000	100000000	44000000	19000	63000	210	
1,2-Dichloroethane	mg/kg	0.1	0.1	7.2	2.1	11	6.2	21	11	33	26	74	120000	150000	91	420	1200	
1,2-Dichloropropane	mg/kg	0.1	0.1	4.6	4	7.4	25	30	50	51	110	120	270000	120000	140	660	550	
1,3-Dichlorobenzene	mg/kg	0.17	0.48	0.68	26	48	79	94	79	94	110	110	200000	8800	200	660	170	
1,4-Dichlorobenzene	mg/kg	1.7	1.7	0.36	19	100	77	260	77	260	110	340	450000	570000	400	1900		
2-Butanone (Methyl ethyl ketone)	mg/kg	260	760	44	54000	99000	29000	35000	29000	35000	35000	36000	67000000	29000000	120000	700000	27000	
2-Hexanone	mg/kg	20	58	ID	990	1800	1100	1300	1100	1300	1400	1500	2700000	1200000	32000	100000	2500	
4-Methyl-2-pentanone (Methyl isobutyl ketone)	mg/kg	36	100	ID	37000	69000	45000	53000	45000	53000	67000	70000	140000000	60000000	56000	180000	2700	
Acetone	mg/kg	15	42	34	290000	540000	130000	160000	130000	160000	190000	200000	390000000	170000000	23000	73000	110000	
Benzene	mg/kg	0.1	0.1	4	1.6	8.4	13	45	34	99	79	230	380000	470000	180	840	400	
Bromodichloromethane	mg/kg	1.6	1.6	ID	1.2	6.4	9.1	31	9.7	31	19	57	84000	110000	110	490	1500	
Bromoform	mg/kg	1.6	1.6	ID	150	770	900	3100	900	3100	900	3100	2800000	3600000	820	3800	870	
Bromomethane (Methyl bromide)	mg/kg	0.2	0.58	0.7	0.86	1.6	11	13	57	57	140	140	330000	150000	320	1000	2200	
Carbon disulfide	mg/kg	16	46	ID	76	140	1300	1600	7900	8000	19000	19000	47000000	21000000	7200	43000	280	
Carbon tetrachloride	mg/kg	0.1	0.1	0.9	0.19	0.99	3.5	12	12	34	28	79	130000	170000	96	440	390	
Chlorobenzene	mg/kg	2	2	0.5	120	220	770	920	990	1100	2100	2100	4700000	2100000	4300	14000	260	
Chloroethane	mg/kg	8.6	34	22	2900	5300	30000	36000	120000	120000	280000	280000	670000000	290000000	2600	12000	950	
Chloroform (Trichloromethane)	mg/kg	1.6	1.6	7	7.2	38	45	150	120	340	270	790	1300000	1600000	1200	5500	1500	
Chloromethane (Methyl chloride)	mg/kg	5.2	22	ID	2.3	10	40	120	410	1000	1000	2500	4900000	2600000	1600	7400	1100	
cis-1,2-Dichloroethene	mg/kg	1.4	1.4	12	22	41	180	210	420	430	990	1000	2300000	1000000	2500	8000	640	
cis-1,3-Dichloropropene	mg/kg																	
Cyclohexane	mg/kg																	
Dibromochloromethane	mg/kg	1.6	1.6	ID	3.9	21	24	80	24	80	33	98	130000	160000	110	500	610	
Dichlorodifluoromethane (CFC-12)	mg/kg	95	270	ID	900	1700	53000	63000	550000	550000	1400000	1400000	3300000000	1500000000	52000	17000	1000	
Ethylbenzene	mg/kg	1.5	1.5	0.36	87	460	720	2400	1000	3100	2200	6500	10000000	13000000	22000	71000	140	
Isopropyl benzene	mg/kg	91	260	3.2	400	730	1700	2000	1700	2000	2800	3000	5800000	2600000	25000	80000	390	
Methyl acetate	mg/kg																	
Methyl cyclohexane	mg/kg																	
Methyl tert butyl ether (MTBE)	mg/kg	0.8	0.8	140	9900	18000	25000	30000	39000	41000	87000	89000	200000000	88000000	1500	7100	5900	
Methylene chloride	mg/kg	0.1	0.1	30	45	240	210	700	590	1700	1400	4000	6600000	8300000	1300	5800	2300	
Styrene	mg/kg	2.7	2.7	2.1	250	1600	970	3300	970	3300	1400	4200	5500000	6900000	400	1900	520	
Tetrachloroethene	mg/kg	0.1	0.1	1.2	11	21	170	210	480	490	1100	1100	2700000	1200000	200	930	88	
Toluene	mg/kg	16	16	5.4	330	610	2800	3300	5100	36000	12000	36000	27000000	12000000	50000	160000	250	
trans-1,2-Dichloroethene	mg/kg	2	2	30	23	43	280	330	830	840	2000	2000	4700000	2100000	3800	12000	1400	
trans-1,3-Dichloropropene	mg/kg																	
Trichloroethene	mg/kg	0.1	0.1	4	1.0	1.9	11	14	25	25	57	58	130000	59000	110	660	500	
Trichlorofluoromethane (CFCl3)	mg/kg	52	150		2800	5100	92000	110000	630000	140000000	1500000	140000000	3800000000	1700000000	79000	260000	560	
Trifluorotrichloroethane (CF3CCl3)	mg/kg	9000	9000	1.7	5100	9300	180000	210000	880000	890000	2100000	2100000	5100000000	2300000000	1000000	1000000	550	
Vinyl chloride	mg/kg	0.04	0.04	0.26	0.27	2.8	4.2	29	30	170	73	420	350000	890000	3.8	34	490	
Xylenes (total)	mg/kg	5.6	5.6	0.82	6300	12000	46000	54000	61000	65000	130000	130000	290000000	130000000	410000	1000000	150	
Semi-Volatile Organic Compounds (SVOCs)																		
2,2'-Oxybis(1-chloropropane)	mg/kg																	
2,4,5-Trichlorophenol	mg/kg	39	110		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	23000000	10000000	23000	73000		
2,4,6-Trichlorophenol	mg/kg	2.4	9.4	0.33	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1000000	1300000	710	3300		
2,2,4-Dichlorophenol	mg/kg	1.5	4.2	0.33	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	5100000	2300000	660	3900	1800	
2,4-Dimethylphenol	mg/kg	7.4	20	7.6	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	4700000	2100000	11000	36000		
2,4-Dinitrophenol	mg/kg																	
2,4-Dinitrotoluene	mg/kg	0.43	0.64		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	16000	20000	48	220		
2,6-Dinitrotoluene	mg/kg																	
2-Chloronaphthalene	mg/kg	620	1800		ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	56000	180000		
2-Chlorophenol	mg/kg	0.9	2.6	0.36	430	800	960	1100	960	1100	960	1100	1200000	530000	1400	4500	19000	
2-Methylnaphthalene	mg/kg	57	170	4.2	2700	4900	1500	1800	1500	1800	1500	1800	670000	290000	8100	26000		
2-Methylphenol	mg/kg	7.4	20	1	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6700000	2900000	11000	36000		
2-Nitroaniline	mg/kg																	
2-Nitrophenol	mg/kg	0.4	1.2	ID	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	630	2000		
3,3,4-Methylphenol	mg/kg	7.4	20	1	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6700000	2900000	11000	36000		
3,3'-Dichlorobenzidine	mg/kg	2	2	2	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6500	8200	6.6	30		
3-Nitroaniline	mg/kg																	
4,6-Dinitro-2-methylphenol	mg/kg	0.83	0.83		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	130000	59000	79	260		
4-Bromophenyl phenyl ether	mg/kg																	
4-Chloro-3-methylphenol	mg/kg	5.8	16	0.28	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	4500	15000		
4-Chloroaniline	mg/kg																	
4-Chlorophenyl phenyl ether	mg/kg																	

ANALYTICAL RESULTS SUMMARY
SAMPLING

Sample Location:		MDEQ Generic Cleanup Criteria: Residential and Nonresidential ⁽¹⁾																
Sample Identification:		Site Background	Drinking Water	Nonresidential Drinking Water	Groundwater Surface Water	Soil Volatilization to Indoor Air	Nonresidential Soil Volatilization to Indoor Air	Infinite Source Volatile Soil	Nonresidential Infinite Source Volatile Soil	Finite VSIC for 5 Meter Source Thickness	Nonresidential Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Nonresidential Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation	Nonresidential Particulate Soil Inhalation	Direct Contact	Nonresidential Direct Contact	Soil Saturation Concentration Screening Levels
Sample Date:		Levels ⁽²⁾	Protection	Protection	Interface Protection	Inhalation	Inhalation	Inhalation	Inhalation	Thickness	Thickness	Thickness	Thickness	m	n	o	p	q
Sample Type:		a	b	c	d	e	f	g	h	i	j	k	l					
Sample Depth:																		
Units																		
4-Nitroaniline	mg/kg																	
4-Nitrophenol	mg/kg																	
Acenaphthene	mg/kg		300	880	8.7	190000	350000	81000	97000	81000	97000	81000	97000	14000000	6200000	41000	130000	
Acenaphthylene	mg/kg		5.9	17	ID	1600	3000	2200	2700	2200	2700	2200	2700	2300000	1000000	1600	5200	
Acetophenone	mg/kg		30	88	ID	120000	210000	44000	52000	44000	52000	44000	52000	33000000	14000000	47000	150000	1100
Anthracene	mg/kg		41	41	ID	1000000	1000000	1400000	1600000	1400000	1600000	1400000	1600000	67000000	29000000	230000	730000	
Atrazine	mg/kg		0.06	0.06	0.15	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	71	330	
Benzaldehyde	mg/kg																	
Benzo(a)anthracene	mg/kg		NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	20	80	
Benzo(a)pyrene	mg/kg		NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1500	1900	2	8	
Benzo(b)fluoranthene	mg/kg		NLL	NLL	NLL	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	20	80	
Benzo(g,h,i)perylene	mg/kg		NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	800000	350000	2500	7000	
Benzo(k)fluoranthene	mg/kg		NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	200	800	
Biphenyl (1,1-Biphenyl)	mg/kg																	
bis(2-Chloroethoxy)methan	mg/kg																	
bis(2-Chloroethyl)ether	mg/kg		0.10	0.17	0.1	8.3	44	3.8	13	3.8	13	3.8	13	9400	12000	13	58	2200
bis(2-Ethylhexyl)phthalate (	mg/kg		NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	700000	890000	2800	12000	10000
Butyl benzylphthalate (BBP	mg/kg		2200	5600	120	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	47000000	21000000	36000	120000	310
Caprolactam	mg/kg		120	340		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	670000	290000	53000	310000	
Carbazole	mg/kg		9.4	39	1.1	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	62000	78000	530	2400	
Chrysene	mg/kg		NLL	NLL	NLL	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	2000	8000	
Dibenz(a,h)anthracene	mg/kg		NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	2	8	
Dibenzofuran	mg/kg		ID	ID	1.7	2000	3600	130	160	130	160	130	160	6700	2900	ID	ID	
Diethyl phthalate	mg/kg		110	320	2.2	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	3300000	1500000	170000	550000	740
Dimethyl phthalate	mg/kg		1500	4200		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	3300000	1500000	1000000	1000000	790
Di-n-butylphthalate (DBP)	mg/kg		960	2700	11	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	3300000	1500000	27000	87000	760
Di-n-octyl phthalate (DnOP)	mg/kg		100000	290000	ID	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	31000000	14000000	6900	20000	140000
Fluoranthene	mg/kg		730	730	5.5	1000000	1000000	740000	890000	740000	880000	740000	880000	9300000	4100000	46000	130000	
Fluorene	mg/kg		390	890	5.3	580000	1000000	130000	150000	130000	150000	130000	150000	9300000	4100000	27000	87000	
Hexachlorobenzene	mg/kg		1.8	1.8	0.35	41	220	17	56	17	56	17	56	6800	8500	8.9	37	
Hexachlorobutadiene	mg/kg		26	72	0.091	130	710	130	460	130	460	130	460	140000	180000	100	470	350
Hexachlorocyclopentadiene	mg/kg		320	320	ID	30	56	50	60	50	60	50	60	13000	5900	2300	6700	720
Hexachloroethane	mg/kg		0.43	1.2	1.8	40	79	550	660	930	1400	930	1400	230000	100000	230	730	
Indeno(1,2,3-cd)pyrene	mg/kg		NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	20	80	
Isophorone	mg/kg		15	62	26	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	12000000	8200000	4800	22000	2400
Naphthalene	mg/kg		35	100	0.73	250	470	300	350	300	350	300	350	200000	88000	16000	52000	
Nitrobenzene	mg/kg		0.33	0.33	3.6	91	170	54	64	54	64	54	64	47000	21000	100	340	490
N-Nitrosodi-n-propylamine	mg/kg		0.33	0.33		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1600	2000	1.2	5.4	1500
N-Nitrosodiphenylamine	mg/kg		5.4	22		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	2200000	2800000	1700	7800	
Pentachlorophenol	mg/kg		0.022	0.022	27	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	100000	130000	90	320	
Phenanthrene	mg/kg		56		2.1	2800	5100	160	190	160	190	160	190	6700	2900	1600	5200	
Phenol	mg/kg		88	260	9	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	40000000	18000000	40000	230000	12000
Pyrene	mg/kg		480	480	ID	1000000	1000000	650000	780000	650000	780000	650000	780000	6700000	2900000	29000	84000	
Metals																		
Aluminum	mg/kg	5788	1	1		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	50000	370000	
Antimony	mg/kg	0.024	4.3	4.3	94	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	13000	5900	180	670	
Arsenic	mg/kg	7.26	4.6	4.6	4.6	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	720	910	7.6	37	
Barium	mg/kg	25.6	1300	1300	1200	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	330000	150000	37000	130000	
Beryllium	mg/kg	0.196	51	51	950	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1300	590	410	1600	
Cadmium	mg/kg	0.098	6	6	7.30	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1700	2200	550	2100	
Calcium	mg/kg																	
Chromium	mg/kg	11.9	1000000	1000000	6600000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	330000	150000	790000	1000000	
Chromium III (trivalent)	mg/kg	18	1000000	1000000	6600000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	330000	150000	790000	1000000	
Chromium VI (hexavalent)	mg/kg		30	30	3.3	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	260	240	2500	9200	
Cobalt	mg/kg	4.38	0.8	2	2	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	13000	5900	2600	9000	
Copper	mg/kg	13.0	5800	5800	170	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	130000	59000	20000	73000	
Iron	mg/kg	13484	6	6		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	160000	580000	
Lead	mg/kg	7.14	700	700	11000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	100000	44000	400	900	
Magnesium	mg/kg		8000	22000		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6700000	2900000	1000000	1000000	
Manganese	mg/kg	348	1	1	130	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	3300	1500	25000	90000	
Mercury	mg/kg	0.05	1.7	1.7	0.05	48	89	52	62	52	62	52	62	20000	8800	160	580	
Nickel	mg/kg	11.90	100	100	170	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	13000	16000	40000	150000	
Potassium	mg/kg																	
Selenium	mg/kg	0.83	4	4	0.4	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	130000	59000	2600	9600	
Silver	mg/kg	0.09	4.5	13	0.1	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6700	2900	2500	9000	
Sodium	mg/kg		4600	7000		NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	1000000	1000000	
Thallium	mg/kg	0.12	2.3	2.3	4.2	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	13000	5900	35	130	
Vanadium	mg/kg	16.7	72	990	430	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	750	5500	
Zinc	mg/kg	32	2400	5000	380	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	170000	630000	
PCBs																		

Sample Location:		<i>MDEQ Generic Cleanup Criteria: Residential and Nonresidential</i> ⁽¹⁾															
Sample Identification:	Site	Drinking	Nonresidential Drinking	Groundwater	Soil Volatilization	Nonresidential Soil Volatilization	Infinite Source	Nonresidential Infinite Source	Finite VSIC for	Nonresidential Finite VSIC for	Finite VSIC for	Nonresidential Finite VSIC for	Particulate	Nonresidential Particulate	Direct	Nonresidential Direct	Soil Saturation
Sample Date:	Background	Water	Water	Surface Water	to Indoor Air	to Indoor Air	Volatile Soil	Volatile Soil	5 Meter Source	5 Meter Source	2 Meter Source	2 Meter Source	Soil Inhalation	Soil Inhalation	Contact	Contact	Concentration
Sample Type:	Levels ⁽²⁾	Protection	Protection	Interface Protection	Inhalation	Inhalation	Inhalation	Inhalation	Thickness	Thickness	Thickness	Thickness	m	n	o	p	Screening Levels
Sample Depth:	a	b	c	d	e	f	g	h	i	j	k	l					q
	<i>Units</i>																
Aroclor-1016 (PCB-1016)	mg/kg	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4	16	
Aroclor-1221 (PCB-1221)	mg/kg	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4	16	
Aroclor-1232 (PCB-1232)	mg/kg	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4	16	
Aroclor-1242 (PCB-1242)	mg/kg	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4	16	
Aroclor-1248 (PCB-1248)	mg/kg	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4	16	
Aroclor-1254 (PCB-1254)	mg/kg	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4	16	
Aroclor-1260 (PCB-1260)	mg/kg	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4	16	
Total PCBs	mg/kg	NLL	NLL	NLL	3000	16000	240	810	7900	28000	7900	28000	5200	6500	4	16	

Notes:

U - Not detected at the associated reporting limit.
J - Estimated concentration.

(1) MDEQ Generic cleanup criteria for residential and nonresidential category, administrative rule **R 299.46 and R 299.48**, respectively, effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended
(2) Site-Specific Background Level calculations and background information presented in the Site 2013 RCRA Facility Investigation Report

Sample Location:	CRA-705M	CRA-705M	CRA-705M	CRA-706M	CRA-707SB	CRA-707SB	CRA-708SB	CRA-708SB
Sample Identification:	SO-17358-011812-DR-009	SO-17358-011812-DR-010	SO-17358-011812-DR-011	SO-17358-011812-DR-012	SO-17358-011812-DR-015	SO-17358-011812-DR-016	SO-17358-011812-DR-013	SO-17358-011812-DR-014
Sample Date:	1/18/2012	1/18/2012	1/18/2012	1/18/2012	1/18/2012	1/18/2012	1/18/2012	1/18/2012
Sample Type:		Duplicate						
Sample Depth:	(0-2) ft BGS	(0-2) ft BGS	(2-3) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-3) ft BGS	(0-2) ft BGS	(2-3) ft BGS

Units
Volatile Organic Compounds (VOCs)

1,1,1-Trichloroethane	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
1,1,2,2-Tetrachloroethane	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
1,1,2-Trichloroethane	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
1,1-Dichloroethane	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
1,1-Dichloroethene	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
1,2,4-Trichlorobenzene	mg/kg	0.22 U	0.22 U	0.22 U	0.25 U	0.21 U	0.21 U	0.25 U	0.22 U
1,2-Dibromo-3-chloropropene	mg/kg	0.22 U	0.22 U	0.22 U	0.25 U	0.21 U	0.21 U	0.25 U	0.22 U
1,2-Dibromoethane (Ethyl)	mg/kg	0.22 U	0.22 U	0.22 U	0.25 U	0.21 U	0.21 U	0.25 U	0.22 U
1,2-Dichlorobenzene	mg/kg	0.09 U	0.088 U	0.087 U	0.098 U	0.084 U	0.086 U	0.1 U	0.087 U
1,2-Dichloroethane	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
1,2-Dichloropropane	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
1,3-Dichlorobenzene	mg/kg	0.09 U	0.088 U	0.087 U	0.098 U	0.084 U	0.086 U	0.1 U	0.087 U
1,4-Dichlorobenzene	mg/kg	0.09 U	0.088 U	0.087 U	0.098 U	0.084 U	0.086 U	0.1 U	0.087 U
2-Butanone (Methyl ethyl ketone)	mg/kg	0.67 U	0.66 U	0.65 U	0.74 U	0.63 U	0.64 U	0.75 U	0.65 U
2-Hexanone	mg/kg	2.2 U	2.2 U	2.2 U	2.5 U	2.1 U	2.1 U	2.5 U	2.2 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	mg/kg	2.2 U	2.2 U	2.2 U	2.5 U	2.1 U	2.1 U	2.5 U	2.2 U
Acetone	mg/kg	0.67 U	0.66 U	0.65 U	0.74 U	0.63 U	0.64 U	0.75 U	0.65 U
Benzene	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
Bromodichloromethane	mg/kg	0.09 U	0.088 U	0.087 U	0.098 U	0.084 U	0.086 U	0.1 U	0.087 U
Bromoform	mg/kg	0.09 U	0.088 U	0.087 U	0.098 U	0.084 U	0.086 U	0.1 U	0.087 U
Bromomethane (Methyl bromide)	mg/kg	0.22 U	0.22 U	0.22 U	0.25 U	0.21 U	0.21 U	0.25 U	0.22 U
Carbon disulfide	mg/kg	0.22 U	0.22 U	0.22 U	0.25 U	0.21 U	0.21 U	0.25 U	0.22 U
Carbon tetrachloride	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
Chlorobenzene	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
Chloroethane	mg/kg	0.22 U	0.22 U	0.22 U	0.25 U	0.21 U	0.21 U	0.25 U	0.22 U
Chloroform (Trichloromethane)	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
Chloromethane (Methyl chloride)	mg/kg	0.22 U	0.22 U	0.22 U	0.25 U	0.21 U	0.21 U	0.25 U	0.22 U
cis-1,2-Dichloroethene	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
cis-1,3-Dichloropropene	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
Cyclohexane	mg/kg	1.1 U	1.1 U	1 U	1.2 U	1 U	1 U	1.2 U	1 U
Dibromochloromethane	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
Dichlorodifluoromethane (CFC-12)	mg/kg	0.09 U	0.088 U	0.087 U	0.098 U	0.084 U	0.086 U	0.1 U	0.087 U
Ethylbenzene	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
Isopropyl benzene	mg/kg	0.22 U	0.22 U	0.22 U	0.25 U	0.21 U	0.21 U	0.25 U	0.22 U
Methyl acetate	mg/kg	1.1 U	1.1 U	1 U	1.2 U	1 U	1 U	1.2 U	1 U
Methyl cyclohexane	mg/kg	1.1 U	1.1 U	1 U	1.2 U	1 U	1 U	1.2 U	1 U
Methyl tert butyl ether (MTBE)	mg/kg	0.22 U	0.22 U	0.22 U	0.25 U	0.21 U	0.21 U	0.25 U	0.22 U
Methylene chloride	mg/kg	0.22 U	0.22 U	0.22 U	0.25 U	0.21 U	0.21 U	0.25 U	0.22 U
Styrene	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
Tetrachloroethene	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
Toluene	mg/kg	0.09 U	0.088 U	0.087 U	0.098 U	0.084 U	0.086 U	0.1 U	0.087 U
trans-1,2-Dichloroethene	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
trans-1,3-Dichloropropene	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
Trichloroethene	mg/kg	0.045 U	0.044 U	0.044 U	0.049 U	0.042 U	0.043 U	0.05 U	0.044 U
Trichlorofluoromethane (CFC-11)	mg/kg	0.09 U	0.088 U	0.087 U	0.098 U	0.084 U	0.086 U	0.1 U	0.087 U
Trifluorotrichloroethane (CFC-113)	mg/kg	0.22 U	0.22 U	0.22 U	0.25 U	0.21 U	0.21 U	0.25 U	0.22 U
Vinyl chloride	mg/kg	0.036 U	0.035 U	0.035 U	0.039 U	0.034 U	0.034 U	0.04 U	0.035 U
Xylenes (total)	mg/kg	0.13 U	0.13 U	0.13 U	0.15 U	0.13 U	0.13 U	0.15 U	0.13 U

Semi-Volatile Organic Compounds (SVOCs)

2,2'-Oxybis(1-chloropropane)	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
2,4,5-Trichlorophenol	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
2,4,6-Trichlorophenol	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
2,4-Dichlorophenol	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
2,4-Dimethylphenol	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
2,4-Dinitrophenol	mg/kg	0.17 U	0.17 U	0.16 U	0.17 U	0.63 U	0.16 U	0.17 U	0.17 U
2,4-Dinitrotoluene	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
2,6-Dinitrotoluene	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
2-Chloronaphthalene	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
2-Chlorophenol	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
2-Methylnaphthalene	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
2-Methylphenol	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
2-Nitroaniline	mg/kg	0.22 U	0.22 U	0.22 U	0.23 U	0.85 U	0.22 U	0.23 U	0.22 U
2-Nitrophenol	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
3&4-Methylphenol	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
3,3'-Dichlorobenzidine	mg/kg	1.8 U	1.8 U	1.7 U	1.8 U	6.8 U	1.7 U	1.8 U	1.8 U
3-Nitroaniline	mg/kg	0.22 U	0.22 U	0.22 U	0.23 U	0.85 U	0.22 U	0.23 U	0.22 U
4,6-Dinitro-2-methylphenol	mg/kg	0.17 U	0.17 U	0.16 U	0.17 U	0.63 U	0.16 U	0.17 U	0.17 U
4-Bromophenyl phenyl ether	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
4-Chloro-3-methylphenol	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U
4-Chloroaniline	mg/kg	0.22 U	0.22 U	0.22 U	0.23 U	0.85 U	0.22 U	0.23 U	0.22 U
4-Chlorophenyl phenyl ether	mg/kg	0.3 U	0.29 U	0.29 U	0.3 U	1.1 U	0.29 U	0.3 U	0.29 U

Sample Location:		CRA-705M		CRA-705M		CRA-705M		CRA-706M		CRA-707SB		CRA-707SB		CRA-708SB		CRA-708SB	
Sample Identification:		SO-17358-011812-DR-009		SO-17358-011812-DR-010		SO-17358-011812-DR-011		SO-17358-011812-DR-012		SO-17358-011812-DR-015		SO-17358-011812-DR-016		SO-17358-011812-DR-013		SO-17358-011812-DR-014	
Sample Date:		1/18/2012		1/18/2012		1/18/2012		1/18/2012		1/18/2012		1/18/2012		1/18/2012		1/18/2012	
Sample Type:				Duplicate													
Sample Depth:		(0-2) ft BGS		(0-2) ft BGS		(2-3) ft BGS		(0-2) ft BGS		(0-2) ft BGS		(2-3) ft BGS		(0-2) ft BGS		(2-3) ft BGS	
		Units															
4-Nitroaniline	mg/kg	0.22	U	0.22	U	0.22	U	0.23	U	0.85	U	0.22	U	0.23	U	0.22	U
4-Nitrophenol	mg/kg	0.37	U	0.37	U	0.36	U	0.37	U	1.4	U	0.36	U	0.38	U	0.37	U
Acenaphthene	mg/kg	0.3	U	0.29	U	0.29	U	0.29	U	1.1	U	0.29	U	0.3	U	0.29	U
Acenaphthylene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Acetophenone	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Anthracene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Atrazine	mg/kg	0.045	U	0.044	U	0.043	U	0.045	U	0.17	U	0.044	U	0.046	U	0.045	U
Benzaldehyde	mg/kg	0.3	U	0.29	U	0.29	U	0.29	U	1.1	U	0.29	U	0.3	U	0.29	U
Benzo(a)anthracene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	0.038	J	0.29	U	0.3	U	0.29	U
Benzo(a)pyrene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	0.048	J	0.29	U	0.3	U	0.29	U
Benzo(b)fluoranthene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	0.068	J	0.29	U	0.3	U	0.29	U
Benzo(g,h,i)perylene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Benzo(k)fluoranthene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Biphenyl (1,1-Biphenyl)	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
bis(2-Chloroethoxy)methan	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
bis(2-Chloroethyl)ether	mg/kg	0.09	U	0.089	U	0.087	U	0.09	U	0.34	U	0.087	U	0.092	U	0.089	U
bis(2-Ethylhexyl)phthalate (	mg/kg	0.047	J	0.052	J	0.039	J	0.037	J	0.096	J	0.031	J	0.025	J	0.032	J
Butyl benzylphthalate (BBP	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Caprolactam	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Carbazole	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Chrysene	mg/kg	0.3	U	0.29	U	0.29	U	0.29	U	0.049	J	0.29	U	0.3	U	0.29	U
Dibenz(a,h)anthracene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Dibenzofuran	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Diethyl phthalate	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Dimethyl phthalate	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Di-n-butylphthalate (DBP)	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Di-n-octyl phthalate (DnOP)	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Fluoranthene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	0.061	J	0.29	U	0.3	U	0.29	U
Fluorene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Hexachlorobenzene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Hexachlorobutadiene	mg/kg	0.045	U	0.044	U	0.043	U	0.045	U	0.17	U	0.044	U	0.046	U	0.045	U
Hexachlorocyclopentadiene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Hexachloroethane	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Isophorone	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Naphthalene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Nitrobenzene	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
N-Nitrosodi-n-propylamine	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
N-Nitrosodiphenylamine	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Pentachlorophenol	mg/kg	0.17	U	0.17	U	0.16	U	0.17	U	0.63	U	0.16	U	0.17	U	0.17	U
Phenanthrene	mg/kg	0.3	U	0.0083	J	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Phenol	mg/kg	0.3	U	0.29	U	0.29	U	0.3	U	1.1	U	0.29	U	0.3	U	0.29	U
Pyrene	mg/kg	0.3	U	0.0077	J	0.29	U	0.3	U	0.072	J	0.29	U	0.3	U	0.29	U
Metals																	
Aluminum	mg/kg	4400		4300		2400		3300		4300		3200		6600 ^{bc}		2700	
Antimony	mg/kg	0.057	J	0.048	J	0.045	J	0.067	J	0.21	J	0.081	J	0.042	J	0.046	J
Arsenic	mg/kg	4.9		5.3		3.4		4.2		4.5		8.7 ^{bcdo}		6.8		5.9	
Barium	mg/kg	17		16		6.9		13		31		12		72		29	
Beryllium	mg/kg	0.12	J	0.054	J	0.16	U	0.17	U	0.07	J	0.066	J	0.22		0.16	U
Cadmium	mg/kg	0.049	J	0.046	J	0.042	J	0.084	J	0.69		0.081	U	0.36		0.064	J
Calcium	mg/kg	52000	J	38000	J	95000	J	6900	J	--		--		--		--	
Chromium	mg/kg	8.7		9.8		8.2		7.9		14		8.6		12		5.8	
Chromium III (trivalent)	mg/kg	8		9.3		8.2		--		13		7.9		--		--	
Chromium VI (hexavalent)	mg/kg	0.63	J	0.42	J	0.87	U	--		1.9		0.75	J	--		--	
Cobalt	mg/kg	2.8		3.1		2.3		2.9		3.9		3.2		6.3 ^{bcd}		2.4	
Copper	mg/kg	9.6		10		8		6.8		26		9.3		7.8		5.8	
Iron	mg/kg	9300		10000		6600		9400		13000		14000 ^{bc}		15000 ^{bc}		9900	
Lead	mg/kg	5.1		5.8		3.5		5.4		26		6		7.6		2.7	
Magnesium	mg/kg	14000 ^b		10000 ^b		14000 ^b		2200		--		--		--		--	
Manganese	mg/kg	230	J	220	J	180	J	110	J	330	J	160	J	600	J ^{bcd}	440	J ^{bcd}
Mercury	mg/kg	0.015	J	0.044	U	0.039	U	0.044	U	0.027	J	0.037	U	0.042		0.04	U
Nickel	mg/kg	9.4		9.9		7.2		8.2		13		7.8		11		10	
Potassium	mg/kg	430	J	360		350	J	260	J	--		--		--		--	
Selenium	mg/kg	0.67		0.59		0.37		0.52		0.47		0.54		1.1 ^d		0.4	
Silver	mg/kg	0.089	U	0.065	U	0.08	U	0.087	U	0.022	J	0.081	U	0.025	J	0.081	U
Sodium	mg/kg	89	U	65	U	80	U	87	U	--		--		--		--	
Thallium	mg/kg	0.13		0.11		0.079	J	0.12		0.1		0.07	J	0.1		0.091	
Vanadium	mg/kg	12		13		8.5		13		13		17		19		8.8	
Zinc	mg/kg	26		24		19		22		47		27		32		14	
PCBs																	

Sample Location:		CRA-705M	CRA-705M	CRA-705M	CRA-706M	CRA-707SB	CRA-707SB	CRA-708SB	CRA-708SB
Sample Identification:		SO-17358-011812-DR-009	SO-17358-011812-DR-010	SO-17358-011812-DR-011	SO-17358-011812-DR-012	SO-17358-011812-DR-015	SO-17358-011812-DR-016	SO-17358-011812-DR-013	SO-17358-011812-DR-014
Sample Date:		1/18/2012	1/18/2012	1/18/2012	1/18/2012	1/18/2012	1/18/2012	1/18/2012	1/18/2012
Sample Type:			Duplicate						
Sample Depth:		(0-2) ft BGS	(0-2) ft BGS	(2-3) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-3) ft BGS	(0-2) ft BGS	(2-3) ft BGS
	Units								
Aroclor-1016 (PCB-1016)	mg/kg	0.037 U	0.037 U	0.036 U	0.037 U	0.035 U	0.036 U	0.038 U	0.037 U
Aroclor-1221 (PCB-1221)	mg/kg	0.037 U	0.037 U	0.036 U	0.037 U	0.035 U	0.036 U	0.038 U	0.037 U
Aroclor-1232 (PCB-1232)	mg/kg	0.037 U	0.037 U	0.036 U	0.037 U	0.035 U	0.036 U	0.038 U	0.037 U
Aroclor-1242 (PCB-1242)	mg/kg	0.037 U	0.037 U	0.036 U	0.037 U	0.035 U	0.036 U	0.038 U	0.037 U
Aroclor-1248 (PCB-1248)	mg/kg	0.037 U	0.037 U	0.036 U	0.037 U	0.035 U	0.036 U	0.038 U	0.037 U
Aroclor-1254 (PCB-1254)	mg/kg	0.037 U	0.037 U	0.036 U	0.037 U	0.035 U	0.036 U	0.038 U	0.037 U
Aroclor-1260 (PCB-1260)	mg/kg	0.037 U	0.037 U	0.036 U	0.037 U	0.035 U	0.036 U	0.038 U	0.037 U
Total PCBs	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

U - Not detected at the associated reporti
J - Estimated concentration.

(1) MDEQ Generic cleanup criteria for res
(2) Site-Specific Background Level calculat

ANALYTICAL RESULTS SUMMARY
SAMPLING

Sample Location:		MDEQ Generic Groundwater Cleanup Criteria: Residential and Nonresidential (1)							CRA-705M		CRA-705M		CRA-705M		CRA-706M	
Sample Identification:		Residential	Non-Residential	Groundwater	Residential Groundwater	Non-Residential Groundwater	Water	Flammability and	GW-17358-012412-DR-031 1/24/2012	GW-17358-080312-CB-001 8/3/2012	GW-17358-041613-DR-115 4/16/2013	GW-17358-012412-DR-030 1/24/2012	GW-17358-012412-DR-030 1/24/2012	GW-17358-012412-DR-030 1/24/2012	GW-17358-012412-DR-030 1/24/2012	
Sample Date:		Drinking Water	Drinking Water	Surface Water	Volatilization to	Volatilization to	Solubility	Explosivity								
Sample Type:				Interface	Indoor Air Inhalation	Indoor Air Inhalation		Screening Levels								
Units		a	b	c	d	e	f	g								
Volatile Organic Compounds (VOCs)																
1,1,1-Trichloroethane	mg/L	0.2	0.2	0.089	660	1300	1330	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,1,2,2-Tetrachloroethane	mg/L	0.0085	0.035	0.078	12	77	2970	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,1,2-Trichloroethane	mg/L	0.005	0.005	0.33	17	110	4420		0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,1-Dichloroethane	mg/L	0.88	2.5	0.74	1000	2300	5060	380	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,1-Dichloroethene	mg/L	0.007	0.007	0.13	0.2	1.3	2250	97	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,2,4-Trichlorobenzene	mg/L	0.07	0.07	0.099	300	300	300		0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,2-Dibromo-3-chloropropane (D	mg/L	0.0002	0.0002		0.22	1.2	1.23		0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,2-Dibromoethane (Ethylene di	mg/L	0.00005	0.00005	0.0057	2.4	15	4200	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,2-Dichlorobenzene	mg/L	0.6	0.6	0.013	160	160	156		0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,2-Dichloroethane	mg/L	0.005	0.005	0.36	9.6	59	8520	2500	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,2-Dichloropropane	mg/L	0.005	0.005	0.23	16	36	2800	550	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,3-Dichlorobenzene	mg/L	0.0066	0.019	0.028	18	41	111	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,4-Dichlorobenzene	mg/L	0.075	0.075	0.017	16	74	73.8		0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
2-Butanone (Methyl ethyl ketone	mg/L	13	38	2.2	240000	240000	240000	ID	0.01 U	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	
2-Hexanone	mg/L	1	2.9	ID	4200	8700	16000		0.01 U	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	
4-Methyl-2-pentanone (Methyl is	mg/L	1.8	5.2	ID	20000	20000	20000	ID	0.01 U	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	
Acetone	mg/L	0.73	2.1	1.7	1000000	1000000	1000000	15000	0.01 U	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	
Benzene	mg/L	0.005	0.005	0.2	5.6	35	1750	68	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Bromodichloromethane	mg/L	0.08	0.08	ID	4.8	37	6740	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Bromoform	mg/L	0.08	0.08	ID	470	3100	3100	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Bromomethane (Methyl bromide)	mg/L	0.01	0.029	0.035	4	9	14500	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Carbon disulfide	mg/L	0.8	2.3	ID	250	550	1190	13	0.005 U	--	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	
Carbon tetrachloride	mg/L	0.005	0.005	0.045	0.37	2.4	793	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Chlorobenzene	mg/L	0.1	0.1	0.025	210	470	472	160	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Chloroethane	mg/L	0.43	1.7	1.1	5700	5700	5740	110	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Chloroform (Trichloromethane)	mg/L	0.08	0.08	0.35	28	180	7920	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Chloromethane (Methyl chloride)	mg/L	0.26	1.1	ID	8.6	45	6340	36	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
cis-1,2-Dichloroethene	mg/L	0.07	0.07	0.62	93	210	3500	530	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
cis-1,3-Dichloropropene	mg/L								0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Cyclohexane	mg/L								0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Dibromochloromethane	mg/L	0.08	0.08	ID	14	110	2600	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Dichlorodifluoromethane (CFC-1	mg/L	1.7	4.8	ID	220	300	300	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Ethylbenzene	mg/L	0.074	0.074	0.018	110	170	169	43	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Isopropyl benzene	mg/L	0.8	2.3	0.028	56	56	56	29	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Methyl acetate	mg/L								0.01 U	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	
Methyl cyclohexane	mg/L								0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Methyl tert butyl ether (MTBE)	mg/L	0.04	0.04	7.1	47000	47000	46800	ID	0.005 U	--	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U	
Methylene chloride	mg/L	0.005	0.005	1.5	220	1400	17000	ID	0.005 U	--	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	
Styrene	mg/L	0.1	0.1	0.08	170	310	310	140	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Tetrachloroethene	mg/L	0.005	0.005	0.06	25	170	200	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Toluene	mg/L	0.79	0.79	0.27	530	530	526	61	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
trans-1,2-Dichloroethene	mg/L	0.1	0.1	1.5	85	200	6300	230	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
trans-1,3-Dichloropropene	mg/L								0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Trichloroethene	mg/L	0.005	0.005	0.2	2.2	4.9	1100	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Trichlorofluoromethane (CFC-11	mg/L	2.6	7.3		1100	1100	1100	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Trifluorotrichloroethane (CFC-11	mg/L	170	170	0.032	170	170	170	ID	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Vinyl chloride	mg/L	0.002	0.002	0.013	1.1	13	2760	33	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Xylenes (total)	mg/L	0.28	0.28	0.041	190	190	186	70	0.002 U	--	0.002 U					
SVOAs																
2,2'-Oxybis(1-chloropropane) (bi	mg/L								0.005 U	--		0.0048 U	0.0051 U	0.0051 U	0.0051 U	
2,4,5-Trichlorophenol	mg/L	0.73	2.1		NLV	NLV	1200	ID	0.005 U	--		0.0048 U	0.0051 U	0.0051 U	0.0051 U	
2,4,6-Trichlorophenol	mg/L	0.12	0.47	0.005	NLV	NLV	800	ID	0.004 U	--		0.0038 U	0.0041 U	0.0041 U	0.0041 U	
2,4-Dichlorophenol	mg/L	0.073	0.21	0.011	NLV	NLV	4500	ID	0.01 U	--		0.0095 U	0.01 U	0.01 U	0.01 U	
2,4-Dimethylphenol	mg/L	0.37	1	0.38	NLV	NLV	7870	ID	0.005 U	--		0.0048 U	0.0051 U	0.0051 U	0.0051 U	
2,4-Dinitrophenol	mg/L								0.02 U	--		0.019 U	0.02 U	0.02 U	0.02 U	
2,4-Dinitrotoluene	mg/L	0.0077	0.032		NLV	NLV	270	ID	0.005 U	--		0.0048 U	0.0051 U	0.0051 U	0.0051 U	
2,6-Dinitrotoluene	mg/L								0.005 U	--		0.0048 U	0.0051 U	0.0051 U	0.0051 U	
2-Chloronaphthalene	mg/L	1.8	5.2		ID	ID	6.74	ID	0.005 U	--		0.0048 U	0.0051 U	0.0051 U	0.0051 U	
2-Chlorophenol	mg/L	0.045	0.13	0.018	ID	ID	22000	ID	0.005 U	--		0.0048 U	0.0051 U	0.0051 U	0.0051 U	
2-Methylnaphthalene	mg/L	0.26	0.75	0.019	25	25										

ANALYTICAL RESULTS SUMMARY
SAMPLING

Sample Location:		MDEQ Generic Groundwater Cleanup Criteria: Residential and Nonresidential (1)							CRA-705M		CRA-705M		CRA-705M		CRA-706M								
Sample Identification:		Residential		Non-Residential		Groundwater		Residential Groundwater		Non-Residential Groundwater		Water		Flammability and		GW-17358-012412-DR-031		GW-17358-080312-CB-001		GW-17358-041613-DR-115		GW-17358-012412-DR-030	
Sample Date:		Drinking Water		Drinking Water		Surface Water		Volatilization to		Volatilization to		Solubility		Explosivity		1/24/2012		8/3/2012		4/16/2013		1/24/2012	
Sample Type:						Interface		Indoor Air Inhalation		Indoor Air Inhalation				Screening Levels									
Units		a		b		c		d		e		f		g									
Acenaphthene	mg/L	1.3		3.8		0.038		4.2		4.2		4.24		ID		0.005 U		--		0.0048 U		0.0051 U	
Acenaphthylene	mg/L	0.052		0.15		ID		3.9		3.9		3.93		ID		0.005 U		--		0.0048 U		0.0051 U	
Acetophenone	mg/L	1.5		4.4				6100		6100		6100		ID		0.005 U		--		0.0048 U		0.0051 U	
Anthracene	mg/L	0.043		0.043		ID		0.043		0.043		0.0434		ID		0.005 U		--		0.0048 U		0.0051 U	
Atrazine	mg/L	0.003		0.003		0.0073		NLV		NLV		70		ID		0.003 U		--		0.0029 U		0.0031 U	
Benzaldehyde	mg/L															0.005 U		--		0.0048 U		0.0051 U	
Benzo(a)anthracene	mg/L	0.0021		0.0085		ID		NLV		NLV		0.0094		ID		0.001 U		--		0.00095 U		0.001 U	
Benzo(a)pyrene	mg/L	0.005		0.005		ID		NLV		NLV		0.00162		ID		0.001 U		--		0.00095 U		0.001 U	
Benzo(b)fluoranthene	mg/L	0.0015		0.0015		ID		ID		ID		0.0015		ID		0.001 U		--		0.00095 U		0.001 U	
Benzo(g,h,i)perylene	mg/L	0.001		0.001				NLV		NLV		0.00026		ID		0.001 U		--		0.00095 U		0.001 U	
Benzo(k)fluoranthene	mg/L	0.001		0.001				NLV		NLV		0.0008		ID		0.001 U		--		0.00095 U		0.001 U	
Biphenyl (1,1-Biphenyl)	mg/L															0.005 U		--		0.0048 U		0.0051 U	
bis(2-Chloroethoxy)methane	mg/L															0.005 U		--		0.0048 U		0.0051 U	
bis(2-Chloroethyl)ether	mg/L	0.002		0.0083		0.001		38		210		17200		17000		0.001 U		--		0.00095 U		0.001 U	
bis(2-Ethylhexyl)phthalate (DEH)	mg/L	0.006		0.006		0.025		NLV		NLV		0.34		ID		0.005 U		--		0.0048 U		0.0051 U	
Butyl benzylphthalate (BBP)	mg/L	1.2		2.7		0.067		NLV		NLV		2.69		ID		0.005 U		--		0.0048 U		0.0051 U	
Caprolactam	mg/L	5.8		17		NLV		NLV		NLV		5250000				0.01 U		--		0.0095 U		0.01 U	
Carbazole	mg/L	0.085		0.35		0.01		NLV		NLV		7.48		ID		0.01 U		--		0.0095 U		0.01 U	
Chrysene	mg/L	0.0016		0.0016		ID		ID		ID		0.0016		ID		0.001 U		--		0.00095 U		0.001 U	
Dibenz(a,h)anthracene	mg/L	0.002		0.002		ID		NLV		NLV		0.00249		ID		0.002 U		--		0.0019 U		0.002 U	
Dibenzofuran	mg/L	ID		ID		0.004		10		10		10		ID		0.004 U		--		0.0038 U		0.0041 U	
Diethyl phthalate	mg/L	5.5		16		0.11		NLV		NLV		1080				0.005 U		--		0.0048 U		0.0051 U	
Dimethyl phthalate	mg/L	73		210				NLV		NLV		4190				0.005 U		--		0.0048 U		0.0051 U	
Di-n-butylphthalate (DBP)	mg/L	0.88		2.5		0.0097		NLV		NLV		11.2				0.005 U		--		0.0048 U		0.0051 U	
Di-n-octyl phthalate (DnOP)	mg/L	0.13		0.38		ID		NLV		NLV		3		ID		0.005 U		--		0.0048 U		0.0051 U	
Fluoranthene	mg/L	0.21		0.21		0.0016		0.21		0.21		0.206		ID		0.001 U		--		0.00095 U		0.001 U	
Fluorene	mg/L	0.88		2		0.012		2		2		1.98		ID		0.005 U		--		0.0048 U		0.0051 U	
Hexachlorobenzene	mg/L	0.001		0.001		0.0002		0.44		3		6.2		ID		0.0002 U		--		0.00019 U		0.0002 U	
Hexachlorobutadiene	mg/L	0.015		0.042		0.000053		1.6		3.2		3.23		ID		0.001 U		--		0.00095 U		0.001 U	
Hexachlorocyclopentadiene	mg/L	0.05		0.05		ID		0.13		0.42		1.8		ID		0.005 U		--		R		0.0051 U	
Hexachloroethane	mg/L	0.0073		0.021		0.0067		27		50		50		ID		0.005 U		--		0.0048 U		0.0051 U	
Indeno(1,2,3-cd)pyrene	mg/L	0.002		0.002		ID		NLV		NLV		0.000022		ID		0.002 UJ		--		0.0019 U		0.002 U	
Isophorone	mg/L	0.77		3.1		1.3		NLV		NLV		12000				0.005 U		--		0.0048 U		0.0051 U	
Naphthalene	mg/L	0.52		1.5		0.011		31		31		31				0.005 U		--		0.0048 U		0.0051 U	
Nitrobenzene	mg/L	0.0034		0.0096		0.18		280		550		2090				0.003 U		--		0.0029 U		0.0031 U	
N-Nitrosodi-n-propylamine	mg/L	0.005		0.005				NLV		NLV		9890		ID		0.005 U		--		0.0048 U		0.0051 U	
N-Nitrosodiphenylamine	mg/L	0.27		1.1				NLV		NLV		35.1		ID		0.005 U		--		0.0048 U		0.0051 U	
Pentachlorophenol	mg/L	0.001		0.001		0.0028		NLV		NLV		1850		ID		0.005 U		--		0.0048 U		0.0051 U	
Phenanthrene	mg/L	0.052		0.15		0.002		1		1		1		ID		0.002 U		--		0.0019 U		0.002 U	
Phenol	mg/L	4.4		13		0.45		NLV		NLV		82800				0.005 U		--		0.0048 U		0.0051 U	
Pyrene	mg/L	0.14		0.14		ID		0.14		0.14		0.135		ID		0.005 U		--		0.0048 U		0.0051 U	
PCBs																							
Aroclor-1016 (PCB-1016)	mg/L	0.0005		0.0005		0.0002		0.045		0.045		0.0447		ID		0.0001 U		--		0.000095 U		0.0001 U	
Aroclor-1221 (PCB-1221)	mg/L	0.0005		0.0005		0.0002		0.045		0.045		0.0447		ID		0.0001 U		--		0.000095 U		0.0001 U	
Aroclor-1232 (PCB-1232)	mg/L	0.0005		0.0005		0.0002		0.045		0.045		0.0447		ID		0.0001 U		--		0.000095 U		0.0001 U	
Aroclor-1242 (PCB-1242)	mg/L	0.0005		0.0005		0.0002		0.045		0.045		0.0447		ID		0.0001 U		--		0.000095 U		0.0001 U	
Aroclor-1248 (PCB-1248)	mg/L	0.0005		0.0005		0.0002		0.045		0.045		0.0447		ID		0.0001 U		--		0.000095 U		0.0001 U	
Aroclor-1254 (PCB-1254)	mg/L	0.0005		0.0005		0.0002		0.045		0.045		0.0447		ID		0.0001 U		--		0.000095 U		0.0001 U	
Aroclor-1260 (PCB-1260)	mg/L	0.0005		0.0005		0.0002		0.045		0.045		0.0447		ID		0.0001 U		--		0.000095 U		0.0001 U	
Aroclor-1262 (PCB-1262)	mg/L	0.0005		0.0005		0.0002		0.045		0.045		0.0447		ID		--		--		0.000095 U		--	
Aroclor-1268 (PCB-1268)	mg/L	0.0005		0.0005		0.0002		0.045		0.045		0.0447		ID		--		--		0.000095 U		--	
Total PCBs	mg/L	0.0005		0.0005		0.0002		0.045		0.045		0.0447		ID		ND		--		ND		ND	
Metals																							
Aluminum	mg/L	0.05		0.05				NLV		NLV				ID		0.42 ^{ab}		0.067 ^{ab}		0.027 J		0.44 ^{ab}	
Antimony	mg/L	0.006		0.006		0.13		NLV		NLV				ID		0.00056 J		0.00027 J		0.002 U		0.0004 J	
Arsenic	mg/L	0.01		0.01		0.01		NLV		NLV				ID		0.0011 J		0.0022 J		0.00048 J		0.0011 J	
Barium	mg/L	2		2		1.87		NLV		NLV				ID		0.047 J		0.082 J		0.043 J		0.066 J	
Beryllium	mg/L	0.004		0.004		0.075		NLV		NLV				ID		0.001 U		0.001 U		0.001 U		0.001 U	
Cadmium	mg/L	0.005		0.005		0.006		NLV		NLV				ID		0.001 U		0.001 U		0.001 U		0.001 U	
Cadmium (dissolved)	mg/L	0.005		0.005		0.006		NLV		NLV				ID		--		--		--		--	
Calcium	mg/L											85				--		--		--		92	
Chromium	mg/L	0.1		0.1		G,X		NLV		NLV		0.01 U		ID		0.01 U		0.01 U		0.01 U		0.01 U	
Chromium (dissolved)	mg/L	0.1		0.1		G,X		NLV		NLV				ID		--		--		--		--	
Chromium III (trivalent)	mg/L	0.1		0.1		0.23		NLV		NLV		0.01 U		ID		--		--		--		--	
Chromium VI (hexavalent)	mg/L	0.1		0.1		0.011		NLV		NLV		0.01 UJ		ID		--		--		--		--	
Cobalt	mg/L	0.04		0.1		0.1		NLV		NLV				ID		0.00057 J		0.02 U		0.00022 J		0.00061 J	
Copper	mg/L	1		1		0.029		NLV		NLV		0.004 U		ID		0.004 U		0.004 U		0.004 U		0.004 U	
Copper (dissolved)	mg/L	1		1		0.029		NLV		NLV				ID		--		--		--		--	
Iron	mg/L	0.3		0.3				NLV		NLV				ID		0.45 ^{ab}		0.23		0.2 U		0.6 ^{ab}	
Iron (dissolved)	mg/L	0.3		0.3				NLV		NLV				ID		--		--		--		--	
Lead	mg/L	0.004		0.004		0.059		NLV		NLV				ID		0.00032 J		0.003 U		0.003 U		0.00043 J	
Lead (dissolved)	mg/L	0.004		0.004		0.059		NLV		NLV				ID		--		--		--		--	
Magnesium	mg/L	400		1100				NLV		NLV				ID		16		--		--		18	

Sample Location:		MDEQ Generic Groundwater Cleanup Criteria: Residential and Nonresidential (1)								CRA-705M	CRA-705M	CRA-705M	CRA-706M
Sample Identification:		Residential	Non-Residential	Groundwater	Residential Groundwater	Non-Residential Groundwater	Water	Flammability and		GW-17358-012412-DR-031	GW-17358-080312-CB-001	GW-17358-041613-DR-115	GW-17358-012412-DR-030
Sample Date:		Drinking Water	Drinking Water	Surface Water	Volatilization to	Volatilization to	Solubility	Explosivity		1/24/2012	8/3/2012	4/16/2013	1/24/2012
Sample Type:				Interface	Indoor Air Inhalation	Indoor Air Inhalation		Screening Levels					
	Units	a	b	c	d	e	f	g					
Manganese	mg/L	0.05	0.05	6.52	NLV	NLV		ID		0.059 ^{ab}	0.1 ^{ab}	0.061 ^{ab}	0.11 ^{ab}
Mercury	mg/L	0.002	0.002	0.0000013	0.056	0.056	0.056	ID		0.04 U	0.0002 U	0.0002 U	0.04 U
Nickel	mg/L	0.1	0.1	0.16	NLV	NLV		ID		0.0026 J	0.0014 J	0.0014 J	0.0024 J
Nickel (dissolved)	mg/L	0.1	0.1	0.16	NLV	NLV		ID		--	--	--	--
Potassium	mg/L									1.2 J	--	--	1.4 J
Selenium	mg/L	0.05	0.05	0.005	NLV	NLV		ID		0.0011 J	0.00077 J	0.00039 J	0.005 U
Silver	mg/L	0.034	0.098	0.0002	NLV	NLV		ID		0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sodium	mg/L	230	350		NLV	NLV		ID		34	--	--	40
Thallium	mg/L	0.002	0.002	0.0037	NLV	NLV		ID		0.00054 J	0.00025 J	0.002 U	0.002 U
Vanadium	mg/L	0.0045	0.062	0.027	NLV	NLV		ID		0.0013 J	0.004 U	0.004 U	0.0014 J
Zinc	mg/L	2.4	5	0.38	NLV	NLV		ID		0.05 U	0.05 U	0.05 U	0.05 U
Zinc (dissolved)	mg/L	2.4	5	0.38	NLV	NLV		ID		--	--	--	--
General Chemistry													
Phosphorus	mg/L	63	240	EE	NLV	NLV		ID		--	--	--	--
Field Parameters													
Conductivity, field	mS/cm									0.691	0.927	0.633	0.712
Dissolved oxygen (DO), field	mg/L									1.05	1.83	3.19	2.99
Oxidation reduction potential (Of millivolts										-131	-37	11	-101
pH, field	s.u.	6.5 - 8.5	6.5 - 8.5							6.99	6.93	7.42	6.95
Temperature, field	Deg C									6.34	24.03	8.74	6.21
Turbidity, field	NTU									14.6	3.29	2.28	16

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.

(1) Groundwater - MDEQ Generic cleanup criteria for residential and nonresidential category, administrative rule R 299.44 effective December 30, 2013, pursuant to Part 201 of 1994 PA 451 as amended

Sample Location:

Sample Identification:

Sample Date:

Sample Type:

CRA-706M

GW-17358-080312-CB-002

8/3/2012

CRA-706M

GW-17358-041613-DR-114

4/16/2013

		Units	
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	mg/L	--	0.001 U
1,1,2,2-Tetrachloroethane	mg/L	--	0.001 U
1,1,2-Trichloroethane	mg/L	--	0.001 U
1,1-Dichloroethane	mg/L	--	0.001 U
1,1-Dichloroethene	mg/L	--	0.001 U
1,2,4-Trichlorobenzene	mg/L	--	0.001 U
1,2-Dibromo-3-chloropropane (D	mg/L	--	0.001 U
1,2-Dibromoethane (Ethylene di	mg/L	--	0.001 U
1,2-Dichlorobenzene	mg/L	--	0.001 U
1,2-Dichloroethane	mg/L	--	0.001 U
1,2-Dichloropropane	mg/L	--	0.001 U
1,3-Dichlorobenzene	mg/L	--	0.001 U
1,4-Dichlorobenzene	mg/L	--	0.001 U
2-Butanone (Methyl ethyl ketone	mg/L	--	0.01 U
2-Hexanone	mg/L	--	0.01 U
4-Methyl-2-pentanone (Methyl is	mg/L	--	0.01 U
Acetone	mg/L	--	0.01 U
Benzene	mg/L	--	0.001 U
Bromodichloromethane	mg/L	--	0.001 U
Bromoform	mg/L	--	0.001 U
Bromomethane (Methyl bromide,	mg/L	--	0.001 U
Carbon disulfide	mg/L	--	0.005 U
Carbon tetrachloride	mg/L	--	0.001 U
Chlorobenzene	mg/L	--	0.001 U
Chloroethane	mg/L	--	0.001 U
Chloroform (Trichloromethane)	mg/L	--	0.001 U
Chloromethane (Methyl chloride,	mg/L	--	0.001 U
cis-1,2-Dichloroethene	mg/L	--	0.001 U
cis-1,3-Dichloropropene	mg/L	--	0.001 U
Cyclohexane	mg/L	--	0.001 U
Dibromochloromethane	mg/L	--	0.001 U
Dichlorodifluoromethane (CFC-1	mg/L	--	0.001 U
Ethylbenzene	mg/L	--	0.001 U
Isopropyl benzene	mg/L	--	0.001 U
Methyl acetate	mg/L	--	0.01 U
Methyl cyclohexane	mg/L	--	0.001 U
Methyl tert butyl ether (MTBE)	mg/L	--	0.001 U
Methylene chloride	mg/L	--	0.005 U
Styrene	mg/L	--	0.001 U
Tetrachloroethene	mg/L	--	0.001 U
Toluene	mg/L	--	0.001 U
trans-1,2-Dichloroethene	mg/L	--	0.001 U
trans-1,3-Dichloropropene	mg/L	--	0.001 U
Trichloroethene	mg/L	--	0.001 U
Trichlorofluoromethane (CFC-11	mg/L	--	0.001 U
Trifluorotrichloroethane (CFC-11	mg/L	--	0.001 U
Vinyl chloride	mg/L	--	0.001 U
Xylenes (total)	mg/L	--	0.002 U

SVOAs			
2,2'-Oxybis(1-chloropropane) (bi	mg/L	--	0.0048 U
2,4,5-Trichlorophenol	mg/L	--	0.0048 U
2,4,6-Trichlorophenol	mg/L	--	0.0038 U
2,4-Dichlorophenol	mg/L	--	0.0095 U
2,4-Dimethylphenol	mg/L	--	0.0048 U
2,4-Dinitrophenol	mg/L	--	0.019 U
2,4-Dinitrotoluene	mg/L	--	0.0048 U
2,6-Dinitrotoluene	mg/L	--	0.0048 U
2-Chloronaphthalene	mg/L	--	0.0048 U
2-Chlorophenol	mg/L	--	0.0048 U
2-Methylnaphthalene	mg/L	--	0.0048 U
2-Methylphenol	mg/L	--	0.0048 U
2-Nitroaniline	mg/L	--	0.019 U
2-Nitrophenol	mg/L	--	0.0048 U
3&4-Methylphenol	mg/L	--	0.0048 U
3,3'-Dichlorobenzidine	mg/L	--	0.00095 U
3-Nitroaniline	mg/L	--	0.019 U
4,6-Dinitro-2-methylphenol	mg/L	--	0.019 U
4-Bromophenyl phenyl ether	mg/L	--	0.0048 U
4-Chloro-3-methylphenol	mg/L	--	0.0048 U
4-Chloroaniline	mg/L	--	0.0095 U
4-Chlorophenyl phenyl ether	mg/L	--	0.0048 U
4-Nitroaniline	mg/L	--	0.019 U
4-Nitrophenol	mg/L	--	0.019 U

Sample Location:		CRA-706M	CRA-706M
Sample Identification:		GW-17358-080312-CB-002	GW-17358-041613-DR-114
Sample Date:		8/3/2012	4/16/2013
Sample Type:			
	Units		
Acenaphthene	mg/L	--	0.0048 U
Acenaphthylene	mg/L	--	0.0048 U
Acetophenone	mg/L	--	0.0048 U
Anthracene	mg/L	--	0.0048 U
Atrazine	mg/L	--	0.0029 U
Benzaldehyde	mg/L	--	0.0048 U
Benzo(a)anthracene	mg/L	--	0.00095 U
Benzo(a)pyrene	mg/L	--	0.00095 U
Benzo(b)fluoranthene	mg/L	--	0.00095 U
Benzo(g,h,i)perylene	mg/L	--	0.00095 U
Benzo(k)fluoranthene	mg/L	--	0.00095 U
Biphenyl (1,1-Biphenyl)	mg/L	--	0.0048 U
bis(2-Chloroethoxy)methane	mg/L	--	0.0048 U
bis(2-Chloroethyl)ether	mg/L	--	0.00095 U
bis(2-Ethylhexyl)phthalate (DEH	mg/L	--	0.0048 U
Butyl benzylphthalate (BBP)	mg/L	--	0.0048 U
Caprolactam	mg/L	--	0.0095 U
Carbazole	mg/L	--	0.0095 U
Chrysene	mg/L	--	0.00095 U
Dibenz(a,h)anthracene	mg/L	--	0.0019 U
Dibenzofuran	mg/L	--	0.0038 U
Diethyl phthalate	mg/L	--	0.0048 U
Dimethyl phthalate	mg/L	--	0.0048 U
Di-n-butylphthalate (DBP)	mg/L	--	0.0048 U
Di-n-octyl phthalate (DnOP)	mg/L	--	0.0048 U
Fluoranthene	mg/L	--	0.00095 U
Fluorene	mg/L	--	0.0048 U
Hexachlorobenzene	mg/L	--	0.00019 U
Hexachlorobutadiene	mg/L	--	0.00095 U
Hexachlorocyclopentadiene	mg/L	--	R
Hexachloroethane	mg/L	--	0.0048 U
Indeno(1,2,3-cd)pyrene	mg/L	--	0.0019 U
Isophorone	mg/L	--	0.0048 U
Naphthalene	mg/L	--	0.0048 U
Nitrobenzene	mg/L	--	0.0029 U
N-Nitrosodi-n-propylamine	mg/L	--	0.0048 U
N-Nitrosodiphenylamine	mg/L	--	0.0048 U
Pentachlorophenol	mg/L	--	0.0048 U
Phenanthrene	mg/L	--	0.0019 U
Phenol	mg/L	--	0.0048 U
Pyrene	mg/L	--	0.0048 U
PCBs			
Aroclor-1016 (PCB-1016)	mg/L	--	0.000095 U
Aroclor-1221 (PCB-1221)	mg/L	--	0.000095 U
Aroclor-1232 (PCB-1232)	mg/L	--	0.000095 U
Aroclor-1242 (PCB-1242)	mg/L	--	0.000095 U
Aroclor-1248 (PCB-1248)	mg/L	--	0.000095 U
Aroclor-1254 (PCB-1254)	mg/L	--	0.000095 U
Aroclor-1260 (PCB-1260)	mg/L	--	0.000095 U
Aroclor-1262 (PCB-1262)	mg/L	--	0.000095 U
Aroclor-1268 (PCB-1268)	mg/L	--	0.000095 U
Total PCBs	mg/L	--	ND
Metals			
Aluminum	mg/L	0.05 U	0.0078 J
Antimony	mg/L	0.00026 J	0.002 U
Arsenic	mg/L	0.0017 J	0.00086 J
Barium	mg/L	0.066 J	0.067 J
Beryllium	mg/L	0.001 U	0.001 U
Cadmium	mg/L	0.001 U	0.001 U
Cadmium (dissolved)	mg/L	--	--
Calcium	mg/L	--	--
Chromium	mg/L	0.01 U	0.01 U
Chromium (dissolved)	mg/L	--	--
Chromium III (trivalent)	mg/L	--	--
Chromium VI (hexavalent)	mg/L	--	--
Cobalt	mg/L	0.02 U	0.00029 J
Copper	mg/L	0.004 U	0.004 U
Copper (dissolved)	mg/L	--	--
Iron	mg/L	0.15 J	0.18 J
Iron (dissolved)	mg/L	--	--
Lead	mg/L	0.003 U	0.003 U
Lead (dissolved)	mg/L	--	--
Magnesium	mg/L	--	--

Sample Location:		CRA-706M	CRA-706M
Sample Identification:		GW-17358-080312-CB-002	GW-17358-041613-DR-114
Sample Date:		8/3/2012	4/16/2013
Sample Type:			
	Units		
Manganese	mg/L	0.11^{ab}	0.11^{ab}
Mercury	mg/L	0.0002 U	0.0002 U
Nickel	mg/L	0.0012 J	0.0014 J
Nickel (dissolved)	mg/L	--	--
Potassium	mg/L	--	--
Selenium	mg/L	0.005 U	0.00061 J
Silver	mg/L	0.0002 U	0.0002 U
Sodium	mg/L	--	--
Thallium	mg/L	0.002 U	0.002 U
Vanadium	mg/L	0.004 U	0.00015 J
Zinc	mg/L	0.05 U	0.05 U
Zinc (dissolved)	mg/L	--	--
General Chemistry			
Phosphorus	mg/L	--	0.1 U
Field Parameters			
Conductivity, field	mS/cm	0.686	0.791
Dissolved oxygen (DO), field	mg/L	1.58	1.43
Oxidation reduction potential (Of millivolts		-53	-9
pH, field	s.u.	7.08	7.31
Temperature, field	Deg C	24.44	8.78
Turbidity, field	NTU	2.23	1.71
Notes:			
U - Not detected at the associated reporting			
J - Estimated concentration.			
UJ - Not detected; associated reporting lim			
R - Rejected.			
(1) Groundwater - MDEQ Generic cleanup			