From: Henderson, Dave <Dave.Henderson@aecom.com>

**Sent:** Wednesday, May 2, 2018 1:20 PM

**To:** Beggs, Tauren R - DNR

Cc: GravelPit (GravelPit@manitowoc.org)

Subject: Newton Pit - Northern Source Area info

Attachments: Northern Source Area Summary memo complete.pdf

Tauren,

As discussed – attached is a summary memo of the work conducted in the Northern Source Area. Jeff put this together for the City to summarize the work and confirm our understanding of the area.

The figures associated with the memo will provide a time sequence showing where we sampled and how it's changed over time.

It may be helpful for our meeting tomorrow.

Thanks dsh

**David Henderson**, P.E. Senior Project Manager/Director, Environment D 414-944-6190 M 414-429-8304

dave.henderson@aecom.com

#### **AECOM**

1555 N. RiverCenter Drive, Suite 214 Milwaukee, Wi 53212, USA T 414-944-6080 aecom.com

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To:

Ms. Kathleen M. McDaniel Manitowoc City Attorney

CC: Mr. Dan Koski, City of Manitowoc

AECOM 1555 North River Center Drive Suite 214 Milwaukee, WI, 53212 414.944.6080 tel 414.944.6081 fax aecom.com

Project Name: Newton Gravel Pit

Project Ref: 60135471

From: Jeff Maletzke, AECOM

Date:

September 20, 2017

#### Memo

Subject:

Former Town of Newton Gravel Pit, BRRTS No.: 02-36-000268

**DRAFT** – North Source Area Summary

Extensive site characterization has been completed at the Former Town of Newton Gravel Pit associated with delineating the Western Source Area and addressing impacts to soil and groundwater. Considerable historical work has also been completed to investigate a possible second disposal area in the northern portion of the former gravel pit. This memo provides a summary of the efforts completed early on in the site's investigation history in conjunction with this potential Northern Source Area, including backhoe excavations, an electromagnetic (EM) survey, soil borings, and hydropunch groundwater sampling points. The approximate locations of these data points have been superimposed on historical air photos from 1967, 1973, 1990, and 2015 (Attachment A) to aid with corroborating the physical data with witness interviews.

#### **Initial Investigation**

At a meeting with the WDNR on February 3, 1993, the City indicated that questioning of former site workers (i.e., truck drivers, etc.) revealed the possibility of a disposal area in the northern portion of the gravel pit. Based on this information, eight backhoe test pit excavations were completed within the suspected footprint of the northern disposal area on March 3, 1993. The eight excavations (approximate locations shown on figures in Attachment A) ranged between 4 and 12 feet deep within lean clay fill with some gravel and cobbles. As indicated in Test Pit Logs (Attachment B), crushed blacktop as well as angle iron, tree branches, and scrap lumber were encountered in several excavations. Although the backhoe excavations in the suspected northern disposal area did not indicate past disposal practices consistent with the Western Source Area, the City indicated that the likelihood of past waste disposal in the northern portion of the gravel pit was strong.

A soil boring (B-15) was attempted in April 1993. The boring encountered difficult drilling conditions with concrete, wood, and asphalt debris to approximately 14 feet below ground surface (feet bgs). The boring location was offset and met with the same results. Therefore, only one soil sample was collected from B-15 from 12 to 14 feet bgs. The only compound detected was naphthalene at 0.044 mg/kg. The boring log for B-15 is included in Attachment C.

A surface water sample was collected from Silver Creek directly downgradient of the suspected northern source area in April 1993. No contaminants were detected in the sample.

#### **Electromagnetic Survey**

On July 13, 1994, an electromagnetic (EM) survey was conducted at the Northern Source Area to determine the limits of debris previously encountered during the initial investigation described above and to help locate borings along the perimeter of the fill area outside the limits of waste. The EM technique measures composite electrical conductivity to approximately 20 feet bgs. Conductivity values in the surveyed area ranged from a high of 37.8 mmhos/min to a low of 18.78 mmhos/min. Background (undisturbed) portions of the surveyed area have conductivity values in the approximate range of 7 to 13 mmhos/min. The results suggested a filled area approximately 250 feet long by 100 feet wide as shown on the Northern Source Area Mag Survey figure in Attachment A.

#### **Additional Investigation**

Four additional soil borings (B-16 through B-19) were completed in July 1994 around the perimeter of the suspected northern disposal area (based on the EM survey). The boring logs are included in Attachment C. These borings were located to provide vertical characterization of the extent of contaminants in soil and groundwater. The borings were continuously sampled with a split-spoon to the water table and the soils were logged. At each sample interval, soil was collected, PID headspace readings measured, and the sample with the highest PID headspace reading was selected and submitted for laboratory chemical analysis. At the water table in each boring, a grab sample of groundwater was collected and submitted for VOC analysis. After the groundwater samples were collected, the borings were abandoned. A copy of Table 2 from the Site Investigation and Remedial Actions Options Report (Rust E&I, June 1996) is included in Attachment D. The table summarizes the soil and groundwater sample depths as well as the total depth of each of the borings.

Vertical groundwater profiling utilizing a Hydropunch was completed at HP-11 to a total depth of 125 feet bgs. A groundwater sample from the top of the water table was not collected because the Hydropunch did not open after being driven to the specified depth (approximately 30 feet bgs). However, groundwater samples were collected from nearby borings B-16 and B-19, therefore, a second attempt to collect a water table sample at HP-11 was not attempted. Groundwater samples were collected between 62 and 66 feet bgs and 92 and 96 feet bgs. A soil sample was collected between 123 and 125 feet bgs. The log for HP-11 is included in Attachment C.

Soil and groundwater results are shown in the copies of tables from the 1996 Site Investigation and Remedial Actions Options Report included in Attachment C. In general, the concentrations of SVOCs, VOCs, and inorganic constituents were low in soil samples. The soil sample from 10 to 12 feet bgs at B-16 contained a number of SVOCs at mg/kg levels and traces of VOCs. The soil sample at B-16 also had higher levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver relative to the other samples in the northern disposal area.

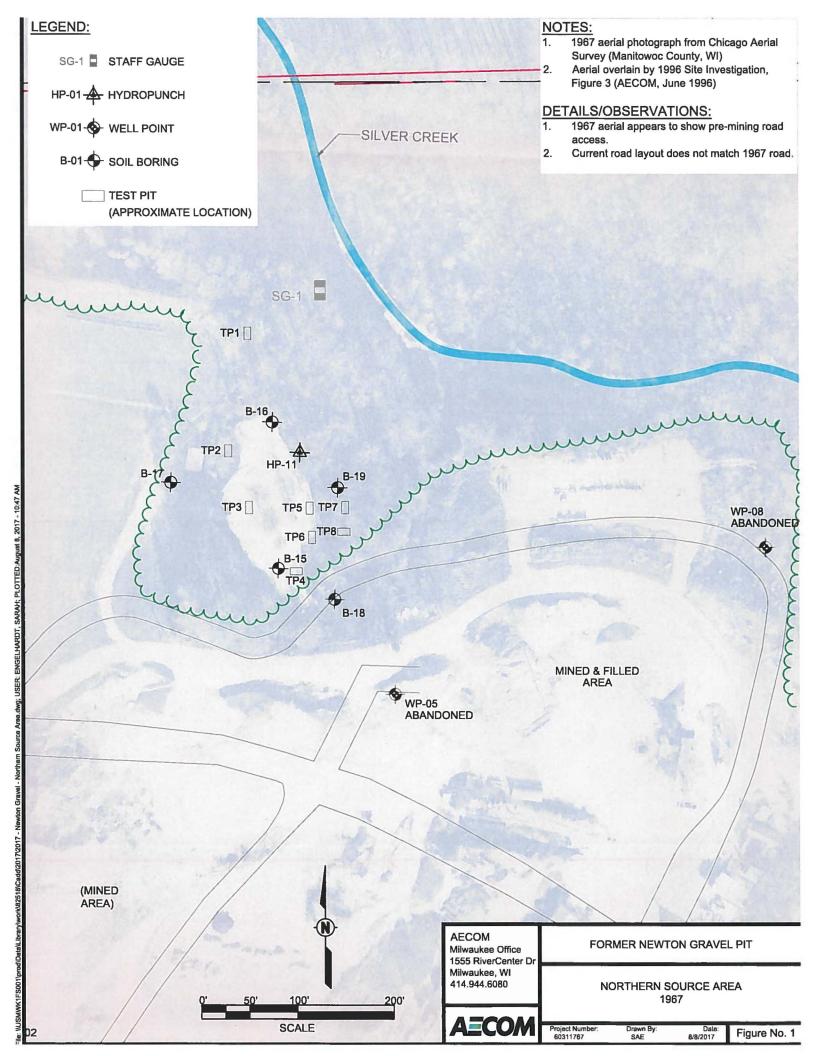
For groundwater samples, the PAL for benzene was exceeded in three of six sample locations (B-16, B-17, and HP-11), however, the ES was not exceeded. The PAL for trichloroethylene was exceeded at four of six groundwater sample locations (B-16 through B-19). Two of the locations (B-16 and B-19) exceeded the ES. Total chlorinated and non-chlorinated VOC concentrations (July 1994 data) have been transferred to a copy of the 2015 aerial photo included in Attachment A. The highest concentrations were detected at B-16, with total chlorinated and non-chlorinated VOC concentrations of 29 ug/l and 16 ug/l, respectively. For perspective, total chlorinated VOC concentrations in the Western Source Area ranged between approximately 1,814 and 161,000 ug/l. Similarly, non-chlorinated VOC concentrations in the Western Source Area ranged between approximately 75 and 236,000 ug/l.

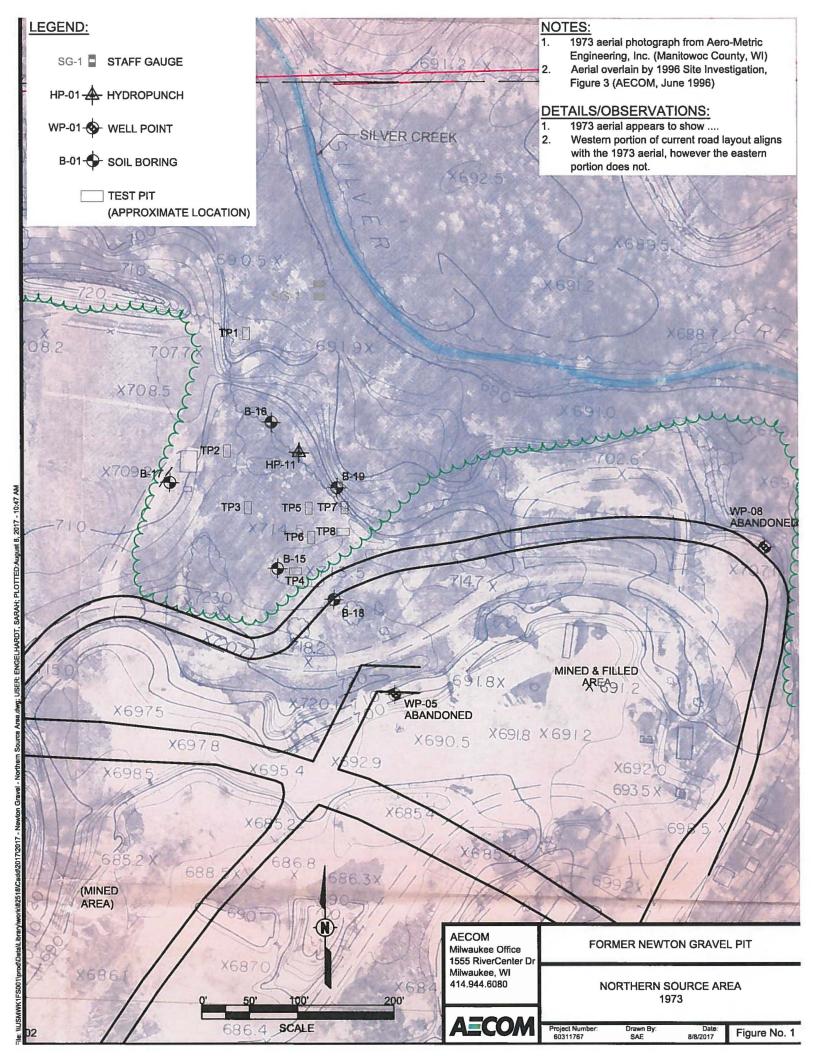
#### **Summary and Conclusions**

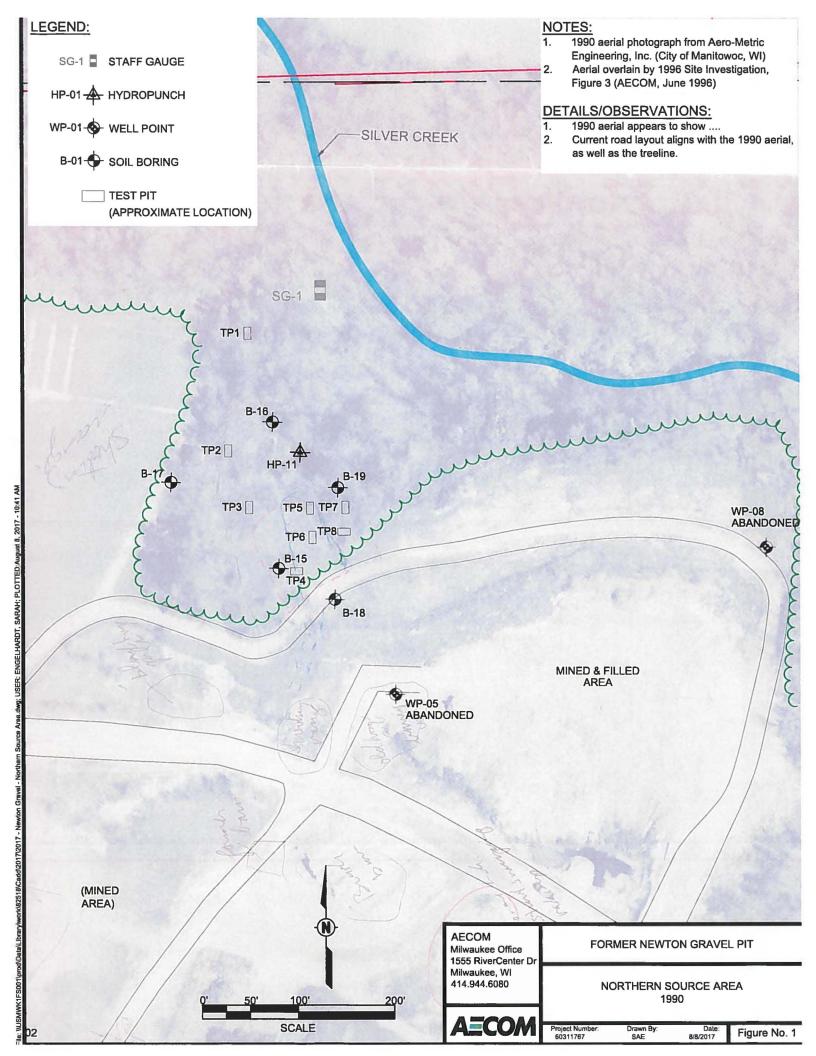
- Witness interviews consistently indicate the presence of a past northern disposal area.
- Field reconnaissance, review of historical aerial photos, and site investigation activities completed in 1993 and 1994 corroborate the location of Northern Source Area in the vicinity of the new police building parking area.
- EM survey data suggest the Northern Source Area encompasses a filled area approximately 250 feet long by 100 feet wide.

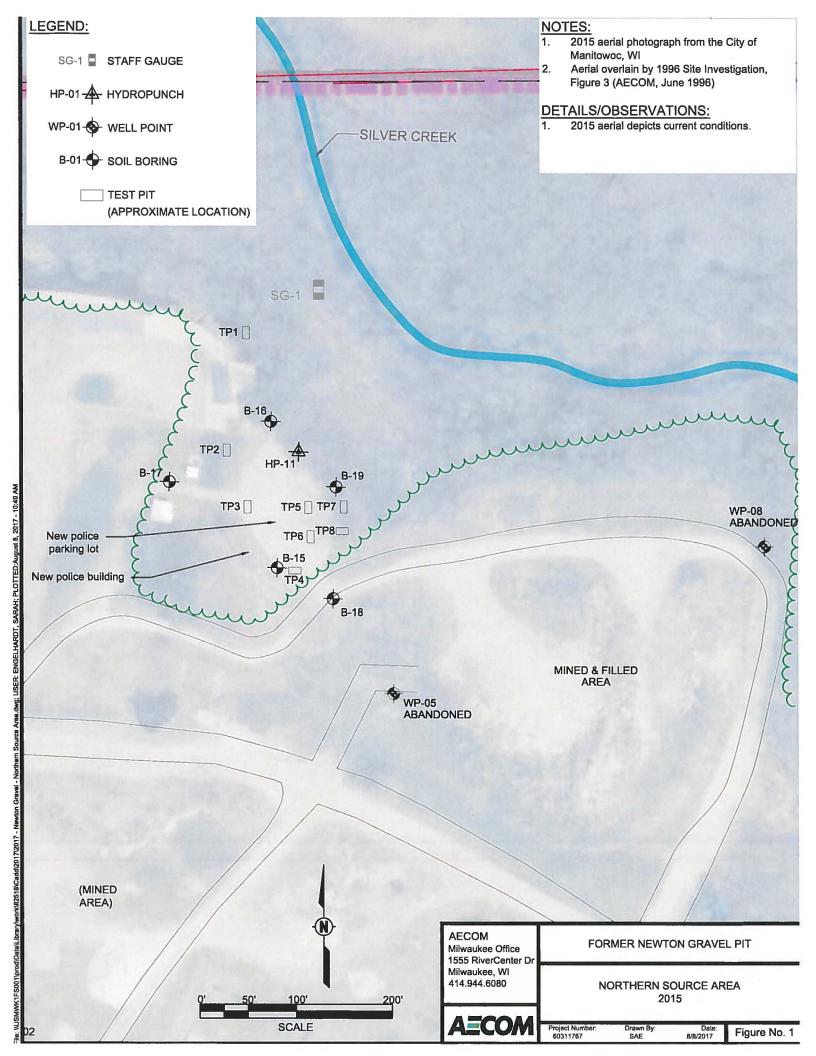
- Excavations extended to 12 feet bgs in the Northern Source Area encountered debris but did not reveal
  past disposal practices consistent with the Western Source Area.
- Witness interviews suggest that the depth of disposal may have been as deep as 25 to 30 feet bgs. As shown on the 1973 aerial photo in Attachment A, the elevation difference between the ground surface in the vicinity of the Northern Source Area and Silver Creek is approximately 26 feet. Thus, a reported disposal depth in the range of 25 to 30 feet likely coincided with the water table.
- A boring completed within the Northern Source Area (B-15) met with refusal at approximately 14 feet bgs after encountering construction debris. Borings completed around the perimeter of the Northern Source Area (B-16 through B-19) were extended to depths ranging between 24 and 32 feet bgs providing for characterization of both soil and groundwater at depths coincident with the reported disposal depth.
- A Hydropunch sampler at HP-11 provided deeper groundwater characterization at depths of 62 to 66 feet bgs and 92 to 96 feet bgs, and soil results at a depth of 123 to 125 ft bgs.
- Historical groundwater sampling at WP-05 and WP-08 provided additional downgradient water quality data. Contaminants of concern were not detected at either of these locations.
- Historical soil sample data indicate that contaminant levels in the Northern Source Area are generally low, especially in comparison to the Western Source Area.
- Historical groundwater sample data indicate groundwater impacts are minor and appear confined to the Northern Source Area.

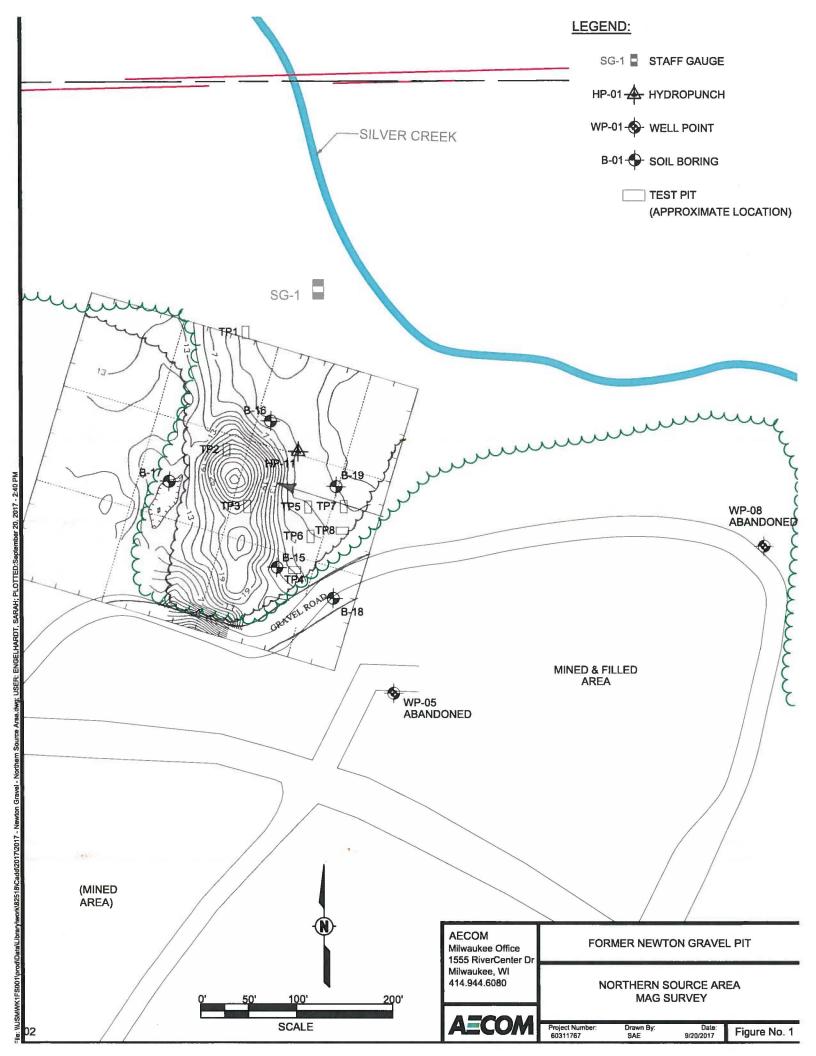
## Attachment A Figures

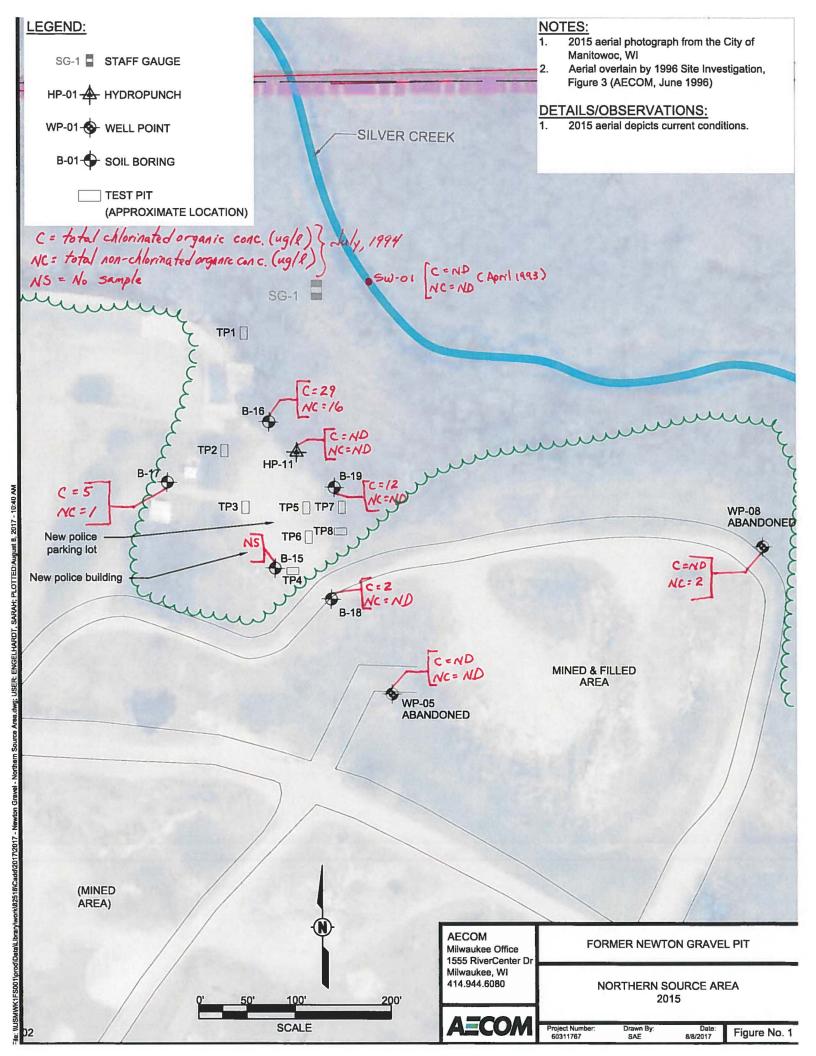








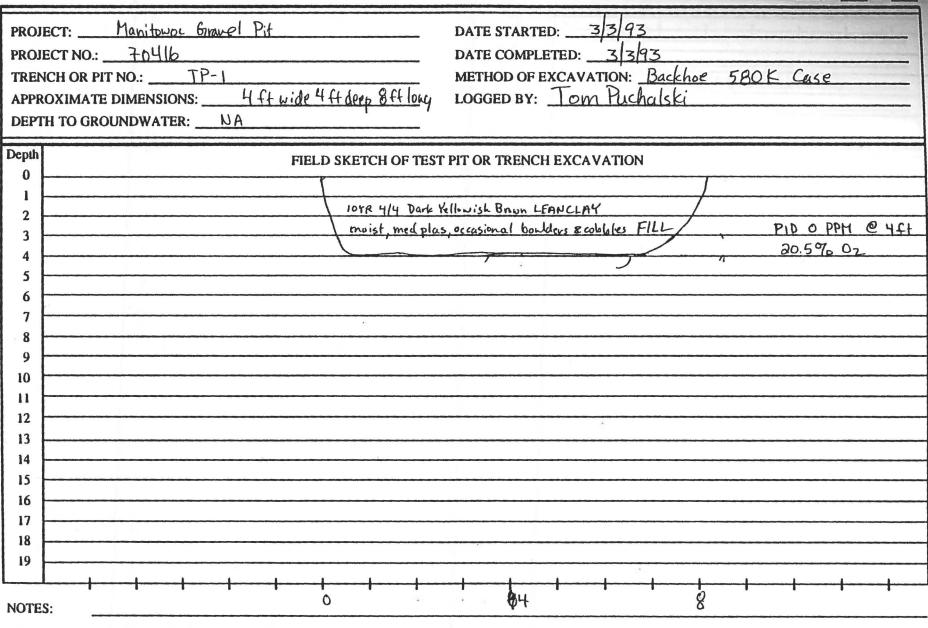




Attachment B
Test Pit Logs



SHEET ! OF !





SHEET \_\_\_OF \_\_

Manitowac Growd Pit DATE STARTED: 3/3/93 PROJECT: PROJECT NO .: 70416 DATE COMPLETED: 3/3/93 METHOD OF EXCAVATION: 580K Case Backhoe APPROXIMATE DIMENSIONS: 6ft long 3ft wille 5ft leep LOGGED BY: Tom Prehable DEPTH TO GROUNDWATER: \_\_\_\_\_ \( \int \) \( \lambda \) Depth FIELD SKETCH OF TEST PIT OR TRENCH EXCAVATION 0 5TR4/3 Realish Brown LEAN CLAY, moist, medium plasticity, occasional subanquilar cobbles and boulders CLEAN FILL 2 3 O PPM PID @ 5 Ft 4 20.3 9002 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 NOTES:



SHEET \_\_\_OF \_\_

DATE STARTED: 3/3/93  DATE COMPLETED: 3/3/13  METHOD OF EXCAVATION: Lace 580/ backhoe  LOGGED BY: TEP
TEST PIT OR TRENCH EXCAVATION  — Cobbly / gravelly zone - Subangular ~ 3 inch to 2ft  5 YR 4/3 Reddish Brow LEAN CLAY, moist, medium plasticity,
occasional boulders, cobbles, and large gravel. O PID @ 5ft FILL 20.1 9002



SHEET \_\_\_\_ OF \_\_\_

PROJ. TREN	DATE STARTED: 3/3/9.3  ECT NO.: 70416 DATE COMPLETED: 3/3/9.3  ICH OR PIT NO.: TP4 METHOD OF EXCAVATION: Case model 580K extendative  OXIMATE DIMENSIONS: 9ft long×3ft wide×11ft deep  H TO GROUNDWATER: Unknown - No free water in pit  Photo # 4,5
Depth	FIGURE OVERSON OF SECULDIST OF SECULDIST PROPERTY.
	FIELD SKETCH OF TEST PIT OR TRENCH EXCAVATION
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2	"4-inch tay sheet, I concrete block 6"x6"x2"
3	
4	Red brown to bown LEAN CLAY with some Oppm @ 5ft
5	large gravel & culbles - FILL
6	3ppm @ 11 ft - Henryspace
7	1/// / Black top Wastel / / Crushed was to black top
8	
9	Native Soil
10	
11	Reddish brown LEAN CLAY, moist, medium plasticity,
12	some large gravel (T:11)
13	
14	
15	
16	
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	<del></del>
NOTE	S:



SHEET \_\_\_OF \_\_

PROJECT: Manitowoo Gravel Pit DATE STARTED: \_\_\_3/3/93 PROJECT NO.: 70416 DATE COMPLETED: 3393 TRENCH OR PIT NO.: \_\_\_\_\_ TP-5 METHOD OF EXCAVATION: Case 580K Extendahoe APPROXIMATE DIMENSIONS: 6 long, 1) ft dep 3' wide LOGGED BY: Tom Puchalski DEPTH TO GROUNDWATER: 8 4+ Depth FIELD SKETCH OF TEST PIT OR TRENCH EXCAVATION 0 1 2 Red brown LEAN CLAY with 3 cobbles - Clean Fill Oppm PID C 7ft 5 6 7 water at 8ft Oppm PID @ 10 ft 8 9 10 - Anale iron and tree branches, scrap lumber, 11 12 13 14 15 16 17 18 19 Has and oder in air NOTES:

### RUST ENVIRONMENT & INFRASTRUCTURE

SHEET \_\_\_OF \_\_ DATE STARTED: \_\_\_3/3/93 PROJECT: Manitowoo Gravel Pit DATE COMPLETED: 3/3/93 PROJECT NO.: 70416 METHOD OF EXCAVATION: 580 backhoe - Cake TP-6 TRENCH OR PIT NO.: APPROXIMATE DIMENSIONS: 6 ft long 11.5 ft deep 3 ft wide LOGGED BY: TEP DEPTH TO GROUNDWATER: Depth FIELD SKETCH OF TEST PIT OR TRENCH EXCAVATION 2 LEAN CLAY with wholes PPN C 7ft PID 3 - CLEAN BACKFILL 7 PID 1-2 PPM C 9 ft Grey to Black Clay Green Sand 10 Plastic, wood scraps, soda cums 12 14 15 16 17 18 19 Waste: Sand & clay 70% Wood screps, branches 20%, plastic metal or wive, fabric 10% NOTES:

SHEET \ OF \

DATE STARTED: 3/3/93 PROJECT: Manitowoc Gravel Pit PROJECT NO.: 70416 DATE COMPLETED: 3/3/93 METHOD OF EXCAVATION: Case 580/c hackhoe TRENCH OR PIT NO.: \_\_\_\_\_TP-7 APPROXIMATE DIMENSIONS: 3'wife 9' deep ×6 ft long LOGGED BY: TEP DEPTH TO GROUNDWATER: \_\_ // A Depth FIELD SKETCH OF TEST PIT OR TRENCH EXCAVATION Red brown LEAN CLAY with cobbles - Clean Fill 3 6 No water PID oppme 6.5 frest Girlen Stewel, Wood going PID I pom @ 8.0 feet Backhoe refusal 10 11 12 13 14 15 16 17 18 19 NOTES: Waste: Wood branches & lumber scraps 95%, 5% green sand



SHEET \_\_\_ OF \_\_

PROJECT: Man'towar Grawl Pit

PROJECT NO.: 70416

TRENCH OR PIT NO.: TP-8

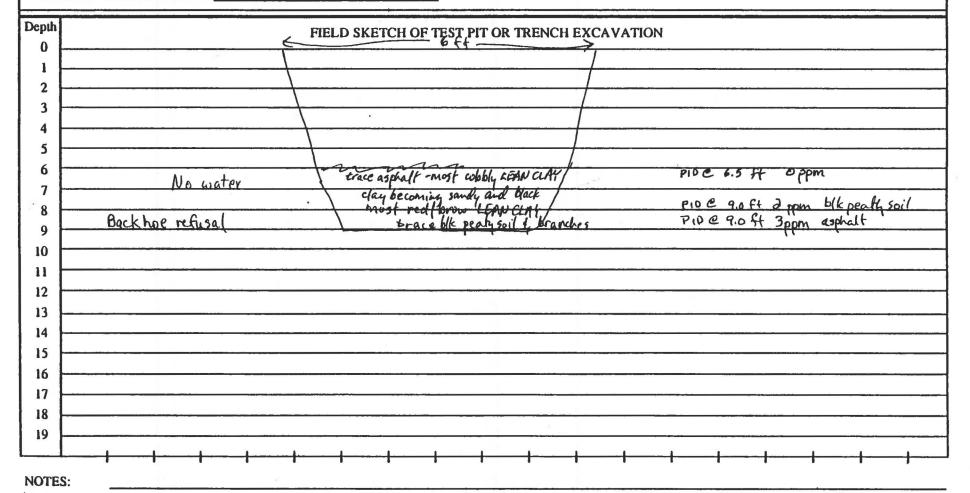
APPROXIMATE DIMENSIONS: 6 × 3 × 9

DATE STARTED: 3/3/93

DATE COMPLETED: 3/3/93

METHOD OF EXCAVATION: Cose 580K Backhop

LOGGED BY: TEP



Attachment C Soil Boring Logs

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	1.	59,4	Ę,	I FANCLA	Y dry Dl	714	CL	/			750					1017
	6		E	cohesives s							, , ,					
_			Eb		アル	1										.001
ł		50	E		×						750					1831
(	0		E 7						1		700					Recove
									1							CIATOR
		50	E													1826
	0	1.0	F						1	3	750					Recese
			E													
		48	E	Hard, black of LEANCLAY, conesives & wood bets	maist of	lastic,		/								1839
	12	58	-11	conesives &	owed to	أعدن	CL				92					
		28	E	wood beb	debois FI	,		//	ł			5-				
her	epy c	ertlify	that	the information on th	and the second s	THE RESERVE TO SERVE THE PARTY OF THE PARTY	orrect	to th	e bes	st of r	ny kr	lowled	dge.			
gna	ure	Ma	00 0	2.	200	Firm	C	(1)	ST	4	Ja.	T				
his f	orm is	author	ized b	y Chapters 144.147 and 16		ompletion	of thi	s repor	t is ma	ndator	y. Pen	alties:	Forfei	t not le		
				5,000 for each violation. Fach day of continued viola										days, o	or	

		noie		T		,								_ ot
	Sai		5	<b>8</b>							Soil	Prope	rties	
	Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Dlagram	PID/FID	Standard Penetration	Moisture Content	Limit	Plastic Limit	P 200
	657	6	25 594	13	Hard, verydark Gray (109291) LEANCLAY, moist, plastic, Cohesive, trac e gravel FILL	CL			०४	750				
	558	17	51 53 34 30	الا	Very dense, brown (104x5/3), WELLGRADED SAND, dry, Nonplastic, Noncohesive, somegravel outwash	540	10.00	-		જ				
	<i>4</i> 59	0	24 27		verydens e	·	0.0.0			50				
	55 <sup>10</sup>	12	14 20 23 29	11111111111111111111111111111111111111	Dense, Palebrown (104843) WELLGRADED SAND, dry, Non Plastic, Non cohesive, Some gravel Outwash	ടധ	0.0.0.0			43				
	55Il	b	30 57.2	20	Very dense, dark yellowish brown, (109246) WELLGADED SAND, Moist, Nonplastic, Noncohes, ve, trace gravel Outuber	5W	000000			750				
	5512	3	21 27 23 27	12 13 13 13	Verydense, Palebrown (1048613) WELL GRADED SAND, moist, Non Plastic, Noncohes: 1e, somegravel	SW	0.000			50				
	5513	O	59.0	25	Outwash		4 0 O							7. (1
	5514	14	17 11 21 20		SAND, moist, nonplastic, noncohesize, trace	Su	D. O. O. O.			32				
	55.6.	0	5%.	24	graver outures		O . O .							R
-	551l	13	1139	30	Dense, Pale brown (10420/3) Well Graded SAND, Wet, Nonplastiz, Noncohesive, Some gravel, Outwash	SW	0.0.0		•	3G				

Endos boring at 301

		of Wisc ment o		ral Reso	ources	Route To:  Solid V  Emerge Wastew	Vaste ency Respons	• 🗆	Haz. Wasi Undergrou Water Rei Other	md Tar		ř	orm 44	100-122	2	Page		of _	1-31
	Facility	y/Proje	ct Nan	ne ne	·D:4					e/Perm	it/Mon	utoring	Num	per	Boring	_	17		
	Bormg	Drillo Drillo	a By (F	nu um	me and name	of crew chu			Date D	rilling	Started 1	74	Date D	rilling	Compl	2 <u>4</u>		Meth	
							Common We	il Nam	ie Final S		Vater L Feet M		Surfac	Eleva	tion		Boreho	le Dia	
1	State P	Locati	759			259959 7	5 <i>3.48</i> 18 n. rá	E 8		at			Local (	Grid Lo	cation	N	licable		O E
	County	y ,				<u> </u>	N, KO	DN	R County	Code	Civil 7	own/	ity/ or	Villa	ge			1 001	
	Sam	ple		≥ mo	<u>x</u>			4			10	١ روا د	1 0	4.1		Prope			
	Number	Length Recovered (in)	Blow Counts	Depth in Feet	A	nd Geolog Each M	Descriptio gic Origin F Major Unit	or	<i>()(</i> :	nscs	Graphic Log	Well Diagram	PID/FID	Standard Penetration	Moisture Content	Liquid	Plastic Limit	P 200	ROD/ Comments
4.	, \	21	10058	milmi	Ve 14,5 C10985/ Lowplas	Hiff, ye t), LEA stic, co soil, to	NCLAY oneside ace goo	d' d'	7) PO:1	CL			6.2	25					7:16
165	2	22	9 11 25	3	Hard LEANO Conesi tas%)+	d Pa LAY, a Jes larce race son	le brow (y, 10w) jeamour id, black	plas tof-	OYRUZ HIC, SIL+ HIZMEH TIL-	(L			0.0	32					7:20
55	,3	21	8141 50/10	5	(104125)	yella 4), STU	owish t	) 50 de	wa,	M			0.0	57					7:36
55	Ц	10	41 595 10 593	7	Hard LEANC Cohesi.	Paleb LAT Le, tra	lesise, s large pie 	low deg	rula) plastic gravel	ود			0.0	60					7. 4
5:	35	0	5½ 2	9															7:50 No.12 Few con in sn
5	l	0	25 54.3																No Zeco 1 la Cy D comm Boade in Sho cuttings
-	l her	eby c	ertlify	that	the inform	ation on	this form is	s true	and co	orrect	to th	e bes				ge.			g will
		1	en,	les		helia				5	us	T		· ot :					
							162, Wis. Sta Fined not le												

both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

	Sar	npie									Soil	Prope	rties		=
	Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	nscs	Graphic Log	Well Diagram	PID/FID	Standard Penetration	Moisture Content	Liquid	Plastic Limit	P 200	ROD/
<i>55</i>	1	6	21 50 59,7	3	verydense, yeilowish brown Clothe 5/4), wellgerded Gravel, dry, non plastic, woncohesive, Some clay outwash	Gw	50000	•		100					8:
55°8	3	6	5%2	اسالسارة	Cuttings are gracel	GW	00000			>50	)				800,000
950	7	0	50/ /-5		cuttings are gravel	GW	00			750					8 2828
55 l <sup>1</sup>	0	0	59,3	111111111111111111111111111111111111111	Cuttings are gravel	GW	010 D D								80 8 0000
65	١,	9	26 30 44 374	F 22	Veryderse, Drown, (104R513) WELLGEADED SAND win Gravel, dry, non plastic, non Conesive, Outwash	Sw	A . O . O			94					8
651	2	10	43 42 44	-23	verydense, brown (104RG13) WEUGRADED SANDWITH Gravel, wet, non plastic Noncohesive, outwash	Sω	DODO			85					8
55	文》			25	End of Bosing at 04 ft. water at 22' Abandoned with										
551	2/2			J7	bentonite chips 7-21-94				-	S.					
	*		,	39											
				31											

	ment o		ral Res	ources	Solid Wa	ste cy Response		z. Wast		nks			BOR11 100-12		OG II	NFOR		7-91	
					☐ Wastewar	10		ater Res							Page	1	of	2	
Facilit	у/Ртоје	ct Nan	ne	<i>C.</i> .	^		<u> </u>	Licens	e/Pem	ut/Mor	utoring	y Numi	per	Boring	Numb	1000			
-				Gravel											3-	18	36.3		
Bonns			ima	ime and name						Started	94				7 4	Drilling		1	
				u	DIL				7/2	_	Y		1 B		Y			15A	
DNR	Facility	Well	No. W	I Unique Wel	1 Na. Co	mmon Well	Name	Final S	Latic Y	Feet M	evel SI.		e Eleva 5. 0			Boreho	,	neter ches	
Boring	Locati	on_			2555 3 2/	10 11	5.0-	_		1 001 1/1						licable		LICS	
				9.59 N.			BOCI		at				_		N			□ E	
Count	_ 1/4 o	f Nu	2 1/4 c	of Section	X, T	N, R <u>a</u>	DNR	County	Code	Civil '	Town/0	City/ or		ze 🗆	<u>s</u> _		Feet	<u> </u>	
	M	ani	ito	NOC		B-11-00		<u>3 U</u>			10.0	no	FN	eω	ton				
Sam		S	Feet											Soil	Prope	erties			
	d (in	Counts	n Fe	The second secon	oil/Rock [	and the second second second					۽		ation	9_1				RQD/ Comments	
Number	sth	S ≥	Depth in	A	nd Geologic Each Ma		r		CS	Graphic	Well Diagram	PID/FID	nda	stu	<u> </u>	Plastic Limit	200	OE DE	
Ž	Length Recovered (in)	Blow (	Ded						US	Gra	Σς Σα	금	Standard Penetration	Moisture Content	Liquid	Fa	٥	දිරි	
(V-C)		76	E	Hardi	VPSH	dackas	وبراخا	1	Qγ	77									
1		25	E.	paron	Vestion Restaurant	),LEAR	ICLA	Y,	CC	//			32						
,	117	8	E'	dry, pl	astic, c	onesi	20			//									
		20	E	some g	savel, t	op linie	stops	50. \ .		//									_
		27	E	Hard	yellow	oish be	رانده			1/								12	٦,
2	8	45	<b>E</b> 3	I I I NO VI.	7/	LAINI IN U	n c		4	Y/	1		94						
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		41	-4	1 // 1						1/					<u> </u>				_
		21	E	104 8 31	Very Da	MICHAY	CIST	Kowg	CC	//								12	4,
,3	3	28	=5	Atom Pla	istic, co	phesise	,		1	1			49	ļ					
		31	E			F	-11		_	T. 1								Į	
		a	E	Hard CLOPRE Blow Pla SANCL	d ve	ellowish	brow	ພດ.	¢4	MY	1			<b></b>			_	1250	
	2	20	= ,	CLOQUE	5/u) 5I	LTYCIP	54,d	(4)	ML				51					100	9
,4	0	31	E'	Dlow pla	astic, C	ohesi	1950	xae			1	,							
		43	Eg	SAnd		ŧ	-16				1								_
		27	Εľ	Some wo Very Dens GRADE Noncon	5 About	ì	= T	LL		111/								130	1
55	121	30	=9	No cu De de	ACHEMISH -	100000		-OIV		HIVZ			52						
		22	E .	GRADE	DSANC	المركب له	iond	ok (1 ashic	50		1							ļ	
		22	F	Noncon	esile, +	racegn	aid,	actub	n	1								1	
,6		13	E		5 Aloov													132	1
70	12	19	-11										33						
		17.	Ε.,	-B0000	boow of Tion	15/3) W	शाना	2ADED	Sw	25	ł								
I has	eby c	25	<u>  12</u>	the inform								1 06	my ba	Owloa	dae				
Signa	mare C	<u> </u>		me intorm			li üe	Firm	OLIBEI	to in	4			L MIEC	Jue.				
77		Me	De	ssa Y	Shiel				V	U	<u> </u>		صر	<u></u>					
				y Chapters 14 5,000 for each															
				ach day of co															

Sar	mple		=							Soil	Prope	2010		
Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Standard Penetration	Moisture	Liguid	Plastic Limit	P 200	RQD/ Comments
557	3	40 59.2	3	Very dense, Yellowish brown (104650) POOR 19 GRADED SAND, dry, Non plastic, non cohesive, take graver actuash	SP				750	,		e e		13:-
<i>458</i>	3	21 59,		ASAbove	SP		•	1.9	750					133
<i>45</i> 9	0	郊 罗.1	17			00			750					No Rec Cut
9510	D	5%	H 4			600000		•						NO Reci
3511	3	7879		verydense, light brownish gray (10 MR 412) WELLGEADED GROVEL WITH SAND d(7) Non plastic Nonconesive,	(-W	00 D			99					13:
6512	D	5% <sub>(</sub>	33	POORY GRADEDSAND, OMEST		000								NO Rec
4513	12	36 28 46 50	24 29	Verydonse, Pale brown (104R43) POOR 14 GRADED SANCHOLY NON Plastic, Noncohesive, some graves outwash	sp				68					141
5514	0	59,0		*										Rea Cutt
6515°	ĮΙ	284853	A 30	Vary Ders, Pale Brown (104 R413) POOR LYGEADED SAND, wet, Non plastic, Noncohesive Outwast	SP				95					14:
550			3( -;,)	End of Boring at 30 ft. Abandoned with Bentonite Chips 7-21-94										

Depar	of Wisc	f Natur		Route To: Ources Solid Waste Emergency Response Wastewater	□ Wa	iergrou ter Res	nd Tar ources				400-12		Page	1	_of	7-91
Borin	Bille Bill	d By (	Firm na	CUTDIINC		Date D O 7 M M	rilling		y Y	Date D M M	orilling    2   D	Complex / S	Y	7 Drilling	14 t	15A
Boring State	Plane _ 2 1/4 o	75 1000 1000	9605	1 Unique Well No.   Common Well NA   NA   NA   NA   NA   NA   NA   NA	E S/C/N	V Lon	g	Civil '	Town/	Local (		cation cet [	(If app N S _		)	E W
San	Length Becovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin Fo Each Major Unit			nscs	Graphic	Well Diagram	PID/FID (	Standard Penetration		Prope		P 200	RQD/ Comments
551	12	7911		clay, ary, plastic, trace gravel, F	cohes	ار کا ا	CL				20					1214
652	15	38	3	Hard, brown (7.57) LEANCLAY, moist, p Cohesive, tracegrave Some brick FI	2 4/4 11asti e(,	) ic,	CL				44					1230
553	0	5/2		•												Norecu
554	0	20 54,2	111111111111111111111111111111111111111													NO Recove Cutting are ga
655	0	25 54.1	9									U		>		12:42 NU Recui
55Y	9	4 36 33 33		Hard, strong bee (7.5712 4/6), LEAN ( With SAND, dry, low cohesive, trace gia	LAI LAI Uplasi Jel	hc;	CL				99					1247 12 RECOX
Signa This than	form is	author more	that	the information on this form is  Chapters 144.147 and 162, Wis. State 5,000 for each violation. Fined not less tach day of continued violation is a ser	ts. Composition of the street	Firm  oletion  or n	of this	s report	15 t is man	ndator	g. Pen	alties:	Forfei			

	San	nple	10	=							Soil	Prope	rties	- 47	
	Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	uscs	Graphic Log	Well Diagram	PID/FID	Standard Penetration	Moisture Content	Liquid	Plastic Limit	P 200	RQD/ Comments
55	7	12	10 59.4	13	VeryDense, Palebrown (107/26/3) POORLYGRADEDSANDORY Wonplastic, Non cohesive trace gravel	- 5Р	7.7			750					la5
95°	F	0	10 50	11111111111111111111111111111111111111					¥	>50					1259 NO Reco
95°	1	1	12 44 5%	السالسا	Verydense sand as Abore at 12-14' and a dolomite boulder	38				<i>&gt;</i> 0					130
551°	)	0	(6 54.1	11111111111111111111111111111111111111	· · · · · · · · · · · · · · · · · · ·					>5%					133 No reco
45 II		0	59.1		•					>50					13: NO reci
651	2	0	5%		,					750	)				No Fect
55 ľ	3	0	9/2	125 1125						>50					NC rec rec
5514		0	97.4							\SP					141
551 <sup>5</sup>	5	0	50/		•										143 NO (CCO
55	ile	0	59/1												14 100

Bori	ng Nu	mber	B.	Use only as an attachment to Fe	orm 4	400-1	22.							
S	mple	s	9et						_	Soil	Prope	erties		
į	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	uscs	Graphic Log	Well Diagram	PID/FID	Standard Penetration	Moisture Content	Lignid	Plastic Limit	P 200	RQD/ Comments
2517	0	5%	3											1 ty 34 NO recover cuttings are cobile
				Endof Boring Cet 341 Abandoned with Bentonite Chips 7-22-94										- COPPI

## Attachment D Tables from Past Reports

RUST ENVIRUNMENT & INFRASTRUCTURE

SITE: NEWTON Gravel Pit PROJECT NO. 70416.202

#P- 1/

DRILLING METHOD: 37/8+Ficon	e roller	DATE /TIME	VEL RI MATER MEPTH	HOLE DEPTH	CASING DEPTH	GROUND SURFACE ELEV.:	718.8	
DIT WITH DETITION	giriua	•				NORTH	2 75964.04 99686 27	SV
LOG BY: M. Michaels					7//	DATE/TIME START: 8-		11-00
FIRM/ORILLER: WTD, ERICS PHYSICAL SETTING	chenberge	ABANDONMENT ABANDONMENT		8-10- Benton		DATE/TIME COMPLETE: 8-1	9-94	
GANGRE	DEDMI	CANONE		Gra	4	WELL INSTALLATION DATES.		

ETTINGs	•	_ ABANDONMENT METHOD	Bentonite	WELL INSTALLATION DATE:
SAMPLE INTERVAL	DEPTH OF BORING	SAMPLE NUMBER	DATE & TIME	COMMENTS
32-36	32	_	8-9-94	Nosampletaken Hydropuncholid oo
			8-9-94 1508	open
62-66	1000 CD	NG-HP-11-02		Prior to Sampling
92-96	92	NG-49-11-03	8-9-94	removed 15 Bailes
123-125	403			in clayey soils.
123-125	193	Soil	8-9-94 18 <b>6</b> 52	Soil
				EOB at 125'
		,		
			7	
	ą			

GROUNDWATER MONITORING WELL INFORMATION FORM Chapter 144, Wis. Stats. Form 4400-89 Rev. 1-90

Facility Name Former Man	nibwo	Gravelf	Fi(			l·ac	ility ID Number	Date	-7-	-94	Completed B Meli=			haele	5	_	50	45	ST EXI			
desired the same of the same of	DNR		Г	П		П		Well (		Eleva			rence		11/-11				Type of Well (	<b>√</b> )		Gradient
Well Name	Well ID Number	Well Location	N	s	Е	w	Date Established	Diam.	Туре	Top of Well Casing	Ground Surface	MSL (1)	Site I)atum V)	Screen Length	Well Depth	阻	) M	<u>₹</u>	Other	Aben- daned	Enf. Stds Apply	U, S, D
WP-01		759246.78 2598818.77	-	X	X		7-7-94	2,0	5	693.68	691.	V		3	6.0		X		temporary well Point		No	D
wP-02		358126.94 358826.94 2599 274.65	×		7		7-6-94	1		700.31	698.3	V		3	14.0		Χ		temporary well Point		No	Δ
WP-04		758 986.84 2599720.34	K	. 1	X		7-6-94	2.0	5	689.61	687./	V		3	7.0		Х		temporary well Point		No	D
WP-05		75 9 393.17 2599 856.52	X		8		7-6-94	2.0	5	695.68	694.7	i/		3	13.5		X		temporary well Point	-	No	0
WP-06		758757.93 25916 <b>%</b> .53	-0	H	X		7-6-94	2.0	5	700.19	698.1	/		3	19.3		Χ		temporary well Point		N.	D
WP-07		759103.36 2599990.86	K	H	K		7-5-94	2.0	S	696.70	693.8	V		3	12.5		X		temporary well point		N.	D
WP-08		759554.21 2660181.50			X		7-6-94	20	5	708.38	706.1	1		3	26.0		X		temporary well Point		N.	D
			+	+	-																	
			+	+	F																	
			Ŧ	F		F																
			+	F		F																
			+	+	F	F																
Location Coord	linates Are:						Remarks:											PS:	S Use:			
Local Gi	id System Greek)	State Plane Nort	ther	m	nat	c											_		Pile Maint. Compl	eted: _		

TABLE 2

#### BOREHOLE SAMPLING SUMMARY FORMER GRAVEL PIT TOWN OF NEWTON, WISCONSIN

Boring	Coord	linates¹	Ground Surface Elevation	Total Depth (ft	Sample Interval	Medium/Sample		Completion Boring or Well
Number	Northing	Easting	(ft MSL)	BGS)	(ft BGS)	Туре	Analytes	Date
WT-02A	759054.16	2599273.35	734.1	58	54-56	Soil/Geotech <sup>2</sup>	NA	WT-02A Installed 8/11/94
PZ-05B	758615.75	2599408.65	685.2	58	13-15 33-35 53-55	Soil/Geotech Soil/Geotech Soil/Geotech	NA NA NA	WT-05 Installed 8/17/94 PZ-05A installed 8/17/94 PZ-05B installed 8/16/94
B-16	759671.92	2599656.22	718.9	32	10-12 27-32	Soil/Chemical Water/Chemical	VOCs, Metals, SVOCs, PCBs VOCs	Abandoned 7/22/94
B-17	759606.16	2599552.48	710.6	24	0-2 19-24	Soil/Chemical Water/Chemical	VOCs, Metals, SVOCs, PCBs VOCs	Abandoned 7/21/94
B-18	759489.59	2599726.16	715.0	30	10-12 25-30	Soil/Chemical Water/Chemical	VOCs, Metals, SVOCs, PCBs VOCs	Abandoned 7/21/94
B-19	759605.84	2599698.06	719.0	34	12-14 29-34	Soil/Chemical Water/Chemical	VOCs, Metals, SVOCs, PCBs VOCs	Abandoned 7/22/94
B-20	758887.85	2599125.85	729.2	44	42-44 39-44	Soil/Chemical Water/Chemical	VOCs, Metals, SVOCs, PCBs VOCs	Abandoned 7/20/94

#### TABLE 3

## HYDROPUNCH® VERTICAL PROFILING SUMMARY FORMER GRAVEL PIT TOWN OF NEWTON, WISCONSIN

	Coord	inates <sup>1</sup>	Ground Surface	Groundwater	Depth to
Hydropunch® Number	Northing	Easting	Elevation (ft MSL)	Sample Intervals (ft BGS)	Bedrock (ft BGS)
HP-01	758813.33	2599398.30	693.4	11 to 14 41 to 44	97.0
HP-02	759021.18	2599390.18	687.8	4 to 8 36 to 40 66 to 70	89.5
HP-05	758916.74	2599745.73	686.7	2 to 6 36 to 40 67.5 to 71.5	88.5
HP-08	758606.71	2600118.00	685.2	0 to 4 36 to 40 68 to 70	78.5
HP-09	758824.38	2599853.64	697.3	15 to 19 45 to 49 79 to 82	102.5
HP-10	758587.69	2598847.10	689.07	4 to 8 33 to 37 63 to 67	>67
HP-11	759641.04	2599685.77	718.8	62 to 66 92 to 96 123 to 125 <sup>2</sup>	>125

#### NOTES:

1 State Plane Coordinates

2 Soil Sample

HP = Hydropunch®

ft = feet

MSL = Mean Sea Level

BGS = Below Ground Surface

#### TABLE 9

# SUMMARY OF COMPOUNDS DETECTED IN SOIL NORTHERN SOURCE AREA FORMER GRAVEL PIT TOWN OF NEWTON, WISCONSIN

Parameter	NR 720 Residual Contaminant Level (RCL)	B-16 (10-12)	B-19 (12-14)	B-17 (0-2)	B-15 (12-14)	B-18 (10-12)
SEMI-VOLATILE ORGAI	NIC COMPOUNDS (	(ug/kg)			*	
Benzo(a)anthracene	No RCL	6200	ND	ND	ND	ND
Bis(2- ethylhexyl)phthalate	No RCL	43000	ND	ND	ND	ND
4-Chloroaniline	No RCL	J 21000	ND	ND	ND	ND
Chrysene	No RCL	6200	ND	ND	ND	ND
Fluoranthene	No RCL	11000	ND	ND	ND	ND
2-Methynapthalene	No RCL	12000	ND	ND	ND	ND
Phenanthrene	No RCL	15000	ND	ND	ND	ND
Pyrene	No RCL	13000	ND	ND	ND	ND
VOLATILE ORGANIC C	OMPOUNDS (ug/kg)	A.				
Naphthalene ·	No RCL	57	ND	ND	0.044	ND
Methylene Chloride	No RCL	13 B	13 B	9.3 B	ND	5.9 B
1,4-Dichlorobenzene	No RCL	55	ND	ND	ND	ND
Ethylbenzene	2900	11	ND	ND	ND	ND
Isopropylbenzene	No RCL	8.6	ND	ND	ND	ND
p-Isopropyltoluene	No RCL	140	ND	ND	ND	ND
n-Propylbenzene	No RCL	29	ND	ND	ND	ND
1,2,4-Trimethylbenzene	No RCL	290	ND	ND	ND	ND
1,3,5-Trimethylbenzene	No RCL	86	ND	ND	ND	ND

#### TABLE 9 (Continued)

# SUMMARY OF COMPOUNDS DETECTED IN SOIL NORTHERN SOURCE AREA FORMER GRAVEL PIT TOWN OF NEWTON, WISCONSIN

Parameter	NR 720 Residual Contaminant Level (RCL)	B-16 (10-12)	B-19 (12-14)	B-17 (0-2)	B-15 (12-14)	B-18 (10-12)
lylene	4100 (total)	35	ND	ND	ND	ND
-Xylene	No RCL	56	ND	ND	ND	ND
Bs	No RCL	ND	ND	ND	ND	ND
)RGANIC CONSTITU	JENTS (mg/kg)					
enic	1.6	3.4	1.1	2.3	ND	0.65
ium	No RCL	540	27	50	ND	11
lmium	510	470	4.4	ND	ND	ND
omium	200 (hexavalent) 16000 (trivalent)	1500	25	14	ND	1.6
d	500	350	5.5	7.6	ND	ND
rcury	No RCL	7.1	0.80	ND	ND	ND
enium	No RCL	0.49	ND	ND	ND	ND
'er	No RCL	28	ND	ND	ND	1.7

TES:

- Not Detected Estimated

June 1996

#### TABLE 10

## SUMMARY OF VOCs DETECTED IN GROUNDWATER - NORTHERN SOURCE AREA FORMER GRAVEL PIT TOWN OF NEWTON, WISCONSIN

Uı	nits: ug/l	Benzene	1,1-Dichloroethane	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	o-Xylene	Chloroform	trans-1,2-Dichloroethene	Methylene Chloride	1,1,1-Trichloroethane	Bromodichloromethane	Dibromochloromethane	Napthalene	1,2,4-Trimethylbenzene	Toluene	Chlorobenzene	Ethylbenzene	m/p-Xylene
	PAL	1	85	7	0.5	0.5	0.02	124	0.6	20	15	40	36	43	8		68.6		140	124
	ES	5	850	70	5	5	0.2	620	6	100	150	200	179	215	40		343		700	620
Sample Location	Sample Elevation									79										
HP-11	656.8-652.8	ND	ND	ND	ND	ND	ND	ND	2.6*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HP-11	626.8-622.8	1.3*	ND	ND	ND	ND	ND	ND	1.2*	ND	1.2*	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-16-GW	688.9-686.9	2.0	ND	ND	ND	14	ND	ND	ND	ND	14	ND	ND	ND	ND	1.6	1.0	ND	ND	ND
B-17-GW	688.6-686.6	1.5	ND	ND	ND	4.6	ND	ND	ND	ND	10°	ND	ND	ND	ND	ND	ND	1.1	ND	ND
B-18-GW	687.0-685.0	ND	ND	ND	ND	1.7	ND	ND	ND	ND	ND	9.7*	ND	ND	ND	ND	ND	ND	ND	ND
B-19-GW	687.0-685.0	ND	ND	ND	ND	16	ND	ND	ND	ND	13*	ND	ND	ND	ND	ND	ND	ND	ND	ND

#### NOTES:

- PAL Preventative Action Limit per Chapter NR 140.10 of the Wisconsin Administrative Code.
- ES Enforcement Standard per Chapter NR 140.10 of the Wisconsin Administrative Code.
- WP = Temporary Well Point; HP = Hydropunch® Boring; WT = Water Table Well; PZ = Piezometer
- Elevation of water table or elevation interval over which sample was collected.
- Groundwater sample was collected from open borehole.
- 6 Compound detected in associated trip blank indicated by "\*"
  - Shaded areas show exceedances of PAL.