Crawford & Associates Engineering, P.C.
Engineering Consultants, Planners, Geologists
551 Warren Street • Suite 301 • Hudson, New York 12534
TEL (518) 828-2700 • FAX (518) 828-2723

April 25, 2009

Mr. Rob Perry, DPW Superintendent
City of Hudson
520 Warren Street
Hudson, New York 12534

Re: Von Ritter Parcel, Tanners Lane
Phase 2 Environmental Assessment
C&A# 3369.01

Dear Mr. Perry:

Crawford & Associates (C&A) has completed a Phase 2 investigation of the Von Ritter property on Tanners Lane. The Phase 2 assessment has revealed the site is a dump for construction and demolition debris and other solid waste.

The Phase 2 investigation was completed in response to the finding of recognized environmental conditions on the site during the Phase 1 investigation. The Phase 1 assessment revealed a recognized environmental condition in connection with the Von Ritter property. Determination of a recognized environmental condition is based upon:

- Presence of a 275 gallon UST on east side of Building 1(according to interviews);
- Various unlabeled drums on site;
- Inability to observe soil due presence of carpet on large portions of the site (the current owner indicated the carpet was placed to catch oil spills from vehicles stored on site);
- Staining of soil on west side of property; and,
- Possible use of refuse or solid waste as a site fill material.

The Phase 2 investigation included a series of deep hole tests completed on the site and collection of soil samples to ascertain the type and level of contamination if any. A total of 24 deep tests were excavated on April 1, 2009 by C&A and City of Hudson DPW staff. The goal of the deep tests was to quantify the depth and areal extent of debris fill on site and collect soil samples to determine if the site has any hazardous characteristics. A total of seven (7) soil samples and one (1) groundwater sample were collected from the site and analyzed for Target Compound List analytes.

The results of the deep test found extensive quantities of solid waste and construction and demolition debris throughout the subsurface of the entire site. Debris in the subsurface includes but is not limited to wood debris, sheet metal, plumbing fixtures, metal conduit, plastic bags and buckets, metal cans, tires, automobile parts, carpeting and insulation. The debris is intermixed with shale and other earthen materials. Solid waste fill exists in the site subsurface to an average depth of 44-inches above the native soils. Additionally, approximately 75% of the surface of the site is covered in carpet and other debris including tires, aluminum windows

frames, metal drums, asphaltic waste, plastic containers, insulation, wooden debris and vehicles. The alleged UST could not be located during the deep tests. The property owner indicated it may actually be beneath the structure. Due to the unsafe and dilapidated condition of the structure, deep tests were not performed in the building. Table 1 summarizes the findings of the individual deep hole tests.

TABLE 1. VON RITTER PARCEL DEEP HOLE TEST SUMMARY

TEST PIT	LOCI	TOTAL DEPTH (inches)	DEPTH TO NATIVE SOILS (inches)	DEPTH TO WATER TABLE (inches)	CHARACTERIZATION	PHOTOS
TP-1	SE	57	Not reached – Telephone Pole	N/A	Sheet plastic, gravel fill, telephone pole	1-2
TP-2	S	60	54	48	Wood debris, brick, gravel fill, coal	3-4
TP-3	SW	60	60	60	Brick and wood debris layer (22") metal pipe, plastic bags (48")	5-6
TP-4	W	60	38	N/A	Minor wood and brick, gravel	7-8
TP-5*	W	38	33	N/A	Wood debris, brick, gravel fill	9-10
TP-6	NW	56	30	N/A	Gravel, sand, minor wood debris	11-12
TP-7	NW	60	44	43	Sand, gravel, coal layer (43")	13-14
TP-8	N	42	32	24	Concrete, wood and brick debris, gravelly sand	15-16
TP-9	Center	28	Not reached - Concrete slab	N/A	Shale, sand, gravel, minor brick, plastic bags, metal conduit	17-18
TP-10*	Center-S	48	48	30	Shale, sand, gravel, aluminum siding, metal roofing, wood debris, metal cans, plastic bags, plastic bottles. Petroleum odor and sheen on standing water	19-20
TP-11	Center-S	24	Not reached - Concrete slab	N/A	Gravel, sand, minor wood debris, rock	-
TP-12*	Center-S	43	43	32	Shale, Gravel, sand, metal pipe, metal roofing, sheet plastic, petroleum sheen on standing water	21
TP-13*	SW	34	30	28	Tarping (20%), coal, wood debris, rock gravel, clay	22-23
TP-14	Center-S	50	29	N/A	Laminate particle board, metal pipe, rubber belt, wood and brick debris	24-25

TABLE 1 CONTINUED

TP-15*	SE	80	75	N/A	Brick, metal plate, plastic grates, car seat, clothing, plastic drum, blankets, lawn mower bag, metal conduit, iron plumbing, rubber belts, speaker parts, carpet, sub-carpet foam, steel cable - (starts at 32")	26-27
TP-16	E	50	40	N/A	Rock, sand, gravel, coal, plastic sheeting, plastic bags, angle iron	28-29
TP-17	E	65	62	N/A	Sand, gravel, rubber belts, plastic containers, styrofoam, plastic bags, a toilet, springs, metal flex conduit, muffler, plywood, brick.	30-31
TP-18	E	63	61	N/A	Gravel, sand, rock, logs, plastic bags, plywood, aluminum track, sheet metal, toilet	32-33
TP-19*	NE	35	Not reached - Concrete slab	N/A	Gravel, sand, vinyl sheet, sheet metal, car parts, hub cap, car frame, scrap metal, rubber tubing, styrofoam, carpeting, plastic gas cans, car radiator, aluminum cans, clothing, misc. plastics, angle iron	34-38
TP-20	NW	78	78	N/A	Sand, gravel, all fill	39-40
TP-21	N	60	24	N/A	Sandy loam, gravely, all native	41-42
TP-22	NE	52	24	N/A	Sandy clay loam - dark, misc brick	43
TP-23	NE	48	8	N/A	Gravely sandy loam, clay, brick, rock	44
TP-24*	NE	16	Not reached - Concrete slab	14	Sandy gravel, some brick. Sheen on standing water	45-46

* Soil samples were taken from these locations (groundwater was also sampled at TP-13)
-Concrete slabs were buried below the surface, stopping further excavation where indicated

A deep hole location map has been included as Figure 1. Photos were taken of each deep hole to document the contents of the hole. See Attachment 1.

The results of the analytical sampling found the subject site does have levels of lead, arsenic and barium. Additionally, the analytical sampling found semivolatile organic compounds, including chrysene, flouranthene, phenanthrene and pyrene present in the subsurface soils near an area metal drum storage at levels generally below the New York State Department of Environmental Conservations (NYSDEC's) recommended clean up objectives. Additionally, the gasoline additive, MTBE was detected in one soil sample and detected in one

groundwater sample at a level slightly above the NYSDEC standard. A summary of the analytical results is included as Tables 2, 3 and 4.

TABLE 2 - TCLP SOIL ANALYSIS

	Results				
Analyte	**TP -5**	**TP-10**	**TP-15**	**TP-19**	**TP-24**
	mg/L	**mg/L**	**mg/L**	**mg/L**	**mg/L**
Arsenic(As)	<0.01	0.02	<0.01	<0.01	<0.01
Barium(Ba)	0.8	0.92	1.18	2.56	0.64
Cadmium(Cd)	<0.005	0.011	<0.005	<0.005	<0.005
Lead(Pb)	<0.015	0.41	0.186	0.017	0.117

TABLE 3 - 8260 & 8270 SOIL ANALYSIS

	Results		
Analyte	**Clean Up Obj.**	**TP -12**	**TP-13**
	ppb	**ppb**	**ppb**
MTBE	120	28	27
Chrysene	400	510	ND
Flouranthene	50,000	940	480
Phenanthrene	50,000	790	430
Pyrene	50,000	720	ND

TABLE 4 - 8260 & 8270 GROUND WATER ANALYSIS

	Results	
Analyte	**Clean Up Obj.**	**TP-13 GW**
	ppb	**ppb**
Methyl ethyl ketone	*50	71
MTBE	10	26
3&4-Methylphenol	**	15

*Guidance Value
**No standard or guidance value found

The results of the Phase 2 analysis confirm the presence of construction and demolition debris and other solid waste, and low levels of contamination on the site from the disposal of the waste. The extensive nature of the waste, both throughout the subsurface and on the surface make clean up of the site difficult.

Please do not hesitate to contact me should you have any questions, or require additional information regarding the subject parcel.

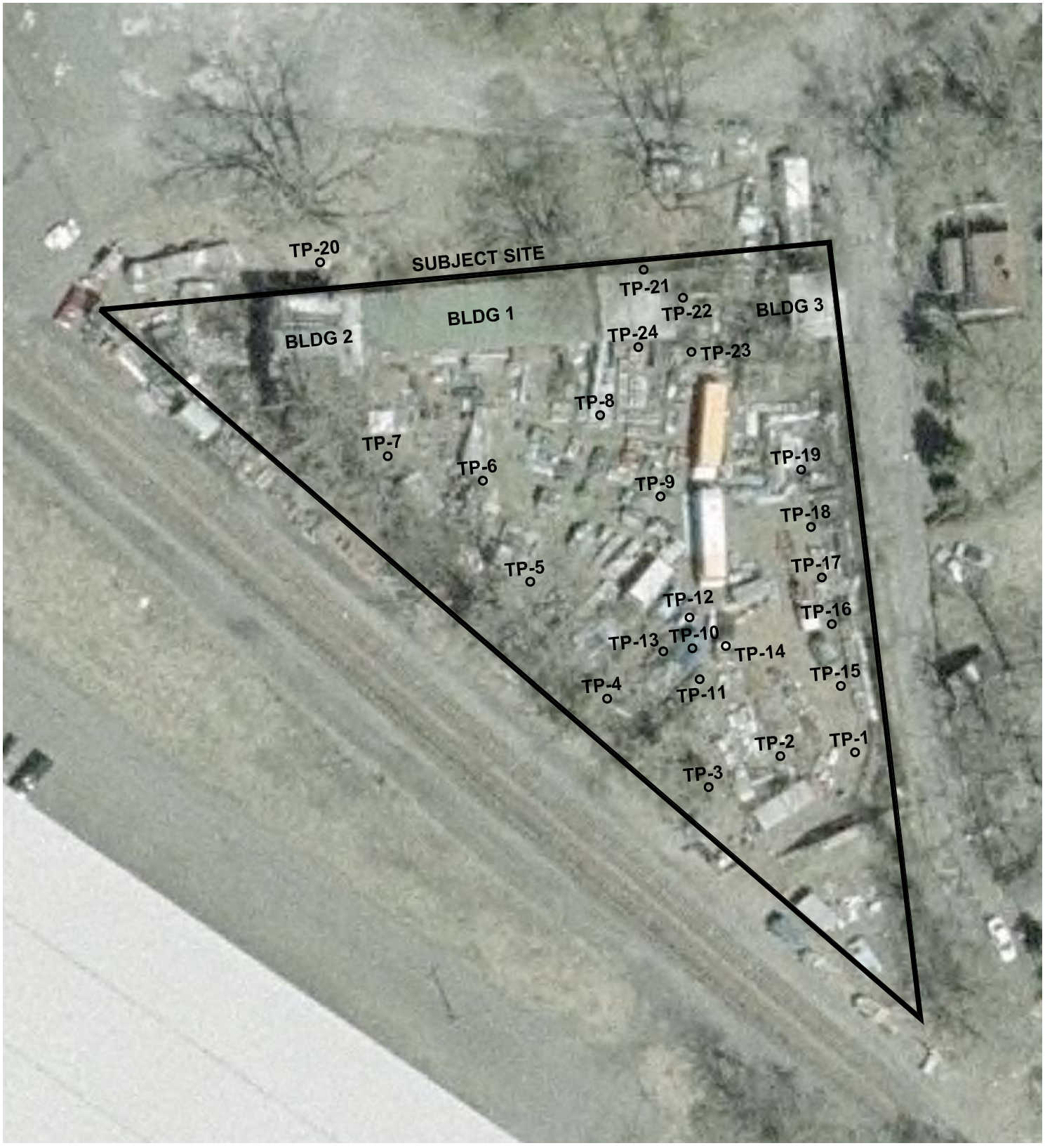
Sincerely,

Crawford & Associates Engineering, P.C.

Brandee Nelson, P.E., LEED AP
Vice President

Attachments

C: John Connor, Esq.



AERIAL PHOTOGRAPHS TAKEN ONLINE FROM HTTP://WWW.NYSGIS.STATE.NY.US/
DATED: APRIL, 2004.

VON RITTER PARCEL
PHASE II ESA

CITY OF HUDSON — COLUMBIA COUNTY

DEEP HOLE LOCATION MAP

CRAWFORD & ASSOCIATES
ENGINEERING, P.C.
551 Warren Street, Hudson New York 12534

DATE 4/15/2009	DRAWN BY: DPJ	H:\WORK\3369.01\DWGS\ESA FIGURES.DWG	
	DESIGNED BY: AJD		
SCALE 1" = 50'	CHECKED BY: BKN	C&A JOB# 3369.01	DRAWING: FIGURE 1
	APPROVED BY: BKN		

ATTACHMENT 1

DEEP HOLE PHOTOGRAPHS

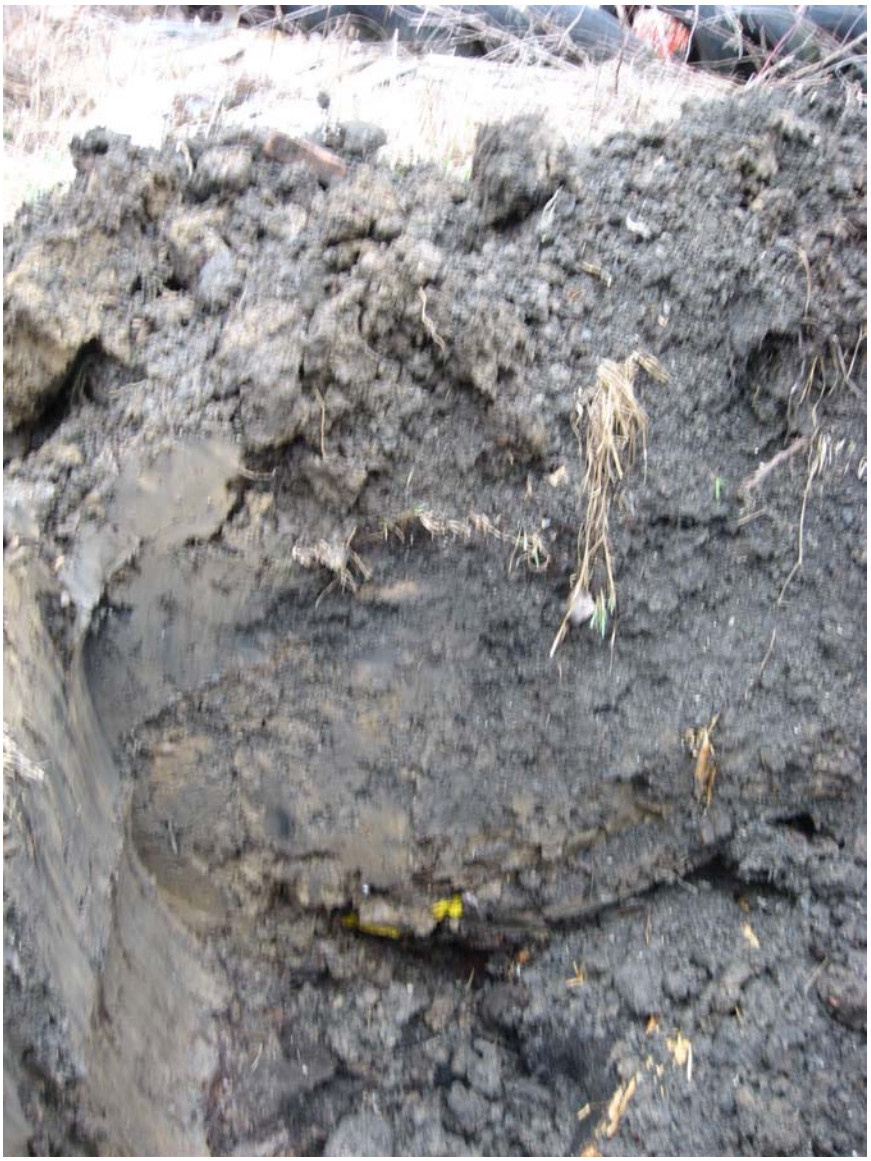


Photo 1 – TP-1

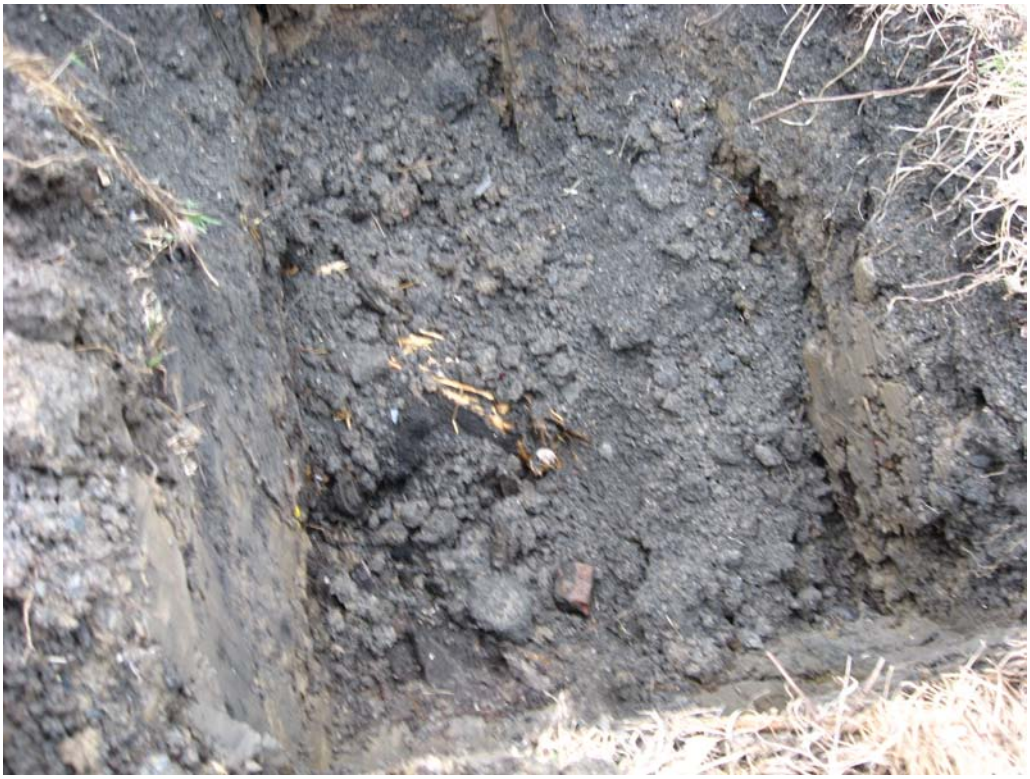


Photo 2 – TP-1

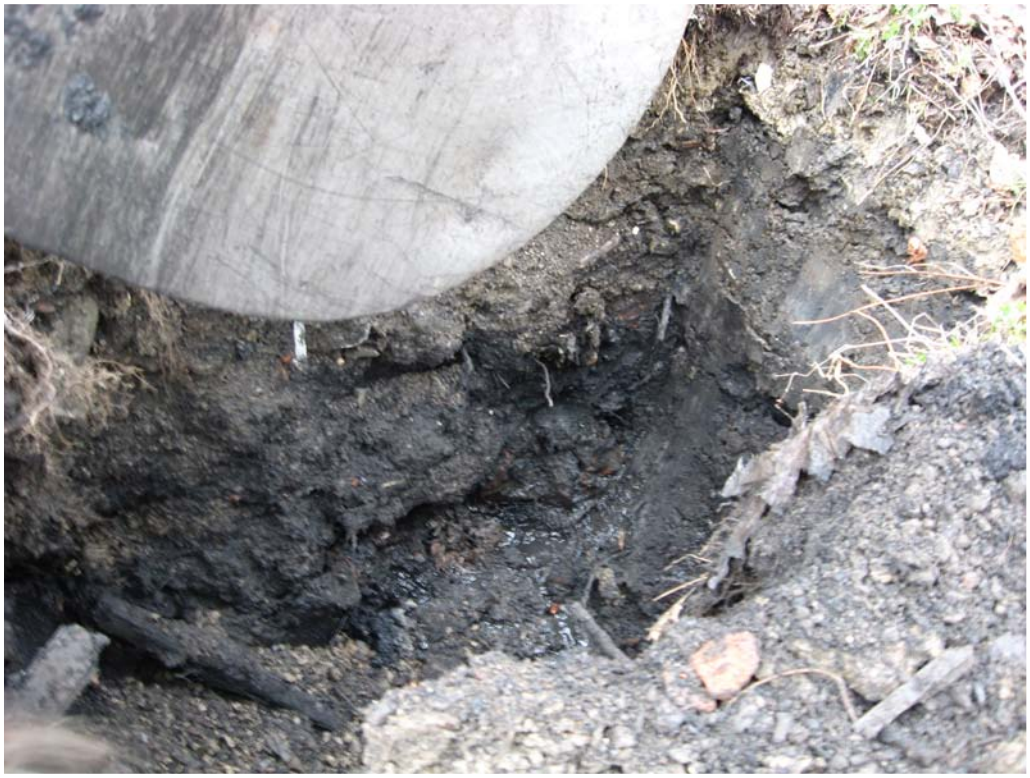


Photo 3 – TP-2

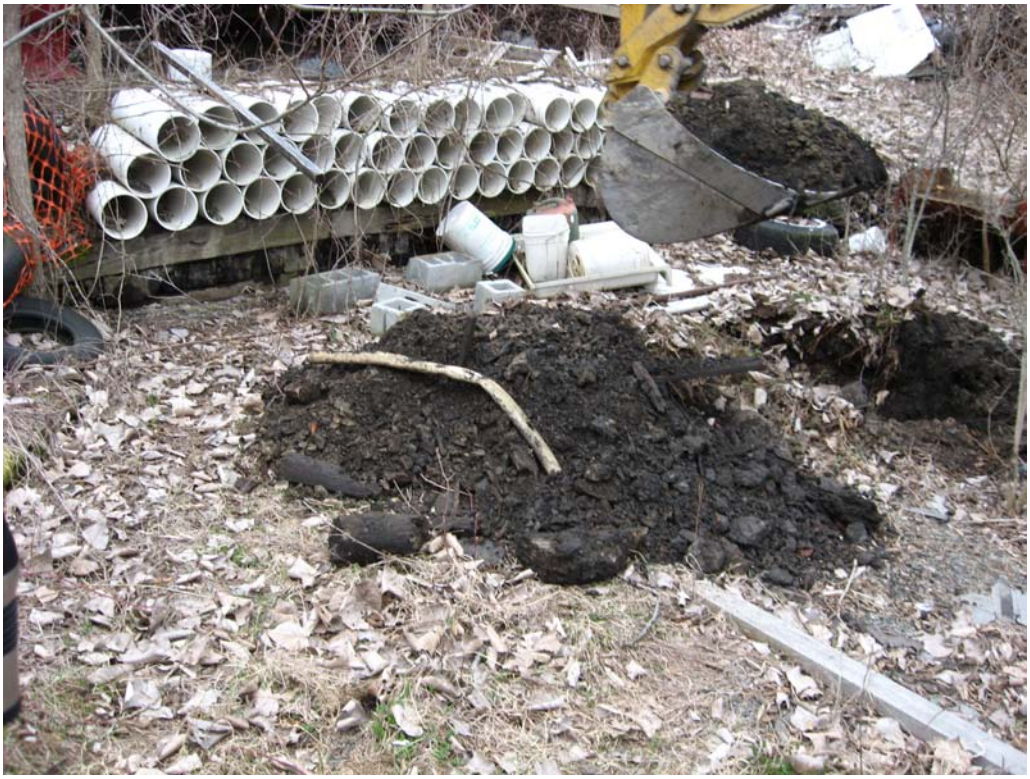


Photo 4 – TP-2

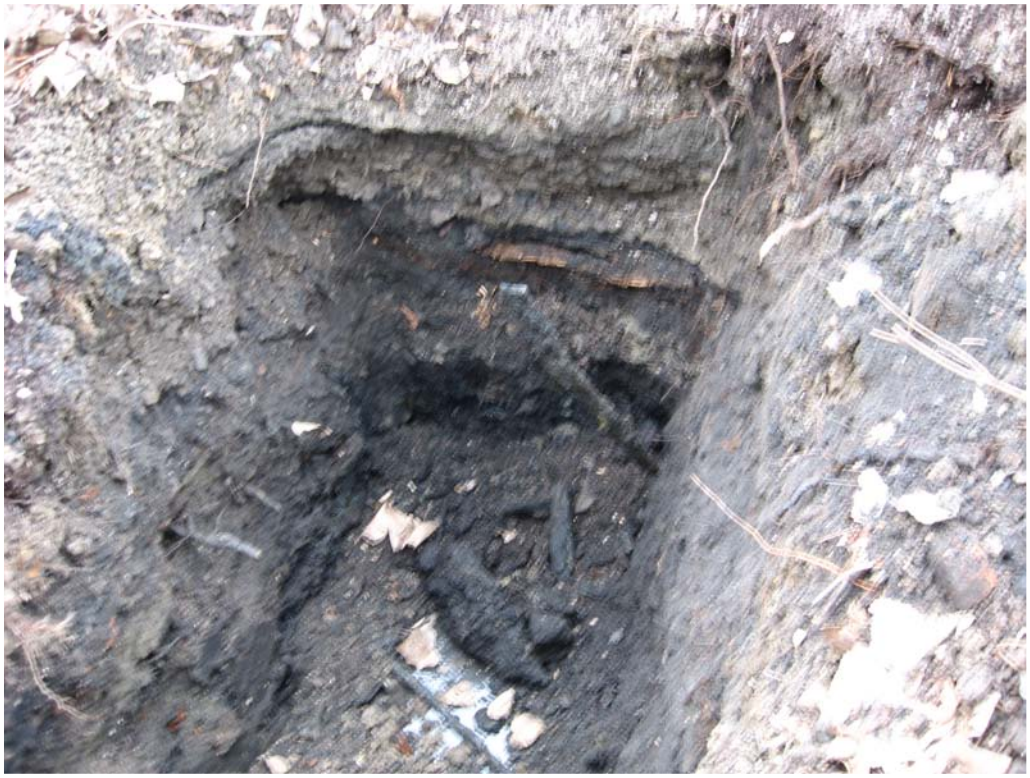


Photo 5 – TP-3

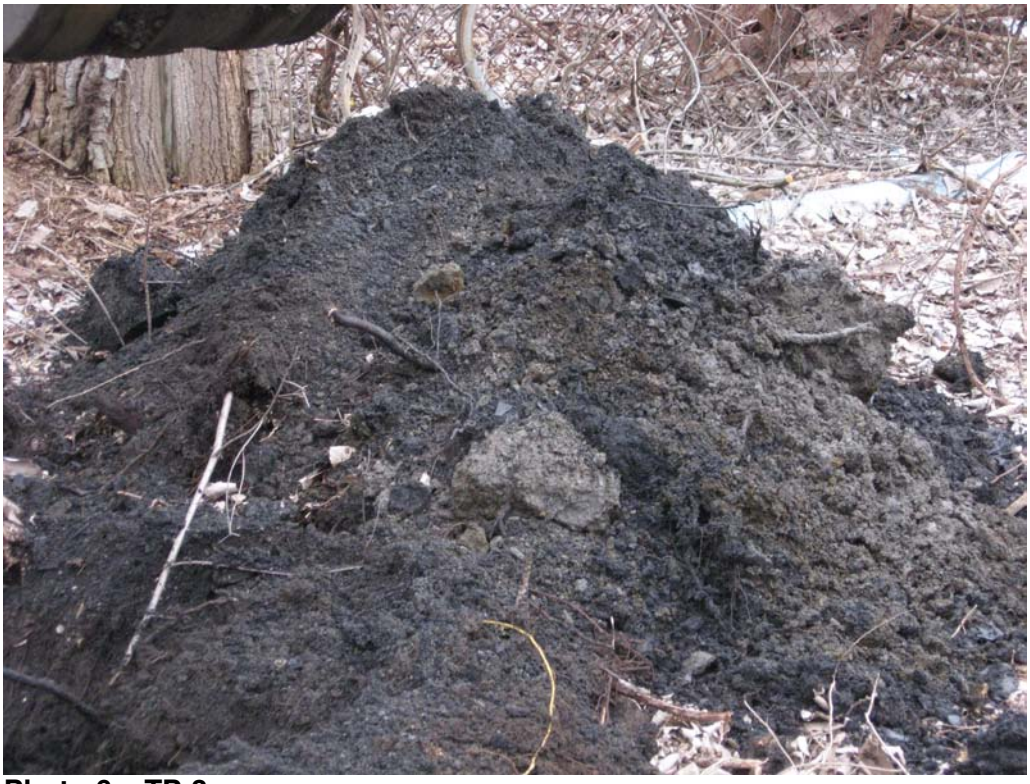


Photo 6 – TP-3

Photo 7 – TP-4

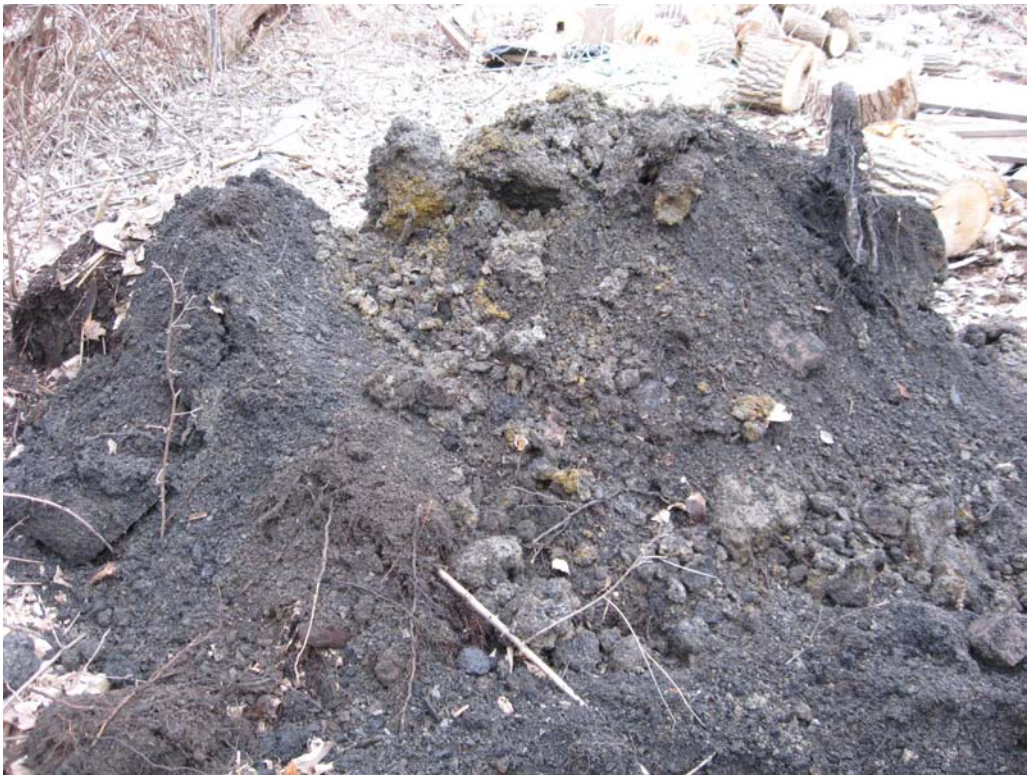


Photo 8 – TP-4

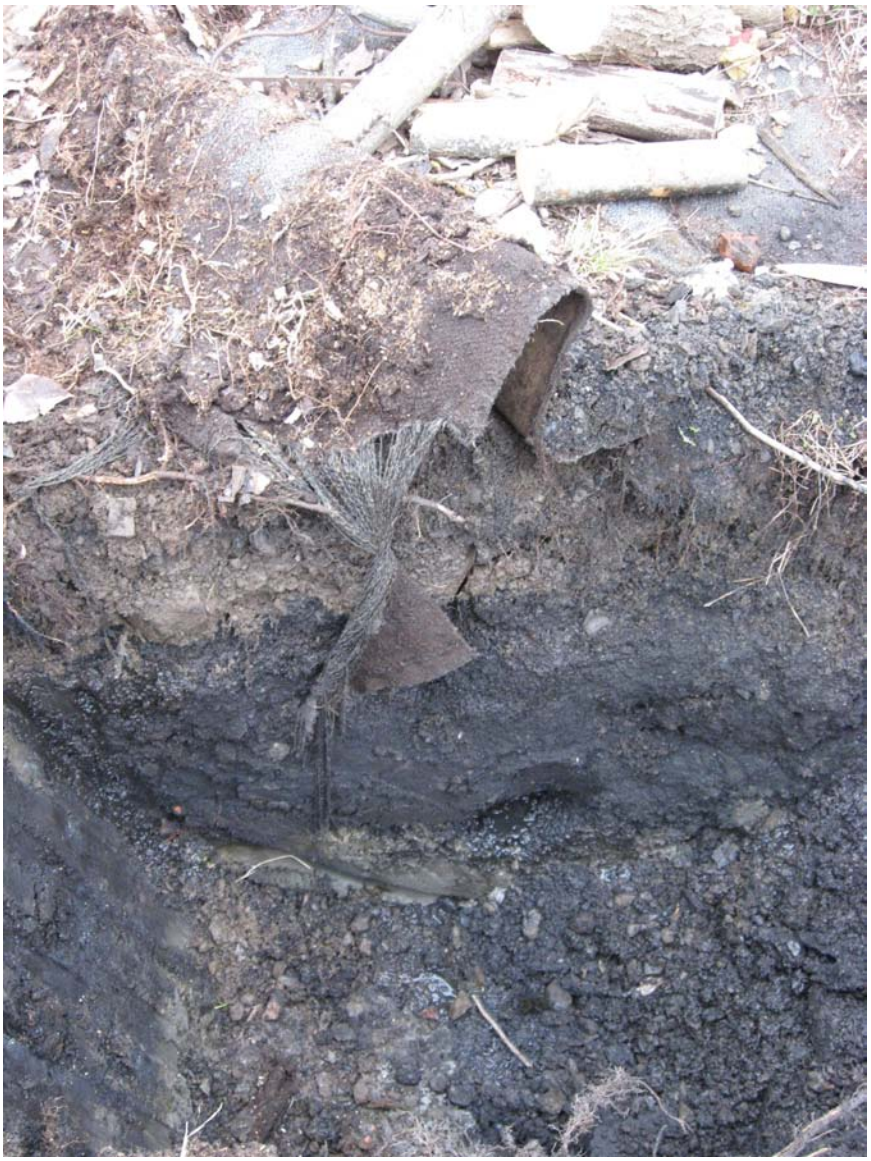


Photo 9 – TP-5

Photo 10 – TP-5

Photo 11 – TP-6

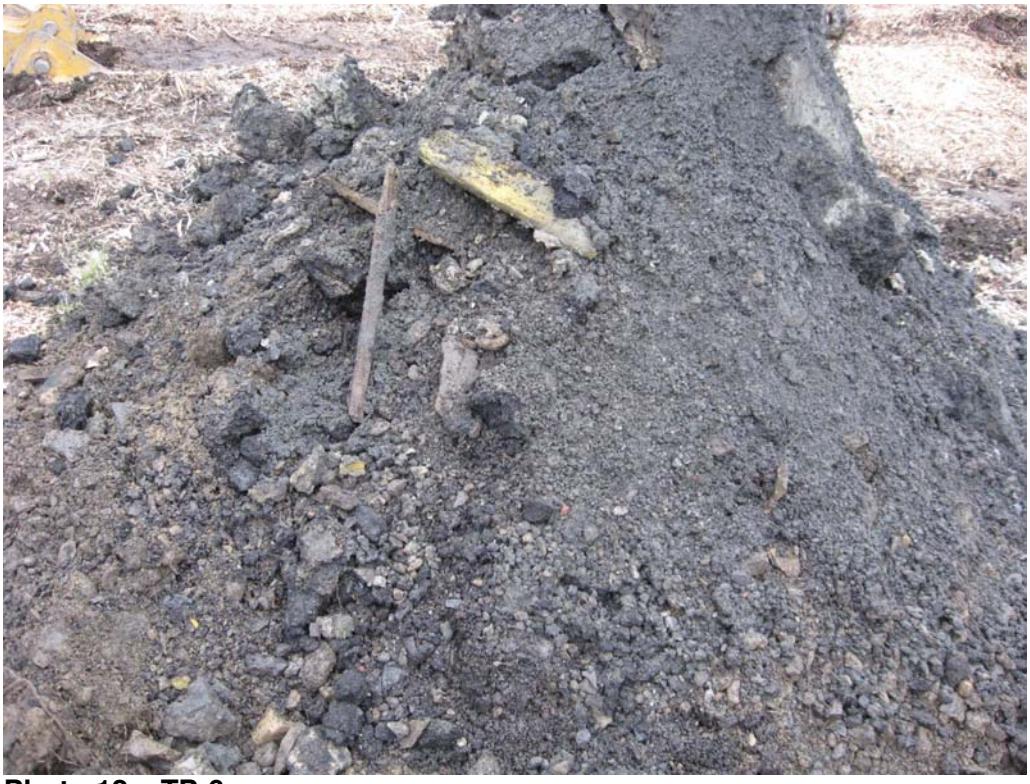


Photo 12 – TP-6

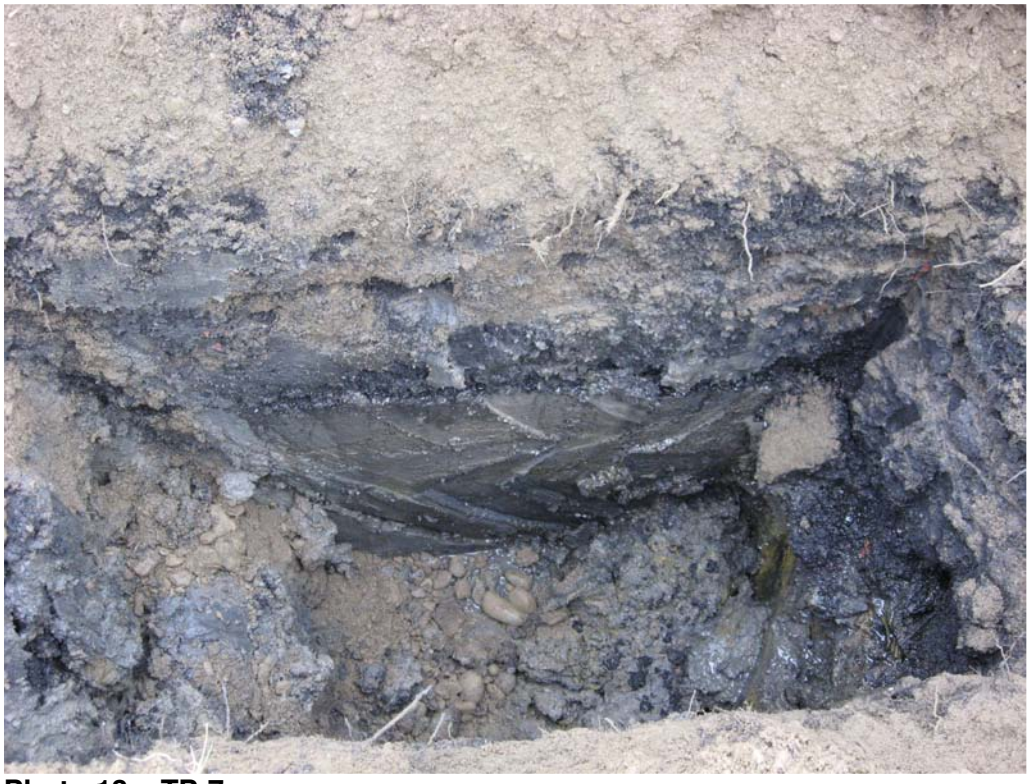


Photo 13 – TP-7

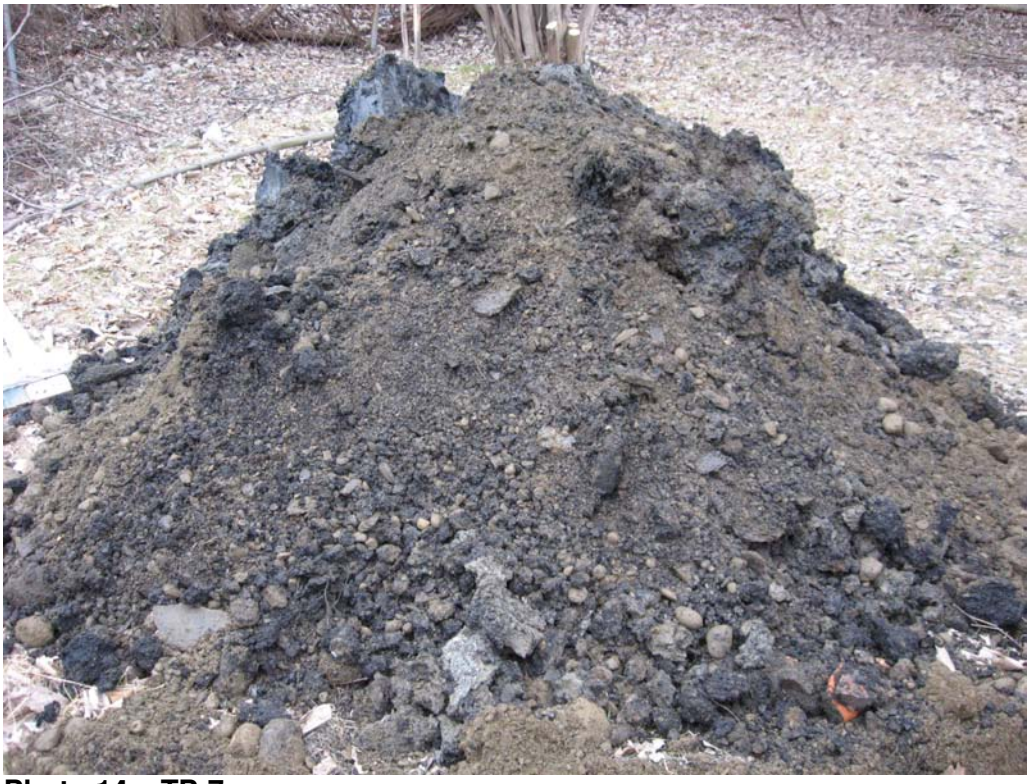


Photo 14 – TP-7

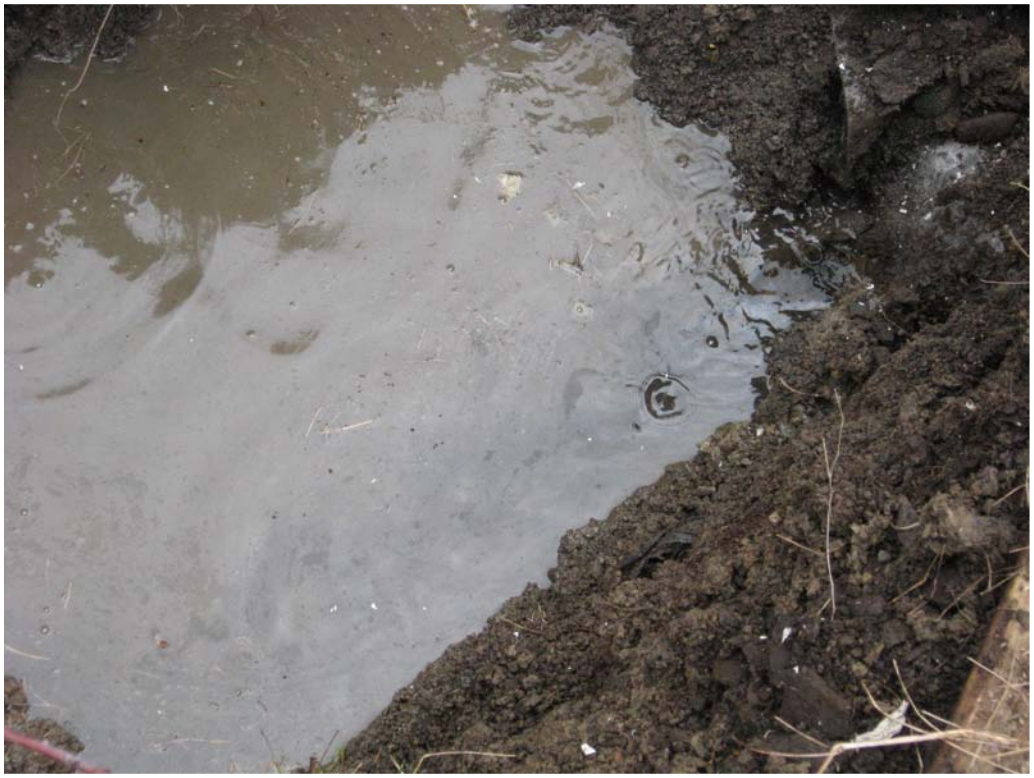


Photo 15 – TP-8

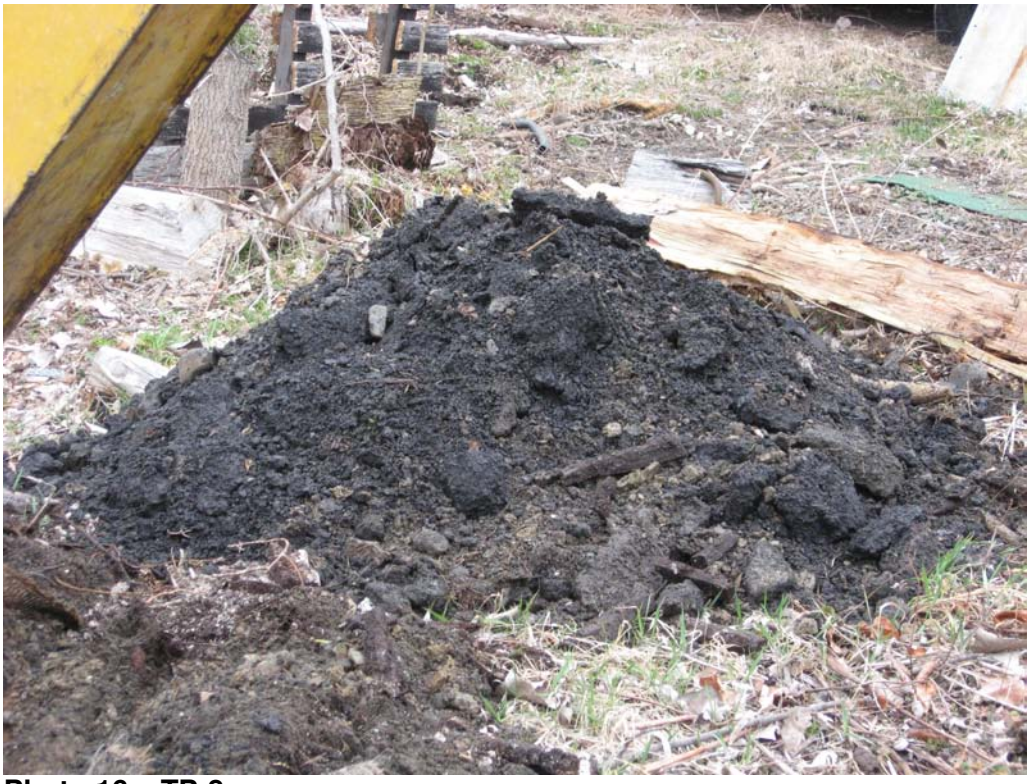
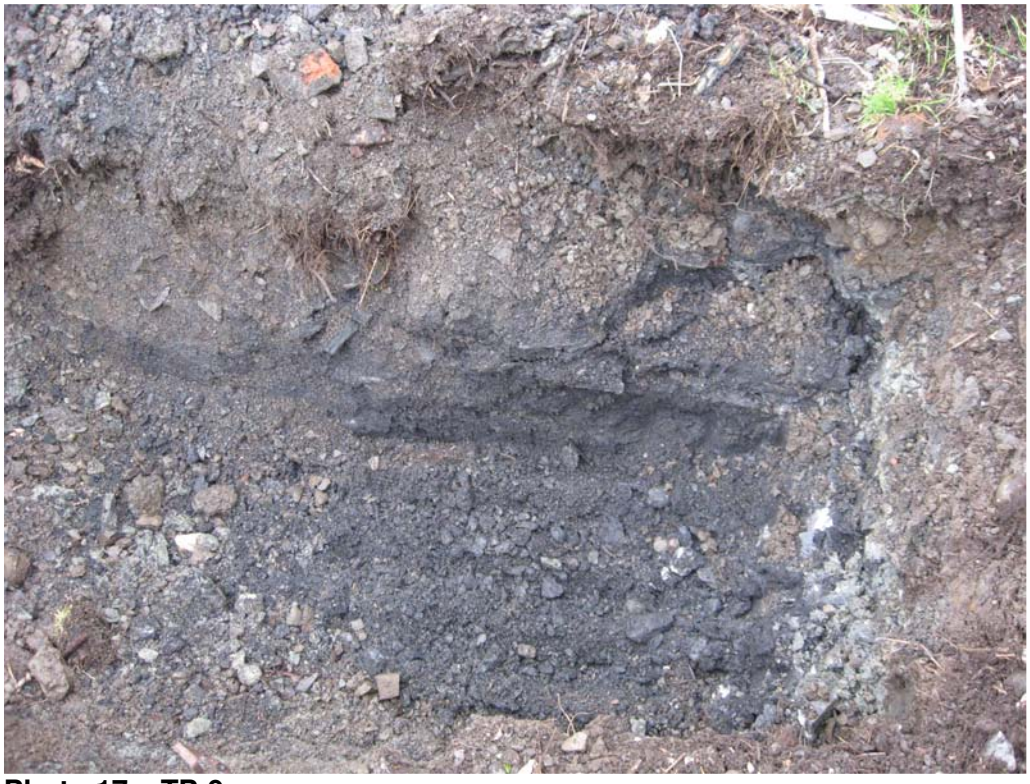


Photo 16 – TP-8



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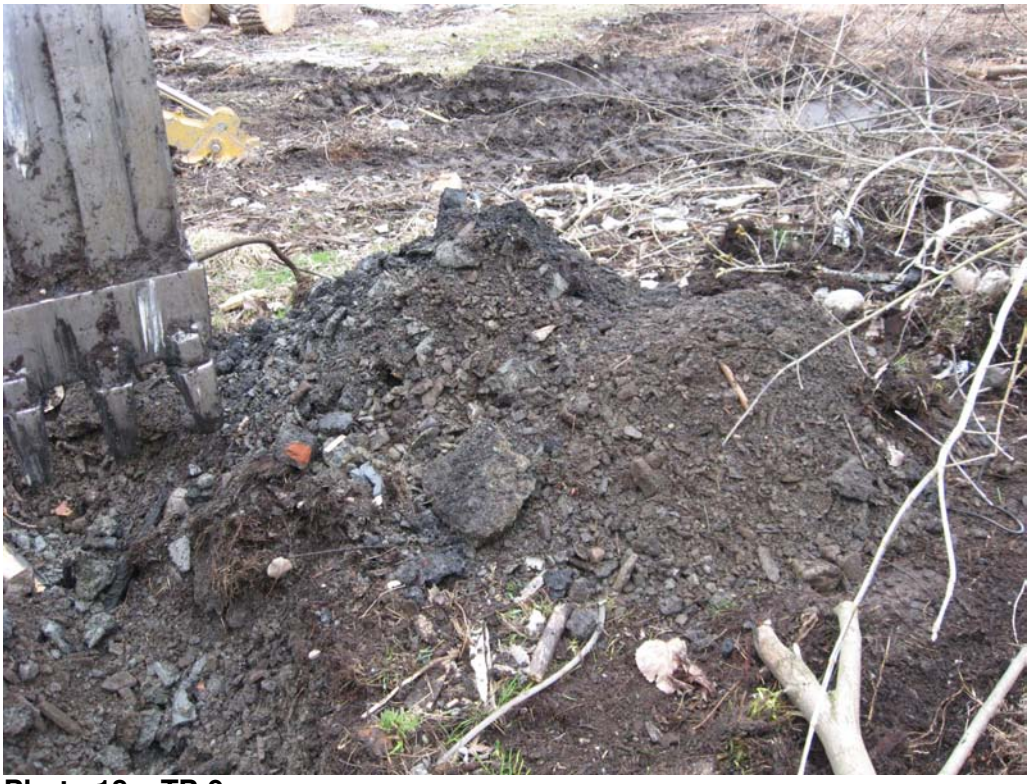


Photo 18 – TP-9

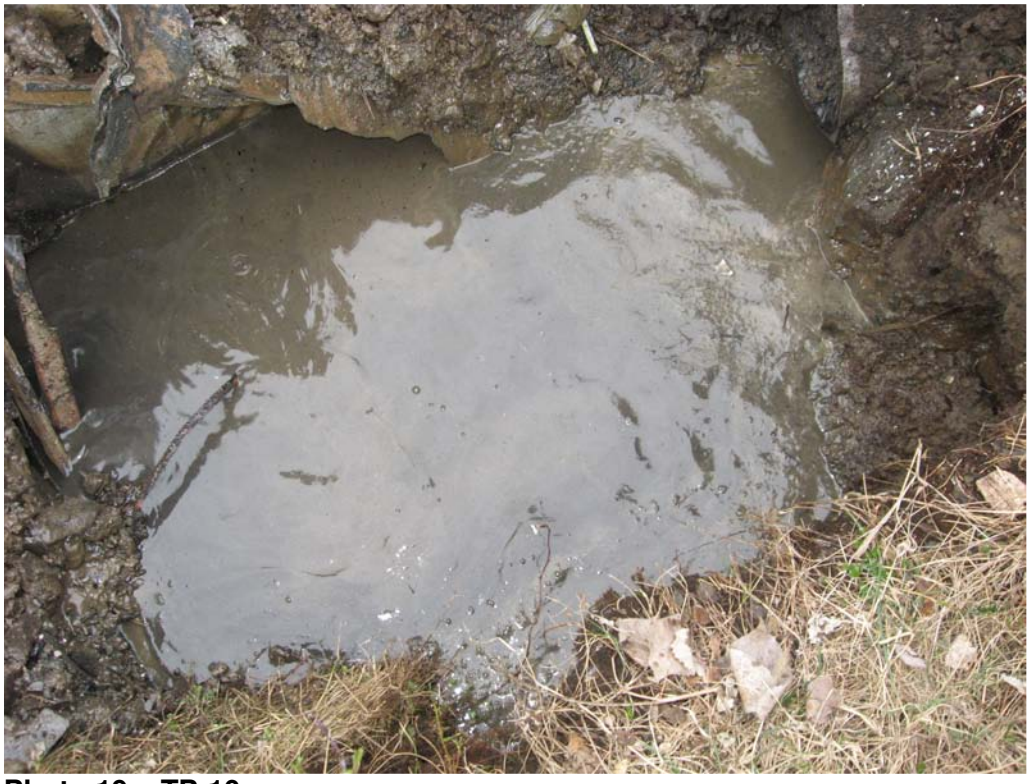


Photo 19 – TP-10

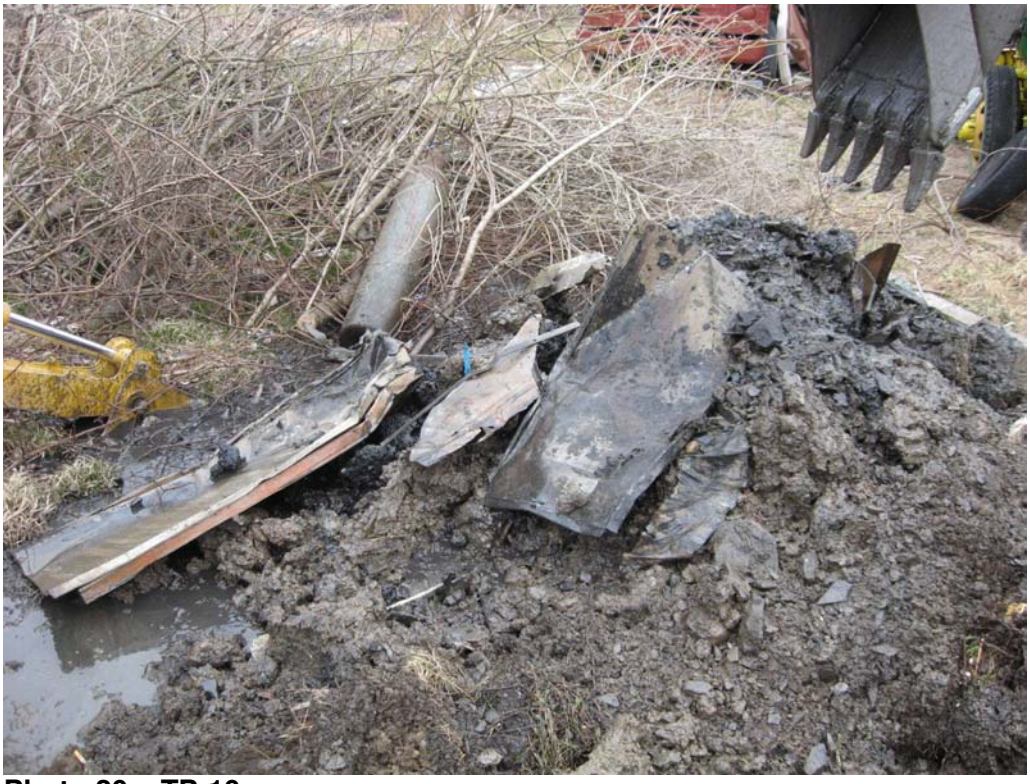


Photo 20 – TP-10

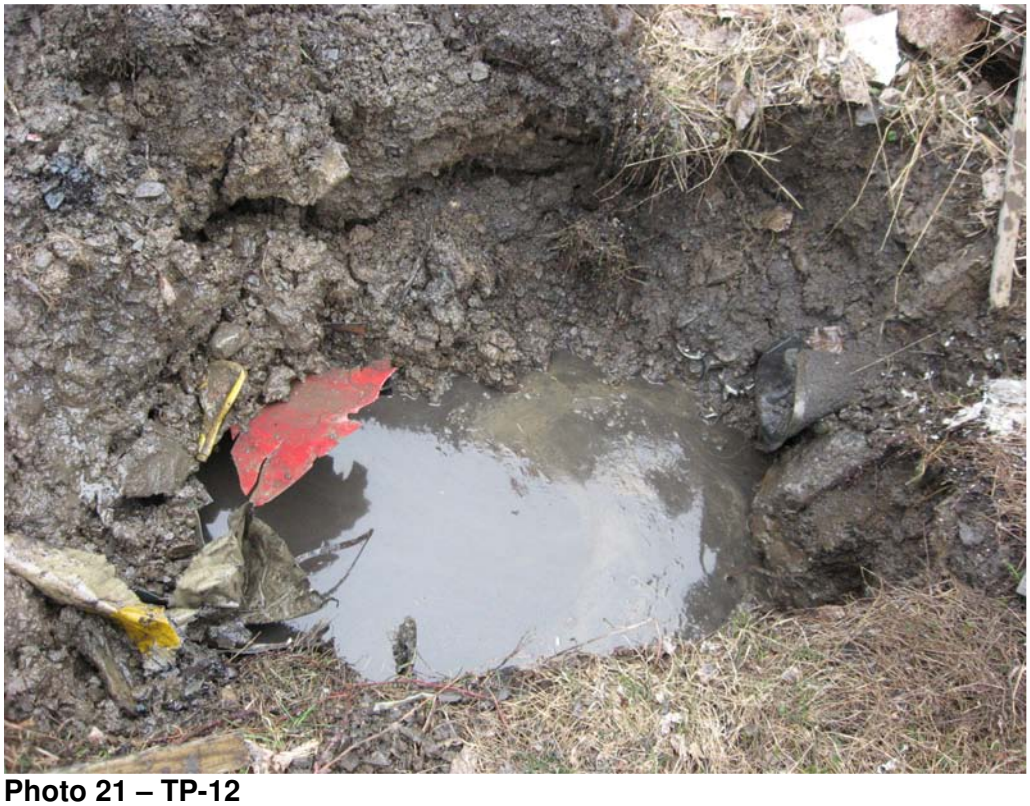


Photo 21 – TP-12

Photo 22 – TP-13

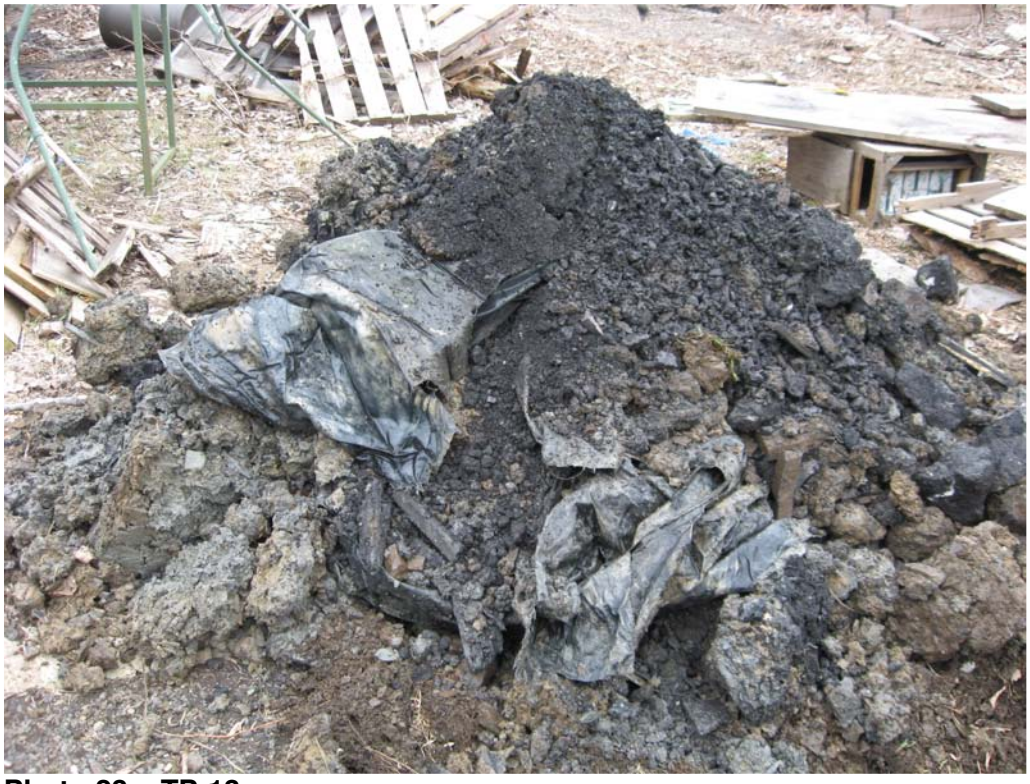


Photo 23 – TP-13

Photo 24 – TP-14

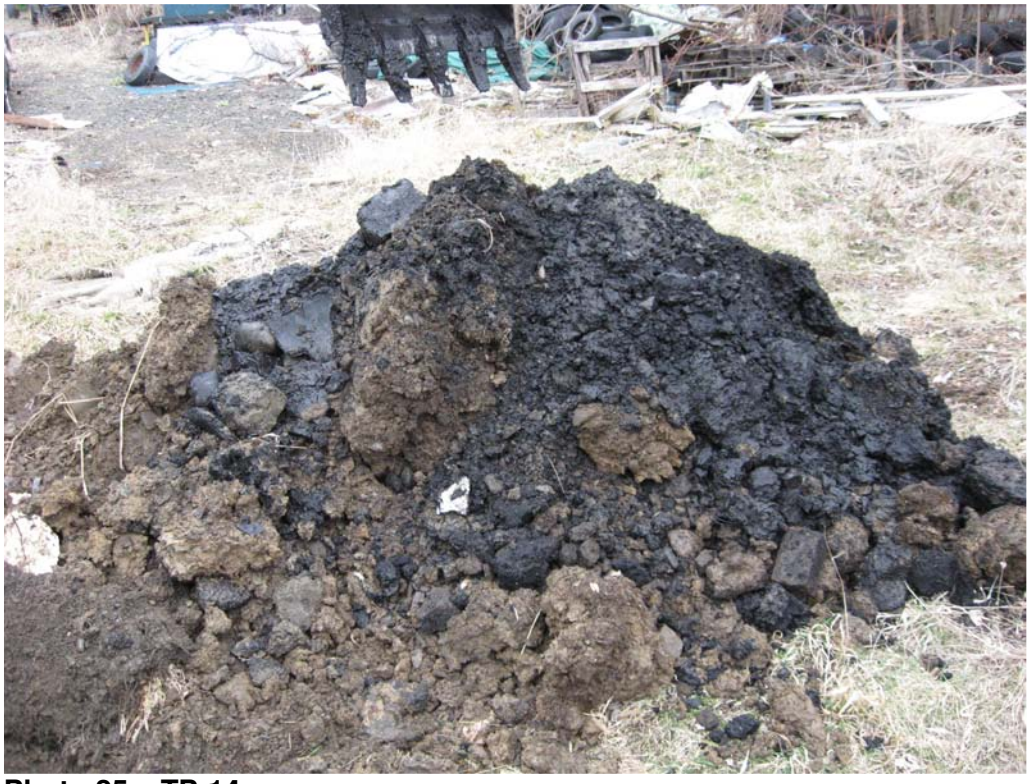


Photo 25 – TP-14

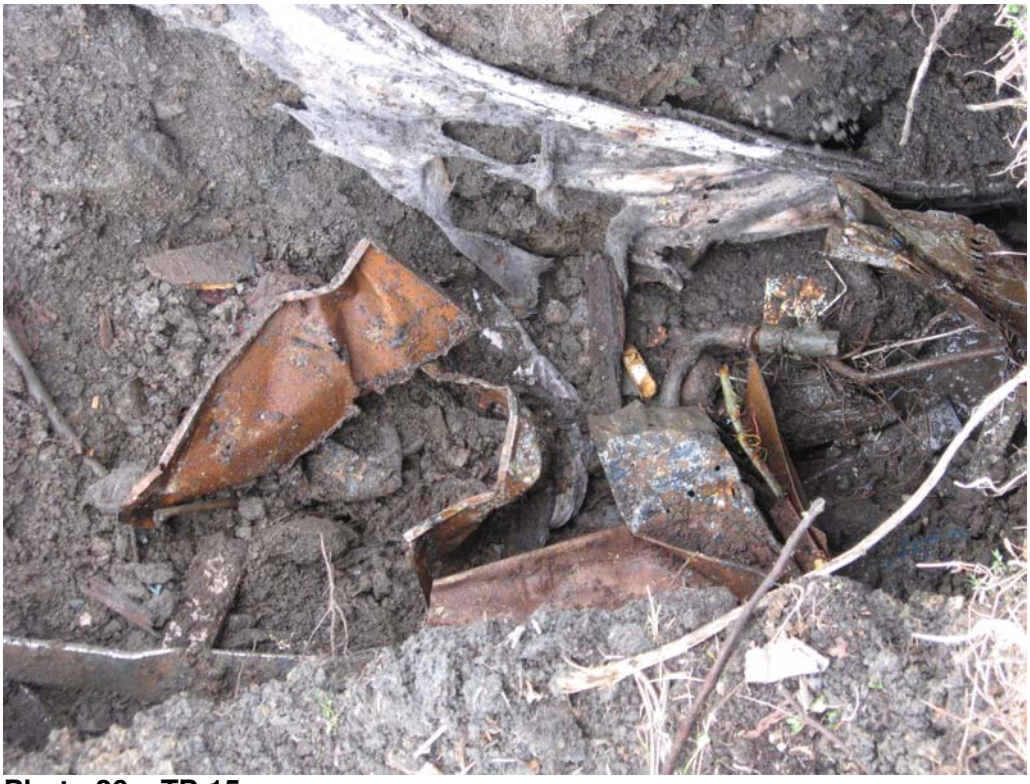


Photo 26 – TP-15

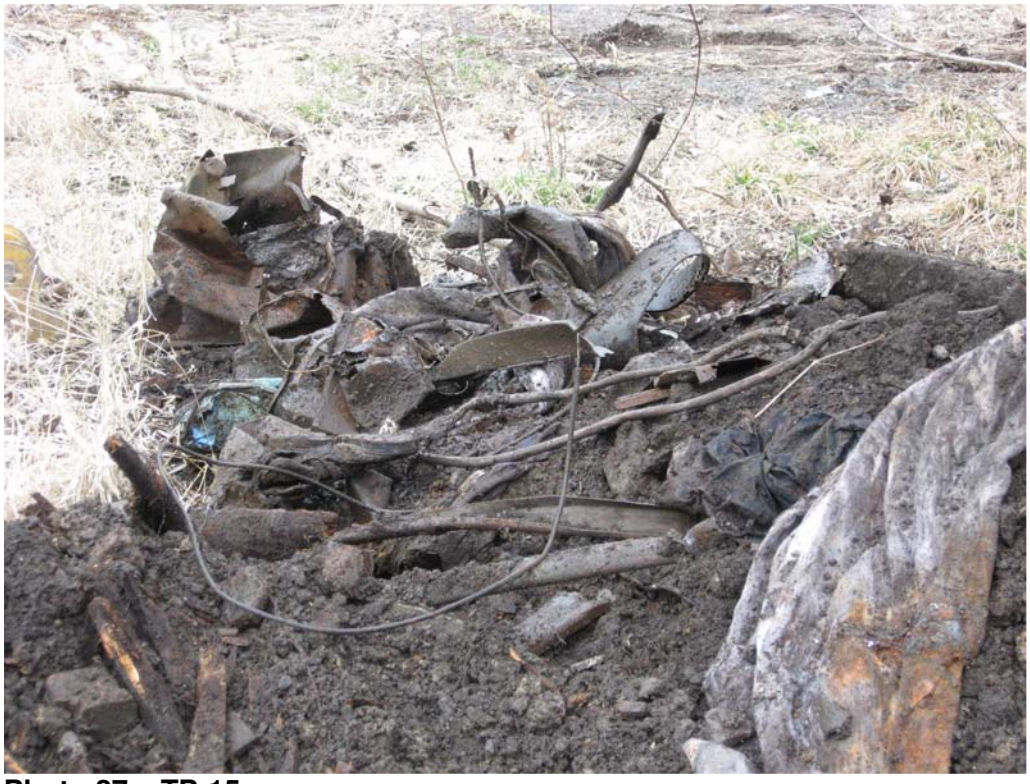


Photo 27 – TP-15

Photo 28 – TP-16

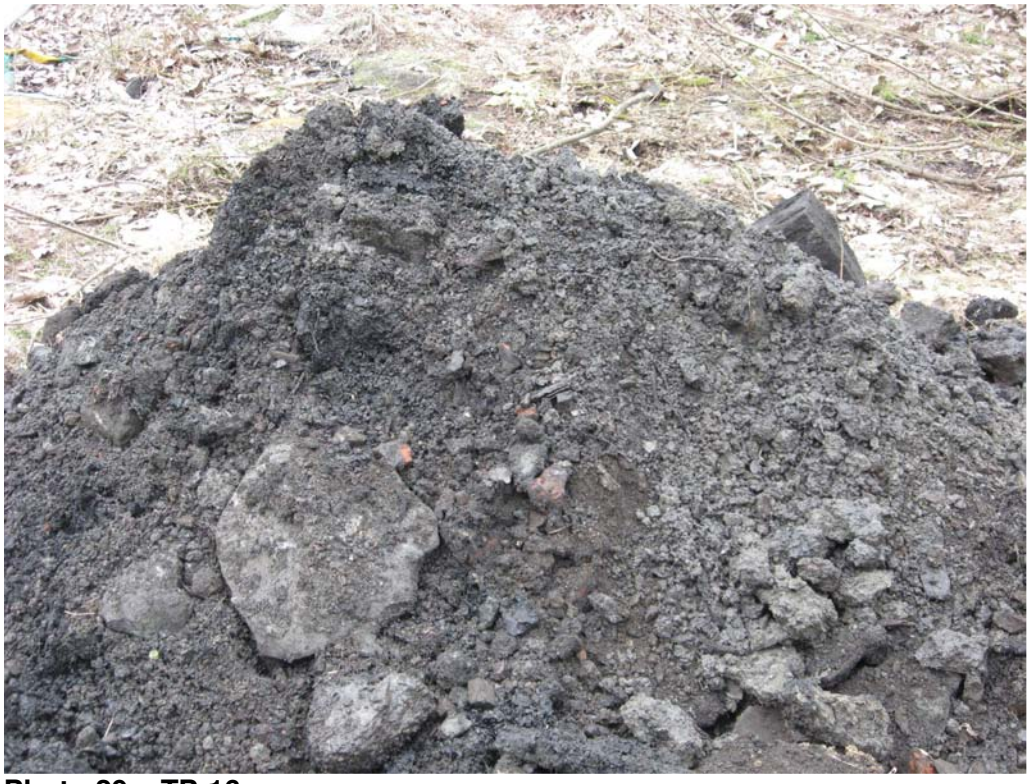


Photo 29 – TP-16

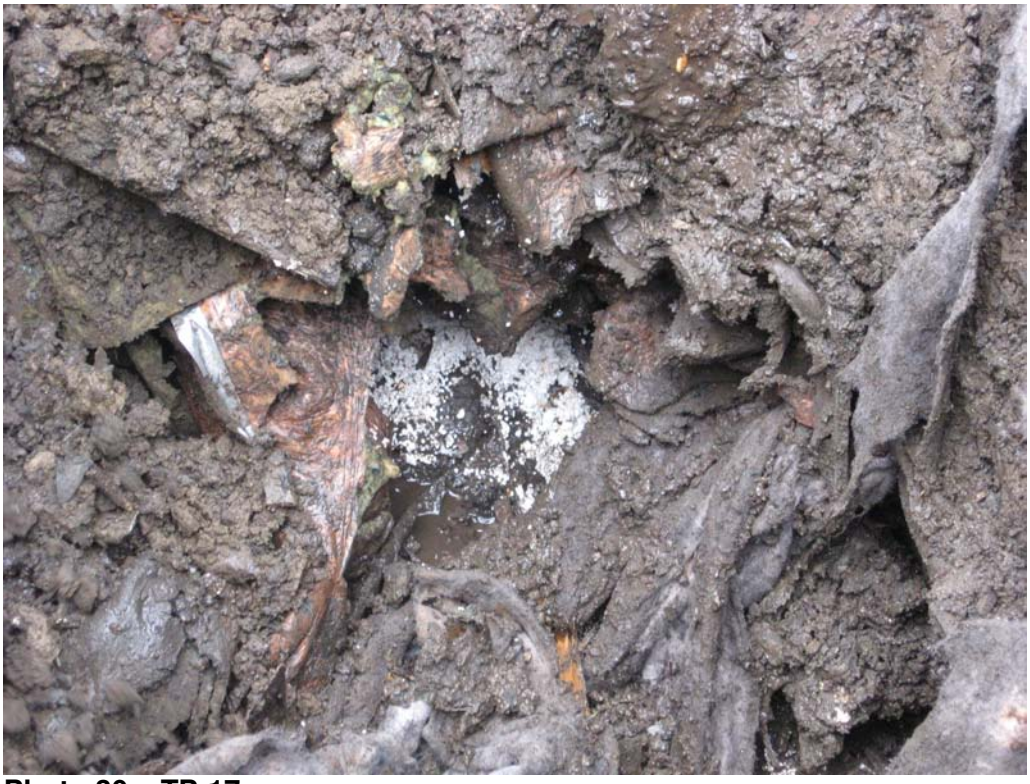


Photo 30 – TP-17

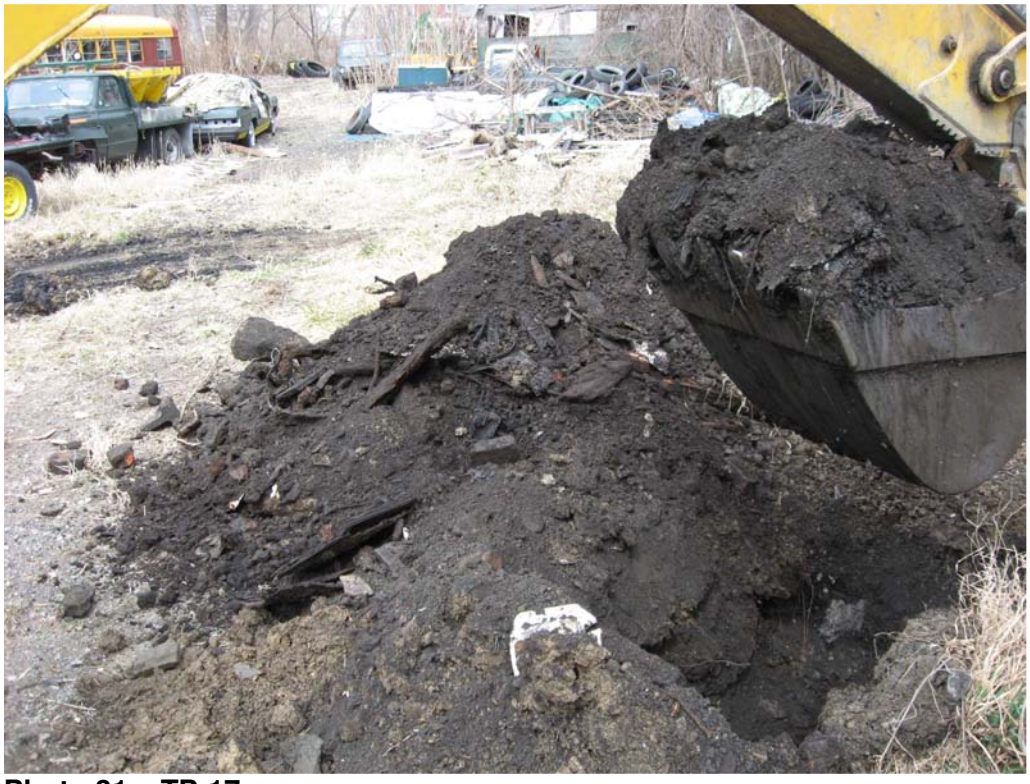


Photo 31 – TP-17

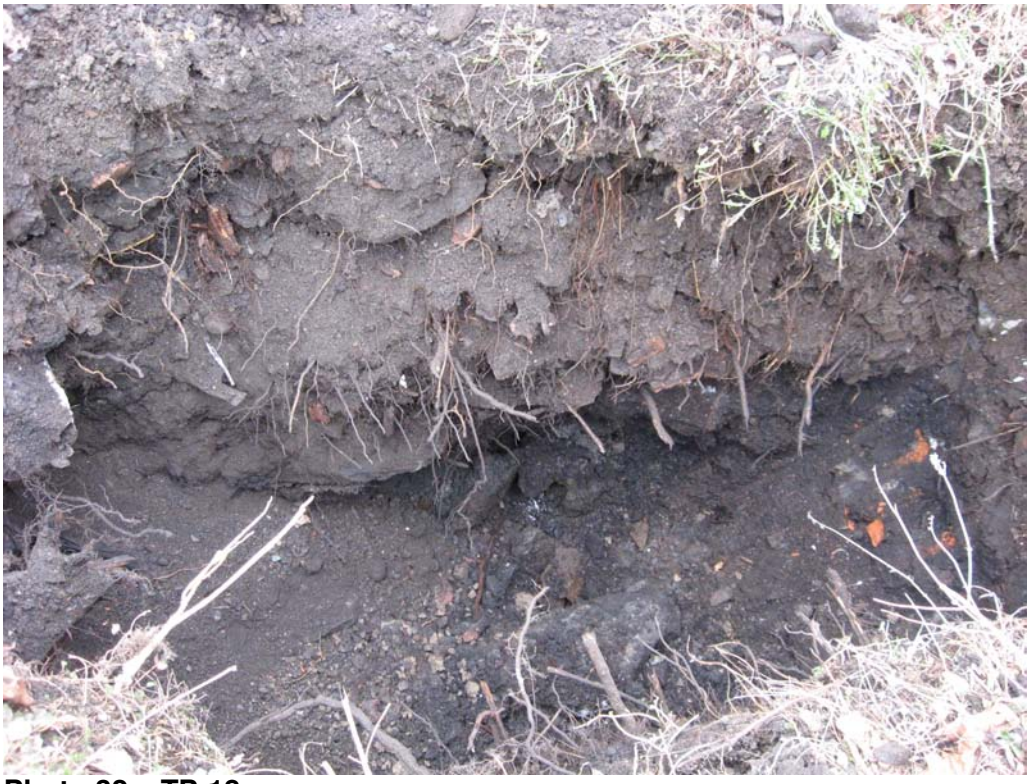


Photo 32 – TP-18

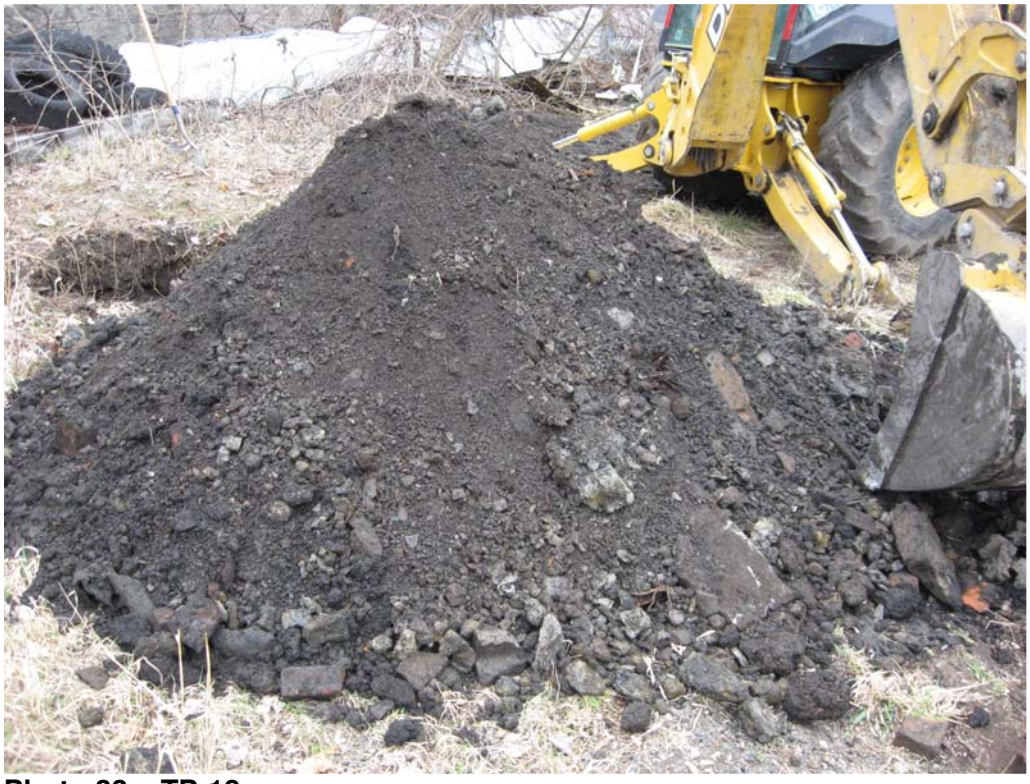


Photo 33 – TP-18

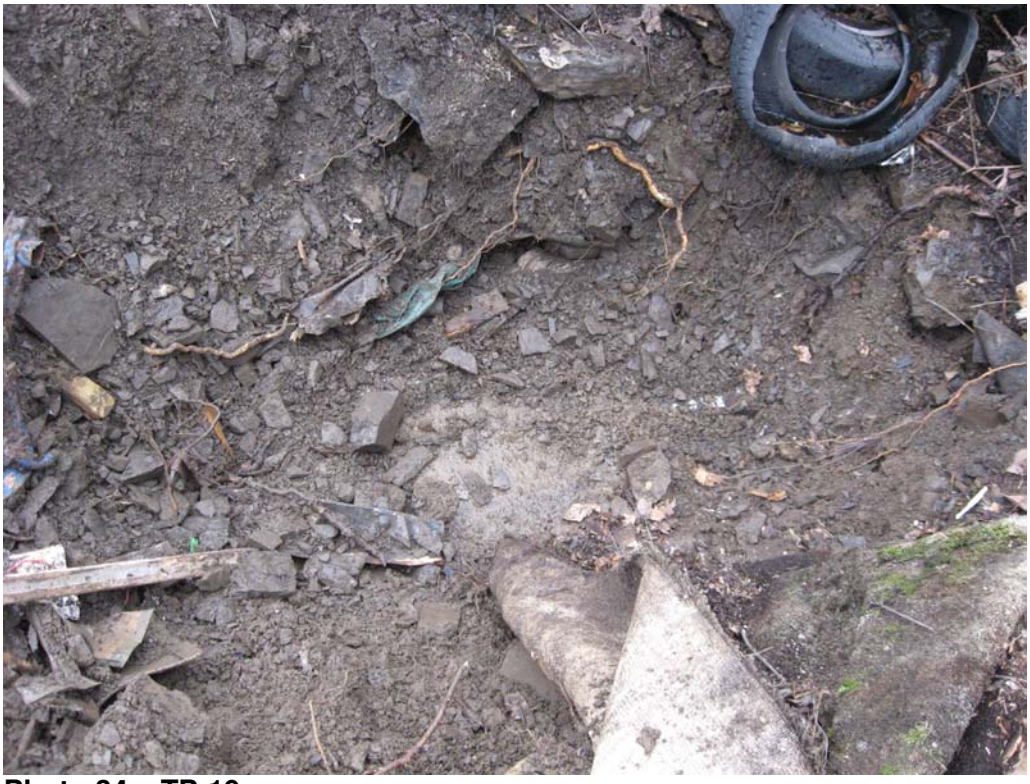


Photo 34 – TP-19

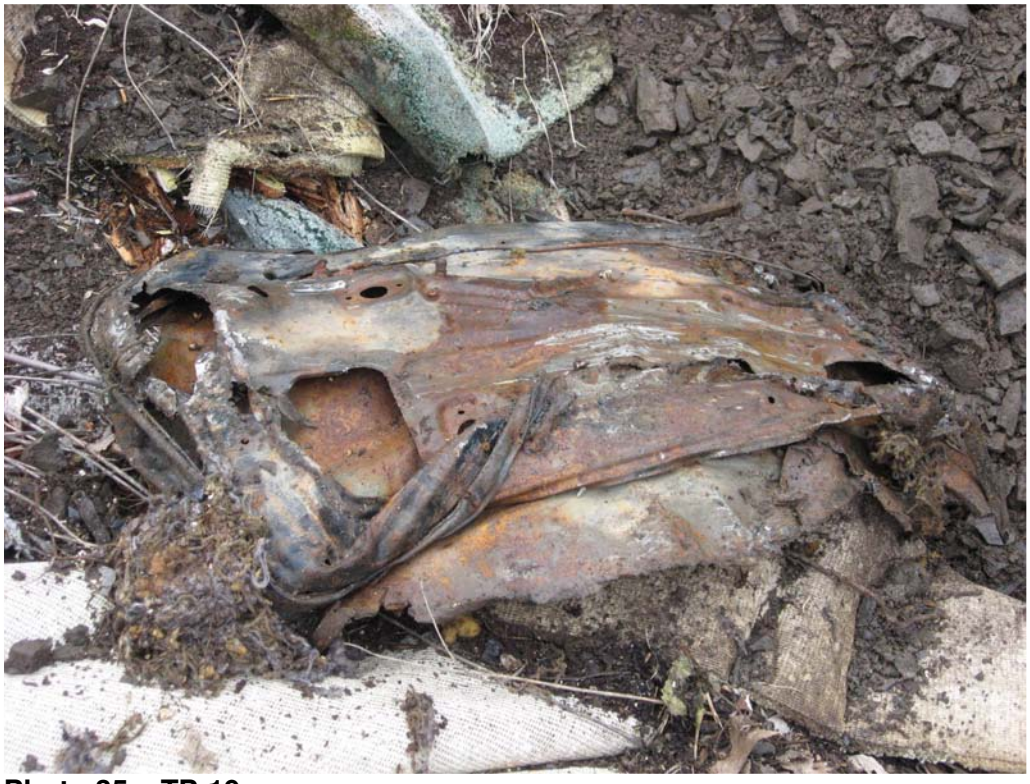


Photo 35 – TP-19

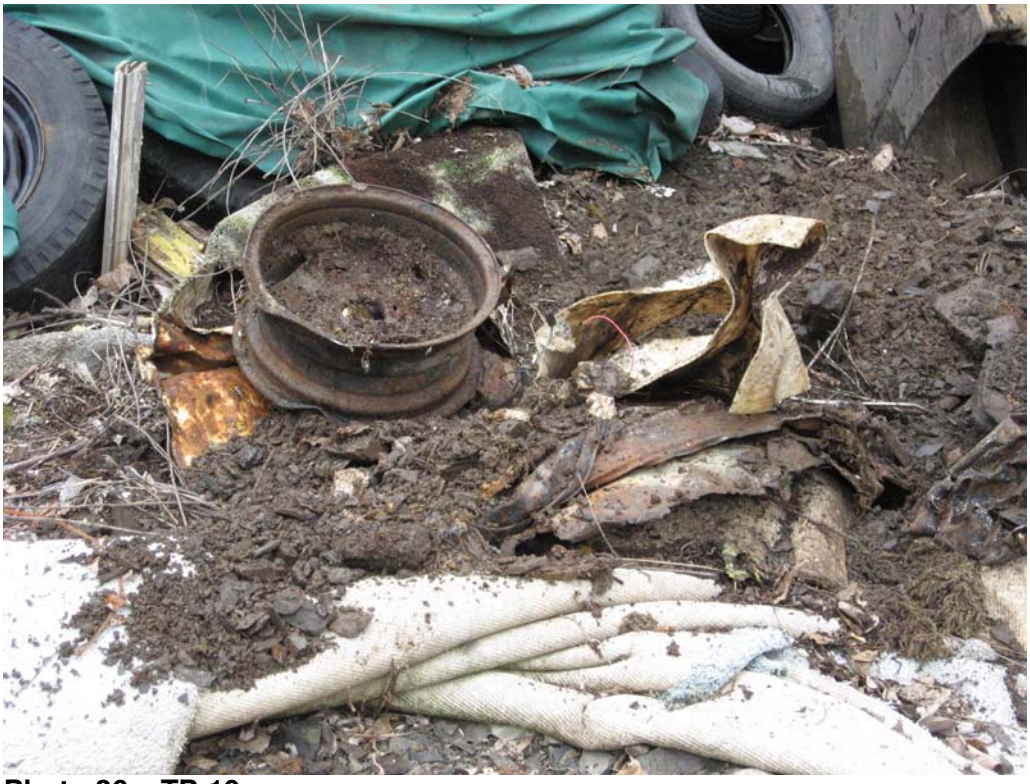
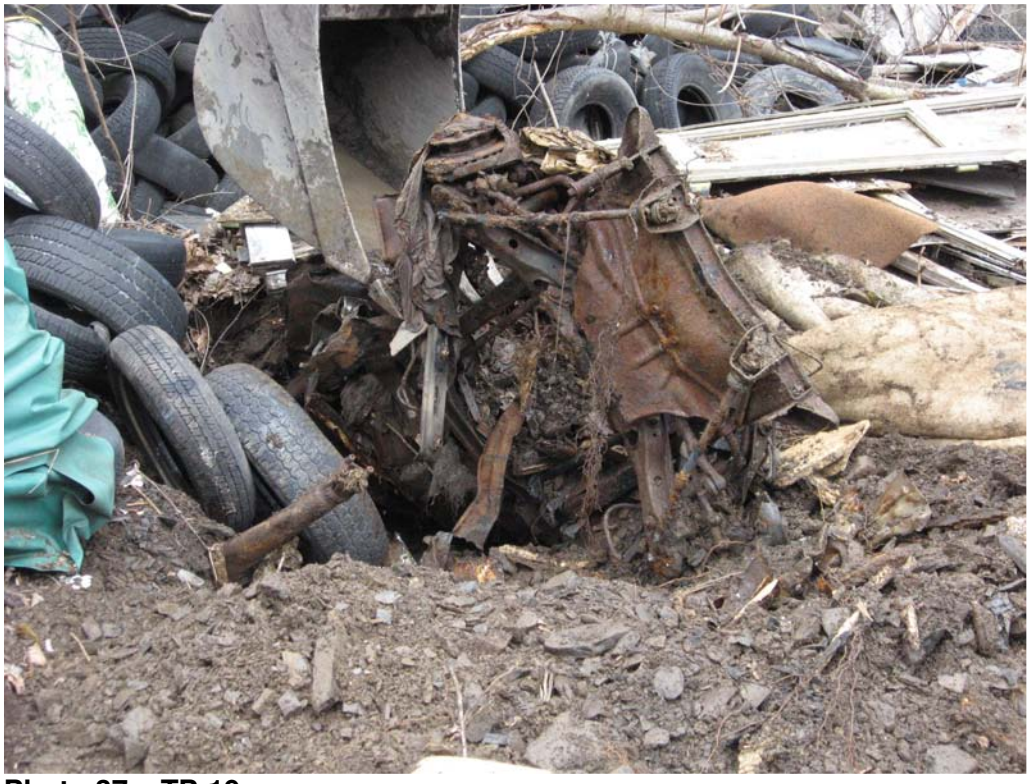


Photo 36 – TP-19



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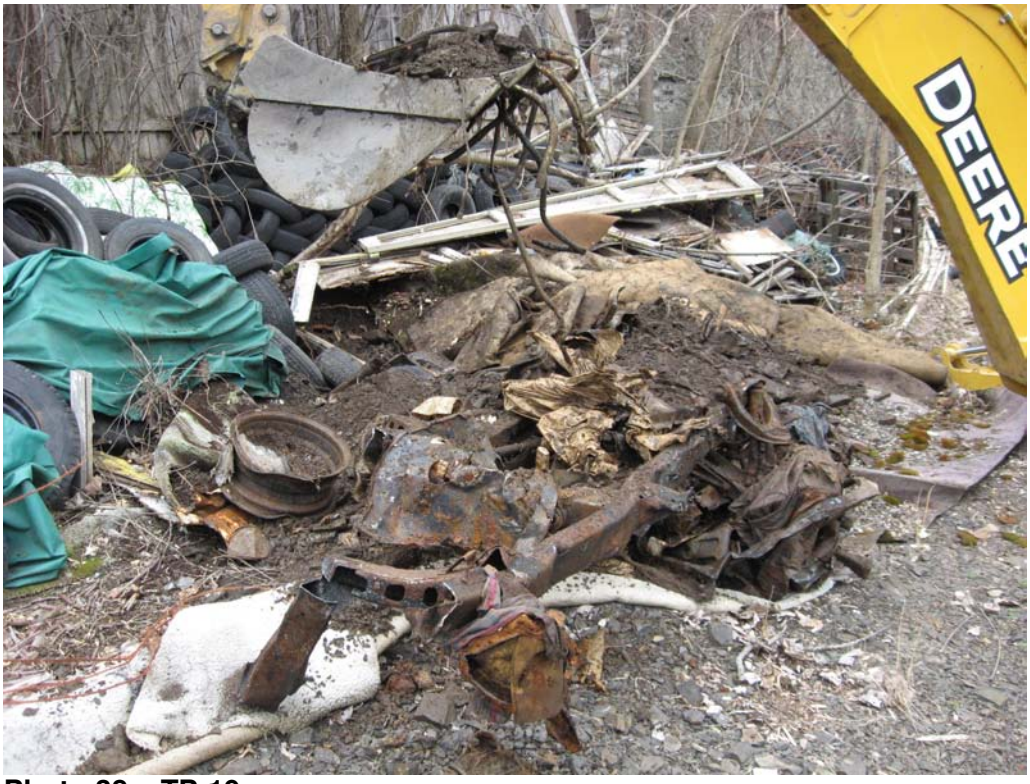

Photo 38 – TP-19

Photo 39 – TP-20

Photo 40 – TP-20

Photo 41 – TP-21

Photo 42 – TP-21

Photo 43 – TP-22

Photo 44 – TP-23

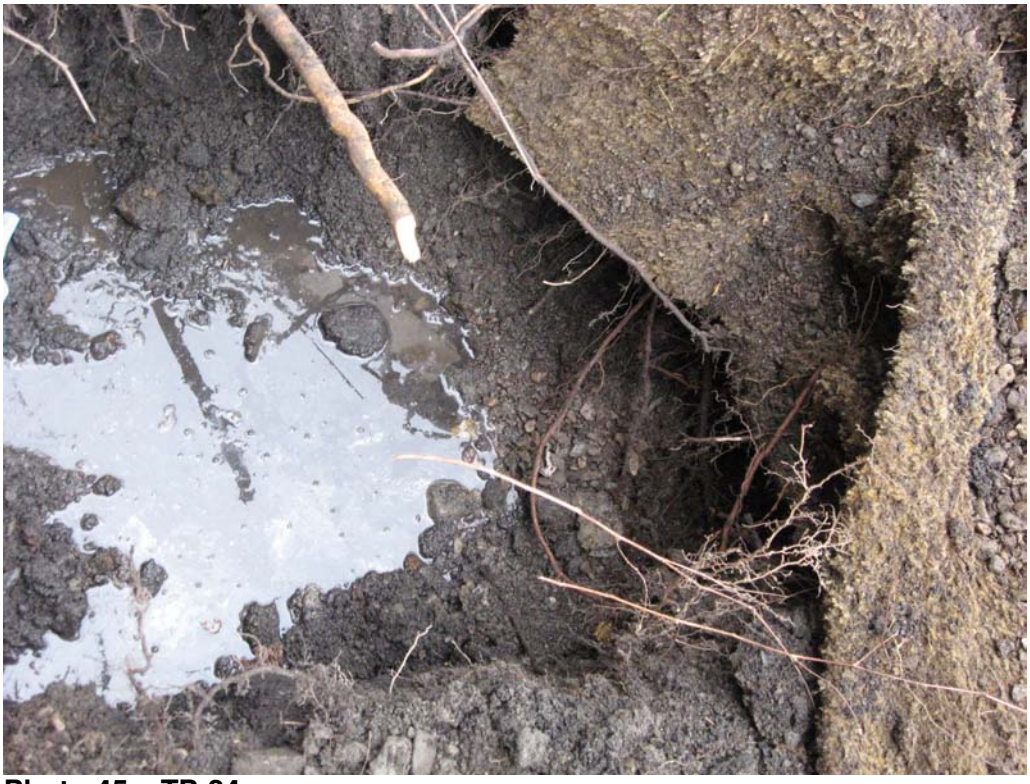

Photo 45 – TP-24

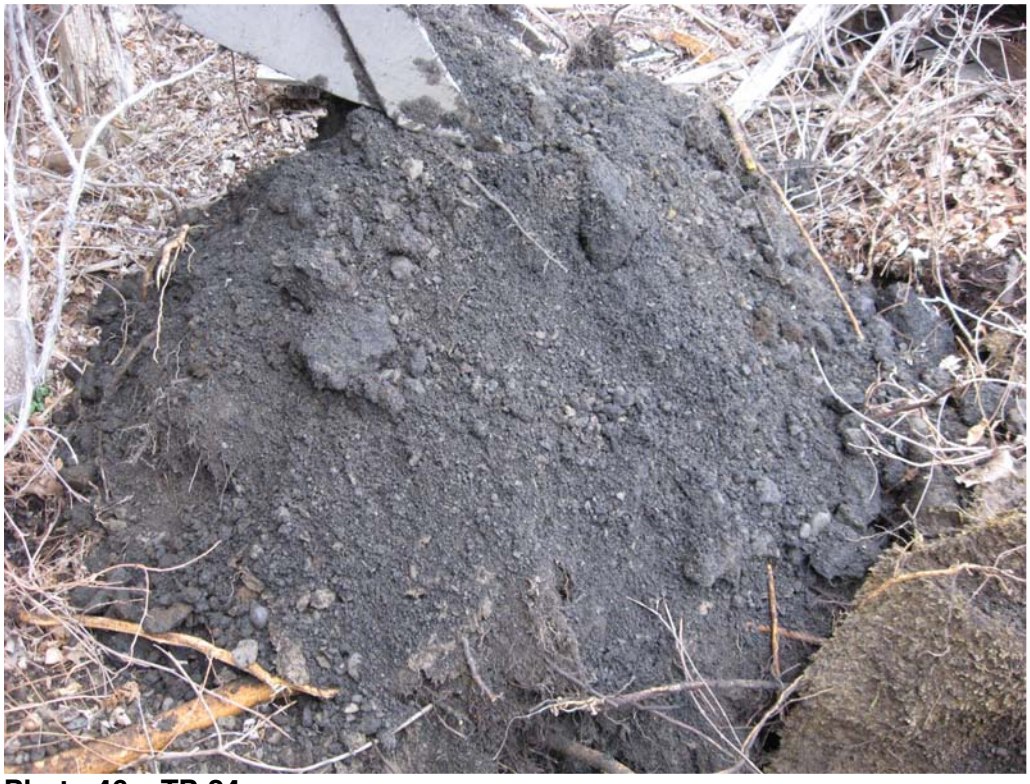

Photo 46 – TP-24