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# MEMORANDUM

Job No. <b>02685</b>	Date: November 12, 2004
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Subject: Subsurface investigations along northern portion of Ruggles Street R.O.W.  
 October 22, 2004

To: File From: Barbara Markley  
 cc: Al Hanscom, PIP repository

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## Summary

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On Friday October 22, 2004, BETA personnel observed the advancement and collection of fill material from four (4) soil borings located along the northern portion of the right-of-way of Ruggles Street. Soil borings RS-1 through RS-4 were advanced to determine the depth fill material, till and/or organic material. Generally, the borings advanced with little resistance to a final depth of 12 feet below grade. Typically, the first one-half foot is composed of grass, roots, and silty organics. Fill material was encountered at depths ranging from 10.25 feet below grade (RS-1 nearest Hathaway Boulevard) to 7.25 feet below grade (RS-4 nearest Summit Street). Fill material was medium to dark brown with a noticeable silt content, crushed debris, minimal glass and traces of metal debris, slight to no noticeable odor. This fill material exhibited characteristics different from the material underlying McCoy Field (more ash material, higher glass and metal content, dark brown to black in color and a strong odor). The organic layer underlying the fill material has a thickness ranging from 0.25 feet to 2.25 feet. Till was encountered at the base of each boring and ranged in thickness from 0.25 feet to 4.5 feet.'

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SIGNED: \_\_\_\_\_



MACOMBER STREET

STREET

NEMASKET STREET

STREET

RUGGLES STREET

ASSUMES EDGE OF HATHAWAY BLVD.

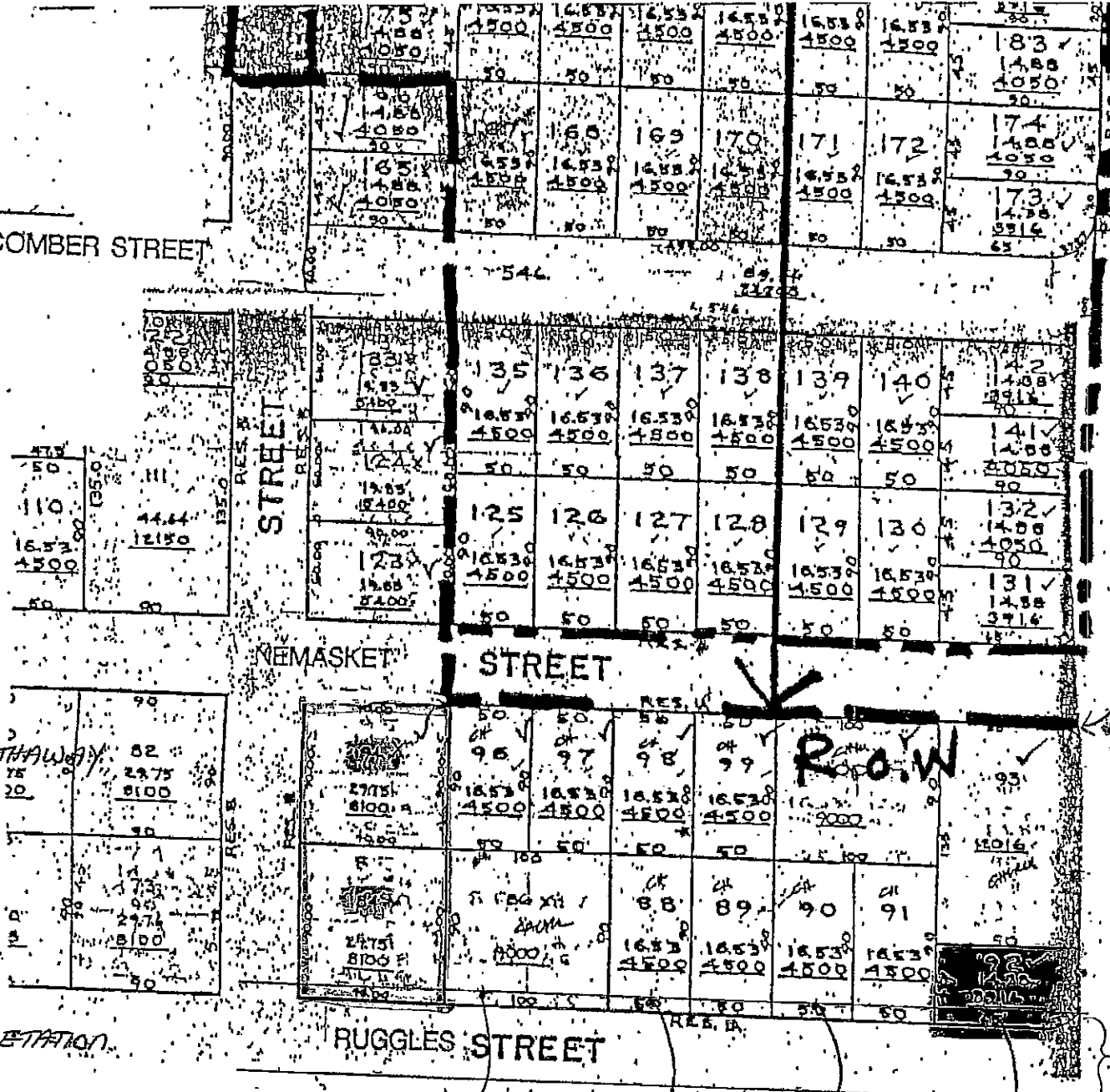
ROW = 30 FT  
ROAD WIDTH = 34 FT

PRIVATE

BETHELAME CHURCH

CITY

RS-1: 57 FT WEST OF CORNER OF HATHAWAY  
100 FT BETWEEN SOIL BORINGS  
SOIL BORINGS LOCATED ~ 7.5 FT  
NORTH OF EDGE OF RUGGLES  
STREET ASPHALT  
LOTS 84 AND 94 HAVE HOMES  
LOTS 86-93, 96-100 DENSE VEGETATION.



RS-4

RS-3

RS-2

RS-1

BETA GROUP, INC.		TEST BORING REPORT			
PROJECT:	McCoy Field	BORING NO.	RS-1		
LOCATION:	Ruggle Street	PAGE 1 OF	1		
DRILLING CO:	TDS of Sterling, MA	DATE STARTED:	10/22/2004		
EQUIPMENT:	TP 54 Geoprobe®	DATE FINISHED:	10/22/2004		
DRILLED BY:	Mike Joyce	SURFACE ELEVATION:	NA		
INSPECTED BY:	Barbara Markley				
GROUNDWATER OBSERVATIONS					
NOT ENCOUNTERED		TYPE:	CASING	SAMPLER	CORE BARREL
		SIZE ID:	NA	NA	X
		HAMMER WT:	NA	NA	
		HAMMER FALL:		Direct Push	
				NA	
SAMPLE DATA					
DEPTH (ft)	SAMPLING DEPTH FROM - TO	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/RECOV (in./ft.)	HNU (ppm) Lamp 10.2 eV.
	0-4			NA	NA
1.0		Grass, topsoil, silt, roots			
2.0		Medium to dark brown, some silt, crushed debris, little glass and a trace metal debris Slight to no noticeable odor	RS-1-1-4'		
3.0					
4.0					
5.0	4-8	Same as above	RS-1-4-8'		
6.0					
7.0					
8.0					
9.0	8-12	Same as above	RS-1-8-10.25		
10.0					
11.0		Dark brown organic layer			
12.0		Till layer (gray medium to fine sand)			
Notes:					

BETA GROUP, INC.		TEST BORING REPORT			
PROJECT:	McCoy Field	BORING NO.	RS-2		
LOCATION:	Ruggle Street	PAGE 1 OF	1		
DRILLING CO:	TDS of Sterling, MA	DATE STARTED:	10/22/2004		
EQUIPMENT:	TP 54 Geoprobe®	DATE FINISHED:	10/22/2004		
DRILLED BY:	Mike Joyce	SURFACE ELEVATION:	NA		
INSPECTED BY:	Barbara Markley				
GROUNDWATER OBSERVATIONS					
NOT ENCOUNTERED		TYPE:	CASING	SAMPLER	CORE BARREL
		SIZE ID:	NA	NA	X
		HAMMER WT:	NA	NA	
		HAMMER FALL:		Direct Push	
				NA	
SAMPLE DATA					
DEPTH (ft)	SAMPLING DEPTH FROM - TO	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/RECOV (in./in.)	HNU (ppm) Lamp 10.2 eV.
	0-4	Grass, topsoil, silt, roots		NA	NA
1.0		Medium to dark brown, some silt, crushed debris, little glass and a trace metal debris Slight to no noticeable odor	RS-2-0.5-4'		
2.0					
3.0					
4.0					
	4-8	Same as above	RS-2-4-8'		
5.0					
6.0					
7.0					
8.0					
	8-12	Same as above	RS-2-8-9'		
9.0					
10.0		Dark brown organic layer			
11.0					
12.0		Till layer (gray medium to fine sand)			
Notes:					

BETA GROUP, INC.		TEST BORING REPORT			
PROJECT:	McCoy Field	BORING NO.	RS-3		
LOCATION:	Ruggle Street	PAGE 1 OF	1		
DRILLING CO:	TDS of Sterling, MA	DATE STARTED:	10/22/2004		
EQUIPMENT:	TP 54 Geoprobe®	DATE FINISHED:	10/22/2004		
DRILLED BY:	Mike Joyce	SURFACE ELEVATION:	NA		
INSPECTED BY:	Barbara Markley				
GROUNDWATER OBSERVATIONS			CASING	SAMPLER	CORE
NOT ENCOUNTERED		TYPE:	NA	NA	X
		SIZE ID:	NA	NA	
		HAMMER WT:		Direct Push	
		HAMMER FALL:		NA	
SAMPLE DATA					
DEPTH (ft)	SAMPLING DEPTH FROM - TO	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/RECOV (in./in.)	HNU (ppm) Lamp 10.2 eV.
	0-4	Grass, topsoil, silt, roots		NA	NA
1.0		Medium to dark brown, some silt, crushed debris, little glass and a trace metal debris Slight to no noticeable odor	RS-3-0.5-4		
2.0					
3.0					
4.0					
	4-8	Same as above	RS-3-4-8'		
5.0					
6.0					
7.0					
8.0					
	8-12	Same as above	RS-3-8-10'		
9.0					
10.0					
		Dark brown organic layer			
11.0					
		Till layer (gray medium to fine sand)			
12.0					
Notes:					

BETA GROUP, INC.		TEST BORING REPORT			
PROJECT:	McCoy Field	BORING NO.	RS-4		
LOCATION:	Ruggle Street	PAGE 1 OF	1		
DRILLING CO:	TDS of Sterling, MA	DATE STARTED:	10/22/2004		
EQUIPMENT:	TP 54 Geoprobe®	DATE FINISHED:	10/22/2004		
DRILLED BY:	Mike Joyce	SURFACE ELEVATION	NA		
INSPECTED BY:	Barbara Markley				
GROUNDWATER OBSERVATIONS					
NOT ENCOUNTERED		TYPE:	CASING	SAMPLER	CORE
		SIZE ID:	NA	NA	X
		HAMMER WT:	NA	NA	
		HAMMER FALL:		Direct Push	
				NA	
SAMPLE DATA					
DEPTH (ft)	SAMPLING DEPTH FROM - TO	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/RECOV (in./in.)	HNU (ppm) Lamp 10.2 eV.
	0-4	Grass, topsoil, silt, roots		NA	NA
1.0		Medium to dark brown, some silt, crushed debris, little glass and a trace metal debris	RS-4-0.5-4'		
2.0		Slight to no noticeable odor			
3.0					
4.0					
	4-8	Same as above	RS-4-4-7.25'		
5.0					
6.0					
7.0					
8.0		Dark brown organic layer Till layer (light brown medium to fine sand)			
	8-12				
9.0					
10.0					
11.0					
12.0					

**Ruggles Street  
Polychlorinated Biphenyls**

				Total PCBs	PCB-1221	PCB-1232	PCB-1016/1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268
				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
				2,000	~	~	~	~	~	~	~	~
				50,000	~	~	~	~	~	~	~	~
				100,000	~	~	~	~	~	~	~	~
				<b>RCS-1 Turnkey Acceptance Limit UCL</b>								
	Sample Identification	Depth	Date									
RS-1	RS-1-1-4	1-4	10/22/04	2,070	< 1850	< 1850	< 1850	< 1850	2,070	< 1850	< 1850	< 1850
	RS-1-4-8'	4-8	10/22/04	ND	< 2220	< 2220	< 2220	< 2220	< 2220	< 2220	< 2220	< 2220
	RS-1-8-10.25'	8-10.25	10/22/04	ND	< 5380	< 5380	< 5380	< 5380	< 5380	< 5380	< 5380	< 5380
RS-2	RS-2-0.5-4'	0.5-4	10/22/04	4,220	< 2600	< 2600	< 2600	< 2600	4,220	< 2600	< 2600	< 2600
	RS-2-4-8'	4-8	10/22/04	ND	< 2250	< 2250	< 2250	< 2250	< 2250	< 2250	< 2250	< 2250
	RS-2-8-9'	8-9	10/22/04	ND	< 2870	< 2870	< 2870	< 2870	< 2870	< 2870	< 2870	< 2870
RS-3	RS-3-0.5-4	0.5-4	10/22/04	7,310	< 2030	< 2030	< 2030	< 2030	7,310	< 2030	< 2030	< 2030
	RS-3-4-8'	4-8	10/22/04	ND	< 1830	< 1830	< 1830	< 1830	< 1830	< 1830	< 1830	< 1830
	RS-3-8-10'	8-10	10/22/04	ND	< 2220	< 2220	< 2220	< 2220	< 2220	< 2220	< 2220	< 2220
RS-4	RS-4-0.5-4'	0.5-4	10/22/04	7,930	< 1890	< 1890	< 1890	< 1890	7,930	< 1890	< 1890	< 1890
	DUPLICATE 168	0.5-4	10/22/04	2,560	< 1920	< 1920	< 1920	< 1920	2,560	< 1920	< 1920	< 1920
	RS-4-4-7.25'	4-7.25	10/22/04	ND	< 2490	< 2490	< 2490	< 2490	< 2490	< 2490	< 2490	< 2490