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MEMORANDUM

Job No. **02685**

Date: November 5, 2004

Subject: Sidewalk samples along Hathaway Boulevard (adjacent to McCoy Field)

To: File

From: Barbara Markley

cc: Al Hanscom, PIP repository

Summary

In order to determine the nature of the subsurface materials located beneath the sidewalk that is located along the western side of Hathaway Boulevard, soil sampling was conducted on Thursday and Friday October 28 and 29, 2004. Specifically, this sidewalk abuts the eastern portion of McCoy Field and sidewalk sample were located between the south property line (Nemasket Street) and the northern property line of the McCoy Field.

A total of six (6) samples were collected, each located approximately two (2) feet east of the fencing along the western side of the sidewalk. Samples were collected at the north and south property boundaries and then at approximately 250 foot intervals to try to equally space the sample locations. Personnel from Technical Drilling Services (TDS) of Sterling, MA used a Geoprobe rig to advance the soil borings to a depth of two (2) feet below sidewalk grade. The materials comprising each soil boring were characterized and then samples were submitted to NET Lab, located in North Providence, RI, for analysis of polychlorinated biphenols (PCBs).

Note: All samples were submitted for 24 hr turnaround time and 1 parts per million (ppm) method detection limit (MDL).

Note: Even if the sample appeared to be "clean backfill" (Backfill) material, it was submitted for laboratory analysis.

From south to north:

Sidewalk 1:

Asphalt: 0-1.25

Backfill: 1.25-2 (light brown sand and small gravel)

Fill: NONE

Sample interval: 1.25-2'

Sidewalk 2:

Asphalt: 0-1.5

Backfill: 1.5-2 (light brown sand and small gravel, some green fine sand)

Fill: NONE

Sample interval: 1.5-2'

Sidewalk 3:

Asphalt: 0-1

Backfill: 1-1.25, 1.75-2 (brown sand)

Fill: 1.25-1.75 (dark brown to black silt and debris - no glass or metal)

Sample interval: 1-2'

Sidewalk 4:

Asphalt: 0-0.25

Backfill: 0.25-1 (green fine sand), 1-2 (brown sand)

Fill: NONE

Sample interval: 0.25-2'

Sidewalk 5:

Asphalt: 0-0.5

Backfill: 0.5-2 (brown sand and small gravel)

Fill: NONE

Sample interval: 0.5-2'

Sidewalk 6:

Asphalt: 0-0.5

Backfill: 1.5-2 (brown sand)

Fill: 0.5-1.5 (black sand)

Sample interval: 0.5-2'

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SIGNED: _____

**Sidewalk
 Polychlorinated Biphenyls**

**RCS-1
 Turnkey Acceptance Limit
 UCL**

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	~	~	~	~	~	~	~	~

Sample Identification	Depth	Date									
Sidewalk-1-1.25-2'	1.25-2	10/28/04	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sidewalk-2-1.5-2'	1.5-2	10/29/04	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sidewalk-3-1-2'	1-2	10/29/04	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sidewalk-4-0.25-2'	0.25-2	10/29/04	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sidewalk-5-0.5-2'	0.5-2	10/29/04	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sidewalk-6-0.5-2'	0.5-2	10/29/04	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sidewalk
Total Petroleum Hydrocarbons (TPH) RCRA 8 Metals

			RCRA 8 Metals							TCLP			
TPH	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Lead	Barium	Mercury	Chromium	
(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	
200	30	1,000	30	1,000	300	20	400	100	~	~	~	~	
~	100	2,000	20	100	100	4	20	100	~	~	~	~	
~	~	~	~	~	~	~	~	~	5.0	100.0	0.2	5.0	
10,000	300	10,000	800	10,000	6,000	600	10,000	2,000	~	~	~	~	
Sample Identification	Depth	Date											
SW2-SW11	~	8/5/04	~	1.42	29	0.39	6.93	28	ND	ND	ND	~	

NOTES:
 ND - Not detected
 ~ = Constituent not analyzed
 Gray shading indicates concentration exceeding 20 Times Rule
 Black shading indicates concentration exceeding Regulatory TCLP Limit or UCL.

Sidewalk
Semi Volatile Organic Compounds (SVOCs)

			n-Nitrosodimethylamine	Pyridine	Phenol	Aniline	bis(2-Chloroethyl)ether	2-Chlorophenol	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene
			(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
		RCS-1	50,000	500,000	60,000	1,000,000	700	700	100,000	2,000	100,000
		UCL	~	~	10,000,000	~	7,000	10,000,000	5,000,000	2,000,000	5,000,000
		10*UTS	23,000	160,000	62,000	140,000	60,000	57,000	60,000	60,000	60,000
Sample Identification	Depth	Date									
SW2-SW11	~	8/5/04	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sidewalk
Semi Volatile Organic Compounds (SVOCs)

RCS-1
 UCL
 10*UTS

2-Methylphenol	bis(2-chloroisopropyl)ether	4-Methylphenol	n-Nitroso-di-n-propylamine	Hexachloroethane	Nitrobenzene	Isophorone	2-Nitrophenol	2,4-Dimethylphenol	Benzoic acid
(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
500,000	700	50,000	50,000	6,000	50,000	100,000	100,000	700	1,000,000
~	90,000	~	~	500,000	~	~	~	10,000,000	~
56,000	72,000	56,000	140,000	300,000	140,000	NA	130,000	140,000	NA

Sample Identification	Depth	Date	2-Methylphenol	bis(2-chloroisopropyl)ether	4-Methylphenol	n-Nitroso-di-n-propylamine	Hexachloroethane	Nitrobenzene	Isophorone	2-Nitrophenol	2,4-Dimethylphenol	Benzoic acid
SW2-SW11	~	8/5/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sidewalk
Semi Volatile Organic Compounds (SVOCs)

Sample Identification	Depth	Date	bis(2-Chloroethoxy)methan	2,4-Dichlorophenol	1,2,4-Trichlorobenzene	Naphthalene	4-Chloroaniline	Hexachlorobutadiene	4-Chloro-3-methylphenol	2-Methylnaphthalene	Hexachlorocyclopentadiene
			(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
		RCS-1	500,000	10,000	100,000	4,000	1,000	3,000	1,000,000	4,000	50,000
		UCL	~	900,000	10,000,000	~	~	400,000	~	10,000,000	~
		10*UTS	72,000	140,000	190,000	56,000	160,000	56,000	140,000	NA	24,000
SW2-SW11	~	8/5/04	ND	ND	ND	ND	ND	ND	ND	ND	ND

**Sidewalk
 Semi Volatile Organic Compounds (SVOCs)**

			Acenaphthene	2,4-Dinitrophenol	4-Nitrophenol	Dibenzofuran	2,4-Dinitrotoluene	Diethyl phthalate	Fluorene	4-Chlorophenyl phenyl ethe	4-Nitroaniline
			(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
		RCS-1	20,000	3,000	100,000	100,000	700	700	400,000	1,000,000	1,000,000
		UCL	10,000,000	900,000	~	~	70,000	10,000,000	10,000,000	~	~
		10*UTS	34,000	1,600,000	290,000	NA	280,000	280,000	34,000	NA	280,000
Sample Identification	Depth	Date									
SW2-SW11	~	8/5/04	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sidewalk
Semi Volatile Organic Compounds (SVOCs)

			4,6-Dinitro-2-methylphenol	n-Nitrosodiphenylamine	4-Bromophenyl phenyl ether	Hexachlorobenzene	Pentachlorophenol	Phenanthrene	Anthracene	Di-n-butylphthalate	Fluoranthene
			(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
RCS-1	UCL	10*UTS	50,000	100,000	100,000	700	5,000	100,000	100,000	50,000	1,000,000
			~	~	~	30,000	400,000	10,000,000	10,000,000	~	10,000,000
			1,600,000	130,000	150,000	100,000	74,000	56,000	34,000	280,000	34,000
Sample Identification	Depth	Date									
SW2-SW11	~	8/5/04	ND	ND	ND	ND	ND	1,100	200	230	1,400

Sidewalk
Semi Volatile Organic Compounds (SVOCs)

			Benzidine	Pyrene	Butyl benzyl phthalate	3,3'-Dichlorobenzidine	Benzo(a)anthracene	Chrysene	bis(2-Ethylhexyl)phthalate	Di-n-octyl phthalate	Benzo(b)fluoranthene	Benzo(k)fluoranthene
			(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
RCS-1			10,000	700,000	100,000	1,000	700	700	100,000	1,000,000	700	7,000
UCL			~	10,000,000	~	30,000	100,000	400,000	10,000,000	~	100,000	400,000
10*UTS			NA	82,000	280,000	NA	34,000	34,000	280,000	280,000	68,000	68,000
Sample Identification	Depth	Date										
SW2-SW11	~	8/5/04	ND	2,400	ND	ND	970	880	ND	ND	830	300

Sidewalk
Semi Volatile Organic Compounds (SVOCs)

Sample Identification	Depth	Date	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene (Dibenzo(a,h)anthracene)	Benzo(g,h,i)perylene (Benzo(ghi)perylene)	Azobenzene	Acetophenone
			(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
			700	700	700	1,000,000	none	1,000,000
			100,000	100,000	100,000	10,000,000		
			34,000	34,000	82,000	18,000		
RCS-1								
UCL								
10*UTS								
SW2-SW11	~	8/5/04	830	340	ND	320	~	~