Weston Solutions, Inc.
1400 Weston Way
P.O. Box 2653
West Chester, Pennsylvania 19380
610-701-3000 • Fax 610-701-3186
www.westonsolutions.com

19 February 2007

PROGRAM ECP/ITSCA
FAC NAME Bishop Tube Company
COUNTY 15
MUNICIPALITY 925
FILE ID # 467150
FILE TYPE # 163

Dustin Armstrong
Pennsylvania Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401-4915

RE: Summary of the November 2006 Subsurface Soil Investigation and Results
Bishop Tube Site

Dear Mr. Armstrong:

This letter report summarizes the November 2006 subsurface soil investigation conducted by Weston Solutions, Inc. (WESTON®) at the Bishop Tube Site (Site) in Frazer, Pennsylvania. As shown in Figure 1, previous soil investigation conducted by Baker Environmental, Inc. (Baker) at the former Drum Storage Area (DSA) indicated that the extent of soil impacted by volatile organic compounds (VOCs) may extend under the floor of Building 8 along the south wall of the building. On behalf of the Pennsylvania Department of Environmental Protection (PADEP), WESTON conducted a supplemental subsurface soil investigation to further delineate the extent of VOCs in vadose zone soil in this area just north of the former DSA and to determine whether the subject area requires treatment by soil vapor extraction (SVE). This letter presents a summary of the field investigation, the analytical data results, and conclusions of the investigation, as well as, recommendation for the future course of action regarding the subject area.

FIELD INVESTIGATION

On November 16, 2006, WESTON advanced three borings (SB-1-1116, SB-2-1116, and SB-3-1116) at the locations shown in Figure 1 using a track-mounted Geoprobe® soil boring direct push rig. The Geoprobe® rig was owned and operated by Eichelbergers, Inc., a subcontractor to WESTON. The Geoprobe® drilling and soil sampling were conducted under a site-specific health and safety plan (HASP). Air monitoring of the breathing zone was conducted with a calibrated organic vapor meter (OVM) during the intrusive work performed at the site. No OVM readings were greater than background in the work site breathing zone during this supplemental investigation.

At each boring location, the Geoprobe® macrosampler was advanced from ground surface to the water table and continuous soil cores were collected in 4-ft intervals. A WESTON geoscientist characterized the lithology encountered in each of the soil cores and each core was screened with a calibrated OVM. A copy of the soil boring logs is provided in Attachment A.

Two soil samples were collected from each boring; one from the interval of the highest OVM reading and one from the interval just above the saturated zone. Samples were assigned an identification number indicating both their location and the sample interval (e.g., Sample SB-1-1116-6-6.5 was collected at location SB-1-1116 at a depth of 6 to 6.5 feet below ground surface [bgs]).

To prevent possible cross-contamination, all downhole Geoprobe® equipment was decontaminated before and between each boring. The equipment used to collect and place soil samples into the laboratory jars and containers was pre-cleaned and disposable.

Six soil samples (two from each boring) were submitted to the Hampton-Clarke/Veritech Laboratories in Fairfield, NJ under a chain-of-custody (COC) for VOC analysis. For quality control purposes, one trip blank accompanied this shipment. The soil samples were analyzed for VOCs by EPA Method SW846-5035/8260. A copy of the analytical data package is provided in Attachment B.

SUMMARY OF SOIL ANALYTICAL RESULTS

The soil analytical results are summarized in Table 1. Sample results were compared to the most conservative PADEP Land Recycling and Environmental Standards Act (Act 2) Statewide Health Standards (SHS) for soil (i.e., residential direct contact value and the soil to groundwater value of 100 times the groundwater medium-specific concentration [MSC] for a residential used aquifer with total dissolved solids [TDS] $\leq$ 2,500 mg/L). No VOCs were detected at a concentration at or greater than the PADEP SHS MSCs.

CONCLUSIONS AND RECOMENDATION

Based on the results of this supplemental investigation the following conclusions and recommendation are presented:

- Six vadose zone soil samples were collected as part of a supplemental investigation to determine if soil under the floor of Building 8 along the south wall of the building was impacted with VOCs and to further delineate the extent of VOCs in vadose zone soil in the former DSA.

- The soil analytical results indicate that no VOCs were detected at concentrations at or greater than the most conservative PADEP SHS MSCs. Thus, there is no significant impact to soil in the subject area.

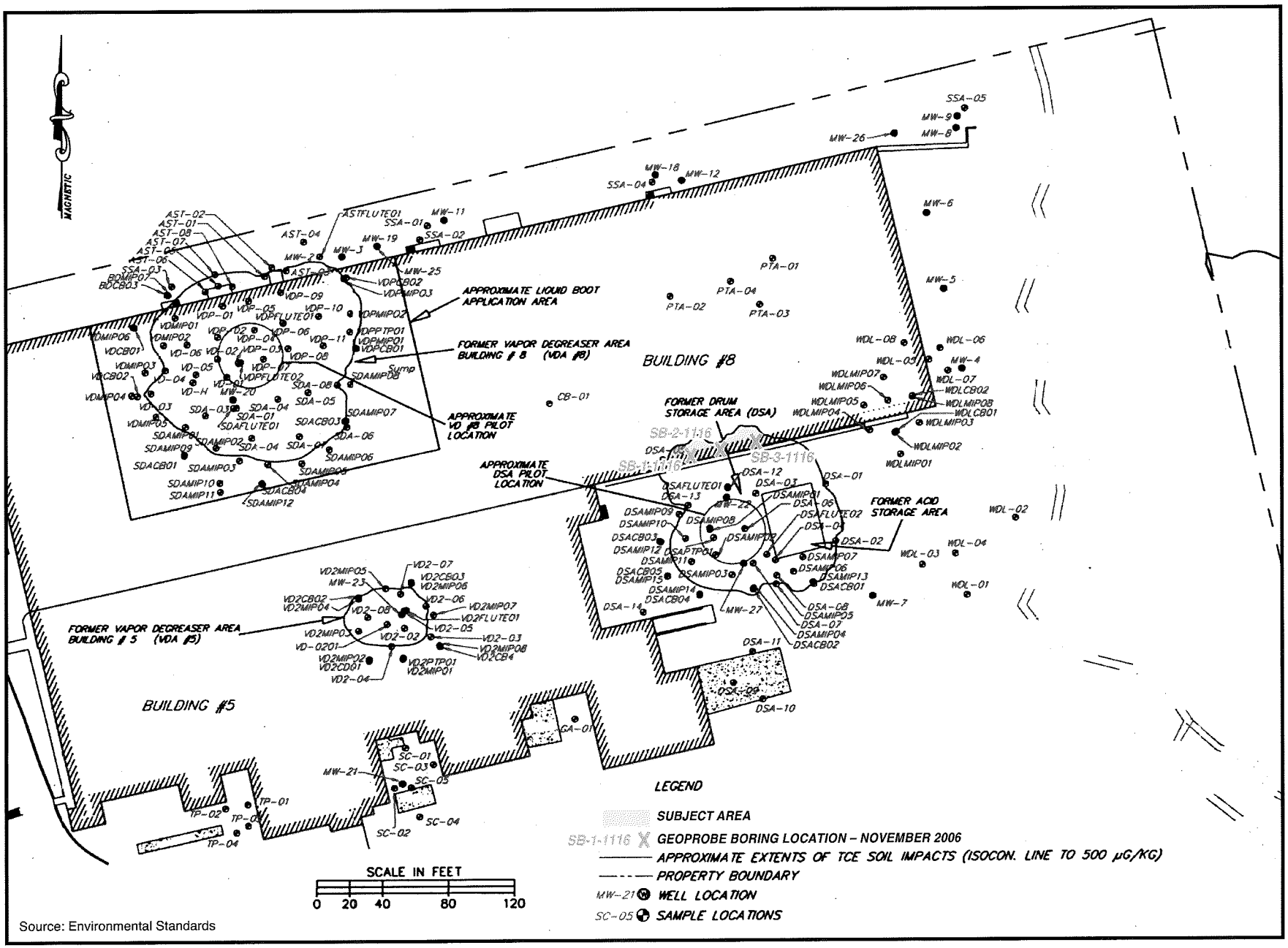
- The subject area does not require treatment by SVE and no further action is necessary for this area.

Should you have any question please do not hesitate to call me at (610) 701-3513.

Sincerely,

Weston Solutions, Inc.

Jess Anderson
Project Geoscientist



07P-0214

FIGURE 1 LOCATION OF GEOPROBE BORINGS – NOVEMBER 2006
BISHOP TUBE SITE
FRAZER, PA

WESTON SOLUTIONS
Restoring Resource Efficiency

Table 1 Summary of Supplemental Soil Sampling Analytical Results - November 2006
Bishop Tube Site
Frazer, PA

Parameter	PADEP Act 2 MSCs (mg/kg)		Sample Location and Collection Data											
	Residential Direct Contact[1]	Residential Soil to Groundwater [2]	SB-1-1116 6-6.5 ft bgs		SB-1-1116 8-8.5 ft bgs		SB-2-1116 3.5-4 ft bgs		SB-2-1116 7-7.5 ft bgs		SB-3-1116 3.5-4 ft bgs		SB-3-1116 7.5-8 ft bgs	
			(mg/kg)	RL	(mg/kg)	RL	(mg/kg)	RL	(mg/kg)	RL	(mg/kg)	RL	(mg/kg)	RL
1,1,1-Trichloroethane	10,000	20	ND	0.00029	ND	0.00030	ND	0.00029	ND	0.00027	ND	0.00031	ND	0.00027
1,1,2,2-Tetrachloroethane	5.5	0.03	ND	0.0012	ND	0.0012	ND	0.0012	ND	0.0011	ND	0.0013	ND	0.0011
1,1,2-Trichloroethane	20	0.5	ND	0.00086	ND	0.00087	ND	0.00086	ND	0.00079	ND	0.00089	ND	0.00077
1,1-Dichloroethane	200	2.7	ND	0.00055	ND	0.00056	ND	0.00055	ND	0.00051	ND	0.00057	ND	0.00050
1,1-Dichloroethene	6.4	0.7	ND	0.00090	ND	0.00091	ND	0.00090	ND	0.00083	ND	0.00093	ND	0.00081
1,2-Dichloroethane	63	0.5	ND	0.00063	ND	0.00063	ND	0.00063	ND	0.00058	ND	0.00065	ND	0.00056
1,2-Dichloropropane	31	0.5	ND	0.00089	ND	0.00090	ND	0.00089	ND	0.00082	ND	0.00092	ND	0.00080
2-Butanone	10,000	280	ND	0.00075	ND	0.00076	ND	0.00075	ND	0.00069	ND	0.00078	ND	0.00067
2-Hexanone	-	-	ND	0.00036	ND	0.00036	ND	0.00036	ND	0.00033	ND	0.00037	ND	0.00032
4-Methyl-2-Pentanone	1,500	19	ND	0.00079	ND	0.00080	ND	0.00079	ND	0.00073	ND	0.00082	ND	0.00072
Acetone	10,000	370	ND	0.0057	ND	0.0058	ND	0.0057	ND	0.0053	ND	0.0059	ND	0.0052
Benzene	41	0.5	ND	0.00043	ND	0.00044	ND	0.00043	ND	0.00040	ND	0.00045	ND	0.00039
Bromodichloromethane	8.6	10	ND	0.0013	ND	0.0013	ND	0.0013	ND	0.0012	ND	0.0013	ND	0.0012
Bromoform	290	10	ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0010	ND	0.0011	ND	0.00098
Bromomethane	95	1	ND	0.00084	ND	0.00085	ND	0.00084	ND	0.00077	ND	0.00087	ND	0.00076
Carbon disulfide	10,000	190	ND	0.00076	ND	0.00077	ND	0.00076	ND	0.00070	ND	0.00079	ND	0.00069
Carbon tetrachloride	21	0.5	ND	0.00073	ND	0.00074	ND	0.00073	ND	0.00067	ND	0.00076	ND	0.00066
Chlorobenzene	4,400	10	ND	0.00061	ND	0.00061	ND	0.00061	ND	0.00056	ND	0.00063	ND	0.00055
Chloroethane	6,200	23	ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0010	ND	0.0012	ND	0.0010
Chloroform	6	10	ND	0.00073	ND	0.00074	ND	0.00073	ND	0.00068	ND	0.00076	ND	0.00066
Chloromethane	180	0.3	ND	0.00072	ND	0.00073	ND	0.00072	ND	0.00067	ND	0.00075	ND	0.00065
Cis-1,2-Dichloroethene	670	7	**0.0020**	0.00066	**0.0053**	0.00066	**0.012**	0.00066	**0.0041**	0.00060	ND	0.00068	**0.0020**	0.00059
Cis-1,3-Dichloropropene	80	0.66	ND	0.00066	ND	0.00067	ND	0.00066	ND	0.00061	ND	0.00069	ND	0.00060
Dibromochloromethane	12	10	ND	0.00055	ND	0.00055	ND	0.00055	ND	0.00050	ND	0.00057	ND	0.00049
Ethylbenzene	10,000	70	ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0010	ND	0.0012	ND	0.0010
M&p-Xylenes	8,000[3]	1,000[3]	ND	0.0019	ND	0.0020	ND	0.0019	ND	0.0018	ND	0.0020	ND	0.0017
Methylene chloride	680	0.5	**0.021 B**	0.0011	**0.023 B**	0.0012	**0.024 B**	0.0011	**0.021 B**	0.0011	**0.025 B**	0.0012	**0.022 B**	0.0010
O-Xylene	8,000[3]	1,000[3]	ND	0.00057	ND	0.00058	ND	0.00057	ND	0.00052	ND	0.00059	ND	0.00051
Styrene	10,000	10	ND	0.00067	ND	0.00068	ND	0.00067	ND	0.00061	ND	0.00069	ND	0.00060
Tetrachloroethene	340	0.5	**0.0014**	0.00084	ND	0.00085	ND	0.00084	ND	0.00077	ND	0.00087	ND	0.00075
Toluene	7,600	100	**0.0089**	0.00095	**0.0013**	0.00096	ND	0.00095	ND	0.00087	ND	0.00098	ND	0.00085
Trans-1,2-Dichloroethene	1,300	10	ND	0.0015	ND	0.0015	ND	0.0015	ND	0.0014	ND	0.0016	ND	0.0014
Trans-1,3-Dichloropropene	80	0.66	ND	0.00082	ND	0.00083	ND	0.00082	ND	0.00076	ND	0.00085	ND	0.00074
Trichloroethene	190	0.5	**0.0060**	0.0015	ND	0.0015	**0.064**	0.0015	**0.0095**	0.0014	ND	0.0016	ND	0.0014
Vinyl chloride	12	0.2	ND	0.00039	ND	0.00040	ND	0.00039	ND	0.00036	ND	0.00041	ND	0.00036

(1) Medium-specific concentration (MSC) for regulated organic substances in soil;direct contact value, residential, 0-15 feet below ground surface. Effective December 2004.

(2) Medium-specific concentration (MSC) for regulated organic substances in soil;soil to groundwater value of 100 times the groundwater MSC for a residential used aquifer with TDS ≤ 2500 mg/L. Effective December 2004.

(3) MSC is for total xylenes.

ND = Not detected at or greater than the given reporting limit (RL).

B = Constituent was detected in the laboratory blank.

RL = Reporting limit.

ft bgs = feet below ground surface

Bold results are detections.

ATTACHMENT 1

SOIL BORING LOGS

WESTON	SOIL BORING LOG		PAGE 1 OF 1
Job Name	**PADEP Bishop Tube**	**Boring No.**	**SB-3-1116**
Job No.	**00739.055.012.3010**		

				Groundwater Level	
				Date	**Depth*** **
Date Drilled	16 November 2006	**Boring Method**	Geoprobe		
Drilling Co.	Eichelbergers	**Completion Depth**	12.0 ft bgs		
Drill Foreman	Bill Tatum	**Location**	Building 8		
Logged By	Jess Anderson	**Survey Data**			

Depth (feet)	Sample No.	Sample Type*	Sample Blow Counts** (per 6 in.)	Moisture	Visual Description	OVM (ppm)	% Rec
			NA				
	1	GP		Moist	Medium Brown to Dark Brown Sandy Silt Some Gravel	0	
4							
						0	
	2	GP		Moist	Medium Brown to Dark Brown Sandy Silt Some Gravel		
8				Moist		1.7	
				Saturated			
	3	GP			Medium Brown to Dark Brown Sandy Silt Some Gravel	0	
12					Water encountered at 8.5ft bgs		
					Soil Samples Collected at 3.5-4 bgs and 7.5-8 bgs		

***Sample type:** **SS-Split Spoon**
RC-Rock Core
GP-GeoProbe Sleeve

Grain Size: **F-Fine**
M-Medium
C-Course

****ASTM D-1586 Standard Penetration Test**

*****Depth measured from top of inner casing**

WESTON	SOIL BORING LOG		PAGE 1 OF 1
Job Name	PADEP Bishop Tube	**Boring No.**	SB-2-1116
Job No.	00739.055.012.3010		
Date Drilled	16 November 2006	**Boring Method**	Geoprobe
Drilling Co.	Eichelbergers	**Completion Depth**	10.6 ft bgs
Drill Foreman	Bill Tatum	**Location**	Building 8
Logged By	Jess Anderson	**Survey Data**	

Groundwater Level Date	Depth***

Depth (feet)	Sample No.	Sample Type*	Sample Blow Counts** (per 6 in.)	Moisture	Visual Description	OVM (ppm)	% Rec
			NA				
	1	GP		Moist	Medium Brown to Dark Brown Sandy Silt Some Gravel	1.7	
4						2.6	
	2	GP		Moist	Medium Brown to Dark Brown Sandy Silt Some Gravel	4.0	
8				Moist		1.7	
				Saturated			
	3	GP			Medium Brown to Dark Brown Sandy Silt Some Gravel	1.2	
12					10.6 Refusal		
					Water encountered at 8.5ft bgs		
					Soil Samples Collected at 3.5-4 bgs and 7-7.5 bgs		

***Sample type:** **SS-Split Spoon**
RC-Rock Core
GP-GeoProbe Sleeve

Grain Size: **F-Fine**
M-Medium
C-Course

****ASTM D-1586 Standard Penetration Test**

*****Depth measured from top of inner casing**

WESTON	SOIL BORING LOG	PAGE 1 OF 1

Job Name / Job No.	PADEP Bishop Tube 00739.055.012.3010	Boring No.	SB-3-1116	Groundwater Level Date	Depth***
Date Drilled	16 November 2006	Boring Method	Geoprobe		
Drilling Co.	Eichelbergers	Completion Depth	12.0 ft bgs		
Drill Foreman	Bill Tatum	Location	Building 8		
Logged By	Jess Anderson	Survey Data			

Depth (feet)	Sample No.	Sample Type*	Sample Blow Counts** (per 6 in.)	Moisture	Visual Description	OVM (ppm)	% Rec
			NA				
	1	GP		Moist	Medium Brown to Dark Brown Sandy Silt Some Gravel	0	
4							
						0	
	2	GP		Moist	Medium Brown to Dark Brown Sandy Silt Some Gravel		
8				Moist		1.7	
				Saturated			
	3	GP			Medium Brown to Dark Brown Sandy Silt Some Gravel	0	
12					Water encountered at 8.5ft bgs		
					Soil Samples Collected at 3.5-4 bgs and 7.5-8 bgs		

*Sample type: SS-Split Spoon
RC-Rock Core
GP-GeoProbe Sleeve

Grain Size: F-Fine
M-Medium
C-Course

**ASTM D-1586 Standard Penetration Test

***Depth measured from top of inner casing