Appendix III. Geotechnical Investigative Results for Wastebeds 1-8

APPENDIX B

Geotechnical Investigation Results

APPENDIX B – GEOTECHNICAL INVESTIGATION RESULTS

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List of Acronyms

QA/QC - Quality Assurance/Quality Control

1. Introduction

This document summarizes the geotechnical investigations performed in 2007 and 2008 at the Wastebeds 1-8 Site in Geddes, New York under the Wastebeds 1-8 RI/FS Consent Order #D-7-0002-02-08 between the New York State Department of Environmental Conservation (NYSDEC) and Honeywell, dated January 22, 2004. The geotechnical investigations were conducted in accordance with the NYSDEC-approved *Shallow Ground Water Focused Feasibility Study Work Plan, Wastebeds 1-8*, dated February 2008 and an addendum to the work plan which was submitted in March 2008. The work plan and addendum were approved by NYSDEC on April 8, 2008 and May 2, 2008, respectively. The field investigations consisted of geotechnical borings, test pit excavation and surveying.

Quality Assurance/Quality Control (QA/QC) procedures for the program, including decontamination, are specified in the *Wastebeds 1-8 RI/FS Quality Assurance Project Plan* (QAPP) located in **Attachment A** of the *Wastebeds 1-8 RI/FS Work Plan* (O'Brien & Gere, 2006). Health and Safety procedures for this program are presented in the *Wastebeds 1-8 Health and Safety Plan* (O'Brien & Gere, 2003).

2. Geotechnical Soil Borings

The soil boring program was intended to evaluate the stratigraphy of Wastebeds 1-8 along the lakeshore, evaluate the presence and depth of the confining layer (silt and clay layer), obtain field information relative to strength parameters of fill and soil along the lakeshore, evaluate the presence of hydric soils along the lakeshore, and obtain samples for laboratory geotechnical analyses. A total of 70 geotechnical borings were completed between November 2007 and May 2008. Borings were drilled within the wastebeds, along the perimeter of the wastebeds, and in Onondaga Lake, as shown in **Figure 1**. Following the completion of the onshore borings, the locations were surveyed. Offshore locations were verified using a GPS unit. The geotechnical boring surface elevations and sampling depths are summarized in **Table 1**. Boring Logs are included in **Attachment A**.

3. Laboratory Testing Summary

Samples were submitted to PW Laboratories, Inc., for analysis. Laboratory testing consisted of Natural Moisture Content, Grain Size analyses, Specific Gravity, Atterberg Limits, Hydraulic Conductivity, and Triaxial testing. Laboratory testing is summarized in **Table 2**. Geotechnical laboratory results are included in **Attachment B**.

4. Test Pits

The test pit program was conducted to evaluate physical characteristics of the subsurface such as ease of excavation, stability of excavation, and presence of staining or odors. A total of five test pits were advanced on the southeastern portion of the Site on November 27 and 28, 2007. In accordance with the NYSDEC-approved *Shallow Ground Water Focused Feasibility Study Wastebeds 1 through 8 Work Plan* (O'Brien & Gere 2008), the test pits were excavated approximately 2.5 to 3 feet wide and 8 to 11 feet long and subsequently backfilled. The results of the test pit efforts were presented in the May 2009 *Wetland Delineation and Floodplain Assessment for Wastebeds 1-8* (O'Brien & Gere 2009). A memorandum highlighting the results of the test pitting activities was submitted with Honeywell's letter of February 27, 2008 and is included in **Attachment C**. A photograph log is included in that attachment**.**

References

O'Brien & Gere. 2003. *Health and Safety Plan for Wastebeds 1 through 8 Site. Geddes, New York.* O'Brien & Gere Engineers, Inc., Syracuse, New York.

O'Brien & Gere 2006. *Wastebeds 1 through 8 Remedial Investigation/Feasibility Work Plan. Geddes, New York.* O'Brien & Gere Engineers, Inc., Syracuse, New York.

O'Brien & Gere 2008. *Wastebeds 1 through 8 Shallow Ground Water Focused Feasibility Study Work Plan. Geddes, New York.* O'Brien & Gere Engineers, Inc., Syracuse, New York.

O'Brien & Gere. 2009. *Wetland Delineation and Floodplain Assessment for Wastebeds 1-8.* O'Brien & Gere Engineers, Inc., Syracuse, New York.

Table 1. *Geotechnical Boring Summary*

Honeywell
Wastebeds 1-8 Site
Focused Feasibility Study

Soil Boring	Surface Elevation (feet)	Termination Depth (FBG)	Phase of FFS	Sample Depth (feet)	Sample Strata	Sample Type	Testing Completed						
							NMC	GS	AL	HC	CU	UU	SG
WB18-SB-52	380.03	55.3	HC	14-16	Solvay Waste	SS	X	X	X				
				24-26	Marl	SS	X						
				20-22	Marl	ST				X			
WB18-SB-53	365.6	40	HC	2-3	Solvay Waste	SS	X						
				10-12	Marl	SS	X	X	X				
WB18-SB-54	368.58	46	HC	6-8	Solvay Waste	SS	X	X	X				
				10-12	Marl	SS	X						
				22-24	Marl	ST				X			
WB18-SB-55	366 (est)	40	HC	4-6	Solvay Waste	SS	X						
				16-18	Marl	ST				X			
				22-24	Marl	SS	X	X	X				
WB18-SB-56	365.83	40	HC	0-2	Solvay Waste	SS	X	X	X				
				10-12	Marl	SS	X						
				6-8	Solvay Waste	ST				X			
WB18-SB-57	366.67	40	HC	4-6	Solvay Waste	SS	X						
				12-14	Marl	ST				X			
				18-20	Marl	SS	X	X	X				
WB18-SB-58	368.06	40	HC	0-2	Solvay Waste	SS	X						
				6-8	Solvay Waste	ST				X			
				12-14	Marl	SS	X						
WB18-SB-59	367.29	Hole Deleted	HC	6-8	Solvay Waste	SS							
				14-16	Marl	SS							
				30-32	Marl	ST							
WB18-SB-60	366.13	40	HC	2-4	Solvay Waste	SS	X	X	X				
				20-22	Marl	ST				X			
				26-28	Marl	SS	X						
WB18-SB-61	365.77	40	HC	4-6	Solvay Waste	SS	X						
				12-14	Marl	ST				X			
				18-20	Marl	SS	X	X	X				
WB18-SB-62	365.54	40	HC	4-6	Solvay Waste	SS	X	X	X				
				6-8	Solvay Waste	ST				X			
				24-26	Marl	SS	X						
WB18-SB-63	366.23	34	HC	10-12	Marl	SS	X						
				18-20	Marl	ST				X			
				20-22	Marl	ST					X		
				24-26	Marl	SS	X	X	X				

Table 1. *Geotechnical Boring Summary*

Honeywell
Wastebeds 1-8 Site
Focused Feasibility Study

Soil Boring	Surface Elevation (feet)	Termination Depth (FBG)	Phase of FFS	Sample Depth (feet)	Sample Strata	Sample Type	Testing Completed						
							NMC	GS	AL	HC	CU	UU	SG
WB18-SB-64	367.11	30	HC	0-2	Solvay Waste	SS	X						
				8-10	Marl	SS	X	X	X				
WB18-SB-65	367.31	32	HC	4-6	Solvay Waste	SS	X						
				12-14	Marl	SS	X	X	X				
WB18-SB-66	367.04	32	HC	0-2	Solvay Waste	SS	X						
				6-8	Marl	ST				X			
				8-10	Marl	SS	X	X	X				
WB18-SB-67	365.64	40	TW	9-10	Marl	SS	X	X	X				
				4-6	Solvay Waste	ST				X			
				10-12	Marl	ST				X			
				16-18	Marl	SS	X						
WB18-SB-68	365.82	40	TW	4-6	Solvay Waste	ST				X			
				6-8	Solvay Waste	SS	X	X	X				
				14-16	Marl	SS	X						
WB18-SB-69	365.88	40	TW	2-4	Solvay Waste	SS	X	X	X				
				4-6	Solvay Waste	ST					X		
				10-12	Marl	SS	X						
				14-16	Marl	ST				X			
WB18-SB-70	366.22	40	ESW - E	2-4	Solvay Waste	SS	X	X	X				
				10-12	Marl	SS	X						
				16-18	Marl	SS	X						
WB18-SB-71	369.31	46	ESW - E	2-4	Solvay Waste	SS	X						
				6-8	Marl	SS	X						
				10-12	Marl	SS	X	X	X				
				16-18	Marl	SS	X						
				20-22	Marl	ST							X
WB18-SB-72	366.26	42	ESW - E	2-4	Solvay Waste	SS	X	X	X				
				10-12	Marl	SS	X						
				18-20	Marl	SS	X						
WB18-SB-73	370.76	42	ESW - E	2-4	Solvay Waste	SS	X						
				12-14	Marl	SS	X	X	X				
				16-18	Marl	SS	X						
				34-36	Clayey Silt	ST							X

Table 1. *Geotechnical Boring Summary*

Honeywell
Wastebeds 1-8 Site
Focused Feasibility Study

Soil Boring	Surface Elevation (feet)	Termination Depth (FBG)	Phase of FFS	Sample Depth (feet)	Sample Strata	Sample Type	Testing Completed						
							NMC	GS	AL	HC	CU	UU	SG
WB18-SB-74	366.25	40	ESW - E	2-4	Solvay Waste	SS	X	X	X				
				10-12	Marl	SS	X						
				14-16	Marl	ST							X
				16-18	Marl	SS	X						
WB18-SB-75	372.55	50	ESW - E	2-4	Solvay Waste	SS	X						
				14-16	Marl	SS	X						
				20-22	Marl	SS	X	X	X				
				26-28	Marl	SS	X						
WB18-SB-76	376.02	40	ESW - E	2-4	Solvay Waste	SS	X	X	X				
				18-20	Marl	SS	X						
				24-26	Marl	SS	X						
WB18-SB-77	370.26	60	ESW - E	2-4	Solvay Waste	SS	X						
				10-12	Marl	SS	X	X	X				
				16-18	Marl	SS	X						
WB18-SB-78	360.5	20	ESW - N	0-1	Solvay Waste	SS	X	X	X				
				6-8	Marl	SS	X						
				16-18	Marl	SS	X						
WB18-SB-79	365.96	60	ESW - N	2-4	Marl	SS	X						
				12-14	Marl	SS	X	X	X				
				20-22	Marl	SS	X						
WB18-SB-80		Hole Deleted	ESW - N										
WB18-SB-81	409.9	100	ESW - N	8-10	Solvay Waste	SS	X						
				70-72	Marl	SS	X	X	X				
				76-78	Marl	SS	X						
WB18-SB-82	360.5	20	ESW - N	2-4	Marl	SS	X	X	X				
				10-12	Marl	SS	X				X		
				16-18	Marl	SS	X						
WB18-SB-83	363.57	40	ESW - N	4-6	Sand	SS	X	X					
				20-22	Marl	SS	X						
				32-34	Marl	SS	X						
WB18-SB-84	409.26	100	ESW - N	6-8	Solvay Waste	SS	X						
				22-24	Solvay Waste	SS	X	X	X				
				40-42	Solvay Waste	SS	X						
				80-82	Marl	ST						X	
				98-100	Silty Clay	ST						X	

Table 1. *Geotechnical Boring Summary*

Honeywell
Wastebeds 1-8 Site
Focused Feasibility Study

Soil Boring	Surface Elevation (feet)	Termination Depth (FBG)	Phase of FFS	Sample Depth (feet)	Sample Strata	Sample Type	Testing Completed						
							NMC	GS	AL	HC	CU	UU	SG
WB18-SB-85	359.9	30	ESW - N	4-6	Marl	ST							X
				6-8	Marl	SS	X						
				12-14	Marl	SS	X	X	X				
				22-24	Marl	SS	X						
WB18-SB-86	352.72	40	ESW - N	6-8	Marl	SS	X						
				20-22	Marl	SS	X	X	X				
				30-32	Marl	SS	X						
WB18-SB-87	408.78	100	ESW - N	14-16	Solvay Waste	SS	X						
				32-34	Solvay Waste	SS	X	X	X				
				44-46	Solvay Waste	SS	X						
				80-82	Marl	ST					X		
WB18-SB-88	360.8	20	ESW - N	8-10	Marl	SS	X	X	X				
				16-18	Marl	SS	X						
				2-4	Marl	ST					X		
WB18-SB-89	364.76	40	ESW - N	2-4	Sand/Silt	SS	X						
				12-Oct	Marl	SS	X						
				26-28	Marl	SS	X	X	X				
WB18-SB-90	408.59	100	ESW - N	12-14	Solvay Waste	SS	X	X	X				
				28-30	Solvay Waste	SS	X						
				40-42	Solvay Waste	SS	X						
WB18-SB-91	359.5	20	ESW - N	6-8	Marl	ST					X		
				4-6	Marl	SS	X	X	X				
				10-12	Marl	SS	X						
				14-16	Marl	SS	X						
WB18-SB-92	363.67	40	ESW - N	4-6	Marl	SS	X	X	X				
				20-22	Marl	SS	X						
				30-32	Marl	SS	X						
WB18-SB-93	386.68	60	ESW - N	4-6	Solvay Waste	SS	X						
				12-14	Solvay Waste	SS	X	X	X				
				28-30	Solvay Waste	SS	X						
WB18-SB-94	408.59	100	ESW - N	8-10	Solvay Waste	SS	X	X	X				
				28-30	Solvay Waste	SS	X						
				42-44	Solvay Waste	SS	X						
WB18-SB-95	359.5	30	ESW - N	10-12	Marl	ST						X	
				2-4	Marl	SS	X						
				14-16	Marl	SS	X	X	X				
				24-26	Marl	SS	X						
				6-8	Marl	SS	X						

Table 1. *Geotechnical Boring Summary*

Honeywell
Wastebeds 1-8 Site
Focused Feasibility Study

Soil Boring	Surface Elevation (feet)	Termination Depth (FBG)	Phase of FFS	Sample Depth (feet)	Sample Strata	Sample Type	Testing Completed						
							NMC	GS	AL	HC	CU	UU	SG
WB18-SB-96	363.28	40	ESW - N	20-22	Marl	SS	X	X	X				
				26-28	Marl	SS	X						
WB18-SB-97	386.85	60	ESW - N	8-10	Solvay Waste	SS	X	X	X				
				20-22	Solvay Waste	SS	X						
				30-32	Solvay Waste	SS	X						
WB18-SB-98	408.48	100	ESW - N	8-10	Solvay Waste	SS	X						
				28-30	Solvay Waste	SS	X	X	X				
				42-44	Solvay Waste	SS	X						
				74-76	Marl	ST				X			
WB18-SB-99	359.9	20	ESW - N	2-4	Solvay Waste	SS	X	X	X				
				5-6	Marl	SS	X						
				12-14	Marl	SS	X						
				6-8	Marl	ST				X			
				8-10	Marl	ST					X		
WB18-SB-100	363.95	40	ESW - N	4-6	Solvay Waste	SS	X						
				18-20	Marl	SS	X						
				34-36	Clay	SS	X	X	X				
WB18-SB-101	386.49	60	ESW - N	6-8	Solvay Waste	SS	X	X	X				
				14-16	Solvay Waste	SS	X						
				24-26	Solvay Waste	SS	X						
				34.5-36.5	Marl	ST						X	
WB18-SB-102	408.4	100	ESW - N	4-6	Solvay Waste	SS	X	X	X				
				16-18	Solvay Waste	SS	X						
				36-38	Solvay Waste	SS	X						
WB18-SB-103	360.5	30	ESW - N	2-4	Marl	SS	X						
				10-12	Marl	SS	X	X	X				
				18-20	Marl	SS	X						
				6-8	Marl	ST					X		
WB18-SB-104	362.82	60	ESW - N	2-4	Solvay Waste	SS	X						
				4-6	Solvay Waste	SS	X	X	X				
				6-8	Solvay Waste	SS	X						
WB18-SB-105	387.45	60	ESW - N	4-6	Solvay Waste	SS	X						
				16-18	Solvay Waste	SS	X	X	X				
				24-26	Solvay Waste	SS	X						
				34-36	Marl	ST					X		
WB18-SB-106	408.84	80	ESW - N	16-18	Solvay Waste	SS	X						
				28-30	Solvay Waste	SS	X	X	X				
				38-40	Solvay Waste	SS	X						

Table 1. *Geotechnical Boring Summary*

Honeywell
Wastebeds 1-8 Site
Focused Feasibility Study

Soil Boring	Surface Elevation (feet)	Termination Depth (FBG)	Phase of FFS	Sample Depth (feet)	Sample Strata	Sample Type	Testing Completed						
							NMC	GS	AL	HC	CU	UU	SG
WB18-SB-107	360.5	20	ESW - N	8-10	Marl	SS	X	X	X				
				2-4	Marl	SS	X						
				12-14	Marl	SS	X						
				18-20	Marl	ST				X			
WB18-SB-108	363.98	40	ESW - N	10-12	Solvay Waste	ST					X		
				2-4	Solvay Waste	SS	X						
				4-6	Solvay Waste	SS	X						
				8-10	Solvay Waste	SS	X	X	X				
WB18-SB-109	389.7	60	ESW - N	6-8	Solvay Waste	SS	X	X	X				
				20-22	Solvay Waste	SS	X						
				28-30	Solvay Waste	SS	X						
WB18-SB-110	409.12	100	ESW - N	6-8	Solvay Waste	SS	X	X	X				
				20-22	Solvay Waste	SS	X						
				34-36	Solvay Waste	SS	X						
WB18-SB-111	361.2	20	ESW - N	2-4	Marl	SS	X	X	X				
				8-10	Marl	SS	X						
				16-18	NMC Sand	SS	X						
WB18-SB-112	367.82	60	ESW - N	6-8	Silt/Sand	SS	X						
				22-24	Silt/Sand	SS	X	X	X				
				32-34	Silt/Sand	SS	X						
WB18-SB-113	382.06	60	ESW - N	22-24	Marl	SS	X	X	X				
				26-28	Marl	SS	X						
				32-34	Marl	SS	X						
WB18-SB-114	409.12	100	ESW - N	58-60	Marl	SS	X	X	X				
				54-56	Marl	SS	X						
				62-64	Marl	SS	X						
WB18-SB-115	361	30	ESW - N	18-20	Marl	ST					X		
				0-1	Solvay Waste	SS	X						
				10-12	Marl	SS	X						
				24-26	Marl	SS	X	X	X				

Table 1. *Geotechnical Boring Summary*

Honeywell
Wastebeds 1-8 Site
Focused Feasibility Study

Soil Boring	Surface Elevation (feet)	Termination Depth (FBG)	Phase of FFS	Sample Depth (feet)	Sample Strata	Sample Type	Testing Completed						
							NMC	GS	AL	HC	CU	UU	SG
WB18-SB-116	366.5	40	ESW - N	2-4	Sand/Silt	SS	X						
				8-10	Marl	SS	X						
				18-20	Marl	SS	X	X	X				
WB18-SB-117	387.31	60	ESW - N	8-10	Solvay Waste	SS	X						
				28-30	Marl	SS	X						
				3-38	Marl	SS	X	X	X				
WB18-SB-118	409.52	80	ESW - N	6-8	Solvay Waste	SS	X	X	X				
				30-32	Solvay Waste	ST					X		
				56-58	Marl	SS	X						
				62-64	Marl	SS	X						
WB18-SB-119	423.2	100	ESW - N	8-10	Solvay Waste	SS	X				X		
				18-20	Solvay Waste	SS	X						
				44-46	Solvay Waste	SS	X	X	X				
WB18-SB-120	361.5	20	ESW - N	2-4	Marl	SS	X						
				6-8	Marl	SS	X	X	X				
				14-16	Marl	SS	X						
WB18-SB-121	367	40	ESW - N	2-4	Sand/Silt	SS	X						
				8-10	Sand/Silt	SS	X	X	X				
				24-26	Sand/Silt	SS	X						
WB18-SB-122	388.18	60	ESW - N	4-6	Solvay Waste	SS	X						
				10-12	Solvay Waste	SS	X	X	X				
				20-22	Solvay Waste	SS	X						
WB18-SB-123	423.24	100	ESW - N	8-10	Solvay Waste	SS	X						
				20-22	Solvay Waste	SS	X						
				44-46	Solvay Waste	SS	X						
				32-34	Solvay Waste	ST				X			
				38-40	Solvay Waste	ST					X		
				72-74	Marl	ST					X		

NOTES:

FBG - Feet Below Grade
HC - Hydraulic Control
TW - Treatment Wetland
ESW - E Exposed Solvay Waste Area (Eastern Shore)
ESW - N - Exposed Solvay Waste Area (Northern Face)
SS - Split Spoon
ST - Shelby Tube

NMC - Natural Moisture Content
GS - Grain Size
AL - Atterberg Limits
HC - Hydraulic Conductivity
CU - Consolidated, Undrained Triaxial
UU - Unconsolidated, Undrained, Compressive Strength
SG - Specific Gravity

Table 2. Summary of Laboratory Testing

Honeywell
Wastebeds 1-8 Site
Focused Feasibility Study

								Atterberg Limits			Hydraulic	Consolidation Test			UU Triaxial Test		CU Triaxial Test	
	Boring	Depth	Soil	NMC Results	Grain Size	Hydrometer Analysis	Specific Gravity	Plastic Limit	Liquid Limit	Plasticity Index	Conductivity cm/sec	Precon Press (tsf)	C_c	C_r	C psi	ϕ Degrees	C'/C psi	ϕ'/ϕ Degrees
	WB18-SB-52	14-16	Solvay Waste	212.4	X			NP	-	-								
		24-26	Marl	47.4														
		20-22	Marl								4.56E-04							
	WB18-SB-53	2-3	Solvay Waste	60.2														
		10-12	Marl	60.2	X			29	39	10								
	WB18-SB-54	6-8	Solvay Waste	77.1	X			NP	-	-								
		10-12	Marl	64.2														
		22-24	Marl								5.30E-06							
	WB18-SB-55	4-6	Solvay Waste	41.9														
		16-18	Marl								5.11E-06							
		22-24	Marl	71	X			36	42	6								
	WB18-SB-56	0-2	Solvay Waste	39.5	X			NP	-	-								
		6-8	Solvay Waste								5.64E-06							
		10-12	Marl	64.3														
	WB18-SB-57	4-6	Solvay Waste	120														
		12-14	Marl								2.14E-06							
		18-20	Marl	55.7	X			31	41	10								
	WB18-SB-58	0-2	Solvay Waste	56.2														
		6-8	Solvay Waste								4.39E-06							
		14-16	Marl	52.7														
	WB18-SB-60	2-4	Solvay Waste	53.5	X			NP	-	-								
		20-22	Marl								2.32E-07							
		26-28	Marl	24.8														
	WB18-SB-61	4-6	Solvay Waste	49.6														
		12-14	Marl								6.22E-06							
		18-20	Marl	41.5	X			34	35	1								
	WB18-SB-62	4-6	Solvay Waste	134	X			NP	-	-								
		6-8	Solvay Waste								5.41E-06							
		24-26	Marl	43.2														
	WB18-SB-63	10-12	Marl	79.5														
		18-20	Marl								1.28E-06							
		20-22	Marl														1.64/2.67	44.0/12.9
		24-26	Marl	31.2	X			18	26	8								
	WB18-SB-64	0-2	Solvay Waste	41.5														
		8-10	Marl	64.5	X			NP	-	-								
	WB18-SB-65	4-6	Solvay Waste	31.7														
		12-14	Marl	67.4	X			NP	-	-								
	WB18-SB-66	0-2	Solvay Waste	64.1														
		6-8	Marl								3.81E-05							
		8-10	Marl	79.2	X			NP	-	-								
	WB18-SB-67	4-6	Solvay Waste								7.18E-06							
		9-10	Marl	87.1	X			NP	-	-								
		10-12	Marl								6.44E-06							
		16-18	Marl	60.6														
	WB18-SB-68	4-6	Solvay Waste								3.29E-06							
		6-8	Solvay Waste	98.8	X			NP	-	-								
		14-16	Marl	114														
	WB18-SB-69	2-4	Solvay Waste	106.6	X			NP	-	-								
		4-6	Solvay Waste														1.83/16.98	33.7/37.4
		10-12	Marl	72.1														
		14-16	Marl								7.87E-06							
	WB18-SB-70	2-4	Solvay Waste	190.3	X			NP	-	-								
		10-12	Marl	70.8														
		16-18	Marl	65.1														
	WB18-SB-71	2-4	Solvay Waste	116.3														
		6-8	Marl	45.4														
		10-12	Marl	74.1	X			NP	-	-								
		16-18	Marl	57.8														
		20-22	Marl				2.69											

Table 2. Summary of Laboratory Testing

Honeywell
Wastebeds 1-8 Site
Focused Feasibility Study

								Atterberg Limits			Hydraulic	Consolidation Test			UU Triaxial Test		CU Triaxial Test	
	Boring	Depth	Soil	NMC Results	Grain Size	Hydrometer Analysis	Specific Gravity	Plastic Limit	Liquid Limit	Plasticity Index	Conductivity cm/sec	Precon Press (tsf)	C_c	C_r	C psi	ϕ Degrees	C'/C psi	ϕ'/ϕ Degrees
	WB18-SB-72	2-4	Solvay Waste	210.6	X			NP	-	-								
		10-12	Marl	80.2														
		18-20	Marl	65.7														
	WB18-SB-73	2-4	Solvay Waste	106.7														
		12-14	Marl	63.1	X			NP	-	-								
		16-18	Marl	68.4														
		34-36	Clayey Silt				2.73											
	WB18-SB-74	2-4	Solvay Waste	173.2	X			NP	-	-								
		10-12	Marl	60.1														
		14-16	Marl				2.67											
		16-18	Marl	50.9														
	WB18-SB-75	2-4	Solvay Waste	163.4														
		14-16	Marl	76.7														
		20-22	Marl	67.4	X			NP	-	-								
		26-28	Marl	61.1														
	WB18-SB-76	2-4	Solvay Waste	391.7	X			NP	-	-								
		18-20	Marl	59.3														
		24-26	Marl	49.5														
	WB18-SB-77	2-4	Solvay Waste	255														
		10-12	Marl	109.7	X			NP	-	-								
		16-18	Marl	52.8														
	WB18-SB-78	0-1	Solvay Waste	104.9	X	1		NP	-	-								
		6-8	Marl	66.8														
		16-18	Marl	74.4														
	WB18-SB-79	2-4	Marl	104														
		12-14	Marl	82.2	X			NP	-	-								
		20-22	Marl	84														
	WB18-SB-81	8-10	Solvay Waste	130														
		70-72	Marl	47.1	X			30	34	4								
		76-78	Marl	49.1														
	WB18-SB-82	2-4	Marl	85.6	X	1		NP	-	-								
		10-12	Marl	69.1														
		16-18	Marl	66.1														
		2-4 offset	Marl														0.10/0.64	42.6/24.7
	WB18-SB-83	4-6	Sand	77.2	X													
		20-22	Marl	85.7														
		32-34	Marl	70.4														
	WB18-SB-84	6-8	Solvay Waste	189.6														
		22-24	Solvay Waste	170.8	X			NP	-	-								
		40-42	Solvay Waste	112.3														
		80-82	Marl												2.55	0		
		98-100	Trans Marl												10.28	0		
	WB18-SB-85	4-6	Marl				2.67											
		6-8	Marl	50.8														
		12-14	Marl	45.9	X	1		NP	-	-								
		22-24	Marl	69.4														
	WB18-SB-86	6-8	Marl	83														
		20-22	Marl	55.9	X			NP	-	-								
		30-32	Marl	87.5														
	WB18-SB-87	14-16	Solvay Waste	126.4														
		32-34	Solvay Waste	149.1	X			NP	-	-								
		44-46	Solvay Waste	170.8														
		80-82	Marl														15.98/18.0	8.4/2.9
	WB18-SB-88	8-10	Marl	60.2	X	1		NP	-	-								
		16-18	Marl	69														
		2-4	Marl														0/1.52	46.6/44.8
	WB18-SB-89	2-4	Sand/Silt	38.3														
		10-12	Marl	66														
		26-28	Marl	58.6	X			NP	-	-								
	WB18-SB-90	12-14	Solvay Waste	89.6	X			NP	-	-								
		28-30	Solvay Waste	171.8														
		40-42	Solvay Waste	152.9														

Table 2. Summary of Laboratory Testing

Honeywell
Wastebeds 1-8 Site
Focused Feasibility Study

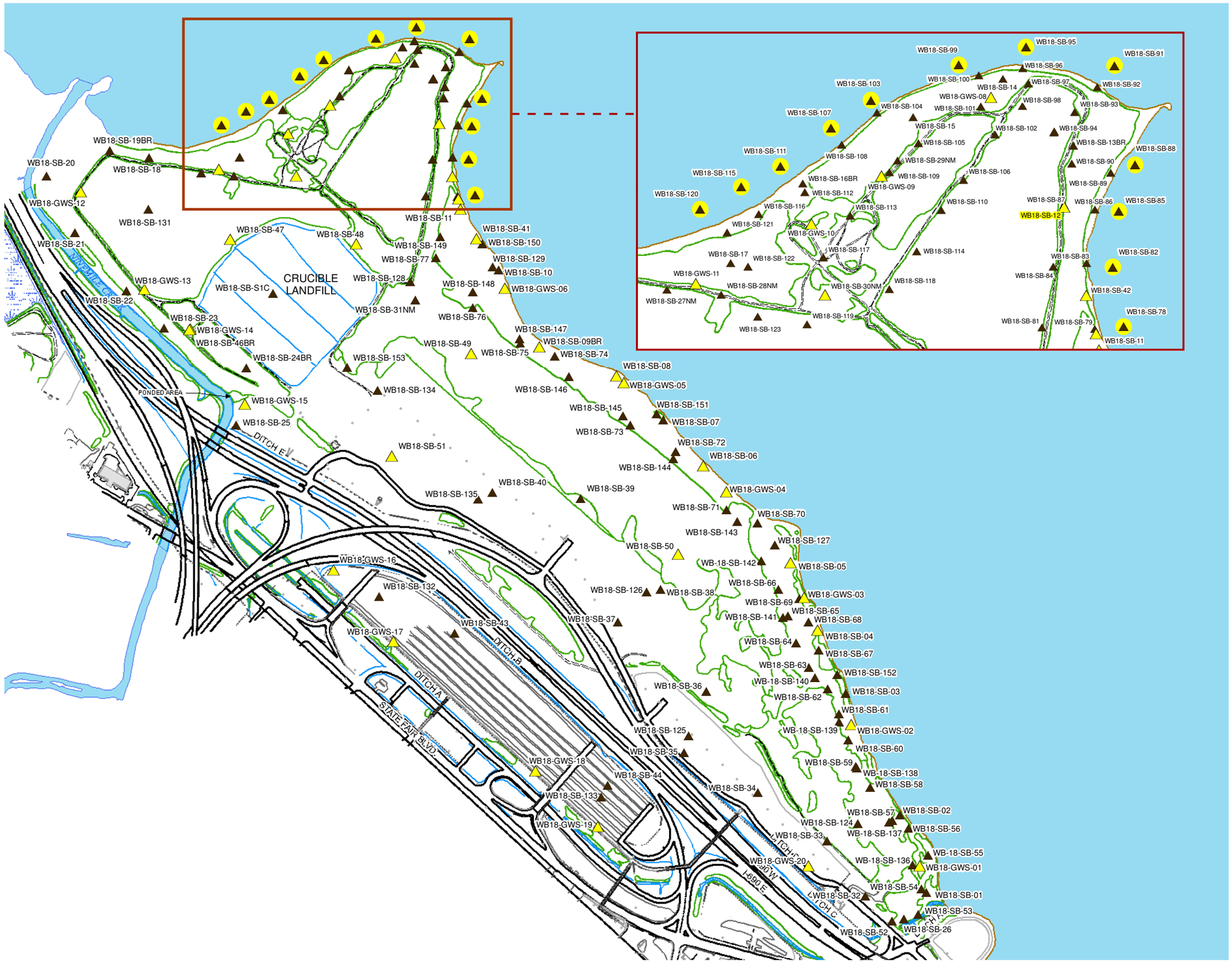
								Atterberg Limits			Hydraulic	Consolidation Test			UU Triaxial Test		CU Triaxial Test	
	Boring	Depth	Soil	NMC Results	Grain Size	Hydrometer Analysis	Specific Gravity	Plastic Limit	Liquid Limit	Plasticity Index	Conductivity cm/sec	Precon Press (tsf)	C_c	C_r	C psi	ϕ Degrees	C'/C psi	ϕ'/ϕ Degrees
	WB18-SB-91	6-8	Marl														1.16/0.15	34.7/58.4
		4-6	Marl	35.4	X	1		NP	-	-								
		10-12	Marl	56.8														
		14-16	Marl	40.7														
	WB18-SB-92	4-6	Marl	53.9	X			NP	-	-								
		20-22	Marl	44.1														
		30-32	Marl	71.4														
	WB18-SB-93	4-6	Solvay Waste	170.6														
		12-14	Solvay Waste	97.3	X			NP	-	-								
		28-30	Solvay Waste	72														
	WB18-SB-94	8-10	Solvay Waste	114.6														
		28-30	Solvay Waste	165.7	X			NP	-	-								
		42-44	Solvay Waste	116.9														
	WB18-SB-95	10-12	Marl												3.49	0		
		2-4	Marl	32.2														
		14-16	Marl	72.9	X	1		NP	-	-								
		24-26	Marl	43.3														
	WB18-SB-96	6-8	Marl	47.7														
		20-22	Marl	52.5	X			NP	-	-								
		26-28	Marl	70														
	WB18-SB-97	8-10	Solvay Waste	219.6	X			NP	-	-								
		20-22	Solvay Waste	132.7														
		30-32	Solvay Waste	229.7														
	WB18-SB-98	8-10	Solvay Waste	91.8														
		28-30	Solvay Waste	120.1	X			NP	-	-								
		42-44	Solvay Waste	172.5														
		74-76	Marl								1.87E-06							
	WB18-SB-99	2-4	Solvay Waste	169.8	X	1		NP	-	-								
		5-6	Marl	88.6														
		12-14	Marl	63.5														
		6-8	Marl								1.11E-04							
		8-10	Marl														0.36/2.58	39.8/14.3
	WB18-SB-100	4-6	Solvay Waste	237														
		18-20	Marl	56.5														
		34-36	Clay	29	X			20	24	4								
	WB18-SB-101	6-8	Solvay Waste	264.6	X			NP	-	-								
		14-16	Solvay Waste	228.6														
		24-26	Solvay Waste	221.3														
		34.5-36.5	Marl												2.18	0		
	WB18-SB-102	4-6	Solvay Waste	174.2	X			NP	-	-								
		16-18	Solvay Waste	108.3														
		36-38	Solvay Waste	164.4														
	WB18-SB-103	2-4	Marl	46.7														
		10-12	Marl	69.6	X	1		NP	-	-								
		18-20	Marl	69.7														
		6-8	Marl														0/1.25	34.9/19.6
	WB18-SB-104	2-4	Solvay Waste	200.5														
		4-6	Solvay Waste	161.9	X			NP	-	-								
		6-8	Solvay Waste	88.1														
	WB18-SB-105	4-6	Solvay Waste	157.6														
		16-18	Solvay Waste	166.8	X			NP	-	-								
		24-26	Solvay Waste	166.2														
		34-36	Marl														0.64/7.49	38.1/10.5
	WB18-SB-106	16-18	Solvay Waste	235.3	X			NP	-	-								
		28-30	Solvay Waste	195.2														
		38-40	Solvay Waste	138.4														
	WB18-SB-107	8-10	Marl	54.7	X	1		NP	-	-								
		2-4	Marl	41.7														
		12-14	Marl	77.9														
		18-20	Marl								9.84E-07							

Table 2. Summary of Laboratory Testing

Honeywell
Wastebeds 1-8 Site
Focused Feasibility Study

								Atterberg Limits			Hydraulic	Consolidation Test			UU Triaxial Test		CU Triaxial Test	
	Boring	Depth	Soil	NMC Results	Grain Size	Hydrometer Analysis	Specific Gravity	Plastic Limit	Liquid Limit	Plasticity Index	Conductivity cm/sec	Precon Press (tsf)	C_c	C_r	C psi	ϕ Degrees	C'/C psi	ϕ'/ϕ Degrees
	WB18-SB-108	2-4	Solvay Waste	165.8														
		4-6	Solvay Waste	152.1														
		8-10	Solvay Waste	177.9	X			NP	-	-								
		10-12	Solvay Waste														0/1.71	45.5/17.0
	WB18-SB-109	6-8	Solvay Waste	200.2	X			NP	-	-								
		20-22	Solvay Waste	147.1														
		28-30	Solvay Waste	170.4														
	WB18-SB-110	6-8	Solvay Waste	139.8														
		20-22	Solvay Waste	157.2	X			NP	-	-								
		34-36	Solvay Waste	186														
	WB18-SB-111	2-4	Marl	64.6	X	1		NP	-	-								
		8-10	Marl	66.5														
		16-18	NMC Sand	70.7														
	WB18-SB-112	6-8	Silt/Sand	62														
		22-24	Silt/Sand	47.5	X			25	30	5								
		32-34	Silt/Sand	33.3														
	WB18-SB-113	22-24	Marl	56.2	X			NP	-	-								
		26-28	Marl	70.7														
		32-34	Marl	30.3														
	WB18-SB-114	54-56	Marl	57														
		58-60	Marl	34	X			NP	-	-								
		62-64	Marl	18.4														
	WB18-SB-115	18-20	Marl														1.28/0.91	27.4/14.8
		0-1	Solvay Waste	95.9														
		10-12	Marl	67.1														
		24-26	Marl	45.2	X	1		NP	-	-								
	WB18-SB-116	2-4	Sand/Silt	39.8														
		8-10	Marl	68.4														
		18-20	Marl	17.5	X			NP	-	-								
	WB18-SB-117	8-10	Solvay Waste	248.7														
		28-30	Marl	75.7														
		36-38	Marl	37	X			NP	-	-								
	WB18-SB-118	6-8	Solvay Waste	146.7	X			NP	-	-								
		30-32	Solvay Waste														failed	sample
		56-58	Marl	57														
		62-64	Marl	42														
	WB18-SB-119	8-10	Solvay Waste	203.9														
		18-20	Solvay Waste	113.2														
		44-46	Solvay Waste	140.2	X			NP	-	-								
	WB18-SB-120	2-4	Marl	5.6														
		6-8	Marl	79.1	X	1		NP	-	-								
		14-16	Marl	42.5														
	WB18-SB-121	2-4	Sand/Silt	30.5														
		8-10	Sand/Silt	54.4	X			NP	-	-								
		24-26	Sand/Silt	20.7														
	WB18-SB-122	4-6	Solvay Waste	150.6														
		10-12	Solvay Waste	150.4	X			NP	-	-								
		20-22	Solvay Waste	217.9														
	WB18-SB-123	8-10	Solvay Waste	123.1														
		20-22	Solvay Waste	187.2														
		44-46	Solvay Waste	186.8														
		32-34	Solvay Waste								8.10E-06							
		38-40	Solvay Waste														4.06/9.74	41.8/16.2
		72-74	Marl														26.79/26.7	0/0

FIGURE 1



N

Legend

- BORING WITHOUT GEOTECH DATA
- BORING LOCATIONS WITH GEOTECH DATA
- LAKE BORING (GPS ONLY)

NOTE:
WB18-SB-45, WB18-SB-59 AND WB18-SB-80 WERE NOT COMPLETED BORINGS.

HONEYWELL
WASTEBEDS 1 - 8
GEDDES, NEW YORK

BORING LOCATIONS

0 350 700 1,400
Feet

NOVEMBER 2009
1163.41861

O'BRIEN & GERE

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PATH: I:\Honeywell.1163\41861.Wastebeds-1-8-S\Doc\DWG\MXD\Boring_Locations_WO_GeoTechData.mxd
NAME: NewtonJM
DATE: 6/8/2009 11:50:07 AM

ATTACHMENT A

Geotechnical Boring Logs

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-52**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/05/07**
DATE COMPLETED: **11/06/07**

GROUNDWATER DEPTH
WHILE DRILLING **11.5'**

BEFORE CASING
REMOVED **11.5'**

AFTER CASING
REMOVED **11.5'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		2	2		Brown dry medium stiff to stiff SILT, some fine to medium gravel, little fine to medium sand	
	2.0'			4	4	6		
	2.0'-	2		8	8			
	4.0'			10	16	18		
5.0	4.0'-	3	NO	7	3			
	6.0'		REC	5	5	8		
	6.0'-	4		3	3			
	8.0'			3	5	6		
	8.0'-	5		6	6			9.0'
10.0	10.0'			50-.4			White moist wery dense cemented SOLVAY WASTE	11.5'
	10.0'-	6		50-.3				
WL▼	12.0'					0	White wet loose to very loose SOLVAY WASTE	
	12.0'-	7		6	5			
	14.0'			2	1	7		
15.0	14.0'-	8		WH-1.5'				
	16.0'				3			
	16.0'-	9		WH-1'				
	18.0'			2	1			
	18.0'-	10		WH-1'				19.5'
20.0	20.0'			1	2		Brown wet very soft PEAT	20.0'
	20.0'-	T-1	Rec	Shelby			Gray wet very soft MARL, trace fine sand, trace silt	
	22.0'		2.0'	Tube				
	22.0'-	11		1	WH			
	24.0'			1	1			
25.0	24.0'-	12		WH-2'				
	26.0'							
	26.0'-	13		WH	1			
	28.0'			1	1	2		
	28.0'-	14		WH-2'				
30.0	30.0'							
	30.0'-	15		1	3			
	32.0'			7	3	10		32.5'
	32.0'-	16		14	14		Brown wet dense to lose fine SAND	
	34.0'			19	26	33		
35.0	34.0'-	17		8	7			
	36.0'			10	10	17		
	36.0'-	18		4	4			
	38.0'			4	4	8		
	38.0'-	19		3	5			
40.0	40.0'			5	3	10		

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-52**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/05/07**
DATE COMPLETED: **11/06/07**

GROUNDWATER DEPTH
WHILE DRILLING **11.5'**

BEFORE CASING
REMOVED **11.5'**

AFTER CASING
REMOVED **11.5'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	20		WH	2		Brown wet very loose to loose fine SAND,	
	42.0'			2	2	4	trace clay	
	42.0'-	21		2	2			
	44.0'			2	2	4		
45.0	44.0'-	22		WH	2			
	46.0'			4	2	6		46.0'
	46.0'-	23		3	6		Brown wet medium dense fine to medium	
	48.0'			6	7	12	SAND, trace clay	
	48.0'-	24		3	7			
50.0	50.0'			7	4	14		
	50.0'-	25		3	4			
	52.0'			6	7	10		
	52.0'-	26		4	8			
	54.0'			8	25	16		53.9
55.0	54.0'-	27		28	37		Brown dry very dense fine SAND and SILT,	
	56.0'			50-.3			some weathered till	
							Bottom of Boring	55.3'

Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-53**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/06/07**
DATE COMPLETED: **11/06/07**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **2.0'**

AFTER CASING
REMOVED **2.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" Hollow Stem Auger**

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH	1		Brown moist very soft SILT, trace fine to	
WL▼	2.0'			1	1	2	coarse sand	0.5'
	2.0'-	2		1	WH		White wet very loose solvay WASTE	
	4.0'			WH	1	WH		3.8'
5.0	4.0'-	3		WH	3		Grey and black wet very loose fine SAND,	
	6.0'			2	1	5	trace fine gravel, trace solvay waste	6.0'
	6.0'-	4		1	WH		White and gray wet very soft MARL	
	8.0'			WH	1	WH		
	8.0'-	5		WH-2'				
10.0	10.0'					WH		
	10.0'-	6		WH-2'				
	12.0'					WH		
	12.0'-	7		WH-2'				
	14.0'					WH		
15.0	14.0'-	8		WH-2'				
	16.0'					WH		
	16.0'-	9		WH-2'				
	18.0'					WH		
	18.0'-	10		WH-2'				
20.0	20.0'					WH		20.0'
	20.0'-	11		4	4		Brown wet loose to very loose fine SAND,	
	22.0'			4	5	8	some silt	
	22.0'-	12		3	3			
	24.0'			5	3	8		
25.0	24.0'-	13		1	1			
	26.0'			2	1	3		
	26.0'-	14		1	1			
	28.0'			2	1	3		
	28.0'-	15		1	1			
30.0	30.0'			1	1	2		30.0'
	30.0'-	16		1	1		Brown wet soft SILT, some fine sand, trace	
	32.0'			2	2	3	clay	
	32.0'-	17		WH-1'				
	34.0'			2	2	WH		
35.0	34.0'-	18		1	1			35.0'
	36.0'			2	2	3	Brown wet very soft CLAY, trace silt	
	36.0'-	19		WH-1'				
	38.0'			1	2	WH	Note: WH indicates sampler penetrated under	
	38.0'-	20		WH-2'			weight of hammer. Backfilled with grout	
40.0	40.0'					WH	Bottom of Boring	40.0'

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-54**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/07/07**
DATE COMPLETED: **11/07/07**

GROUNDWATER DEPTH
WHILE DRILLING **10.0'**

BEFORE CASING
REMOVED **10.0'**

AFTER CASING
REMOVED **10.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		2	3		Brown moist medium stiff SILT and fine	
	2.0'			5	7	8	sand	1.5'
	2.0'-	2		10	45		White moist very dense SOLVAY WASTE	
	4.0'			10	19	55		4.0'
5.0	4.0'-	3		17	35		White moist dense cemented SOLVAY	
	6.0'			14	9	49	WASTE	
	6.0'-	4		49	12			8.0'
	8.0'			8	8	20	White moist loose SOLVAY WASTE	
	8.0'-	5		2	2			
WL▼10.0	10.0'			1	1	3		10.0'
	10.0'-	6		WH-2'			Gray wet very soft MARL	
	12.0'					WH		
	12.0'-	7		1	WH			
	14.0'			WH	1	WH		
15.0	14.0'-	8		WH-2'				
	16.0'					WH		
	16.0'-	9		WH-2'				
	18.0'					WH		
	18.0'-	10		WH-2'				
20.0	20.0'					WH		
	20.0'-	T-1	Rec	Shelby				
	22.0'		2.0'	Tube				
	22.0'-	11		WH-2'				
	24.0'					WH		
25.0	24.0'-	12		WH-2'				
	26.0'					WH		
	26.0'-	13		WH-2'				
	28.0'					WH		
	28.0'-	14		WH-2'				
30.0	30.0'					WH		
	30.0'-	15		WH-2'				
	32.0'					WH		
	32.0'-	16		WH-2'				34.0'
	34.0'					WH	Brown wet very soft SILT and fine SAND	
35.0	34.0'-	17		WH	WH			
	36.0'			2	2	WH		
	36.0'-	18		WH-1'				
	38.0'			1	2	WH		
	38.0'-	19		WH-2'				
40.0	40.0'					WH		

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-54**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/07/07**
DATE COMPLETED: **11/07/07**

GROUNDWATER DEPTH
WHILE DRILLING **10.0'**

BEFORE CASING
REMOVED **10.0'**

AFTER CASING
REMOVED **10.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	**20**		**WH-2'**			**Brown wet very soft to medium stiff SILT**	
	42.0'					**W**	**and fine SAND**	
	42.0'-	**21**		**3**	**2**			
	44.0'			**3**	**3**	**5**		**45.0'**
45.0	**44.0'-**	**22**		**WH**	**2**		**Brown wet medium stiff fine SAND, trace**	
	46.0'			**3**	**3**	**5**	**silt, trace clay**	
							Bottom of Boring	**46.0'**
50.0							**Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout**	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-55**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/07/07**
DATE COMPLETED: **11/08/07**

GROUNDWATER DEPTH WHILE DRILLING **4.0'**

BEFORE CASING REMOVED **4.0'**

AFTER CASING REMOVED **4.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" Hollow Stem Auger**

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		8 7		**White wet medium dense SOLVAY WASTE**	
	2.0'			7 10	14		
	2.0'-	2		5 10			3.0'
WL▼	4.0'			50-.4		**White wet very dense to very loose SOLVAY WASTE**	
5.0	4.0'-	3		6 2			
	6.0'			1 1	3		
	6.0'-	4		2 1			
	8.0'			WH-1'	1		
	8.0'-	T-1	Rec	Shelby			
10.0	10.0'		1.0'	Tube			10.0'
	10.0'-	5		WH-2'		**Gray wet very soft MARL, trace wood chips trace fine sand**	
	12.0'				WH		
	12.0'-	6		WH-1'			
	14.0'			WH 2	WH		
15.0	14.0'-	7		WH-2'			
	16.0'				WH		
	16.0'-	T-1	Rec	Shelby			
	18.0'		1.5'	Tube			
	18.0'-	8		WH-2'			
20.0	20.0'				WH		
	20.0'-	9		WH-2'			
	22.0'				WH		
	22.0'-	10		WH-2'			
	24.0'				WH		
25.0	24.0'-	11		WH-2'			
	26.0'				WH		
	26.0'-	12		WH-2'			
	28.0'				WH		
	28.0'-	13		WH-2'			27.0'
30.0	30.0'				WH	**Gray wet very soft MARL, trace fine sand, trace clay**	
	30.0'-	14		WH-2'			
	32.0'				WH		
	32.0'-	15		WH-2'			
	34.0'				WH		34.0'
35.0	34.0'-	16		WH-2'		**Gray wet very soft CLAY and SILT**	
	36.0'				WH		
	36.0'-	17		WH-2'		Note: WH indicates sampler penetrated under	
	38.0'				WH	weight of hammer. Backfilled with grout	
	38.0'-	18		WH-2'			
40.0	40.0'				WH	**Bottom of Boring**	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-56**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/08/07**
DATE COMPLETED: **11/08/07**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **2.0'**

AFTER CASING
REMOVED **2.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" Hollow Stem Auger**

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		1 12		Brown moist loose SILT and fine SAND	0.6'
WL▼	2.0'			34 5	46	White wet medium dense to very loose	
	2.0'-	2		6 14		SOLVAY WASTE	
	4.0'			5 5	19		
5.0	4.0'-	3		WH-1'			
	6.0'			1 WH	1		
	6.0'-	T-1	Rec	Shelby			
	8.0'		2.0'	Tube			
	8.0'-	4					8.5'
10.0	10.0'			WH-2'		Gray wet very soft MARL	
	10.0'-	5					
	12.0'			WH-2'			
	12.0'-	6					
	14.0'			WH-2'			
15.0	14.0'-	7					
	16.0'			WH-2'			
	16.0'-	8					
	18.0'			WH-2'			
	18.0'-	9					
20.0	20.0'			WH-2'			
	20.0'-	10					
	22.0'			WH-2'			
	22.0'-	11					
	24.0'			WH-2'			
25.0	24.0'-	12					
	26.0'			WH-2'			26.0'
	26.0'-	13				Gray wet very soft SILT and CLAY, trace	
	28.0'			WH-2'		marl	
	28.0'-	14					
30.0	30.0'			WH-2'			
	30.0'-	15					
	32.0'			WH-2'			
	32.0'-	16					
	34.0'			WH-2'			
35.0	34.0'-	17					35.0'
	36.0'			WH-2'		Brown wet very soft CLAY	
	36.0'-	18				Note: WH indicates sampler penetrated under	
	38.0'			WH-2'		weight of hammer. Backfilled with grout	
	38.0'-	19					
40.0	40.0'			WH-2'		Bottom of Boring	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-57**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/08/07**
DATE COMPLETED: **11/09/07**

GROUNDWATER DEPTH
WHILE DRILLING **10.0'**

BEFORE CASING
REMOVED **10.0'**

AFTER CASING
REMOVED **10.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH	4		Brown moist hard SILT and fine SAND	0.6'
	2.0'			50-.4			White dry very dense cemented SOLVAY WASTE	
	2.0'-	2		39	9			
	4.0'			1	1	10		4.0'
5.0	4.0'-	3		1	1		White moist very loose SOLVAY WASTE	
	6.0'			1	WH	2		
	6.0'-	4		WH-2'				
	8.0'							
	8.0'-	5		2	1			8.5'
WL▼10.0	10.0'			1	WH	2	Gray wet very soft MARL	
	10.0'-	6		WH-2'				
	12.0'							
	12.0'-	T-1	Rec	Shelby				
	14.0'		2.0'	Tube				
15.0	14.0'-	7		WH-2'				
	16.0'							
	16.0'-	8		WH-2'				
	18.0'							
	18.0'-	9		WH-2'				
20.0	20.0'							
	20.0'-	10		WH-2'				
	22.0'							
	22.0'-	11		WH-2'				
	24.0'							24.0'
25.0	24.0'-	12		WH-2'			Dark gray wet very soft SILT and CLAY, little MARL	
	26.0'							
	26.0'-	13		WH-2'				
	28.0'							
	28.0'-	14		WH-2'				28.5'
30.0	30.0'						Gray wet very soft MARL	
	30.0'-	15		WH-2'				31.5
	32.0'						Dark gray wet very soft SILT and CLAY	
	32.0'-	16		WH-2'				32.0'
	34.0'						Brown wet very soft CLAY and SILT	
35.0	34.0'-	17		WH-2'				
	36.0'						Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	
	36.0'-	18		WH-2'				
	38.0'							
	38.0'-	19		WH-2'				
40.0	40.0'						Bottom of Boring	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-58**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/09/07**
DATE COMPLETED: **11/09/07**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **2.0'**

AFTER CASING
REMOVED **2.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		2 3		**Brown moist medium dense fine SAND**	1.0'
WL▼	2.0'			10 5	13	**White wet medium dense to very dense SOLVAY WASTE**	
	2.0'-	2		100-.4			
	4.0'						
5.0	4.0'-	3		2 22			
	6.0'			3 2	25		
	6.0'-	T-1	Rec	Shelby			
	8.0'		2.0'	Tube			
	8.0'-	4		WH-2'			8.5'
10.0	10.0'					**Gray wet very soft MARL**	
	10.0'-	5		WH-2'			
	12.0'						
	12.0'-	NO.		WH-2'			
	14.0'	REC					
15.0	14.0'-	7		WH-2'			
	16.0'						
	16.0'-	8		WH-2'			
	18.0'						
	18.0'-	9		WH-2'			
20.0	20.0'						20.0'
	20.0'-	10		WH-2'		**Gray wet very soft MARL, trace clay**	
	22.0'						
	22.0'-	11		WH-2'			
	24.0'						
25.0	24.0'-	12		WH-2'			
	26.0'						
	26.0'-	13		WH-2'			
	28.0'						28.0'
	28.0'-	14		3 2		**Brown wet soft to very soft SILT and CLAY**	
30.0	30.0'			1 1	3		
	30.0'-	15		WH-2'			
	32.0'						
	32.0'-	16		WH-2'			
	34.0'						
35.0	34.0'-	17		WH-2'			
	36.0'					Note: WH indicates sampler penetrated under	
	36.0'-	18		WH-2'		weight of hammer. Backfilled with grout	
	38.0'						
	38.0'-	19		WH-2'			
40.0	40.0'					**Bottom of Boring**	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-60**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/09/07**
DATE COMPLETED: **11/09/07**

GROUNDWATER DEPTH
WHILE DRILLING **15.0'**

BEFORE CASING
REMOVED **15.0'**

AFTER CASING
REMOVED **15.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		2 5		**Brown moist stiff SILT and fine SAND**	0.6'
	2.0'			7 11		**White moist medium dense to very loose SOLVAY WASTE**	
	2.0'-	2		11 7			
	4.0'			11 19			
5.0	4.0'-	3		2 5			
	6.0'			5 4			
	6.0'-	4		1 WH			
	8.0'			1 WH			
	8.0'-	5		WH-2'			
10.0	10.0'						
	10.0'-	6		WH-2'			
	12.0'						
	12.0'-	7		WH-2'			
	14.0'						14.0'
WL▼15.0	14.0'-	8		WH-2'		**Gray wet very soft MARL**	
	16.0'						
	16.0'-	9		WH-2'			
	18.0'						
	18.0'-	10		3 2			
20.0	20.0'			WH-1'			20.0'
	20.0'-	T-1	Rec	Shelby		**Dark gray wet very soft MARL and SILT, trace fine sand, trace clay**	
	22.0'		2.0'	Tube			
	22.0'-	11		WH-2'			
	24.0'						
25.0	24.0'-	12		WH-2'			
	26.0'						26.0'
	26.0'-	13		WH-2'		**Dark gray wet very soft MARL, some silt, little fine sand**	
	28.0'						
	28.0'-	14		WH-2'			
30.0	30.0'						
	30.0'-	15		WH-2'			
	32.0'						
	32.0'-	16		WH-2'			
	34.0'						
35.0	34.0'-	17		WH-2'			35.0'
	36.0'					**Brown wet very soft CLAY and SILT**	
	36.0'-	18		WH-2'		Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	
	38.0'						
	38.0'-	19		WH-2'			
40.0	40.0'					**Bottom of Boring**	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-61**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/12/07**
DATE COMPLETED: **11/12/07**

GROUNDWATER DEPTH
WHILE DRILLING **10.0'**

BEFORE CASING
REMOVED **10.0'**

AFTER CASING
REMOVED **10.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		2 9		**Brown moist very stiff SILT and fine SAND**	0.5'
	2.0'			9 10		**White moist hard to very soft SOLVAY**	
	2.0'-	2		5 6		**WASTE**	
	4.0'			50-.4			
5.0	4.0'-	3		WH 4			
	6.0'			2 10			
	6.0'-	4		1 1			
	8.0'			1 1			
	8.0'-	5		WH-2'			
WL▼10.0	10.0'						10.0'
	10.0'-	6		WH-2'		**Gray wet very soft MARL**	
	12.0'						
	12.0'-	T-1	Rec	Shelby			
	14.0'		1.0'	Tube			
15.0	14.0'-	8		WH-2'			
	16.0'						
	16.0'-	9		WH-2'			
	18.0'						
	18.0'-	10		WH-2'			
20.0	20.0'						
	20.0'-	11		WH-2'			
	22.0'						
	22.0'-	12		WH-2'			
	24.0'						
25.0	24.0'-	13		WH-2'			
	26.0'						
	26.0'-	14		WH-2'			
	28.0'						
	28.0'-	15		WH-2'			29.0'
30.0	30.0'					**Gray wet very soft MARL, trace clay**	
	30.0'-	16		WH-2'			
	32.0'						
	32.0'-	17		WH-2'			
	34.0'					Note: WH indicates sampler penetrated	
35.0	34.0'-	18		WH-2'		under weight of hammer	
	36.0'						
	36.0'-	19		WH-2'			38.0'
	38.0'					**Brown wet very soft SILT and CLAY**	
	38.0'-	20		WH-2'			
40.0	40.0'					**Bottom of Boring**	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-62**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/12/07**
DATE COMPLETED: **11/12/07**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **2.0'**

AFTER CASING
REMOVED **2.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH 1		**Brown moist soft SILT and fine SAND**	0.6'
WL▼	2.0'			3 2		**White wet medium stiff to very soft SOLVAY WASTE**	
	2.0'-	2		5 3			
	4.0'			2 2			
5.0	4.0'-	3		2 1			
	6.0'			3 2			
	6.0'-	T-1	Rec	Shelby			
	8.0'		2.0'	Tube			8.0'
	8.0'-	5		WH-2'		**Gray green wet very soft MARL**	9.0'
10.0	10.0'					**Gray wet very soft MARL**	
	10.0'-	6		WH-2'			
	12.0'						
	12.0'-	7		WH-2'			
	14.0'						
15.0	14.0'-	8		WH-2'			
	16.0'						
	16.0'-	9		WH-2'			
	18.0'						
	18.0'-	10		WH-2'			
20.0	20.0'						
	20.0'-	11		WH-2'			
	22.0'						
	22.0'-	12		WH-2'			
	24.0'						
25.0	24.0'-	13		WH-2'			
	26.0'						
	26.0'-	14		WH-2'			
	28.0'						28.0'
	28.0'-	15		WH-2'		**Dark gray wet very soft MARL, little silt and clay**	
30.0	30.0'						
	30.0'-	16		WH-2'			
	32.0'						
	32.0'-	17		WH-2'			
	34.0'						
35.0	34.0'-	18		WH-2'			
	36.0'					Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	
	36.0'-	19		WH-2'			
	38.0'						
	38.0'-	20		WH-2'			
40.0	40.0'					**Bottom of Boring**	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-63**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/13/07**
DATE COMPLETED: **11/13/07**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **2.0'**

AFTER CASING
REMOVED **2.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		4	4		**Brown moist medium stiff SILT and fine SAND**	
WL▼	2.0'			2	1	6		0.6'
	2.0'-	2		WH	3		**White wet medium stiff to very soft SOLVAY WASTE**	
	4.0'			2	WH	5		
5.0	4.0'-	3		1	1			
	6.0'			WH	1	1		
	6.0'-	4		1	1			7.0'
	8.0'			1	1	2	**Gray wet very soft MARL**	
	8.0'-	5		1	1			
10.0	10.0'			1	1	2		
	10.0'-	6		WH-2'				
	12.0'							
	12.0'-	7		WH-2'				
	14.0'							
15.0	14.0'-	8		WH-2'				
	16.0'							
	16.0'-	9		WH-2'				
	18.0'							
	18.0'-	T-1	Rec	Shelby				
20.0	20.0'		2.0'	Tube				
	20.0'-	T-1	Rec	Shelby				
	22.0'		2.0'	Tube				22.0'
	22.0'-	12		WH-2'			**Brown wet very soft SILT and CLAY, trace fine sand**	
	24.0'							
25.0	24.0'-	13		WH-2'				
	26.0'							
	26.0'-	14		WH-2'				
	28.0'							
	28.0'-	15		WH-2'				
30.0	30.0'							
	30.0'-	16		WH-2'				
	32.0'							
	32.0'-	17		WH-2'				
	34.0'							
35.0	34.0'-	18					**Bottom of Boring**	34.0'
	36.0'							
	36.0'-	19						
	38.0'						**Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout**	
	38.0'-	20						
40.0	40.0'							

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-64**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/13/07**
DATE COMPLETED: **11/13/07**

GROUNDWATER DEPTH
WHILE DRILLING **4.0'**

BEFORE CASING
REMOVED **4.0'**

AFTER CASING
REMOVED **4.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		1	5		Brown moist very soft SILT and fine SAND	0.5'
	2.0'			7	21	12	White moist loose to very dense SOLVAY WASTE	
	2.0'-	2		50-.2				
WL▼	4.0'							4.0'
5.0	4.0'-	3		1	2		White wet very loose SOLVAY WASTE	5.0'
	6.0'			4	7	6	Gray wet stiff to very soft MARL	
	6.0'-	4		14	7			
	8.0'			2	2	9		
	8.0'-	5		WH-1'				
10.0	10.0'			WH	1			
	10.0'-	6	NO	WH-2'				
	12.0'		REC					
	12.0'-	7	NO	WH-2'				
	14.0'		REC					
15.0	14.0'-	8		WH-2'				
	16.0'							
	16.0'-	9		WH-2'				
	18.0'							18.0'
	18.0'-	10		2	2		Dark gray wet soft SILT and CLAY, trace	
20.0	20.0'			1	2	3	fine sand	20.0'
	20.0'-	11		WH-1'			Brown wet medium stiff CLAY and SILT	
	22.0'			4	5	4		
	22.0'-	12		3	4			
	24.0'			4	3	8		
25.0	24.0'-	13		WH-2'				
	26.0'							
	26.0'-	14		WH-2'				
	28.0'							
	28.0'-	15		WH-2'				
30.0	30.0'							
	30.0'-	16					Bottom of Boring	30.0'
	32.0'							
	32.0'-	17						
	34.0'						Note: WH indicates sampler penetrated under	
35.0	34.0'-	18					weight of hammer. Backfilled with grout	
	36.0'							
	36.0'-	19						
	38.0'							
	38.0'-	20						
40.0	40.0'							

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-65**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/14/07**
DATE COMPLETED: **11/14/07**

GROUNDWATER DEPTH
WHILE DRILLING **6.0'**

BEFORE CASING
REMOVED **6.0'**

AFTER CASING
REMOVED **6.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		2	2		**Gray moist loose to very dense fine to medium SAND, some solvay waste**	
	2.0'			6	10	8		
	2.0'-	2		4	43			
	4.0'			12	27	55		
5.0	4.0'-	3		11	3			
WL▼	6.0'			2	1	5		6.0'
	6.0'-	4		3	2		**Gray wet soft to very soft MARL**	
	8.0'			WH-1'				
	8.0'-	5		WH-2'				
10.0	10.0'							
	10.0'-	6		WH-2'				
	12.0'							
	12.0'-	7		1	WH			
	14.0'			1	1	1		
15.0	14.0'-	8		WH-2'				
	16.0'							
	16.0'-	9		WH-2'				
	18.0'							
	18.0'-	10		WH-1'				19.5'
20.0	20.0'			WH	1		**Dark gray wet very loose fine SAND and SILT, trace clay**	21.5'
	20.0'-	11		WH	2			
	22.0'			3	4	5	**Brown wet medium stiff to very soft SILT and CLAY**	
	22.0'-	12		3	3			
	24.0'			2	2	5		
25.0	24.0'-	13		WH-2'				
	26.0'							
	26.0'-	14		WH-2'				
	28.0'							
	28.0'-	15		WH-2'				
30.0	30.0'							
	30.0'-	16		2	2			
	32.0'			1	2	3		
	32.0'-						**Bottom of Boring**	32.0'
	34.0'							
35.0	34.0'-							
	36.0'						**Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout**	
	36.0'-							
	38.0'							
	38.0'-							
40.0	40.0'							

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

HOLE NO. **SB-66**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/16/07**
DATE COMPLETED: **11/16/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
WL▼	0.0'-	1		1	WH		White wet very loose SOLVAY WASTE	
	2.0'			WH	1			2.0'
	2.0'-	2		20	14		White wet dense SOLVAY WASTE	
	4.0'			26	6	40		4.0'
5.0	4.0'-	3		2	1		White wet very loose SOLVAY WASTE	
	6.0'			2	1	3		
	6.0'-	T-1	Rec	Shelby				
	8.0'		2.0'	Tube				
	8.0'-	4		WH-2'				
10.0	10.0'							
	10.0'-	5		WH-2'				
	12.0'							
	12.0'-	6		WH-2'				
	14.0'							
15.0	14.0'-	7		WH-2'				
	16.0'							
	16.0'-	8		WH-2'				
	18.0'							
	18.0'-	9		WH-1'				
20.0	20.0'			2	2	2		20.0'
	20.0'-	10		WH-2'			Dark gray wet very soft MARL	21.0'
	22.0'						Brown wet medium stiff to very soft SILT and CLAY	
	22.0'-	11		3	3			
	24.0'			2	2	5		
25.0	24.0'-	12		WH-2'				
	26.0'							
	26.0'-	13		WH-2'				
	28.0'							
	28.0'-	14		WH-2'				
30.0	30.0'							
	30.0'-	15		1	2			
	32.0'			2	2	4		
							Bottom of Boring	32.0'
35.0								
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	
40.0								

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-67**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/15/07**
DATE COMPLETED: **11/15/07**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **2.0'**

AFTER CASING
REMOVED **2.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		1 3		**Brown moist medium stiff SILT and fine**	
WL▼	2.0'			3 4	6	**SAND**	0.6'
	2.0'-	2		2 1		**White wet very soft SOLVAY WASTE**	
	4.0'			1 3	2		
5.0	4.0'-	T-1	Rec	Shelby			
	6.0'		1.5'	Tube			
	6.0'-	3		WH-2'			
	8.0'						
	8.0'-	4		WH-2'			9.0'
10.0	10.0'					**Gray wet very soft MARL**	
	10.0'-	T-1	Rec	Shelby			
	12.0'		2.0'	Tube			
	12.0'-	5		WH-2'			
	14.0'						
15.0	14.0'-	6		WH-2'			
	16.0'						
	16.0'-	7		WH-2'			
	18.0'						
	18.0'-	8		WH-2'			
20.0	20.0'						
	20.0'-	9		WH-2'			
	22.0'						
	22.0'-	10		WH-2'			23.0'
	24.0'					**Dark gray wet very soft MARL**	
25.0	24.0'-	11		WH-2'			
	26.0'						
	26.0'-	12		WH-2'			
	28.0'						
	28.0'-	13		WH-2'			
30.0	30.0'						
	30.0'-	14		WH-2'			31.5'
	32.0'					**Brown wet very soft to soft SILT and CLAY**	
	32.0'-	15		WH-2'			
	34.0'						
35.0	34.0'-	16		WH-2'			
	36.0'					Note: WH indicates sampler penetrated under	
	36.0'-	17		WH-2'		weight of hammer. Backfilled with grout	
	38.0'						
	38.0'-	18		WH-2'			
40.0	40.0'					**Bottom of Boring**	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-68**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/14/07**
DATE COMPLETED: **11/14/07**

GROUNDWATER DEPTH
WHILE DRILLING **10.0'**

BEFORE CASING
REMOVED **10.0'**

AFTER CASING
REMOVED **10.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH 3		White moist soft to very soft SOLVAY	
	2.0'			1 1	4	WASTE	
	2.0'-	2		20 3			
	4.0'			1 1	4		
5.0	4.0'-	T-1	Rec	Shelby		Shelby tube sample 4.0' to 6.0'	
	6.0'		1.4'	Tube			
	6.0'-	3		WH-2'			
	8.0'						
	8.0'-	4	NO	WH-2'			
WL▼10.0	10.0'		REC				10.0'
	10.0'-	5		WH-2'		Gray wet very soft MARL	
	12.0'						
	12.0'-	6		WH-2'			
	14.0'						
15.0	14.0'-	7		WH-2'			
	16.0'						
	16.0'-	8		WH-2'			
	18.0'						18.0'
	18.0'-	9		WH-2'		Dark gray wet very soft MARL	
20.0	20.0'						
	20.0'-	10		WH-2'			
	22.0'						
	22.0'-	11		WH-2'			
	24.0'						
25.0	24.0'-	12		WH-2'			
	26.0'						
	26.0'-	13		WH-2'			
	28.0'						
	28.0'-	14		WH-2'			
30.0	30.0'						30.0'
	30.0'-	15		WH-2'		Brown wet very soft to medium stiff SILT	
	32.0'					and fine SAND	
	32.0'-	16		WH-2'			
	34.0'						
35.0	34.0'-	17		WH-2'			
	36.0'					Note: WH indicates sampler penetrated under	
	36.0'-	18		WH 2		weight of hammer. Backfilled with grout	
	38.0'			3 3	5		
	38.0'-	19		WH 2			
40.0	40.0'			2 2	4	Bottom of Boring	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-69A**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/15/07**
DATE COMPLETED: **11/16/07**

GROUNDWATER DEPTH
WHILE DRILLING **.0'**

BEFORE CASING
REMOVED **.0'**

AFTER CASING
REMOVED **.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-1'		**Brown wet very soft SILT and fine SAND**	0.6'
	2.0'			1 5		**White wet stiff to very soft SOLVAY WASTE**	
	2.0'-	2		10 6			
	4.0'			5 2			
5.0	4.0'-	T-1	Rec	Shelby			
WL ▼	6.0'		2.0'	Tube			
	6.0'-	3		WH-2'			
	8.0'						
	8.0'-	4		WH-2'			9.0'
10.0	10.0'					**Gray wet very soft MARL**	
	10.0'-	5		WH-2'			
	12.0'						
	12.0'-	6		WH-2'			
	14.0'						
15.0	14.0'-	T-1	Rec	Shelby			
	16.0'		2.0'	Tube			
	16.0'-	7		WH-2'			
	18.0'						
	18.0'-	8		WH-2'			
20.0	20.0'						
	20.0'-	9		WH-2'			
	22.0'						
	22.0'-	10		WH-2'			
	24.0'						
25.0	24.0'-	11		WH-2'			
	26.0'						26.0'
	26.0'-	12		WH-2'		**Brown wet very soft SILT and CLAY**	
	28.0'						
	28.0'-	13		2 1			
30.0	30.0'			WH-1'			
	30.0'-	14		WH-2'			
	32.0'						
	32.0'-	15		WH-2'			
	34.0'						
35.0	34.0'-	16		WH-2'			
	36.0'						
	36.0'-	17				**Bottom of Boring**	36.0'
	38.0'						
	38.0'-	18				**Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout**	
40.0	40.0'						

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-69B**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/15/07**
DATE COMPLETED: **11/16/07**

GROUNDWATER DEPTH
WHILE DRILLING **.0'**

BEFORE CASING
REMOVED **.0'**

AFTER CASING
REMOVED **.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		1	WH		Brown wet very soft SILT and fine SAND	0.6'
	2.0'			WH	1		White wet dense to very loose SOLVAY WASTE	
	2.0'-	2		20	14			
	4.0'			26	6	40		
5.0	4.0'-	3		2	1			
WL▼	6.0'			2	1	3		
	6.0'-	T-1	Rec	Shelby				
	8.0'		2.0'	Tube				
	8.0'-	4		WH-2'				
10.0	10.0'							
	10.0'-	5		WH-2'				
	12.0'							
	12.0'-	6		WH-2'				
	14.0'							
15.0	14.0'-	7		WH-2'				
	16.0'							
	16.0'-	7		WH-2'				
	18.0'							
	18.0'-	8		WH-1'				
20.0	20.0'			2	2	2		20.0'
	20.0'-	9		WH-2'			Dark gray very soft to medium stiff MARL	21.0'
	22.0'						Brown medium stiff to very soft SILT and CLAY	
	22.0'-	10		3	3			
	24.0'			2	2	5		
25.0	24.0'-	11		WH-2'				
	26.0'							
	26.0'-	12		WH-2'				
	28.0'							
	28.0'-	13		WH-2'				
30.0	30.0'							
	30.0'-	14		1	2			
	32.0'			2	2	4		
							Bottom of Boring	32.0'
35.0								
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	
40.0								

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-70**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/16/07**
DATE COMPLETED: **11/16/07**

GROUNDWATER DEPTH
WHILE DRILLING **.0'**

BEFORE CASING
REMOVED **.0'**

AFTER CASING
REMOVED **.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		1 1		**Brown wet soft SILT and fine SAND**	0.6'
	2.0'			3 5	4	**White wet soft SOLVAY WASTE**	
	2.0'-	2		2 1			
	4.0'			1 1	2		
5.0	4.0'-	3		1 2			
WL▼	6.0'			2 2	4		
	6.0'-	4		1 1			7.0'
	8.0'			1 1	2	**Gray wet very soft MARL**	
	8.0'-	5		1 WH			
10.0	10.0'			WH 1			
	10.0'-	6		WH-2'			
	12.0'						
	12.0'-	7		WH-2'			
	14.0'						
15.0	14.0'-	8		WH-2'			
	16.0'						
	16.0'-	9		WH-2'			
	18.0'						
	18.0'-	10		WH-2'			
20.0	20.0'						
	20.0'-	11		WH-2'			
	22.0'						
	22.0'-	12		WH-2'			
	24.0'						
25.0	24.0'-	13		WH-2'			
	26.0'						26.1'
	26.0'-	14		WH-2'		**Brown wet very soft SILT and CLAY**	
	28.0'						
	28.0'-	15		WH-2'			
30.0	30.0'						
	30.0'-	16		WH-2'			
	32.0'						
	32.0'-	17		WH-2'			
	34.0'						
35.0	34.0'-	18		WH-2'			
	36.0'					Note: WH indicates sampler penetrated under	
	36.0'-	19		WH-2'		weight of hammer. Backfilled with grout	
	38.0'						
	38.0'-	20		WH-2'			
40.0	40.0'					**Bottom of Boring**	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-71**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/19/07**
DATE COMPLETED: **11/19/07**

GROUNDWATER DEPTH
WHILE DRILLING **.6'**

BEFORE CASING
REMOVED **.6'**

AFTER CASING
REMOVED **.6'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		2 2		Brown moist soft SILT and fine SAND	0.6'
	2.0'			1 1	3	White wet soft to very soft SOLVAY WASTE	
	2.0'-	2		1 1			
	4.0'			1 1	2		
5.0	4.0'-	3		WH-1'			
	6.0'			1 1	1		6.0'
	6.0'-	4		WH-1'		Gray wet medium stiff to very soft MARL	
	8.0'			5 3	5		
	8.0'-	5		4 2			
10.0	10.0'			2 1	4		
	10.0'-	6		WH-2'			
	12.0'						
	12.0'-	7		1 1			
	14.0'			1 1	2		
15.0	14.0'-	8		WH-1'			
	16.0'			1 1	1		
	16.0'-	9		WH-1'			
	18.0'			1 1	1		
	18.0'-	10		WH-2'			
20.0	20.0'						
	20.0'-	T-1	Rec	Shelby			
	22.0'		1.0'	Tube			
	22.0'-	11		WH-2'			
	24.0'						
25.0	24.0'-	12		WH-2'			
	26.0'						
	26.0'-	13		WH-2'			
	28.0'						
	28.0'-	14		WH-2'			
30.0	30.0'						
	30.0'-	15		WH-2'			
	32.0'						
	32.0'-	16		WH-2'			33.0'
	34.0'					Dark gray moist very soft MARL	
35.0	34.0'-	17		WH-2'			35.0'
	36.0'					Brown wet very soft CLAY and SILT	
	36.0'-	18		WH-2'			
	38.0'						
	38.0'-	19		WH-2'			
40.0	40.0'						

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING **.6'**

BEFORE CASING
REMOVED **.6'**

AFTER CASING
REMOVED **.6'**

CASING TYPE **HOLLOW STEM AUGER**

HOLE NO. **SB-71**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/19/07**
DATE COMPLETED: **11/19/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	**20**		**WH-2'**		**Brown wet very soft CLAY and SILT**	
	42.0'						
	42.0'-	**21**		**WH-2'**			
	44.0'						
45.0	**44.0'-**	**22**		**WH-2'**			
	46.0'						**46.0'**
						Bottom of Boring	
						Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-72**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/19/07**
DATE COMPLETED: **11/19/07**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **2.0'**

AFTER CASING
REMOVED **2.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-1'		White brown moist very loose fine to	
WL▼	2.0'			WH 1		coarse SAND, some conglomerate material	2.0'
	2.0'-	2		WH 1		White wet very soft SOLVAY WASTE	
	4.0'			1 1	2		4.0'
5.0	4.0'-	3		WH-2'		Brown wet very soft SILT, trace clay	
	6.0'						6.0'
	6.0'-	4		2 WH		Gray wet very soft MARL	
	8.0'			WH 1			
	8.0'-	5		WH 1	1		
10.0	10.0'			1 WH			
	10.0'-	6		WH-2'			
	12.0'						
	12.0'-	7		WH-2'			
	14.0'						
15.0	14.0'-	8		WH-2'			
	16.0'						
	16.0'-	9		WH-2'			
	18.0'						
	18.0'-	10		WH-2'			
20.0	20.0'						
	20.0'-	11		WH-2'			
	22.0'						
	22.0'-	12		WH-2'			
	24.0'						
25.0	24.0'-	13		WH-2'			
	26.0'						
	26.0'-	14		WH-2'			
	28.0'						
	28.0'-	15		WH-2'			
30.0	30.0'						30.0'
	30.0'-	16		WH-2'		Brown wet very soft CLAY and some marl	
	32.0'						
	32.0'-	17		WH-2'			
	34.0'						
35.0	34.0'-	18		WH-2'			
	36.0'						
	36.0'-	19		WH-2'			
	38.0'						
	38.0'-	20		WH-2'			
40.0	40.0'						40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-72**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/19/07**
DATE COMPLETED: **11/19/07**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **2.0'**

AFTER CASING
REMOVED **2.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **HOLLOW STEM AUGER**

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	**21**		**WH-2'**			**Brown wet very soft CLAY and SILT**	
	42.0'						**Used 3" spoon from 40.0' to 42.0'**	
							Bottom of Boring	**42.0'**
45.0								
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-73**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/19/07**
DATE COMPLETED: **11/19/07**

GROUNDWATER DEPTH
WHILE DRILLING **13.5'**

BEFORE CASING
REMOVED **13.5'**

AFTER CASING
REMOVED **13.5'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-1'			White moist very soft SOLVAY WASTE	
	2.0'			1	1	1		
	2.0'-	2		1	1			
	4.0'			1	1	2		
5.0	4.0'-	3		WH	1			
	6.0'			WH	1	1		
	6.0'-	4		WH	1			
	8.0'			WH	1	1		
	8.0'-	5		WH	1			
10.0	10.0'			WH	WH	1		10.0'
	10.0'-	6		WH	WH		White moist very soft CLAY and SILT, some	
	12.0'			1	1	1	solvay waste, little marl	
	12.0'-	7		1	1			13.5'
WL▼	14.0'			1	WH	2	Dark gray wet very soft MARL	
15.0	14.0'-	8		1	WH			
	16.0'			1	WH	1		
	16.0'-	9		1	WH			
	18.0'			1	WH	1		
	18.0'-	10		WH-2'				
20.0	20.0'							
	20.0'-	11		WH-2'				
	22.0'							
	22.0'-	12		WH-2'				
	24.0'							
25.0	24.0'-	13		WH-2'				
	26.0'							
	26.0'-	14		WH-2'				
	28.0'							
	28.0'-	15		WH-2'				
30.0	30.0'							
	30.0'-	16		WH-2'				31.0'
	32.0'						Brown wet very soft SILT and CLAY	
	32.0'-	17		WH-2'				
	34.0'							
35.0	34.0'-	T-1	Rec	Shelby			Shelby tube sample 34.0' to 36.0'	
	36.0'		2.0'	Tube				
	36.0'-	18		1	1			
	38.0'			1	1	2		
	38.0'-	19		1	1			
40.0	40.0'			1	1	2		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-73**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/19/07**
DATE COMPLETED: **11/19/07**

GROUNDWATER DEPTH
WHILE DRILLING **13.5'**

BEFORE CASING
REMOVED **13.5'**

AFTER CASING
REMOVED **13.5'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **HOLLOW STEM AUGER**

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	**20**		**1**	**1**		**Brown wet very soft SILT and CLAY**	
	42.0'			**1**	**1**	**2**	**Used 3" spoon from 40.0' to 42.0'**	
							Bottom of Boring	**42.0'**
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-74**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/20/07**
DATE COMPLETED: **11/20/07**

GROUNDWATER DEPTH
WHILE DRILLING **5.0'**

BEFORE CASING
REMOVED **5.0'**

AFTER CASING
REMOVED **5.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HSA**
2" Split Spoon Samples

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2'		**White moist very loose SOLVAY WASTE**	
	2.0'						
	2.0'-	2		WH-2'			
	4.0'						
WL ▼5.0	4.0'-	3		WH-2'			5.0'
	6.0'					**PEAT**	5.5'
	6.0'-	4		WH-2'		**Gray wet very soft MARL**	
	8.0'						
	8.0'-	5		WH-2'			
10.0	10.0'						
	10.0'-	6		1 1			
	12.0'			1 1	2		
	12.0'-	7		1 1			
	14.0'			1 1	2		
15.0	14.0'-	T-1	Rec	Shelby			
	16.0'		1.1'	Tube			
	16.0'-	9		WH-2'			
	18.0'						
	18.0'-	10		WH-2'			
20.0	20.0'						
	20.0'-	11		WH-2'			
	22.0'						
	22.0'-	12		WH-2'			
	24.0'						
25.0	24.0'-	13		WH-2'			
	26.0'						
	26.0'-	14		WH-2'			27.0'
	28.0'					**Brown wet very soft SILT and CLAY**	
	28.0'-	15		WH-2'			
30.0	30.0'						
	30.0'-	16		WH-2'			
	32.0'						
	32.0'-	17		WH-2'			
	34.0'						
35.0	34.0'-	18		WH-2'			
	36.0'					Note: WH indicates sampler penetrated under	
	36.0'-	19		WH-2'		weight of hammer. Backfilled with grout	
	38.0'						
	38.0'-	20		WH-2'			
40.0	40.0'					**Bottom of Boring**	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-75**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/21/07**
DATE COMPLETED: **11/21/07**

GROUNDWATER DEPTH
WHILE DRILLING **13.5'**

BEFORE CASING
REMOVED **13.5'**

AFTER CASING
REMOVED **13.5'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		1 2		White moist loose to very loose SOLVAY WASTE	
	2.0'			2 2	4		
	2.0'-	2		1 1			
	4.0'			1 1	2		
5.0	4.0'-	3		WH-1'			
	6.0'			1 1	1		
	6.0'-	4		WH-2'			
	8.0'						
	8.0'-	5		WH-2'			
10.0	10.0'						
	10.0'-	6		WH-2'			
	12.0'						
	12.0'-	7		WH-1'			13.5'
WL▼	14.0'			1 1	1	Gray black wet soft to medium stiff SILT, trace fine sand	
15.0	14.0'-	8		1 2			
	16.0'			2 3	4		
	16.0'-	9		3 5			16.5
	18.0'			5 4	10	Gray brown wet very soft SILT, trace fine sand, trace shell fragments	
	18.0'-	10		WH-2'			
20.0	20.0'						
	20.0'-	11		WH-2'			
	22.0'						
	22.0'-	12		WH-2'			
	24.0'						
25.0	24.0'-	13		WH-2'			
	26.0'						
	26.0'-	14		WH-2'			
	28.0'						
	28.0'-	15		WH-2'			
30.0	30.0'						
	30.0'-	16		WH-2'			
	32.0'						
	32.0'-	17		WH-1'			
	34.0'			1 1	1		
35.0	34.0'-	18		WH-2'			
	36.0'						
	36.0'-	19		WH-2'			37.0'
	38.0'					Gray wet very soft CLAY, some silt, trace fine sand	
	38.0'-	20		WH-2'			
40.0	40.0'						40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-75**
JOB NUMBER: **07190A**
SURF. EL.
DATE STARTED: **11/19/07**
DATE COMPLETED: **11/19/07**

GROUNDWATER DEPTH
WHILE DRILLING **13.5'**

BEFORE CASING
REMOVED **13.5'**

AFTER CASING
REMOVED **13.5'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **HOLLOW STEM AUGER**

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		WH-2'		**Gray wet very soft CLAY, some silt, trace fine sand**	
	42.0'						
	42.0'-			WH-2'			
	44.0'						
45.0	44.0'-			WH-2'			
	46.0'						
	46.0'-			WH-2'			
	48.0'						
	48.0'-			WH-1'			
50.0	50.0'			1 1	1		
						Bottom of Boring	60.0'
						Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	
55.0							
60.0							
65.0							
70.0							
75.0							
80.0							

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-76**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **11/27/07**
DATE COMPLETED: **11/27/07**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" Hollow Stem Auger**

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2'			**White wet very soft SOLVAY WASTE**	
	2.0'							
	2.0'-	2		WH-2'				
	4.0'							
5.0	4.0'-	3		1	WH			
	6.0'			1	WH	1		
	6.0'-	4		1	1			
	8.0'			1	1	2		
	8.0'-	5		WH	1			
10.0	10.0'			1	1	2		
	10.0'-	6		WH-2'				
	12.0'							
	12.0'-	7		WH-2'				
	14.0'							
15.0	14.0'-	8		1	1			
	16.0'			1	1	2		16.0'
	16.0'-	9		1	1		**White and black wet soft SOLVAY WASTE**	
	18.0'			1	1	2		18.0'
	18.0'-	10		1	1		**Gray wet very soft MARL**	
20.0	20.0'			1	1	2		
	20.0'-	11		WH-2'				
	22.0'							
	22.0'-	12		WH-2'				
	24.0'							
25.0	24.0'-	13		WH-2'				
	26.0'							
	26.0'-	14		WH-2'				
	28.0'							
	28.0'-	15		WH-2'				
30.0	30.0'							
	30.0'-	16		WH-2'				
	32.0'							
	32.0'-	17		WH-2'				
	34.0'							
35.0	34.0'-	18		WH-2'				
	36.0'							
	36.0'-	19		WH-2'				
	38.0'						Note: WH indicates sampler penetrated under	
	38.0'-	20		WH-2'			weight of hammer. Backfilled with grout	
40.0	40.0'						**Bottom of Boring**	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED **Added water**

AFTER CASING
REMOVED **Grout to Surface**

HOLE NO. **SB-77**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/22/08**
DATE COMPLETED: **01/22/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		8	2		Gray wet very loose SOLVAY WASTE	
	2.0'			2	2	4		
	2.0'-	2		2	1			
	4.0'			2	1	3		
5.0	4.0'-	3		1	1			5.0'
	6.0'			1	3	2	Black wet soft PEAT	5.5'
	6.0'-	4		7	5		Gray moist medium stiff to very soft MARL	
	8.0'			3	3	8		
	8.0'-	5		4	5			
10.0	10.0'			2	2	7		
	10.0'-	6		WH-1.0'				
	12.0'			2		2		
	12.0'-	7		2	2			
	14.0'			3	4	5		
15.0	14.0'-	8		WH-1.0'				
	16.0'			1	1	1		
	16.0'-	9		1	1			
	18.0'			1		2		
	18.0'-	10		WH-2.0'				
20.0	20.0'							
	20.0'-	11		WH-2.0'				
	22.0'							
	22.0'-	12		WH-2.0'				
	24.0'							
25.0	24.0'-	13		WH-1.0'				
	26.0'			7	7	7		26.0'
	26.0'-	14		3	3		Black wet loose to medium dense fine to	
	28.0'			5	5	8	coarse SAND, little to some silt	
	28.0'-	15		6	7			
30.0	30.0'			7	9	14		
	30.0'-	16		7	8			
	32.0'			9	9	17		
	32.0'-	17		6	6			
	34.0'			8	8	14		
35.0	34.0'-	18		10	8			
	36.0'			8	9	16		
	36.0'-	19		6	7			
	38.0'			7	6	14		
	38.0'-	20		7	12			
40.0	40.0'			11	11	23		

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED **Added water**

AFTER CASING
REMOVED **Grout to Surface**

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-77**
JOB NUMBER: **07190**
SURF. EL.
DATE STARTED: **01/22/08**
DATE COMPLETED: **01/22/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		2	6		**Black wet medium dense fine to coarse SAND, little to some silt**	
	42.0'			5	6	11		
	42.0'-	22		8	8			
	44.0'			7	8	15		
45.0	44.0'-	23		5	6			
	46.0'			6	10	12		
	46.0'-	24		12	17			
	48.0'			12	17	29		
	48.0'-	25		6	6			
50.0	50.0'			8	6	14		
	50.0'-	26		7	11			
	52.0'			12	6	23		52.0'
	52.0'-	27		6	6		**Dark brown moist very stiff SILT, trace fine sand**	
	54.0'			14	15	20		54.0'
55.0	54.0'-	28		10	20		**Dark brown moist dense SAND, little fine gravel, trace silt**	
	56.0'			17	24	37		56.0'
	56.0'-	29		12	12		**Dark brown moist very stiff SILT, some fine sand**	
	58.0'			14	14	26		58.0'
	58.0'-	30		8	8		**Dark brown moist medium dense SAND**	
60.0	60.0'			10	12	18		
							Bottom of Boring	60.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	
65.0								
70.0								
75.0								
80.0								

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **NW FLUSH JOINT CASING**

HOLE NO. **SB-78**
JOB NUMBER: **07190D**
SURF. EL.
DATE STARTED: **05/08/08**
DATE COMPLETED: **05/08/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DRILLER'S FIELD LOG

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
							MUDLINE	
	0.0'-	1		WOR	WOR		**Black wet very soft SILT, trace fine sand, trace fine gravel**	2.0'
	2.0'			WOR	WOR			
	2.0'-	2		WOR	WOR		**White - gray - brown wet very soft SILT, trace fine sand, trace shells, trace vegetation**	
	4.0'			WOR	WOR			
5.0	4.0'-	3		WOR	WOR			
	6.0'			WOR	WOR			
	6.0'-	4		WOH	WOH			
	8.0'			WOH	WOH			
	8.0'-	5		WOH	WOH			
10.0	10.0'			WOH	WOH			
	10.0'-	6		WOH	WOH			
	12.0'			WOH	WOH			
	12.0'-	7		WOH	WOH			
	14.0'			2	1			
15.0	14.0'-	8		WOH	WOH			
	16.0'			WOH	WOH			
	16.0'-	9		WOH	WOH			
	18.0'			WOH	WOH			
	18.0'-	10		WOH	WOH			
20.0	20.0'			2	1			
							Bottom of Boring	20.0'
25.0							**Notes:** **- Water 3.5 feet deep at boring location.** **- WOH indicates sampler penetrated under weight of hammer.** **- WOR indicates sampler penetrated under weight of rods.**	
30.0								
35.0								
40.0								

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-79**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **11/21/07**
DATE COMPLETED: **11/26/07**

GROUNDWATER DEPTH
WHILE DRILLING **0.0'**

BEFORE CASING
REMOVED **0.0'**

AFTER CASING
REMOVED **0.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
WL▼	0.0'-	1		WH-2'		Black brown wet very loose fine to coarse SAND, little silt	
	2.0'						
	2.0'-	2		WH-1.5'			2.5'
	4.0'			1		Black brown wet very soft SILT, trace fine to medium sand, trace shells, trace marl	
5.0	4.0'-	3	NO	1 1			
	6.0'		REC	1 1	2		6.0'
	6.0'-	4		1 1		Gray brown wet very soft SILT and MARL, trace fine sand	
	8.0'			1 1	2		
	8.0'-	5		WH-2'			
10.0	10.0'						
	10.0'-	6		WH-2'			
	12.0'						
	12.0'-	7		WH-2'			
	14.0'						14.0'
15.0	14.0'-	8		WH-2'		Gray brown wet very soft SILT, little fine sand	
	16.0'						
	16.0'-	9		WH-2'			
	18.0'						18.5'
	18.0'-	10		WH-2'		Brown wet very soft PEAT, trace wood fragments	
20.0	20.0'						19.0'
	20.0'-	11		WH-2'		Gray brown wet very soft SILT, trace to little fine sand, trace shell fragments	
	22.0'						
	22.0'-	12		WH-2'			
	24.0'						
25.0	24.0'-	13		WH-2'			
	26.0'						
	26.0'-	14		WH-2'			
	28.0'						
	28.0'-	15		WH-2'			
30.0	30.0'						
	30.0'-	16		WH-2'			
	32.0'						
	32.0'-	17		WH-2'			
	34.0'						34.0'
35.0	34.0'-	18		WH-2'		Bray brown wet very soft SILT	
	36.0'						
	36.0'-	19		WH-2'			
	38.0'						
	38.0'-	20		WH-2'			
40.0	40.0'						40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-79**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **11/21/07**
DATE COMPLETED: **11/26/07**

GROUNDWATER DEPTH
WHILE DRILLING **0.5'**

BEFORE CASING
REMOVED **0.5'**

AFTER CASING
REMOVED **0.5'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	**21**		**WH-2'**		**Gray brown wet very soft SILT**	
	42.0'						
	42.0'-	**22**		**WH-2'**			
	44.0'						
45.0	**44.0'-**	**23**		**WH-2'**			
	46.0'						
	46.0'-	**24**		**WH-2'**			
	48.0'						**48.0'**
	48.0'-	**25**		**WH-2'**		**Gray brown wet very soft SILT, trace fine sand**	
50.0	**50.0'**						**50.0'**
	50.0'-	**26**		**WH-2'**		**Gray brown wet very soft SILT**	
	52.0'						
	52.0'-	**27**		**WH-2'**			
	54.0'						
55.0	**54.0'-**	**28**		**WH-2'**			
	56.0'						
	56.0'-	**29**		**WH-2'**			
	58.0'						
	58.0'-	**30**		**WH-2'**			
60.0	**60.0'**						
						Bottom of Boring	**60.0'**
						Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **Added water**

AFTER CASING
REMOVED **Grout to Surface**

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-80**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/22/08**
DATE COMPLETED: **01/22/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		17	12		Made 5 attempts	
	2.0'			17	10	29	all stopped at 2.5'	
	2.0'-	2		50-.01				2.5'
	4.0'							
5.0	4.0'-							
10.0								
15.0								
20.0								
25.0								
30.0								
35.0								
40.0								

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-81**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/16/08**
DATE COMPLETED: **01/18/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		1	1		Brown moist very soft ORGANICS	.5'
	2.0'			1	1	2	White moist very soft to hard SOLVAY	
	2.0'-	2		6	2		WASTE	
	4.0'			1	1	3		
5.0	4.0'-	3		1	WH			
	6.0'			1	1	1		
	6.0'-	4		1	WH			
	8.0'			1	1	1		
	8.0'-	5		1	1			
10.0	10.0'			3	2	4		
	10.0'-	6		WH	1			
	12.0'			WH	1			
	12.0'-	7		1	WH			
	14.0'			1	1	1		
15.0	14.0'-	8		1	1			
	16.0'			1	1	2		
	16.0'-	9		1	1			
	18.0'			1	1	2		
	18.0'-	10		1	1			
20.0	20.0'			1	1	2		
	20.0'-	11		1	1			
	22.0'			1	1	2		
	22.0'-	12		2	2			
	24.0'			2	2	4		
25.0	24.0'-	13		2	1			
	26.0'			1	1	2		
	26.0'-	14		1	1			
	28.0'			2	2	3		
	28.0'-	15		6	12			
30.0	30.0'			18	7	30		
	30.0'-	16		1	2			
	31.3'			50-.3				
	32.0'-	17		3	3			
	34.0'			4	7	7		
35.0	34.0'-	18		10	10			
	36.0'			14	5	24		
	36.0'-	19		50-.4				
	36.4'							
	38.0'-	20		3	3			
40.0	40.0'			4	5	7		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-81**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/16/08**
DATE COMPLETED: **01/18/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 2 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		5	3		White moist very soft to hard SOLVAY	
	42.0'			5	5	8	WASTE	
	42.0'-	22		5	9			
	44.0'			9	7	18		
45.0	44.0'-	23		4	18			
	46.0'			4	7	22		
	46.0'-	24		6	14			
	48.0'			4	12	18		
	48.0'-	25		15	8			
50.0	50.0'			4	4	12		
	50.0'-	26		4	17			
	52.0'			18	4	35		
	52.0'-	27		4	9			
	54.0'			3	3	12		
55.0	54.0'-	28		2	2			
	56.0'			2	2	4		
	56.0'-	29		5	5			
	58.0'			9	10	14		
	58.0'-	30		11	4			
60.0	60.0'			18	22	22		
	60.0'-	31		1	1			
	62.0'			1	1	2		62.0'
	62.0'-	32		2	2		Black moist soft PEAT	62.5'
	64.0'			2	2	4	Gray moist very soft to stiff MARL	
65.0	64.0'-	33		2	3			
	66.0'			2	3	5		
	66.0'-	34		3	4			
	68.0'			4	6	8		
	68.0'-	35		2	2			
70.0	70.0'			2	2	4		
	70.0'-	36		WH-2.0'				
	72.0'							
	72.0'-	37		WH-1.5'				
	74.0'				1			
75.0	74.0'-	38		WH-1.0'				
	76.0'			1	1	1		
	76.0'-	39		2	1			
	78.0'			1	2	2		78.0'
	78.0'-	40		2	2		Gray moist soft MARL, some silt	
80.0	80.0'			1	2	3		80.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-81**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/16/08**
DATE COMPLETED: **01/18/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 3 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	80.0'-	41		1	1		Gray moist soft MARL, some silt	
	82.0'			1	1	2		
	82.0'-	42		2	1			
	84.0'			1	1	2		
85.0	84.0'-	43		2	2			
	86.0'			2	2	4		
	86.0'-	44		2	2			
	88.0'			2	2	4		
	88.0'-	45		2	1		Brown-gray very soft to soft SILT and	
90.0	90.0'			1	1	2	CLAY, some marl	
	90.0'-	46		2	2			
	92.0'			2	2	4		
	92.0'-	47		2	2			
	94.0'			2	2	4		
95.0	94.0'-	48		2	2			
	96.0'			2	2	4		
	96.0'-	49		WH-2.0'				
	98.0'							
	98.0'-	50		WH	2			
100.0	100.0'			2	2	4		
							Bottom of Boring	100.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **NW FLUSH JOINT CASING**

HOLE NO. **SB-82**
JOB NUMBER: **07190D**
SURF. EL.
DATE STARTED: **05/08/08**
DATE COMPLETED: **05/08/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DRILLER'S FIELD LOG

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL **MUDLINE**	STRATA CHANGE DEPTH
	0.0'-	1		WOH			Black wet very soft SILT, trace fine sand,	
	2.0'			WOH			trace fine gravel, trace vegetation	2.0'
	2.0'-	2		WOH			White - gray - brown wet very soft SILT,	
	4.0'			WOH			trace shells, trace vegetation	
5.0	4.0'-	3	NO	Shelby				
	6.0'		REC	Tube				
	6.0'-	4		WOH				
	8.0'			WOH	1			
	8.0'-	5		WOH				
10.0	10.0'			WOH				
	10.0'-	6		WOH				
	12.0'			WOH				
	12.0'-	7		WOH	1-1.0'			
	14.0'				1			
15.0	14.0'-	8		WOH	1-1.5'			
	16.0'							
	16.0'-	9		WOH				
	18.0'			WOH				
	18.0'-	10		WOH				
20.0	20.0'			WOH				
							Bottom of Boring	20.0'
25.0							Notes: - Water 4.0 feet deep at boring location. - WOH indicates sampler penetrated under weight of hammer. - Offset 3'-5' and collected Shelby tube from 2.0' to 4.0'. Recovery - 1.8'	
30.0								
35.0								
40.0								

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-83**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/23/08**
DATE COMPLETED: **01/23/08**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **Added water**

AFTER CASING
REMOVED **Grout to Surface**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2.0'			Brown wet medium dense to loose SOLVAY WASTE and fine to coarse SAND	
WL▼	2.0'							
	2.0'-	2		8	8			
	4.0'			8	6	16		
5.0	4.0'-	3		3	3			
	6.0'			2	1	5		6.0'
	6.0'-	4		2	1		Gray wet very loose fine to coarse SAND, some marl	
	8.0'			2	7	3		
	8.0'-	5		2	2			
10.0	10.0'			2	2	4		10.0'
	10.0'-	6		2	3		Gray wet loose to very loose fine to medium SAND, some marl	
	12.0'			2	3	5		
	12.0'-	7		2	3			
	14.0'			3	2	6		
15.0	14.0'-	8		2	1			
	16.0'			2	3	3		
	16.0'-	9		3	3			
	18.0'			3	4	6		
	18.0'-	10		3	4			
20.0	20.0'			5	5	9		
	20.0'-	11		WH-2.0'				
	22.0'							
	22.0'-	12		1	1			
	24.0'			2	3	3		24.0'
25.0	24.0'-	13		WH-2.0'			Gray wet very soft to medium stiff MARL, trace fine to medium sand	
	26.0'							
	26.0'-	14		2	3			
	28.0'			3	4	6		28.0'
	28.0'-	15		3	4		Gray wet medium stiff SILT and MARL	
30.0	30.0'			4	8	8		30.0'
	30.0'-	16		WH-1.0'			Gray wet very loose fine to medium SAND	
	32.0'			1	1	1		
	32.0'-	17		1	1			
	34.0'			2	3	3		34.0'
35.0	34.0'-	18		2	2		Gray wet loose fine to medium SAND,	
	36.0'			3	2	5	some silt	36.0'
	36.0'-	19		2	2		Gray moist medium stiff SILT, little fine sand	
	38.0'			2	2	4	Note: WH indicates sampler penetrated under	
	38.0'-	20		3	3		weight of hammer. Backfilled with grout	
40.0	40.0'			4	30	7	Bottom of Boring	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-84**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/15/08**
DATE COMPLETED: **01/17/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **1 OF 3**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-1.0'			White moist very soft to stiff SOLVAY	
	2.0'			2	2	2	WASTE	
	2.0'-	2		1	WH			
	4.0'			1	2	1		
5.0	4.0'-	3		1	2			
	6.0'			10	5	12		
	6.0'-	4		3	4			
	8.0'			5	2	9		
	8.0'-	5		10	5			
10.0	10.0'			4	3	9		
	10.0'-	6		3	3			
	12.0'			1	1	4		
	12.0'-	7		1	2			
	14.0'			1	1	3		
15.0	14.0'-	8		1	2			
	16.0'			1	1	3		
	16.0'-	9		1	2			
	18.0'			1	2	3		
	18.0'-	10		1	1			
20.0	20.0'			1	1	2		
	20.0'-	11		1	2			
	22.0'			4	4	6		
	22.0'-	12		2	1			
	24.0'			1	1	2		
25.0	24.0'-	13		1	1			
	26.0'			1	1	2		
	26.0'-	14		2	1			
	28.0'			2	1	3		
	28.0'-	15		1	1			
30.0	30.0'			1	1	2		
	30.0'-	16		3	3			
	32.0'			7	2	10		
	32.0'-	17		4	4			
	34.0'			5	7	9		
35.0	34.0'-	18		5	4			
	36.0'			3	3	7		
	36.0'-	19		4	7			
	38.0'			4	4	11		
	38.0'-	20		2	2			
40.0	40.0'			4	4	6		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-84**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/15/08**
DATE COMPLETED: **01/17/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 2 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		2	2		White moist soft to very stiff SOLVAY	
	42.0'			2	2	4	WASTE	
	42.0'-	22		1	4			
	44.0'			4	2	8		
45.0	44.0'-	23		2	4			
	46.0'			2	9	6		
	46.0'-	24		6	6			
	48.0'			7	8	13		
	48.0'-	25		6	5			
50.0	50.0'			4	5	9		
	50.0'-	26		4	6			
	52.0'			7	14	13		
	52.0'-	27		5	6			
	54.0'			12	4	18		
55.0	54.0'-	28		3	3			
	56.0'			3	3	6		
	56.0'-	29		4	1			
	58.0'			2	2	3		
	58.0'-	30		2	2			59.0'
60.0	60.0'			1	2	3	Black moist soft PEAT	60.0'
	60.0'-	31		3	3		Gray moist very soft to stiff MARL	
	62.0'			2	2	5		
	62.0'-	32		2	2			
	64.0'			1	1	3		
65.0	64.0'-	33		2	2			
	66.0'			2	2	4		
	66.0'-	34		3	2			
	68.0'			5	5	7		
	68.0'-	35		4	4			
70.0	70.0'			3	3	7		
	70.0'-	36		1	1			
	72.0'			1	2	2		
	72.0'-	37		2	1			
	74.0'			2	2	3		
75.0	74.0'-	38		WH-1.5'				
	76.0'				4			
	76.0'-	39		4	3			
	78.0'			2	2	5		
	78.0'-	40		4	4			
80.0	80.0'			5	5	9		80.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-84**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/15/08**
DATE COMPLETED: **01/17/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 3 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	80.0'-	T-1	Rec	Shelby		Gray moist very soft to soft MARL	
	82.0'		2.0'	Tube			
	82.0'-	41		WH-1.0'			
	84.0'			1 1	1		
85.0	84.0'-	42		1 1			
	86.0'			1 2	2		
	86.0'-	43		1 1			
	88.0'			2 2	3		88.0'
	88.0'-	44		WH-2.0'		Tan moist very soft MARL	
90.0	90.0'						
	90.0'-	45		WH-2.0'			
	92.0'						
	92.0'-	46		WH-2.0'			
	94.0'						
95.0	94.0'-	47		WH-2.0'			
	96.0'						
	96.0'-	48		WH-2.0'			
	98.0'						
	98.0'-	T-2	Rec	Shelby			
100.0	100.0'		2.0'	Tube			
						Bottom of Boring	100.0'

Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **NW FLUSH JOINT CASING**

HOLE NO. **SB-85**
JOB NUMBER: **07190D**
SURF. EL.
DATE STARTED: **05/09/08**
DATE COMPLETED: **05/09/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DRILLER'S FIELD LOG

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
							MUDLINE	
	0.0'-	1		WOH			**Gray wet very loose fine to medium SAND, little silt**	0.5'
	2.0'			WOH				
	2.0'-	2		WOH			**White - gray - brown wet very soft SILT, little fine to medium sand, trace shells, trace roots, trace vegetation**	
	4.0'			WOH				
5.0	4.0'-	3	2.0'	Shelby				
	6.0'			Tube				
	6.0'-	4		WOH				7.0'
	8.0'			WOH	2		**Gray wet very loose to loose fine to medium SAND, little silt, trace shells, trace vegetation**	
	8.0'-	5		WOH				
10.0	10.0'			WOH	1			
	10.0'-	6		WOH				
	12.0'			1	2	1		
	12.0'-	7		2	2			
	14.0'			1	2	3		
15.0	14.0'-	8		1	1-1.0'			
	16.0'				1	1		
	16.0'-	9		1	1-1.0'			
	18.0'				2	1		
	18.0'-	10		1	2			
20.0	20.0'			1	2	3		
	20.0'-	11		1	1-1.0'			
	22.0'				1	1		
	22.0'-	12		2	2			
	24.0'			2	2	4		
25.0	24.0'-	13		4	2			
	26.0'			1	3	3		
	26.0'-	14		1	1			
	28.0'			2	2	3		
	28.0'-	15		3	3			
30.0	30.0'			4	3	7		
							Bottom of Boring	30.0'
35.0							**Notes:** **- Water 4.0 feet deep at boring location.** **- WOH indicates sampler penetrated under weight of hammer.**	
40.0								

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **Added water**

AFTER CASING
REMOVED **Grout to Surface**

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-86**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/23/08**
DATE COMPLETED: **01/24/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		5	8		**White moist medium dense SOLVAY**	
WL▼	2.0'			12	10	20	**WASTE**	
	2.0'-	2		8	12			
	4.0'			12	8	24		4.0'
5.0	4.0'-	3		10	8		**Gray moist medium dense to very loose**	
	6.0'			10	11	18	**fine to coarse SAND, little marl**	
	6.0'-	4		4	4			
	8.0'			5	7	9		
	8.0'-	5		7	9			
10.0	10.0'			10	9	19		
	10.0'-	6		6	5			
	12.0'			6	6	11		
	12.0'-	7		6	6			
	14.0'			5	5	11		
15.0	14.0'-	8		7	6			
	16.0'			6	5	12		
	16.0'-	9		4	4			
	18.0'			4	3	8		
	18.0'-	10		3	4			
20.0	20.0'			3	4	7		
	20.0'-	11		1	1			
	22.0'			2	2	3		
	22.0'-	12		2	3			
	24.0'			2	3	5		
25.0	24.0'-	13		7	11			
	26.0'			11	12	22		
	26.0'-	14		7	7			
	28.0'			10	10	17		
	28.0'-	15		5	6			
30.0	30.0'			7	10	13		30.0'
	30.0'-	16		WH-1.0'			**Gray moist very loose to medium dense**	
	32.0'			2	2	2	**fine to coarse SAND**	
	32.0'-	17		2	2			
	34.0'			2	4	4		
35.0	34.0'-	18		2	2			
	36.0'			3	2	5		
	36.0'-	19		3	5			
	38.0'			5	6	10	**Note: WH indicates sampler penetrated under**	
	38.0'-	20		6	7		**weight of hammer. Backfilled with grout**	
40.0	40.0'			7	10	14	**Bottom of Boring**	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-87**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/14/08**
DATE COMPLETED: **01/15/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1	NO	WH-2.0'			**White moist very soft to medium stiff**	
	2.0'		REC				**SOLVAY WASTE**	
	2.0'-	2		1	1			
	4.0'			1	1	2		
5.0	4.0'-	3		1	1			
	6.0'			2	3	3		
	6.0'-	4		2	2			
	8.0'			4	3	6		
	8.0'-	5		2	4			
10.0	10.0'			3	3	7		
	10.0'-	6		1	1			
	12.0'			1	1	2		
	12.0'-	7		2	1			
	14.0'			2	1	3		
15.0	14.0'-	8		2	4			
	16.0'			2	2	6		
	16.0'-	9		2	1			
	18.0'			2	1	3		
	18.0'-	10		1	1			
20.0	20.0'			1	1	2		
	20.0'-	11		1	1			
	22.0'			1	1	2		
	22.0'-	12		1	1			
	24.0'			1	2	2		
25.0	24.0'-	13		1	2			
	26.0'			2	2	4		
	26.0'-	14		2	3			
	28.0'			2	4	5		
	28.0'-	15		4	2			
30.0	30.0'			1	1	3		
	30.0'-	16		8	4			
	32.0'			3	2	7		
	32.0'-	17		3	3			
	34.0'			4	4	7		
35.0	34.0'-	18		1	1			
	36.0'			1	2	2		
	36.0'-	19		1	1			
	38.0'			2	10	3		
	38.0'-	20		2	2			
40.0	40.0'			2	2	4		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-87**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/14/08**
DATE COMPLETED: **01/15/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **2 OF 3**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		1	2		**White moist soft to stiff SOLVAY WASTE**	
	42.0'			2	2	4		
	42.0'-	22		2	2			
	44.0'			2	2	4		
45.0	44.0'-	23		2	1			
	46.0'			1	1	2		
	46.0'-	24		2	1			
	48.0'			2	1	3		
	48.0'-	25		2	2			
50.0	50.0'			3	5	5		
	50.0'-	26		3	6			
	52.0'			4	4	10		
	52.0'-	27		3	3			
	54.0'			4	4	7		
55.0	54.0'-	28		4	4			
	56.0'			4	4	8		
	56.0'-	29		3	2			
	58.0'			2	2	4		58.3'
	58.0'-	30		6	4		**Black moist stiff PEAT**	
60.0	60.0'			6	6	10		60.0'
	60.0'-	31		3	3		**Gray moist very soft to stiff MARL**	
	62.0'			1	1	4		
	62.0'-	32		2	1			
	64.0'			1	2	2		
65.0	64.0'-	33		1	2			
	66.0'			2	3	4		
	66.0'-	34		3	3			
	68.0'			7	6	10		
	68.0'-	35		5	4			
70.0	70.0'			4	3	8		
	70.0'-	36		1	1			
	72.0'			1	1	2		
	72.0'-	37		2	2			
	74.0'			2	2	4		
75.0	74.0'-	38		2	2			
	76.0'			2	2	4		
	76.0'-	39		4	6			
	78.0'			7	6	13		
	78.0'-	40		WH	3			
80.0	80.0'			2	3	5		80.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-87**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/14/08**
DATE COMPLETED: **01/15/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 3 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	80.0'-	T-1	Rec	Shelby			Gray moist very soft to medium stiff MARL	
	82.0'		1.5'	Tube				
	82.0'-	41		1	1			
	84.0'			1	2	2		
85.0	84.0'-	42		2	2			
	86.0'			2	2	4		
	86.0'-	43		2	2			
	88.0'			2	2	4		
	88.0'-	44		2	2			
90.0	90.0'			3	2	5		
	90.0'-	45		1	1			
	92.0'			1	1	2		
	92.0'-	46		1	1			
	94.0'			1	1	2		94.0'
95.0	94.0'-	47		1	1		Gray moist soft MARL, some silt, little clay	
	96.0'			1	2	2		
	96.0'-	48		1	2			
	98.0'			2	3	4		
	98.0'-	49		3	2			
100.0	100.0'			2	2	4		
							Bottom of Boring	100.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **NW FLUSH JOINT CASING**

HOLE NO. **SB-88**
JOB NUMBER: **07190D**
SURF. EL.
DATE STARTED: **05/09/08**
DATE COMPLETED: **05/09/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DRILLER'S FIELD LOG

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL **MUDLINE**	STRATA CHANGE DEPTH
	0.0'-	1		WOH			Gray wet very loose fine to medium SAND, little silt	
	2.0'			WOH				
	2.0'-	2	2.0'	Shelby				
	4.0'			Tube				4.0'
5.0	4.0'-	3		WOH			Gray - white - brown wet very loose fine to medium SAND, little silt, trace shells, trace vegetation (some sander layers)	
	6.0'			WOH				
	6.0'-	4		WOH				
	8.0'			WOH				
	8.0'-	5		1-1.0'				
10.0	10.0'			1-1.0'		1		
	10.0'-	6		WOH	1			
	12.0'			1	1	2		
	12.0'-	7		WOH				
	14.0'			WOH	1			
15.0	14.0'-	8		WOH	1			
	16.0'			WOH	1	1		
	16.0'-	9		WOH	1			
	18.0'			1	1	2		
	18.0'-	10		WOH	1			
20.0	20.0'			1	1	2		
							Bottom of Boring	20.0'
25.0							Notes: - WOH indicates sampler penetrated under weight of hammer.	
30.0								
35.0								
40.0								

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **Added water**

AFTER CASING
REMOVED **Grout to Surface**

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-89**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/24/08**
DATE COMPLETED: **01/24/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		4	4		**Brown moist to wet medium dense fine to medium SAND, trace silt**	
WL▼	2.0'			7	10	11		
	2.0'-	2		12	11			
	4.0'			14	14	25		4.0'
5.0	4.0'-	3		5	5		**Gray wet medium stiff SILT, little fine to medium sand, trace shells**	
	6.0'			2	2	7		6.0'
	6.0'-	4		2	1		**Gray wet soft SILT and fine SAND**	
	8.0'			2	1	3		8.0'
	8.0'-	5		2	1		**Gray wet very loose to medium dense fine SAND, little silt**	
10.0	10.0'			1	2	2		
	10.0'-	6		2	1			
	12.0'			2	1	3		
	12.0'-	7		2	2			
	14.0'			2	4	4		
15.0	14.0'-	8		4	4			
	16.0'			6	7	10		
	16.0'-	9		6	6			
	18.0'			5	6	11		
	18.0'-	10		4	6			
20.0	20.0'			7	7	13		
	20.0'-	11		2	1			
	22.0'			2	1	3		
	22.0'-	12		2	2			22.0'
	24.0'			1	1	3	**Gray wet very loose to loose fine to medium SAND, trace peat**	
25.0	24.0'-	13		2	3			
	26.0'			3	4	6		
	26.0'-	14		WH-1.0'				
	28.0'			1	1	1		
	28.0'-	15		1	2			
30.0	30.0'			1	2	3		
	30.0'-	16		WH-1.0'				
	32.0'			1	1	1		
	32.0'-	17		2	1			
	34.0'			1	1	2		34.0'
35.0	34.0'-	18		2	3		**Brown wet loose fine to medium SAND and PEAT**	
	36.0'			3	4	6		38.0'
	36.0'-	19		4	4		**Brown wet loose fine to medium SAND**	
	38.0'			3	4	7	**Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout**	
	38.0'-	20		3	3			
40.0	40.0'			4	6	7	**Bottom of Boring**	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-90**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/10/08**
DATE COMPLETED: **01/11/08**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2.0'			Brown moist very soft SILT, trace roots	2.0'
	2.0'						White moist very soft to hard SOLVAY	
	2.0'-	2		1	2		WASTE	
	4.0'			2	2	4		
5.0	4.0'-	3		1	1			
	6.0'			1	1	2		
	6.0'-	4		2	3			
	8.0'			4	8	7		
	8.0'-	5		5	2			
10.0	10.0'			2	2	4		
	10.0'-	6		4	4			
	12.0'			4	2	8		
	12.0'-	7		1	1			
	14.0'			1	1	2		
15.0	14.0'-	8		4	4			
	16.0'			4	4	8		
	16.0'-	9		2	2			
	18.0'			2	2	4		
	18.0'-	10		4	7			
20.0	20.0'			8	9	15		
	20.0'-	11		2	5			
	22.0'			4	2	9		
	22.0'-	12		7	5			
	24.0'			4	4	9		
25.0	24.0'-	13		3	1			
	26.0'			2	12	3		
	26.0'-	14		24	15			
	28.0'			9	5	24		
	28.0'-	15		6	6			
30.0	30.0'			2	2	8		
	30.0'-	16		2	6			
	32.0'			6	8	12		
	32.0'-	17		3	1			
	34.0'			3	3	4		
35.0	34.0'-	18		2	2			
	36.0'			2	2	4		
	36.0'-	19		3	3			
	38.0'			2	2	5		
	38.0'-	20		2	2			
40.0	40.0'			2	3	4		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-90**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/10/08**
DATE COMPLETED: **01/11/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 2 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		2	1		White moist very soft to stiff SOLVAY	
	42.0'			2	2	3	WASTE	
	42.0'-	22		2	2			
	44.0'			2	2	4		
45.0	44.0'-	23		2	2			
	46.0'			3	3	5		
	46.0'-	24		3	3			
	48.0'			3	4	6		
	48.0'-	25		3	4			
50.0	50.0'			3	2	7		
	50.0'-	26		2	2			
	52.0'			2	3	4		
	52.0'-	27		4	8			
	54.0'			4	4	12		
55.0	54.0'-	28		5	5			
	56.0'			2	2	7		
	56.0'-	29		2	4		Brown moist stiff MARL and PEAT	
	58.0'			9	4	13		
	58.0'-	30		6	8		Brown moist stiff to very soft MARL	
60.0	60.0'			8	8	16		
	60.0'-	31		4	5			
	62.0'			4	4	9		
	62.0'-	32		5	7			
	64.0'			7	7	14		
65.0	64.0'-	33		4	4			
	66.0'			4	4	8		
	66.0'-	34		6	4			
	68.0'			8	8	12		
	68.0'-	35		6	5			
70.0	70.0'			5	5	10		
	70.0'-	36		1	1			
	72.0'			1	1	2		
	72.0'-	37		1	1			
	74.0'			1	2	2		
75.0	74.0'-	38		2	3			
	76.0'			3	3	6		
	76.0'-	39		1	1			
	78.0'			2	2	3		
	78.0'-	40		2	3			
80.0	80.0'			2	2	5		80.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-90**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/10/08**
DATE COMPLETED: **01/11/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 3 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	80.0'-	41		1	1		**Brown moist stiff to very soft MARL**	
	82.0'			1	1	2		
	82.0'-	42		1	3			
	84.0'			1	2	4		
85.0	84.0'-	43		2	2			
	86.0'			3	4	5		
	86.0'-	44		3	3			
	88.0'			3	3	6		
	88.0'-	45		4	5			
90.0	90.0'			5	6	10		
	90.0'-	46		WH	2			
	92.0'			2	2	4		
	92.0'-	47		5	5			
	94.0'			6	6	11		
95.0	94.0'-	48		4	4			
	96.0'			4	4	8		96.0'
	96.0'-	49		4	3		**Brown moist medium stiff transitional MARL**	
	98.0'			3	3	6		
	98.0'-	50		2	3			
100.0	100.0'			3	3	6		
							Bottom of Boring	100.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **NW FLUSH JOINT CASING**

HOLE NO. **SB-91**
JOB NUMBER: **07190D**
SURF. EL.
DATE STARTED: **05/15/08**
DATE COMPLETED: **05/15/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DRILLER'S FIELD LOG

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
							MUDLINE	
	0.0'-	1		1-1.0'			**Brown wet very loose fine to medium SAND, little silt, trace to little shells, trace vegetation**	
	2.0'			1-1.0'		1		
	2.0'-	2		1-1.0'				
	4.0'			1-1.0'		1		
5.0	4.0'-	3		1-1.0'				
	6.0'			1	1	1		
	6.0'-	4	1.85'	Shelby				
	8.0'			Tube				
	8.0'-	5		WOH				
10.0	10.0'			WOH				
	10.0'-	6		1-1.0'				
	12.0'			1-1.0'		1		
	12.0'-	7		1	1			
	14.0'			1-1.0'		2		
15.0	14.0'-	8		1-1.0'				
	16.0'			1-1.0'		2		16.0'
	16.0'-	9		1	1		**Gray wet very loose fine to medium SAND, some shells, trace to little silt, trace vegetation**	
	18.0'			1-1.0'		2		
	18.0'-	10		1	1			
20.0	20.0'			1-1.0'		2		
							Bottom of Boring	20.0'
25.0							**Notes:** **- WOH indicates sampler penetrated under weight of hammer.**	
30.0								
35.0								
40.0								

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-92**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/25/08**
DATE COMPLETED: **01/25/08**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **Added water**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

AFTER CASING
REMOVED **Grout to Surface**

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		16	16		White wet medium dense fine SAND,	
WL▼	2.0'			4	4	20	some peat	2.0'
	2.0'-	2		4	2		Gray wet loose fine SAND and SILT	
	4.0'			4	2	6		
5.0	4.0'-	3		2	3			
	6.0'			3	2	6		6.0'
	6.0'-	4		4	6		Gray wet medium dense to dense fine	
	8.0'			7	2	13	SAND, little silt	
	8.0'-	5		6	7			
10.0	10.0'			15	15	22		
	10.0'-	6		24	15			
	12.0'			17	17	32		12.0'
	12.0'-	7		10	12		Gray wet medium dense to loose fine	
	14.0'			17	8	29	SAND, some marl	
15.0	14.0'-	8		4	4			
	16.0'			4	5	8		
	16.0'-	9		3	3			
	18.0'			3	3	6		
	18.0'-	10		4	4			
20.0	20.0'			5	7	9		20.0'
	20.0'-	11		WH-1.0'			Gray wet soft to medium stiff MARL and	
	22.0'			2	2	2	fine SAND	
	22.0'-	12		2	2			
	24.0'			3	4	5		24.0'
25.0	24.0'-	13		1	2		Gray wet soft to stiff MARL	
	26.0'			1	2	3		
	26.0'-	14		3	4			
	28.0'			5	3	9		
	28.0'-	15		2	2			
30.0	30.0'			2	2	4		
	30.0'-	16		1	2			
	32.0'			1	2	3		
	32.0'-	17		3	5			
	34.0'			4	5	9	Note: WH indicates sampler penetrated under	
35.0	34.0'-	18		3	3		weight of hammer. Backfilled with grout	
	36.0'			3	5	6		38.0'
	36.0'-	19			4		Gray wet very stiff MARL	
	38.0'			6	8	10	Note: WH indicates sampler penetrated under	
	38.0'-	20		7	8		weight of hammer. Backfilled with grout	
40.0	40.0'			10	10	18	Bottom of Boring	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-93**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/10/07**
DATE COMPLETED: **12/10/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-1'			White wet medium stiff to very soft	
	2.0'			1	1		SOLVAY WASTE	
	2.0'-	2		1	1			
	4.0'			1	1	2		
5.0	4.0'-	3		1	1			
	6.0'			1	1	2		
	6.0'-	4		1	1			
	8.0'			1	1	2		
	8.0'-	5		1	2			
10.0	10.0'			2	3	4		
	10.0'-	6		1	1			
	12.0'			2	3	3		
	12.0'-	7		14	4			
	14.0'			3	3	7		
15.0	14.0'-	8		WH-1'				
	16.0'			1	2	1		
	16.0'-	9		2	2			
	18.0'			2	2	4		18.0'
	18.0'-	10		4	17		White wet very dense SOLVAY WASTE	
20.0	19.3'			50-.3				20.0'
	20.0'-	11		4	5		White wet stiff to soft SOLVAY WASTE	
	22.0'			4	3	9		
	22.0'-	12		3	3			
	24.0'			2	2	5		
25.0	24.0'-	13		1	2			
	26.0'			2	3	4		
	26.0'-	14		2	3			
	28.0'			7	6	10		
	28.0'-	15		8	5			
30.0	30.0'			4	2	9		
	30.0'-	16		2	1			
	32.0'			2	2	3		
	32.0'-	17		WH	1			32.5'
	34.0'			1	1	2	Brown/gray wet medium stiff to soft MARL	
35.0	34.0'-	18		3	3			
	36.0'			2	3	5		
	36.0'-	19		3	3			
	38.0'			4	4	7		
	38.0'-	20		1	1			
40.0	40.0'			1	1	2		

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-93**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/10/07**
DATE COMPLETED: **12/10/07**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

AFTER CASING
REMOVED

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		WH	1		**Gray wet medium stiff to soft MARL**	
	42.0'			1	1	2		
	42.0'-	22		WH	1			
	44.0'			1	1	2		
45.0	44.0'-	23		1	WH			
	46.0'			WH	1			46.0'
	46.0'-	24		WH	1		**Gray wet medium stiff to soft MARL, little silt, little fine sand**	
	48.0'			1	1	2		
	48.0'-	25		1	1			
50.0	50.0'			1	1	2		
	50.0'-	26		WH-1.5'				
	52.0'				1			
	52.0'-	27		WH-1.5'				
	54.0'				2			54.0'
55.0	54.0'-	28		WH-1.5'			**Brown wet soft to very soft SILT, little fine sand**	
	56.0'				4			
	56.0'-	29		1	2			
	58.0'			3	2	5		
	58.0'-	30		WH-1'				
60.0	60.0'			2	2	2		
							Bottom of Boring	60.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-94**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/09/08**
DATE COMPLETED: **01/10/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **1 OF 3**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2.0'			Brown moist very soft SILT, trace roots	
	2.0'							2.0'
	2.0'-	2		WH-1.5'			White moist very soft to hard SOLVAY	
	4.0'				1		WASTE	
5.0	4.0'-	3		WH-1.0'				
	6.0'			1	1	1		
	6.0'-	4		1	1			
	8.0'			1	1	2		
	8.0'-	5		1	1			
10.0	10.0'			1	2	2		
	10.0'-	6		1	1			
	12.0'			3	1	4		
	12.0'-	7		1	2			
	14.0'			3	1	5		
15.0	14.0'-	8		6	7			
	16.0'			9	9	16		
	16.0'-	9		9	7			
	18.0'			4	4	11		
	18.0'-	10		1	7			
20.0	20.0'			14	8	21		
	20.0'-	11		3	4			
	22.0'			2	1	6		
	22.0'-	12		2	2			
	24.0'			2	3	4		
25.0	24.0'-	13		2	8			
	26.0'			4	4	12		
	26.0'-	14		2	2			
	28.0'			2	4	4		
	28.0'-	15		4	2			
30.0	30.0'			2	3	4		
	30.0'-	16		1	1			
	32.0'			1	2	2		
	32.0'-	17		1	1			
	34.0'			2	4	3		
35.0	34.0'-	18		2	2			
	36.0'			2	1	4		
	36.0'-	19		2	1			
	38.0'			2	2	3		
	38.0'-	20		2	22			
40.0	40.0'			12	9	34		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-94**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/09/08**
DATE COMPLETED: **01/10/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **2 OF 3**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		4	6		White moist very soft to very stiff SOLVAY	
	42.0'			3	3	9	WASTE	
	42.0'-	22		3	3			
	44.0'			7	4	10		
45.0	44.0'-	23		2	2			
	46.0'			4	8	6		
	46.0'-	24		8	19			
	48.0'			4	8	23		
	48.0'-	25		8	8			
50.0	50.0'			6	4	14		
	50.0'-	26		3	5			
	52.0'			3	3	8		
	52.0'-	27		4	3			
	54.0'			4	3	7		
55.0	54.0'-	28		2	2			
	56.0'			7	4	9		
	56.0'-	29		3	3			
	58.0'			2	2	5		
	58.0'-	30		2	2			59.0'
60.0	60.0'			3	4	5	Black moist medium stiff PEAT, trace marl	
	60.0'-	31		6	8			
	62.0'			4	8	12		62.0'
	62.0'-	32		4	4		Brown moist very stiff to very soft MARL	
	64.0'			9	9	13		
65.0	64.0'-	33		3	4			
	66.0'			4	4	8		
	66.0'-	34		2	2			
	68.0'			2	2	4		
	68.0'-	35		2	2			
70.0	70.0'			3	4	5		
	70.0'-	36		2	2			
	72.0'			2	2	4		
	72.0'-	37		5	4			
	74.0'			5	5	9		
75.0	74.0'-	38		2	2			
	76.0'			3	3	5		
	76.0'-	39		5	5			
	78.0'			4	6	9		
	78.0'-	40		2	3			
80.0	80.0'			2	4	5		

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-94**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/09/08**
DATE COMPLETED: **01/10/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **3 OF 3**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	80.0'-	41		2	2		**Brown moist soft to stiff MARL**	
	82.0'			2	2	4		
	82.0'-	42		3	3			
	84.0'			2	4	5		
85.0	84.0'-	43		3	4			
	86.0'			6	6	10		
	86.0'-	44		5	5			
	88.0'			6	9	11		
	88.0'-	45		8	8			
90.0	90.0'			6	8	14		
	90.0'-	46		2	2			
	92.0'			2	2	4		
	92.0'-	47		2	3			
	94.0'			3	3	6		
95.0	94.0'-	48		WH	1			
	96.0'			2	2	3		
	96.0'-	49		2	2			
	98.0'			2	2	4		
	98.0'-	50		WH-1.0'				
100.0	100.0'			2	2	2		
							Bottom of Boring	100.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **NW FLUSH JOINT CASING**

HOLE NO. **SB-95**
JOB NUMBER: **07190D**
SURF. EL.
DATE STARTED: **05/15/08**
DATE COMPLETED: **05/15/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DRILLER'S FIELD LOG

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
							MUDLINE	
	0.0'-	1		1	5		**Dark gray wet medium dense to very loose fine SAND, little silt, little shells, trace vegetation**	
	2.0'			7	4	12		
	2.0'-	2		2	3			
	4.0'			1	3	4		
5.0	4.0'-	3		3	1			
	6.0'			2	2	3		
	6.0'-	4		1-1.0'				
	8.0'			1-1.0'		2		
	8.0'-	5		4	2			
10.0	10.0'			1	1	3		
	10.0'-	6		Shelby				
	12.0'			Tube				
	12.0'-	7		WOH		0		
	14.0'			WOH				14.0'
15.0	14.0'-	8		WOH			**Brown wet medium stiff to very soft SILT, some fine sand, little shells, little vegetation**	
	16.0'			5	3	5		
	16.0'-	9		3	2			
	18.0'			2	2	4		
	18.0'-	10		3	1			
20.0	20.0'			2	2	3		
	20.0'-	11		1	1-1.0'			
	22.0'				1	1		
	22.0'-	12		WOH	3			
	24.0'			2	3	5		
25.0	24.0'-	13		1	3			
	26.0'			2	2	5		
	26.0'-	14		1	2			
	28.0'			1	2	3		
	28.0'-	15		1	2			
30.0	30.0'			2	2	4		
							Bottom of Boring	30.0'
35.0							**Notes:** **- Water 3.0 feet deep at boring location.** **- WOH indicates sampler penetrated under weight of hammer.**	
40.0								

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING **1.0'**

BEFORE CASING
REMOVED **Added water**

AFTER CASING
REMOVED **Grout to Surface**

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-96**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/28/08**
DATE COMPLETED: **01/28/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
WL▼	0.0'-	1		11	2		Brown wet loose to dense fine to medium SAND, trace silt, trace shells	
	2.0'			5	7	7		
	2.0'-	2		7	10			
	4.0'			11	15	21		
5.0	4.0'-	3		10	25			
	6.0'			10	18	35		
	6.0'-	4		4	4			
	8.0'			10	14	14		8.0'
	8.0'-	5		4	7		Gray-brown wet medium dense fine SAND, little silt, trace shells	
10.0	10.0'			15	15	22		
	10.0'-	6		15	16			
	12.0'			14	12	30		
	12.0'-	7		3	5			
	14.0'			5	12	10		
15.0	14.0'-	8		10	10			
	16.0'			12	8	22		16.0'
	16.0'-	9		4	4		Gray brown wet loose fine SAND, some silt	
	18.0'			5	6	9		
	18.0'-	10		3	3			
20.0	20.0'			4	6	7		20.0'
	20.0'-	11		1	1		Brown wet soft SILT and fine SAND	
	22.0'			1	1	2		22.0'
	22.0'-	12		3	3		Brown wet medium stiff to stiff SILT, trace to little fine sand	
	24.0'			4	5	7		
25.0	24.0'-	13		4	6			
	26.0'			6	7	12		
	26.0'-	14		3	5			
	28.0'			5	7	10		
	28.0'-	15		5	6			
30.0	30.0'			4	7	10		30.0'
	30.0'-	16		1	1		Brown moist soft SILT, some fine sand	
	32.0'			2	2	3		32.0'
	32.0'-	17		3	5		Brown moist stiff SILT, trace fine sand	
	34.0'			5	7	10		
35.0	34.0'-	18		3	5			
	36.0'			8	5	13		
	36.0'-	19		5	5			
	38.0'			6	6	11	Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	
	38.0'-	20		10	8			
40.0	40.0'			8	10	16	Bottom of Boring	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-97**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/07/07**
DATE COMPLETED: **12/07/07**

GROUNDWATER DEPTH
WHILE DRILLING **6.0'**
BEFORE CASING REMOVED **6.0'**
AFTER CASING REMOVED **6.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		1	1		Gray moist very soft SILT, some fine sand	.5'
	2.0'			WH	1	1	White moist very soft SOLVAY WASTE	
	2.0'-	2		1	WH			
	4.0'			WH-1'		WH		4.0'
5.0	4.0'-	3		2	2		White moist very loose cemented SOLVAY	
	6.0'			2	3	4	WASTE	6.0'
WL▼	6.0'-	4		WH	1		White wet very soft to medium stiff	
	8.0'			1	1	2	SOLVAY WASTE	
	8.0'-	5		WH	1			
10.0	10.0'			1	WH	2		
	10.0'-	6		1	1			
	12.0'			1	1	2		
	12.0'-	7		2	2			
	14.0'			2	2	4		
15.0	14.0'-	8		1	1			
	16.0'			1	1	2		
	16.0'-	9		1	2			
	18.0'			4	3	6		
	18.0'-	10		1	2			
20.0	20.0'			2	1	4		
	20.0'-	11		4	2			
	22.0'			2	2	4		
	22.0'-	12		3	2			
	24.0'			1	1	3		
25.0	24.0'-	13		2	1			
	26.0'			1	2	2		
	26.0'-	14		1	1			
	28.0'			1	1	2		
	28.0'-	15		1	1			
30.0	30.0'			1	2	2		
	30.0'-	16		WH	1			
	32.0'			1	1	2		
	32.0'-	17		WH	1			
	34.0'			1	WH	2		
35.0	34.0'-	18		WH-1.5'				
	36.0'				1	WH		
	36.0'-	19		2	2			
	38.0'			3	6	5		37.0'
	38.0'-	20		5	4		Brown wet loose fine SAND, some marl	
40.0	40.0'			4	4	8		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-97**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/07/07**
DATE COMPLETED: **12/07/07**

GROUNDWATER DEPTH
WHILE DRILLING **6.0'**

BEFORE CASING
REMOVED **6.0'**

AFTER CASING
REMOVED **6.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		WH	1		Brown and gray very loose to loose fine SAND, little marl, trace silt	
	42.0'			1	1	2		
	42.0'-	22		1	2			
	44.0'			1	1	3		
45.0	44.0'-	23		1	1			
	46.0'			1	1	2		
	46.0'-	24		1	1			
	48.0'			1	1	2		48.0'
	48.0'-	25		WH-1'			Brown moist very loose to loose fine SAND and SILT, trace marl	
50.0	50.0'			1	1	1		
	50.0'-	26		WH-2'				
	52.0'					WH		52.0'
	52.0'-	27		WH	2		Brown moist soft to medium stiff SILT, some clay	
	54.0'			2	4	4		
55.0	54.0'-	28		WH	2			
	56.0'			2	2	4		
	56.0'-	29		2	2			
	58.0'			2	2	4		
	58.0'-	30		3	3			
60.0	60.0'			3	4	6		
							Bottom of Boring	60.0'

Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-98**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/07/08**
DATE COMPLETED: **01/08/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **1 OF 3**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2.0'			Brown moist very soft SILT, trace roots	1.0'
	2.0'						White moist very soft to very stiff SOLVAY WASTE	
	2.0'-	2		1	1			
	4.0'			1	1	2		
5.0	4.0'-	3		1	1			
	6.0'			1	WH	2		
	6.0'-	4		12	4			
	8.0'			3	2	7		
	8.0'-	5		4	8			
10.0	10.0'			8	5	16		
	10.0'-	6		3	2			
	12.0'			3	1	5		
	12.0'-	7		5	15			
	14.0'			4	4	19		
15.0	14.0'-	8		3	2			
	16.0'			1	6	3		
	16.0'-	9		1	2			
	18.0'			2	3	4		
	18.0'-	10		6	6			
20.0	20.0'			2	2	8		
	20.0'-	11		1	1			
	22.0'			1	1	2		
	22.0'-	12		2	1			
	24.0'			1	3	2		
25.0	24.0'-	13		3	2			
	26.0'			3	2	5		
	26.0'-	14		5	3			
	28.0'			4	4	7		
	28.0'-	15		3	2			
30.0	30.0'			2	2	4		
	30.0'-	16		1	1			
	32.0'			1	1	2		
	32.0'-	17		6	8			
	34.0'			7	3	15		
35.0	34.0'-	18		2	1			
	36.0'			1	2	2		
	36.0'-	19		2	1			
	38.0'			2	2	3		
	38.0'-	20		2	1			
40.0	40.0'			2	2	3		40.0'

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-98**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/07/08**
DATE COMPLETED: **01/08/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **2 OF 3**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		4	1		White moist very soft to medium stiff	
	42.0'			1	1	2	SOLVAY WASTE	
	42.0'-	22		2	2			
	44.0'			2	2	4		
45.0	44.0'-	23		2	4			
	46.0'			3	3	7		
	46.0'-	24		4	3			
	48.0'			2	2	5		
	48.0'-	25		4	4			
50.0	50.0'			4	4	8		
	50.0'-	26		2	2			
	52.0'			2	2	4		
	52.0'-	27		2	2			
	54.0'			4	6	6		
55.0	54.0'-	28		2	1			
	56.0'			1	2	2		56.5'
	56.0'-	29		2	4		Brown moist medium stiff PEAT	57.0'
	58.0'			9	9	13	Brown moist stiff to very soft MARL	
	58.0'-	30		2	4			
60.0	60.0'			2	2	6		
	60.0'-	31		2	3			
	62.0'			6	6	9		
	62.0'-	32		6	4			
	64.0'			4	4	8		
65.0	64.0'-	33		1	1			
	66.0'			2	4	3		
	66.0'-	34		3	3			
	68.0'			3	3	6		
	68.0'-	35		2	1			
70.0	70.0'			1	2	2		
	70.0'-	36		WH-2.0'				
	72.0'							
	72.0'-	37		1	1			
	74.0'			1	2	2		
75.0	74.0'-	T-1	Rec	Shelby				
	76.0'		2.0'	Tube				
	76.0'-	38		WH-1.0'				
	78.0'			2	3	2		
	78.0'-	39		3	3			
80.0	80.0'			3	3	6		

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-98**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/07/08**
DATE COMPLETED: **01/08/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **3 OF 3**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	80.0'-	41		2	2		**Brown moist medium stiff to soft MARL**	
	82.0'			3	3	5		
	82.0'-	42		2	3			
	84.0'			4	4	7		
85.0	84.0'-	43		2	3			
	86.0'			3	4	6		
	86.0'-	44		3	2			
	88.0'			3	3	5		
	88.0'-	45		2	2			
90.0	90.0'			2	2	4		
	90.0'-	46		1	1			
	92.0'			1	1	2		
	92.0'-	47		2	2			
	94.0'			2	2	4		94.0'
95.0	94.0'-	48		1	1		**Brown moist soft to medium stiff Transition MARL**	
	96.0'			2	2	3		
	96.0'-	49		2	2			
	98.0'			3	3	5		
	98.0'-	50		2	1			
100.0	100.0'			2	2	3		
							Bottom of Boring	100.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **NW FLUSH JOINT CASING**

HOLE NO. **SB-99**
JOB NUMBER: **07190D**
SURF. EL.
DATE STARTED: **05/14/08**
DATE COMPLETED: **05/14/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DRILLER'S FIELD LOG

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL **MUDLINE**	STRATA CHANGE DEPTH
	0.0'-	1	NO	WOR			
	2.0'		REC	WOR			2.0'
	2.0'-	2		WOR		Black and green wet very soft SILT, little	
	4.0'			WOR		fine sand	4.5'
5.0	4.0'-	3		WOR		Light brown wet very soft SILT, little	
	6.0'			WOR		fine sand, little shells, trace vegetation	
	6.0'-	4	2.0'	Shelby			
	8.0'			Tube			
	8.0'-	5	2.0'	Shelby			
10.0	10.0'			Tube			
	10.0'-	6		WOR			
	12.0'			WOR			
	12.0'-	7		WOR			
	14.0'			WOR			
15.0	14.0'-	8		WOR			
	16.0'			WOR			
	16.0'-	9		WOR			
	18.0'			WOR			
	18.0'-	10		WOR			
20.0	20.0'			WOR			
						Bottom of Boring	20.0'
25.0						Notes: - Water 2.6 feet deep at boring location. - WOR indicates sampler penetrated under weight of rods.	
30.0							
35.0							
40.0							

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING **6.0'**

BEFORE CASING
REMOVED **Added water**

AFTER CASING
REMOVED **Grout to Surface**

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-100**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/29/08**
DATE COMPLETED: **01/29/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		1	1		White wet very soft solvay WASTE	
	2.0'			1	1	2		
	2.0'-	2		WH	1			
	4.0'			1	1	2		
5.0	4.0'-	3		1	WH			
WL▼	6.0'			1	1	1		
	6.0'-	4		1	1			
	8.0'			1	1	2		8.0'
	8.0'-	5		1	WH		Gray wet very soft SILT, little fine sand,	
10.0	10.0'			1	1	1	trace shells	10.0'
	10.0'-	6		1	1		Brown-black wet very loose fine SAND,	
	12.0'			1	WH	2	trace silt	12.0'
	12.0'-	7		WH-1.0'			Gray wet very loose fine to medium SAND,	
	14.0'			1	1	1	little marl	14.0'
15.0	14.0'-	8		WH-1.0'			Gray wet very soft MARL	
	16.0'			WH	1			
	16.0'-	9		1	1			
	18.0'			1	1	2		
	18.0'-	10		WH-2.0'				
20.0	20.0'							
	20.0'-	11		WH-2.0'				
	22.0'							
	22.0'-	12		WH-2.0'				
	24.0'							
25.0	24.0'-	13		WH-2.0'				
	26.0'							
	26.0'-	14		WH-2.0'				
	28.0'							
	28.0'-	15		WH-2.0'				
30.0	30.0'							
	30.0'-	16		WH-2.0'				
	32.0'							32.0'
	32.0'-	17		WH-2.0'			Brown wet very soft SILT, trace fine sand	
	34.0'							34.0'
35.0	34.0'-	18		WH-2.0'			Brown-red wet very soft CLAY, some silt	
	36.0'							36.0'
	36.0'-	19		3	3		Brown wet medium stiff SILT, some fine sand	
	38.0'			4	6	7	Note: WH indicates sampler penetrated under	
	38.0'-	20		2	2		weight of hammer. Backfilled with grout	
40.0	40.0'			2	2	4	Bottom of Boring	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-101**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/06/07**
DATE COMPLETED: **12/07/07**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **2.0'**

AFTER CASING
REMOVED **2.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2'		Gray brown very soft dry SILT, little fine sand	
	2.0'						.5'
WL▼	2.0'-	2		WH-2'		White wet very soft to soft SOLVAY WASTE	
	4.0'						
5.0	4.0'-	3		WH-1'			
	6.0'			1 1	1		
	6.0'-	4		WH-2'			
	8.0'						
	8.0'-	5		WH-1'			
10.0	10.0'			1 1	1		
	10.0'-	6		2 2			
	12.0'			1 1	3		
	12.0'-	7		1 1			
	14.0'			1 1	2		
15.0	14.0'-	8		1 1			
	16.0'			1 1	2		
	16.0'-	9		1 1			
	18.0'			1 1	2		
	18.0'-	10		1 2			
20.0	20.0'			2 2	4		
	20.0'-	11		1 1			
	22.0'			1 1	2		
	22.0'-	12		1 1			
	24.0'			1 2	2		
25.0	24.0'-	13		1 1			
	26.0'			1 1	2		
	26.0'-	14		1 1			
	28.0'			1 1	2		
	28.0'-	15		WH 1			
30.0	30.0'			1 1	2		30.0'
	30.0'-	16		1 1		Brown and gray wet soft to very soft MARL	
	32.0'			2 2	3		
	32.0'-	17		1 1			
	34.0'			3 3	4		
35.0	34.0'-	T-1	Rec	Shelby			
	36.0'		2.0'	Tube			36.0'
	36.0'-	18		1 1		Brown and gray moist very soft SILT, some fine sand, little marl	
	38.0'			1 1	2		
	38.0'-	19		1 1			
40.0	40.0'			1 1	2		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-101**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/06/07**
DATE COMPLETED: **12/07/07**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **2.0'**

AFTER CASING
REMOVED **2.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	20		1	WH		**Brown and gray moist very soft to soft fine SAND, some marl, little silt**	
	42.0'			WH	WH			
	42.0'-	21		1	WH			
	44.0'			1	WH	1		
45.0	44.0'-	22		WH-1.5'				
	46.0'				1			
	46.0'-	23		1	1			
	48.0'			WH-1'		1		
	48.0'-	24		WH-1'				
50.0	50.0'			1	WH	1		
	50.0'-	25		WH	1			
	52.0'			1	WH	2		
	52.0'-	26		WH-1.5'				
	54.0'				1			
55.0	54.0'-	27		1	WH			
	56.0'			1	WH	1		
	56.0'-	28		WH-2'				
	58.0'							
	58.0'-	29		1	1			
60.0	60.0'			2	2	3		
							Bottom of Boring	60.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-102**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/04/08**
DATE COMPLETED: **01/07/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **1 OF 3**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2.0'			Brown moist very soft SILT	0.5'
	2.0'						White moist very soft to stiff SOLVAY WASTE	
	2.0'-	2		1	1			
	4.0'			1	1	2		
5.0	4.0'-	3		1	1			
	6.0'			1	1	2		
	6.0'-	4		2	4			
	8.0'			2	2	6		
	8.0'-	5		2	2			
10.0	10.0'			2	2	4		
	10.0'-	6		5	2			
	12.0'			3	5	5		
	12.0'-	7		3	2			
	14.0'			3	3	5		
15.0	14.0'-	8		3	2			
	16.0'			3	3	5		
	16.0'-	9		4	5			
	18.0'			8	9	13		
	18.0'-	10		14	7			
20.0	20.0'			7	3	14		
	20.0'-	11		1	2			
	22.0'			1	2	3		
	22.0'-	12		1	2			
	24.0'			3	3	5		
25.0	24.0'-	13		7	8			
	26.0'			4	4	12		
	26.0'-	14		8	8			
	28.0'			6	7	14		
	28.0'-	15		8	8			
30.0	30.0'			6	3	14		
	30.0'-	16		1	2			
	32.0'			1	2	3		
	32.0'-	17		2	2			
	34.0'			4	4	6		
35.0	34.0'-	18		2	2			
	36.0'			2	2	4		
	36.0'-	19		2	3			
	38.0'			3	2	6		
	38.0'-	20		2	2			
40.0	40.0'			2	2	4		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-102**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/04/08**
DATE COMPLETED: **01/07/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **2 OF 3**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		2	1		White moist soft to very stiff SOLVAY	
	42.0'			2	1	3	WASTE	
	42.0'-	22		4	10			
	44.0'			6	6	16		
45.0	44.0'-	23		3	2			
	46.0'			3	3	5		
	46.0'-	24		3	3			
	48.0'			3	3	6		
	48.0'-	25		5	2			
50.0	50.0'			3	2	5		
	50.0'-	26		1	2			
	52.0'			2	2	4		
	52.0'-	27		2	2			
	54.0'			3	3	5		
55.0	54.0'-	28		2	1			55.0'
	56.0'			1	2	2	Brown moist soft to very stiff MARL	
	56.0'-	29		8	8			
	58.0'			10	8	18		
	58.0'-	30		8	10			
60.0	60.0'			10	10	20		
	60.0'-	31		3	5			
	62.0'			4	3	9		
	62.0'-	32		3	4			
	64.0'			5	5	9		
65.0	64.0'-	33		1	1			
	66.0'			2	2	3		
	66.0'-	34		2	4			
	68.0'			4	4	8		
	68.0'-	35		1	2			
70.0	70.0'			1	2	3		
	70.0'-	36		1	1			
	72.0'			2	2	3		72.0'
	72.0'-	37		WH	3		Brown moist medium stiff to stiff MARL,	
	74.0'			3	3	6	some peat	
75.0	74.0'-	38		2	3			
	76.0'			5	5	8		
	76.0'-	39		3	4			
	78.0'			3	6	7		
	78.0'-	40		4	3			
80.0	80.0'			3	6	6		

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-102**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/04/08**
DATE COMPLETED: **01/07/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **3 OF 3**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	80.0'-	41		WH-2.0'			**Brown moist soft MARL, some peat**	
	82.0'							
	82.0'-	42		WH-1.5'				
	84.0'				3			84.0'
85.0	84.0'-	43		WH	2		**Gray moist very soft to medium stiff MARL, some silt, some clay**	
	86.0'			3	3	5		
	86.0'-	44		WH	3			
	88.0'			3	3	6		
	88.0'-	45		WH-2.0'				
90.0	90.0'							
	90.0'-	46		WH-2.0'				
	92.0'							92.0'
	92.0'-	47		WH-2.0'			**Gray wet very soft to medium stiff SILT and CLAY**	
	94.0'							
95.0	94.0'-	48		3	2			
	96.0'			4	2	6		
	96.0'-	49		2	4			
	98.0'			3	3	7		
	98.0'-	50		3	3			
100.0	100.0'			3	4	6		
							Bottom of Boring	100.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **NW FLUSH JOINT CASING**

HOLE NO. **SB-103**
JOB NUMBER: **07190D**
SURF. EL.
DATE STARTED: **05/14/08**
DATE COMPLETED: **05/14/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DRILLER'S FIELD LOG

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL **MUDLINE**	STRATA CHANGE DEPTH
	0.0'-	1		2	2		**Black-brown wet stiff SILT, little fine sand, little shells, trace vegetation**	
	2.0'			6	5	8		1.0'
	2.0'-	2		2	1		**Gray-black wet very loose fine to coarse SAND, some silt, some shells, trace vegetation**	
	4.0'			1	1	2		
5.0	4.0'-	3		2	1			2.0'
	6.0'			2	1	3	**Gray-black wet soft SILT, some fine to medium sand, little shells, trace vegetation**	
	6.0'-	4	2.0'	Shelby				
	8.0'			Tube				8.0'
	8.0'-	5		WOH			**Gray-black wet very soft SILT, little fine to medium sand, little shells, trace vegetation**	
10.0	10.0'			WOH				10.0'
	10.0'-	6		WOR			**Gray-tan wet very soft SILT, little fine sand, little shells, trace vegetation**	
	12.0'			WOR				
	12.0'-	7		WOR				
	14.0'			WOR				
15.0	14.0'-	8		WOR				
	16.0'			WOR				
	16.0'-	9		WOR				
	18.0'			WOR				
	18.0'-	10		WOR				
20.0	20.0'			WOR				
	20.0'-	11		WOH				
	22.0'			WOH				
	22.0'-	12		WOH				
	24.0'			WOH				
25.0	24.0'-	13		WOH				
	26.0'			WOH				
	26.0'-	14		WOH				
	28.0'			WOH				28.0'
	28.0'-	15		WOH			**Brown wet medium stiff SILT, little fine sand, trace shells, trace vegetation**	
30.0	30.0'			5	4	5		
							Bottom of Boring	30.0'
35.0								
40.0								

Notes:
- **Water 3.0 feet deep at boring location.**
- **WOH indicates sampler penetrated under weight of hammer.**
- **WOR indicates sampler penetrated under weight of rods.**

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-104**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **11/30/07**
DATE COMPLETED: **11/30/07**

GROUNDWATER DEPTH
WHILE DRILLING **0.0'**

BEFORE CASING
REMOVED **0.0'**

AFTER CASING
REMOVED **0.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
WL▼	0.0'-	1		WH-1'		Water	.6'
	2.0'			1 1	1	White wet very soft SOLVAY WASTE	
	2.0'-	2		WH-1'			
	4.0'			1 1	1		
5.0	4.0'-	3		WH-2'			
	6.0'				WH		
	6.0'-	4		WH-1'			7.0'
	8.0'			4 5	4	Dark gray stiff to soft MARL	
	8.0'-	5		5 5			
10.0	10.0'			2 3	7		
	10.0'-	6		2 1			
	12.0'			1 1	2		
	12.0'-	7		WH 1			13.0'
	14.0'			1 1	2	Brown wet very loose fine to coarse SAND	
15.0	14.0'-	8		WH-1'		and MARL, trace fine gravel	
	16.0'			1 1	1		
	16.0'-	9		WH-1'			
	18.0'			1 1	1		
	18.0'-	10		WH-2'			
20.0	20.0'				WH		
	20.0'-	T-1	Rec	Shelby			
	22.0'		2.0'	Tube			22.0'
	22.0'-	11		WH 1		Brown wet soft marl and PEAT, trace fine	
	24.0'			1 1	1	sand	
25.0	24.0'-	12		WH 1			
	26.0'			1 1	1		26.0'
	26.0'-	13		2 2		Brown wet soft to very soft PEAT, little	
	28.0'			2 2	4	marl	
	28.0'-	14		WH-2'			
30.0	30.0'				WH		31.0'
	30.0'-	15		WH-1'		Brown wet soft to very soft SILT and fine	
	32.0'			2 2	2	SAND, little peat, little clay	
	32.0'-	16		WH-2'			
	34.0'				WH		
35.0	34.0'-	17		WH-1'			
	36.0'			WH 2	WH		
	36.0'-	18		WH-1'			
	38.0'			2 2	2		
	38.0'-	19		WH-2'			
40.0	40.0'						

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-104**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **11/30/07**
DATE COMPLETED: **11/30/07**

GROUNDWATER DEPTH
WHILE DRILLING **0.0'**

BEFORE CASING
REMOVED **0.0'**

AFTER CASING
REMOVED **0.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	20		WH	1		**Brown and gray wet very soft SILT and CLAY, little marl**	
	42.0'			1	1	2		
	42.0'-	21		WH-2'				
	44.0'					WH		
45.0	44.0'-	22		WH-2'				
	46.0'					WH		
	46.0'-	23		WH-1'				
	48.0'			2	2	2		
	48.0'-	24		WH-2'				48.0'
50.0	50.0'					WH	**Gray wet very soft SILT and fine SAND, trace clay**	
	50.0'-	25		WH	1			
	52.0'			1	1	2		
	52.0'-	26		WH-2'				
	54.0'					WH		
55.0	54.0'-	27		WH-1'				
	56.0'			1	1	1		
	56.0'-			WH-2'				
	58.0'					WH		
	58.0'-			WH-2'				
60.0	60.0'					WH		
							Bottom of Boring	60.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-105**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/05/07**
DATE COMPLETED: **12/06/07**

GROUNDWATER DEPTH
WHILE DRILLING **0.0'**

BEFORE CASING
REMOVED **0.0'**

AFTER CASING
REMOVED **0.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
WL ▼	0.0'-	1		1 WH		White wet very soft SOLVAY WASTE	
	2.0'			1 WH	WH		
	2.0'-	2		1 1			
	4.0'			1 1	2		
5.0	4.0'-	3		1 WH			
	6.0'			WH-1'	WH		
	6.0'-	4		WH-2'			
	8.0'				WH		
	8.0'-	5		WH-2'			
10.0	10.0'				WH		
	10.0'-	6		WH-2'			
	12.0'				WH		
	12.0'-	7		WH-2'			
	14.0'				WH		
15.0	14.0'-	8		WH 1			
	16.0'			1 1	2		
	16.0'-	9		1 1			
	18.0'			1 1	2		
	18.0'-	10		1 1			
20.0	20.0'			1 1	2		
	20.0'-	11		1 1			
	22.0'			1 1	2		
	22.0'-	12		1 1			
	24.0'			1 1	2		
25.0	24.0'-	13		1 1			
	26.0'			1 1	2		
	26.0'-	14		1 1			
	28.0'			1 1	2		28.0'
	28.0'-	15		2 3		Brown wet medium stiff to very soft MARL, some fine sand, some shell fragments	
30.0	30.0'			2 2	5		
	30.0'-	16		WH-2'			
	32.0'				WH		
	32.0'-	17		WH-1'			
	34.0'			1 1	1		
35.0	34.0'-	T-1	Rec	Shelby			
	36.0'		2.0'	Tube			36.0'
	36.0'-	18		WH-2'		Brown wet very loose fine SAND, some silt, little marl	
	38.0'				WH		
	38.0'-	19		WH-1.5'			
40.0	40.0'			1	WH		

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-105**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/05/07**
DATE COMPLETED: **12/06/07**

GROUNDWATER DEPTH
WHILE DRILLING **0.0'**

BEFORE CASING
REMOVED **0.0'**

AFTER CASING
REMOVED **0.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	20		WH-2'		**Brown and wet very soft MARL and silt, trace to some fine sand**	
	42.0'						
	42.0'-	21		WH-2'			
	44.0'						
45.0	44.0'-	22		WH-2'			
	46.0'						
	46.0'-	23		WH-2'			
	48.0'						
	48.0'-	24		WH-2'			
50.0	50.0'						
	50.0'-	25		WH-2'			
	52.0'						
	52.0'-	26		WH-2'			
	54.0'						
55.0	54.0'-	27		WH-2'			
	56.0'						
	56.0'-	28		WH-2'			
	58.0'						
	58.0'-	29		WH-2'			
60.0	60.0'						
						Bottom of Boring	60.0'
						Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-106**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/02/08**
DATE COMPLETED: **01/03/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **1 OF 2**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2.0'			White moist soft to stiff SOLVAY WASTE	
	2.0'							
	2.0'-	2		1	1			
	4.0'			1	1	2		
5.0	4.0'-	3		1	1			
	6.0'			1	1	2		
	6.0'-	4		1	2			
	8.0'			3	1	5		
	8.0'-	5		1	2			
10.0	10.0'			2	2	4		
	10.0'-	6		WH	1			
	12.0'			1	1	2		
	12.0'-	7		1	2			
	14.0'			2	2	4		
15.0	14.0'-	8		4	2			
	16.0'			2	2	4		
	16.0'-	9		2	2			
	18.0'			3	3	5		
	18.0'-	10		1	2			
20.0	20.0'			2	2	4		
	20.0'-	11		1	2			
	22.0'			2	2	4		
	22.0'-	12		5	3			
	24.0'			2	2	5		
25.0	24.0'-	13		4	1			
	26.0'			2	2	3		
	26.0'-	14		3	1			
	28.0'			1	1	2		
	28.0'-	15		1	1			
30.0	30.0'			1	1	2		
	30.0'-	16		1	1			
	32.0'			1	1	2		
	32.0'-	17		1	1			
	34.0'			2	2	3		
35.0	34.0'-	18		2	2			
	36.0'			2	2	4		
	36.0'-	19		WH-1.0'				
	38.0'			2	2	2		
	38.0'-	20		3	7			
40.0	40.0'			2	2	9		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-106**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/02/08**
DATE COMPLETED: **01/03/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **2 OF 2**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		1	1		White moist soft to medium stiff SOLVAY	
	42.0'			1	1	2	WASTE	
	42.0'-	22		2	2			
	44.0'			2	2	4		
45.0	44.0'-	23		WH	1			
	46.0'			1	1	2		
	46.0'-	24		2	2			
	48.0'			2	2	4		
	48.0'-	25		1	2			
50.0	50.0'			1	1	3		
	50.0'-	26		1	2			51.0'
	52.0'			3	2	5	Black moist medium stiff to stiff PEAT	
	52.0'-	27		6	6			
	54.0'			3	4	9		54.0'
55.0	54.0'-	28		2	2		Brown moist medium stiff to very soft	
	56.0'			4	6	6	MARL	
	56.0'-	29		2	2			
	58.0'			2	2	4		
	58.0'-	30		2	2			
60.0	60.0'			2	1	4		
	60.0'-	31		WH-2.0'				
	62.0'							
	62.0'-	32		2	1			
	64.0'			1	1	2		
65.0	64.0'-	33		2	2			
	66.0'			2	3	4		
	66.0'-	34		2	2			
	68.0'			2	2	4		67.0'
	68.0'-	35		3	3		Brown wet loose to medium dense fine	
70.0	70.0'			3	7	6	SAND, trace silt	
	70.0'-	36		3	3			
	72.0'			3	4	6		
	72.0'-	37		6	7			
	74.0'			8	8	15		
75.0	74.0'-	38		2	2			
	76.0'			2	3	4		
	76.0'-	39		3	3			
	78.0'			4	4	7	Note: WH indicates sampler penetrated under	
	78.0'-	40		3	2		weight of hammer. Backfilled with grout	
80.0	80.0'			3	4	5	Bottom of boring	80.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **NW FLUSH JOINT CASING**

HOLE NO. **SB-107**
JOB NUMBER: **07190D**
SURF. EL.
DATE STARTED: **05/13/08**
DATE COMPLETED: **05/13/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DRILLER'S FIELD LOG

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL **MUDLINE**	STRATA CHANGE DEPTH
	0.0'-	1		2	2		Gray wet loose fine to coarse SAND, trace silt, trace shells, trace vegetation	2.0'
	2.0'			7	4			
	2.0'-	2		WOH	1-1.5'		Gray wet very soft SILT, some fine to medium sand, little shells, trace vegetation	
	4.0'							
5.0	4.0'-	3		WOH				
	6.0'			WOH				
	6.0'-	4		WOH				
	8.0'			WOH				8.0'
	8.0'-	5		1-1.0'			Gray-tan wet very soft SILT, some fine to medium sand, little shells, trace vegetation	
10.0	10.0'			1-1.0'				
	10.0'-	6		WOR				
	12.0'			WOR				
	12.0'-	7		WOR				
	14.0'			WOR				
15.0	14.0'-	8		WOR				
	16.0'			WOR				
	16.0'-	9		WOR				
	18.0'			WOR				
	18.0'-	10	2.0'	Shelby				
20.0	20.0'			Tube				
							Bottom of Boring	20.0'
25.0							Notes: - WOH indicates sampler penetrated under weight of hammer. - WOR indicates sampler penetrated under weight of rods.	
30.0								
35.0								
40.0								

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" Hollow Stem Auger**

HOLE NO. **SB-108**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **11/29/07**
DATE COMPLETED: **11/29/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1	NO	WH-2'		White moist very soft SOLVAY WASTE	
	2.0'		REC				
	2.0'-	2		WH-1'			
	4.0'			WH 1			
5.0	4.0'-	3		WH-1.5'			
	6.0'			1			
	6.0'-	4		WH-2'			
	8.0'						
	8.0'-	5		WH-2'			
10.0	10.0'						
	10.0'-	T-1	Rec	Shelby			
	12.0'		2.0'	Tube			12.0'
	12.0'-	6		WH-1'		Brown wet very soft SILT, some fine sand, trace clay	
	14.0'			1 1	1		
15.0	14.0'-	7		WH-2'			
	16.0'						
	16.0'-	8		WH-2'			
	18.0'						
	18.0'-	9		WH-1'			
20.0	20.0'			1 1	1		
	20.0'-	10		WH-2'			
	22.0'						
	22.0'-	11		WH-2'			
	24.0'						
25.0	24.0'-	12		WH-1'			
	26.0'			1 1	1		
	26.0'-	13		WH 1			27.0'
	28.0'			1 1	2	Gray and brown very soft SILT and fine SAND, trace peat, trace marl	
	28.0'-	14		WH 1			
30.0	30.0'			1 1	2		
	30.0'-	15		1 1			
	32.0'			1 1	2		
	32.0'-	16		WH-2'			
	34.0'						34.0'
35.0	34.0'-	17		WH-2'		Gray wet very soft marl	
	36.0'						
	36.0'-	18		WH-2'			
	38.0'					Note: WH indicates sampler penetrated under	
	38.0'-	19		WH-2'		weight of hammer. Backfilled with grout	
40.0	40.0'					Bottom of Boring	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-109**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/05/07**
DATE COMPLETED: **12/05/07**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**
BEFORE CASING REMOVED **2.0'**
AFTER CASING REMOVED **2.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2'			Brown moist very soft SILT, trace fine sand	.5'
	2.0'						White wet very soft to medium stiff	
WL▼	2.0'-	2		WH-2'			SOLVAY WASTE	
	4.0'							
5.0	4.0'-	3		WH	1			
	6.0'			WH	1	1		
	6.0'-	4		WH	1			
	8.0'			WH	1	1		
	8.0'-	5		WH	1			
10.0	10.0'			1	1	2		
	10.0'-	6		WH	1			
	12.0'			1	1	2		
	12.0'-	7		WH	1			
	14.0'			WH	1	1		
15.0	14.0'-	8		WH	1			
	16.0'			WH	1	1		
	16.0'-	9		WH	1			
	18.0'			WH	2	1		
	18.0'-	10		2	2			
20.0	20.0'			2	2	4		
	20.0'-	11		WH	1			
	22.0'			1	1	2		
	22.0'-	12		1	1			
	24.0'			1	1	2		
25.0	24.0'-	13		WH	1			
	26.0'			1	1	2		
	26.0'-	14		1	1			
	28.0'			1	1	2		
	28.0'-	15		1	1			
30.0	30.0'			1	1	2		
	30.0'-	16		1	WH			
	32.0'			WH	1			
	32.0'-	17		WH	WH			
	34.0'			1	1	1		34.0'
35.0	34.0'-	18		WH	4		Black wet stiff to medium stiff MARL and	
	36.0'			5	4	9	fine to coarse SAND, and little fine gravel	
	36.0'-	19		4	8			
	38.0'			7	4	15		
	38.0'-	20		3	3			
40.0	40.0'			4	3	7		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-109**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/05/07**
DATE COMPLETED: **12/05/07**

GROUNDWATER DEPTH
WHILE DRILLING **2.0'**

BEFORE CASING
REMOVED **2.0'**

AFTER CASING
REMOVED **2.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		WH	1		**Black wet very soft MARL and fine to**	
	42.0'			1	1	2	**coarse SAND, and little fine gravel**	41.0'
	42.0'-	22		WH	1		**Brown wet soft to stiff SILT and fine**	
	44.0'			3	4	4	**SAND**	
45.0	44.0'-	23		2	2			
	46.0'			1	1	3		
	46.0'-	24		3	3			
	48.0'			3	3	6		
	48.0'-	25		4	4			
50.0	50.0'			6	7	10		
	50.0'-	26		4	4			
	52.0'			6	8	10		
	52.0'-	27		6	7			
	54.0'			6	5	13		
55.0	54.0'-	28		4	6			
	56.0'			7	7	13		
	56.0'-	29		3	3			
	58.0'			6	7	9		
	58.0'-	30		3	3			
60.0	60.0'			3	4	6		
							Bottom of Boring	60.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-110**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/02/08**
DATE COMPLETED: **01/02/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **1 OF 2**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2.0'			White moist very soft to stiff SOLVAY	
	2.0'						WASTE	
	2.0'-	2		WH	1			
	4.0'			5	17	6		
5.0	4.0'-	3		3	1			
	6.0'			1	1	2		
	6.0'-	4		2	1			
	8.0'			1	1	2		
	8.0'-	5		8	1			
10.0	10.0'			1	1	2		
	10.0'-	6		1-2.0'				
	12.0'			1	1			
	12.0'-	7		1	1			
	14.0'			1	1	2		
15.0	14.0'-	8		1	1			
	16.0'			1	1	2		
	16.0'-	9		8	9			
	18.0'			3	3	12		
	18.0'-	10		3	4			
20.0	20.0'			2	2	6		
	20.0'-	11		2	2			
	22.0'			2	2	4		
	22.0'-	12		2	2			
	24.0'			2	5	4		
25.0	24.0'-	13		2	3			
	26.0'			1	1	4		
	26.0'-	14		2	1			
	28.0'			1	1	2		
	28.0'-	15		2	1			
30.0	30.0'			1	1	2		
	30.0'-	16		1	1			
	32.0'			1	1	4		
	32.0'-	17		1	1			
	34.0'			2	2	3		
35.0	34.0'-	18		1	2			
	36.0'			1	1	4		
	36.0'-	19		2	1			
	38.0'			1	1	4		
	38.0'-	20		1	2			
40.0	40.0'			1	1	3		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-110**
JOB NUMBER: **07190C**
SURF. EL.
DATE STARTED: **01/02/08**
DATE COMPLETED: **01/02/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **2 OF 2**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		1	1		White moist soft to medium stiff SOLVAY	
	42.0'			1	1	2	WASTE	
	42.0'-	22		9	3			
	44.0'			2	2	5		
45.0	44.0'-	23		2	1			
	46.0'			1	1	2		
	46.0'-	24		15	3			
	48.0'			2	2	5		48.0'
	48.0'-	25		4	5		Black moist stiff PEAT	
50.0	50.0'			5	5	10		50.0'
	50.0'-	26		WH-1.5'			Brown wet very soft to stiff MARL	
	52.0'				3			
	52.0'-	27		5	5			
	54.0'			6	5	11		
55.0	54.0'-	28		WH-2.0'				
	56.0'							
	56.0'-	29		5	5			
	58.0'			5	5	10		
	58.0'-	30		1	1			
60.0	60.0'			1	1	2		
	60.0'-	31		WH-1.0'				
	62.0'			3	3	3		
	62.0'-	32		3	5			
	64.0'			8	8	13		
65.0	64.0'-	33		5	5			
	66.0'			5	5	10		
	66.0'-	34		10	7			
	68.0'			7	7	14		68.0'
	68.0'-	35		8	8		Brown wet medium dense to loose fine	
70.0	70.0'			10	8	18	SAND, little silt	
	70.0'-	36		2	3			
	72.0'			4	5	7		
	72.0'-	37		12	10			
	74.0'			8	6	18		
75.0	74.0'-	38		3	3			
	76.0'			3	3	6		
	76.0'-	39		WH	5			
	78.0'			6	WH	11	Note: WH indicates sampler penetrated under	
	78.0'-	40		WH-2.0'			weight of hammer. Backfilled with grout	
80.0	80.0'						Bottom of boring	80.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

HOLE NO. **SB-111**
JOB NUMBER: **07190D**
SURF. EL.
DATE STARTED: **05/13/08**
DATE COMPLETED: **05/13/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **NW FLUSH JOINT CASING**

SHEET 1 OF 1

DRILLER'S FIELD LOG

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
						MUDLINE	
	0.0'-	1		WOR		**Black wet very soft SILT, some fine to medium sand, trace vegetation**	0.5'
	2.0'			WOR			
	2.0'-	2		WOR		**Dark tan wet very soft SILT, some fine to medium sand, some to little shells, little to trace vegetation**	
	4.0'			WOR			
5.0	4.0'-	3		WOR			
	6.0'			WOR			
	6.0'-	4		WOR			
	8.0'			WOR			
	8.0'-	5		WOR			
10.0	10.0'			WOR			10.0'
	10.0'-	6		WOR		**Gray wet very loose fine to coarse SAND, little silt, trace fine gravel, trace shells**	
	12.0'			WOR			
	12.0'-	7		WOR			
	14.0'			1 1			
15.0	14.0'-	8		1 1	2		
	16.0'			1-1.0'			
	16.0'-	9		WOR			
	18.0'			WOR			
	18.0'-	10		1 1			
20.0	20.0'			1 2	2		
						Bottom of Boring	20.0'
						Notes:	
25.0						- **WOR indicates sampler penetrated under weight of rods.**	
30.0							
35.0							
40.0							

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-112**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **11/28/07**
DATE COMPLETED: **11/28/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		2	2		White wet soft SOLVAY WASTE	.5'
	2.0'			2	1	4	Gray wet soft MARL	
	2.0'-	2		1	1			
	4.0'			1	1	2		4.0'
5.0	4.0'-	3		1	1		Brown moist soft SILT, little fine sand, little marl	
	6.0'			1	1	2		
	6.0'-	4		1	1			
	8.0'			1	1	2		8.0'
	8.0'-	5		2	3		Gray wet soft to medium stiff MARL	
10.0	10.0'			3	3	6		10.0'
	10.0'-	6		1	1		Brown and gray wet loose fine SAND, little silt	
	12.0'			1	1	2		12.0'
	12.0'-	7		WH	1		Brown and gray wet soft MARL and SILT, some fine sand	
	14.0'			1	1	2		
15.0	14.0'-	8		1	1			
	16.0'			1	1	2		16.0'
	16.0'-	9		WH-2'			Gray wet very soft MARL	
	18.0'							18.0'
	18.0'-	10		2	1		Brown and gray wet to very loose fine to medium SAND, some marl	
20.0	20.0'			1	1	2		
	20.0'-	11		WH	1			
	22.0'			WH	1	1		
	22.0'-	12		WH-2'				
	24.0'							24.0'
25.0	24.0'-	13		WH-2'			Brown moist very soft CLAY and SILT	
	26.0'							
	26.0'-	14		WH-2'				
	28.0'							
	28.0'-	15		2	2			28.0'
30.0	30.0'			1	2	3	Brown wet very loose to loose fine SAND, trace silt	
	30.0'-	16		1	2			
	32.0'			2	2	4		
	32.0'-	17		1	1			
	34.0'			2	3	3		
35.0	34.0'-	18		1	1			
	36.0'			1	1	2		
	36.0'-	19		WH-2'				
	38.0'							
	38.0'-	20		2	2			
40.0	40.0'			2	2	4		

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-112**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **11/30/07**
DATE COMPLETED: **11/30/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	**21**		**3**	**3**		**Brown and gray wet loose fine to coarse**	
	42.0'			**3**	**3**	**6**	**SAND, little silt, little fine gravel**	
	42.0'-	**22**		**WH-2'**				
	44.0'							
45.0	**44.0'-**	**23**		**1**	**1**			
	46.0'			**2**	**3**	**3**		
	46.0'-	**24**		**2**	**3**			
	48.0'			**4**	**5**	**7**		
	48.0'-	**25**		**1**	**1**			**48.5'**
50.0	**50.0'**			**1**	**1**	**2**	**Brown and gray wet soft SILT and CLAY,**	
	50.0'-	**26**		**WH-1.5'**			**trace fine sand**	
	52.0'				**1**			
	52.0'-	**27**		**1**	**1**			
	54.0'			**1**	**1**	**2**		
55.0	**54.0'-**	**28**		**1**	**1**			
	56.0'			**1**	**1**	**2**		
	56.0'-	**29**		**3**	**4**			
	58.0'			**4**	**4**	**8**		
	58.0'-	**30**		**3**	**1**			
60.0	**60.0'**			**2**	**1**	**3**		
							Bottom of Boring	**60.0'**
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-113**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/04/07**
DATE COMPLETED: **12/04/07**

GROUNDWATER DEPTH
WHILE DRILLING **0.5'**

BEFORE CASING
REMOVED **0.5'**

AFTER CASING
REMOVED **0.5'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-1'		Brown moist very loose fine SAND	.5'
WL▼	2.0'			1 1	1	White wet very soft SOLVAY WASTE	
	2.0'-	2		WH-1'			
	4.0'			1 1	1		
5.0	4.0'-	3		1 1			
	6.0'			WH-1'	1		
	6.0'-	4		WH-2'			
	8.0'						
	8.0'-	5		WH-2'			
10.0	10.0'						
	10.0'-	6		WH-2'			
	12.0'						
	12.0'-	7		WH-2'			
	14.0'						
15.0	14.0'-	8		1 1			
	16.0'			1 1	2		
	16.0'-	9		WH-2'			
	18.0'						
	18.0'-	10		WH-2'			
20.0	20.0'						20.0'
	20.0'-	11		2 2		Dark brown wet soft to medium stiff MARL	
	22.0'			2 1	4		
	22.0'-	12		3 3			
	24.0'			2 2	5		
25.0	24.0'-	13		2 2			
	26.0'			2 1	4		26.0'
	26.0'-	14		1 1		Brown wet very loose fine to medium	
	28.0'			1 1	2	SAND, little silt, trace clay	28.0'
	28.0'-	15		1 1		Dark brown wet very loose to loose fine	
30.0	30.0'			1 1	2	SAND and MARL	
	30.0'-	16		WH 1			
	32.0'			1 1	2		
	32.0'-	17		1 1			
	34.0'			1 1	2		
35.0	34.0'-	18		3 2			
	36.0'			3 4	5		
	36.0'-	19		3 3			38.0'
	38.0'			3 3	6	Dark brown wet very loose to loose fine	
	38.0'-	20		3 3		SAND and MARL, some fine to medium	
40.0	40.0'			4 5	7	gravel	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-113**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/04/07**
DATE COMPLETED: **12/04/07**

GROUNDWATER DEPTH
WHILE DRILLING **0.5'**

BEFORE CASING
REMOVED **0.5'**

AFTER CASING
REMOVED **0.5'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		WH-2'			**Brown wet very loose to medium dense fine to coarse SAND, little fine gravel, trace silt**	40.0'
	42.0'							
	42.0'-	22		1	2			
	44.0'			3	3	5		
45.0	44.0'-	23		1	1			
	46.0'			1	2	2		
	46.0'-	24		3	3			
	48.0'			4	4	7		
	48.0'-	25		4	4			
50.0	50.0'			4	6	8		
	50.0'-	26		3	3			
	52.0'			4	4	7		
	52.0'-	27		3	3			
	54.0'			3	3	6		
55.0	54.0'-	28		3	4			
	56.0'			5	5	9		
	56.0'-	29		4	4			
	58.0'			4	6	8		
							Bottom of Boring	58.0'
60.0								
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-114**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/18/07**
DATE COMPLETED: **12/19/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2'			**White moist very soft to stiff SOLVAY**	
	2.0'						**WASTE**	
	2.0'-	2		2	2			
	4.0'			1	1	3		
5.0	4.0'-	3		1	3			
	6.0'			2	1	5		
	6.0'-	4		1	1			
	8.0'			8	7	9		
	8.0'-	5		4	5			
10.0	10.0'			1	1	6		
	10.0'-	6		WH-1'				
	12.0'			1	1	1		
	12.0'-	7		1	2			
	14.0'			2	2	4		
15.0	14.0'-	8		2	2			
	16.0'			3	3	5		
	16.0'-	9		2	2			
	18.0'			2	2	4		
	18.0'-	10		2	2			
20.0	20.0'			2	2	4		
	20.0'-	11		2	1			
	22.0'			2	1	3		
	22.0'-	12		2	2			
	24.0'			2	2	4		
25.0	24.0'-	13		2	2			
	26.0'			2	2	4		
	26.0'-	14		2	1			
	28.0'			2	2	3		
	28.0'-	15		2	2			
30.0	30.0'			1	2	3		
	30.0'-	16		1	2			
	32.0'			2	2	4		
	32.0'-	17		1	2			
	34.0'			1	5	3		
35.0	34.0'-	18		3	1			
	36.0'			1	1	2		
	36.0'-	19		5	4			
	38.0'			4	2	8		
	38.0'-	20		2	3			
40.0	40.0'			2	3	5		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-114**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/18/07**
DATE COMPLETED: **12/19/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 2 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		1	2		White moist medium stiff to soft SOLVAY WASTE	
	42.0'			2	2	4		
	42.0'-	22		2	2			
	44.0'			3	3	5		
45.0	44.0'-	23		1	1			
	46.0'			2	2	3		
	46.0'-	24		2	2			47.0'
	48.0'			10	27	12	Brown wet stiff to hard PEAT and MARL	
	48.0'-	25		36	16			
50.0	50.0'			18	18	34		
	50.0'-	26		2	2			
	52.0'			3	3	5		
	52.0'-	27		5	5			
	54.0'			9	4	14		54.0'
55.0	54.0'-	28		1	2		Brown/gray wet very soft to stiff MARL	
	56.0'			2	2	4		
	56.0'-	29		WH-2'				
	58.0'					0		
	58.0'-	30		1	1			
60.0	60.0'			2	2	3		
	60.0'-	31		1	1			
	62.0'			3	2	4		
	62.0'-	32		3	6			
	64.0'			4	4	10		64.0'
65.0	64.0'-	33		4	11		Black wet medium dense fine to coarse GRAVEL and fine to coarse SAND, some marl	
	66.0'			7	11	18		
	66.0'-	34		7	9			
	68.0'			7	8	16		
	68.0'-	35		10	6			
70.0	70.0'			5	5	11		
	70.0'-	36		10	6			
	72.0'			5	5	11		72.0'
	72.0'-	37		5	7		Brown wet medium dense fine SAND and SILT, some marl	
	74.0'			6	6	13		
75.0	74.0'-	38		4	6			
	76.0'			7	7	13		
	76.0'-	39		5	9			
	78.0'			7	7	16		
	78.0'-	40		7	7			
80.0	80.0'			7	7	14		80.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-114**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/18/07**
DATE COMPLETED: **12/19/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 3 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	80.0'-	41		3	4		**Brown wet loose to medium dense fine to coarse SAND and SILT, some fine gravel**	
	82.0'			5	8	9		
	82.0'-	42		6	9			
	84.0'			8	10	17		
85.0	84.0'-	43		6	7			
	86.0'			6	6	13		
	86.0'-	44		8	6			
	88.0'			9	6	15		
	88.0'-	45		5	5			
90.0	90.0'			4	8	9		
	90.0'-	46		5	9			
	92.0'			9	9	18		
	92.0'-	47		10	5			
	94.0'			8	8	13		
95.0	94.0'-	48		3	7			
	96.0'			6	8	13		
	96.0'-	49		9	8			
	98.0'			9	8	17		
	98.0'-	50		5	6			
100.0	100.0'			4	4	10		
							Bottom of Boring	100.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **NW FLUSH JOINT CASING**

HOLE NO. **SB-115**
JOB NUMBER: **07190D**
SURF. EL.
DATE STARTED: **05/13/08**
DATE COMPLETED: **05/13/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DRILLER'S FIELD LOG

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
							MUDLINE	
	0.0'-	1		WOR	WOR		Black wet very soft SILT, some fine sand, trace vegetation	0.5'
	2.0'			1	1	1		
	2.0'-	2		WOR			Dark gray wet very soft SILT, some fine sand, trace shells	2.0'
	4.0'			WOR				
5.0	4.0'-	3		WOR			Gray wet very soft SILT, little fine to medium sand, trace fine gravel, trace shells, trace vegetation	8.0'
	6.0'			WOR				
	6.0'-	4		WOR				
	8.0'			WOR				
	8.0'-	5		WOR			Gray wet very loose fine to medium SAND, some silt, little shells, trace vegetation	10.5'
10.0	10.0'			WOR				
	10.0'-	6		WOR			Gray wet very soft SILT, little fine to medium sand, little shells, trace vegetation	22.0'
	12.0'			WOR				
	12.0'-	7		WOR				
	14.0'			WOR				
15.0	14.0'-	8		WOR				
	16.0'			WOR				
	16.0'-	9		WOR				
	18.0'			WOR				
	18.0'-	10	2.0'	Shelby				
20.0	20.0'			Tube				
	20.0'-	11		WOR				
	22.0'			WOR				
	22.0'-	12		WOR			Gray wet very soft SILT, little fine sand, trace clay, trace shells, trace vegetation	
	24.0'			WOR				
25.0	24.0'-	13		WOR				
	26.0'			WOR				
	26.0'-	14		WOR				
	28.0'			WOR				
	28.0'-	15		WOR				
30.0	30.0'			WOR				
							Bottom of Boring	30.0'
35.0								
40.0								

Notes:
- **Water 1.5 feet deep at boring location.**
- **WOH indicates sampler penetrated under weight of hammer.**
- **WOR indicates sampler penetrated under weight of rods.**

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

HOLE NO. **SB-116**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **11/28/07**
DATE COMPLETED: **11/28/07**

GROUNDWATER DEPTH
WHILE DRILLING **.0'**
BEFORE CASING REMOVED **.0'**
AFTER CASING REMOVED **.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" Hollow Stem Auger**

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
WL▼	0.0'-	1		WH	1		Brown and gray wet very loose fine to	
	2.0'			3	3	4	coarse SAND, little roots	
	2.0'-	2		WH	1			
	4.0'			1	WH	2		4.5'
5.0	4.0'-	3		2	1		Gray wet very soft to soft MARL and fine	
	6.0'			1	1	2	SAND	
	6.0'-	4		WH-2'				
	8.0'							
	8.0'-	5		WH-2'				
10.0	10.0'							
	10.0'-	6		WH-2'				
	12.0'							
	12.0'-	7		WH-2'				
	14.0'							
15.0	14.0'-	8		WH-2'				
	16.0'							
	16.0'-	9		WH-2'				
	18.0'							
	18.0'-	10		2	2			
20.0	20.0'			2	1	4		
	20.0'-	11		2	2			
	22.0'			2	1	4		
	22.0'-	12		2	2			
	24.0'			2	2	4		
25.0	24.0'-	13		WH-2'				25.0'
	26.0'						Brown wet very soft SILT and CLAY	26.0'
	26.0'-	14		WH-2'			Brown wet very loose to loose fine to	
	28.0'						coarse GRAVEL and fine to coarse SAND,	
	28.0'-	15		WH-2'			little silt	
30.0	30.0'							
	30.0'-	16		2	2			
	32.0'			3	2	5		
	32.0'-	17		1	2			
	34.0'			2	2	4		
35.0	34.0'-	18		1	1			
	36.0'			1	1	2		
	36.0'-	19		1	1			
	38.0'			1	1	2	Note: WH indicates sampler penetrated under	
	38.0'-	20		1	3		weight of hammer. Backfilled with grout	
40.0	40.0'			2	2	5	Bottom of Boring	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-117**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/03/07**
DATE COMPLETED: **12/03/07**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2'			Brown wet very soft SILT and fine SAND	.5'
	2.0'						White wet very soft to medium stiff	
	2.0'-	2		WH-2'			SOLVAY WASTE	
	4.0'							
5.0	4.0'-	3		WH-2'				
	6.0'							
	6.0'-	4		3	1			
	8.0'			1	1	2		
	8.0'-	5		1	1			
10.0	10.0'			1	1	2		
	10.0'-	6		WH	1			
	12.0'			WH	1	1		
	12.0'-	7		WH	1			
	14.0'			1	1	2		
15.0	14.0'-	8		WH	1			
	16.0'			1	1	2		
	16.0'-	9		WH	1			
	18.0'			1	WH	2		
	18.0'-	10		WH	1			
20.0	20.0'			1	1	2		
	20.0'-	11		WH	1			
	22.0'			1	1	2		
	22.0'-	12		WH	1			
	24.0'			1	1	2		
25.0	24.0'-	13		2	3			
	26.0'			3	3	6		26.0'
	26.0'-	14		2	3		Gray soft MARL	
	28.0'			1	1	4		
	28.0'-	15		1	1			29.0'
30.0	30.0'			1	1	2	Gray soft MARL and layered PEAT	
	30.0'-	16		1	1			31.0'
	32.0'			1	1	2	Brown and gray soft MARL and fine SAND	
	32.0'-	17		1	1			
	34.0'			1	1	2		34.0'
35.0	34.0'-	18		5	6		Brown and gray wet medium dense fine	
	36.0'			7	9	13	to medium SAND, some silt, some marl	
	36.0'-	19		5	6			
	38.0'			5	5	11		
	38.0'-	20		3	4			
40.0	40.0'			4	5	8		40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-117**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/03/07**
DATE COMPLETED: **12/03/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	**21**		**1**	**1**		**Brown and gray wet medium dense to soft fine to medium SAND, some silt, some marl**	
	42.0'			**1**	**1**	**2**		
	42.0'-	**22**		**3**	**4**			
	44.0'			**4**	**1**	**8**		**44.0'**
45.0	**44.0'-**	**23**		**2**	**2**		**Brown wet medium stiff to soft SILT, some fine to coarse sand, trace fine gravel**	
	46.0'			**3**	**4**	**5**		
	46.0'-	**24**		**2**	**3**			
	48.0'			**3**	**2**	**6**		
	48.0'-	**25**		**2**	**3**			
50.0	**50.0'**			**4**	**5**	**7**		
	50.0'-	**26**		**4**	**3**			
	52.0'			**3**	**3**	**6**		
	52.0'-	**27**		**3**	**3**			
	54.0'			**3**	**3**	**6**		
55.0	**54.0'-**	**28**		**1**	**1**			
	56.0'			**2**	**3**	**3**		**56.0'**
	56.0'-	**29**		**3**	**3**		**Brown wet medium stiff SILT, little fine sand**	
	58.0'			**3**	**2**	**6**		
	58.0'-	**30**		**4**	**4**			
60.0	**60.0'**			**2**	**3**	**6**		
							Bottom of Boring	**60.0'**
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-118**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/14/07**
DATE COMPLETED: **12/18/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-2.0'			**White moist very soft to stiff SOLVAY**	
	2.0'						**WASTE**	
	2.0'-	2		WH	1			
	4.0'			WH	1			
5.0	4.0'-	3		1	1			
	6.0'			2	2	3		
	6.0'-	4		1	1			
	8.0'			1	1	2		
	8.0'-	5		10	8			
10.0	10.0'			3	3	11		
	10.0'-	6		2	2			
	12.0'			2	2	4		
	12.0'-	7		2	3			
	14.0'			5	5	8		
15.0	14.0'-	8		2	4			
	16.0'			2	3	6		
	16.0'-	9		2	2			
	18.0'			14	5	16		
	18.0'-	10		4	4			
20.0	20.0'			7	5	11		
	20.0'-	11		7	5			
	22.0'			3	2	8		
	22.0'-	12		2	2			
	24.0'			2	2	4		
25.0	24.0'-	13		4	2			
	26.0'			2	2	4		
	26.0'-	14		2	2			
	28.0'			2	2	4		
	28.0'-	15		WH-1.0'				
30.0	30.0'			2	2	2		
	30.0'-	T-1	Rec	Shelby				
	32.0'		2.0'	Tube				
	32.0'-	16		WH	1			
	34.0'			1	1	2		
35.0	34.0'-	17		1	2			
	36.0'			2	2	4		
		18		2	2			
				2	2	4		
								40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-118**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/14/07**
DATE COMPLETED: **12/18/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET **2 OF 2**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	20	NO	1	1		White moist very soft to stiff SOLVAY	
	42.0'		REC	2	2	3	WASTE	
	42.0'-	21	NO	2	2			
	44.0'		REC	8	3	10		
45.0	44.0'-	22		1	1			
	46.0'			2	2	3		
	46.0'-	23		2	2			
	48.0'			2	2			48.0'
	48.0'-	24		8	12		Brown wet medium stiff to hard PEAT	
50.0	50.0'			19	22	31		
	50.0'-	25		2	4			
	52.0'			4	4	8		
	52.0'-	26		2	2			
	54.0'			4	4	6		54.0'
55.0	54.0'-	27		1	1		Gray wet very medium stiff to very soft	
	56.0'			1	2	2	MARL, little fine to coarse sand	
	56.0'-	28		WH-2.0'				
	58.0'					0		
	58.0'-	29		WH	5			
60.0	60.0'			5	4			
	60.0'-	30		1	1			
	62.0'			1	1	2		
	62.0'-	31		2	2			
	64.0'			2	2	4		64.0'
65.0	64.0'-	32		4	8		Brown wet stiff to very stiff SILT and SAND,	
	66.0'			8	8	16	trace clay	
	66.0'-	33		9	10			
	68.0'			10	10	20		
	68.0'-	34		8	7			
70.0	70.0'			7	10	14		
	70.0'-	35		5	6			
	72.0'			7	7	13		
	72.0'-	36		8	8			
	74.0'			8	8	16		
75.0	74.0'-	37		3	3			
	76.0'			5	6	8		
	76.0'-	38		6	8			
	68.0'			8	10	16	Note: WH indicates sampler penetrated under	
	68.0'-	39		4	5		weight of hammer. Backfilled with grout	
80.0	70.0'			5	8	10	Bottom of Boring	80.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-119**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/13/07**
DATE COMPLETED: **12/13/07**

GROUNDWATER DEPTH
WHILE DRILLING **0.0'**

BEFORE CASING
REMOVED **0.0'**

AFTER CASING
REMOVED **0.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 1 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
WL▼	0.0'-	1		1	1		**White moist very soft to stiff SOLVAY**	
	2.0'			1	1	2	**WASTE**	
	2.0'-	2		4	1			
	4.0'			1	1	2		
5.0	4.0'-	3		WH-1.0'				
	6.0'			1	1	1		
	6.0'-	4		1	1			
	8.0'			1	2	2		
	8.0'-	5		2	1			
10.0	10.0'			1	1	2		
	10.0'-	6		2	2			
	12.0'			2	2	4		
	12.0'-	7		2	2			
	14.0'			1	1	3		
15.0	14.0'-	8		1	2			
	16.0'			1	2	3		
	16.0'-	9		1	2			
	18.0'			2	2	4		
	18.0'-	10		10	4			
20.0	20.0'			7	3	11		
	20.0'-	11		2	4			
	22.0'			2	2	6		
	22.0'-	12		2	2			
	24.0'			3	5	5		
25.0	24.0'-	13		2	3			
	26.0'			3	3	6		
	26.0'-	14		2	5			
	28.0'			7	7	12		
	28.0'-	15		3	5			
30.0	30.0'			3	5	8		
	30.0'-	16		1	2			
	32.0'			2	2	4		
	32.0'-	17		14	6			
	34.0'			4	4	10		
35.0	34.0'-	18		2	2			
	36.0'			2	2	4		
	36.0'-	19		2	2			
	38.0'			2	2	4		
	38.0'-	20		3	3			
40.0	40.0'			3	3	6		40.0'

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-119**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/13/07**
DATE COMPLETED: **12/13/07**

GROUNDWATER DEPTH
WHILE DRILLING **0.0'**

BEFORE CASING
REMOVED **0.0'**

AFTER CASING
REMOVED **0.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 2 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	21		1	2		White wet soft to medium stiff SOLVAY	
	42.0'			2	2	4	WASTE	
	42.0'-	22		2	2			
	44.0'			3	3	5		
45.0	44.0'-	23		1	2			
	46.0'			1	2	3		
	46.0'-	T-1	Rec	Shelby				
	48.0'		2.0'	Tube				
	48.0'-	24	NO					
50.0	50.0'		REC			0		
	50.0'-	25		2	3			
	52.0'			3	2	6		
	52.0'-	26		2	4			
	54.0'			5	3	9		
55.0	54.0'-	27		3	2			
	56.0'			3	2	5		
	56.0'-	28		1	2			
	58.0'			2	2	4		
	58.0'-	T-2	Rec	Shelby				
60.0	60.0'		2.0'	Tube				
	60.0'-	29		6	5			
	62.0'			4	2	9		
	62.0'-	30		2	3			
	64.0'			3	3	6		64.0'
65.0	64.0'-	31		2	4		Brown/gray wet very soft to stiff MARL	
	66.0'			7	11	11		
	66.0'-	32		5	4			
	68.0'			4	4	8		
	68.0'-	33		2	2			
70.0	70.0'			5	6	7		
	70.0'-	34		WH-1.5'				
	72.0'				7	0		72.0'
	72.0'-	35		2	2		Brown medium stiff to stiff MARL, some	
	74.0'			3	3	5	fine sand	
75.0	74.0'-	36		5	6			
	76.0'			7	10	13		76.0'
	76.0'-	37		4	7		Brown wet medium dense to loose fine	
	68.0'			6	8	13	SAND and SILT, some marl	
	68.0'-	38		5	2			
80.0	70.0'			3	8	5		80.0'

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

HOLE NO. **SB-119**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/13/07**
DATE COMPLETED: **12/14/07**

GROUNDWATER DEPTH
WHILE DRILLING **0.0'**

BEFORE CASING
REMOVED **0.0'**

AFTER CASING
REMOVED **0.0'**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

SHEET 3 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	80.0'-	39		8	10		**Brown wet dense to very loose fine SAND and SILT**	
	82.0'			10	10	20		
	82.0'-	40		WH	10			
	84.0'			12	17	22		
85.0	84.0'-	41		4	6			
	86.0'			10	10	16		
	86.0'-	42		12	17			
	88.0'			14	22	31		
	88.0'-	43		12	27			
90.0	90.0'			28	22	55		
	90.0'-	44		WH-1'				
	92.0'			21	16	21		
	92.0'-	45		8	21			
	94.0'			12	16	33		
95.0	94.0'-	46		9	12			
	96.0'			14	12	26		
	96.0'-	47		10	8			
	98.0'			7	5	15		
	98.0'-	48		WH-2'				
100.0	100.0'					0		
							Bottom of Boring	100.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **NW FLUSH JOINT CASING**

HOLE NO. **SB-120**
JOB NUMBER: **07190D**
SURF. EL.
DATE STARTED: **05/12/08**
DATE COMPLETED: **05/12/08**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DRILLER'S FIELD LOG

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL **MUDLINE**	STRATA CHANGE DEPTH
	0.0'-	1		1	WOH		Black wet very soft SILT, little fine to medium sand, trace vegetation	
	2.0'			WOH				0.5'
	2.0'-	2		1	WOH		Gray wet very soft SILT, little fine to coarse sand, trace fine gravel, trace shells	
	4.0'			WOH	WOH			
5.0	4.0'-	3		WOH				
	6.0'			WOH				
	6.0'-	4		WOR				
	8.0'			WOR				8.0'
	8.0'-	5		WOR			Dark gray wet vey soft SILT, some fine to coarse sand, trace shells, trace vegetation	
10.0	10.0'			WOR				
	10.0'-	6		WOR	2			
	12.0'			1	1	3		
	12.0'-	7		WOR				
	14.0'			WOR				14.0'
15.0	14.0'-	8		WOR			Dark gray wet very soft SILT, some fine sand, trace shells, trace vegetation	
	16.0'			WOR				
	16.0'-	9		WOR				
	18.0'			WOR				
	18.0'-	10		WOR				
20.0	20.0'			WOR				
							Bottom of Boring	20.0'
25.0							Notes: - Water 1.5 feet deep at boring location. - WOH indicates sampler penetrated under weight of hammer. - WOR indicates sampler penetrated under weight of rods.	
30.0								
35.0								
40.0								

parratt wolff inc

TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, NY**

GROUNDWATER DEPTH
WHILE DRILLING **.0'**

BEFORE CASING
REMOVED **.0'**

AFTER CASING
REMOVED **.0'**

CASING TYPE **3 1/4" Hollow Stem Auger**

HOLE NO. **SB-121**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **11/27/07**
DATE COMPLETED: **11/27/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
WL▼	0.0'-	1		WH	1		Gray wet very loose to loose fine to coarse	
	2.0'			2	3	3	SAND and fine GRAVEL, some silt	
	2.0'-	2		3	2			
	4.0'			2	1	4		4.0'
5.0	4.0'-	3		1	1		Gray wet very loose MARL	
	6.0'			1	1	2		
	6.0'-	4		1	1			
	8.0'			1	1	2		
	8.0'-	5		WH	1			
10.0	10.0'			WH	1	1		
	10.0'-	6		WH-2'				
	12.0'							
	12.0'-	7	NO	WH-2'				
	14.0'		REC					14.0'
15.0	14.0'-	8		WH-1'			Brown and gray wet very loose to loose	
	16.0'			WH	2		fine SAND, trace silt	
	16.0'-	9	NO	1	1			
	18.0'		REC	1	1	2		
	18.0'-	10		1	1			
20.0	20.0'			2	4	3		
	20.0'-	11		1	2			
	22.0'			3	3	5		
	22.0'-	12		1	1			
	24.0'			1	1	2		
25.0	24.0'-	13		WH-1'				
	26.0'			1	1	1		
	26.0'-	14		WH-1'				
	28.0'			1	1	1		
	28.0'-	15		WH-1'				
30.0	30.0'			1	1	1		
	30.0'-	16		WH	1			
	32.0'			1	1	2		
	32.0'-	17		1	1			
	34.0'			1	1	2		
35.0	34.0'-	18		WH	1			
	36.0'			WH	1	1		
	36.0'-	19		1	2			
	38.0'			3	3	5	Note: WH indicates sampler penetrated under	
	38.0'-	20		2	3		weight of hammer. Backfilled with grout	
40.0	40.0'			3	2	6	Bottom of Boring	40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-122**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **11/30/07**
DATE COMPLETED: **12/03/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		1 WH		**White wet very soft to medium stiff**	
	2.0'			WH-1'		**SOLVAY WASTE**	
	2.0'-	2		3 2			
	4.0'			1 1			
5.0	4.0'-	3		1 1			
	6.0'			1 1			
	6.0'-	4		3 2			
	8.0'			1 1			
	8.0'-	5		1 2			
10.0	10.0'			2 2			
	10.0'-	6		1 1			
	12.0'			3 3			
	12.0'-	7		1 1			
	14.0'			1 1			
15.0	14.0'-	8		1 1			
	16.0'			1 1			
	16.0'-	9		WH 1			
	18.0'			1 1			
	18.0'-	10		WH 1			
20.0	20.0'			2 3			
	20.0'-	11		WH-1'			
	22.0'			1 1			
	22.0'-	12		1 1			
	24.0'			1 1			
25.0	24.0'-	13		WH-1'			
	26.0'			1 1			26.0'
	26.0'-	14		WH-2'		**Gray wet very soft to hard MARL**	
	28.0'						
	28.0'-	15		1 1			
30.0	30.0'			1 1			
	30.0'-	16		WH 1			
	32.0'			1 1			
	32.0'-	17		1 1			
	34.0'			2 2			
35.0	34.0'-	18		2 2			
	36.0'			2 3			
	36.0'-	19		3 3			
	38.0'			5 7			
	38.0'-	20		5 7			
40.0	40.0'			23 17			

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-122**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **11/30/07**
DATE COMPLETED: **12/03/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 2 OF 2

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	**21**		**3 3**		**Gray wet very soft to hard MARL and fine SAND**	
	42.0'			**2 1**			
	42.0'-	**22**		**3 3**			
	44.0'			**2 2**			
45.0	**44.0'-**	**23**		**2 2**			
	46.0'			**2 2**			
	46.0'-	**24**		**1 2**			
	48.0'			**2 2**			
	48.0'-	**25**		**3 2**			
50.0	**50.0'**			**3 4**			
	50.0'-	**26**		**2 2**			
	52.0'			**2 2**			
	52.0'-	**27**		**2 2**			
	54.0'			**2 2**			
55.0	**54.0'-**	**28**		**2 1**			
	56.0'			**2 2**			
	56.0'-	**29**		**1 2**			**57.0'**
	58.0'			**3 2**		**Brown wet medium stiff SILTand fine SAND**	
	58.0'-	**30**		**2 3**			
60.0	**60.0'**			**3 5**			
						Bottom of Boring	**60.0'**
						Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-123**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/10/07**
DATE COMPLETED: **12/10/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

SHEET 1 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		WH-1'			White wet very soft to stiff SOLVAY WASTE	
	2.0'			WH	1			
	2.0'-	2		2	2			
	4.0'			2	1	4		
5.0	4.0'-	3		1	1			
	6.0'			1	1	2		
	6.0'-	4		1	1			
	8.0'			1	1	2		
	8.0'-	5		2	2			
10.0	10.0'			3	4	5		
	10.0'-	6		1	1			
	12.0'			1	1	2		
	12.0'-	7		1	1			
	14.0'			2	1	3		
15.0	14.0'-	8		1	1			
	16.0'			1	2	2		
	16.0'-	9		1	2			
	18.0'			2	3	4		
	18.0'-	10		2	1			
20.0	20.0'			1	1	2		
	20.0'-	11		1	1			
	22.0'			1	1	2		
	22.0'-	12		2	50-.3			
	24.0'							
25.0	24.0'-	13		3	3			
	26.0'			3	4	6		
	26.0'-	14		6	5			
	28.0'			4	2	9		
	28.0'-	15		4	3			
30.0	30.0'			2	2	5		
	30.0'-	16		2	5			
	32.0'			10	5	15		
	32.0'-	T-1	Rec	Shelby				
	34.0'		2.0'	Tube				
35.0	34.0'-	T-2	Rec	Shelby				
	36.0'		0.0'	Tube				
	36.0'-	17		4	3			
	38.0'			3	3	6		
	38.0'-	T-3	Rec	Shelby				
40.0	40.0'		1.5'	Tube				40.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH WHILE DRILLING

BEFORE CASING REMOVED

AFTER CASING REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-123**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/10/07**
DATE COMPLETED: **12/10/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/ OR PERCENT CORE RECOVERY

SHEET 2 OF 3

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	40.0'-	18		1	1		White wet very soft to stiff SOLVAY WASTE	
	42.0'			1	1	2		
	42.0'-	19		4	9			
	44.0'			3	4	12		
45.0	44.0'-	20		3	3			
	46.0'			3	3	6		
	46.0'-	21		3	7			
	48.0'			3	3	10		48.0'
	48.0'-	22		2	2		Brown wet medium stiff MARL, some	
50.0	50.0'			2	3	4	solvay waste	
	50.0'-	23		5	4			
	52.0'			3	3	7		
	52.0'-	24		2	2			
	54.0'			5	2	7		
55.0	54.0'-	25		2	2			
	56.0'			3	3	5		
	56.0'-	26		2	2			
	58.0'			3	3	5		
	58.0'-	27		2	3			
60.0	60.0'			3	3	6		
	60.0'-	28		2	2			
	62.0'			2	2	4		
	62.0'-	29		2	2			
	64.0'			2	3	4		
65.0	64.0'-	30		2	2			65.0'
	66.0'			2	5	4	Gray wet medium stiff MARL	
	66.0'-	31		3	3			
	68.0'			4	6	7		
	68.0'-	32		3	3			
70.0	70.0'			4	6	7		
	70.0'-	33		1	1			
	72.0'			1	1	2		
	72.0'-	T-4	Rec	Shelby				
	74.0'		2.0'	Tube				
75.0	74.0'-	34		4	1		Brown wet very loose fine to coarse SAND	74.0'
	76.0'			1	3	2		
	76.0'-	35		2	2		Dark brown stiff to very stiff SILT and fine	
	78.0'			8	10	10	SAND	
	78.0'-	36		10	10			
80.0	80.0'			12	16	22		80.0'

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TEST BORING LOG

5879 Fisher Road
East Syracuse, NY 13057

PROJECT **Honeywell Wastebeds 1-8**

LOCATION **Geddes, New York**

GROUNDWATER DEPTH
WHILE DRILLING

BEFORE CASING
REMOVED

AFTER CASING
REMOVED

CASING TYPE **3 1/4" HOLLOW STEM AUGER**

HOLE NO. **SB-123**
JOB NUMBER: **07190B**
SURF. EL.
DATE STARTED: **12/10/07**
DATE COMPLETED: **12/10/07**

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER
FALLING 30" - ASTM D-1586 STANDARD PENETRATION TEST

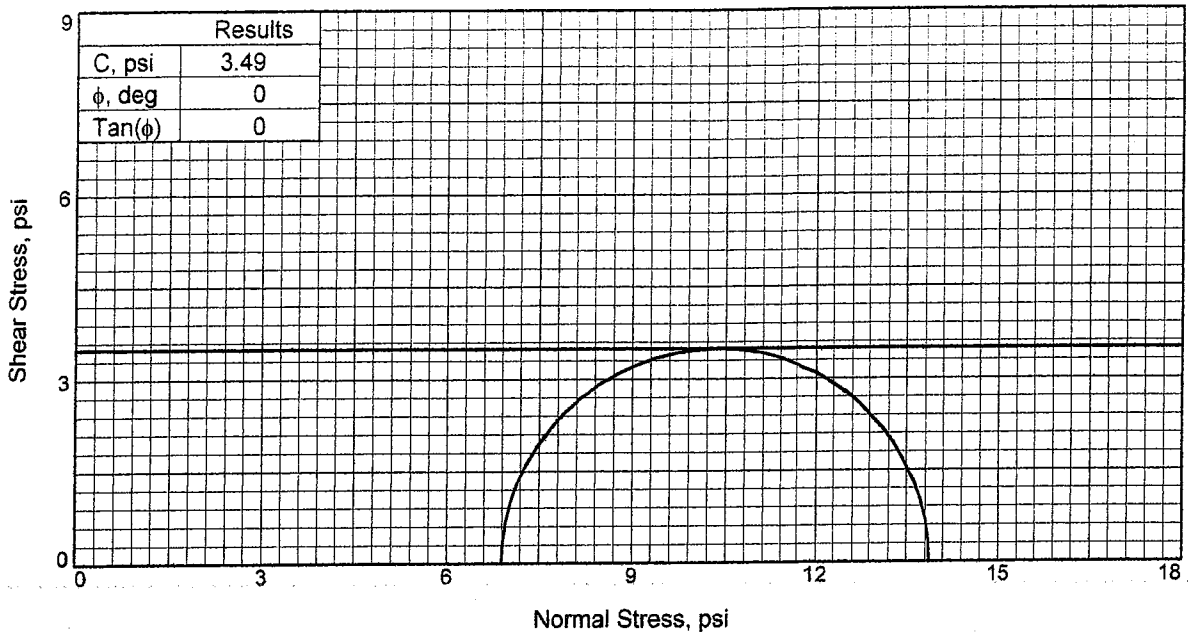
C - NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER
FALLING "/ OR PERCENT CORE RECOVERY

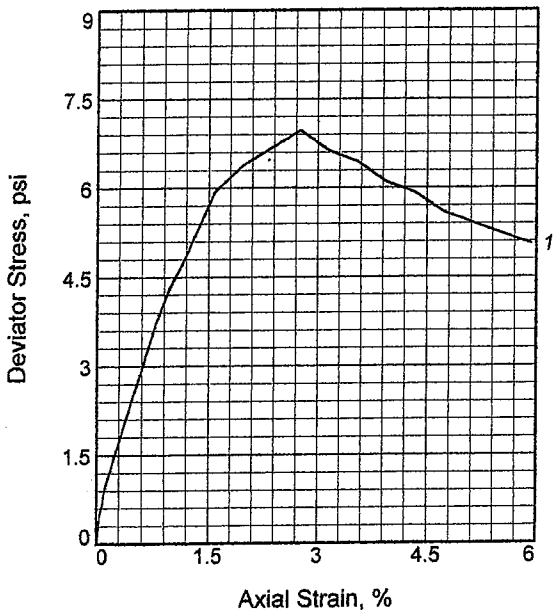
SHEET **3 OF 3**

DEPTH	SAMPLE DEPTH	SAMPLE NO.	Rec	SAMPLE DRIVE RECORD PER 6"		N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	80.0'-	37		5	7		**Dark brown stiff to very stiff SILT and fine SAND**	
	82.0'			10	10	17		
	82.0'-	38		20	12			
	84.0'			8	10	20		
85.0	84.0'-	39		6	10			
	86.0'			14	12	24		
	86.0'-	40		WH-1.5'				
	88.0'				12			
	88.0'-	41		5	6			
90.0	90.0'			6	8	12		
	90.0'-	42		4	8			
	92.0'			10	17	18		
	92.0'-	43		10	10			
	94.0'			18	22	28		
95.0	94.0'-	44		10	10			
	96.0'			16	12	26		
	96.0'-	45		9	7			
	98.0'			17	22	24		
	98.0'-	46		17	21			
100.0	100.0'			12	11	33		
							Bottom of Boring	100.0'
							Note: WH indicates sampler penetrated under weight of hammer. Backfilled with grout	

ATTACHMENT B

Geotechnical Laboratory Test Results





Sample No.		1
Initial	Water Content,	43.5
	Dry Density, pcf	84.8
	Saturation,	119.0
	Void Ratio	0.9876
	Diameter, cm.	2.80
	Height, cm.	5.98
At Test	Water Content,	55.8
	Dry Density, pcf	84.8
	Saturation,	152.6
	Void Ratio	0.9876
	Diameter, cm.	2.80
	Height, cm.	5.98
Strain rate, in./min.		0.02
Back Pressure, psi		0.0
Cell Pressure, psi		6.9
Fail. Stress, psi		7.0
Ult. Stress, psi		5.1
σ_1 Failure, psi		13.9
σ_3 Failure, psi		6.9

Type of Test:
Unconsolidated Undrained
Sample Type: UNDISTURBED
Description: MARL

LL= -- **PI=** --
Assumed Specific Gravity= 2.70
Remarks: ORGANICS FOUND IN AFTER TEST MOISTURE SAMPLE
NO ORGANICS FOUND IN BEFORE TEST TRIMMINGS
Plate FOUR

Client: O'BRIEN & GERE ENGINEERS, INC.

Project: HONEYWELL WASTEBEDS 1-8FFS

Location: WB-18-SB-95
Sample Number: ID#23241

Proj. No.: L-07217 PO# 10710820EST **Date:** RECIEVED: 5-16-2008

TRIAXIAL SHEAR TEST REPORT

PW Laboratories, Inc.

Tested By: PE/VJT **Checked By:** DPB

TRIAXIAL COMPRESSION TEST

Unconsolidated Undrained

6/11/08
10:54 AM

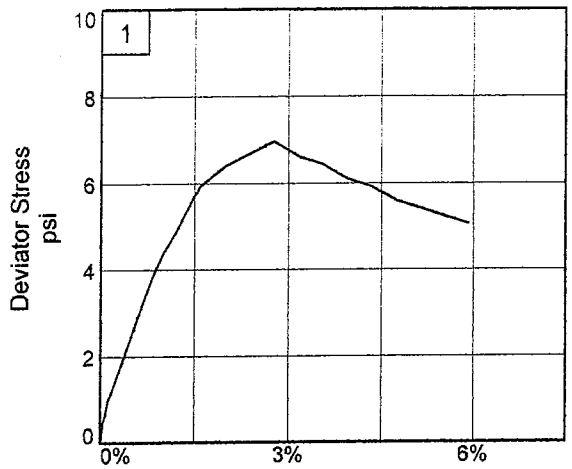
Date: RECIEVED: 5-16-2008
Client: O'BRIEN & GERE ENGINEERS, INC.
Project: HONEYWELL WASTEBEDS 1-8FFS
Project No.: L-07217 PO# 10710820EST
Location: WB-18-SB-95
Depth: 10.0 TO 12.0 FEET **Sample Number:** ID#23241
Description: MARL
Remarks: ORGANICS FOUND IN AFTER TEST MOISTURE SAMPLE
NO ORGANICS FOUND IN BEFORE TEST TRIMMINGS
Type of Sample: UNDISTURBED
Assumed Specific Gravity=2.70 **LL=**-- **PL=** **PI=**--
Test Method: ASTM D 2850

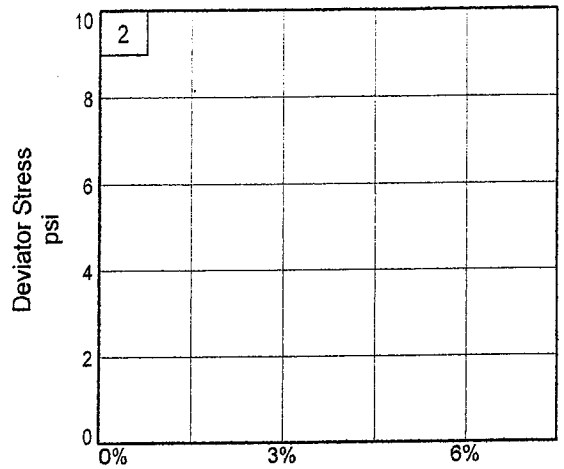
Parameters for Specimen No. 1

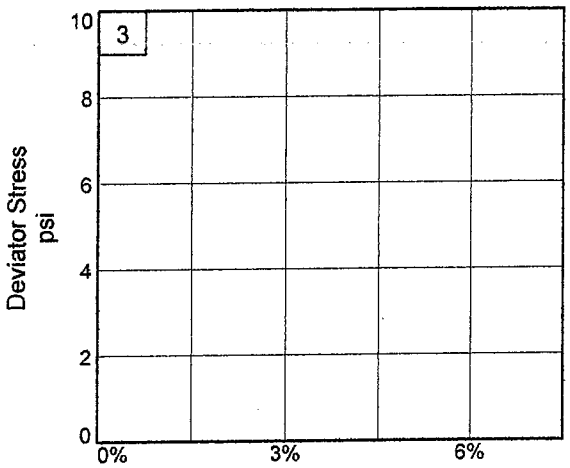
Specimen Parameter	Initial	Final
Moisture content: Moist soil+tare, gms.	457.300	1128.400
Moisture content: Dry soil+tare, gms.	349.500	760.200
Moisture content: Tare, gms.	101.800	100.500
Moisture, %	43.5	55.8
Moist specimen weight, gms.	1173.3	
Diameter, cm.	7.10	
Area, cm.^{2}	39.59	
Height, cm.	15.20	
Wet Density, pcf	121.7	
Dry density, pcf	84.8	
Void ratio	0.9876	
Saturation, %	119.0	

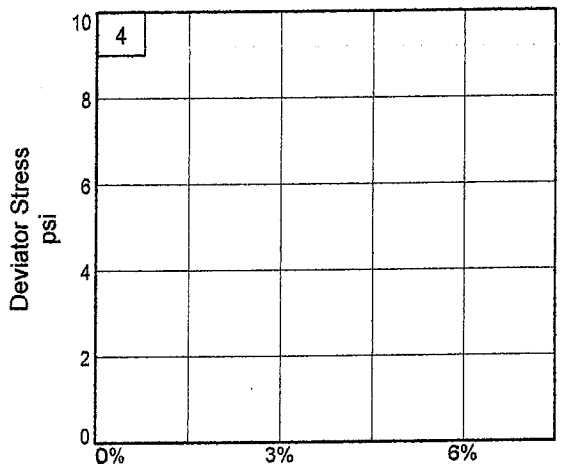
Test Readings for Specimen No. 1

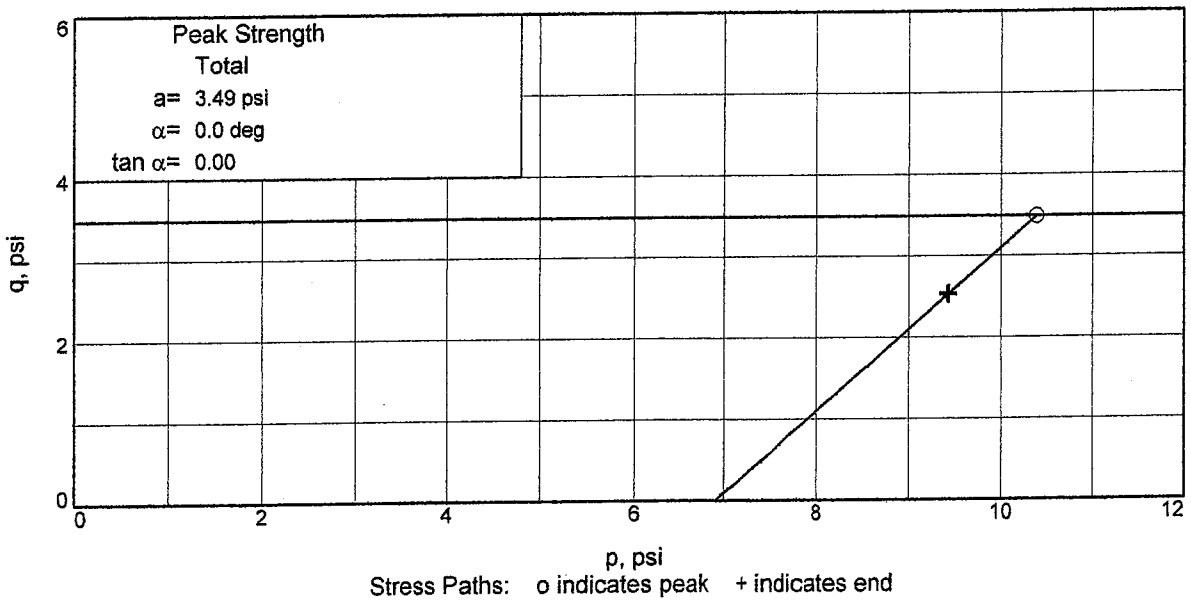
Cell pressure = 6.90 psi
Back pressure = 0.00 psi
Strain rate, in./min. = 0.02
Fail. Stress = 6.97 psi **at reading no.** 14
Ult. Stress = 5.06 psi **at reading no.** 22











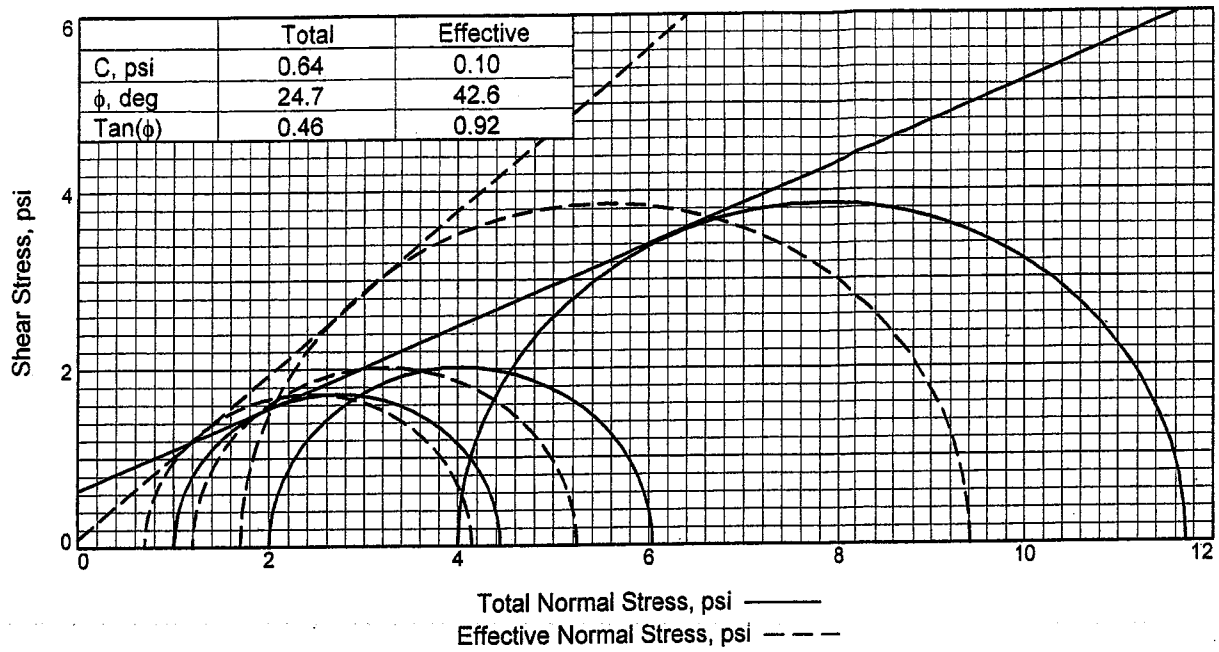
Client: O'BRIEN & GERE ENGINEERS, INC.
Project: HONEYWELL WASTEBEDS 1-8FFS
Location: WB-18-SB-95 **Depth:** 10.0 TO 12.0 FEET **Sample Number:** ID#23241
Project No.: L-07217 PO# 10710820EST **Plate** FOUR A

PW Laboratories, Inc.

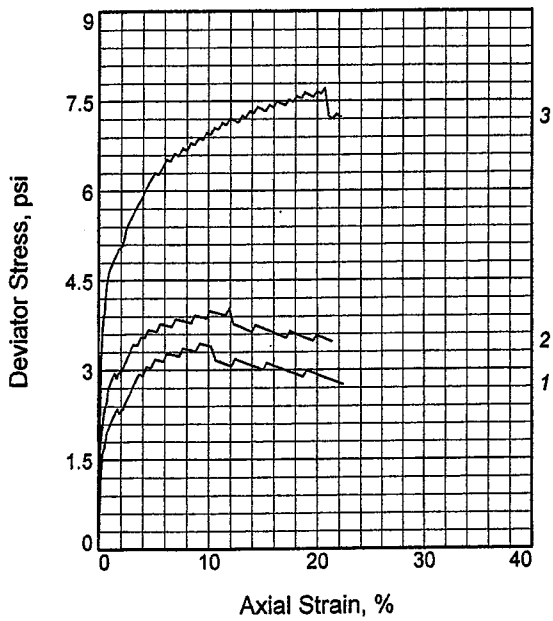
Tested By: PE/VJT **Checked By:** DPB

Test Readings for Specimen No. 1

No.	Def. Dial cm.	Load Dial	Load lbs.	Strain %	Deviator Stress psi	Minor Princ. Stress psi	Major Princ. Stress psi	1:3 Ratio	P psi	Q psi
0	0.0000	3.00	0.0	0.0	0.00	6.90	6.90	1.00	6.90	0.00
1	0.0060	6.00	3.0	0.0	0.49	6.90	7.39	1.07	7.14	0.24
2	0.0120	7.00	4.0	0.1	0.65	6.90	7.55	1.09	7.23	0.33
3	0.0180	9.00	6.0	0.1	0.98	6.90	7.88	1.14	7.39	0.49
4	0.0240	10.00	7.0	0.2	1.14	6.90	8.04	1.17	7.47	0.57
5	0.0300	11.00	8.0	0.2	1.30	6.90	8.20	1.19	7.55	0.65
6	0.0600	16.00	13.0	0.4	2.11	6.90	9.01	1.31	7.96	1.06
7	0.0900	21.00	18.0	0.6	2.92	6.90	9.82	1.42	8.36	1.46
8	0.1200	26.00	23.0	0.8	3.72	6.90	10.62	1.54	8.76	1.86
9	0.1500	30.00	27.0	1.0	4.36	6.90	11.26	1.63	9.08	2.18
10	0.1800	33.00	30.0	1.2	4.83	6.90	11.73	1.70	9.32	2.42
11	0.2400	40.00	37.0	1.6	5.93	6.90	12.83	1.86	9.87	2.97
12	0.3000	43.00	40.0	2.0	6.39	6.90	13.29	1.93	10.09	3.19
13	0.3600	45.00	42.0	2.4	6.68	6.90	13.58	1.97	10.24	3.34
14	0.4200	47.00	44.0	2.8	6.97	6.90	13.87	2.01	10.39	3.49
15	0.4800	45.00	42.0	3.2	6.63	6.90	13.53	1.96	10.21	3.31
16	0.5400	44.00	41.0	3.6	6.44	6.90	13.34	1.93	10.12	3.22
17	0.6000	42.00	39.0	3.9	6.10	6.90	13.00	1.88	9.95	3.05
18	0.6600	41.00	38.0	4.3	5.92	6.90	12.82	1.86	9.86	2.96
19	0.7200	39.00	36.0	4.7	5.59	6.90	12.49	1.81	9.69	2.79
20	0.7800	38.00	35.0	5.1	5.41	6.90	12.31	1.78	9.61	2.71
21	0.8400	37.00	34.0	5.5	5.23	6.90	12.13	1.76	9.52	2.62
22	0.9000	36.00	33.0	5.9	5.06	6.90	11.96	1.73	9.43	2.53



	Total	Effective
C, psi	0.64	0.10
ϕ, deg	24.7	42.6
Tan(ϕ)	0.46	0.92



Sample No.		1	2	3
Initial	Water Content, %	60.60	58.60	65.10
	Dry Density, pcf	59.4	61.4	58.2
	Saturation, %	88.9	90.4	92.4
	Void Ratio	1.855	1.763	1.916
	Diameter, in	2.83	2.83	2.83
	Height, in	5.49	5.75	5.57
At Test	Water Content, %	53.60	50.60	59.40
	Dry Density, pcf	69.05	71.42	64.89
	Saturation, %	99.0	99.0	100.0
	Void Ratio	1.473	1.390	1.616
	Diameter, in	2.63	2.63	2.70
	Height, in	5.46	5.71	5.51
Strain rate, in./min.		0.005	0.005	0.005
Eff. Cell Pressure, psi		1.00	2.00	4.00
Fail. Stress, psi		3.45	4.04	7.71
Total Pore Pr., psi		40.30	40.80	42.30
Strain, %		9.2	11.9	20.7
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		4.15	5.24	9.41
$\bar{\sigma}_3$ Failure, psi		0.70	1.20	1.70

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: Lab ID: 23222

Assumed Specific Gravity= 2.72
Remarks:

Client: PW Laboratories, Inc.

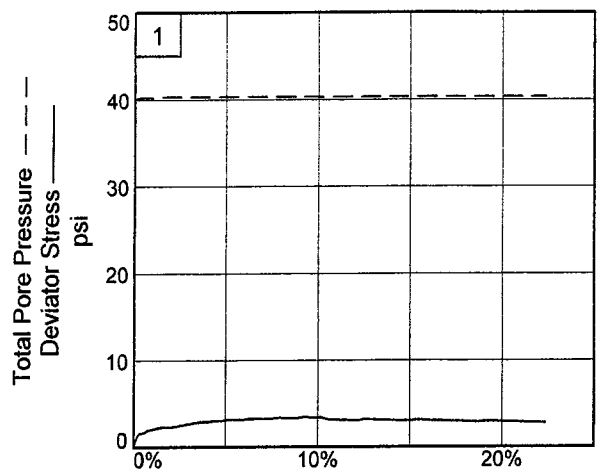
Project: Honeywell - Wastebeds
L-07217
Location: WB18
Sample Number: SB-82 **Depth:** 2 to 4 ft
Proj. No.: 08LS1316.01 **Date:** 06/04/08

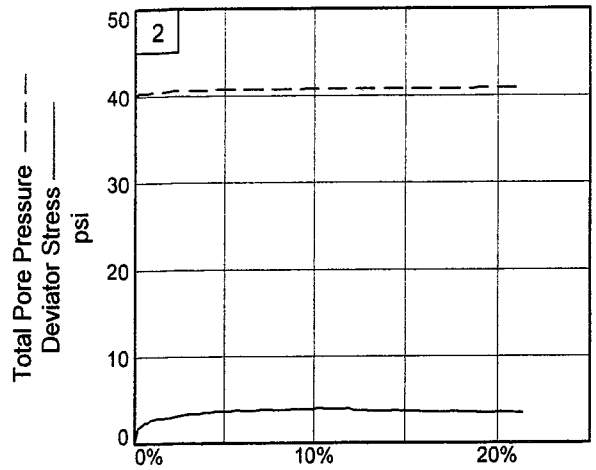
TRIAXIAL SHEAR TEST REPORT

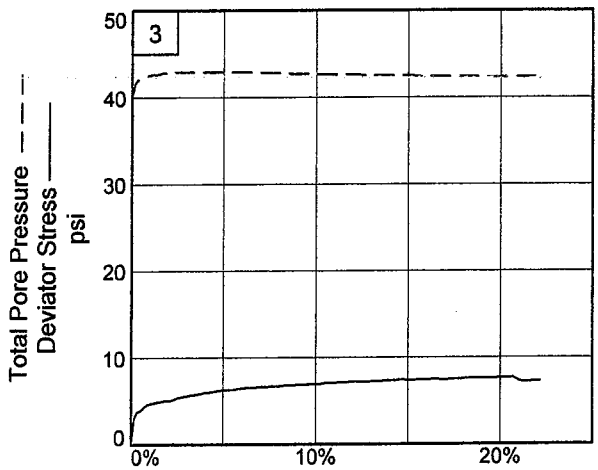
JLT Laboratories, Inc.

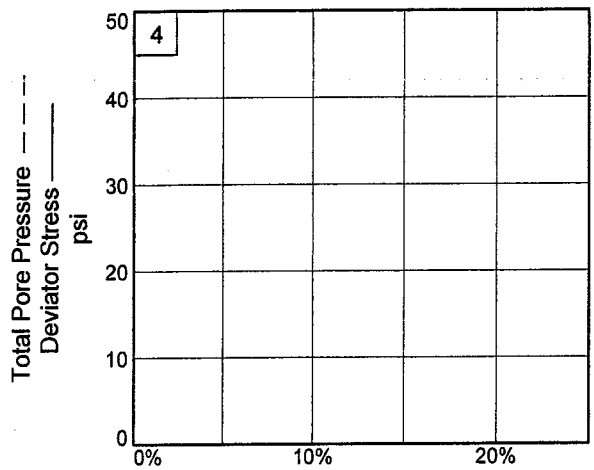
Figure 003

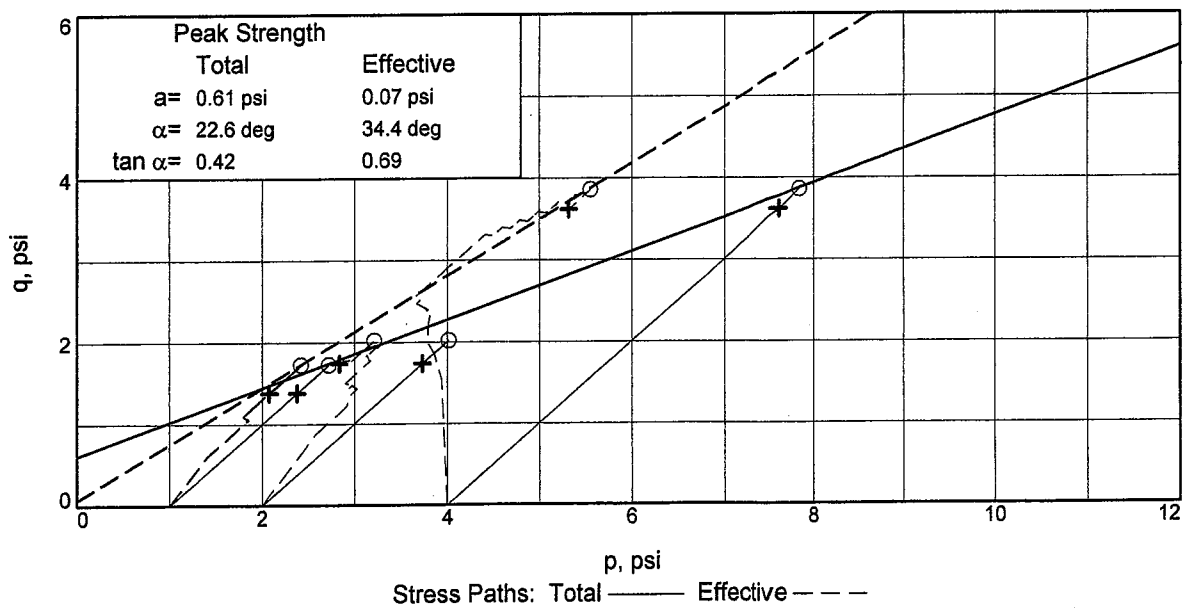
Tested By: RL **Checked By:** JB







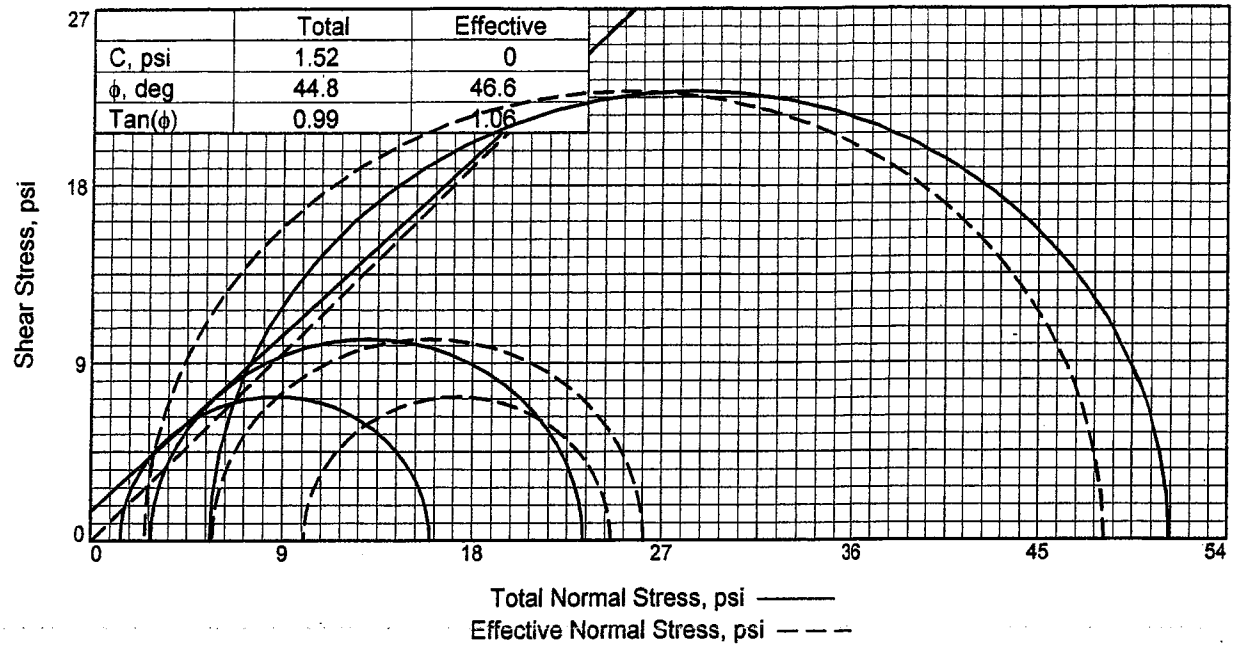




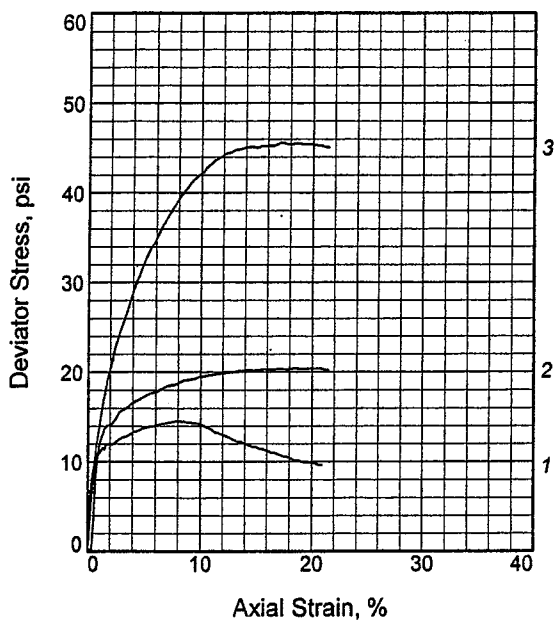
Client: PW Laboratories, Inc.
Project: Honeywell - Wastebeds
Location: WB18 **Depth:** 2 to 4 ft **Sample Number:** SB-82
Project No.: 08LS1316.01 **Figure** 003

JLT Laboratories, Inc.

Tested By: RL **Checked By:** JB



	Total	Effective
C, psi	1.52	0
ϕ, deg	44.8	46.6
Tan(ϕ)	0.99	1.06



Sample No.		1	2	3
Initial	Water Content, %	55.30	57.20	49.50
	Dry Density, pcf	67.9	66.4	72.4
	Saturation, %	99.9	99.5	99.7
	Void Ratio	1.517	1.575	1.361
	Diameter, in	2.84	2.84	2.84
	Height, in	5.88	5.70	5.72
At Test	Water Content, %	54.70	54.10	42.40
	Dry Density, pcf	68.42	68.88	79.09
	Saturation, %	99.6	99.7	100.0
	Void Ratio	1.505	1.487	1.162
	Diameter, in	2.83	2.79	2.79
	Height, in	5.83	5.68	5.69
Strain rate, in./min.		0.005	0.005	0.005
Eff. Cell Pressure, psi		1.4	2.8	5.6
Fail. Stress, psi		14.6	20.4	45.6
Total Pore Pr., psi		31.4	37.1	43.1
Strain, %		7.9	20.1	17.2
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		24.6	26.1	48.1
$\bar{\sigma}_3$ Failure, psi		10.0	5.7	2.5

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: Lab ID: 23221

Assumed Specific Gravity= 2.74
Remarks:

Client: PW Laboratories, Inc.

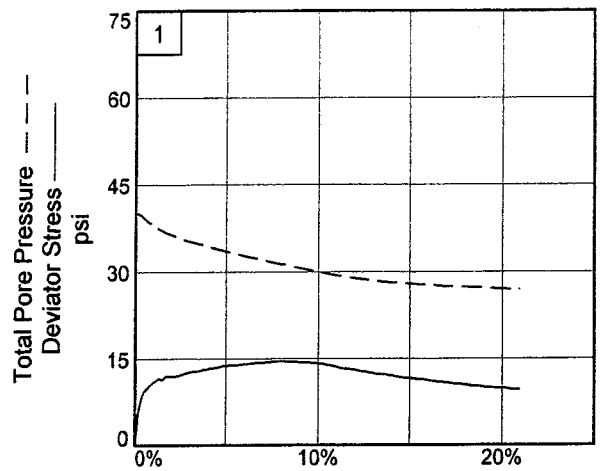
Project: Honeywell - Wastebeds
L-07217
Location: WB18
Sample Number: SB-88 **Depth:** 2 to 4 ft
Proj. No.: 08LS1316.01 **Date:** 06/04/08

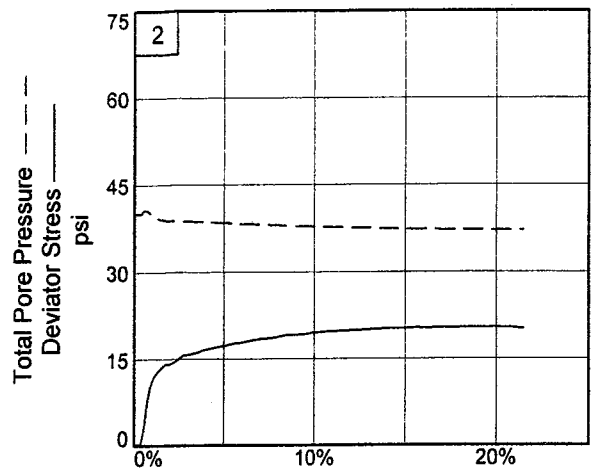
TRIAXIAL SHEAR TEST REPORT

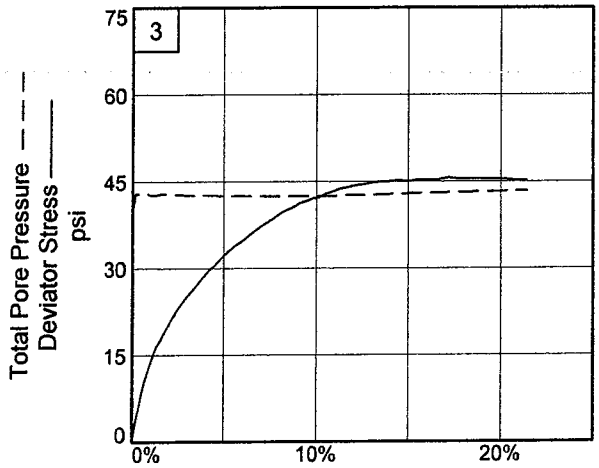
JLT Laboratories, Inc.

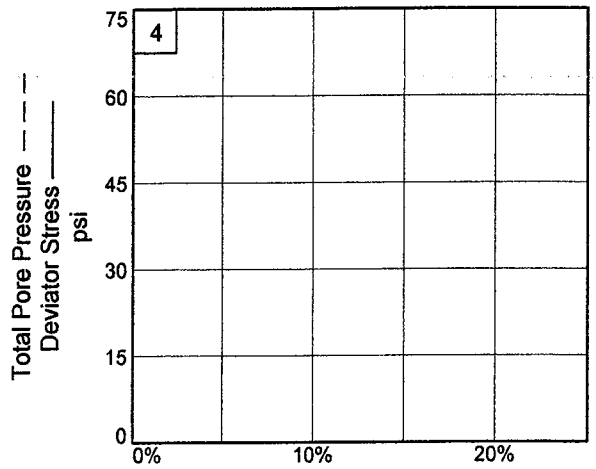
Figure 004

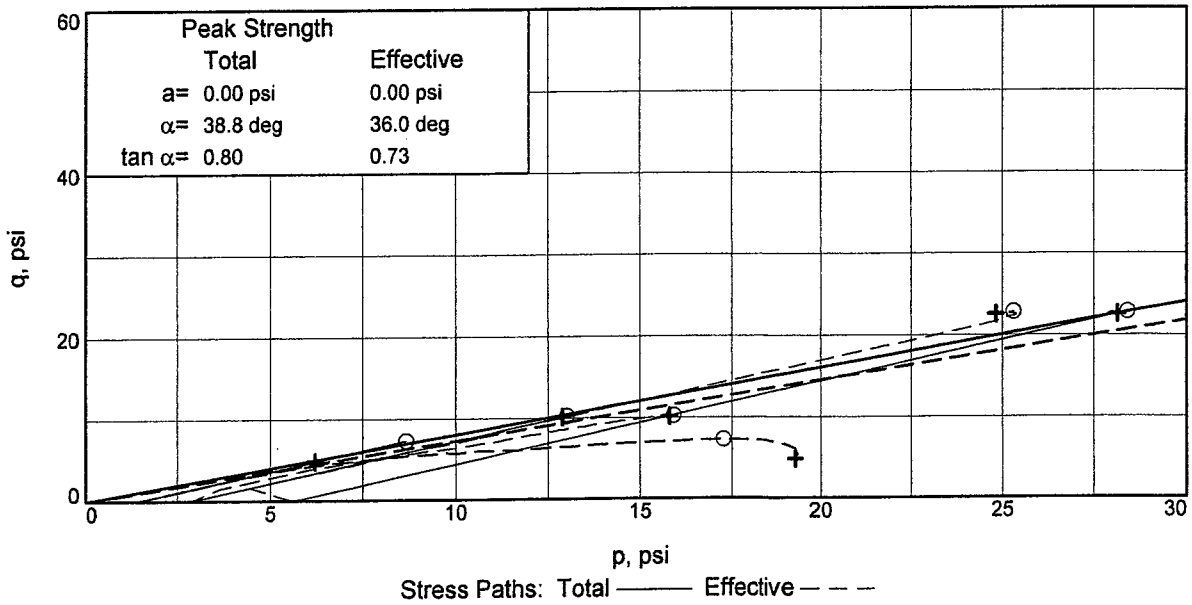
Tested By: RL **Checked By:** JB







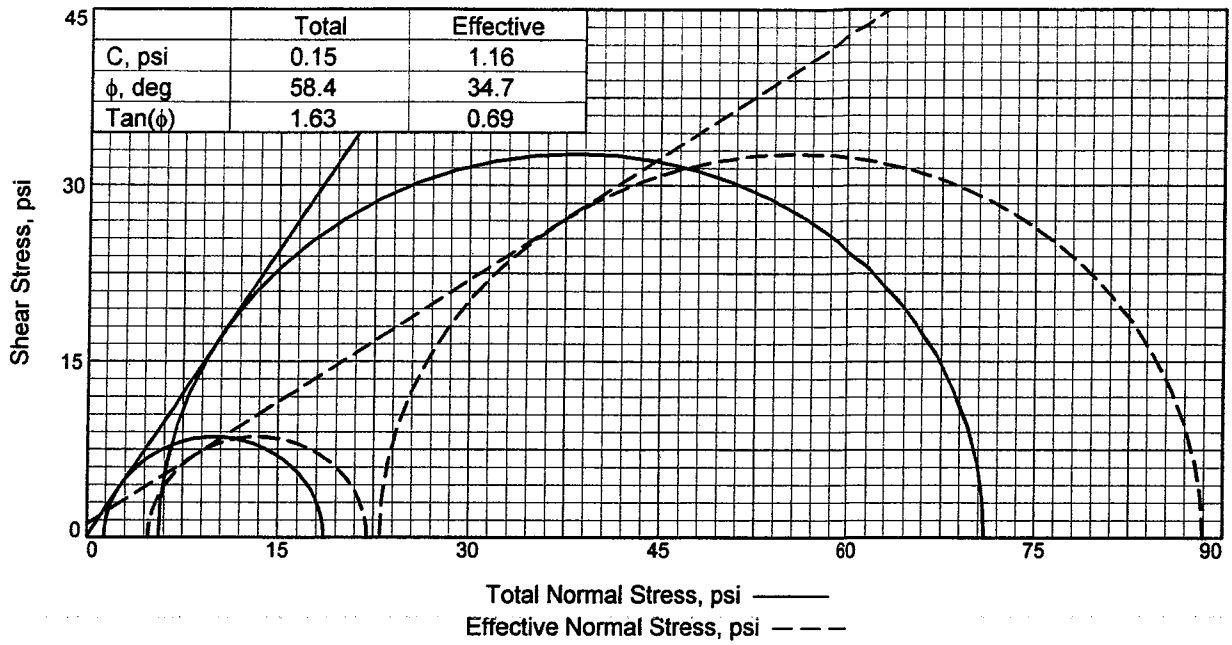




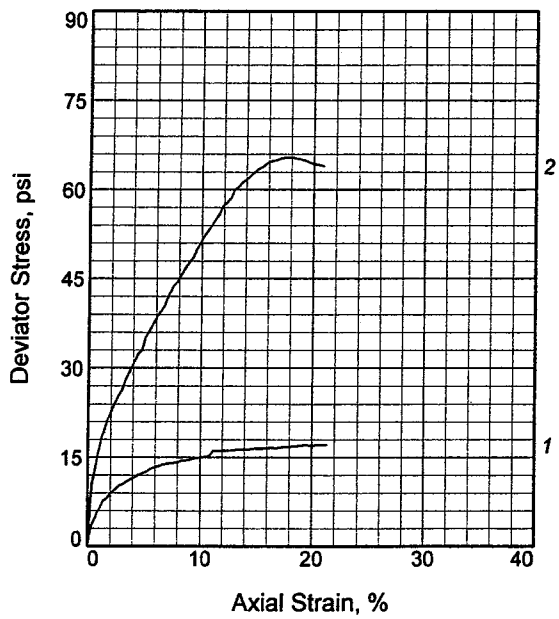
Client: PW Laboratories, Inc.
Project: Honeywell - Wastebeds
Location: WB18 **Depth:** 2 to 4 ft **Sample Number:** SB-88
Project No.: 08LS1316.01 **Figure** 004

JLT Laboratories, Inc.

Tested By: RL **Checked By:** JB



	Total	Effective
C, psi	0.15	1.16
ϕ, deg	58.4	34.7
Tan(ϕ)	1.63	0.69



Sample No.		1	2
Initial	Water Content,	41.2	33.1
	Dry Density, pcf	78.1	87.9
	Saturation,	95.3	96.5
	Void Ratio	1.1749	0.9327
	Diameter, in.	2.820	2.830
	Height, in.	5.810	5.900
At Test	Water Content,	40.0	32.5
	Dry Density, pcf	81.4	90.1
	Saturation,	100.0	100.0
	Void Ratio	1.0870	0.8838
	Diameter, in.	2.781	2.806
	Height, in.	5.731	5.850
Strain rate, in./min.		0.005	0.005
Eff. Cell Pressure, psi		1.4	5.6
Fail. Stress, psi		17.2	65.4
Total Pore Pr., psi		36.6	22.6
Strain, %		20.9	17.4
Ult. Stress, psi			
Total Pore Pr., psi			
Strain, %			
$\bar{\sigma}_1$ Failure, psi		22.0	88.4
$\bar{\sigma}_3$ Failure, psi		4.8	23.0

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: Lab ID: 23237

Assumed Specific Gravity= 2.72
Remarks:

Figure 001

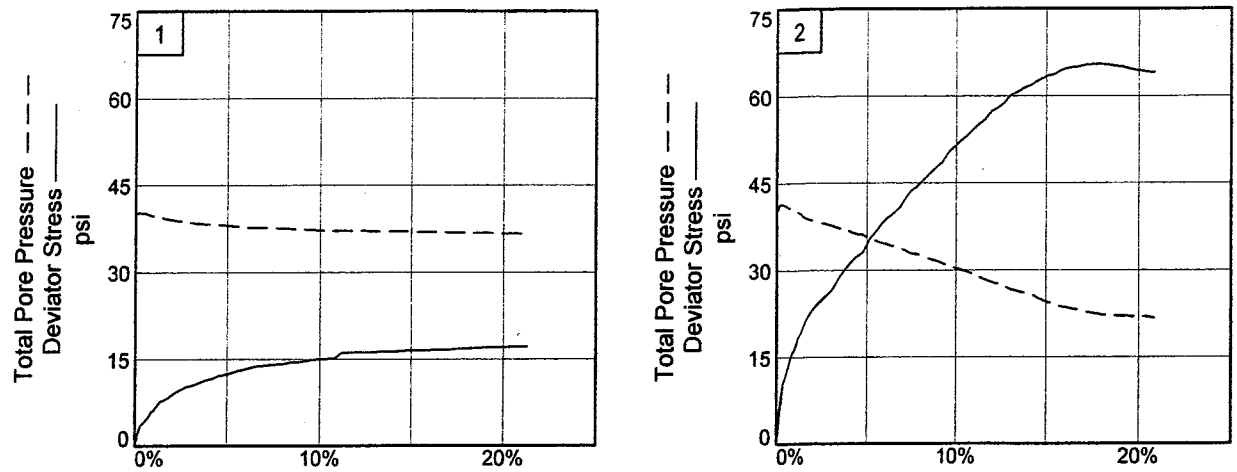
Client: PW Laboratories, Inc.

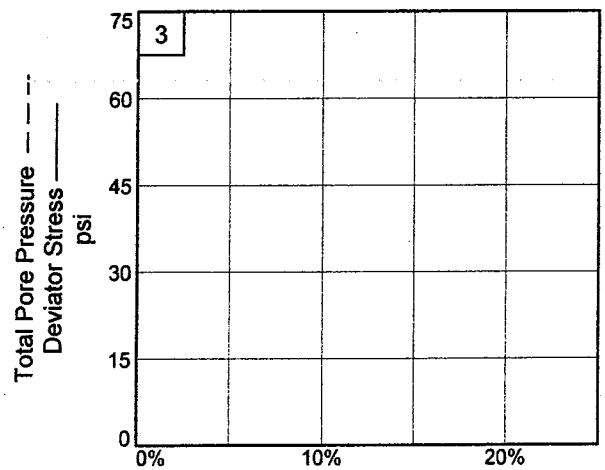
Project: Honeywell - Wastebeds
L-07217
Location: WB18
Sample Number: SB-91 **Depth:** 6 to 8 ft
Proj. No.: 08LS1316.01 **Date:** 06/02/08

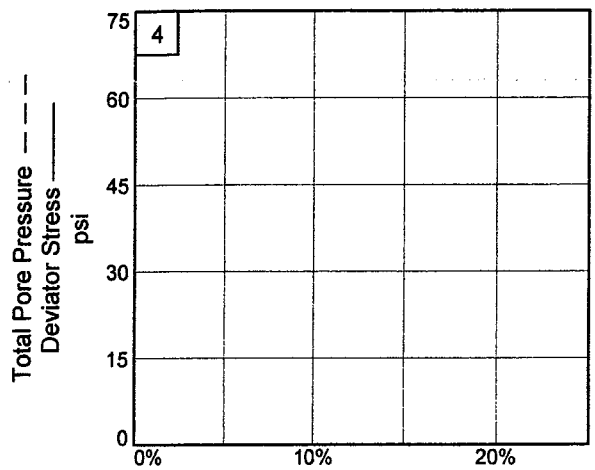
TRIAXIAL SHEAR TEST REPORT

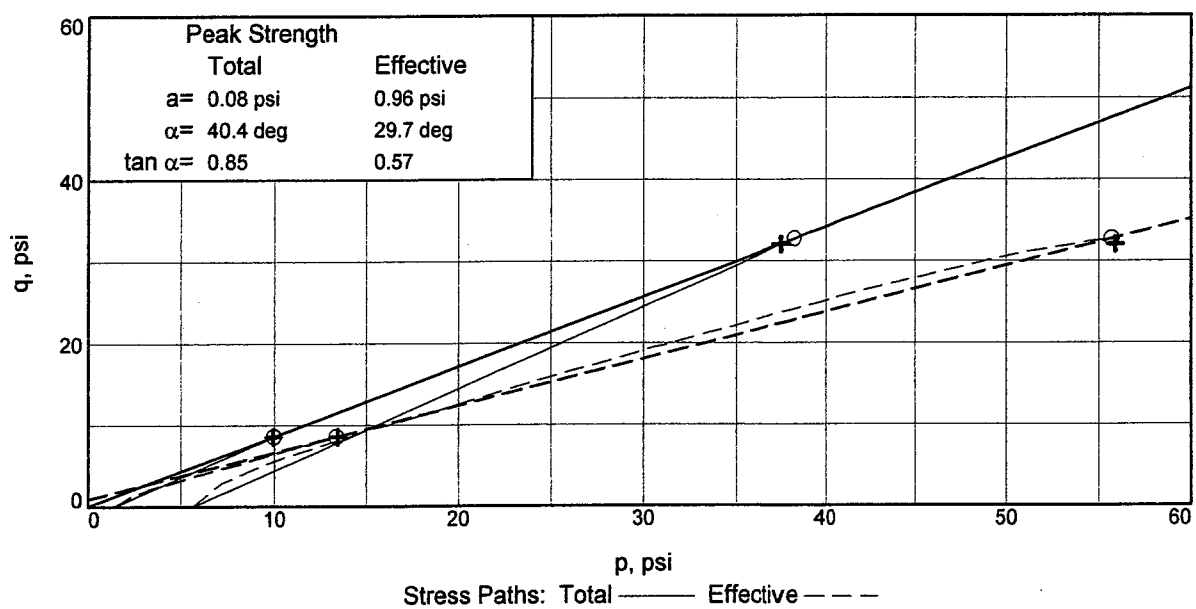
JLT Laboratories, Inc.

Tested By: MS **Checked By:** JB





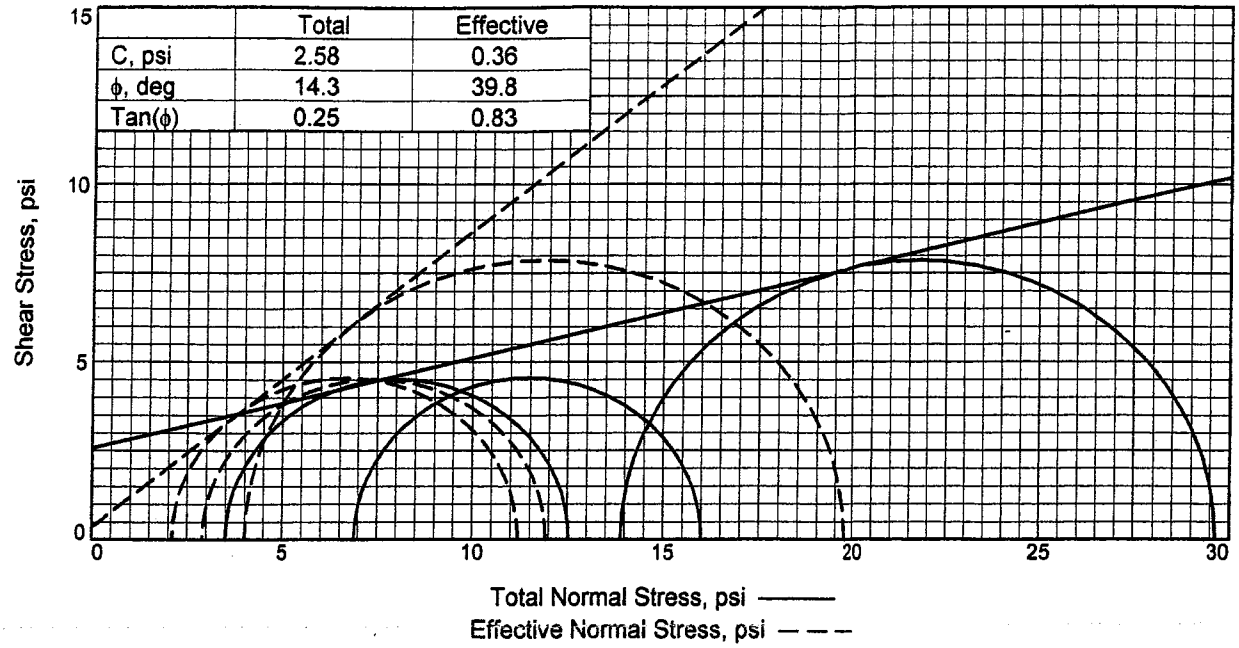




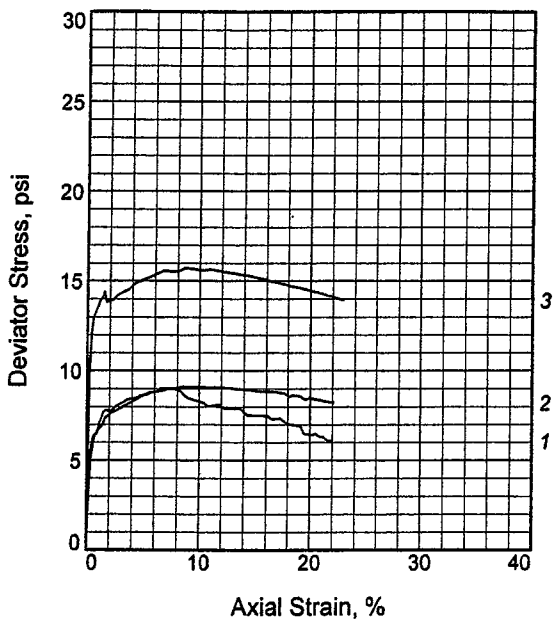
Client: PW Laboratories, Inc.
Project: Honeywell - Wastebeds
Location: WB18 **Depth:** 6 to 8 ft **Sample Number:** SB-91
Project No.: 08LS1316.01 **Figure** 001

JLT Laboratories, Inc.

Tested By: MS **Checked By:** JB



	Total	Effective
C, psi	2.58	0.36
ϕ, deg	14.3	39.8
Tan(ϕ)	0.25	0.83



Sample No.		1	2	3
Initial	Water Content, %	64.00	62.20	67.10
	Dry Density, pcf	61.7	63.0	60.2
	Saturation, %	99.0	99.4	99.9
	Void Ratio	1.771	1.715	1.840
	Diameter, in	2.83	2.83	2.83
	Height, in	5.60	5.59	5.59
At Test	Water Content, %	58.30	55.10	52.50
	Dry Density, pcf	65.83	68.12	70.12
	Saturation, %	99.8	99.9	99.9
	Void Ratio	1.601	1.511	1.440
	Diameter, in	2.75	2.75	2.70
	Height, in	5.55	5.52	5.32
Strain rate, in./min.		0.005	0.005	0.005
Eff. Cell Pressure, psi		3.5	6.9	13.9
Fail. Stress, psi		9.0	9.1	15.7
Total Pore Pr., psi		50.6	54.8	59.9
Strain, %		7.6	8.3	8.6
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		11.9	11.2	19.7
$\bar{\sigma}_3$ Failure, psi		2.9	2.1	4.0

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description:

Assumed Specific Gravity= 2.74
Remarks:

Client: PW Laboratories, Inc.

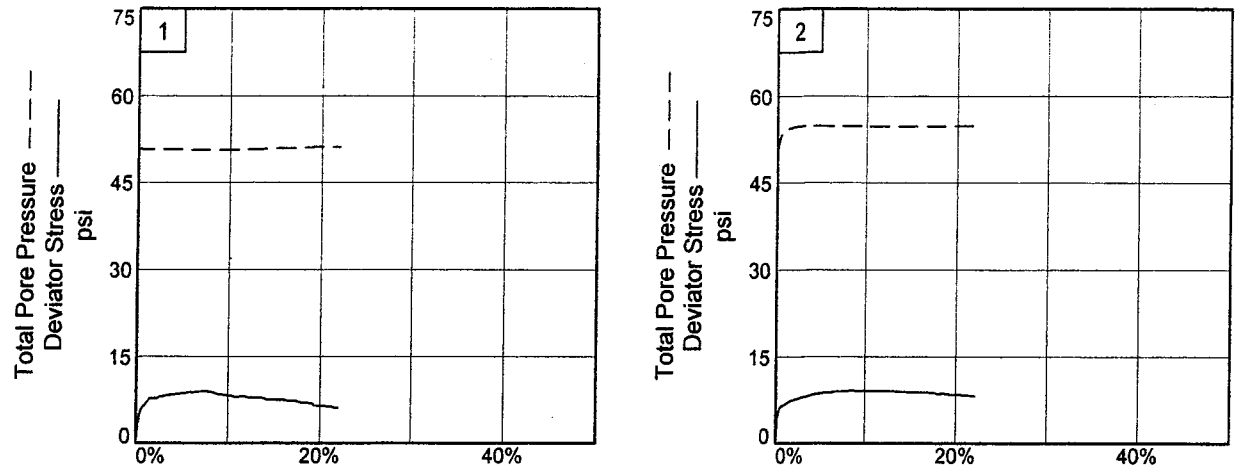
Project: Honeywell - Wastebeds
L-07217
Location: WB18
Sample Number: SB-99 **Depth:** 8 to 10 ft
Proj. No.: 08LS1316.01 **Date:** 06/06/08

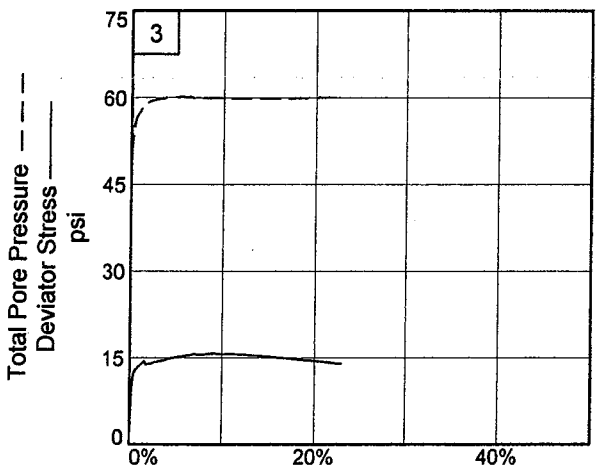
TRIAXIAL SHEAR TEST REPORT

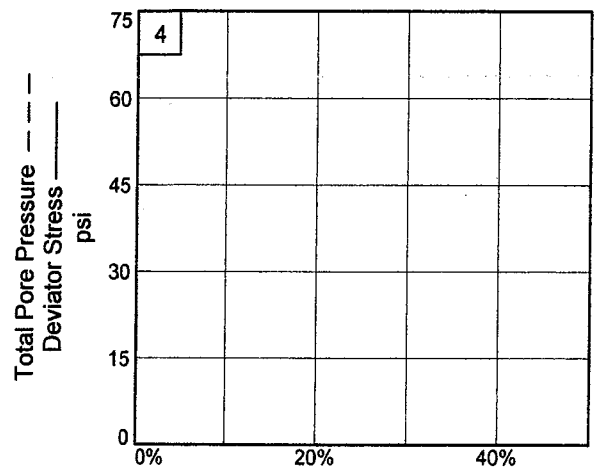
JLT Laboratories, Inc.

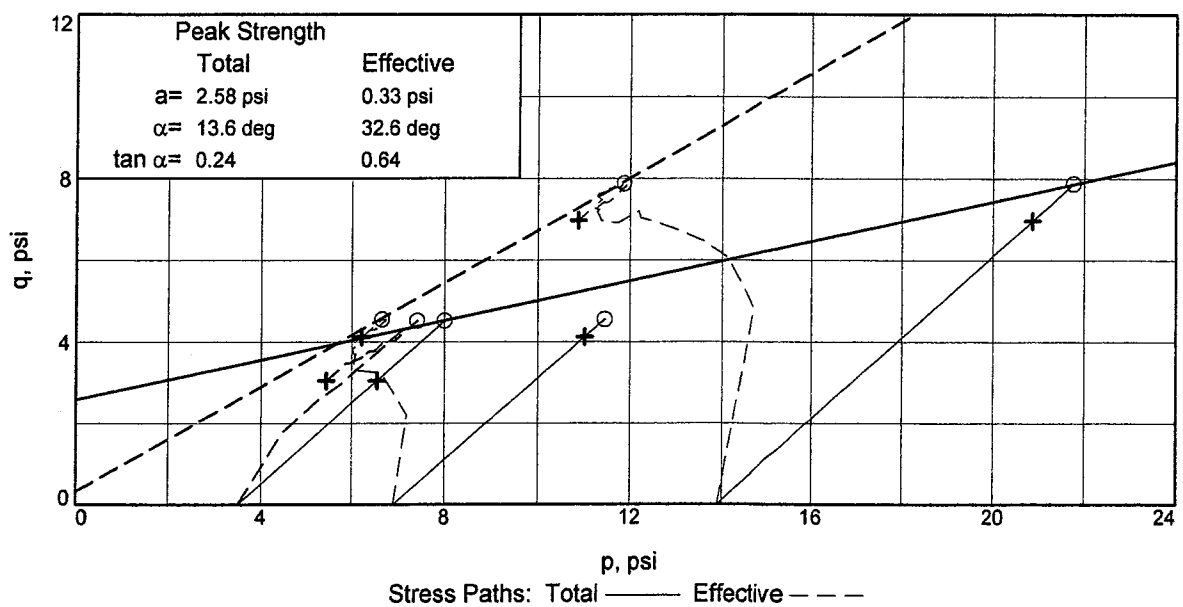
Figure 006

Tested By: RL **Checked By:** JB





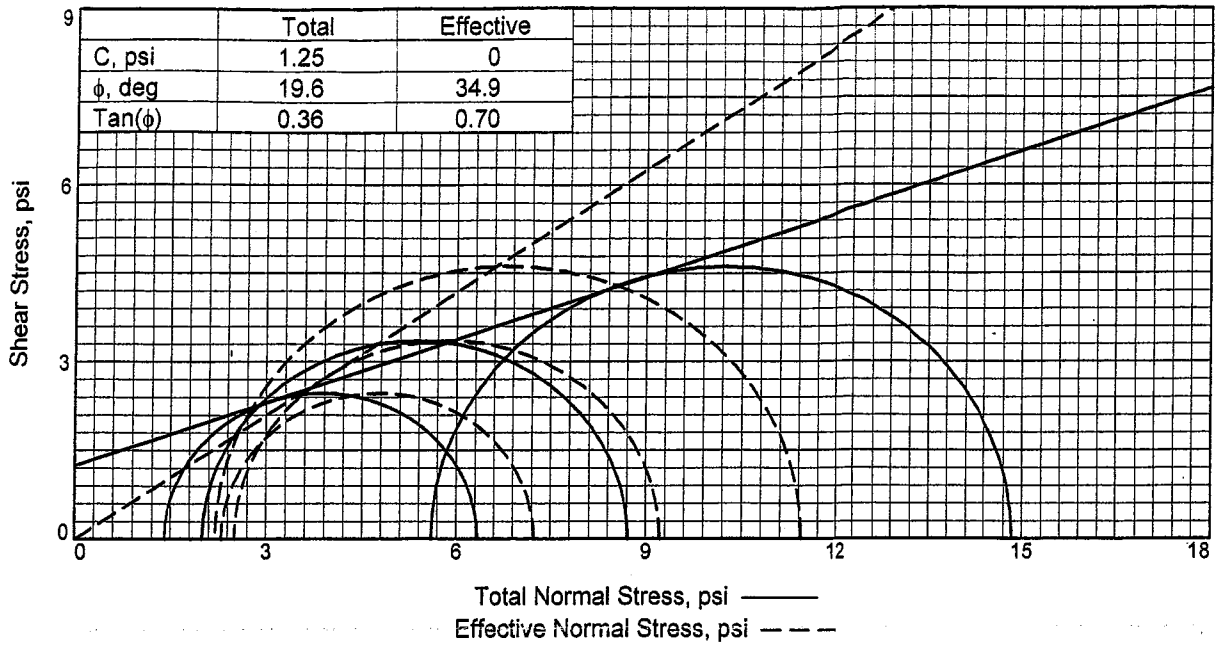




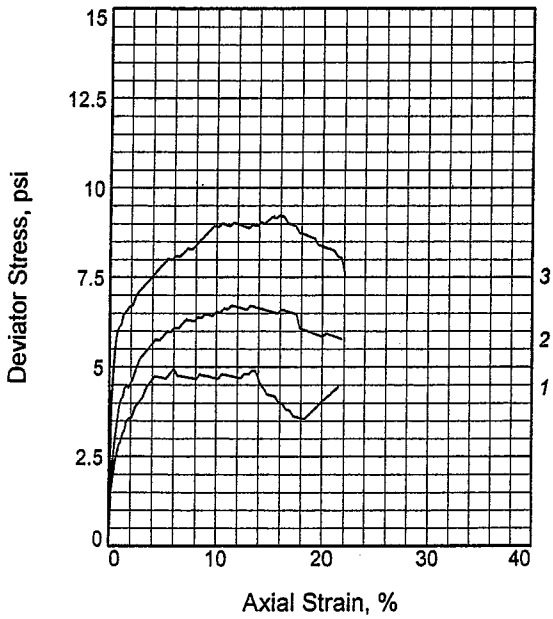
Client: PW Laboratories, Inc.
Project: Honeywell - Wastebeds
Location: WB18 **Depth:** 8 to 10 ft **Sample Number:** SB-99
Project No.: 08LS1316.01 **Figure** 006

JLT Laboratories, Inc.

Tested By: RL **Checked By:** JB



	Total	Effective
C, psi	1.25	0
ϕ, deg	19.6	34.9
Tan(ϕ)	0.36	0.70



Sample No.		1	2	3
Initial	Water Content, %	69.00	64.80	59.40
	Dry Density, pcf	58.1	61.4	63.6
	Saturation, %	97.8	99.9	96.9
	Void Ratio	1.919	1.765	1.668
	Diameter, in	2.83	2.83	2.83
	Height, in	5.70	5.67	5.60
At Test	Water Content, %	67.40	60.60	53.40
	Dry Density, pcf	59.91	64.09	69.21
	Saturation, %	99.0	99.0	100.0
	Void Ratio	1.852	1.665	1.452
	Diameter, in	2.79	2.79	2.73
	Height, in	5.68	5.60	5.52
Strain rate, in./min.		0.005	0.005	0.005
Eff. Cell Pressure, psi		1.4	2.0	5.6
Fail. Stress, psi		4.9	6.7	9.2
Total Pore Pr., psi		39.1	39.5	43.4
Strain, %		6.0	11.4	15.9
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		7.2	9.2	11.4
$\bar{\sigma}_3$ Failure, psi		2.3	2.5	2.2

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: Lab ID: 23253

Assumed Specific Gravity= 2.72
Remarks:

Figure 002

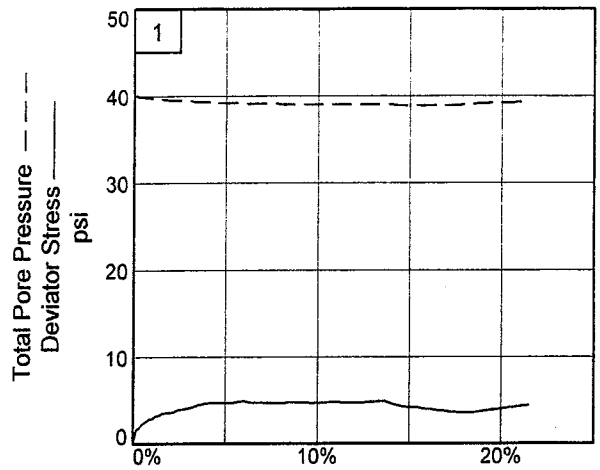
Client: PW Laboratories, Inc.

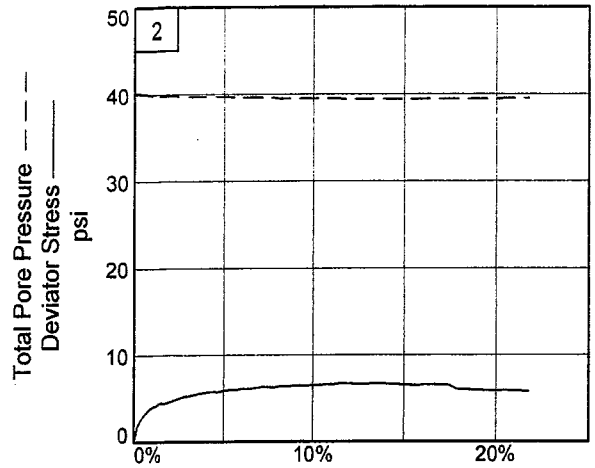
Project: Honeywell - Wastebeds
L-07217
Location: WB18
Sample Number: SB-103 **Depth:** 6 to 8 ft
Proj. No.: 08LS1316.01 **Date:** 06/03/2008

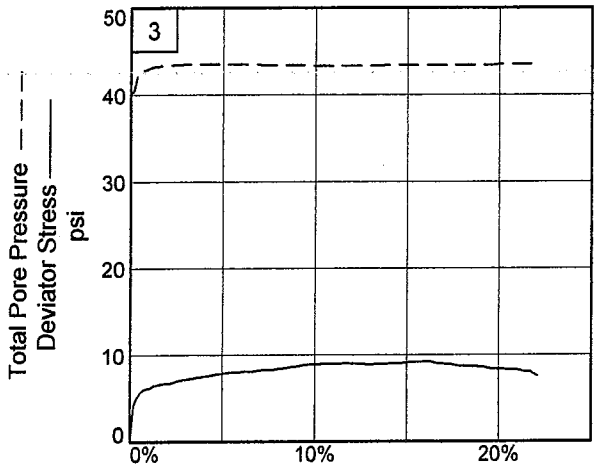
TRIAXIAL SHEAR TEST REPORT

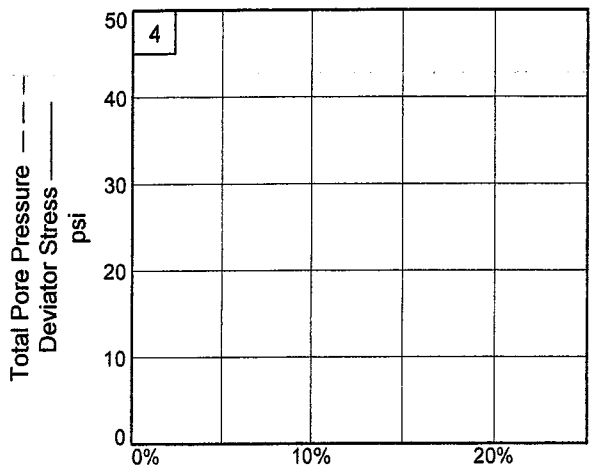
JLT Laboratories, Inc.

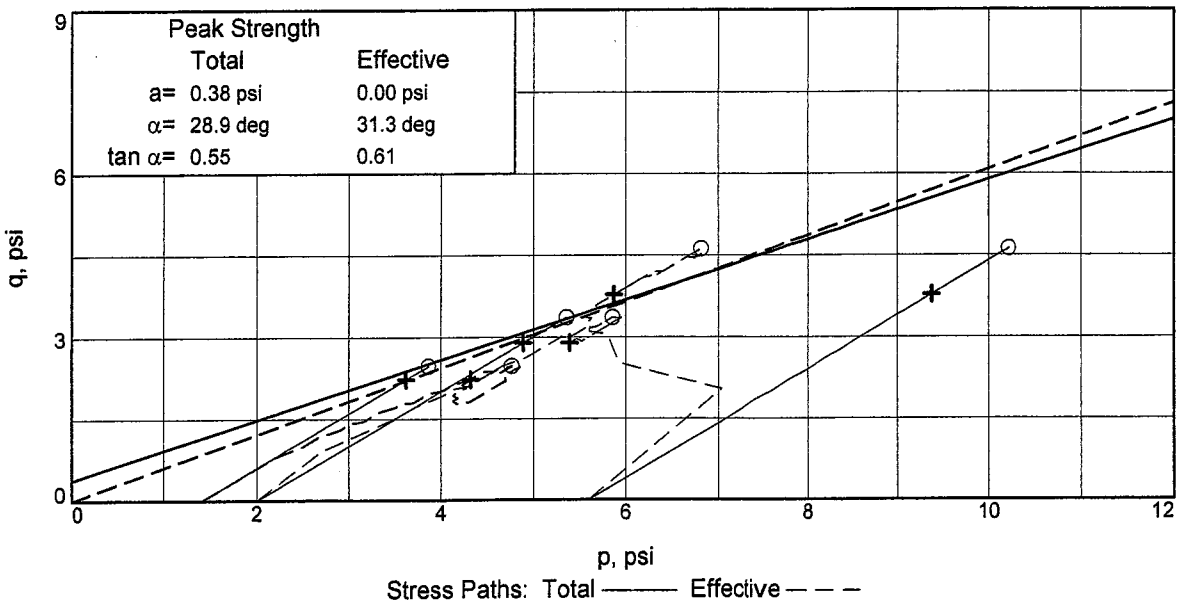
Tested By: MS **Checked By:** JB







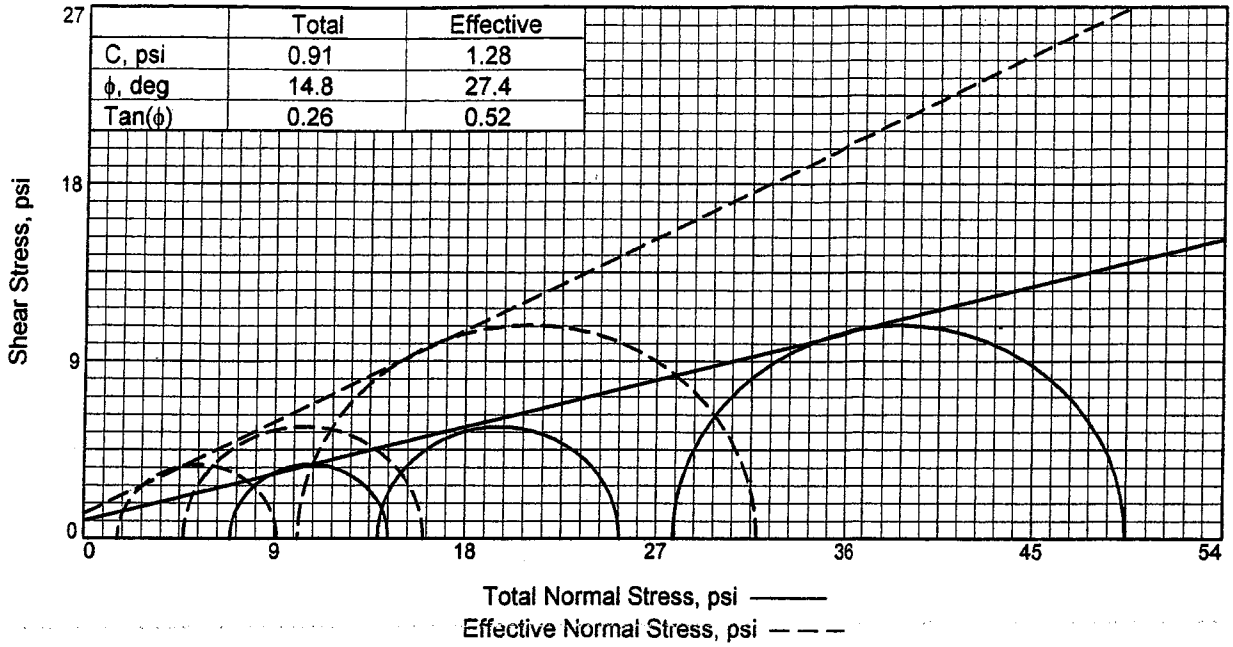




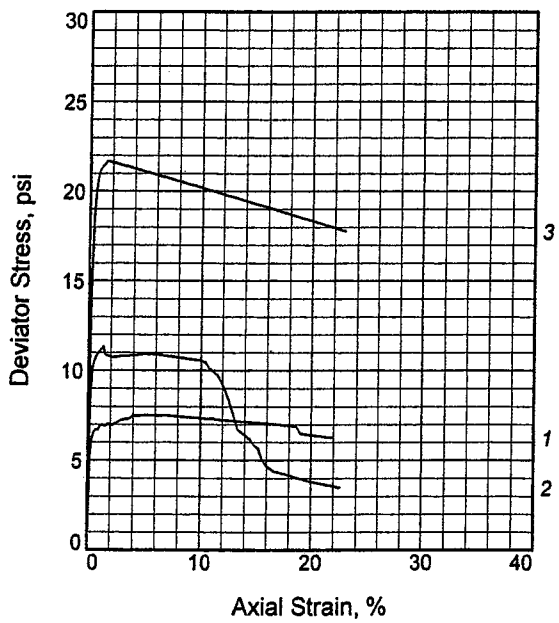
Client: PW Laboratories, Inc.
Project: Honeywell - Wastebeds
Location: WB18 **Depth:** 6 to 8 ft **Sample Number:** SB-103
Project No.: 08LS1316.01 **Figure** 002

JLT Laboratories, Inc.

Tested By: MS **Checked By:** JB



	Total	Effective
C, psi	0.91	1.28
ϕ, deg	14.8	27.4
Tan(ϕ)	0.26	0.52



Sample No.		1	2	3
Initial	Water Content, %	91.70	77.00	78.10
	Dry Density, pcf	48.2	54.9	54.4
	Saturation, %	98.5	99.8	100.0
	Void Ratio	2.550	2.114	2.141
	Diameter, in	2.83	2.83	2.83
	Height, in	5.69	5.61	5.66
At Test	Water Content, %	80.70	67.10	57.40
	Dry Density, pcf	53.24	60.23	66.46
	Saturation, %	99.8	99.9	100.0
	Void Ratio	2.216	1.840	1.573
	Diameter, in	2.72	2.73	2.61
	Height, in	5.58	5.41	5.32
Strain rate, in./min.		0.005	0.005	0.005
Eff. Cell Pressure, psi		6.9	13.9	27.8
Fail. Stress, psi		7.5	11.3	21.7
Total Pore Pr., psi		55.3	59.2	67.7
Strain, %		5.0	1.3	1.5
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		9.1	16.0	31.8
$\bar{\sigma}_3$ Failure, psi		1.6	4.7	10.1

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description:

Assumed Specific Gravity= 2.74
Remarks:

Figure 005

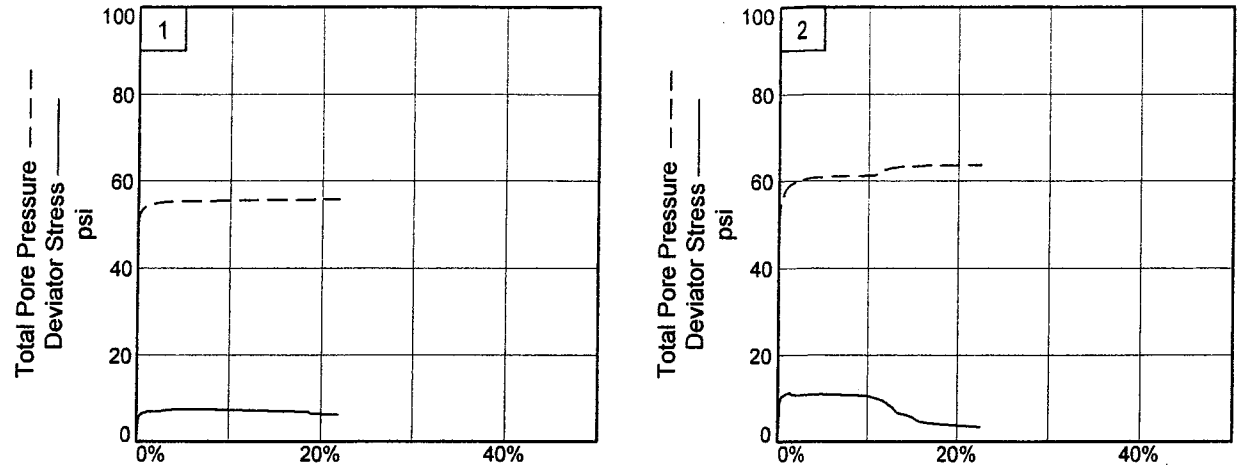
Client: PW Laboratories, Inc.

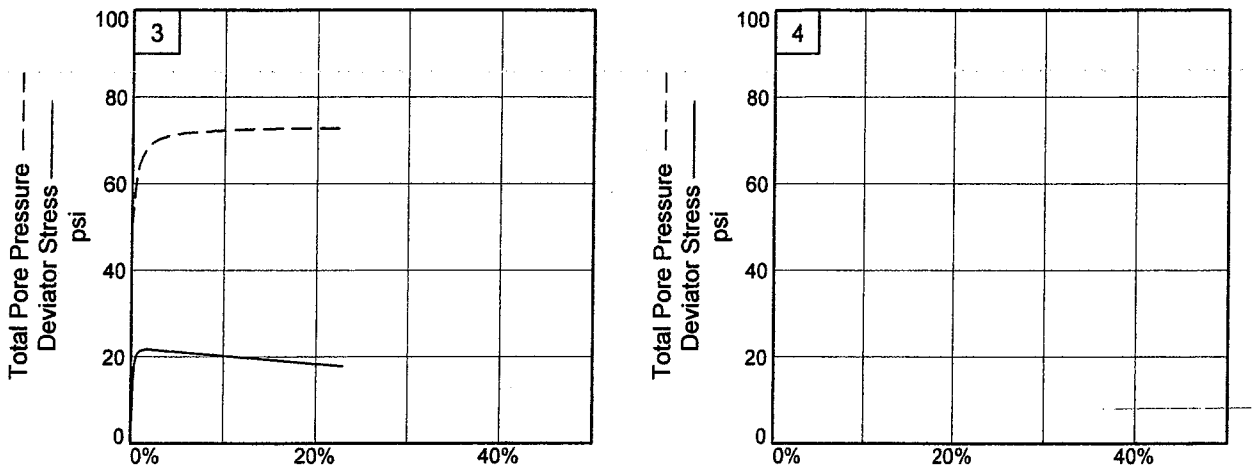
Project: Honeywell - Wastebeds
L-07217
Location: WB18
Sample Number: SB-115 **Depth:** 18 to 20 ft
Proj. No.: 08LS1316.01 **Date:** 06/05/08

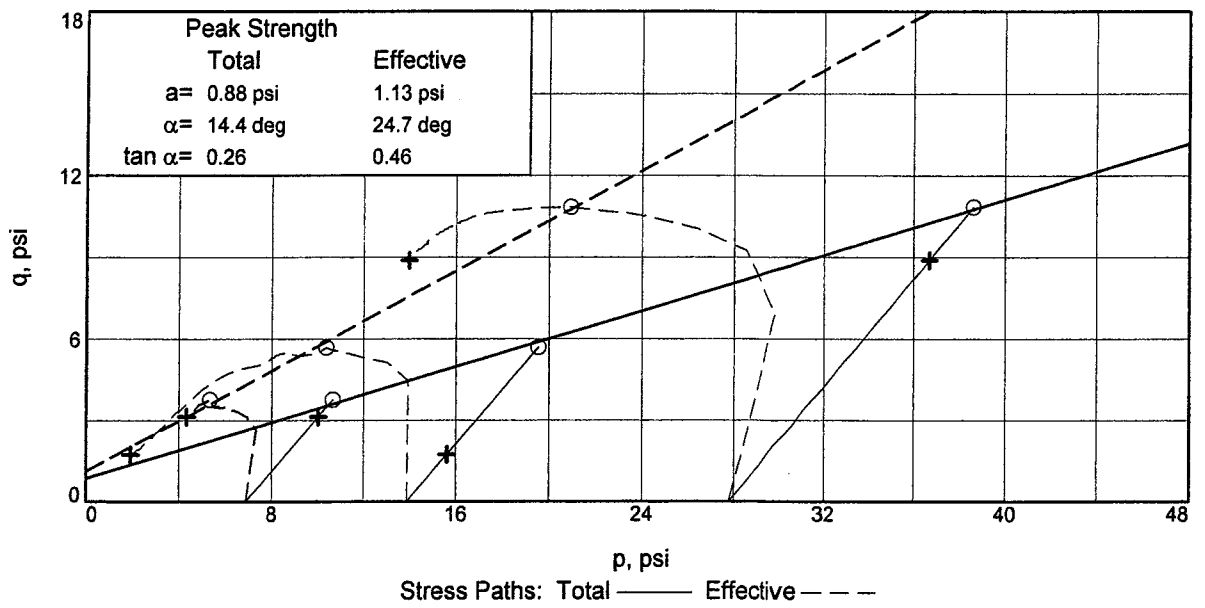
TRIAXIAL SHEAR TEST REPORT

JLT Laboratories, Inc.

Tested By: RL **Checked By:** JB







Client: PW Laboratories, Inc.
Project: Honeywell - Wastebeds
Location: WB18 **Depth:** 18 to 20 ft **Sample Number:** SB-115
Project No.: 08LS1316.01 **Figure** 005

JLT Laboratories, Inc.

Tested By: RL **Checked By:** JB

p-w labs

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June 3, 2008

L - 07217
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
23209	WB18 - SB - 78	0.0 - 1.0	104.9
23210	WB18 - SB - 78	6.0 - 8.0	66.8
23211	WB18 - SB - 78	16.0 - 18.0	74.4
23212	WB18 - SB - 82	2.0 - 4.0	85.6
23213	WB18 - SB - 82	10.0 - 12.0	69.1
23214	WB18 - SB - 82	16.0 - 18.0	66.1
23216	WB18 - SB - 85	6.0 - 8.0	50.8
23217	WB18 - SB - 85	12.0 - 14.0	45.9
23218	WB18 - SB - 85	22.0 - 24.0	69.4
23219	WB18 - SB - 88	8.0 - 10.0	60.2
23220	WB18 - SB - 88	16.0 - 18.0	69.0
23223	WB18 - SB - 107	8.0 - 10.0	54.7
23224	WB18 - SB - 107	2.0 - 4.0	41.7
23225	WB18 - SB - 107	12.0 - 14.0	77.9
23227	WB18 - SB - 111	2.0 - 4.0	64.6
23228	WB18 - SB - 111	8.0 - 10.0	66.5
23229	WB18 - SB - 111	16.0 - 18.0	70.7

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June 3, 2008

L - 07217
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
23231	WB18 - SB - 115	0.0 - 1.0	95.9
23232	WB18 - SB - 115	10.0 - 12.0	67.1
23233	WB18 - SB - 115	24.0 - 26.0	45.2
23234	WB18 - SB - 120	2.0 - 4.0	5.6
23235	WB18 - SB - 120	6.0 - 8.0	79.1
23236	WB18 - SB - 120	14.0 - 16.0	42.5
23238	WB18 - SB - 91	4.0 - 6.0	35.4
23239	WB18 - SB - 91	10.0 - 12.0	56.8
23240	WB18 - SB - 91	14.0 - 16.0	40.7
23242	WB18 - SB - 95	2.0 - 4.0	32.2
23243	WB18 - SB - 95	14.0 - 16.0	72.9
23244	WB18 - SB - 95	24.0 - 26.0	43.3
23245	WB18 - SB - 99	2.0 - 4.0	169.8
23246	WB18 - SB - 99	5.0 - 6.0	88.6
23247	WB18 - SB - 99	12.0 - 14.0	63.5
23250	WB18 - SB - 103	2.0 - 4.0	46.7
23251	WB18 - SB - 103	10.0 - 12.0	69.6
23252	WB18 - SB - 103	18.0 - 20.0	69.7

p-w labs

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE: Laboratory Testing
Honeywell
Wastebeds 1-8FFS

Project #: L-07217
Test Method: ASTM D422 & D1140

Report #: 18
Report Date: June 3, 2008

			Sieve Size - Percent Passing Sieve														
Lab I.D. #	Sample	Depth (feet)	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200					
23209	WB18-SB-78	0.0 - 1.0	--	--	--	100	99.1	94.0	91.5	86.9	79.4	68.1					
23212	WB18-SB-82	2.0 - 4.0	--	--	100	99.9	99.0	95.2	93.1	88.4	78.5	62.4					
23217	WB18-SB-85	12.0 - 14.0	--	--	--	100	99.5	94.8	91.7	84.0	62.7	20.9					
23219	WB18-SB-88	8.0 - 10.0	--	--	100	99.8	99.5	95.0	91.9	84.4	60.2	23.7					
23223	WB18-SB-107	8.0 - 10.0	--	100	99.8	99.7	98.8	93.9	91.8	86.2	69.7	39.5					
23227	WB18-SB-111	2.0 - 4.0	100	99.5	99.3	99.2	98.2	90.0	85.5	77.7	63.1	42.1					
23233	WB18-SB-115	24.0 - 26.0	--	--	--	--	100	99.8	99.6	98.7	94.5	82.9					
23235	WB18-SB-120	6.0 - 8.0	--	--	100	99.9	99.5	96.3	94.4	90.6	83.9	73.8					
23238	WB18-SB-91	4.0 - 6.0	--	--	100	99.9	99.8	99.5	99.1	97.8	68.8	22.9					
23243	WB18-SB-95	14.0 - 16.0	--	--	--	100	99.9	98.3	96.7	92.3	86.6	76.8					
23245	WB18-SB-99	2.0 - 4.0	--	--	--	--	100	98.0	96.3	92.1	87.0	84.1					
23251	WB18-SB-103	10.0 - 12.0	--	--	--	100	99.9	95.0	91.2	86.2	79.0	66.1					

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: PE

Checked By: V.J. Thoma

C:_Clients_Jobs\OBRIEN & Gere Engineers (OB&G)\2007\07217\Sieve\Sieve #23052, 23056 & 23057

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June 3, 2008

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
23209	WB18 - SB - 78	0.0 - 1.0	Non-Plastic	--	--
23212	WB18 - SB - 82	2.0 - 4.0	Non-Plastic	--	--
23217	WB18 - SB - 85	12.0 - 14.0	Non-Plastic	--	--
23219	WB18 - SB - 88	8.0 - 10.0	Non-Plastic	--	--
23223	WB18 - SB - 107	8.0 - 10.0	Non-Plastic	--	--
23227	WB18 - SB - 111	2.0 - 4.0	Non-Plastic	--	--
23233	WB18 - SB - 115	24.0 - 26.0	Non-Plastic	--	--
23235	WB18 - SB - 120	6.0 - 8.0	Non-Plastic	--	--
23238	WB18 - SB - 91	4.0 - 6.0	Non-Plastic	--	--
23243	WB18 - SB - 95	14.0 - 16.0	43	51	8
23245	WB18 - SB - 99	2.0 - 4.0	Non-Plastic	--	--
23251	WB18 - SB - 103	10.0 - 12.0	Non-Plastic	--	--

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June 3, 2008

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

SPECIFIC GRAVITY OF SOILS ASTM D854

Lab I.D. #	Sample	Depth (feet)	(D854) Minus No. 4 Fraction Specific Gravity of Solids (G)
23215	WB18 - SB - 85	4.0 - 6.0	2.67

p-w labs

PW LABORATORIES,INC.
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Measurement of Hydaulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: June 3, 2008 Test Start Date: May 23, 2008

Project No. L-07217 Project Title: Honeywell - Wastebeds 1-8FFS - PO #10710820EST

Test Sample Location WB18 - SB - 107 Lab I.D. # 23226

ST No – Depth/Lift/Elev: 18.0' - 20.0' Type of Sample:

Method of Compaction – Undisturbed X Remolded –

Percent Compaction – Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) – Optimum – Initial 58.5

Final Degree of Saturation (B Value) (%) 96 Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum – Initial 68.0

Final Moisture Content (% of Dry Weight) 51.7 Final Dry Unit Weight (PCF) 73.9

Confining Pressure (PSI)	71.0	Test (head) Pressure (PSI)	68.0	Tail (back) Pressure (PSI)	64.0

Initial Gradient	22.6	Initial Height (cm)	12.44	Initial Diameter (cm)	7.05
Final Gradient	23.9	Final Height (cm)	11.78	Final Diameter (cm)	6.95

Final Four Determinations k (cm/sec)

9.91×10^{-7}	982×10^{-7}
9.71×10^{-7}	9.93×10^{-7}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 9.84×10^{-7}

Project Specfications –

Notes:

p-w labs

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Measurement of Hydaulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: June 3, 2008 Test Start Date: May 23, 2008

Project No. L-07217 Project Title: Honeywell - Wastebeds 1-8FFS - PO #10710820EST

Test Sample Location WB18 - SB - 99 Lab I.D. # 23248

ST No – Depth/Lift/Elev: 6.0' - 8.0' Type of Sample:

Method of Compaction – Undisturbed X Remolded –

Percent Compaction – Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) – Optimum – Initial 46.8

Final Degree of Saturation (B Value) (%) 100 Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum – Initial 74.8

Final Moisture Content (% of Dry Weight) 43.3 Final Dry Unit Weight (PCF) 85.0

Confining Pressure (PSI)	71.0	Test (head) Pressure (PSI)	68.0	Tail (back) Pressure (PSI)	64.0

Initial Gradient	23.7	Initial Height (cm)	11.86	Initial Diameter (cm)	7.23
Final Gradient	25.5	Final Height (cm)	11.04	Final Diameter (cm)	7.03

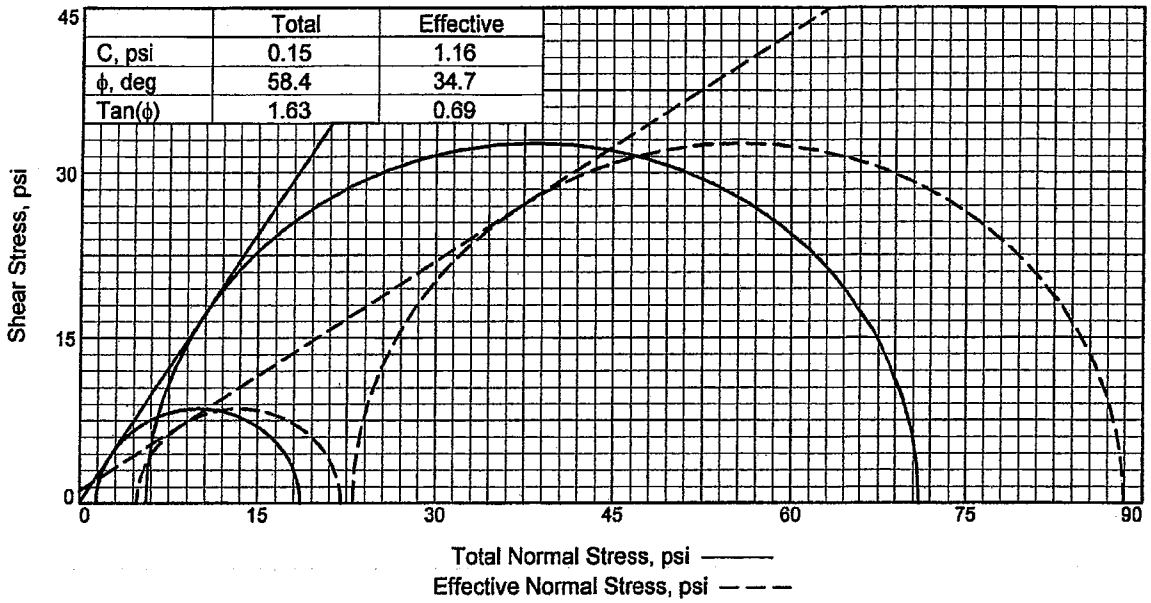
Final Four Determinations k (cm/sec)

1.10×10^{-4}	1.11×10^{-4}
1.10×10^{-4}	1.12×10^{-4}

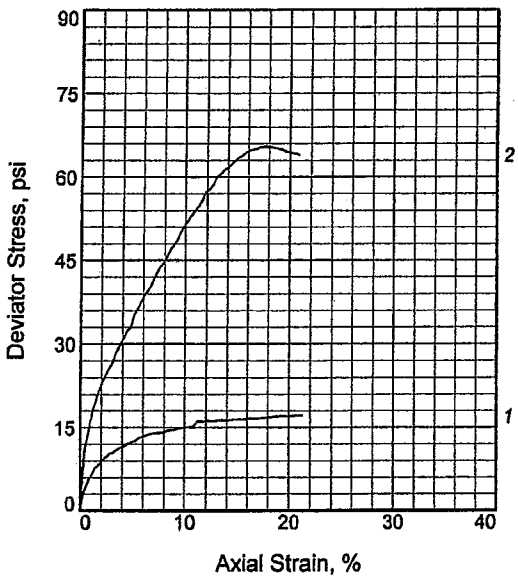
Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 1.11×10^{-4}

Project Specfications –

Notes:



	Total	Effective
C, psi	0.15	1.16
ϕ, deg	58.4	34.7
Tan(ϕ)	1.63	0.69



Sample No.		1	2
Initial	Water Content,	41.2	33.1
	Dry Density, pcf	78.1	87.9
	Saturation,	95.3	96.5
	Void Ratio	1.1749	0.9327
	Diameter, in.	2.820	2.830
	Height, in.	5.810	5.900
At Test	Water Content,	40.0	32.5
	Dry Density, pcf	81.4	90.1
	Saturation,	100.0	100.0
	Void Ratio	1.0870	0.8838
	Diameter, in.	2.781	2.806
	Height, in.	5.731	5.850
Strain rate, in./min.		0.005	0.005
Eff. Cell Pressure, psi		1.4	5.6
Fail. Stress, psi		17.2	65.4
Total Pore Pr., psi		36.6	22.6
Strain, %		20.9	17.4
Ult. Stress, psi			
Total Pore Pr., psi			
Strain, %			
$\bar{\sigma}_1$ Failure, psi		22.0	88.4
$\bar{\sigma}_3$ Failure, psi		4.8	23.0

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: Lab ID: 23237

Assumed Specific Gravity= 2.72
Remarks:

Figure 001

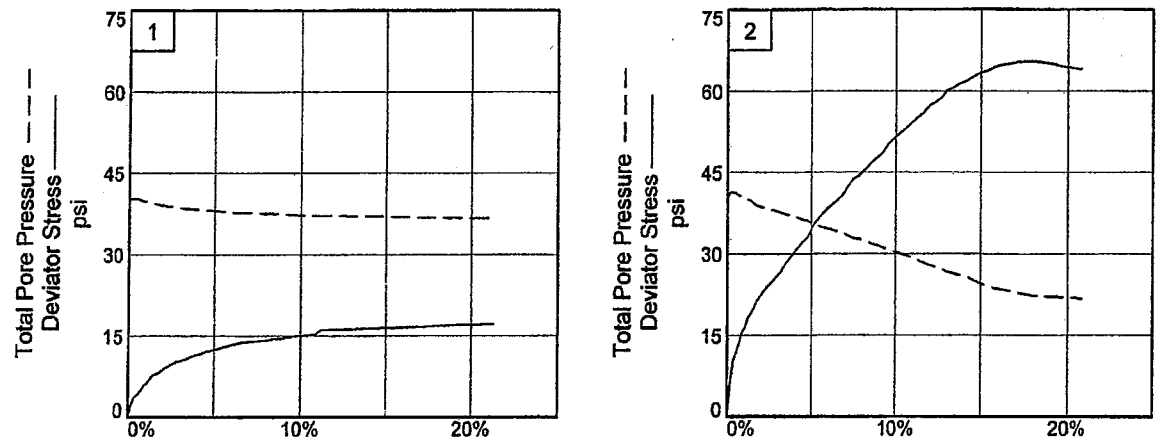
Client: PW Laboratories, Inc.

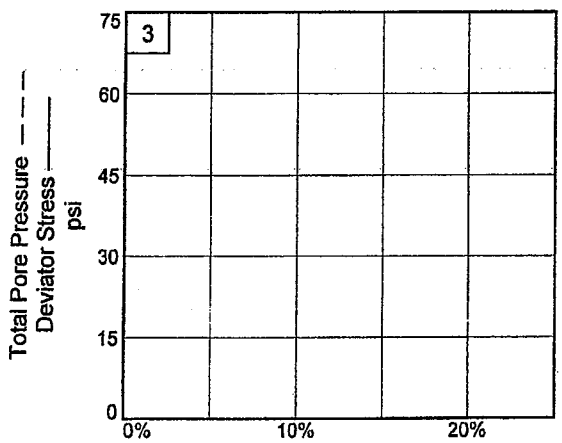
Project: Honeywell - Wastebeds
L-07217
Location: WB18
Sample Number: SB-91 **Depth:** 6 to 8 ft
Proj. No.: 08LS1316.01 **Date:** 06/02/08

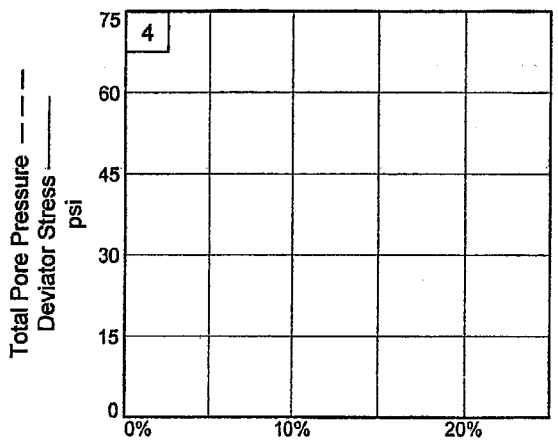
TRIAXIAL SHEAR TEST REPORT

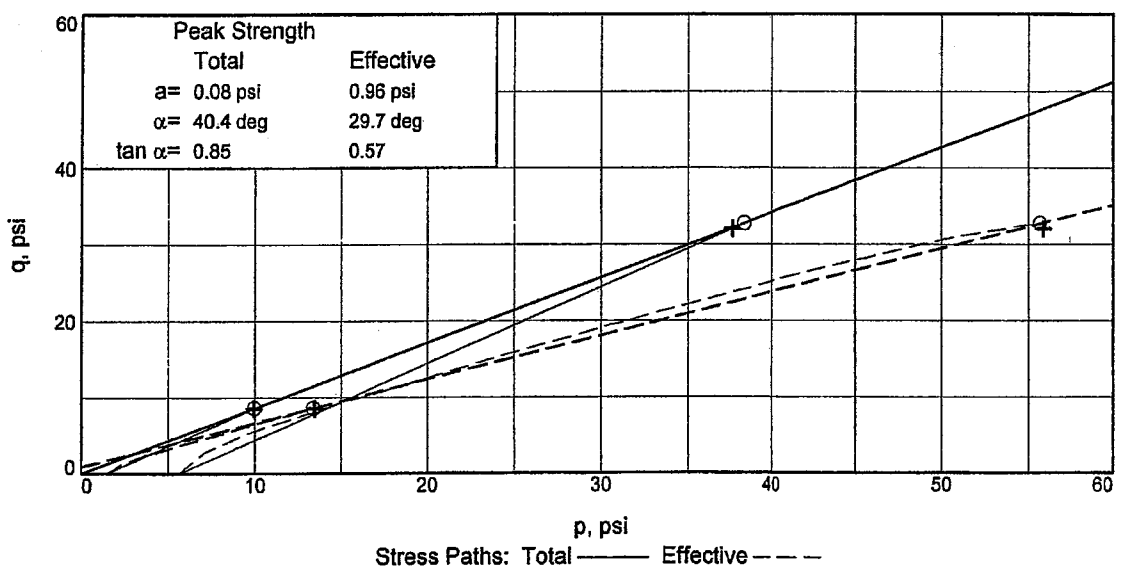
JLT Laboratories, Inc.

Tested By: MS **Checked By:** JB







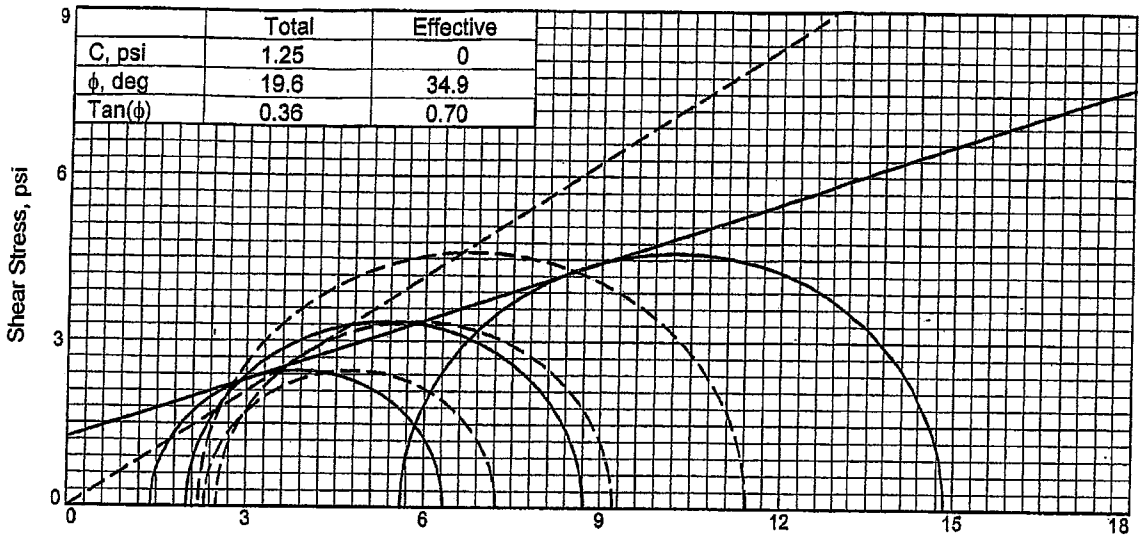


Client: PW Laboratories, Inc.
Project: Honeywell - Wastebeds
Location: WB18 **Depth:** 6 to 8 ft **Sample Number:** SB-91
Project No.: 08LS1316.01 **Figure** 001

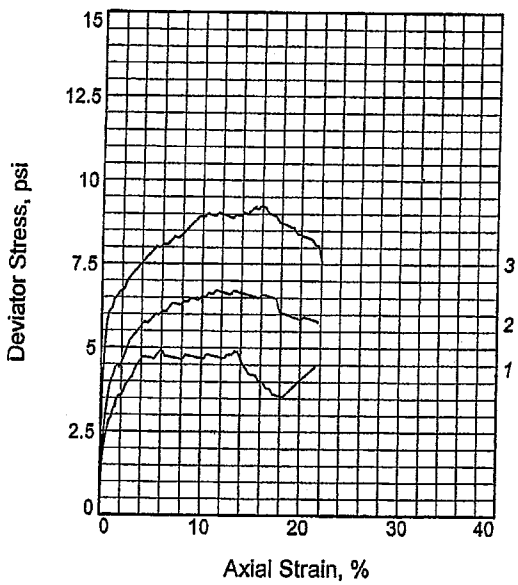
JLT Laboratories, Inc.

Tested By: MS **Checked By:** JB

	Total	Effective
C, psi	1.25	0
ϕ, deg	19.6	34.9
Tan(ϕ)	0.36	0.70



Total Normal Stress, psi ———
Effective Normal Stress, psi — — —



Sample No.		1	2	3
Initial	Water Content, %	69.00	64.80	59.40
	Dry Density, pcf	58.1	61.4	63.6
	Saturation, %	97.8	99.9	96.9
	Void Ratio	1.919	1.765	1.668
	Diameter, in	2.83	2.83	2.83
	Height, in	5.70	5.67	5.60
At Test	Water Content, %	67.40	60.60	53.40
	Dry Density, pcf	59.91	64.09	69.21
	Saturation, %	99.0	99.0	100.0
	Void Ratio	1.852	1.665	1.452
	Diameter, in	2.79	2.79	2.73
	Height, in	5.68	5.60	5.52
Strain rate, in./min.		0.005	0.005	0.005
Eff. Cell Pressure, psi		1.4	2.0	5.6
Fail. Stress, psi		4.9	6.7	9.2
Total Pore Pr., psi		39.1	39.5	43.4
Strain, %		6.0	11.4	15.9
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		7.2	9.2	11.4
$\bar{\sigma}_3$ Failure, psi		2.3	2.5	2.2

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: Lab ID: 23253

Assumed Specific Gravity= 2.72
Remarks:

Client: PW Laboratories, Inc.

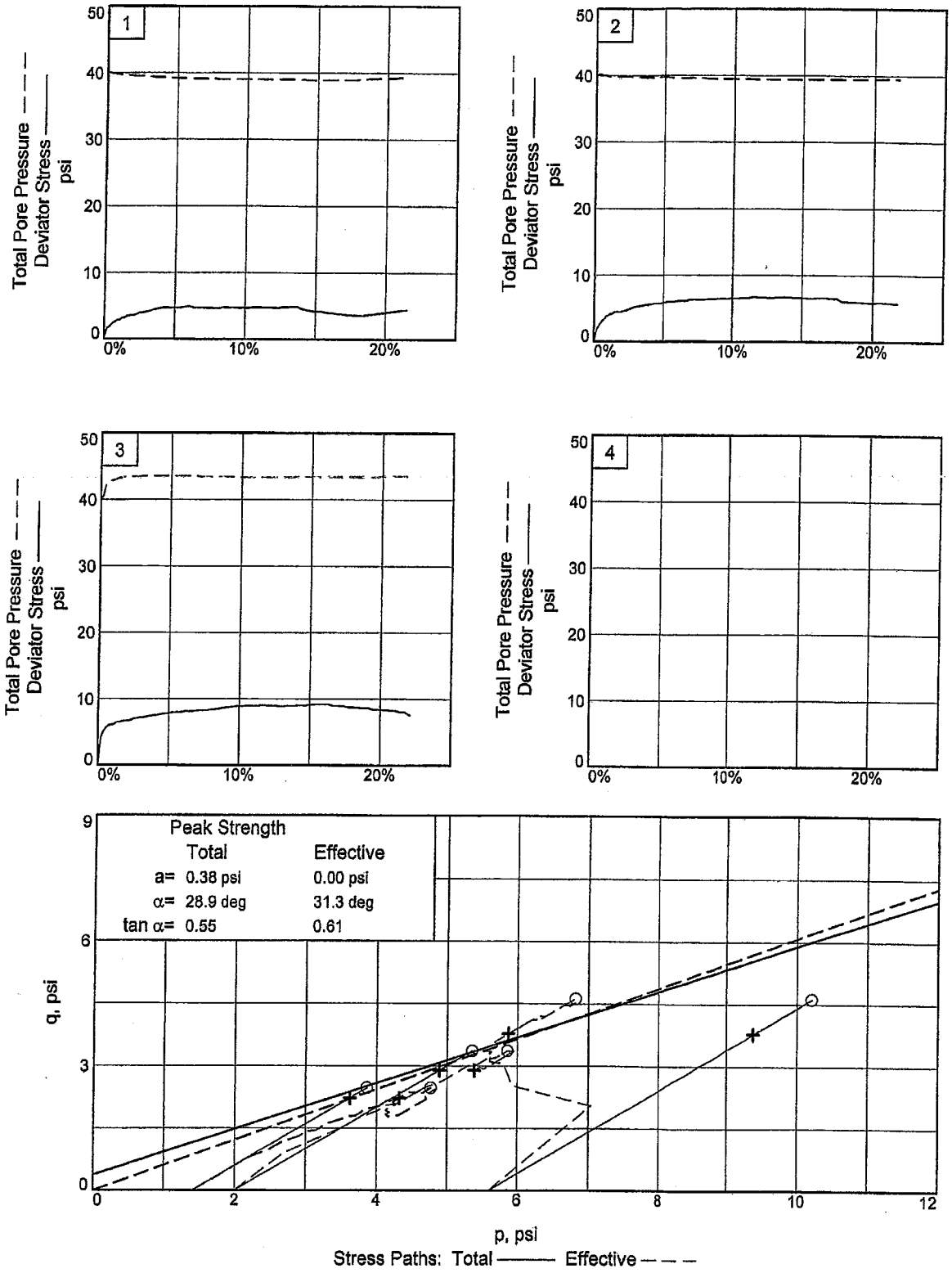
Project: Honeywell - Wastebeds
L-07217
Location: WB18
Sample Number: SB-103 **Depth:** 6 to 8 ft
Proj. No.: 08LS1316.01 **Date:** 06/03/2008

TRIAXIAL SHEAR TEST REPORT

JLT Laboratories, Inc.

Figure 002

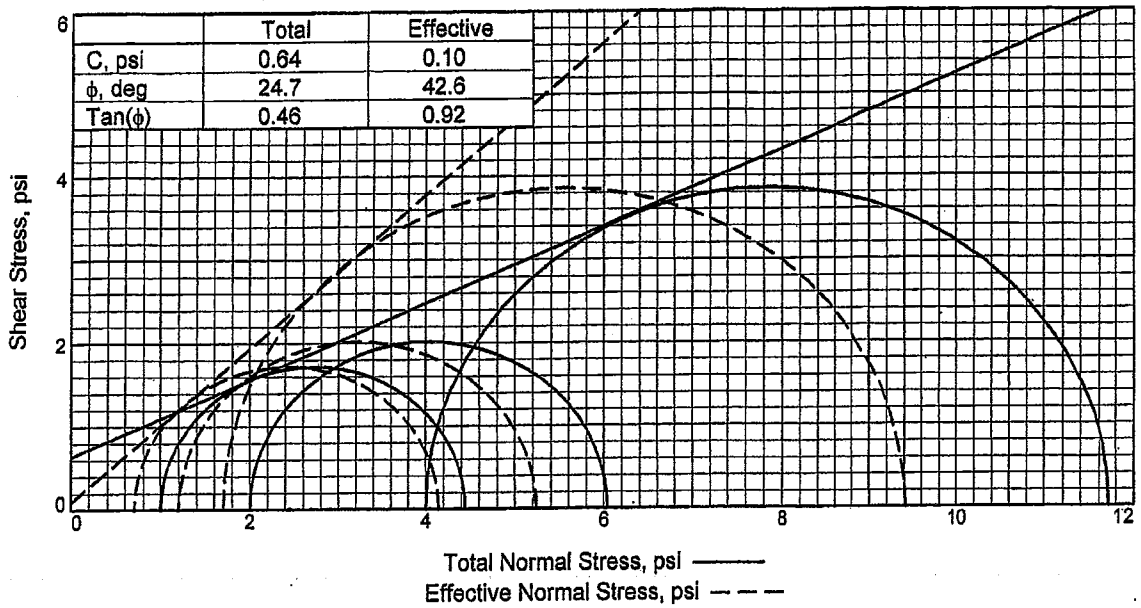
Tested By: MS **Checked By:** JB



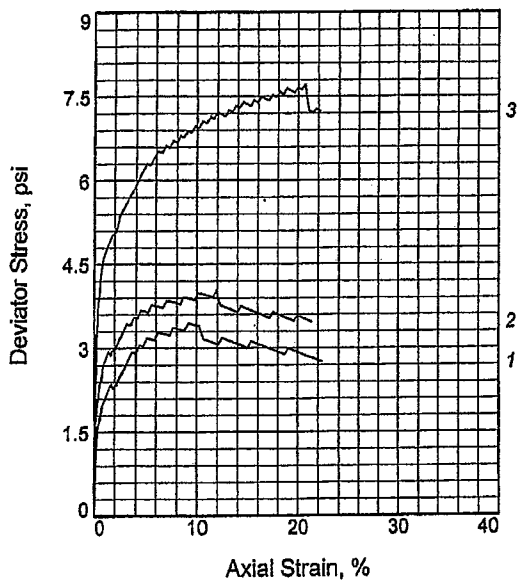
Client: PW Laboratories, Inc.
Project: Honeywell - Wastebeds
Location: WB18 **Depth:** 6 to 8 ft **Sample Number:** SB-103
Project No.: 08LS1316.01 **Figure** 002

JLT Laboratories, Inc.

Tested By: MS **Checked By:** JB



	Total	Effective
C, psi	0.64	0.10
ϕ, deg	24.7	42.6
Tan(ϕ)	0.46	0.92



Sample No.		1	2	3
Initial	Water Content, %	60.60	58.60	65.10
	Dry Density, pcf	59.4	61.4	58.2
	Saturation, %	88.9	90.4	92.4
	Void Ratio	1.855	1.763	1.916
	Diameter, in	2.83	2.83	2.83
	Height, in	5.49	5.75	5.57
At Test	Water Content, %	53.60	50.60	59.40
	Dry Density, pcf	69.05	71.42	64.89
	Saturation, %	99.0	99.0	100.0
	Void Ratio	1.473	1.390	1.616
	Diameter, in	2.63	2.63	2.70
	Height, in	5.46	5.71	5.51
Strain rate, in./min.		0.005	0.005	0.005
Eff. Cell Pressure, psi		1.00	2.00	4.00
Fail. Stress, psi		3.45	4.04	7.71
Total Pore Pr., psi		40.30	40.80	42.30
Strain, %		9.2	11.9	20.7
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		4.15	5.24	9.41
$\bar{\sigma}_3$ Failure, psi		0.70	1.20	1.70

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: Lab ID: 23222

Assumed Specific Gravity= 2.72
Remarks:

Client: PW Laboratories, Inc.

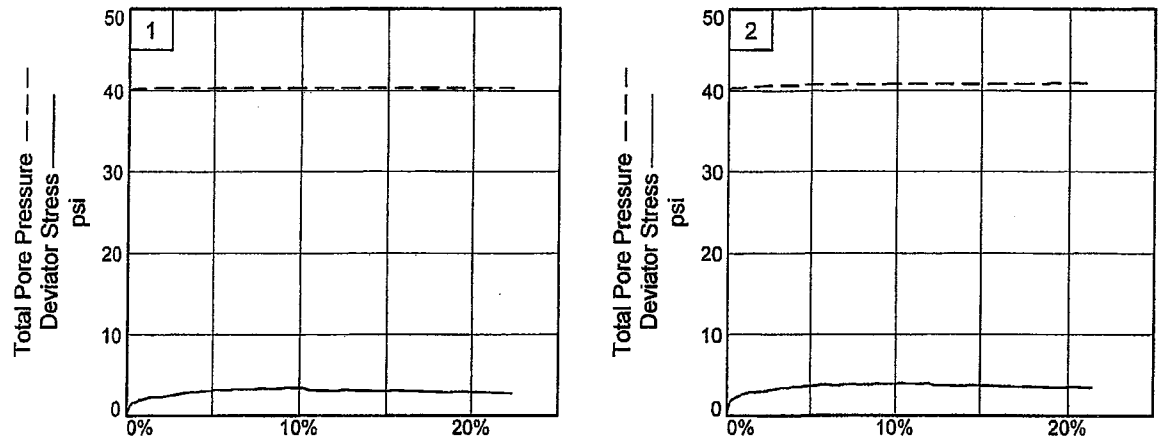
Project: Honeywell - Wastebeds
L-07217
Location: WB18
Sample Number: SB-82 **Depth:** 2 to 4 ft
Proj. No.: 08LS1316.01 **Date:** 06/04/08

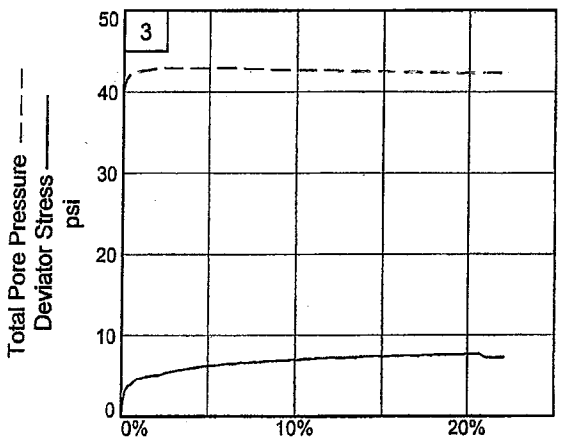
TRIAXIAL SHEAR TEST REPORT

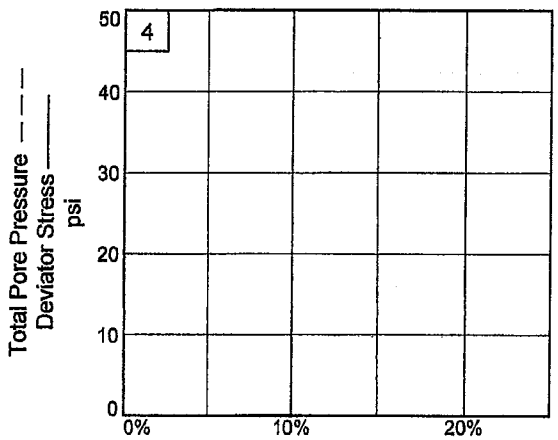
JLT Laboratories, Inc.

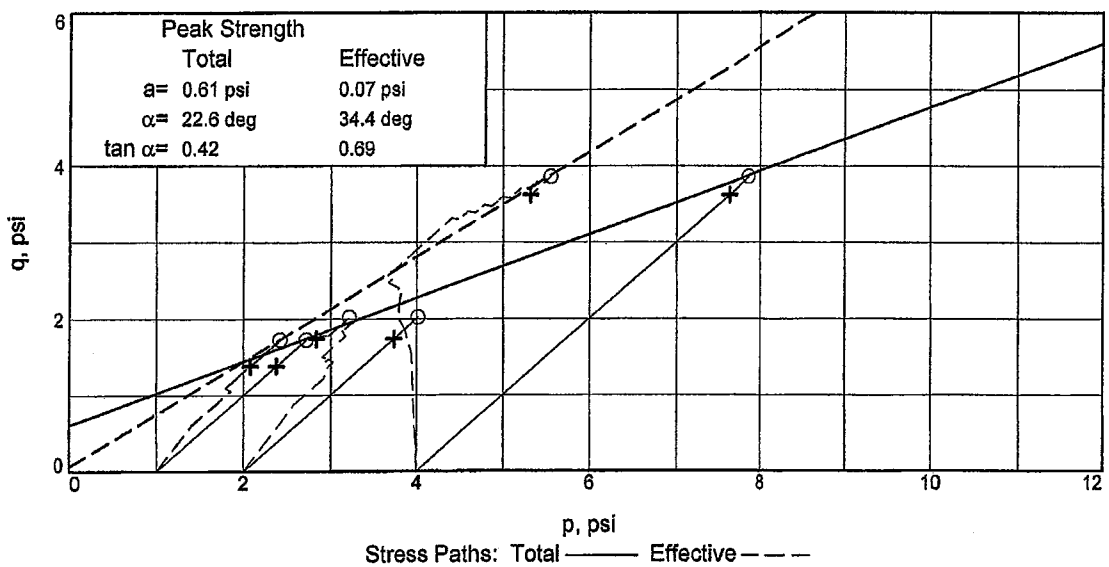
Figure 003

Tested By: RL **Checked By:** JB





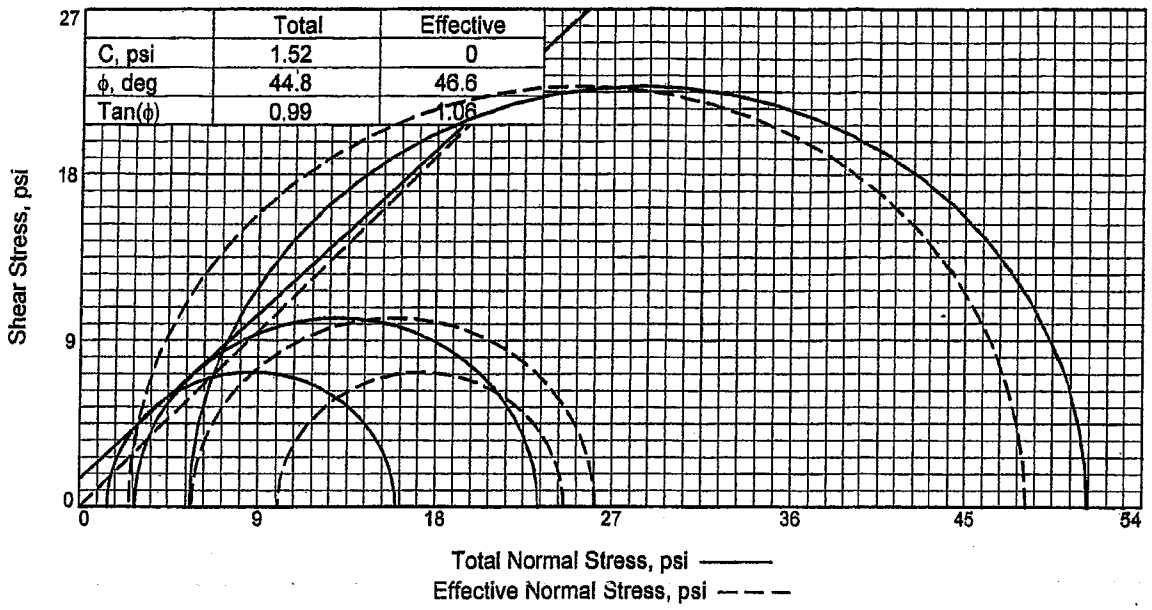




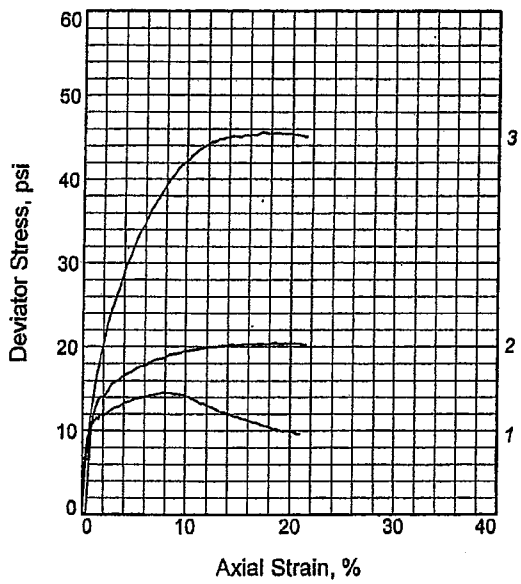
Client: PW Laboratories, Inc.
Project: Honeywell - Wastebeds
Location: WB18 **Depth:** 2 to 4 ft **Sample Number:** SB-82
Project No.: 08LS1316.01 **Figure** 003

JLT Laboratories, Inc.

Tested By: RL **Checked By:** JB



	Total	Effective
C, psi	1.52	0
ϕ, deg	44.8	46.6
Tan(ϕ)	0.99	1.06



Sample No.		1	2	3
Initial	Water Content, %	55.30	57.20	49.50
	Dry Density, pcf	67.9	66.4	72.4
	Saturation, %	99.9	99.5	99.7
	Void Ratio	1.517	1.575	1.361
	Diameter, in	2.84	2.84	2.84
	Height, in	5.88	5.70	5.72
At Test	Water Content, %	54.70	54.10	42.40
	Dry Density, pcf	68.42	68.88	79.09
	Saturation, %	99.6	99.7	100.0
	Void Ratio	1.505	1.487	1.162
	Diameter, in	2.83	2.79	2.79
	Height, in	5.83	5.68	5.69
Strain rate, in./min.		0.005	0.005	0.005
Eff. Cell Pressure, psi		1.4	2.8	5.6
Fail. Stress, psi		14.6	20.4	45.6
Total Pore Pr., psi		31.4	37.1	43.1
Strain, %		7.9	20.1	17.2
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		24.6	26.1	48.1
$\bar{\sigma}_3$ Failure, psi		10.0	5.7	2.5

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: Lab ID: 23221

Assumed Specific Gravity= 2.74
Remarks:

Client: PW Laboratories, Inc.

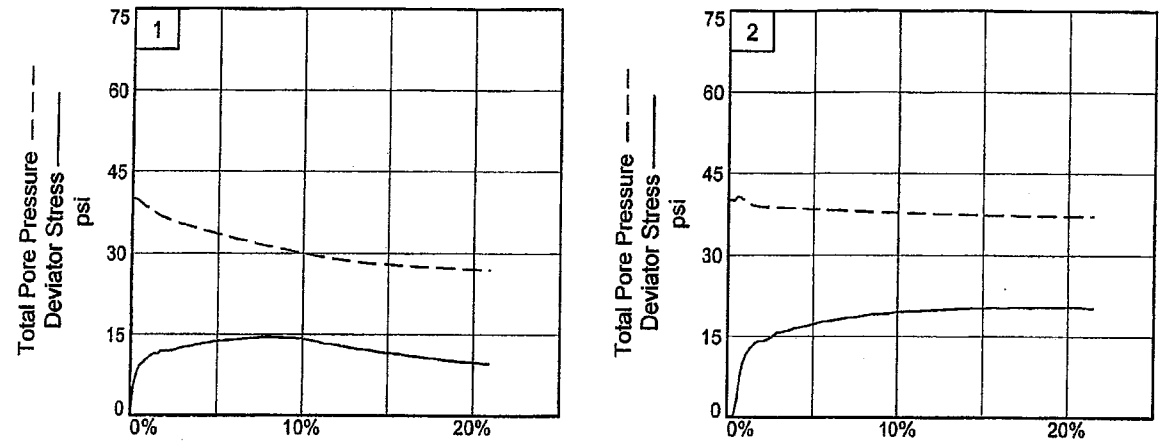
Project: Honeywell - Wastebeds
L-07217
Location: WB18
Sample Number: SB-88 **Depth:** 2 to 4 ft
Proj. No.: 08LS1316.01 **Date:** 06/04/08

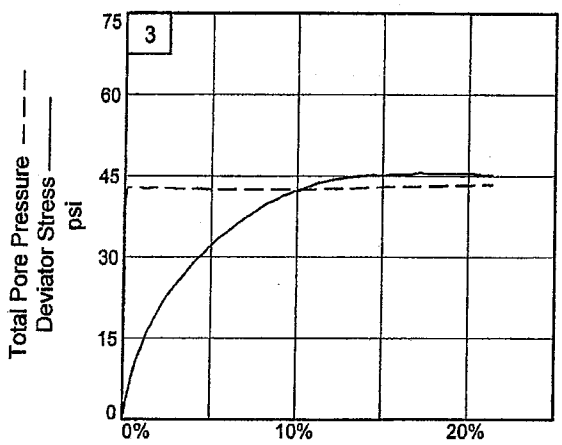
TRIAXIAL SHEAR TEST REPORT

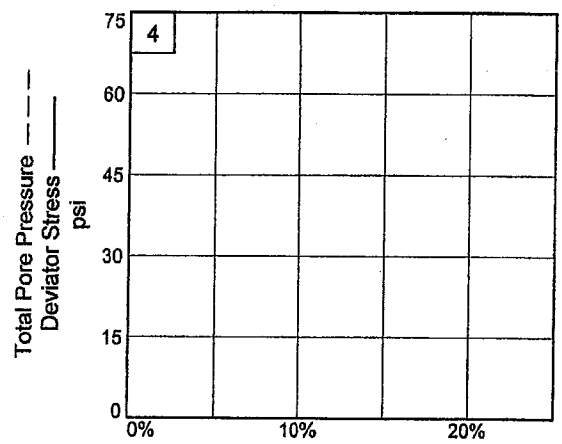
JLT Laboratories, Inc.

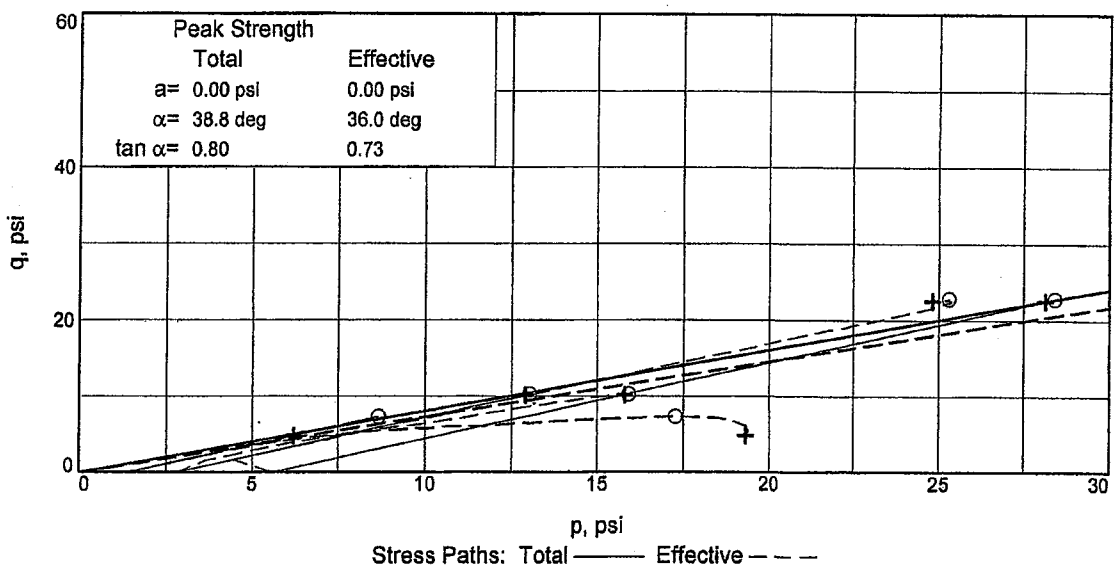
Figure 004

Tested By: RL **Checked By:** JB







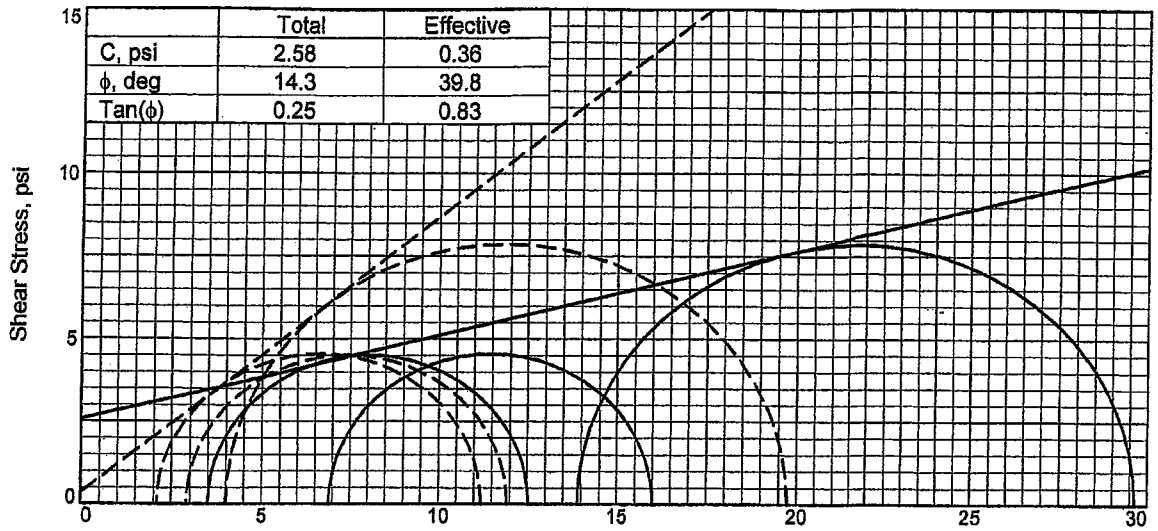


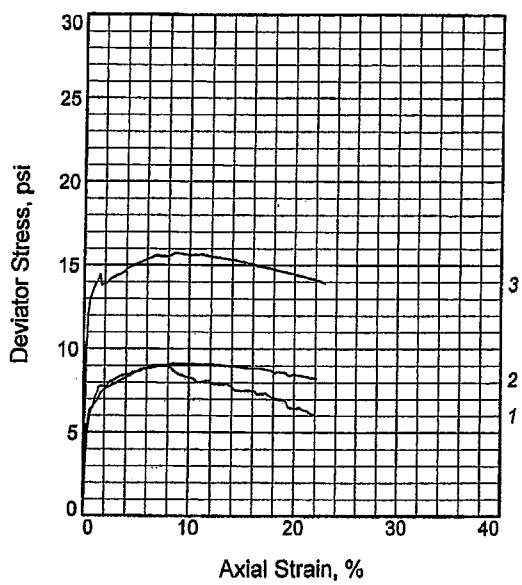
Client: PW Laboratories, Inc.
Project: Honeywell - Wastebeds
Location: WB18 **Depth:** 2 to 4 ft **Sample Number:** SB-88
Project No.: 08LS1316.01 **Figure** 004

JLT Laboratories, Inc.

Tested By: RL **Checked By:** JB

	Total	Effective
C, psi	2.58	0.36
ϕ, deg	14.3	39.8
Tan(ϕ)	0.25	0.83





Sample No.		1	2	3
Initial	Water Content, %	64.00	62.20	67.10
	Dry Density, pcf	61.7	63.0	60.2
	Saturation, %	99.0	99.4	99.9
	Void Ratio	1.771	1.715	1.840
	Diameter, in	2.83	2.83	2.83
	Height, in	5.60	5.59	5.59
At Test	Water Content, %	58.30	55.10	52.50
	Dry Density, pcf	65.83	68.12	70.12
	Saturation, %	99.8	99.9	99.9
	Void Ratio	1.601	1.511	1.440
	Diameter, in	2.75	2.75	2.70
	Height, in	5.55	5.52	5.32
Strain rate, in./min.		0.005	0.005	0.005
Eff. Cell Pressure, psi		3.5	6.9	13.9
Fail. Stress, psi		9.0	9.1	15.7
Total Pore Pr., psi		50.6	54.8	59.9
Strain, %		7.6	8.3	8.6
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		11.9	11.2	19.7
$\bar{\sigma}_3$ Failure, psi		2.9	2.1	4.0

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description:

Assumed Specific Gravity= 2.74
Remarks:

Client: PW Laboratories, Inc.

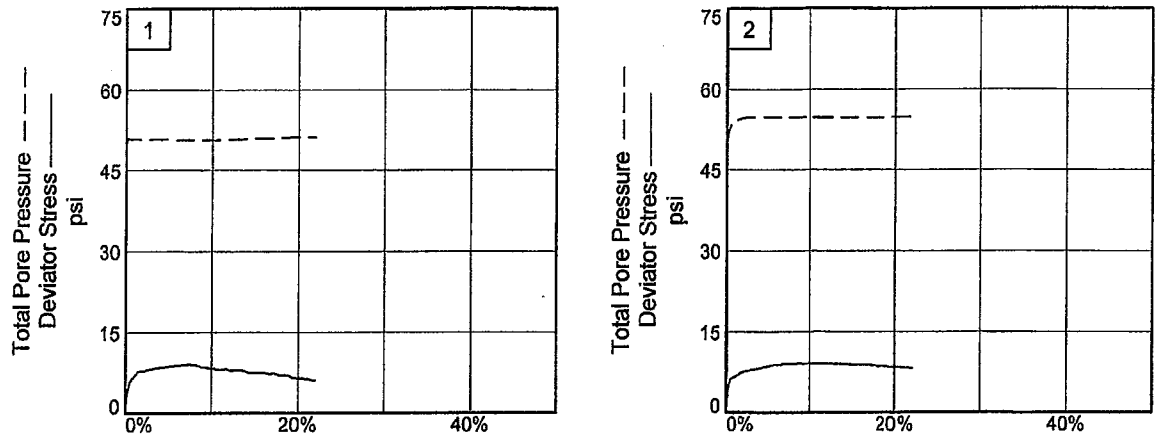
Project: Honeywell - Wastebeds
L-07217
Location: WB18
Sample Number: SB-99 **Depth:** 8 to 10 ft
Proj. No.: 08LS1316.01 **Date:** 06/06/08

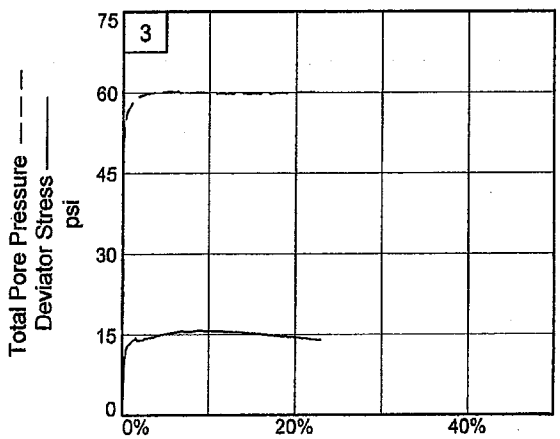
TRIAXIAL SHEAR TEST REPORT

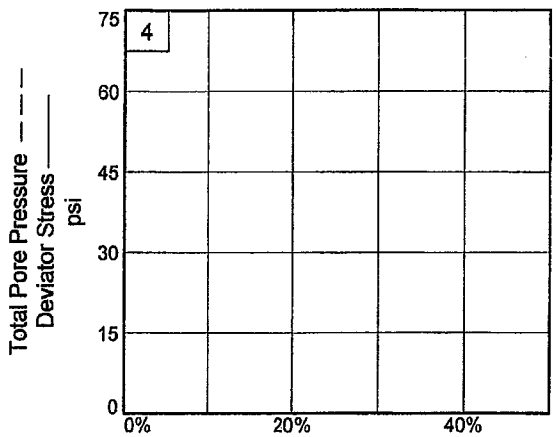
JLT Laboratories, Inc.

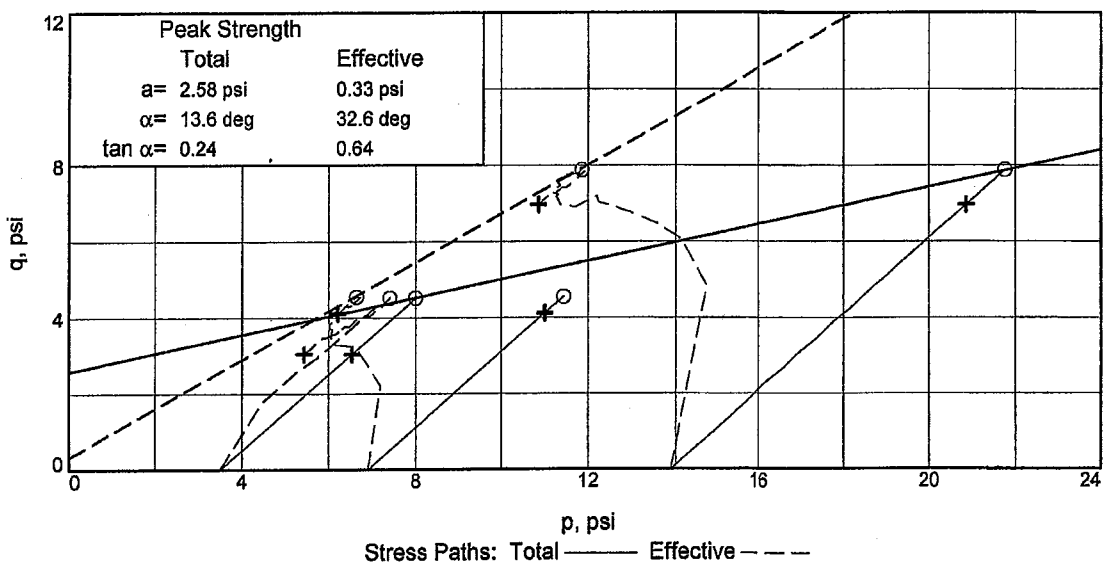
Figure 006

Tested By: RL **Checked By:** JB





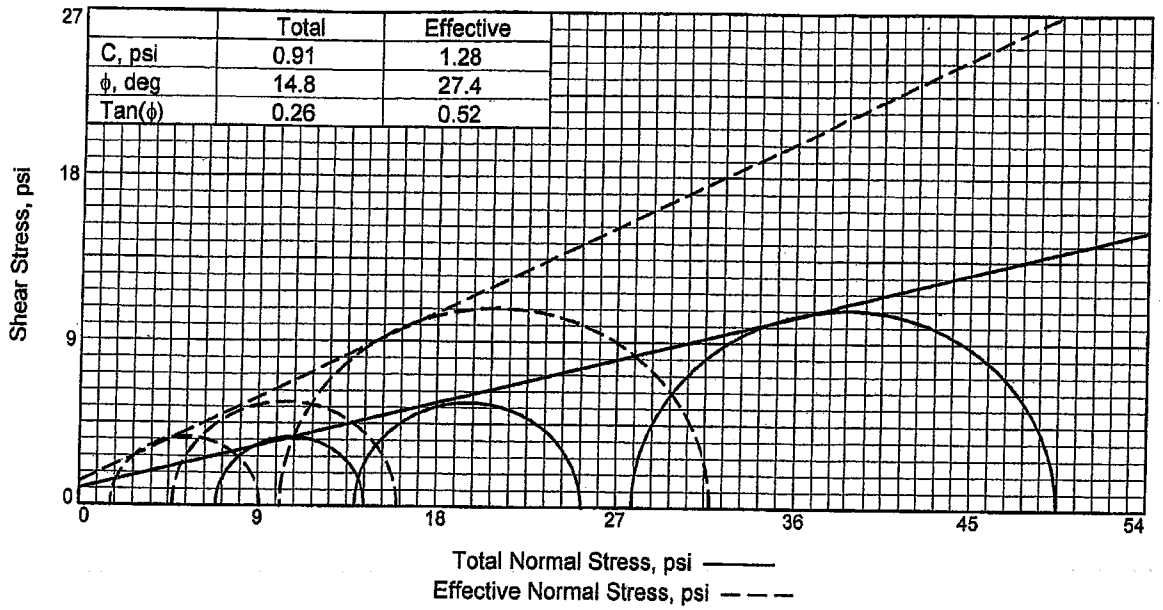




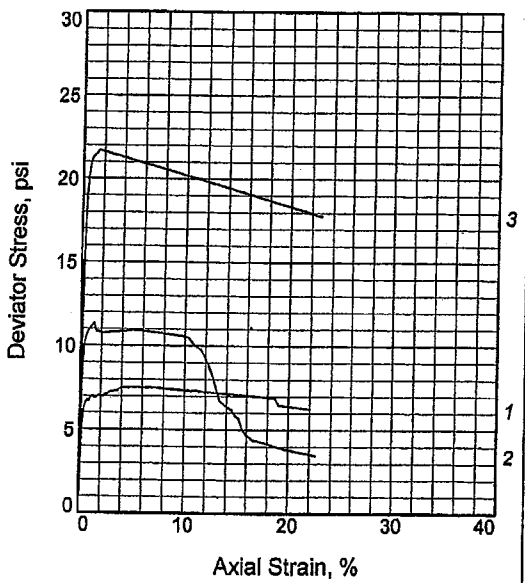
Client: PW Laboratories, Inc.
Project: Honeywell - Wastebeds
Location: WB18 **Depth:** 8 to 10 ft **Sample Number:** SB-99
Project No.: 08LS1316.01 **Figure** 006

JLT Laboratories, Inc.

Tested By: RL **Checked By:** JB



	Total	Effective
C, psi	0.91	1.28
ϕ, deg	14.8	27.4
Tan(ϕ)	0.26	0.52



Sample No.		1	2	3
Initial	Water Content, %	91.70	77.00	78.10
	Dry Density, pcf	48.2	54.9	54.4
	Saturation, %	98.5	99.8	100.0
	Void Ratio	2.550	2.114	2.141
	Diameter, in	2.83	2.83	2.83
	Height, in	5.69	5.61	5.66
At Test	Water Content, %	80.70	67.10	57.40
	Dry Density, pcf	53.24	60.23	66.46
	Saturation, %	99.8	99.9	100.0
	Void Ratio	2.216	1.840	1.573
	Diameter, in	2.72	2.73	2.61
	Height, in	5.58	5.41	5.32
Strain rate, in./min.		0.005	0.005	0.005
Eff. Cell Pressure, psi		6.9	13.9	27.8
Fail. Stress, psi		7.5	11.3	21.7
Total Pore Pr., psi		55.3	59.2	67.7
Strain, %		5.0	1.3	1.5
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		9.1	16.0	31.8
$\bar{\sigma}_3$ Failure, psi		1.6	4.7	10.1

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description:

Assumed Specific Gravity= 2.74
Remarks:

Client: PW Laboratories, Inc.

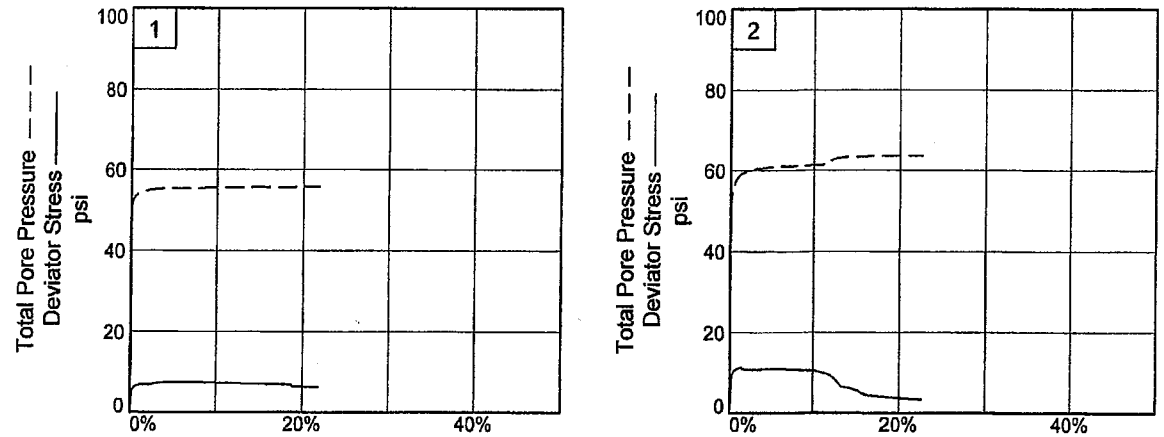
Project: Honeywell - Wastebeds
L-07217
Location: WB18
Sample Number: SB-115 **Depth:** 18 to 20 ft
Proj. No.: 08LS1316.01 **Date:** 06/05/08

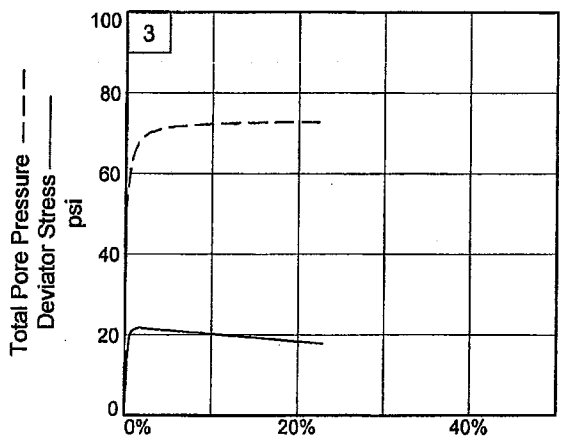
TRIAXIAL SHEAR TEST REPORT

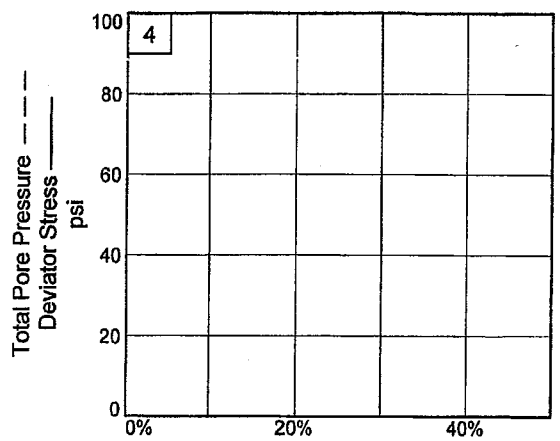
JLT Laboratories, Inc.

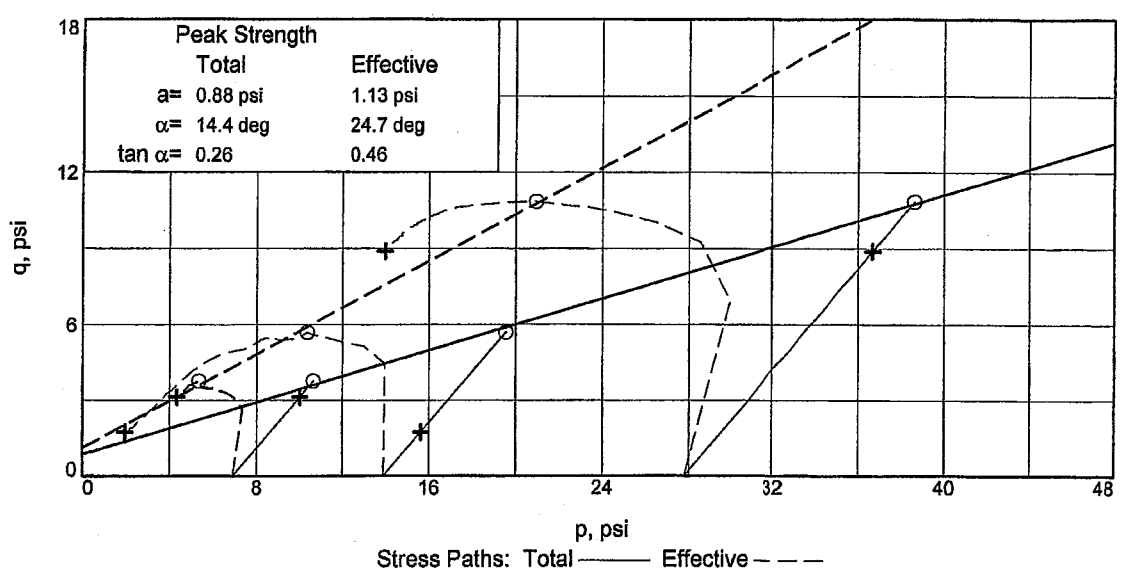
Figure 005

Tested By: RL **Checked By:** JB









Client: PW Laboratories, Inc.
Project: Honeywell - Wastebeds
Location: WB18 **Depth:** 18 to 20 ft **Sample Number:** SB-115
Project No.: 08LS1316.01 **Figure** 005

JLT Laboratories, Inc.

Tested By: RL **Checked By:** JB

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January 2, 2008

L - 07217
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
22951	WB18-SB-118	6.0 - 8.0	146.7
22952	WB18-SB-118	56.0 - 58.0	57.0
22953	WB18-SB-118	62.0 - 64.0	42.0
22954	WB18-SB-114	54.0 - 56.0	57.0
22955	WB18-SB-114	58.0 -60.0	34.0
22956	WB18-SB-114	62.0 - 64.0	18.4

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT # L-07217

TEST METHOD ASTM D422 & D1140

REPORT # 10

REPORT DATE January 2, 2008

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200						
22951	WB18-SB-118	6.0 - 8.0	--	--	--	100	99.7	99.4	99.1	98.3	98.0	97.5						
22955	WB18-SB-114	58.0 - 60.0	100	98.8	96.7	95.9	90.1	72.1	68.0	62.4	58.3	50.7						

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: JB

Checked By: V.J. Thoma

C:_Clients_Jobs\OBRIEN & Gere Engineers (OB&G)\2007\07217\Sieve 22951 & 22955

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January 2, 2008

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22951	WB18-SB-118	6.0 - 8.0	Non-Plastic	--	--
22955	WB18-SB-114	58.0 - 60.0	Non-Plastic	--	--

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: December 10, 2007 Test Start Date: November 30, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-67 Lab I.D. # 22793

ST No -- Depth/Lift/Elev: 10.0' - 12.0' Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction --

Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 66.2

Final Degree of Saturation (B Value) (%) 96

Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial 58.1

Final Moisture Content (% of Dry Weight) 61.8 Final Dry Unit Weight (PCF) 61.9

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient 21.1 Initial Height (cm) 13.35 Initial Diameter (cm) 7.28

Final Gradient 22.9 Final Height (cm) 12.29 Final Diameter (cm) 7.35

6.53×10^{-6} 6.43×10^{-6}

6.47×10^{-6} 6.34×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 6.44×10^{-6}

Project Specfications --

Notes:

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pwlabsinc@hotmail.com

Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: December 10, 2007 Test Start Date: November 30, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-68 Lab I.D. # 22795

ST No -- Depth/Lift/Elev: 4.0' - 6.0' Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction -- Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 77.3

Final Degree of Saturation (B Value) (%) 98 Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial 55.7

Final Moisture Content (% of Dry Weight) 60.2 Final Dry Unit Weight (PCF) 56.3

Confining Pressure (PSI)	71.0	Test (head) Pressure (PSI)	68.0	Tail (back) Pressure (PSI)	64.0

Initial Gradient	25.2	Initial Height (cm)	11.15	Initial Diameter (cm)	7.28
Final Gradient	26.3	Final Height (cm)	10.68	Final Diameter (cm)	7.40

3.29×10^{-6}	3.24×10^{-6}
3.33×10^{-6}	3.31×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 3.29×10^{-6}

Project Specfications --

Notes:

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: December 10, 2007 Test Start Date: November 30, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-69 Lab I.D. # 22799

ST No -- Depth/Lift/Elev: 14.0' - 16.0' Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction -- Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 66.3

Final Degree of Saturation (B Value) (%) 100 Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial 59.6

Final Moisture Content (% of Dry Weight) 55.5 Final Dry Unit Weight (PCF) 62.8

Confining Pressure (PSI)	71.0	Test (head) Pressure (PSI)	68.0	Tail (back) Pressure (PSI)	64.0

Initial Gradient	21.2	Initial Height (cm)	13.29	Initial Diameter (cm)	7.38
Final Gradient	21.8	Final Height (cm)	12.89	Final Diameter (cm)	7.30

7.94×10^{-6}	7.89×10^{-6}
7.84×10^{-6}	7.81×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 7.87×10^{-6}

Project Specfications --

Notes:

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: December 10, 2007 Test Start Date: November 30, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-67 Lab I.D. # 22800

ST No -- Depth/Lift/Elev: 4.0' - 6.0' Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction -- Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 159.0

Final Degree of Saturation (B Value) (%) 98 Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial 31.8

Final Moisture Content (% of Dry Weight) 132.7 Final Dry Unit Weight (PCF) 33.6

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient 20.3 Initial Height (cm) 13.87 Initial Diameter (cm) 7.30

Final Gradient 20.9 Final Height (cm) 13.48 Final Diameter (cm) 7.20

7.02×10^{-6} 7.24×10^{-6}

7.10×10^{-6} 7.34×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 7.18×10^{-6}

Project Specfications --

Notes:

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter
ASTM D5084

Report Date: December 10, 2007 Test Start Date: November 30, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-66 Lab I.D. # 22812

ST No -- Depth/Lift/Elev: 6.0' - 8.0' Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction -- Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 86.0

Final Degree of Saturation (B Value) (%) 100 Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial 51.6

Final Moisture Content (% of Dry Weight) 68.7 Final Dry Unit Weight (PCF) 54.2

Confining Pressure (PSI)	71.0	Test (head) Pressure (PSI)	68.0	Tail (back) Pressure (PSI)	64.0

Initial Gradient	20.8	Initial Height (cm)	13.55	Initial Diameter (cm)	7.30
Final Gradient	21.2	Final Height (cm)	13.26	Final Diameter (cm)	7.20

3.71×10^{-5}	3.89×10^{-5}
3.79×10^{-5}	3.86×10^{-5}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 3.81×10^{-5}

Project Specfications --

Notes:

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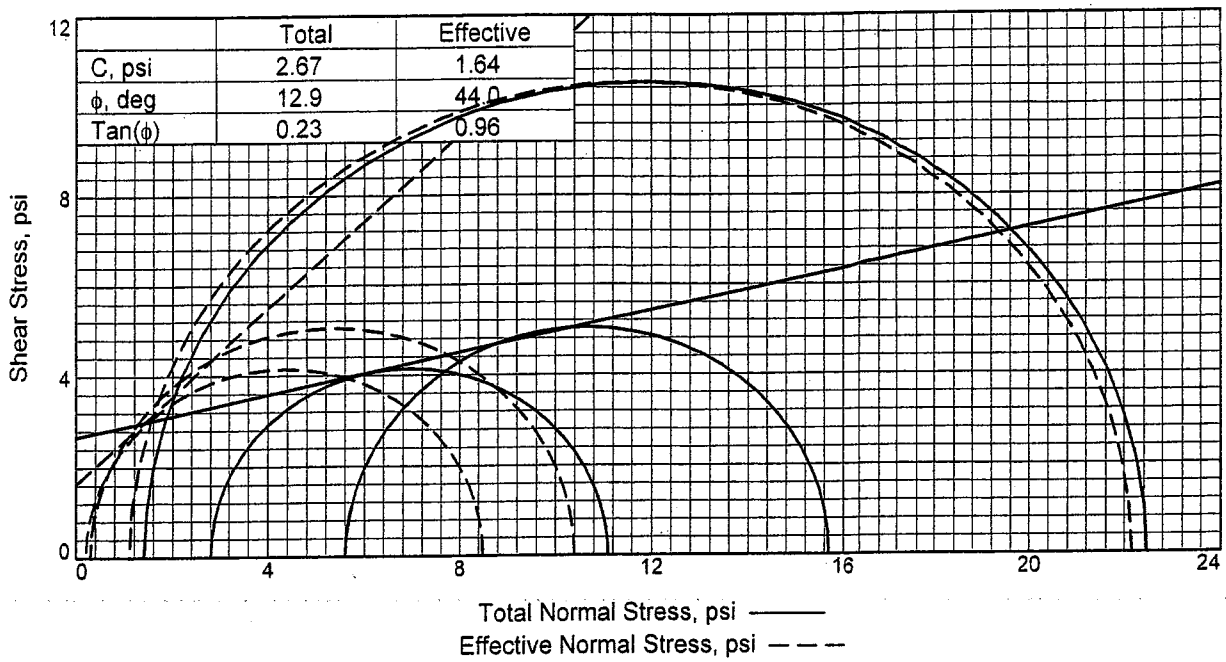
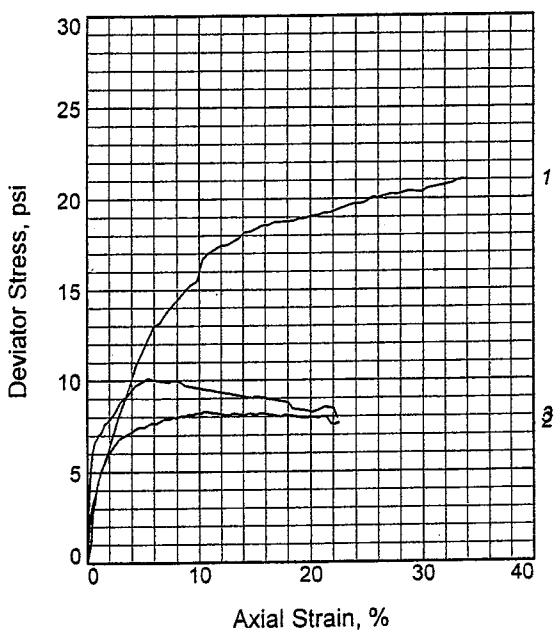
December 10, 2007

L - 07217
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS
PO #10710820EST

SPECIFIC GRAVITY OF SOILS
ASTM D854

Lab I.D. #	Sample #	Depth (feet)	(D854) Minus No. 4 Fraction Specific Gravity of Solids (G)
22817	WB18-SB-71	20.0 - 22.0	2.69
22824	WB18-SB-75	34.0 - 36.0	2.73
22827	WB18-SB-74	14.0 - 16.0	2.67





Sample No.		1	2	3
Initial	Water Content,	19.80	18.80	21.20
	Dry Density, pcf	111.0	112.8	108.3
	Saturation,	99.8	99.1	99.8
	Void Ratio	0.546	0.522	0.584
	Diameter, in.	2.83	2.83	2.82
	Height, in.	5.55	5.53	5.50
At Test	Water Content,	18.40	18.40	19.80
	Dry Density, pcf	113.94	113.94	111.10
	Saturation,	100.0	100.0	100.0
	Void Ratio	0.506	0.506	0.545
	Diameter, in.	2.80	2.81	2.80
	Height, in.	5.52	5.51	5.36
Strain rate, in./min.		0.004	0.004	0.004
Eff. Cell Pressure, psi		1.4	2.8	5.6
Fail. Stress, psi		21.0	8.3	10.1
Total Pore Pr., psi		45.3	47.6	50.3
Strain, %		33.7	10.5	5.4
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		22.1	8.5	10.4
$\bar{\sigma}_3$ Failure, psi		1.1	0.2	0.3

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: WB18-SB-63
Lab ID: 22778 Shelby Tube

Assumed Specific Gravity= 2.74
Remarks: Solvay Waste

Client: PW Laboratories, Inc.

Project: Honeywell Wastebeds 1-8 FFS
ID: L-07217
Sample Number: SB-63 **Depth:** 20.0 to 22.0 ft

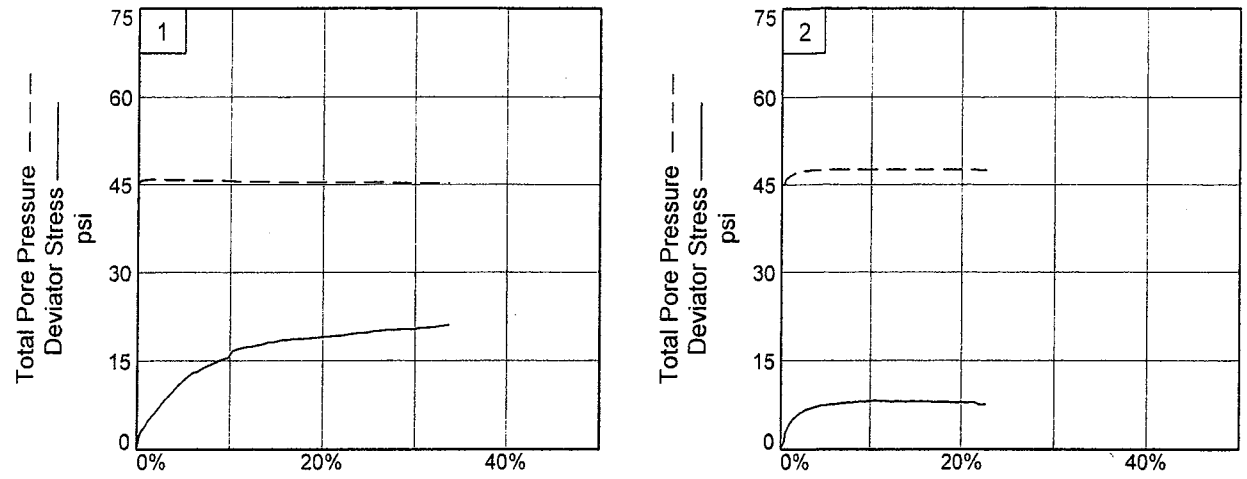
Proj. No.: 07LS1192.01 **Date:** 11/30/07

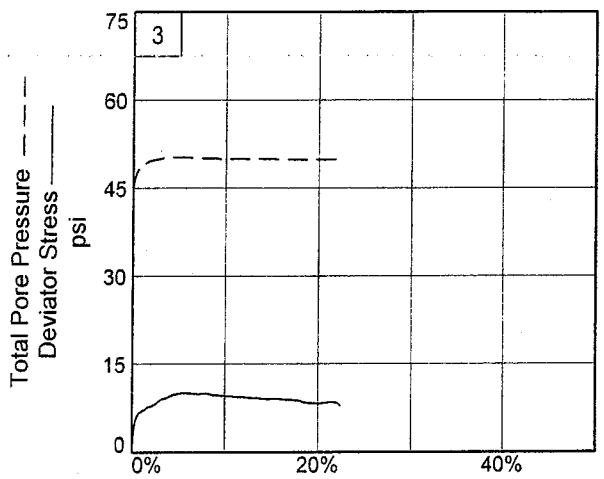
TRIAXIAL SHEAR TEST REPORT

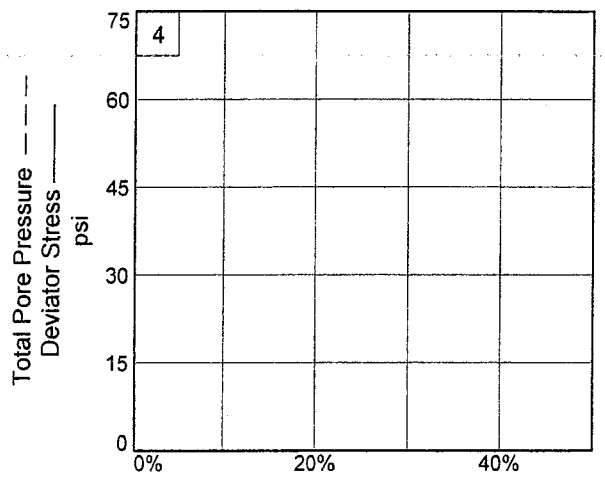
JLT Laboratories, Inc.

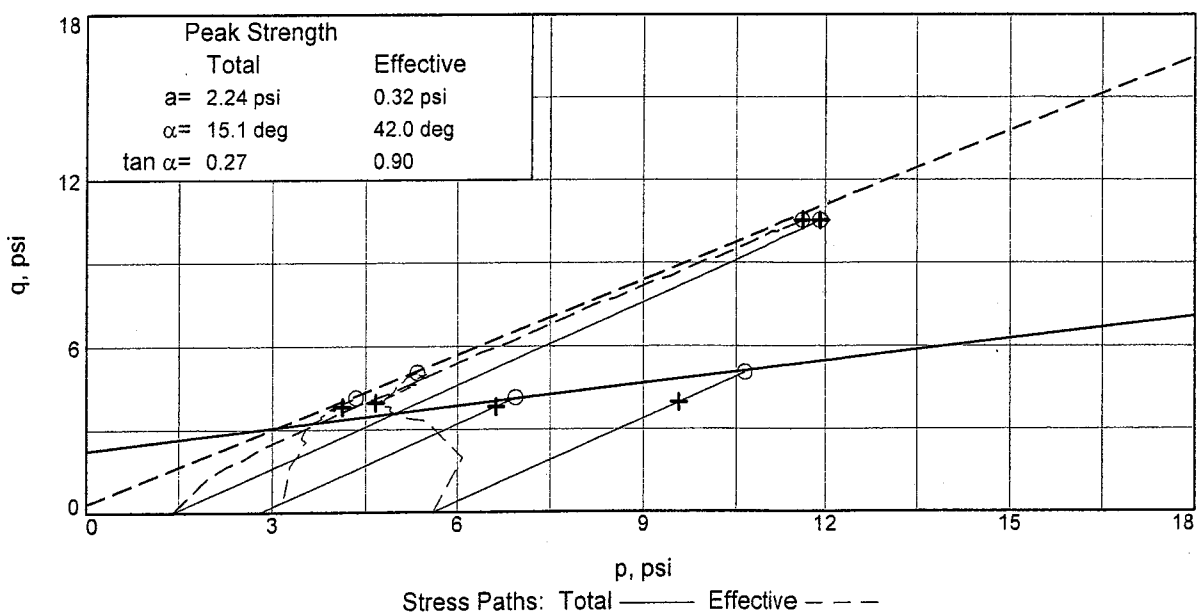
Figure 001

Tested By: MS **Checked By:** JB







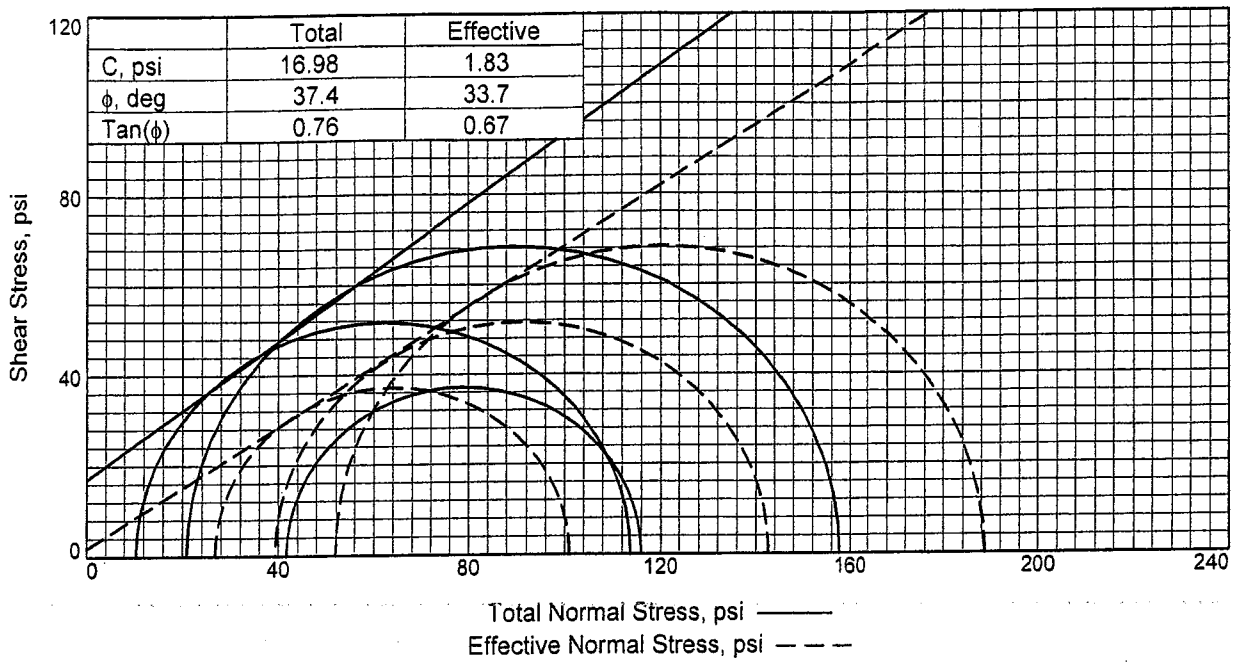


Client: PW Laboratories, Inc.
Project: Honeywell Wastebeds 1-8 FFS
Sample Number: SB-63
Project No.: 07LS1192.01

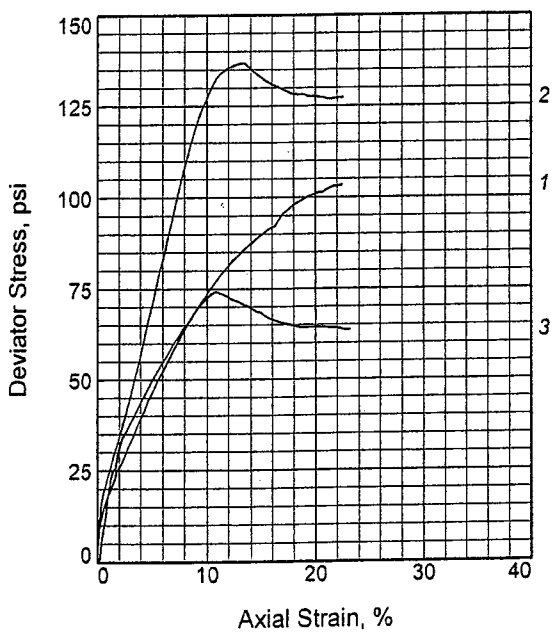
Figure 002

JLT Laboratories, Inc.

Tested By: MS **Checked By:** JB



	Total	Effective
C, psi	16.98	1.83
ϕ, deg	37.4	33.7
Tan(ϕ)	0.76	0.67



Sample No.		1	2	3
Initial	Water Content,	161.00	210.80	195.30
	Dry Density, pcf	30.7	25.2	26.5
	Saturation,	96.6	100.0	98.4
	Void Ratio	4.565	5.774	5.440
	Diameter, in.	2.82	2.83	2.82
	Height, in.	3.80	5.64	5.75
At Test	Water Content,	155.00	196.40	169.80
	Dry Density, pcf	32.59	26.79	30.25
	Saturation,	100.0	100.0	100.0
	Void Ratio	4.247	5.381	4.653
	Diameter, in.	2.78	2.75	2.69
	Height, in.	3.68	5.51	5.54
Strain rate, in./min.		0.004	0.004	0.004
Eff. Cell Pressure, psi		10	21	42
Fail. Stress, psi		103	137	74
Total Pore Pr., psi		16	14	60
Strain, %		22.4	13.4	10.8
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		143	189	101
$\bar{\sigma}_3$ Failure, psi		39	52	27

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: WB18-SB-69
Lab ID: 22798 Shelby Tube

Assumed Specific Gravity= 2.75
Remarks:

Client: PW Laboratories, Inc.

Project: Honeywell Wastebeds 1-8 FFS
ID: L-07217
Sample Number: SB-69 **Depth:** 4.0 to 6.0 ft

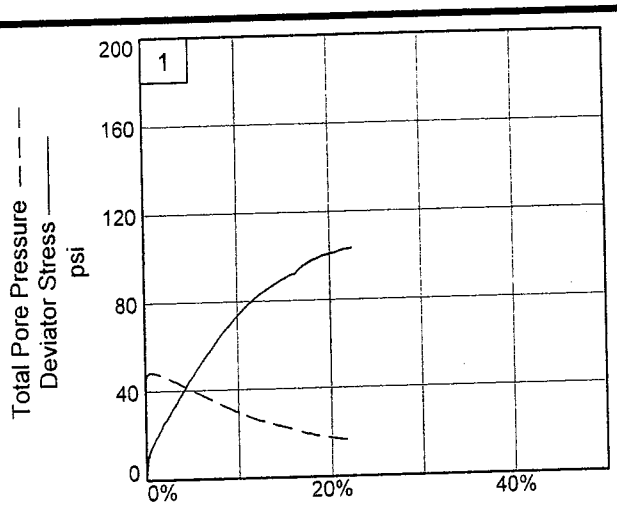
Proj. No.: 07LS1192.01 **Date:** 11/30/07

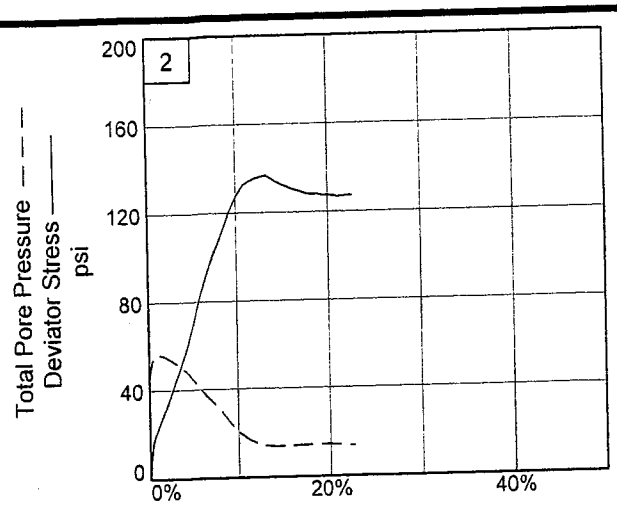
TRIAXIAL SHEAR TEST REPORT

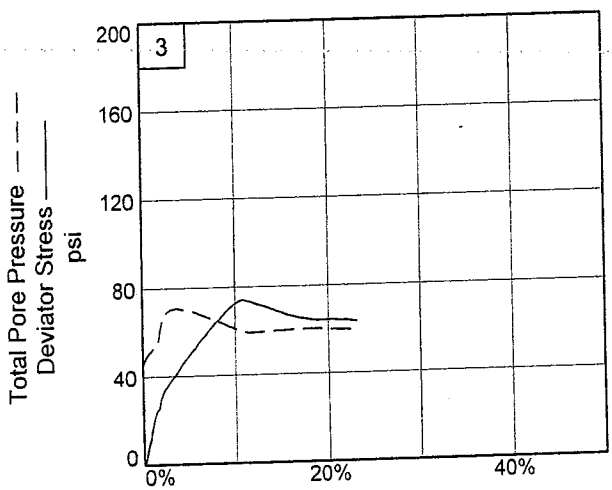
JLT Laboratories, Inc.

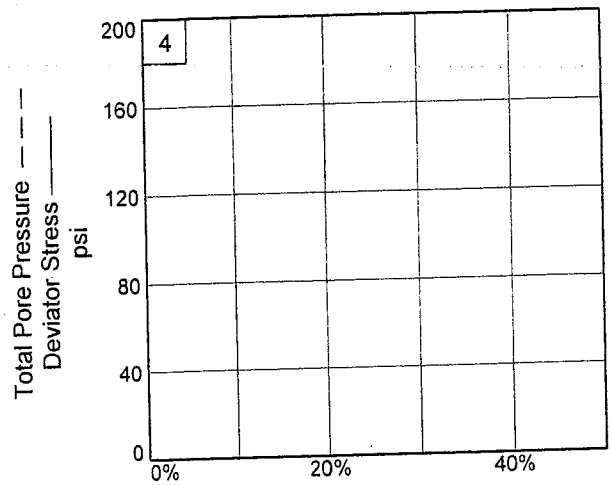
Figure 001

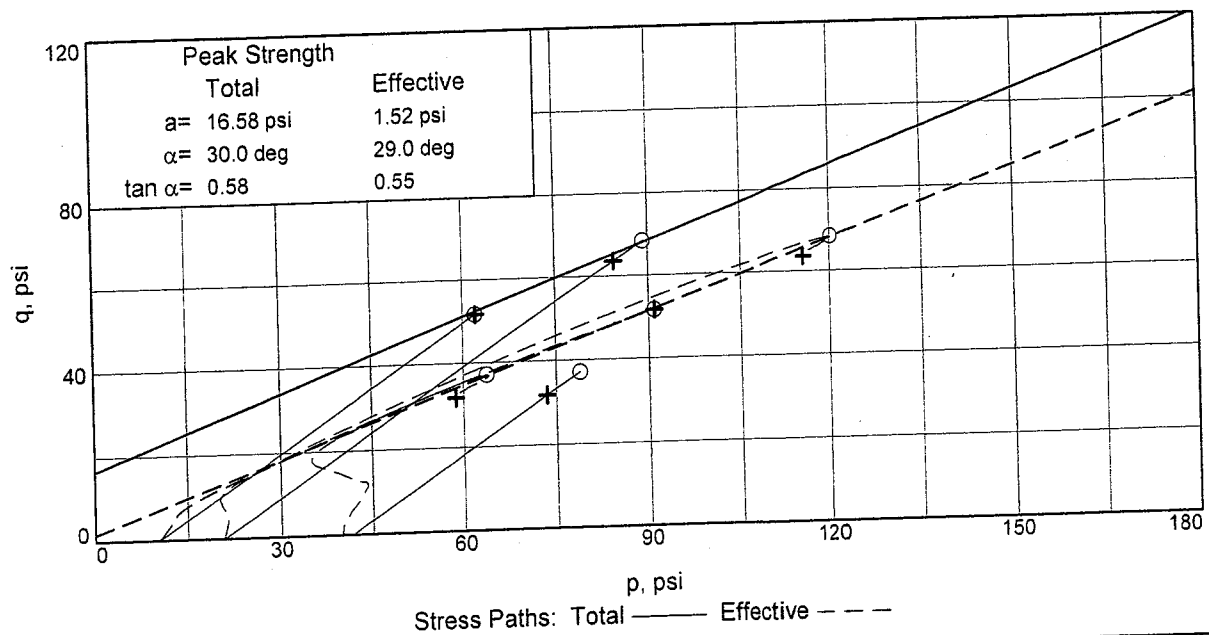
Tested By: MS **Checked By:** JB











Client: PW Laboratories, Inc.
Project: Honeywell Wastebeds 1-8 FFS
Sample Number: SB-69
Project No.: 07LS1192.01

Figure 002

JLT Laboratories, Inc.

Tested By: MS **Checked By:** JB

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: December 4, 2007 Test Start Date: November 27, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-63 Lab I.D. # 22777

ST No -- Depth/Lift/Elev: 18.0' - 20.0' Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction --

Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 31.8

Final Degree of Saturation (B Value) (%) 96

Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial 88.5

Final Moisture Content (% of Dry Weight) 31.8 Final Dry Unit Weight (PCF) 97.0

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient 21.7 Initial Height (cm) 12.94 Initial Diameter (cm) 7.30

Final Gradient 22.5 Final Height (cm) 12.48 Final Diameter (cm) 7.10

1.26×10^{-6} 1.28×10^{-6}

1.27×10^{-6} 1.29×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 1.28×10^{-6}

Project Specfications --

Notes:

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December 7, 2007

L - 07012
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
22851	WB18 - SB - 75	2.0 - 4.0	163.4
22852	WB18 - SB - 75	14.0 - 16.0	76.7
22853	WB18 - SB - 75	20.0 - 22.0	67.4
22854	WB18 - SB - 75	26.0 - 28.0	61.1
22855	WB18 - SB - 76	2.0 - 4.0	391.7
22856	WB18 - SB - 76	18.0 - 20.0	59.3
22857	WB18 - SB - 76	24.0 - 26.0	49.5
22858	WB18 - SB - 79	2.0 - 4.0	104.0
22859	WB18 - SB - 79	12.0 - 14.0	82.2
22860	WB18 - SB - 79	20.0 - 22.0	84.0
22861	WB18 - SB - 116	2.0 - 4.0	39.8
22862	WB18 - SB - 116	8.0 - 10.0	68.4
22863	WB18 - SB - 116	18.0 - 20.0	17.5
22864	WB18 - SB - 121	2.0 - 4.0	30.5
22865	WB18 - SB - 121	8.0 - 10.0	54.4
22866	WB18 - SB - 121	24.0 - 26.0	20.7

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December 7, 2007

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22853	WB18-SB- 75	20.0 - 22.0	Non-Plastic	--	--
22855	WB18-SB- 76	2.0 - 4.0	Non-Plastic	--	--
22859	WB18-SB- 79	12.0 - 14.0	Non-Plastic	--	--
22863	WB18-SB- 116	18.0 - 20.0	Non-Plastic	--	--
22865	WB18-SB- 121	8.0- 10.0	Non-Plastic	--	--

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT # L-07217
TEST METHOD ASTM D422 & D1140

REPORT # 6
REPORT DATE December 7, 2007

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	3/4"	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200				
22853	WB18-SB- 75	20.0 - 22.0	--	--	--	--	100	99.5	94.8	93.3	90.8	83.8	74.2				
22855	WB18-SB- 76	2.0 - 4.0	--	--	--	--	100	99.6	96.3	95.1	93.5	92.7	92.3				
22859	WB18-SB- 79	12.0 - 14.0	--	--	--	100	99.9	99.3	95.2	93.7	89.3	82.0	64.8				
22863	WB18-SB- 116	18.0 - 20.0	100	95.7	94.4	88.7	86.1	76.3	50.7	40.7	32.9	20.2	16.9				
22865	WB18-SB- 121	8.0- 10.0	100	96.4	94.5	92.1	90.8	79.8	52.9	45.9	42.8	26.5	18.7				

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: JB

Checked By: V.J. Thoma

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: December 4, 2007

Test Start Date: November 27, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-58 Lab I.D. # 22773

ST No -- Depth/Lift/Elev: 6.0' - 8.0'

Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction --

Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 139.1

Final Degree of Saturation (B Value) (%) 96

Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial 34.2

Final Moisture Content (% of Dry Weight) 157.2 Final Dry Unit Weight (PCF) 37.7

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient 22.6 Initial Height (cm) 12.44 Initial Diameter (cm) 7.23

Final Gradient 23.4 Final Height (cm) 12.03 Final Diameter (cm) 7.00

Final Four Determinations k (cm/sec)

4.34×10^{-6} 4.41×10^{-6}

4.37×10^{-6} 4.45×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 4.39×10^{-6}

Project Specfications --

Notes:

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter
ASTM D5084

Report Date: December 4, 2007

Test Start Date: November 27, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-60 Lab I.D. # 22774

ST No -- Depth/Lift/Elev: 20.0' - 22.0'

Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction --

Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 36.6

Final Degree of Saturation (B Value) (%) 98

Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial 85.2

Final Moisture Content (% of Dry Weight) 33.5 Final Dry Unit Weight (PCF) 93.3

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient 22.4 Initial Height (cm) 12.59 Initial Diameter (cm) 7.30

Final Gradient 23.1 Final Height (cm) 12.16 Final Diameter (cm) 7.10

Final Four Determinations k (cm/sec)

2.33×10^{-7} 2.31×10^{-7}

2.32×10^{-7} 2.31×10^{-7}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 2.32×10^{-7}

Project Specfications --

Notes:

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: December 4, 2007

Test Start Date: November 27, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-61 Lab I.D. # 22775

ST No -- Depth/Lift/Elev: 12.0' - 14.0'

Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction --

Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 66.1

Final Degree of Saturation (B Value) (%) 98

Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial 61.4

Final Moisture Content (% of Dry Weight) 60.1 Final Dry Unit Weight (PCF) 67.4

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient 23.4 Initial Height (cm) 12.04 Initial Diameter (cm) 7.28

Final Gradient 24.3 Final Height (cm) 11.59 Final Diameter (cm) 7.08

Final Four Determinations k (cm/sec)

6.15×10^{-6} 6.22×10^{-6}

6.25×10^{-6} 6.24×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 6.22×10^{-6}

Project Specfications --

Notes:

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter
ASTM D5084

Report Date: December 4, 2007

Test Start Date: November 27, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-62 Lab I.D. # 22776

ST No -- Depth/Lift/Elev: 6.0' - 8.0'

Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction --

Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 65.8

Final Degree of Saturation (B Value) (%) 96

Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial 60.0

Final Moisture Content (% of Dry Weight) 60.6 Final Dry Unit Weight (PCF) 66.1

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient 23.0 Initial Height (cm) 12.24 Initial Diameter (cm) 7.30

Final Gradient 23.3 Final Height (cm) 12.09 Final Diameter (cm) 7.00

Final Four Determinations k (cm/sec)

5.29×10^{-6} 5.44×10^{-6}

5.50×10^{-6} 5.39×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 5.41×10^{-6}

Project Specfications --

Notes:

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter
ASTM D5084

Report Date: December 4, 2007

Test Start Date: November 27, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-62 Lab I.D. # 22776

ST No -- Depth/Lift/Elev: 6.0' - 8.0'

Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction --

Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 65.8

Final Degree of Saturation (B Value) (%) 96

Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial 60.0

Final Moisture Content (% of Dry Weight) 60.6 Final Dry Unit Weight (PCF) 66.1

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient 23.0 Initial Height (cm) 12.24 Initial Diameter (cm) 7.30

Final Gradient 23.3 Final Height (cm) 12.09 Final Diameter (cm) 7.00

Final Four Determinations k (cm/sec)

5.29×10^{-6} 5.44×10^{-6}

5.50×10^{-6} 5.39×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 1.28×10^{-6}

Project Specfications --

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December 4, 2007

L - 07012
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
22803	WB18 - SB -58	14.0 - 16.0	52.7
22804	WB18 - SB - 69	2.0 -4.0	106.6
22805	WB18 - SB - 69	10.0 - 12.0	72.1
22806	WB18 - SB - 66	0.0 - 2.0	64.1
22807	WB18 - SB - 66	8.0 - 10.0	79.2
22808	WB18 - SB - 70	2.0 - 4.0	190.3
22809	WB18 - SB - 70	10.0- 12.0	70.8
22810	WB18 - SB - 70	16.0 -18.0	65.1

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT # L-07217
TEST METHOD ASTM D422 & D1140

REPORT # 4
REPORT DATE December 4, 2007

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	3/4"	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200					
22804	WB18-SB-69	2.0 - 4.0	--	100	97.3	89.1	86.9	77.3	66.5	63.7	61.6	51.9	44.3					
22807	WB18-SB-66	8.0 - 10.0	100	96.3	90.2	84.5	81.0	76.0	67.4	64.4	58.6	47.0	35.8					
22808	WB18-SB-70	2.0 -4.0	--	--	--	--	--	100	99.4	98.5	97.9	95.3	93.0					

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: PE

Checked By: V.J. Thoma

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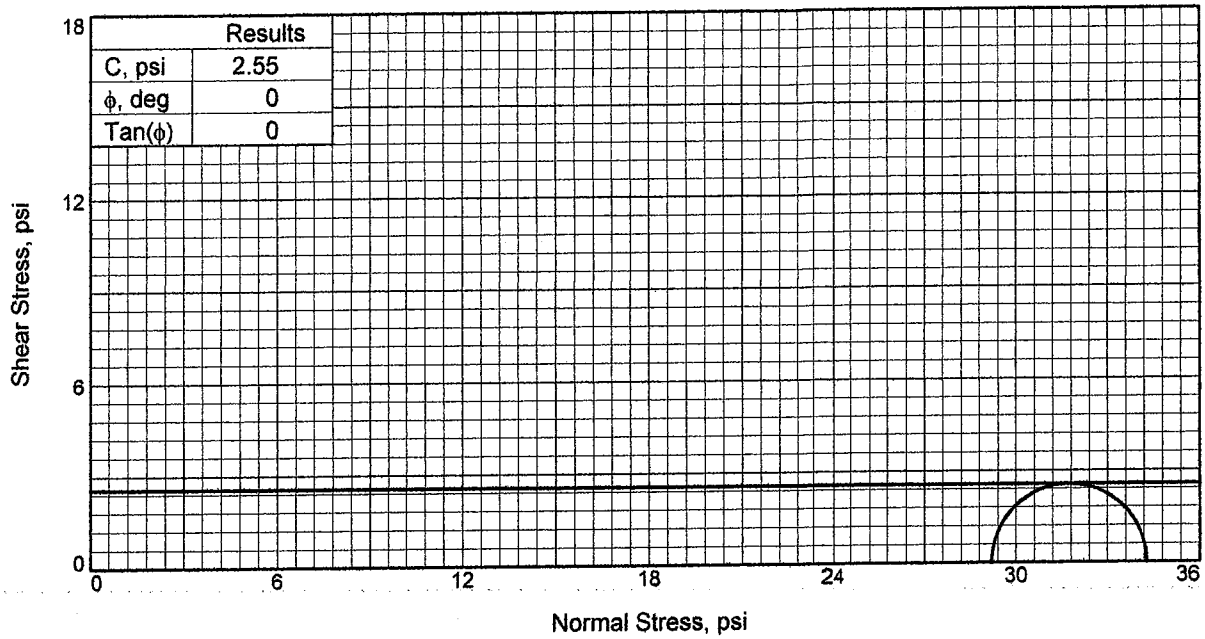
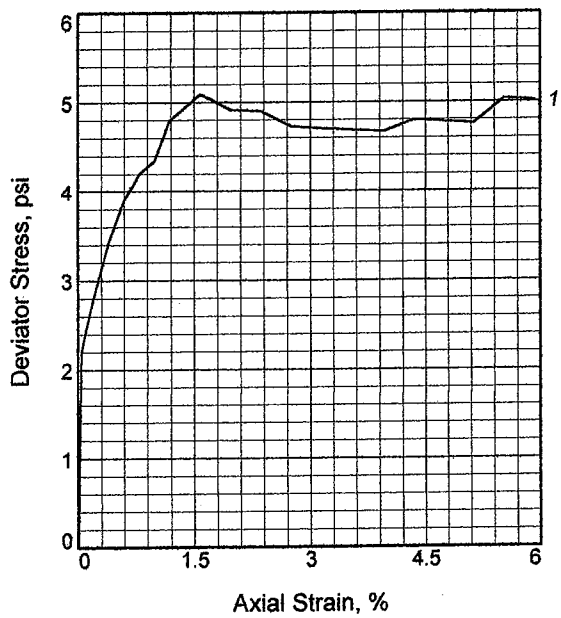
December 4, 2007

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22804	WB18-SB-69	2.0 - 4.0	Non-Plastic	--	--
22807	WB18-SB-66	8.0 - 10.0	Non-Plastic	--	--
22808	WB18-SB-70	2.0 -4.0	Non-Plastic	--	--





Sample No.		1
Initial	Water Content,	65.8
	Dry Density, pcf	23.5
	Saturation,	28.9
	Void Ratio	6.0249
	Diameter, in.	2.85
	Height, in.	15.20
At Test	Water Content,	63.7
	Dry Density, pcf	23.5
	Saturation,	28.0
	Void Ratio	6.0249
	Diameter, in.	2.85
	Height, in.	15.20
Strain rate, in./min.		0.02
Back Pressure, psi		0.0
Cell Pressure, psi		29.2
Fail. Stress, psi		5.1
Ult. Stress, psi		5.0
σ_1 Failure, psi		34.3
σ_3 Failure, psi		29.2

Type of Test:
Unconsolidated Undrained
Sample Type: UNDISTURBED
Description: MARL

LL= -- **PI=** --
Assumed Specific Gravity= 2.65
Remarks: DATE TESTED: 1-28-2008

Client: O'BRIEN & GERE ENGINEERS, INC.

Project: HONEYWELL WASTEBEDS 1-8FFS

Location: WB18-SB-84
Sample Number: ID#23014

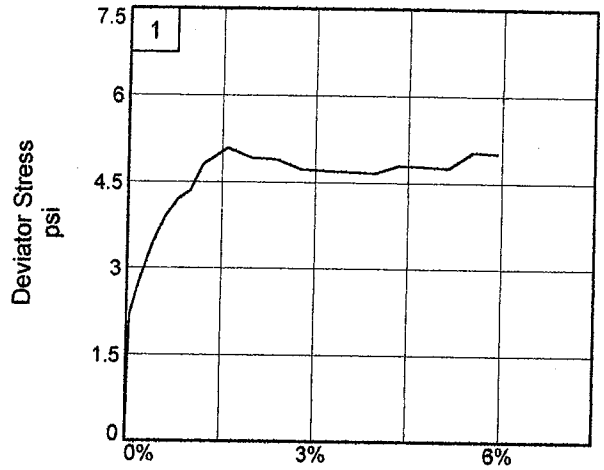
Proj. No.: L-07217 PO# 10710820EST **Date:** RECEIVED: 1-16-2008

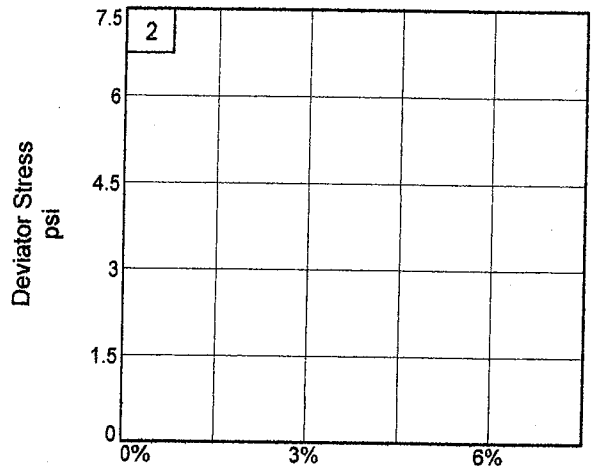
TRIAXIAL SHEAR TEST REPORT

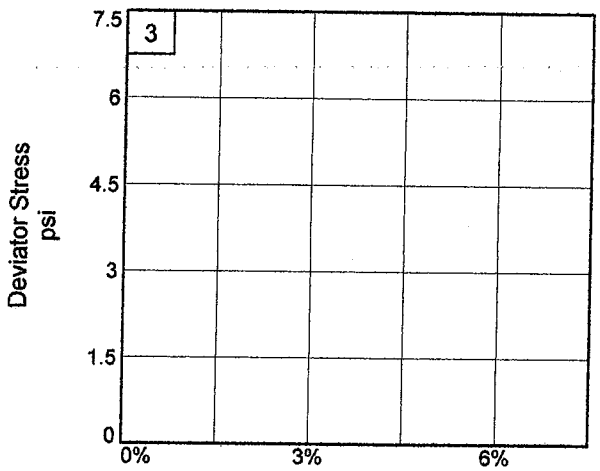
PW Laboratories, Inc.

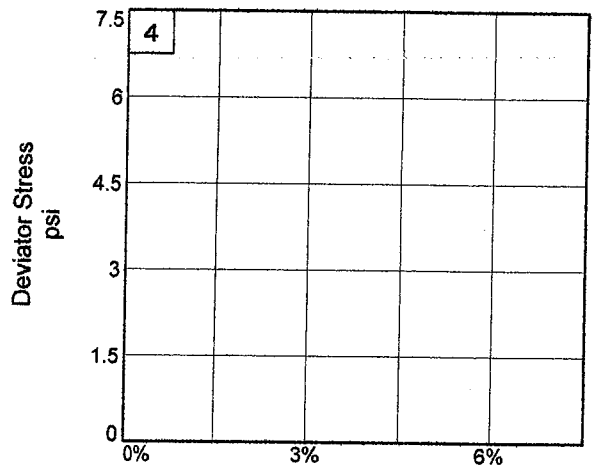
Plate TWO

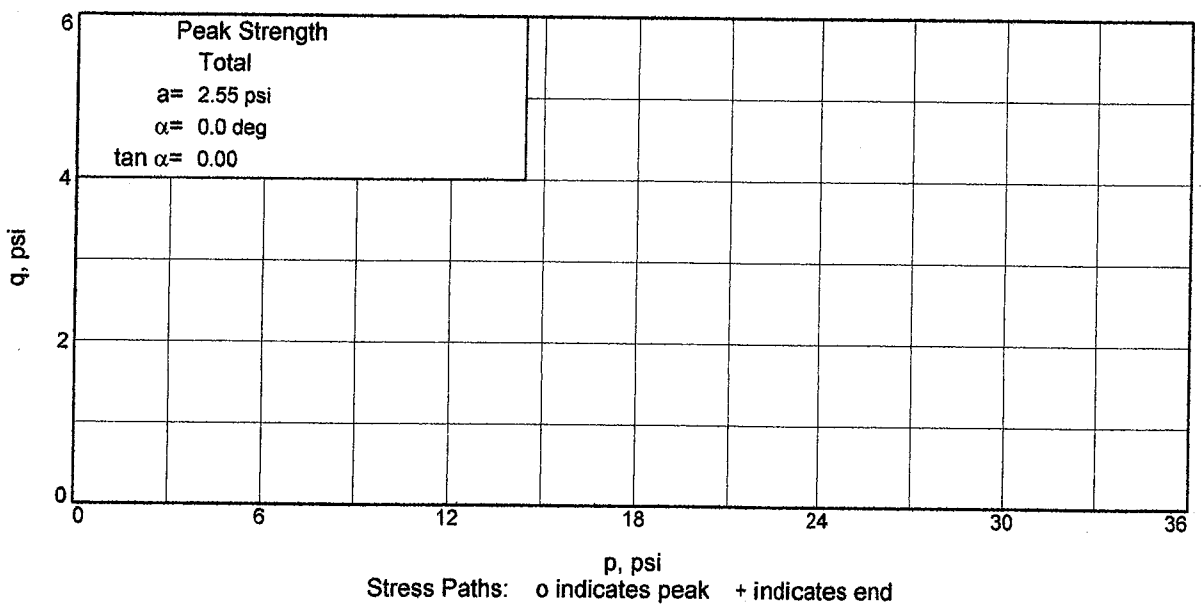
Tested By: PE/VJT **Checked By:** DPB











Stress Paths: o indicates peak + indicates end

Client: O'BRIEN & GERE ENGINEERS, INC.
Project: HONEYWELL WASTEBEDS 1-8FFS
Location: WB18-SB-84 **Depth:** 80.0 TO 82.0 FEET **Sample Number:** ID#23014
Project No.: L-07217 PO# 10710820EST **Plate** _____

PW Laboratories, Inc.

Tested By: PE/VJT **Checked By:** DPB

TRIAXIAL COMPRESSION TEST

Unconsolidated Undrained

2/1/08
12:11 PM

Date: RECEIVED: 1-16-2008
Client: O'BRIEN & GERE ENGINEERS, INC.
Project: HONEYWELL WASTEBEDS 1-8FFS
Project No.: L-07217 PO# 10710820EST
Location: WB18-SB-84
Depth: 80.0 TO 82.0 FEET **Sample Number:** ID#23014
Description: MARL
Remarks: DATE TESTED: 1-28-2008
Type of Sample: UNDISTURBED
Assumed Specific Gravity=2.65 **LL=**-- **PL=** **PI=**--
Test Method: ASTM D 2850

Parameters for Specimen No. 1

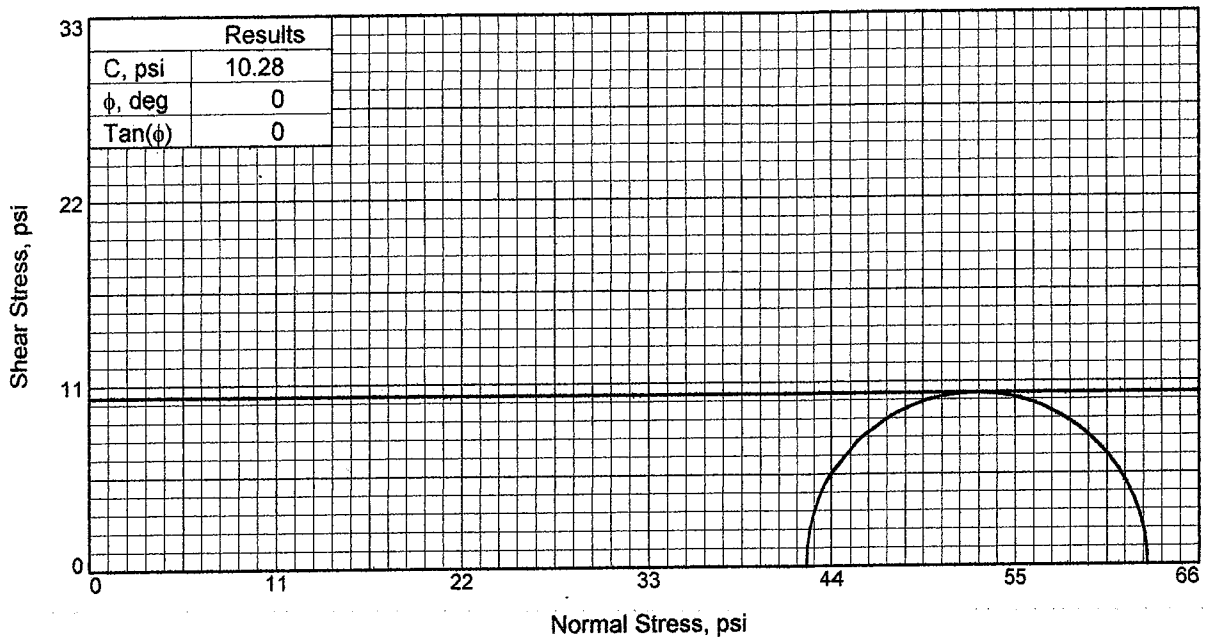
Specimen Parameter	Initial	Final
Moisture content: Moist soil+tare, gms.	297.100	1052.600
Moisture content: Dry soil+tare, gms.	220.300	682.600
Moisture content: Tare, gms.	103.600	101.700
Moisture, %	65.8	63.7
Moist specimen weight, gms.	993.9	
Diameter, in.	2.85	
Area, in.^{2}	6.38	
Height, in.	15.20	
Wet Density, pcf	39.0	
Dry density, pcf	23.5	
Void ratio	6.0249	
Saturation, %	28.9	

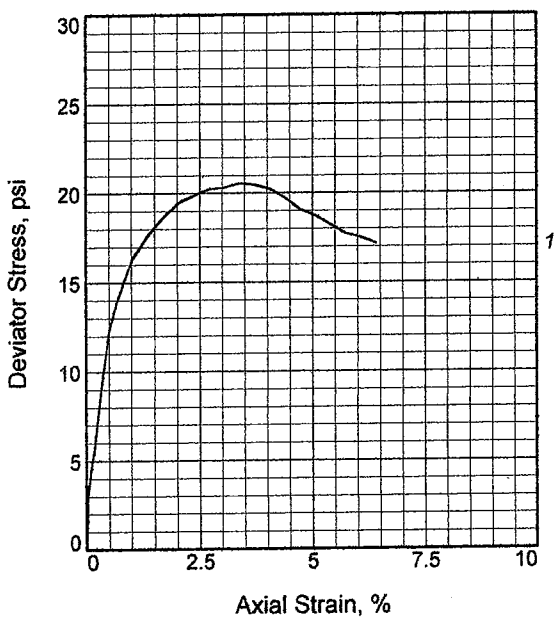
Test Readings for Specimen No. 1

Cell pressure = 29.20 psi
Back pressure = 0.00 psi
Strain rate, in./min. = 0.02
Fail. Stress = 5.09 psi **at reading no.** 11
Ult. Stress = 5.01 psi **at reading no.** 22

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress psi	Minor Princ. Stress psi	Major Princ. Stress psi	1:3 Ratio	P psi	Q psi
0	0.0000	0.00	0.0	0.0	0.00	29.20	29.20	1.00	29.20	0.00
1	0.0060	14.00	14.0	0.0	2.19	29.20	31.39	1.08	30.30	1.10
2	0.0120	15.00	15.0	0.1	2.35	29.20	31.55	1.08	30.37	1.17
3	0.0180	16.00	16.0	0.1	2.51	29.20	31.71	1.09	30.45	1.25
4	0.0240	17.00	17.0	0.2	2.66	29.20	31.86	1.09	30.53	1.33
5	0.0300	18.00	18.0	0.2	2.82	29.20	32.02	1.10	30.61	1.41
6	0.0600	22.00	22.0	0.4	3.43	29.20	32.63	1.12	30.92	1.72
7	0.0900	25.00	25.0	0.6	3.90	29.20	33.10	1.13	31.15	1.95
8	0.1200	27.00	27.0	0.8	4.20	29.20	33.40	1.14	31.30	2.10
9	0.1500	28.00	28.0	1.0	4.35	29.20	33.55	1.15	31.37	2.17
10	0.1800	31.00	31.0	1.2	4.80	29.20	34.00	1.16	31.60	2.40
11	0.2400	33.00	33.0	1.6	5.09	29.20	34.29	1.17	31.75	2.55
12	0.3000	32.00	32.0	2.0	4.92	29.20	34.12	1.17	31.66	2.46
13	0.3600	32.00	32.0	2.4	4.90	29.20	34.10	1.17	31.65	2.45
14	0.4200	31.00	31.0	2.8	4.73	29.20	33.93	1.16	31.56	2.36
15	0.4800	31.00	31.0	3.2	4.71	29.20	33.91	1.16	31.55	2.35
16	0.5400	31.00	31.0	3.6	4.69	29.20	33.89	1.16	31.54	2.34
17	0.6000	31.00	31.0	3.9	4.67	29.20	33.87	1.16	31.53	2.33
18	0.6600	32.00	32.0	4.3	4.80	29.20	34.00	1.16	31.60	2.40
19	0.7200	32.00	32.0	4.7	4.78	29.20	33.98	1.16	31.59	2.39
20	0.7800	32.00	32.0	5.1	4.76	29.20	33.96	1.16	31.58	2.38
21	0.8400	34.00	34.0	5.5	5.04	29.20	34.24	1.17	31.72	2.52
22	0.9000	34.00	34.0	5.9	5.01	29.20	34.21	1.17	31.71	2.51





Sample No.		1
Initial	Water Content,	37.6
	Dry Density, pcf	83.9
	Saturation,	99.8
	Void Ratio	1.0235
	Diameter, cm.	2.87
	Height, cm.	7.01
At Test	Water Content,	36.4
	Dry Density, pcf	83.9
	Saturation,	96.6
	Void Ratio	1.0235
	Diameter, cm.	2.87
	Height, cm.	7.01
Strain rate, in./min.		0.06
Back Pressure, psi		0.0
Cell Pressure, psi		42.4
Fail. Stress, psi		20.6
Ult. Stress, psi		17.2
σ_1 Failure, psi		63.0
σ_3 Failure, psi		42.4

Type of Test:
Unconsolidated Undrained
Sample Type: UNDISTURBED
Description: GRAY MOIST SILTY-CLAY

LL= -- **PI=** --
Assumed Specific Gravity= 2.72
Remarks:

Client: O'BRIEN & GERE ENGINEERS, INC.

Project: HONEYWELL WASTEBEDS 1-8FFS

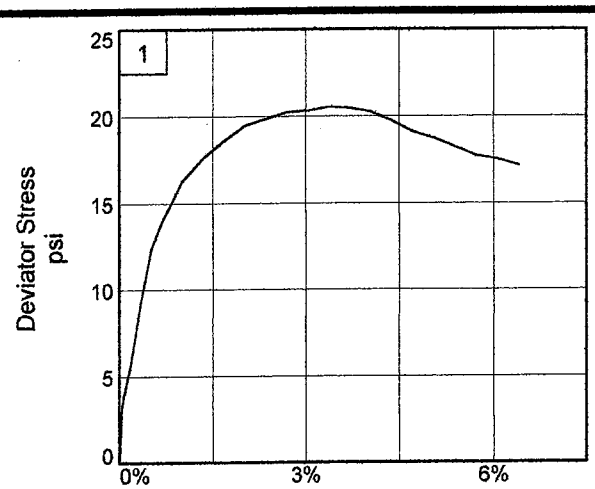
Location: WB18-SB-84
Sample Number: ID#23015
Proj. No.: L-07217 PO# 10710820EST **Date:** RECEIVED: 1-16-2008

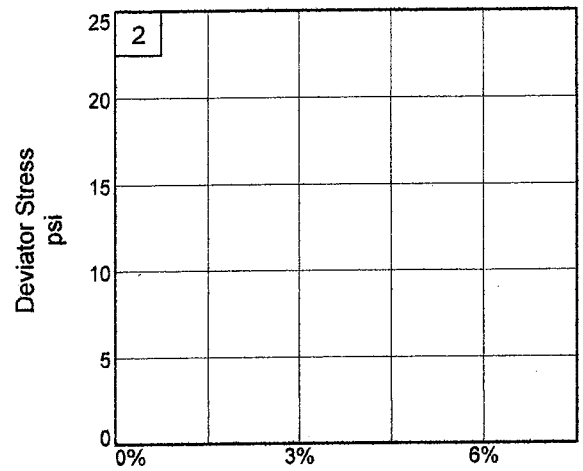
TRIAXIAL SHEAR TEST REPORT

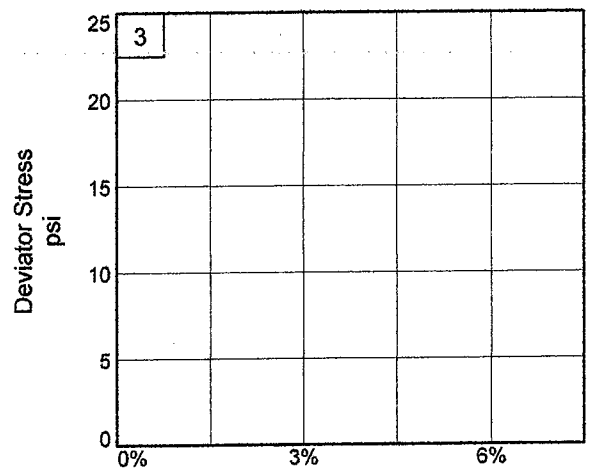
PW Laboratories, Inc.

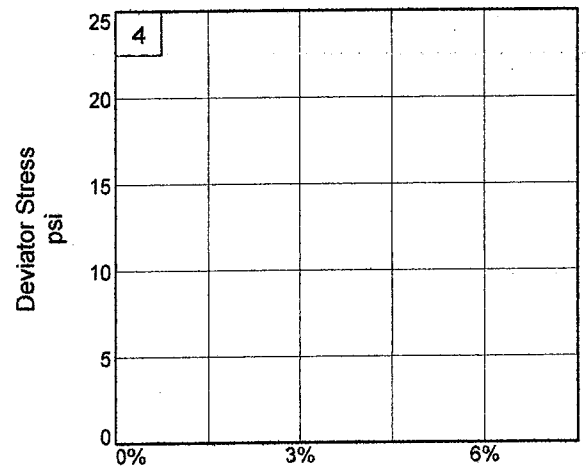
Plate THREE

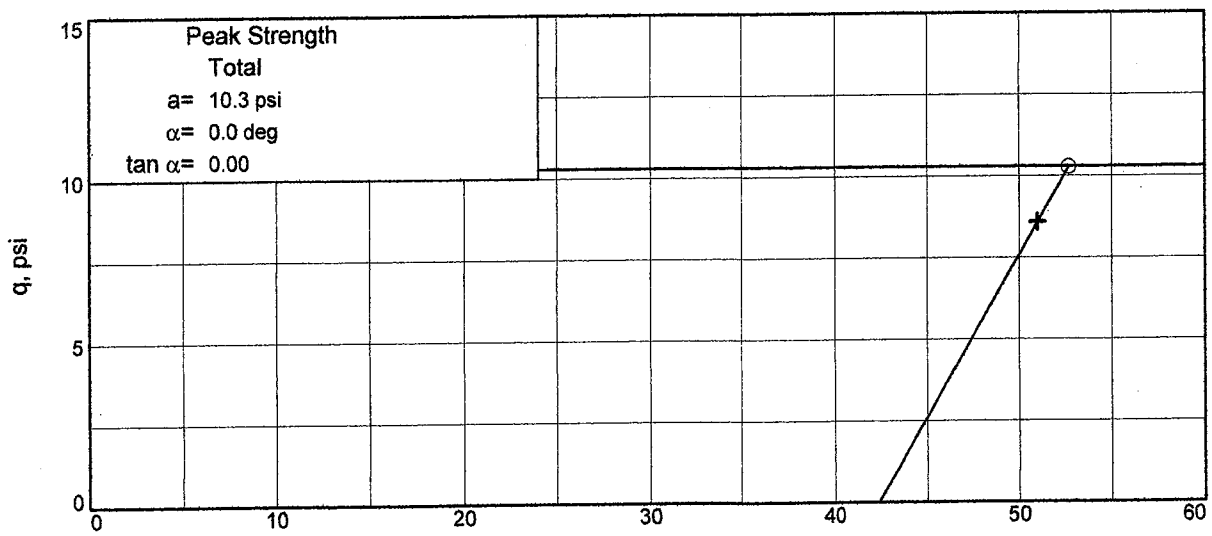
Tested By: VJT & PE **Checked By:** DPB











Stress Paths: o indicates peak + indicates end

Client: O'BRIEN & GERE ENGINEERS, INC.
Project: HONEYWELL WASTEBEDS 1-8FFS
Location: WB18-SB-84 **Depth:** 98.0 TO 100.0 FEET **Sample Number:** ID#23015
Project No.: L-07217 PO# 10710820EST **Plate** _____

PW Laboratories, Inc.

Tested By: VJT & PE **Checked By:** DPB

TRIAXIAL COMPRESSION TEST

Unconsolidated Undrained

2/11/08
12:34 PM

Date: RECEIVED: 1-16-2008
Client: O'BRIEN & GERE ENGINEERS, INC.
Project: HONEYWELL WASTEBEDS 1-8FFS
Project No.: L-07217 PO# 10710820EST
Location: WB18-SB-84
Depth: 98.0 TO 100.0 FEET **Sample Number:** ID#23015
Description: GRAY MOIST SILTY-CLAY
Remarks:
Type of Sample: UNDISTURBED
Assumed Specific Gravity=2.72 **LL=**-- **PL=** **PI=**--
Test Method: ASTM D 2850

Parameters for Specimen No. 1

Specimen Parameter	initial	Final
Moisture content: Moist soil+tare, gms.	353.410	1661.500
Moisture content: Dry soil+tare, gms.	299.770	1295.400
Moisture content: Tare, gms.	157.000	288.700
Moisture, %	37.6	36.4
Moist specimen weight, gms.	1377.7	
Diameter, cm.	7.30	
Area, cm.^{2}	41.85	
Height, cm.	17.80	
Wet Density, pcf	115.4	
Dry density, pcf	83.9	
Void ratio	1.0235	
Saturation, %	99.8	

Test Readings for Specimen No. 1

Cell pressure = 42.40 psi
Back pressure = 0.00 psi
Strain rate, in./min. = 0.06
Fail. Stress = 20.56 psi **at reading no.** 17
Ult. Stress = 17.17 psi **at reading no.** 26

Test Readings for Specimen No. 1

No.	Def. Dial cm.	Load Dial	Load lbs.	Strain %	Deviator Stress psi	Minor Princ. Stress psi	Major Princ. Stress psi	1:3 Ratio	P psi	Q psi
0	0.0000	2.00	0.0	0.0	0.00	42.40	42.40	1.00	42.40	0.00
1	0.0060	23.00	21.0	0.0	3.24	42.40	45.64	1.08	44.02	1.62
2	0.0120	27.00	25.0	0.1	3.85	42.40	46.25	1.09	44.33	1.93
3	0.0180	31.00	29.0	0.1	4.47	42.40	46.87	1.11	44.63	2.23
4	0.0240	35.00	33.0	0.1	5.08	42.40	47.48	1.12	44.94	2.54
5	0.0300	38.00	36.0	0.2	5.54	42.40	47.94	1.13	45.17	2.77
6	0.0600	63.00	61.0	0.3	9.37	42.40	51.77	1.22	47.09	4.69
7	0.0900	83.00	81.0	0.5	12.42	42.40	54.82	1.29	48.61	6.21
8	0.1200	93.00	91.0	0.7	13.93	42.40	56.33	1.33	49.37	6.97
9	0.1500	101.00	99.0	0.8	15.13	42.40	57.53	1.36	49.97	7.57
10	0.1800	109.00	107.0	1.0	16.33	42.40	58.73	1.39	50.56	8.16
11	0.2400	118.00	116.0	1.3	17.64	42.40	60.04	1.42	51.22	8.82
12	0.3000	125.00	123.0	1.7	18.64	42.40	61.04	1.44	51.72	9.32
13	0.3600	131.00	129.0	2.0	19.48	42.40	61.88	1.46	52.14	9.74
14	0.4200	134.00	132.0	2.4	19.87	42.40	62.27	1.47	52.33	9.93
15	0.4800	137.00	135.0	2.7	20.25	42.40	62.65	1.48	52.52	10.12
16	0.5400	138.00	136.0	3.0	20.33	42.40	62.73	1.48	52.56	10.16
17	0.6000	140.00	138.0	3.4	20.56	42.40	62.96	1.48	52.68	10.28
18	0.6600	140.00	138.0	3.7	20.48	42.40	62.88	1.48	52.64	10.24
19	0.7200	139.00	137.0	4.0	20.26	42.40	62.66	1.48	52.53	10.13
20	0.7800	136.00	134.0	4.4	19.75	42.40	62.15	1.47	52.28	9.88
21	0.8400	132.00	130.0	4.7	19.09	42.40	61.49	1.45	51.95	9.55
22	0.9000	130.00	128.0	5.1	18.73	42.40	61.13	1.44	51.77	9.37
23	0.9600	127.00	125.0	5.4	18.23	42.40	60.63	1.43	51.51	9.11
24	1.0200	124.00	122.0	5.7	17.73	42.40	60.13	1.42	51.26	8.86
25	1.0800	123.00	121.0	6.1	17.52	42.40	59.92	1.41	51.16	8.76
26	1.1400	121.00	119.0	6.4	17.17	42.40	59.57	1.40	50.98	8.58

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February 11, 2008

L - 07217
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
23051	WB18 - SB - 96	6.0 - 8.0	47.7
23052	WB18 - SB - 96	20.0 - 22.0	52.5
23053	WB18 - SB - 96	26.0 - 28.0	70.0
23054	WB18 - SB - 100	4.0 - 6.0	237.0
23055	WB18 - SB - 100	18.0 - 20.0	56.5
23056	WB18 - SB - 100	34.0 - 36.0	29.0
23057	WB18 - SB - 92	4.0 - 6.0	53.9
23058	WB18 - SB - 92	20.0 - 22.0	44.1
23059	WB18 - SB - 92	30.0 - 32.0	71.4

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February 11, 2008

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
23052	WB18 - SB - 96	20.0 - 22.0	Non-Plastic	--	--
23056	WB18 - SB - 100	34.0 - 36.0	20	24	4
23057	WB18 - SB - 92	4.0 - 6.0	Non-Plastic	--	--

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE: Laboratory Testing
Honeywell
Wastebeds 1-8FFS

Project #: L-07217
Test Method: ASTM D422 & D1140

Report #: 17
Report Date: February 11, 2008

			Sieve Size - Percent Passing Sieve														
Lab I.D. #	Sample	Depth (feet)	#4	#10	#30	#40	#60	#100	#200								
23052	WB18 - SB - 96	20.0 - 22.0	100	99.9	99.4	98.9	97.9	95.4	79.1								
23056	WB18 - SB - 100	34.0 - 36.0	--	100	99.9	99.8	99.7	99.5	94.9								
23057	WB18 - SB - 92	4.0 - 6.0	100	99.9	98.6	98.0	95.9	86.7	36.6								

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: AM & PE

Checked By: V.J. Thoma

C:_Clients_Jobs\OBRIEN & Gere Engineers (OB&G)\2007\07217\Sieve\Sieve #23052, 23056 & 23057

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February 5, 2008

L - 07217
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
23028	WB18 - SB - 77	2.0 - 4.0	255.0
23029	WB18 - SB - 77	10.0 - 12.0	109.7
23030	WB18 - SB - 77	16.0 - 18.0	52.8
23031	WB18 - SB - 83	4.0 - 6.0	77.2
23032	WB18 - SB - 83	20.0 - 22.0	85.7
23033	WB18 - SB - 83	32.0 - 34.0	70.4
23034	WB18 - SB - 86	6.0 - 8.0	83.0
23035	WB18 - SB - 86	20.0 - 22.0	55.9
23036	WB18 - SB - 86	30.0 - 32.0	87.5
23037	WB18 - SB - 89	2.0 - 4.0	38.3
23038	WB18 - SB - 89	10.0 - 12.0	66.0
23039	WB18 - SB - 89	26.0 -28.0	58.6

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE: Laboratory Testing
Honeywell
Wastebeds 1-8FFS

Project #: L-07217
Test Method: ASTM D422 & D1140

Report #: 16
Report Date: February 5, 2008

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200							
23029	WB18 - SB - 77	10.0 - 12.0	--	--	100	93.4	82.8	81.4	78.3	73.2	67.1							
23031	WB18 - SB - 83	4.0 - 6.0	100	97.3	94.3	86.2	70.1	65.8	57.3	47.1	36.9							
23035	WB18 - SB - 86	20.0 - 22.0	--	--	100	99.7	96.2	93.5	86.0	61.0	20.8							
23039	WB18 - SB - 89	26.0 - 28.0	--	--	100	99.9	97.3	96.1	89.0	60.7	23.7							

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Performed By: AM, PE

Checked By: V.J. Thoma

Remarks:

C:_Clients_Jobs\OBRIEN & Gere Engineers (OB&G)\2007\07217\Sieve\Sieve #23029, 23031, 23035 & 23039

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February 5, 2008

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
23029	WB18 - SB - 77	10.0 - 12.0	Non-Plastic	--	--
23035	WB18 - SB - 86	20.0 - 22.0	Non-Plastic	--	--
23039	WB18 - SB - 89	26.0 - 28.0	Non-Plastic	--	--

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE: Laboratory Testing
Honeywell
Wastebeds 1-8FFS

Project #: L-07217
Test Method: ASTM D422 & D1140

Report #: 15
Report Date: February 1, 2008

			Sieve Size - Percent Passing Sieve														
Lab I.D. #	Sample	Depth (feet)	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200						
23023	WB18 - SB - 81	70.0 - 72.0	100	99.9	99.8	99.5	97.5	96.0	92.9	88.0	75.9						

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: PE

Checked By: V.J. Thoma

C:_Clients_Jobs\OBRIEN & Gere Engineers (OB&G)\2007\07217\Sieve\Sieve 23023

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February 1, 2008

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
23023	WB18 - SB - 81	70.0 - 72.0	30	34	4

p-w labs

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January 24, 2008

L - 07217
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
23016	WB18 - SB - 87	14.0 - 16.0	126.4
23017	WB18 - SB - 87	32.0 - 34.0	149.1
23018	WB18 - SB - 87	44.0 - 46.0	170.8
23019	WB18 - SB - 84	6.0 - 8.0	189.6
23020	WB18 - SB - 84	22.0 - 24.0	170.8
23021	WB18 - SB - 84	40.0 - 42.0	112.3
23022	WB18 - SB - 81	8.0 - 10.0	130.0
23023	WB18 - SB - 81	70.0 - 72.0	47.1
23024	WB18 - SB - 81	76.0 - 78.0	49.1

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE: Laboratory Testing
Honeywell
Wastebeds 1-8FFS

Project #: L-07217
Test Method: ASTM D422 & D1140

Report #: 14
Report Date: January 24, 2008

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	#200															
23017	WB18 - SB - 87	32.0 - 34.0	100															
23020	WB18 - SB - 84	22.0 - 24.0	100															

Sample mass, as received, meets minimum mass requirements of test method: Yes X No ____

Prewashed: Yes X No ____

Remarks:

Performed By: AM

Checked By: V.J. Thoma

C:_Clients_Jobs\OBRIEN & Gere Engineers (OB&G)\2007\07217\Sieve 23017 & 23020

p-w labs

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January 24, 2008

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
23017	WB18 - SB - 87	32.0 - 34.0	Non-Plastic	--	--
23020	WB18 - SB - 87	22.0 - 24.0	Non-Plastic	--	--

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January 18, 2008

L - 07217
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
22999	WB18-SB-94	8.0 - 10.0	114.6
23000	WB18-SB-94	28.0 - 30.0	165.7
23001	WB18-SB-94	42.0 - 44.0	116.9
23002	WB18-SB-90	12.0 - 14.0	89.6
23003	WB18-SB-90	28.0 - 30.0	171.8
23004	WB18-SB-90	40.0 - 42.0	152.9

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE: Laboratory Testing
Honeywell
Wastebeds 1-8FFS

Project #: L-07217
Test Method: ASTM D422 & D1140

Report #: 13
Report Date: January 18, 2008

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200						
23000	WBSB-18-94	28.0 - 30.0	--	--	--	100	99.6	96.4	94.6	91.1	87.1	81.7						
23002	WBSB-18-90	12.0 - 14.0	100	89.9	81.6	78.8	70.5	60.2	57.7	52.8	46.4	37.7						

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: PE

Checked By: V.J. Thoma

C:_Clients_Jobs\OBRIEN & Gere Engineers (OB&G)\2007\07217\Sieve 23000 & 23002

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January 18, 2008

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
23000	WB18-SB-94	28.0 - 30.0	Non-Plastic	--	--
23002	WB18-SB-90	12.0 - 14.0	Non-Plastic	--	--

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January 16, 2008

L - 07217
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
22994	WB18-SB-98	8.0 - 10.0	91.8
22995	WB18-SB-98	28.0 - 30.0	120.1
22996	WB18-SB-98	42.0 - 44.0	172.5

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT #: L-07217
TEST METHOD: ASTM D422 & D1140

REPORT #: 12
REPORT DATE: January 16, 2008

			Sieve Size - Percent Passing Sieve													
Lab I.D. #	Sample	Depth (feet)	#4	#10	#30	#40	#60	#100	#200							
22995	WB18-SB-98	28.0 - 30.0	100	98.8	95.1	93.9	91.0	87.2	81.0							

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: JB

Checked By: V.J. Thoma

C:_Clients_Jobs\OBRIEN & Gere Engineers (OB&G)\2007\07217\Sieve 22995

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January 16, 2008

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22995	WB18-SB-98	28.0 - 30.0	Non-Plastic	--	--

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January 9, 2008

L - 07217
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
22984	WB18-SB-110	6.0 - 8.0	139.8
22985	WB18-SB-110	20.0 - 22.0	157.2
22986	WB18-SB-110	34.0 - 36.0	186.0
22987	WB18-SB-106	16.0 -18.0	235.3
22988	WB18-SB-106	28.0 - 30.0	195.2
22989	WB18-SB-106	38.0 - 40.0	138.4
22990	WB18-SB-102	4.0 - 6.0	174.2
22991	WB18-SB-102	16.0 - 18.0	108.3
22992	WB18-SB-102	36.0 - 38.0	164.4

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT # L-07217
TEST METHOD ASTM D422 & D1140

REPORT # 11
REPORT DATE January 9, 2007

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	#4	#10	#30	#40	#60	#100	#200									
22985	WB18-SB-110	20.0 - 22.0	100	96.2	89.0	87.1	84.1	81.0	78.3									
22987	WB18-SB-106	16.0 - 18.0	100	99.7	93.0	90.2	85.0	80.1	76.2									
22990	WB18-SB-102	4.0 - 6.0	100	99.8	93.3	90.4	85.7	82.2	80.0									

Sample mass, as received, meets minimum mass requirements of test method: Yes X No ____

Prewashed: Yes X No ____

Remarks:

Performed By: SC

Checked By: V.J. Thoma

C:_Clients_Jobs\OBRIEN & Gere Engineers (OB&G)\2007\07217\Sieve 22985, 22987 & 22990

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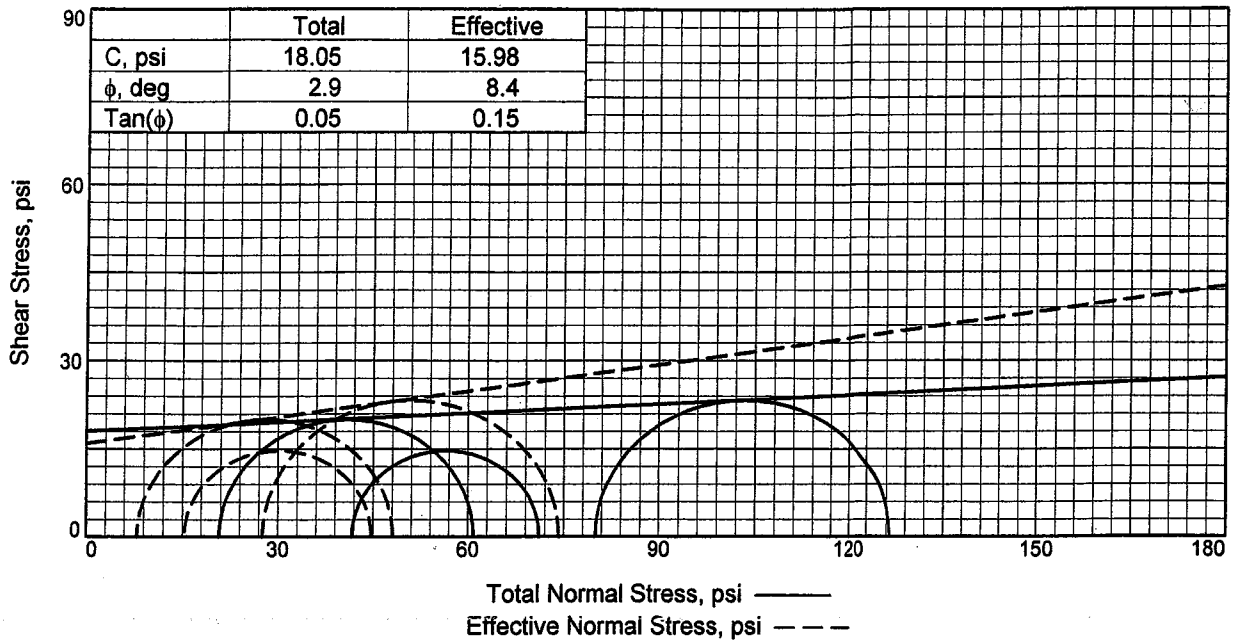
January 9, 2008

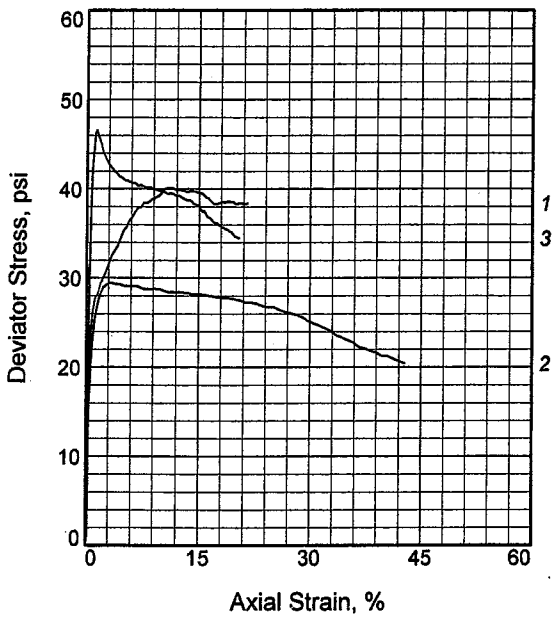
L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22985	WB18-SB-110	20.0 - 22.0	Non-Plastic	--	--
22987	WB18-SB-106	16.0 -18.0	Non-Plastic	--	--
22990	WB18-SB-102	4.0 - 6.0	Non-Plastic	--	--

	Total	Effective
C, psi	18.05	15.98
ϕ, deg	2.9	8.4
Tan(ϕ)	0.05	0.15





Sample No.		1	2	3
Initial	Water Content,	72.80	74.00	75.40
	Dry Density, pcf	54.9	55.8	55.5
	Saturation,	94.8	98.5	99.7
	Void Ratio	2.089	2.044	2.056
	Diameter, in.	2.82	2.82	2.82
	Height, in.	5.42	5.55	5.50
At Test	Water Content,	60.75	60.80	57.00
	Dry Density, pcf	63.99	63.96	66.55
	Saturation,	100.0	100.0	100.0
	Void Ratio	1.652	1.654	1.550
	Diameter, in.	2.67	2.66	2.58
	Height, in.	5.19	5.45	5.48
Strain rate, in./min.		0.005	0.005	0.005
Eff. Cell Pressure, psi		20.8	41.7	80.0
Fail. Stress, psi		40.1	29.5	46.6
Total Pore Pr., psi		32.8	46.4	72.4
Strain, %		10.8	3.4	1.3
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		48.1	44.8	74.2
$\bar{\sigma}_3$ Failure, psi		8.0	15.3	27.6

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: Lab ID: 23013

Assumed Specific Gravity= 2.72
Remarks:

Figure 001

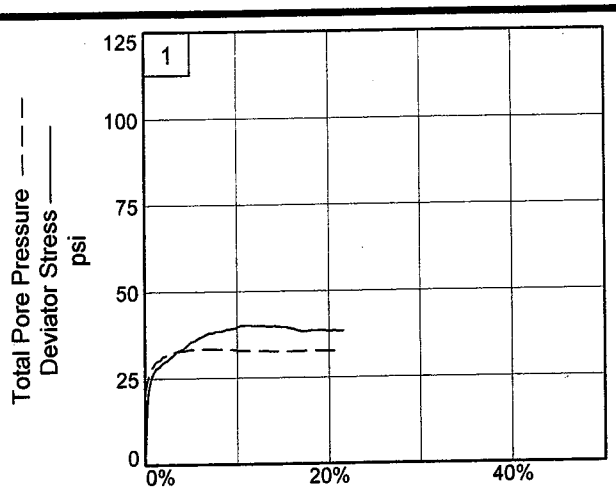
Client: PW Laboratories, Inc.

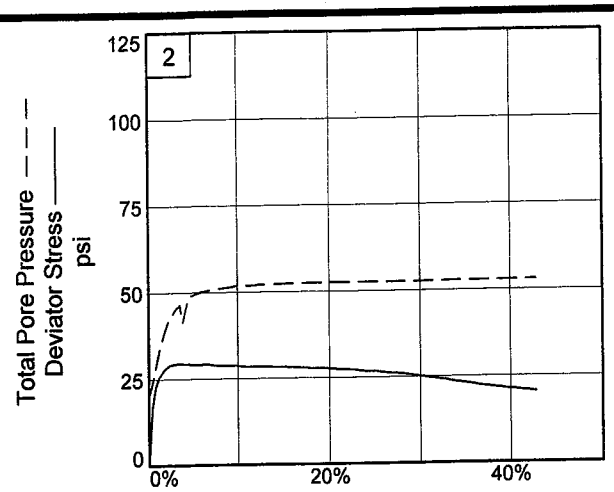
Project: Honeywell - Wastebeds 1-8 FFS
L-07217
Location: WB18
Sample Number: SB-87 **Depth:** 80 to 82 ft
Proj. No.: 08LS1225.01 **Date:** 01/25/08

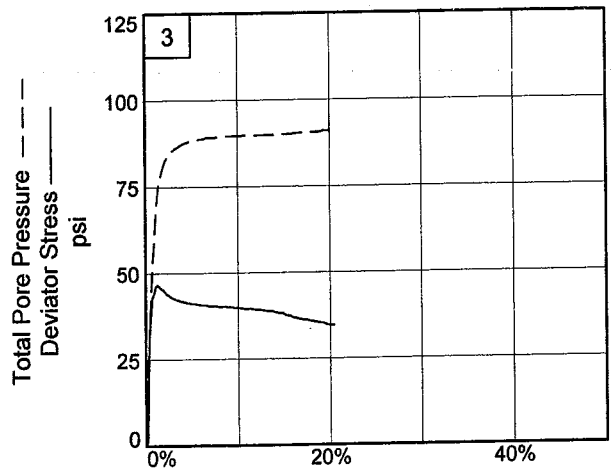
TRIAXIAL SHEAR TEST REPORT

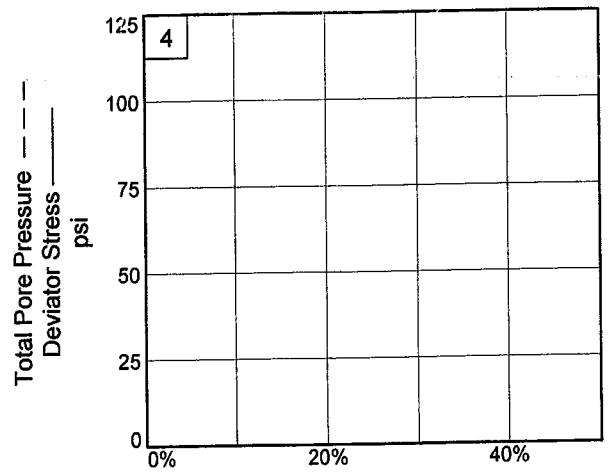
JLT Laboratories, Inc.

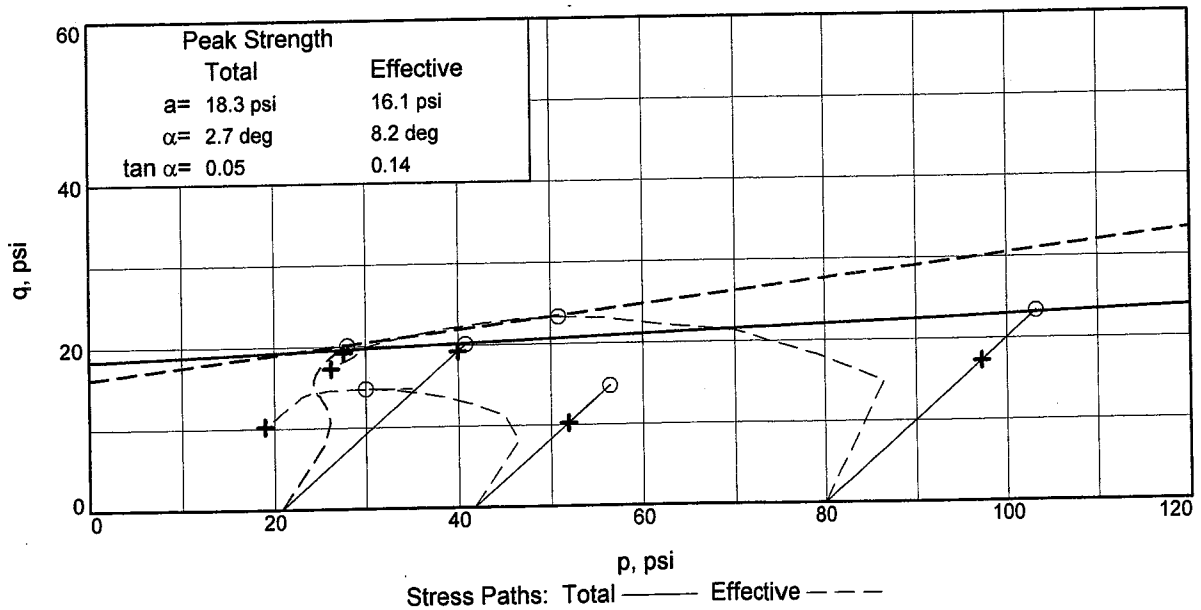
Tested By: HH **Checked By:** JB











Client: PW Laboratories, Inc.
Project: Honeywell - Wastebeds 1-8 FFS
Location: WB18 **Depth:** 80 to 82 ft **Sample Number:** SB-87
Project No.: 08LS1225.01 **Figure** 002

JLT Laboratories, Inc.

Tested By: HH **Checked By:** JB

p-w labs

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Measurement of Hydaulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: January 22, 2008 Test Start Date: January 15, 2008

Project No. L-07217 Project Title: Honeywell - Wastebeds 1-8FFS - PO #10710820EST

Test Sample Location WB18 - SB - 98 Lab I.D. # 22997

ST No -- Depth/Lift/Elev: 74.0' - 76.0' Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction -- Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 56.2

Final Degree of Saturation (B Value) (%) 98 Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial 66.2

Final Moisture Content (% of Dry Weight) 53.4 Final Dry Unit Weight (PCF) 71.3

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient 21.2 Initial Height (cm) 13.25 Initial Diameter (cm) 7.30

Final Gradient 21.8 Final Height (cm) 12.89 Final Diameter (cm) 7.13

Final Four Determinations k (cm/sec)

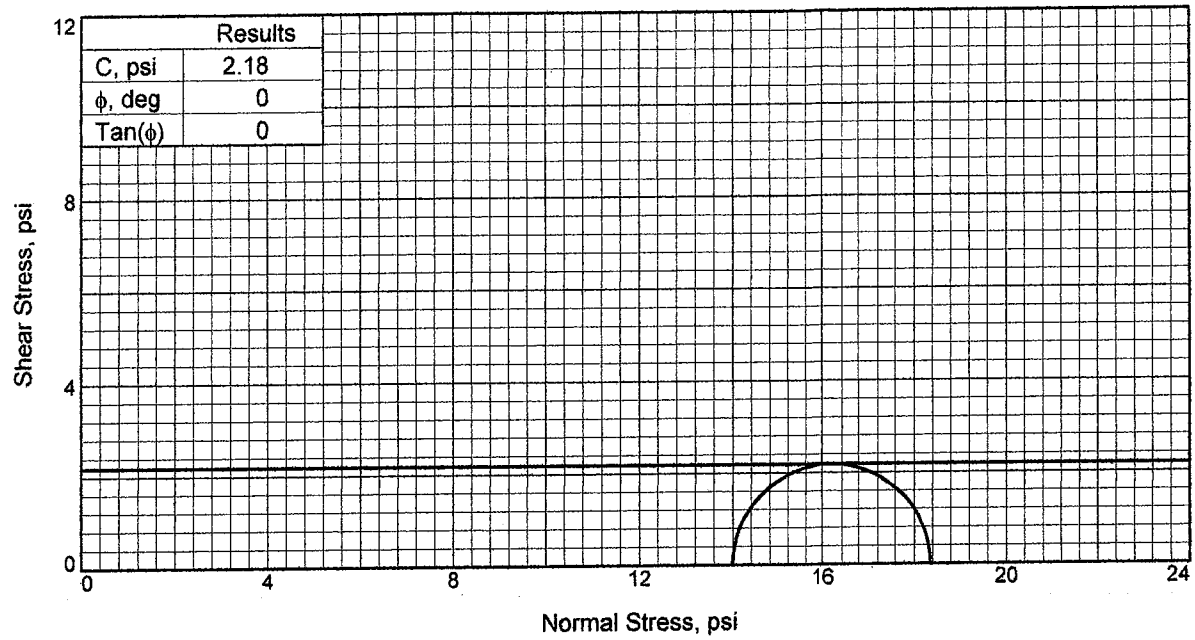
1.84×10^{-6} 1.82×10^{-6}

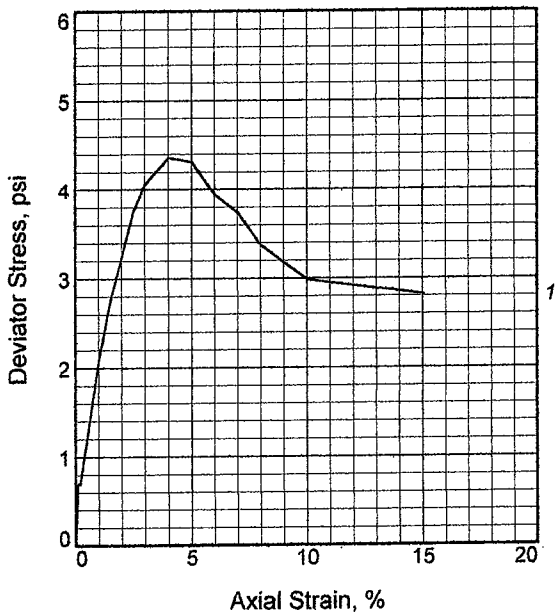
1.85×10^{-6} 1.96×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 1.87×10^{-6}

Project Specfications --

Notes:





Sample No.		1
Initial	Water Content,	50.9
	Dry Density, pcf	79.0
	Saturation,	123.2
	Void Ratio	1.0952
	Diameter, in.	2.70
	Height, in.	5.98
At Test	Water Content,	56.2
	Dry Density, pcf	79.0
	Saturation,	136.0
	Void Ratio	1.0952
	Diameter, in.	2.70
	Height, in.	5.98
Strain rate, in./min.		0.02
Back Pressure, psi		0.0
Cell Pressure, psi		14.0
Fail. Stress, psi		4.4
Ult. Stress, psi		4.4
σ_1 Failure, psi		18.4
σ_3 Failure, psi		14.0

Type of Test:
Unconsolidated Undrained
Sample Type: UNDISTURBED
Description: MARL & SOLVAY WASTE

LL= -- **PI=** --
Assumed Specific Gravity= 2.65
Remarks:

Client: O'BRIEN & GERE ENGINEERS, INC.

Project: HONEYWELL WASTEBEDS 1-8FFS

Location: WB18-SB-101
Sample Number: ID#22904

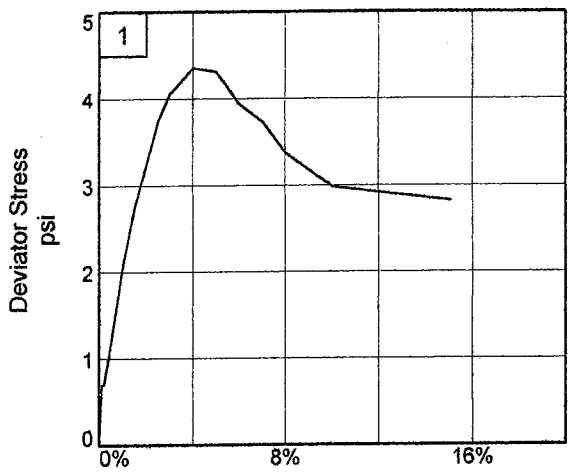
Proj. No.: L-07217 PO# 10710820EST **Date:** RECEIVED: 12-10-2007

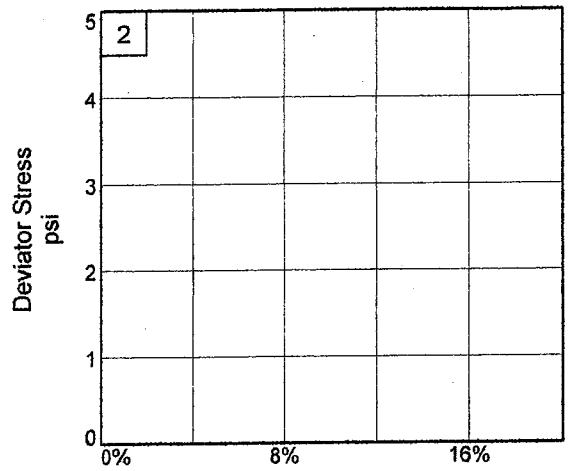
TRIAXIAL SHEAR TEST REPORT

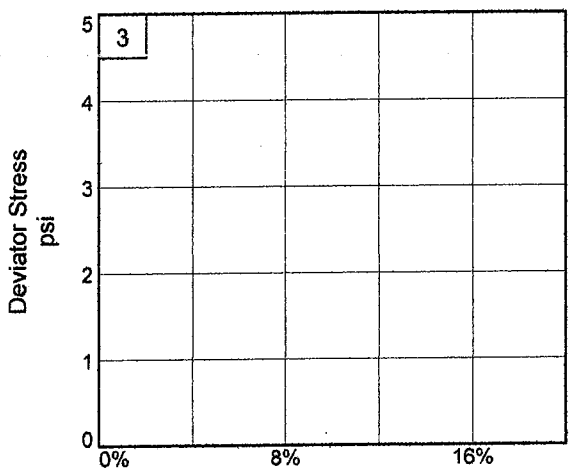
PW Laboratories, Inc.

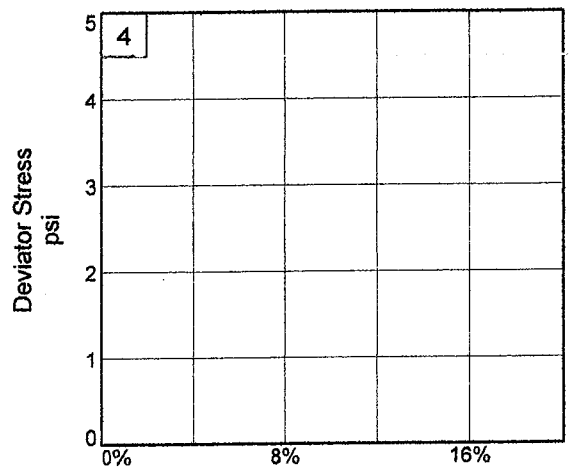
Plate ONE

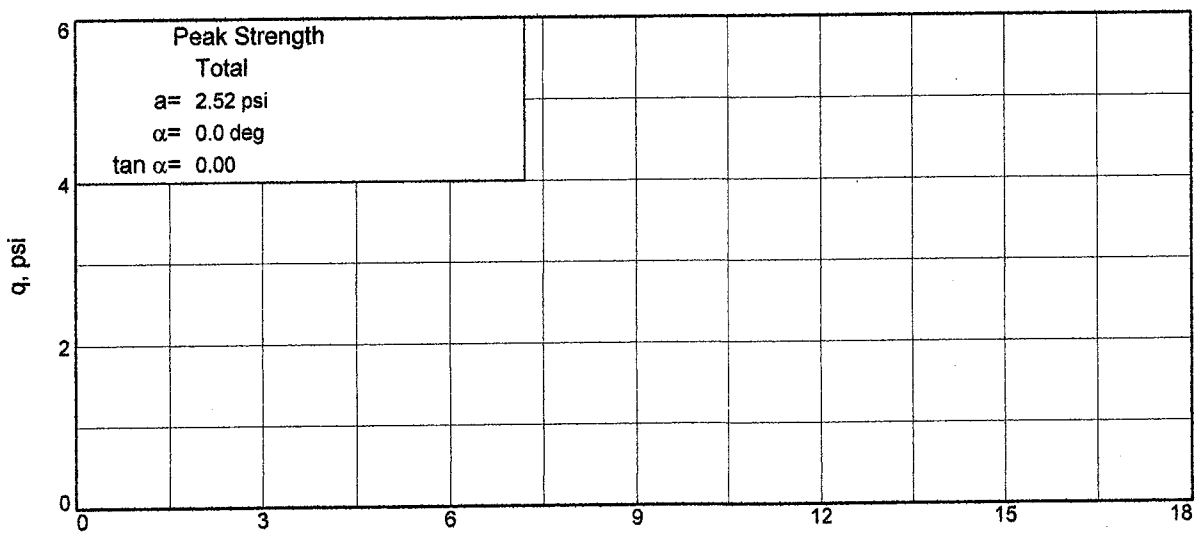
Tested By: PE/VJT **Checked By:** DPB











Stress Paths: o indicates peak + indicates end

Client: O'BRIEN & GERE ENGINEERS, INC.
Project: HONEYWELL WASTEBEDS 1-8FFS
Location: WB18-SB-101 **Depth:** 34.5 TO 36.5 FEET **Sample Number:** ID#22904
Project No.: L-07217 PO# 10710820EST **Plate** TWO

PW Laboratories, Inc.

Tested By: PE/VJT **Checked By:** DPB

TRIAXIAL COMPRESSION TEST

Unconsolidated Undrained

1/11/08
3:23 PM

Date: RECEIVED: 12-10-2007
Client: O'BRIEN & GERE ENGINEERS, INC.
Project: HONEYWELL WASTEBEDS 1-8FFS
Project No.: L-07217 PO# 10710820EST
Location: WB18-SB-101
Depth: 34.5 TO 36.5 FEET **Sample Number:** ID#22904
Description: MARL & SOLVAY WASTE
Remarks:
Type of Sample: UNDISTURBED
Assumed Specific Gravity=2.65 **LL=**-- **PL=** **PI=**--
Test Method: ASTM D 2850

Parameters for Specimen No. 1

Specimen Parameter	Initial	Final
Moisture content: Moist soil+tare, gms.	440.100	1375.200
Moisture content: Dry soil+tare, gms.	351.300	990.400
Moisture content: Tare, gms.	176.900	305.500
Moisture, %	50.9	56.2
Moist specimen weight, gms.	1071.0	
Diameter, in.	2.70	
Area, in.^{2}	5.73	
Height, in.	5.98	
Wet Density, pcf	119.2	
Dry density, pcf	79.0	
Void ratio	1.0952	
Saturation, %	123.2	

Test Readings for Specimen No. 1

Cell pressure = 14.00 psi
Back pressure = 0.00 psi
Strain rate, in./min. = 0.02
Fail. Stress = 4.36 psi **at reading no.** 11
Ult. Stress = 4.36 psi **at reading no.** 11

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress psi	Minor Princ. Stress psi	Major Princ. Stress psi	1:3 Ratio	P psi	Q psi
0	0.0000	5.00	0.0	0.0	0.00	14.00	14.00	1.00	14.00	0.00
1	0.0060	9.00	4.0	0.1	0.70	14.00	14.70	1.05	14.35	0.35
2	0.0120	9.00	4.0	0.2	0.70	14.00	14.70	1.05	14.35	0.35
3	0.0180	10.00	5.0	0.3	0.87	14.00	14.87	1.06	14.44	0.44
4	0.0240	11.00	6.0	0.4	1.04	14.00	15.04	1.07	14.52	0.52
5	0.0300	12.00	7.0	0.5	1.22	14.00	15.22	1.09	14.61	0.61
6	0.0600	17.00	12.0	1.0	2.07	14.00	16.07	1.15	15.04	1.04
7	0.0900	21.00	16.0	1.5	2.75	14.00	16.75	1.20	15.38	1.38
8	0.1200	24.00	19.0	2.0	3.25	14.00	17.25	1.23	15.63	1.63
9	0.1500	27.00	22.0	2.5	3.75	14.00	17.75	1.27	15.87	1.87
10	0.1800	29.00	24.0	3.0	4.07	14.00	18.07	1.29	16.03	2.03
11	0.2400	31.00	26.0	4.0	4.36	14.00	18.36	1.31	16.18	2.18
12	0.3000	31.00	26.0	5.0	4.31	14.00	18.31	1.31	16.16	2.16
13	0.3600	29.00	24.0	6.0	3.94	14.00	17.94	1.28	15.97	1.97
14	0.4200	28.00	23.0	7.0	3.73	14.00	17.73	1.27	15.87	1.87
15	0.4800	26.00	21.0	8.0	3.37	14.00	17.37	1.24	15.69	1.69
16	0.5400	25.00	20.0	9.0	3.18	14.00	17.18	1.23	15.59	1.59
17	0.6000	24.00	19.0	10.0	2.99	14.00	16.99	1.21	15.49	1.49
18	0.6600	24.00	19.0	11.0	2.95	14.00	16.95	1.21	15.48	1.48
19	0.7200	24.00	19.0	12.0	2.92	14.00	16.92	1.21	15.46	1.46
20	0.7800	24.00	19.0	13.0	2.89	14.00	16.89	1.21	15.44	1.44
21	0.8400	24.00	19.0	14.0	2.85	14.00	16.85	1.20	15.43	1.43
22	0.9000	24.00	19.0	15.1	2.82	14.00	16.82	1.20	15.41	1.41

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December 10, 2007

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22874	WB18-SB-108	8.0 - 10.0	Non-Plastic	--	--
22875	WB18-SB-112	22.0 -24.0	25	30	5

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT # L-07217
TEST METHOD ASTM D422 & D1140

REPORT # 3
REPORT DATE November 28, 2007

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	3/4"	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200				
22783	WB18 - SB - 61	18.0 - 20.0	--	--	100	99.4	98.9	98.3	96.5	95.7	93.5	87.6	79.3				
22784	WB18 - SB - 62	4.0 - 6.0	--	--	--	100	99.8	98.7	94.4	93.0	92.8	85.5	78.8				
22787	WB18 - SB - 63	24.0 - 26.0	--	--	--	--	100	99.9	99.8	99.7	99.7	99.4	98.8				
22789	WB18 - SB - 64	8.0 - 10.0	100	98.6	96.9	85.9	82.5	74.8	67.4	65.3	62.6	48.8	37.5				
22791	WB18 - SB - 65	12.0 - 14.0	100	98.0	97.0	91.9	87.6	80.1	73.8	72.0	67.5	58.2	48.0				
22792	WB18 - SB - 67	8.0 - 10.0	--	--	--	100	99.1	98.7	95.6	93.8	91.6	79.1	67.2				
22796	WB18 - SB - 68	6.0 - 8.0	--	100	98.5	97.4	97.0	96.0	93.7	92.4	90.9	81.0	72.5				

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: LS, JB

Checked By: V.J. Thoma

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December 10, 2007

L - 07217
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS
PO #10710820EST

SPECIFIC GRAVITY OF SOILS
ASTM D854

Lab I.D. #	Sample #	Depth (feet)	(D854) Minus No. 4 Fraction Specific Gravity of Solids (G)
22817	WB18-SB-71	20.0 - 22.0	2.69
22824	WB18-SB-73	34.0 - 36.0	2.73
22827	WB18-SB-74	14.0 - 16.0	2.67

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REVISED

January 30, 2008

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
23017	WB18 - SB - 87	32.0 - 34.0	Non-Plastic	--	--
23020	WB18 - SB - 84	22.0 - 24.0	Non-Plastic	--	--

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pwlabsinc@hotmail.com

December 7, 2007

L - 07012
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
22813	WB18 - SB - 71	2.0 - 4.0	116.3
22814	WB18 - SB - 71	6.0 - 8.0	45.4
22815	WB18 - SB - 71	10.0 - 12.0	74.1
22816	WB18 - SB - 71	16.0 - 18.0	57.8
22818	WB18 - SB - 72	2.0 - 4.0	210.6
22819	WB18 - SB - 72	10.0 - 12.0	80.2
22820	WB18 - SB - 72	18.0 - 20.0	65.7
22821	WB18 - SB - 73	2.0 - 4.0	106.7
22822	WB18 - SB - 73	12.0 - 14.0	63.1
22823	WB18 - SB - 73	16.0 - 18.0	68.4
22825	WB18 - SB - 74	2.0 - 4.0	173.2
22826	WB18 - SB - 74	10.0 - 12.0	60.1
22828	WB18 - SB - 74	16.0 - 18.0	50.9

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT # L-07217

TEST METHOD ASTM D422 & D1140

REPORT # 5

REPORT DATE December 7, 2007

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	3/4"	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200					
22815	WB18-SB-71	10.0- 12.0	--	--	100	97.8	96.7	91.4	74.3	69.4	63.9	53.1	42.7					
22818	WB18-SB-72	2.0 - 4.0	--	--	--	--	100	99.6	98.8	98.6	98.2	98.0	97.6					
22822	WB18-SB-73	12.0 -14.0	100	98.5	91.1	80.2	73.1	63.9	56.4	54.7	50.4	44.6	37.1					
22825	WB18-SB-74	2.0 - 4.0	--	--	--	--	100	99.2	97.2	96.5	95.0	93.5	92.0					

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: PE

Checked By: V.J. Thoma

pw1/c/program files/ microsoft office/templates/laboratory reports/Sieve 22815, 22818, 22822, 22825

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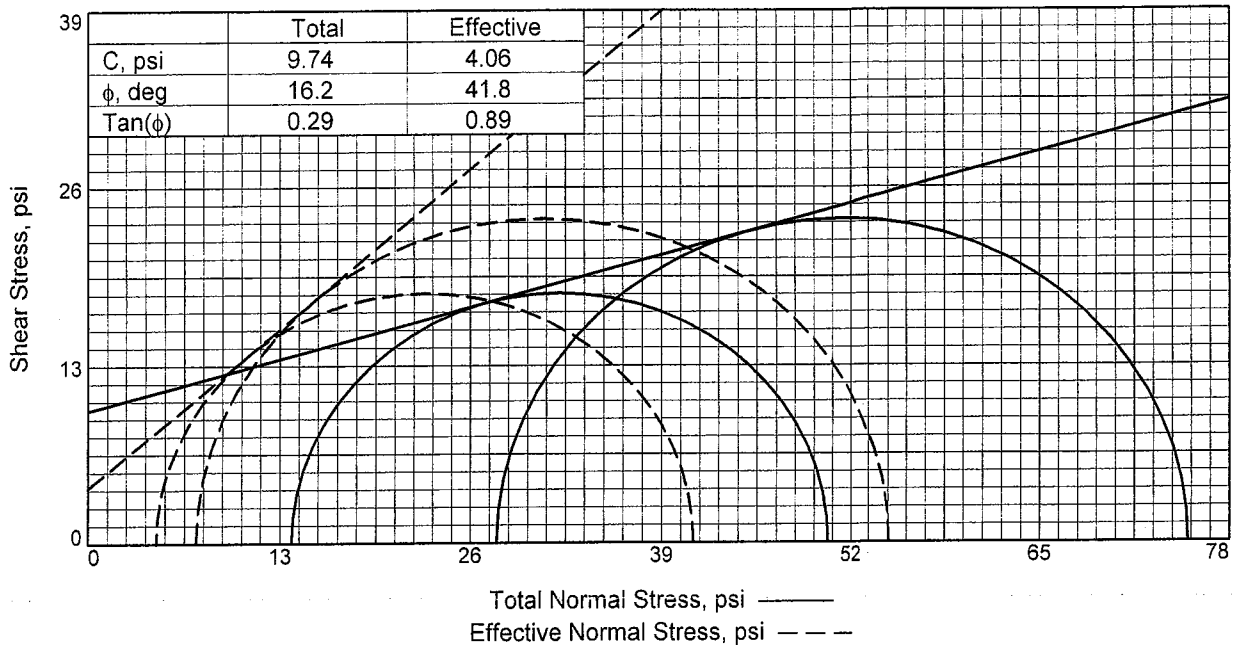
December 7, 2007

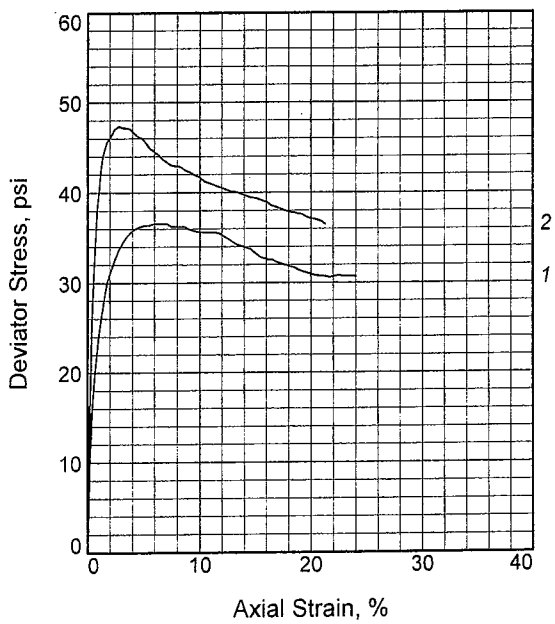
L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22815	WB18-SB-71	10.0- 12.0	Non-Plastic	--	--
22818	WB18-SB-72	2.0 - 4.0	Non-Plastic	--	--
22822	WB18-SB-73	12.0 -14.0	Non-Plastic	--	--
22825	WB18-SB-74	2.0 - 4.0	Non-Plastic	--	--



	Total	Effective
C, psi	9.74	4.06
ϕ, deg	16.2	41.8
Tan(ϕ)	0.29	0.89



Sample No.		1	2
Initial	Water Content,	125.0	175.2
	Dry Density, pcf	36.9	28.3
	Saturation,	94.4	95.1
	Void Ratio	3.5991	5.0087
	Diameter, in.	2.830	2.830
	Height, in.	5.200	5.900
At Test	Water Content,	120.7	165.6
	Dry Density, pcf	39.6	30.8
	Saturation,	100.0	100.0
	Void Ratio	3.2831	4.5051
	Diameter, in.	2.763	2.748
	Height, in.	5.079	5.732
Strain rate, in./min.		0.005	0.005
Eff. Cell Pressure, psi		13.8	27.8
Fail. Stress, psi		36.6	47.4
Total Pore Pr., psi		59.2	70.5
Strain, %		7.1	2.8
Ult. Stress, psi			
Total Pore Pr., psi			
Strain, %			
$\bar{\sigma}_1$ Failure, psi		41.2	54.7
$\bar{\sigma}_3$ Failure, psi		4.6	7.3

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: WB-18 SB-123
Lab ID: 22937

Assumed Specific Gravity= 2.72
Remarks:

Client: PW Laboratories, Inc.

Project: Honeywell Waste Beds

Sample Number: WB-18 **Depth:** 38 to 40 ft

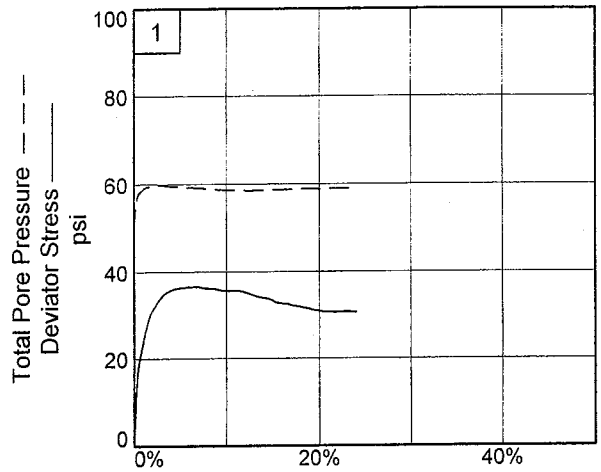
Proj. No.: 07LS1192.03 **Date:** 12/24/07

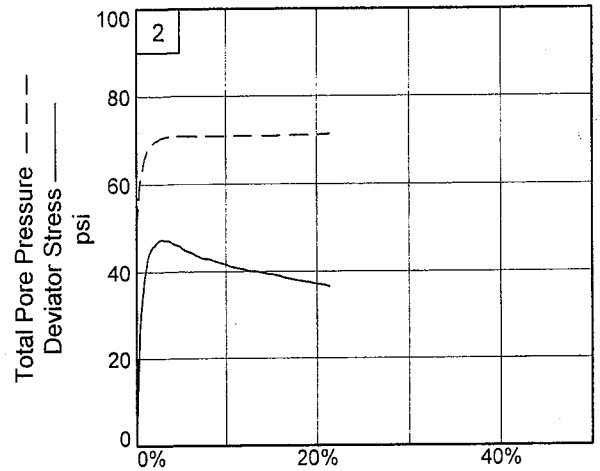
TRIAXIAL SHEAR TEST REPORT

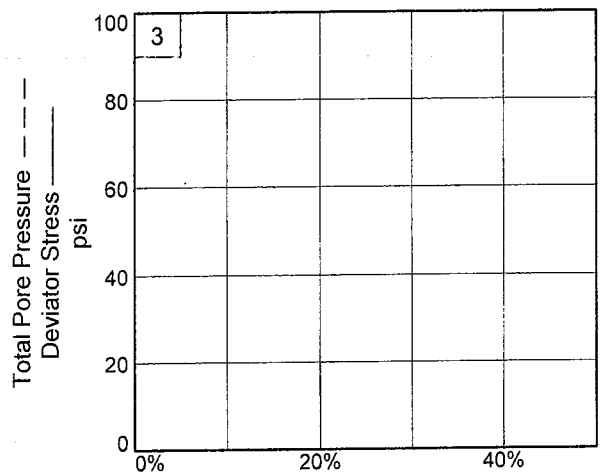
JLT Laboratories, Inc.

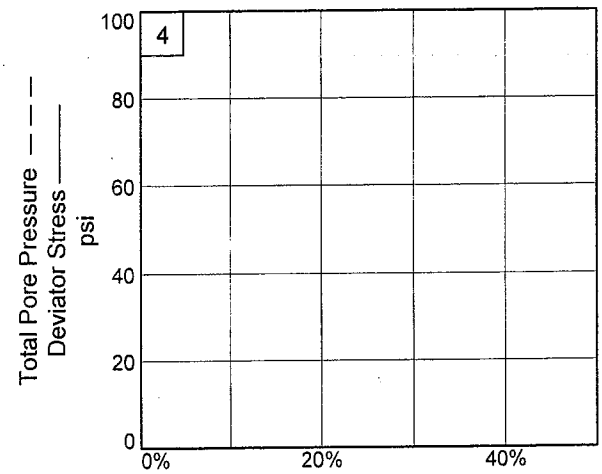
Figure 001

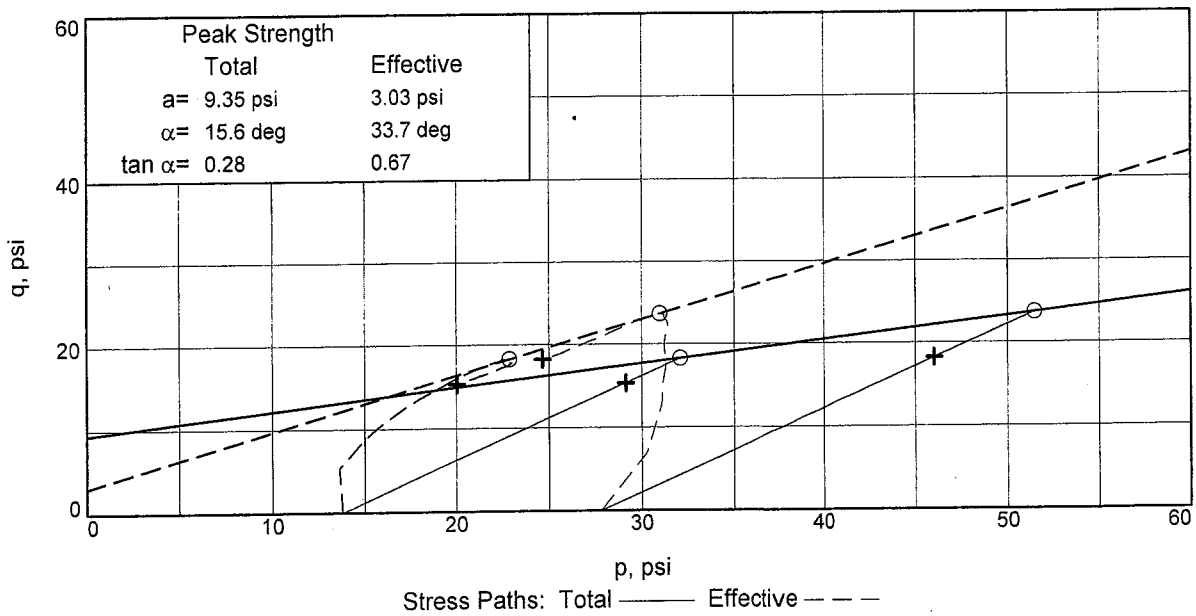
Tested By: MS **Checked By:** JB











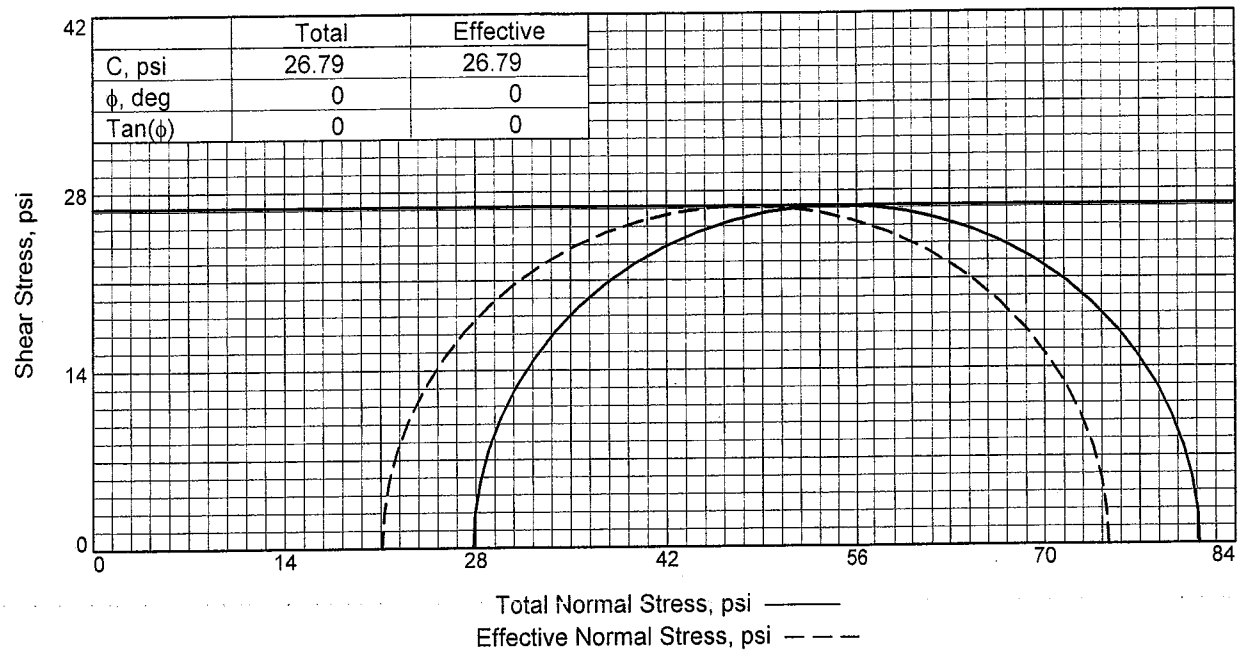
Client: PW Laboratories, Inc.
Project: Honeywell Waste Beds
Sample Number: WB-18
Project No.: 07LS1192.03

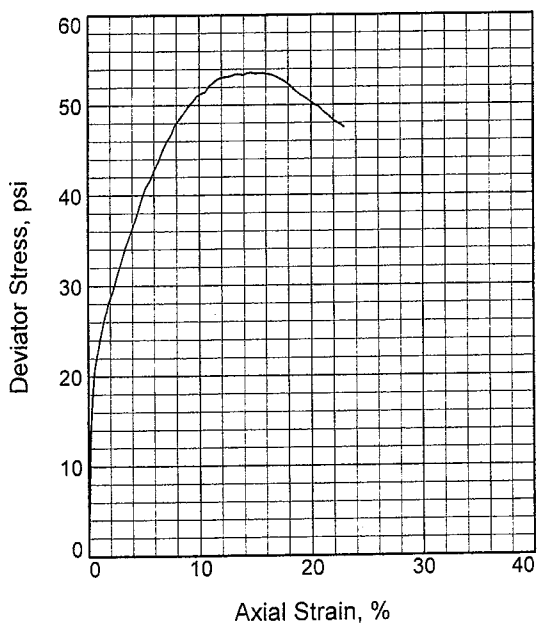
Figure 002

JLT Laboratories, Inc.

Tested By: MS **Checked By:** JB

	Total	Effective
C, psi	26.79	26.79
ϕ, deg	0	0
Tan(ϕ)	0	0





Sample No.		1
Initial	Water Content,	22.4
	Dry Density, pcf	104.4
	Saturation,	97.3
	Void Ratio	0.6267
	Diameter, in.	2.830
	Height, in.	5.400
At Test	Water Content,	20.3
	Dry Density, pcf	109.3
	Saturation,	100.0
	Void Ratio	0.5534
	Diameter, in.	2.787
	Height, in.	5.318
Strain rate, in./min.		0.005
Eff. Cell Pressure, psi		27.8
Fail. Stress, psi		53.6
Total Pore Pr., psi		56.7
Strain, %		14.7
Ult. Stress, psi		
Total Pore Pr., psi		
Strain, %		
$\bar{\sigma}_1$ Failure, psi		74.7
$\bar{\sigma}_3$ Failure, psi		21.1

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: WB-18 SB-123
Lab ID: 22938

Assumed Specific Gravity= 2.72
Remarks:

Client: PW Laboratories, Inc.

Project: Honeywell Waste Beds

Sample Number: WB-18 **Depth:** 72 to 74 ft

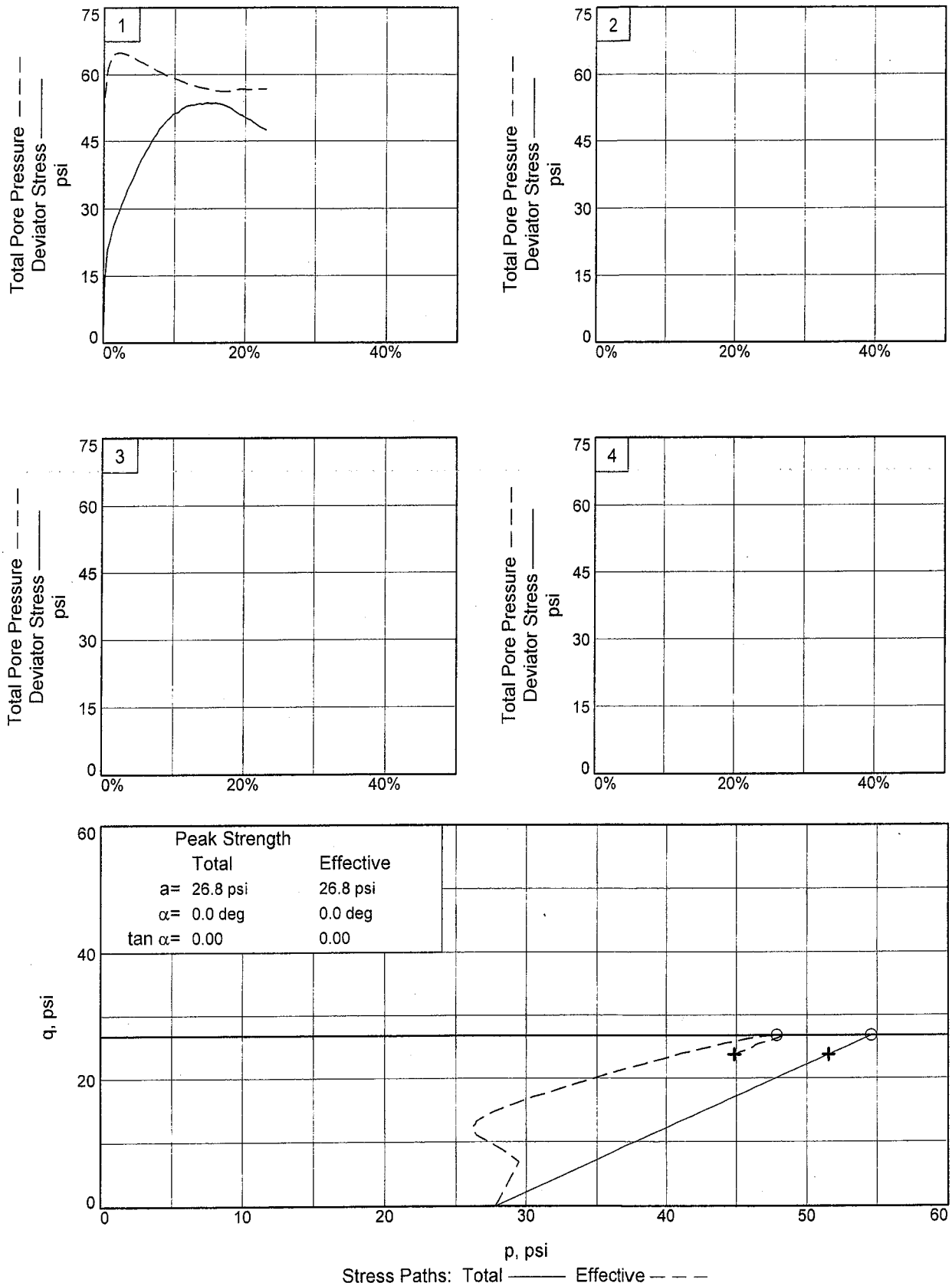
Proj. No.: 07LS1192.03 **Date:** 12/24/07

TRIAXIAL SHEAR TEST REPORT

JLT Laboratories, Inc.

Figure 001

Tested By: MS **Checked By:** JB



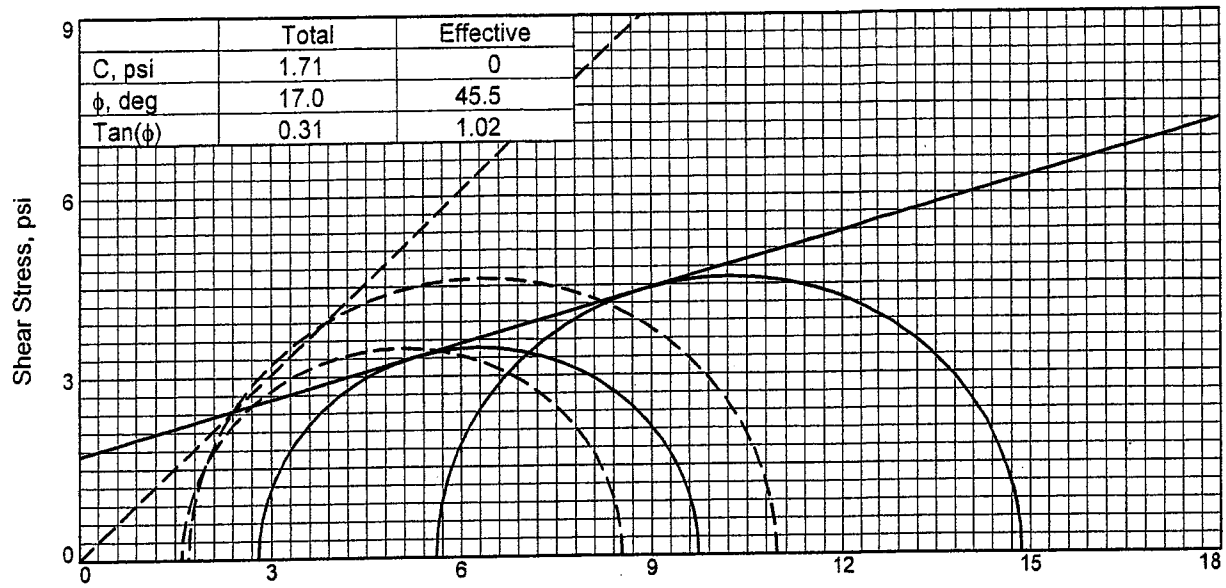
Client: PW Laboratories, Inc.
Project: Honeywell Waste Beds
Sample Number: WB-18
Project No.: 07LS1192.03

Figure 002

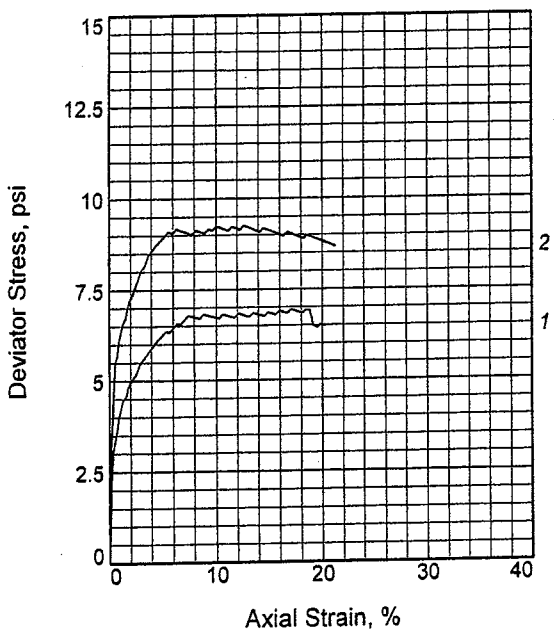
JLT Laboratories, Inc.

Tested By: MS **Checked By:** JB

	Total	Effective
C, psi	1.71	0
ϕ, deg	17.0	45.5
Tan(ϕ)	0.31	1.02



Total Normal Stress, psi ———
Effective Normal Stress, psi — — —



Sample No.		1	2
Initial	Water Content,	264.80	286.40
	Dry Density, pcf	20.5	19.2
	Saturation,	99.5	99.8
	Void Ratio	7.053	7.601
	Diameter, in.	2.84	2.83
	Height, in.	5.68	5.60
At Test	Water Content,	239.50	249.40
	Dry Density, pcf	22.51	21.73
	Saturation,	100.0	100.0
	Void Ratio	6.347	6.609
	Diameter, in.	2.72	2.72
	Height, in.	5.63	5.38
Strain rate, in./min.		0.005	0.005
Eff. Cell Pressure, psi		2.8	5.6
Fail. Stress, psi		6.9	9.3
Total Pore Pr., psi		51.2	53.9
Strain, %		17.0	12.6
Ult. Stress, psi			
Total Pore Pr., psi			
Strain, %			
$\bar{\sigma}_1$ Failure, psi		8.5	11.0
$\bar{\sigma}_3$ Failure, psi		1.6	1.7

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: WB-18 SB-108
Lab ID: 22871

Assumed Specific Gravity= 2.65
Remarks:

Client: PW Laboratories, Inc.

Project: Honeywell Waste Beds

Sample Number: WB-18 **Depth:** 10 to 12 ft

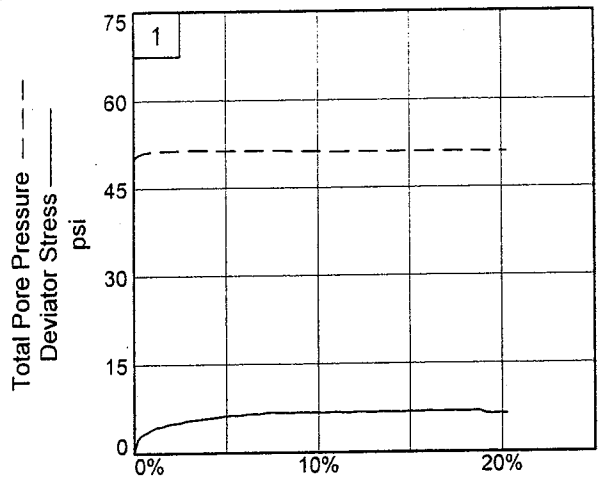
Proj. No.: 07LS1192.02 **Date:** 12/20/07

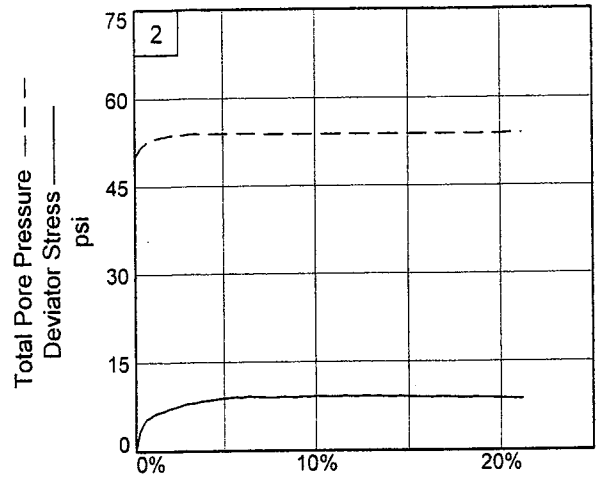
TRIAXIAL SHEAR TEST REPORT

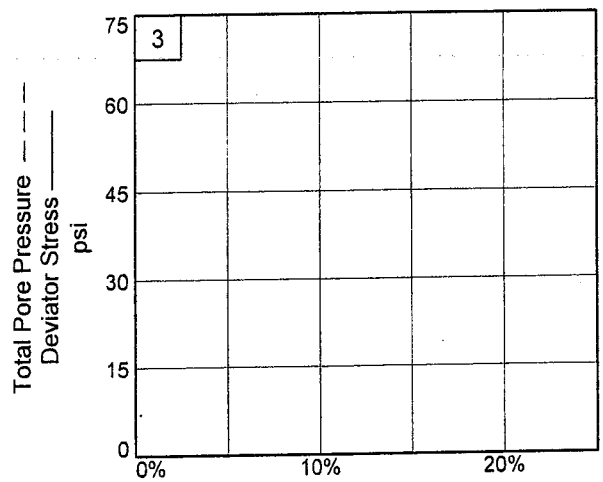
JLT Laboratories, Inc.

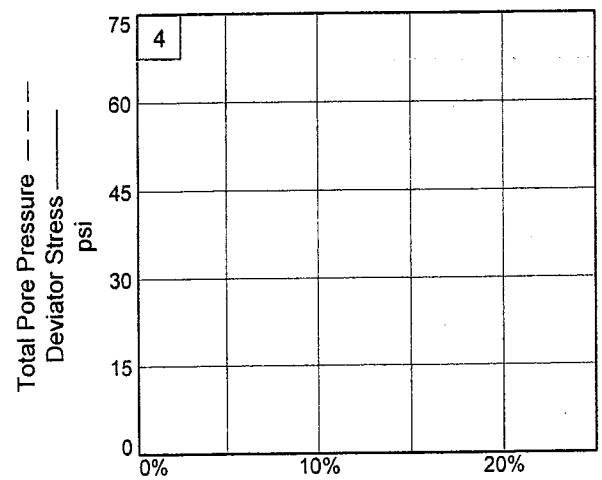
Figure 001

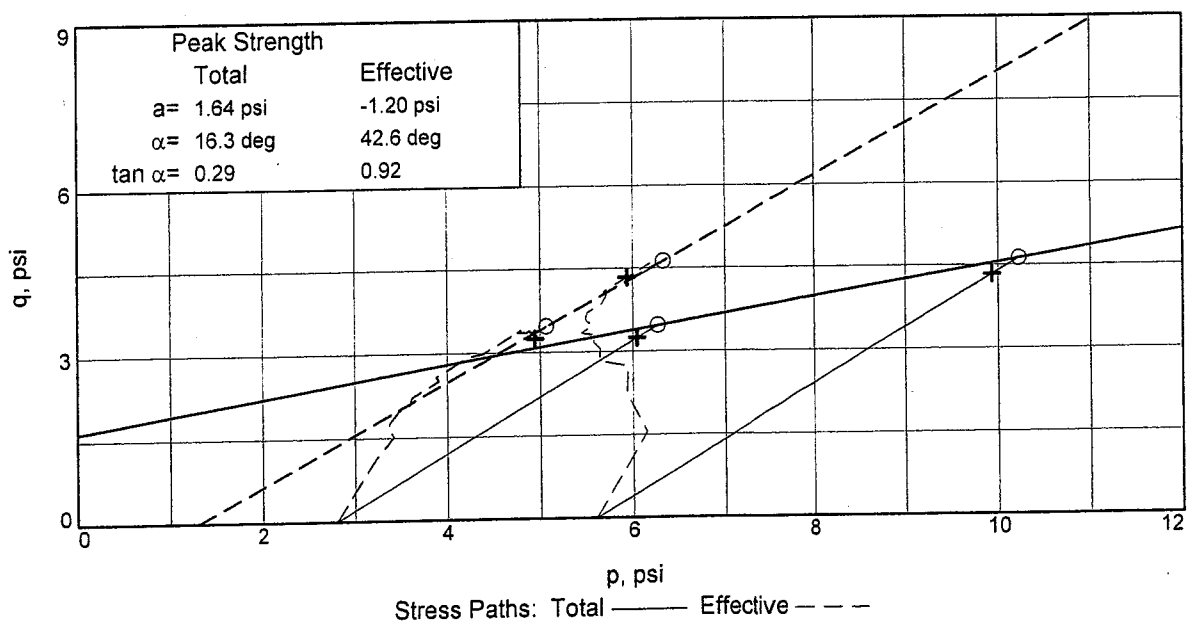
Tested By: MS **Checked By:** JB









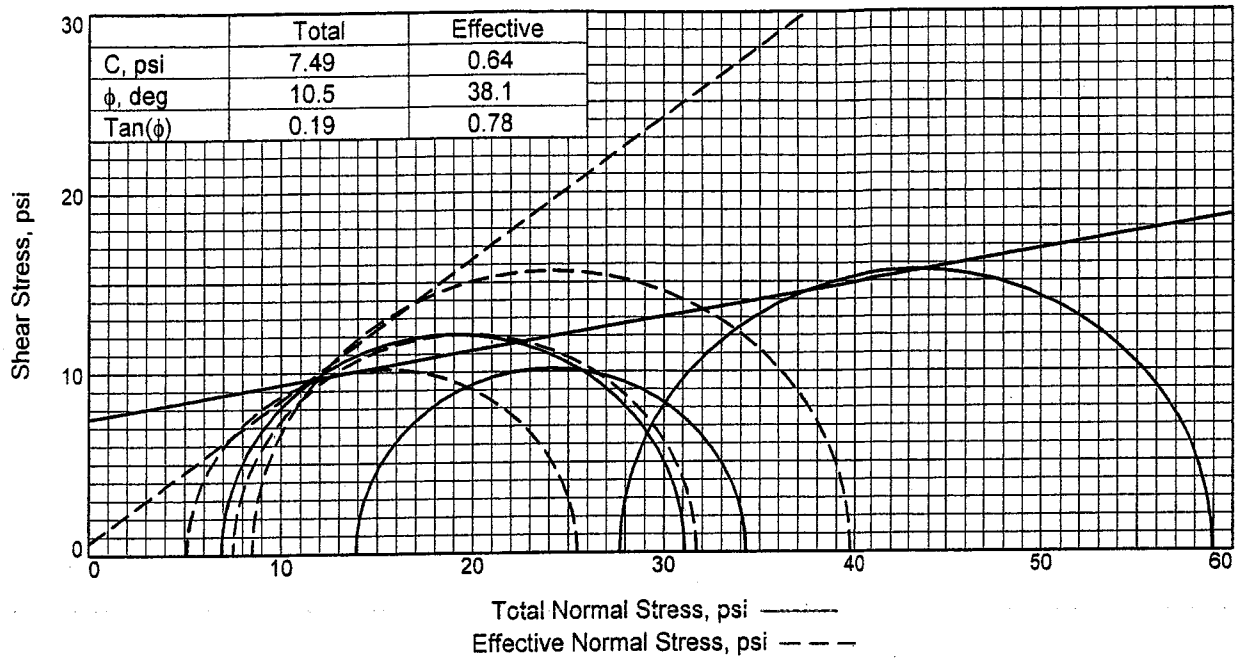


Client: PW Laboratories, Inc.
Project: Honeywell Waste Beds
Sample Number: WB-18
Project No.: 07LS1192.02

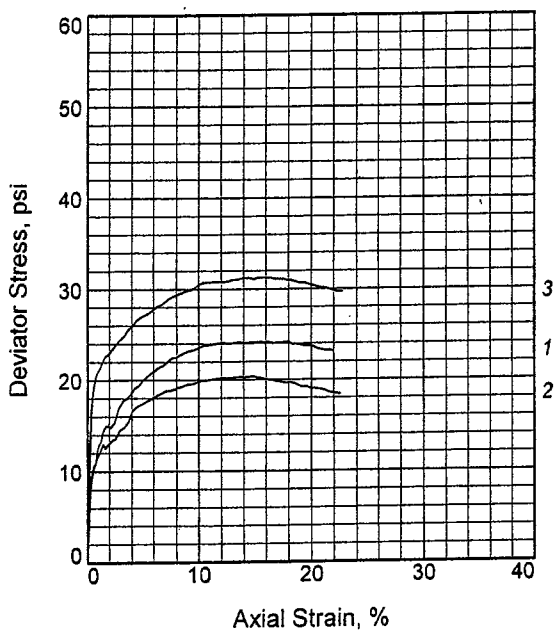
Figure 002.

JLT Laboratories, Inc.

Tested By: MS **Checked By:** JB



	Total	Effective
C, psi	7.49	0.64
ϕ, deg	10.5	38.1
Tan(ϕ)	0.19	0.78



Sample No.		1	2	3
Initial	Water Content,	57.70	64.30	53.10
	Dry Density, pcf	66.0	58.8	69.2
	Saturation,	99.8	92.7	99.4
	Void Ratio	1.573	1.886	1.452
	Diameter, in.	2.83	2.82	2.83
	Height, in.	5.72	5.55	5.56
At Test	Water Content,	48.20	53.50	44.00
	Dry Density, pcf	73.44	69.13	77.26
	Saturation,	100.0	100.0	100.0
	Void Ratio	1.311	1.455	1.197
	Diameter, in.	2.71	2.63	2.73
	Height, in.	5.56	5.42	5.37
Strain rate, in./min.		0.005	0.005	0.005
Eff. Cell Pressure, psi		6.9	13.9	27.7
Fail. Stress, psi		24.2	20.4	31.2
Total Pore Pr., psi		49.4	58.8	69.2
Strain, %		15.5	14.8	16.4
Ult. Stress, psi				
Total Pore Pr., psi				
Strain, %				
$\bar{\sigma}_1$ Failure, psi		31.7	25.5	39.7
$\bar{\sigma}_3$ Failure, psi		7.5	5.1	8.5

Type of Test:
CU with Pore Pressures
Sample Type: Shelby Tube
Description: WB-18 SB-105
Lab ID: 22903

Assumed Specific Gravity= 2.72
Remarks:

Figure 001

Client: PW Laboratories, Inc.

Project: Honeywell Waste Beds

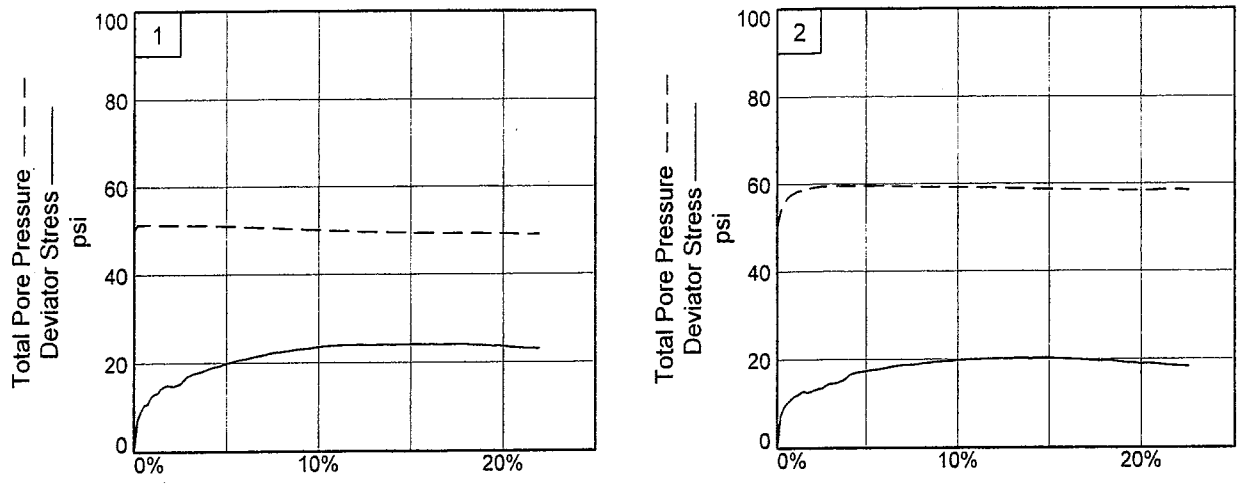
Sample Number: WB-18 **Depth:** 34 to 36 ft

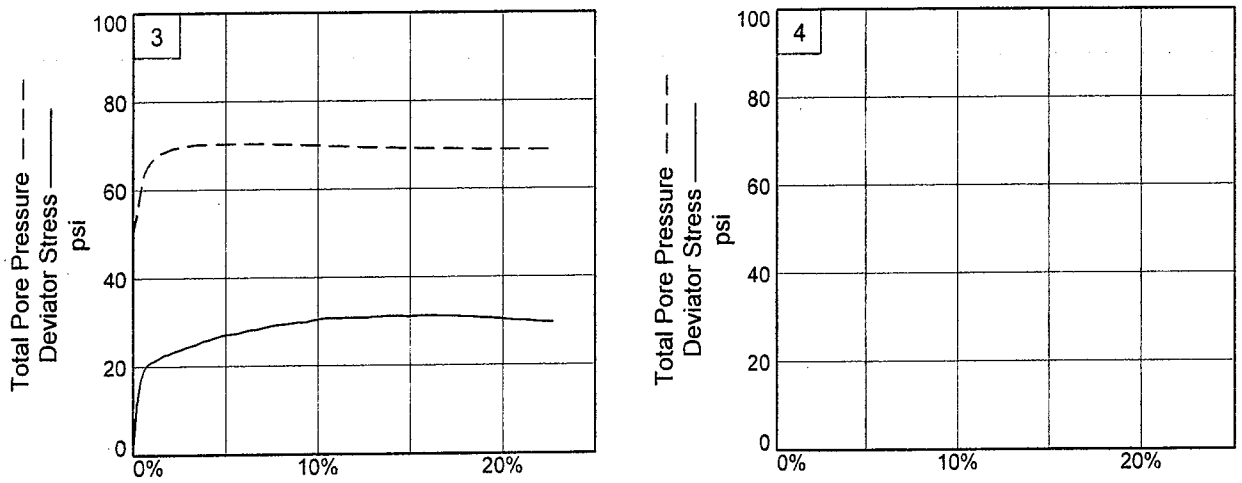
Proj. No.: 07LS1192.02 **Date:** 12/20/07

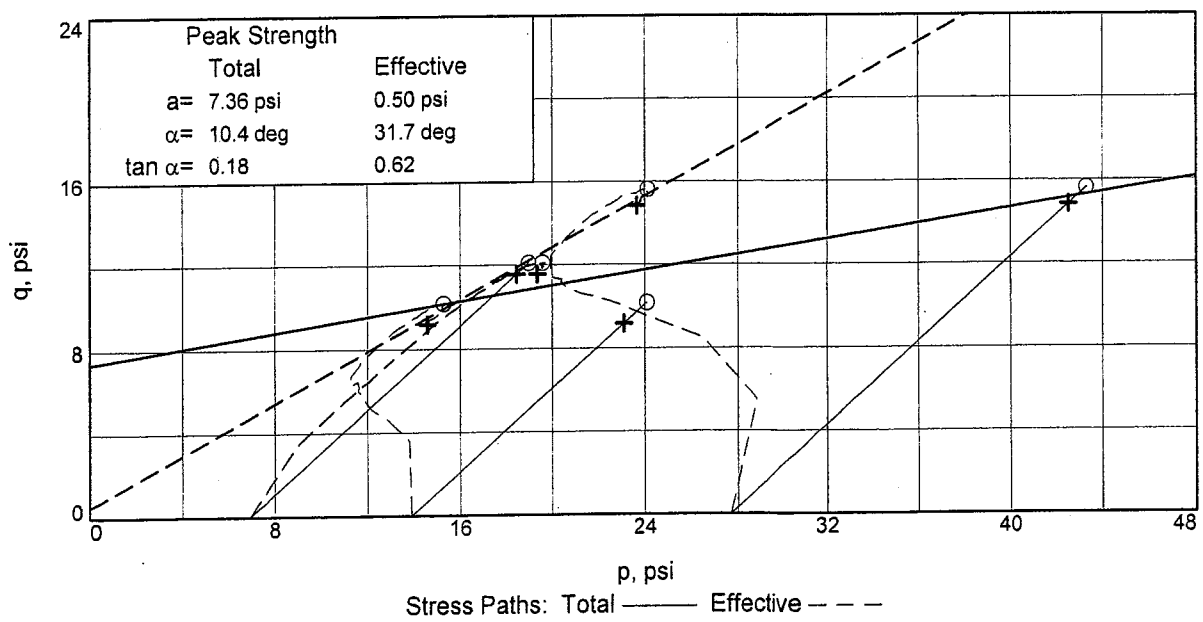
TRIAXIAL SHEAR TEST REPORT

JLT Laboratories, Inc.

Tested By: HH **Checked By:** JB







Client: PW Laboratories, Inc.
Project: Honeywell Waste Beds
Sample Number: WB-18
Project No.: 07LS1192.02

Figure 002

JLT Laboratories, Inc.

Tested By: HH **Checked By:** JB

p-w labs
PW LABORATORIES,INC.
P.O. BOX 56, 5879 FISHER ROAD, EAST SYRACUSE, NY 13057
315-437-1420 • 866-7PW-LABS • Fax 315-437-1752

Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: January 11, 2008 Test Start Date: January 4, 2008

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-123 Lab I.D. # 22936

ST No -- Depth/Lift/Elev: 32.0' - 34.0' Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction -- Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 143.6

Final Degree of Saturation (B Value) (%) 100 Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial 33.4

Final Moisture Content (% of Dry Weight) 138.4 Final Dry Unit Weight (PCF) 36.0

Confining Pressure (PSI)	71.0	Test (head) Pressure (PSI)	68.0	Tail (back) Pressure (PSI)	64.0

Initial Gradient	29.0	Initial Height (cm)	9.70	Initial Diameter (cm)	7.28
Final Gradient	29.4	Final Height (cm)	9.56	Final Diameter (cm)	7.06

8.12×10^{-6} 8.13×10^{-6}

8.14×10^{-6} 8.03×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 8.10×10^{-6}

Project Specfications --

Notes:

PW Laboratories, Inc.
5879 Fisher Road
P.O. Box 56
East Syracuse, New York 13057
Phone (315) 437 - 1420
Fax (315) 437 - 1752
pwlabsinc@hotmail.com

December 20, 2007

L - 07012
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
22927	WB18-SB-93	4.0 - 6.0	170.6
22928	WB18-SB-93	12.0 - 14.0	97.3
22929	WB18-SB-93	28.0 - 30.0	72.0
22930	WB18-SB-123	8.0 - 10.0	123.1
22931	WB18-SB-123	20.0 - 22.0	187.2
22932	WB18-SB-123	44.0 - 46.0	186.8
22933	WB18-SB-119	8.0 - 10.0	203.9
22934	WB18-SB-119	18.0 - 20.0	113.2
22935	WB18-SB-119	44.0 -46.0	140.2

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pwlabsinc@hotmail.com

SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT # L-07217
TEST METHOD ASTM D422 & D1140

REPORT # 9
REPORT DATE December 20, 2007

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	3/4"	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200				
22928	WB18-SB-93	12.0 - 14.0	100	97.7	94.3	91.3	89.3	85.1	68.5	63.1	57.2	47.9	40.0				
22935	WB18-SB-119	44.0 - 46.0	--	100	98.3	95.3	94.4	90.0	78.3	74.4	69.3	62.2	56.1				

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: JB

Checked By: V.J. Thoma

PW Laboratories, Inc.
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December 20, 2007

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22928	WB18-SB-93	12.0 - 14.0	Non-Plastic	--	--
22935	WB18-SB-119	44.0 - 46.0	Non-Plastic	--	--

PW Laboratories, Inc.
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pwlabsinc@hotmail.com

December 18, 2007

L - 07012
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
22879	WB18-SB-104	2.0 - 4.0	200.5
22880	WB18-SB-104	4.0 - 6.0	161.9
22881	WB18-SB-104	6.0 - 8.0	88.1
22882	WB18-SB-97	8.0 - 10.0	219.6
22883	WB18-SB-97	20.0 - 22.0	132.7
22884	WB18-SB-97	30.0 - 32.0	229.7
22885	WB18-SB-101	6.0 - 8.0	264.6
22886	WB18-SB-101	14.0 - 16.0	228.6
22887	WB18-SB-101	24.0 - 26.0	221.3
22888	WB18-SB-105	4.0 - 6.0	157.6
22889	WB18-SB-105	16.0 - 18.0	166.8
22890	WB18-SB-105	24.0 - 26.0	166.2
22891	WB18-SB-109	6.0 - 8.0	200.2
22892	WB18-SB-109	20.0 -22.0	147.1
22893	WB18-SB-109	28.0 - 30.0	170.4
22894	WB18-SB-113	22.0 - 24.0	56.2
22895	WB18-SB-113	26.0 - 28.0	70.7
22896	WB18-SB-113	32.0 - 34.0	30.3
22897	WB18-SB-117	8.0 - 10.0	248.7
22898	WB18-SB-117	28.0 - 30.0	75.7
22899	WB18-SB-117	36.0 - 38.0	37.0
22900	WB18-SB-122	4.0 - 6.0	150.6
22901	WB18-SB-122	10.0- 12.0	150.4
22902	WB18-SB-122	20.0 -22.0	217.9

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT # L-07217

TEST METHOD ASTM D422 & D1140

REPORT # 8

REPORT DATE December 18, 2007

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200							
22880	WB18-SB-104	4.0 - 6.0	--	--	100	99.9	99.6	99.5	99.5	99.1	99.0							
22882	WB18-SB-97	8.0 - 10.0	--	--	--	100	99.8	99.8	99.8	99.3	99.1							
22885	WB18-SB-101	6.0 - 8.0	--	--	100	99.7	99.7	99.7	99.7	99.7	99.4							
22889	WB18-SB-105	16.0 - 18.0	--	--	100	99.8	99.6	99.6	99.4	89.9	89.7							
22891	WB18-SB-109	6.0 - 8.0	--	--	100	99.8	99.8	99.8	99.8	99.6	99.6							
22894	WB18-SB-113	22.0 - 24.0	100	99.3	98.8	98.0	97.1	96.6	95.8	92.1	71.1							
22899	WB18-SB-117	36.0 - 38.0	--	100	99.4	94.6	83.7	78.7	76.7	61.1	52.8							
22901	WB18-SB-122	10.0 - 12.0	--	--	--	100	99.8	99.8	99.5	98.8	98.1							

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: JB

Checked By: V.J. Thoma

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December 18, 2007

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22880	WB18-SB-104	4.0 - 6.0	Non-Plastic	--	--
22882	WB18-SB-97	8.0 - 10.0	Non-Plastic	--	--
22885	WB18-SB-101	6.0 - 8.0	Non-Plastic	--	--
22889	WB18-SB-105	16.0 - 18.0	Non-Plastic	--	--
22891	WB18-SB-109	6.0 - 8.0	Non-Plastic	--	--
22894	WB18-SB-113	22.0 - 24.0	Non-Plastic	--	--
22899	WB18-SB-117	36.0 - 38.0	Non-Plastic	--	--
22901	WB18-SB-122	10.0 - 12.0	Non-Plastic	--	--

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December 10, 2007

L - 07012
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
22872	WB18 - SB - 108	2.0 - 4.0	165.8
22873	WB18 - SB - 108	4.0 - 6.0	152.1
22874	WB18 - SB - 108	8.0 - 10.0	177.9
22875	WB18 - SB - 112	6.0 - 8.0	62.0
22876	WB18 - SB - 112	22.0 - 24.0	47.5
22877	WB18 - SB - 112	32.0 - 34.0	33.3

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SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT # L-07217
TEST METHOD ASTM D422 & D1140

REPORT # 7
REPORT DATE December 10, 2007

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	3/4"	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200					
22874	WB18-SB-108	8.0 - 10.0	--	100	96.3	96.3	95.8	94.3	93.0	92.7	92.4	91.3	90.8					
22875	WB18-SB-112	22.0 -24.0	--	--	--	--	100	99.9	98.9	97.9	97.8	90.4	83.4					

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: JB

Checked By: V.J. Thoma

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December 10, 2007

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22874	WB18-SB-108	8.0 - 10.0	Non-Plastic	--	--
22875	WB18-SB-112	12.0 -24.0	25	30	5

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December 10, 2007

L - 07217
Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS
PO #10710820EST

SPECIFIC GRAVITY OF SOILS
ASTM D854

Lab I.D. #	Sample #	Depth (feet)	(D854) Minus No. 4 Fraction Specific Gravity of Solids (G)
22817	WB18-SB-71	20.0 - 22.0	2.69
22824	WB18-SB-73	34.0 - 36.0	2.73
22827	WB18-SB-74	14.0 - 16.0	2.67

SIEVE ANALYSIS OF
SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT # L-07217
TEST METHOD ASTM D422 & D1140

REPORT # 3
REPORT DATE November 28, 2007

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	3/4"	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200				
22783	WB18 - SB - 61	18.0 - 20.0	--	--	100	99.4	98.9	98.3	96.5	95.7	93.5	87.6	79.3				
22784	WB18 - SB - 62	4.0 - 6.0	--	--	--	100	99.8	98.7	94.4	93.0	92.8	85.5	78.8				
22787	WB18 - SB - 63	24.0 - 26.0	--	--	--	--	100	99.9	99.8	99.7	99.7	99.4	98.8				
22789	WB18 - SB - 64	8.0 - 10.0	100	98.6	96.9	85.9	82.5	74.8	67.4	65.3	62.6	48.8	37.5				
22791	WB18 - SB - 65	12.0 - 14.0	100	98.0	97.0	91.9	87.6	80.1	73.8	72.0	67.5	58.2	48.0				
22792	WB18 - SB - 67	8.0 - 10.0	--	--	--	100	99.1	98.7	95.6	93.8	91.6	79.1	67.2				
22796	WB18 - SB - 68	6.0 - 8.0	--	100	98.5	97.4	97.0	96.0	93.7	92.4	90.9	81.0	72.5				

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: LS, JB

Checked By: V.J. Thoma

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December 10, 2007

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22874	WB18-SB-108	8.0 - 10.0	Non-Plastic	--	--
22875	WB18-SB-112	22.0 -24.0	25	30	5

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November 28, 2007

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Laboratory Testing
Honeywell
Wastebeds 1 - 8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
22782	WB18 - SB - 61	4.0 - 6.0	49.6
22783	WB18 - SB - 61	18.0 - 20.0	41.5
22784	WB18 - SB - 62	4.0 - 6.0	134.0
22785	WB18 - SB - 62	24.0 - 26.0	43.2
22786	WB18 - SB - 63	10.0 - 12.0	79.5
22787	WB18 - SB - 63	24.0 - 26.0	31.2
22788	WB18 - SB - 64	0.0 - 2.0	41.5
22789	WB18 - SB - 64	8.0 - 10.0	64.5
22790	WB18 - SB - 65	4.0 - 6.0	31.7
22791	WB18 - SB - 65	12.0 - 14.0	67.4
22792	WB18 - SB - 67	8.0 - 10.0	87.1
22794	WB18 - SB - 67	16.0 - 18.0	60.6
22796	WB18 - SB - 68	6.0 - 8.0	98.8
22797	WB18 - SB - 68	14.0 - 16.0	114.0

SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT # L-07217
TEST METHOD ASTM D422 & D1140

REPORT # 3
REPORT DATE November 28, 2007

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	3/4"	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200					
22783	WB18 - SB - 61	18.0 - 20.0	--	--	100	99.4	98.9	98.3	96.5	95.7	93.5	87.6	79.3					
22784	WB18 - SB - 62	4.0 - 6.0	--	--	--	100	99.8	98.7	94.4	93.0	92.8	85.5	78.8					
22787	WB18 - SB - 63	24.0 - 26.0	--	--	--	--	100	99.9	99.8	99.7	99.7	99.4	98.8					
22789	WB18 - SB - 64	8.0 - 10.0	100	98.6	96.9	85.9	82.5	74.8	67.4	65.3	62.6	48.8	37.5					
22791	WB18 - SB - 65	12.0 - 14.0	100	98.0	97.0	91.9	87.6	80.1	73.8	72.0	67.5	58.2	48.0					
22792	WB18 - SB - 66	8.0 - 10.0	--	--	--	100	99.1	98.7	95.6	93.8	91.6	79.1	67.2					
22796	WB18 - SB - 68	6.0 - 8.0	--	100	98.5	97.4	97.0	96.0	93.7	92.4	90.9	81.0	72.5					

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: LS, JB

Checked By: V.J. Thoma

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November 28, 2007

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22783	WB18 - SB - 61	18.0 - 20.0	34	35	1
22784	WB18 - SB - 62	4.0 - 6.0	Non-Plastic	--	-
22787	WB18 - SB - 63	24.0 - 26.0	18	26	8
22789	WB18 - SB - 64	8.0 - 10.0	Non-Plastic	--	--
22791	WB18 - SB - 65	12.0 - 14.0	Non-Plastic	--	--
22792	WB18 - SB - 67	8.0 - 10.0	Non-Plastic	--	--
22796	WB18 - SB - 68	6.0 - 8.0	Non-Plastic	--	--

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: November 27, 2007 Test Start Date: November 15, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-52 Lab I.D. # 22748

ST No -- Depth/Lift/Elev: 20.0' - 22.0' Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction -- Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 45.9

Final Degree of Saturation (B Value) (%) 100 Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial --

Final Moisture Content (% of Dry Weight) 43.7 Final Dry Unit Weight (PCF) 85.8

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient -- Initial Height (cm) -- Initial Diameter (cm) 6.98

Final Gradient 20.4 Final Height (cm) 13.80 Final Diameter (cm) 6.90

Final Four Determinations k (cm/sec)

4.56×10^{-4} 4.56×10^{-4}

4.56×10^{-4} 4.56×10^{-4}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 4.56×10^{-4}

Project Specfications --

Notes:

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: November 27, 2007 Test Start Date: November 15, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-54 Lab I.D. # 22751

ST No -- Depth/Lift/Elev: 22.0' - 24.0' Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction -- Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 64.3

Final Degree of Saturation (B Value) (%) 96 Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial --

Final Moisture Content (% of Dry Weight) 60.4 Final Dry Unit Weight (PCF) 67.5

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient -- Initial Height (cm) -- Initial Diameter (cm) 6.97

Final Gradient 25.8 Final Height (cm) 10.92 Final Diameter (cm) 6.98

Final Four Determinations k (cm/sec)

5.23×10^{-6} 5.32×10^{-6}

5.28×10^{-6} 5.37×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 5.30×10^{-6}

Project Specfications --

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter
ASTM D5084

Report Date: November 27, 2007 Test Start Date: November 15, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-55 Lab I.D. # 22752

ST No -- Depth/Lift/Elev: 16.0' - 18.0' Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction -- Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 78.4

Final Degree of Saturation (B Value) (%) 100 Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial --

Final Moisture Content (% of Dry Weight) 74.6 Final Dry Unit Weight (PCF) 58.5

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient -- Initial Height (cm) -- Initial Diameter (cm) 6.92

Final Gradient 35.7 Final Height (cm) 7.88 Final Diameter (cm) 6.95

Final Four Determinations k (cm/sec)

5.04×10^{-6} 5.13×10^{-6}

5.09×10^{-6} 5.18×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 5.11×10^{-6}

Project Specfications --

Notes:

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: November 27, 2007 Test Start Date: November 15, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-56 Lab I.D. # 22753

ST No -- Depth/Lift/Elev: 6.0' - 8.0' Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction -- Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 206.1

Final Degree of Saturation (B Value) (%) 98 Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial --

Final Moisture Content (% of Dry Weight) 108.6 Final Dry Unit Weight (PCF) 29.1

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient -- Initial Height (cm) -- Initial Diameter (cm) 6.97

Final Gradient 24.5 Final Height (cm) 11.48 Final Diameter (cm) 6.95

Final Four Determinations k (cm/sec)

2.62×10^{-6} 2.65×10^{-6}

2.63×10^{-6} 2.66×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 2.64×10^{-6}

Project Specfications --

Notes:

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Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D5084

Report Date: November 27, 2007

Test Start Date: November 15, 2007

Project No. L-07217 Project Title: Honeywell, Wastebeds 1-8 FFS

Test Sample Location WB18-SB-57 Lab I.D. # 22754

ST No -- Depth/Lift/Elev: 12.0' - 14.0'

Type of Sample:

Method of Compaction -- Undisturbed X Remolded --

Percent Compaction --

Moisture Content (% of Dry Weight)

Initial Degree of Saturation (B Value) (%) -- Optimum -- Initial 56.3

Final Degree of Saturation (B Value) (%) 96

Dry Unit Weight (PCF)

Permeant Liquid Used Deaired Deionized H_2O Maximum -- Initial --

Final Moisture Content (% of Dry Weight) 44.6 Final Dry Unit Weight (PCF) 87.8

Confining Pressure (PSI) 71.0 Test (head) Pressure (PSI) 68.0 Tail (back) Pressure (PSI) 64.0

Initial Gradient -- Initial Height (cm) -- Initial Diameter (cm) 6.97

Final Gradient 28.9 Final Height (cm) 9.73 Final Diameter (cm) 6.98

Final Four Determinations k (cm/sec)

2.18×10^{-6} 2.14×10^{-6}

2.11×10^{-6} 2.12×10^{-6}

Mean Value of Final Four Consecutive Determinations: Coefficient of Permeability k (cm/sec): 2.14×10^{-6}

Project Specfications --

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November 20, 2007

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
22762	WB18-SB-54	6.0 - 8.0	77.1
22763	WB18-SB-54	10.0 - 12.0	64.2
22764	WB18-SB-55	4.0 -6.0	41.9
22765	WB18-SB-55	22.0 - 24.0	71.0
22766	WB18-SB-56	0.0 - 2.0	39.5
22767	WB18-SB-56	10.0 - 12.0	64.3
22768	WB18-SB-57	4.0 - 6.0	120.0
22769	WB18-SB-57	18.0 - 20.0	55.7
22770	WB18-SB-58	0.0 - 2.0	56.2
22771	WB18-SB-60	2.0 - 4.0	53.5
22772	WB18-SB-60	26.0- 28.0	24.8

SIEVE ANALYSIS OF SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT # L-07217
TEST METHOD ASTM D422 & D1140

REPORT # 2
REPORT DATE November 20, 2007

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	3/4"	1/2"	3/8"	1/4"	#4	#10	#30	#40	#60	#100	#200					
22762	WB18-SB-54	6.0 - 8.0	100	97.7	95.2	91.0	89.6	83.7	66.1	58.8	52.4	40.8	33.5					
22765	WB18-SB-55	22.0 - 24.0	--	--	--	--	100	99.4	94.3	90.6	83.8	66.4	52.4					
22766	WB18-SB-56	0.0 - 2.0	--	100	98.5	95.1	89.8	71.1	41.2	34.4	24.3	17.8	12.1					
22769	WB18-SB-57	18.0 - 20.0	--	--	--	--	100	99.7	98.1	96.3	90.6	83.5	76.6					
22771	WB18-SB-60	2.0 - 4.0	100	96.6	90.8	80.5	74.0	60.7	39.2	33.8	24.8	17.7	12.3					

Sample mass, as received, meets minimum mass requirements of test method: Yes ____ No X

Prewashed: Yes X No ____

Remarks:

Performed By: PE

Checked By: V.J. Thoma

pw1/c/program files/ microsoft office/templates/laboratory reports/Sieve 22762, 22765, 22766, 22769, 22771

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November 20, 2007

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22762	WB18-SB-54	6.0 - 8.0	Non-Plastic	--	--
22765	WB18-SB-55	22.0 - 24.0	36	42	6
22766	WB18-SB-56	0.0 - 2.0	Non-Plastic	--	--
22769	WB18-SB-57	18.0 - 20.0	31	41	10
22771	WB18-SB-60	2.0 - 4.0	Non-Plastic	--	--

SIEVE ANALYSIS OF
SOIL / AGGREGATE

PROJECT TITLE Laboratory Testing
Honeywell
Wastebeds 1-8FFS

PROJECT # L-07217
TEST METHOD ASTM D422 & D1140

REPORT # 1
REPORT DATE November 19, 2007

			Sieve Size - Percent Passing Sieve															
Lab I.D. #	Sample	Depth (feet)	#4	#10	#30	#40	#60	#100	#200									
22746	WB18-SB-52	14.0 - 16.0	--	100	98.2	96.9	93.2	88.7	82.4									
22750	WB18-SB-53	10.0 - 12.0	100	99.7	96.7	95.1	91.2	85.7	78.3									

Sample mass, as received, meets minimum mass requirements of test method: Yes X No ____

Prewashed: Yes X No ____

Remarks:

Performed By: PE

Checked By: V.J. Thoma

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November 19, 2007

L-07217
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

ATTERBERG LIMITS
ASTM D4318

Lab ID #	Sample #	Depth (feet)	Plastic Limit	Liquid Limit	Plasticity Index
22746	WB18-SB-52	14.0 - 16.0	Non-Plastic	--	--
22750	WB18-SB-53	10.0 - 12.0	29	39	10

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November 19, 2007

L-07012
Laboratory Testing
Honeywell
Wastebeds 1-8FFS

NATURAL MOISTURE CONTENT
ASTM D2216

Lab I.D. #	Sample #	Depth (feet)	Moisture Content as a Percent of Dry Weight
22746	WB18-SB-52	14.0 - 16.0	212.4
22747	WB18-SB-52	24.0 - 26.0	47.4
22748	WB18-SB-53	2.0 - 4.0	60.2
22749	WB18-SB-53	10.0 - 12.0	60.2

ATTACHMENT C

Test Pit Field Memorandum

The following memorandum provides a summary of test pit activities associated with the Honeywell Wastebeds 1-8 Shallow Ground Water Focused Feasibility Study (WB 1-8 FFS). The investigation was conducted to evaluate the physical characteristics of the subsurface material relevance to technologies/alternatives and to evaluate the presence of wetland indicators including wetland (hydric) soil and wetland hydrologic characteristics. The physical characteristics include ease of excavation, stability of excavation, and observations of general environmental conditions (e.g., staining or odors).

The test pit program consisted of the excavation and backfilling of five test pits (WB18-TP-29, through –33) on November 27 and 28, 2007. The test pit locations are presented on Figure 1. The excavation and backfilling activities were overseen by William Monette, a geotechnical engineer, and Ron Chiarello, a wetlands scientist, who completed a test pit log for each test pit documenting encountered subsurface strata and other pertinent observations (i.e., odors, staining, saturation). The test pit logs are presented as Attachment 1. A photograph log is provided as Attachment 2.

Each test pit was excavated and backfilled with a Hitachi – Zaxis 80 Excavator. This type and size of equipment was selected based on the topography and soil conditions of the area observed during a prior site visit. The locations of the test pits were selected based on existing information and information collected during the field reconnaissance and concurrence with the NYSDEC. The test pits were generally excavated at the locations selected prior to the field activities with the exception of test pits WB18-TP-31 and -33. These test pits were first excavated at the designated stake and then another was excavated approximately 10 ft from the original test pit to confirm that the hard Solvay Waste observed in these test pits were consistent for this area of the site.

Three of the test pits (WB18-TP-29, -30, and –32) were excavated to the Solvay Waste/marl interface at depths ranging from approximately 7 to 10 ft below the ground surface. The remaining test pits (WB18-TP-31 and –33) were excavated until hard Solvay Waste was encountered. This hard material was difficult to rip with the excavator. This hard Solvay Waste was encountered at depths ranging from approximately 1 to 2 ft below the ground surface. This material was ripped with the excavator in test pit WB18-TP-33 for an additional depth of approximately 1.5 ft before refusal was encountered. The test pits were excavated approximately 2.5 to 3.0 ft wide and 8.0 to 11.0 ft long.

With the exception of WB18-TP-33, each of the test pits was covered with plywood sheets and fenced off with orange construction fence after excavation of the pits. WB18-TP-33 was backfilled on November 27, 2007 upon completion of assessment of subsurface conditions. The remaining test pits were left open overnight. On November 28, 2007, the plywood sheets were removed and the test pits were assessed for subsurface material stability and ground water production. None of the test pit sidewalls caved overnight and water levels were recorded. The test pits were backfilled upon completion of these assessments.

A photoionization detector (PID) was used to screen the breathing zone and excavated material during the excavation. During excavation, no PID readings over 0.0 parts per million (ppm) were observed in the breathing zone. PID readings of the excavated material ranged from 0.0 to 5.0 ppm when taken from the bucket of the excavator. Field personnel observing the test pit activities were outfitted in Level D PPE.

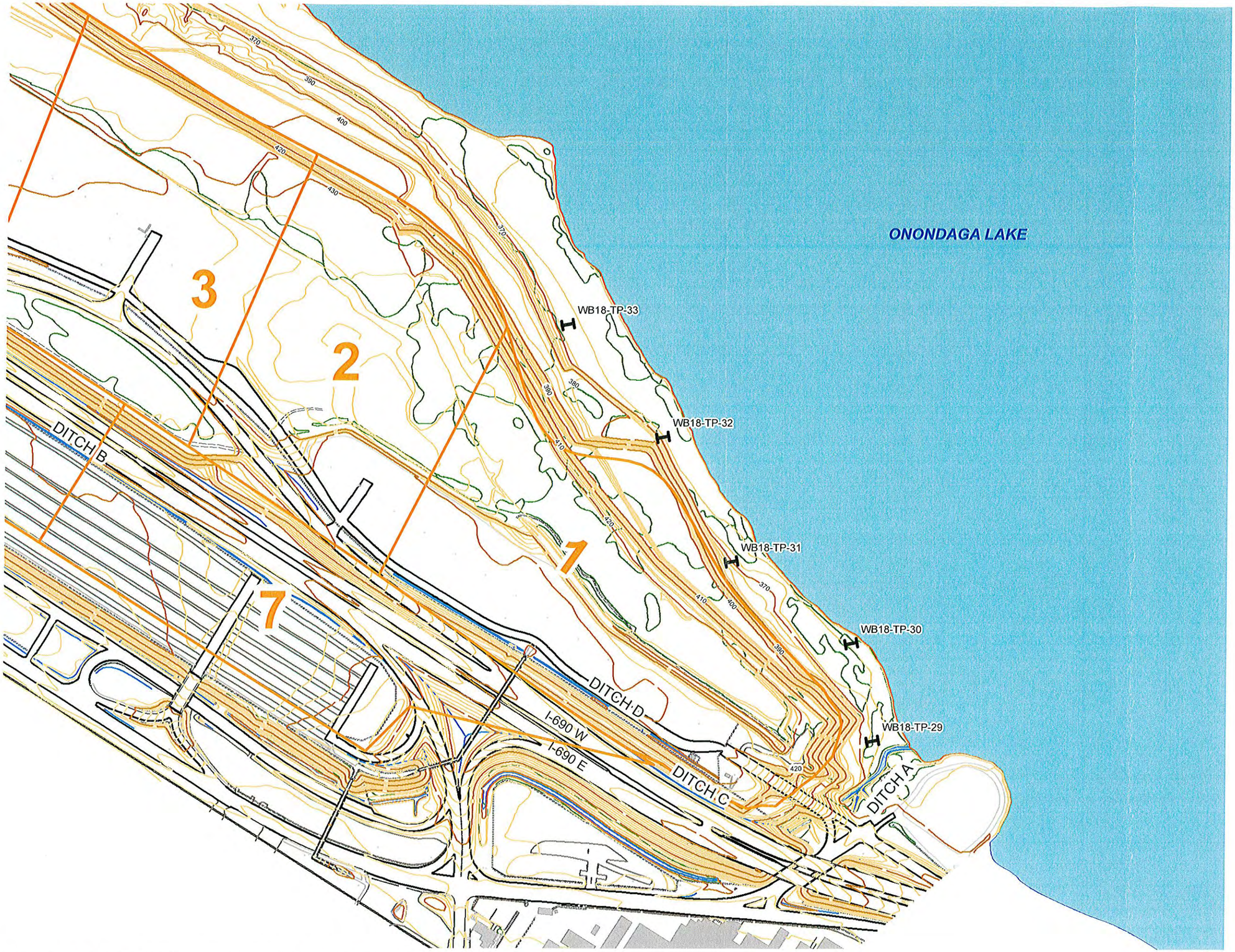
During the test pit activities, the subsurface conditions at each test pit within 2 feet of the ground surface were evaluated by a wetlands scientist for the presence of wetland (hydric) soil indicators including sulfidic odor, high organic content, gleyed or low-chroma soil colors, soil mottling and organic streaking and hydrologic indicators including inundation and soil saturation within 12 inches of the ground surface. It should be noted that the Syracuse area received approximately 2.21 inches of precipitation (rain) in the seven days prior to the test pit activities with 1.10 inches of rain occurring on November 26, 2007, the day before the test pits were excavated. Also, the to-date precipitation for the month of November 2007 was

in excess of to-date monthly average precipitation by approximately 0.79 inches (4.08 inches actual precipitation vs. 3.29 inches to-date monthly average). The following table provides descriptions of subsurface conditions at each test pit as they pertain to the hydric soil and wetland hydrologic assessment.

Test Pit No.	Hydric Soil Assessment	Wetland Hydrologic Assessment
WB18-TP-29	Low chroma conditions (10 YR 2/2 and 3/2) were observed in a medium loam to sandy loam mixed with waste; however, no mottling or other hydric soil characteristics were observed. Conditions observed do not indicate hydric soils conditions.	No surface inundation or saturation observed. Subsurface material was moist to 24 inches below ground surface (bgs). Standing water in pit and saturation at 24 inches bgs. Conditions observed do not indicate wetland hydrology.
WB18-TP-30	Low chroma conditions (10 YR 2/1) were observed in the top 3 inches of a sandy loam; however, chroma observed below 3 inches (2.5 Y 5/3) in loamy sand with mix of waste fine gravel and coarse sand is not indicative of hydric soil. No other hydric soil characteristics were observed. Conditions observed do not indicate hydric soil conditions.	No surface inundation or saturation observed. Subsurface material was moist from 3 to 15 inches bgs. Water entering pit at 11 inches bgs on day of excavation. Standing water in pit and saturation at 15 inches bgs day after excavation. Conditions observed do not indicate wetland hydrology.
WB18-TP-31	Low chroma conditions (10 YR 2/2) were observed in the top 4 inches of a sandy loam; however, chroma observed below 4 inches (2.5 Y 7/4) in a sand waste mix is not indicative of hydric soil. No other hydric soil characteristics were observed. Conditions observed do not indicate hydric soil conditions.	No surface inundation or saturation observed. Subsurface material was moist from 4 to 13 inches bgs. Water entering pit at 13 inches bgs on day of excavation at interface of waste sand mix and cemented waste. Standing water in pit and saturation at 13 inches bgs day after excavation. Conditions observed do not indicate wetland hydrology.
WB18-TP-32	Low chroma conditions (10 YR 2/2) were observed in the top 1 inch of a medium loam. From 1 to 3 inches bgs, chroma was 2.5 Y 4/2 in a sand waste mix. From 3 to 11 inches bgs, chroma was 2.5 Y 7/6 in a sand waste mix. No other hydric soil characteristics were observed. Conditions observed do not indicate hydric soil conditions.	No surface inundation or saturation observed. Water entering pit below at 24 inches bgs on day of excavation. Standing water in pit and saturation at 36 inches bgs day after excavation. Conditions observed do not indicate wetland hydrology.
WB18-TP-33	Low chroma conditions (10 YR 2/2) were observed in the top 1 inch of a medium loam with some organic materials. From 1 to 7 inches bgs, chroma was 2.5 Y 6/4 in a silt sand waste mix. White and light gray waste was observed below 7 inches bgs. No other hydric soil characteristics were observed. Conditions observed do not indicate hydric soil conditions.	No surface inundation or saturation observed. Water entering pit below at 7 inches bgs on day of excavation at interface of silt sand waste mix and cemented waste. Pit was abandoned and recovered upon hitting very hard waste layer at 30 inches bgs. Conditions observed indicate potential wetland hydrology (saturation within 12 inches of ground surface).

Based on the observations made during the test pit activities, no hydric soil characteristics were observed in the test pits performed. Potential wetland hydrology was observed in one test pit, WB18-TP-33. However, the presence of the water observed at a shallow depth (7 inches bgs) in WB18-TP-33 may not be indicative of normal conditions and is likely a result of the significant amount of precipitation (2.21 inches) the area received in the seven days prior to the excavation of the test pit.

FIGURE 1



LEGEND

TEST PIT

HONEYWELL
WASTEBEDS 1-8
FOCUSED FEASIBILITY STUDY
GEDDES, NEW YORK

TEST PIT LOCATION PLAN

0 125 250 500
Feet

FEBRUARY 2008
1163.41861

O'BRIEN & GERE

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PLOT DATE: 2/5/08 DIV 71 SJZ

This document was developed in color. Reproduction in B/W may not represent the data as intended.

Attachment 1

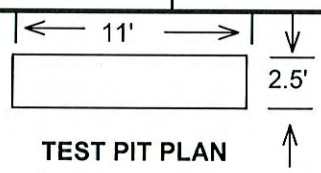
Test Pit Logs

O'BRIEN & GERE ENGINEERS, INC.	TEST PIT LOG	TEST PIT NO. WB18-TP-29
PROJECT: WB 1-8 FFS		JOB NO.: 41861
CLIENT: Honeywell		GROUND ELEV.:
CONTRACTOR: OGINA		DATUM:
EQUIPMENT: Hitachi -Zaxis 80 Excavator		GROUND WATER DEPTH: 2'
OPERATOR: Tony Geiss	TIME STARTED: 1015	DATE STARTED: 11/27/07
INSPECTOR: W. Monette/R. Chiarello	TIME FINISHED: 110	DATE FINISHED: 11/28/07

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1			0-3" 10 YR 2/2, moist, medium loam, roots to 20" 3-10" 10 YR 3/2, moist, sandy loam texture containing Solvay Waste/fill 10"-24" 2.5Y 5/3, moist, loamy sand texture comprised mostly of SW	rhizomes to 17" PID readings from bucket 0-4 ppm
2		▽	2.5 Y 5/2, 2.5 Y 4/2 Color variations throughout that layer-variation likely due to waste/sand mixing or waste placement methods	
3		2'	2.5Y 8/1, saturated, silty Solvay Waste Laminations of gray in this layer	GW entering test pit through sidewall at approx 2'
4				
5			Light gray, cemented silt and f. sand (Solvay Waste) difficult to rip with excavator	PID readings from 0-5 ppm
6				
7			Off-white/gray mottled saturated silty Solvay Waste w/ some green areas	
8			Light olive gray, saturated, silt, some shells, little f. sand (Marl) End of test pit at approx. 7'	

TEST PIT LOCATION AND NOTES:

Background PID 0.0 ppm
Test pit excavated on 11/27/07 and backfilled on 11/28/07
Final measurement of standing water level on 11/28/07 at approx 2' b.g.



TEST PIT PLAN

NORTH

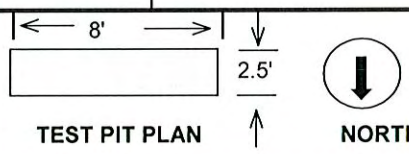
O'BRIEN & GERE ENGINEERS, INC.	TEST PIT LOG	TEST PIT NO. WB18-TP-30

PROJECT: WB 18-8 FFS		JOB NO.: 41861	
CLIENT: Honeywell		GROUND ELEV.:	
CONTRACTOR: OGINA		DATUM:	
EQUIPMENT: Hitachi -ZAXIS 80 Excavator		GROUND WATER DEPTH: 15'''	
OPERATOR: Tony Geiss	TIME STARTED: 1130	DATE STARTED: 11/27/07	
INSPECTOR: W. Monette/R. Chiarello	TIME FINISHED: 1200	DATE FINISHED: 11/28/07	

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		▽	0-3" 10YR 2/1, damp, high root mass, sandy loam 3-11" 2.5Y 5/3, moist, coarse loamy sand texture with some f. gravel, containing waste mix 11-15" whitish tan, saturated, cemented Solvay Waste mix	
2		11"	Laminated white/gray, hard, cemented silty sand (Slovay Waste)	
3			White, saturated, soft pasty silt (Solvay Waste) Excavated waste sticks to excavator bucket	
4				
5				PID readings 0-0.5 ppm
6				
7				
8			Marl at ~8' End of test pit at approx. 8'	

TEST PIT LOCATION AND NOTES:

Background PID 0.0 ppm
Test pit excavated on 11/27/07 and backfilled on 11/28/07
Final meaurement of standing water level on 11/28/07 at approx. 15" below grade



TEST PIT PLAN

O'BRIEN & GERE ENGINEERS, INC.	TEST PIT LOG	TEST PIT NO. WB18-TP-31

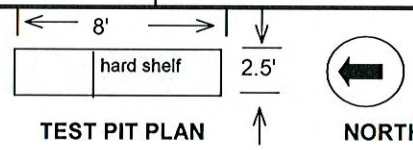
PROJECT: WB 1-8 FFS		JOB NO.: 41861	
CLIENT: Honeywell		GROUND ELEV.:	
CONTRACTOR: OGINA		DATUM:	
EQUIPMENT: Hitachi-Zaxis 80 Excavator		GROUND WATER DEPTH: 13"	
OPERATOR: Tony Geiss	TIME STARTED: 1210	DATE STARTED:	11/27/07
INSPECTOR: W. Monette/R. Chiarello	TIME FINISHED: 1300	DATE FINISHED:	11/28/07

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
			0-4" 10YR 2/2, damp, sandy loam, root zone	PID readings of 0.0 pmm
1		▽	4-13" 2.5 Y 7/4, moist, sand and waste mix, some variation in color (areas of darker orange)	
		13"	Layered gray and white, hard cemented Solvay Waste.	
2			Hard to rip	Water entering sidewall at approx. 13" below grade
			At 2' b.g. at midpoint of pit, excavator won't rip Solvay Waste	
3			At 3.5' b.g. in remainder of pit, excavator won't rip Solvay Waste	
4				
5				
6				
7				
8				
			Test pit moved 10' away from berm, hard waste encountered at 12" b.g.	
			Test pit abandoned (no sand layer)	

TEST PIT LOCATION AND NOTES:

Background PID 0.0 ppm
Test pit excavated on 11/27/07 and backfilled on 11/28/07
Hard shelf in text pit approx. 4 ft. from north face of test pit
Benzene odor present during excavation

Final measurement of standing water level on 11/28/07 at 2.5' below grade



TEST PIT PLAN **NORTH**

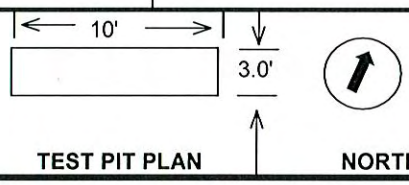
O'BRIEN & GERE ENGINEERS, INC.	TEST PIT LOG	TEST PIT NO. WB18-TP-32

PROJECT: WB1-8 FFS		JOB NO.: 41861	
CLIENT: Honeywell		GROUND ELEV.:	
CONTRACTC OGINA		DATUM:	
EQUIPMENT: Hitachi - Zaxis 80 Excavator		GROUND WATER DEPTH: 3'	
OPERATOR: Tony Geiss	TIME STARTED: 1310	DATE STARTED:	11/27/07
INSPECTOR: W. Monnette/ R. Chiarello	TIME FINISHED: 1405	DATE FINISHED:	11/28/07

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1			0-1" 10 YR 2/2 roots, medium loam 1-3" 2.5Y 4/2 sand/waste mix (mostly sand) 3-11" 2.5Y 7/6 Solvay Waste with some sand mixing	PID readings of 0.0 ppm
2			11-13" laminated white/light gray, moist, hard solvay waste (cemented silt/f. sand and softer layers) Orange/pink staining in first 2" of Solvay Waste. Benzene odor? No PID reading	
3		▽ 3'		
4				
5			White/light gray saturated pasty Solvay Waste when hole moved 3' from southern edge	
6				
7				PID readings of 0.0-4.0 ppm of excavated material
8			Green and blue wet, pasty Solvay Waste PID readings of 0-5 ppm. Benzene odor.	
9				
10			Marl at ~10' End of test pit at approx. 10'	

TEST PIT LOCATION AND NOTES:

Background PID 0.0 ppm
Test pit excavated on 11/27/07 and backfilled on 11/28/07
Final measurement of standing water level on 11/28/07 at approx 2.5' below grade



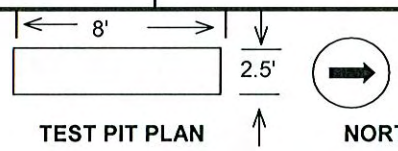
TEST PIT PLAN

O'BRIEN & GERE ENGINEERS, INC.	TEST PIT LOG	TEST PIT NO. WB18-TP-33

PROJEC WB 1-8 FFS		JOB NO.: 41861
CLIENT: Honeywell		GROUND ELEV.:
CONTRACTC OGINA		DATUM:
EQUIPMENT: Hitachi - Zaxis 80 Excavator		GROUND WATER DEPTH: 7"
OPERATOR: T. Geiss	TIME STARTED: 1400	DATE STARTED: 11/27/07
INSPECTOR: W. Monnette/ R. Chiarello	TIME FINISHED: 1450	DATE FINISHED: 11/28/07

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
		▽	0-1" 10yr 2/2 loam, some organic material, some roots 1-7" 2.5Y 6/4 silt, sand, waste mix	PID readings of 0.0 ppm
1		7"	7" White and light gray, laminated hard Solvay Waste hard to rip	GW entering sidewall at approx. 7" below grade
2				
3		2.5'	End of test pit at approx. 2.5'	
4				
5				
6				
7				
8				

TEST PIT LOCATION AND NOTES:
Excavated at stake and towards berm 10'. Both pits had refusal at ~1'
Test pit excavated and backfilled on 11/27/07
Benzene odor observed



TEST PIT PLAN **NORTH**

Attachment 2

Photograph Log

WB18-TP-29
November 28, 2007

WB18-TP-30
November 28, 2007

WB18-TP-31
November 28, 2007

WB18-TP-32
November 28, 2007

WB18-TP-33
November 27, 2007