

SOIL BORING LOG

CAMP STANLEY STORAGE ACTIVITY

BORING LOCATION: BURN AREA 2 (B-2)	BORING NUMBER: B2-SB1
SITE: CAMP STANLEY STORAGE ACTIVITY	CONTRACTOR: PARSONS ENGINEERING SCIENCE
PROJECT: WELL 16 SOURCE CHARACTERIZATION	DRILLING CONTRACTOR: JEDI
LOGGED BY: M. TOWN	REF. LOGBOOK: 1
BORING DEPTH (ft-BGL): 30	DRILLER: T. STARIN
BORING ELEVATION (ft-MSL):	DRILLING RIG: MOBIL B-56
EAST COORDINATE:	DRILLING METHOD: SPLIT-SPOON/AIR CORE
NORTH COORDINATE:	SAMPLING METHOD: SPLIT-SPOON/CORE BARREL
BEGIN DRILLING: 2-MAR-95	END DRILLING: 2-MAR-95

DEPTH (feet)	SAMPLE RECOVERY	ANALYTICAL SAMPLE HEAD SPACE (feet)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	COMMENTS
0			CLAY with some LIMESTONE fragments and little SILT, very dark brown (10YR 2/2), semilangular, soft, medium plasticity, dry to damp.		
0			LIMESTONE, pale yellow (2.5Y 8/2) with red (2.5YR 5/8) staining.		
5			LIMESTONE, pale yellow (2.5Y 8/4), coarse-grained, hard, thin beds and cobbles recovered, black dendritic staining, dry, possibly interbedded with highly weathered marly limestone.		
10			White (2.5Y 8/2), massive with coarse-grained zones, bedding, dry to damp. Color grades to pale yellow (2.5Y 7/4). Slightly weathered, more marl, fossils, dry to damp.		
15					
20			Interbedded LIMESTONE with marl, white (10YR 8/2), massive and marly limestone, very pale brown (10YR 7/4) possibly reworked fragments from gravel to cobble size.		
25			Marly LIMESTONE, very pale brown (10YR 7/4) to 21.3, remainder light gray (2.5Y N6), highly weathered, fractured clay lenses at 22.2, reworked at 22.5 to 23, vuggy from 24 to 24.7, some fossils, alternating zones of massive marly limestone.		
30			Marly LIMESTONE, light gray (2.5Y N6), fossiliferous (increasing with depth), forams, pelecypods, echinoid spines, dry.		
30			TOTAL DEPTH = 30 FT.		

SOIL BORING LOG

CAMP STANLEY STORAGE ACTIVITY

BORING LOCATION: BURN AREA 2 (8-2)	BORING NUMBER: B2-SB2
SITE: CAMP STANLEY STORAGE ACTIVITY	CONTRACTOR: PARSONS ENGINEERING SCIENCE
PROJECT: WELL 16 SOURCE CHARACTERIZATION	DRILLING CONTRACTOR: JEDI
LOGGED BY: M. TOWN	REF. LOGBOOK: 1
BORING DEPTH (ft-BGL): 30	DRILLER: T. STARIN
BORING ELEVATION (ft-MSL):	DRILLING RIG: MOBIL B-58
EAST COORDINATE:	DRILLING METHOD: SPLIT-SPOON/AIR CORE
NORTH COORDINATE:	SAMPLING METHOD: SPLIT-SPOON/CORE BARREL
BEGIN DRILLING: 3-MAR-95	END DRILLING: 3-MAR

DEPTH (feet)	SAMPLE RECOVERY	ANALYTICAL SAMPLE	HEAD SPACE (ppm)	LITHOLOGIC DESCRIPTION	USCS GRAPHIC LOG	COMMENTS
0			0	CLAY with some LIMESTONE fragments and trace SILT, dark brown (7.5YR 3/2), limestone fragments are medium- to very coarse-grained, soft, medium to high plasticity, damp.		
0			0	Marly LIMESTONE, pale yellow (2.5Y 8/4) with red (2.5YR 5/8) staining, highly weathered, friable, damp.		
5			0	Marly LIMESTONE, highly weathered, friable.		
0			0	Massive hard limestone, white (10YR 8/2), black staining, dendritic, dry.		
0			0	Marly LIMESTONE, white (10YR 8/2), 6 to 8.5 highly weathered, friable, vuggy.		
0			0	Massive, some marl, black dendritic staining, breaks along marl seams, dry.		
0			0	Marly LIMESTONE (no recovery).		
0			0	Marly LIMESTONE, very pale brown (10YR 8/3), color from 13.5 to 14 ft. light gray (7.5YR N7), few fossil fragments and vugs, some iron staining, massive, dry.		
0			0	Marly LIMESTONE, color varies from white (10YR 8/2) to yellow (10YR 7/6), highly weathered, zones of marl, lenses of hard limestone, coarse-grained, dry to damp.		
0			0	Marly LIMESTONE, light gray (10YR 7/1), bioturbated 21 to 21.5 ft., few fossil fragments, massive, dry.		
0			0	Very dark gray (7.5YR N3).		
0			0	Light gray (10YR 7/1).		
0			0	Marly LIMESTONE, light gray (10YR 7/1), vuggy, massive lenses, 27 to 27.5 bioturbated, 27.5 to 30 fossiliferous, increasing with depth, primarily forams, some pelecypods, some steinkerns, somewhat massive to coarse-grained, dry to damp.		
0			0	TOTAL DEPTH = 30 FT.		

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CAMP STANLEY STORAGE ACTIVITY

BORING LOCATION: BURN AREA 2 (B-2)	BORING NUMBER: B2-SB3
SITE: CAMP STANLEY STORAGE ACTIVITY	CONTRACTOR: PARSONS ENGINEERING SCIENCE
PROJECT: WELL 16 SOURCE CHARACTERIZATION	DRILLING CONTRACTOR: JEDI
LOGGED BY: M. TOWN	REF. LOGBOOK: 1
BORING DEPTH (ft-BGL): 30	DRILLER: T. STARIN
BORING ELEVATION (ft-MSL):	DRILLING RIG: MOBIL 8-58
EAST COORDINATE:	DRILLING METHOD: SPLIT-SPOON/AIR CORE
NORTH COORDINATE:	SAMPLING METHOD: SPLIT-SPOON/CORE BARREL
BEGIN DRILLING: 3-MAR-95	END DRILLING: 6-MAR-95

DEPTH (feet)	SAMPLE RECOVERY	ANALYTICAL SAMPLE	HEAD SPACE (ppm)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	COMMENTS
0				<p>Marly LIMESTONE, grades from strong brown (7.5YR 5/6) to white (10YR 8/2), some CLAY at surface (< 1 in.), highly weathered, friable, dry to damp.</p>		
5				<p>LIMESTONE, white (10YR 8/2), massive limestone lens 1 to 3 inches thick, 2 small vertical fractures (< .25 ft. each) with staining on surface, last 0.35 feet marly limestone, highly weathered, friable, dry.</p> <p>Marly LIMESTONE, highly weathered, friable, dry.</p>		
10				<p>Interbedded LIMESTONE, nonweathered, massive, hard limestone, white (10YR 8/2), and friable, highly weathered limestone, yellow (2.5Y 7/6), vuggy, possibly reworked at approx. 7.8 ft., dry.</p>		
15				<p>LIMESTONE with some marl, white (10YR 8/2), massive, dry. Pale yellow (2.5Y 7/4) with 2 inches of light gray (2.5Y N7).</p> <p>Marly LIMESTONE, white (10YR 8/2), highly weathered, small fracture (1 in. long) with iron staining.</p>		
20				<p>Marly LIMESTONE, very pale brown (10YR 8/3), hard, massive, some marly, rest marly limestone, highly weathered, almost all marl, two high angle fractures 2 to 3 in. long with staining from 15.2 to 15.8, dry to damp.</p>		
25				<p>Marly LIMESTONE, very pale brown (10YR 8/3), highly weathered, wet, massive, hard.</p> <p>White (10YR 8/2).</p> <p>Light gray (10YR 6/1).</p> <p>Marly LIMESTONE, water 24 to 25 ft., almost pure marl where wet, very fissile.</p>		
30				<p>Marly LIMESTONE, light gray (7.5YR N6) throughout except 27-28 ft. dark gray (7.5YR N4), damp to moist.</p> <p>Coarse-grained with white angular clasts and dark gray stringers.</p> <p>Fine-grained with white rectangular clasts 1/20 in. possibly fossil.</p> <p>Weathered with thin seam of crystalline calcite (<1/20 in.).</p> <p>Fine-grained, some steinkerns, weathered with gravel-sized marl intercasts.</p> <p>Fossiliferous matrix (forams).</p>		
35				TOTAL DEPTH = 30 FT.		

SOIL BORING LOG

CAMP STANLEY STORAGE ACTIVITY

BORING LOCATION: BURN AREA 2 (B-2)	BORING NUMBER: B2-SB4
SITE: CAMP STANLEY STORAGE ACTIVITY	CONTRACTOR: PARSONS ENGINEERING SCIENCE
PROJECT: WELL 10 SOURCE CHARACTERIZATION	DRILLING CONTRACTOR: JEDI
LOGGED BY: M. TOWN	REF. LOGBOOK: 1
BORING DEPTH (ft-BGL): 30	DRILLER: T. STARIN
BORING ELEVATION (ft-MSL):	DRILLING RIG: MOBIL B-56
EAST COORDINATE:	DRILLING METHOD: SPLIT-SPOON/AIR CORE
NORTH COORDINATE:	SAMPLING METHOD: SPLIT-SPOON/CORE BARREL
BEGIN DRILLING: 8-MAR-95	END DRILLING: 8-MAR-95

DEPTH (feet)	SAMPLE RECOVERY	ANALYTICAL SAMPLE	HEAD SPACE (ppm)	LITHOLOGIC DESCRIPTION	SCSU	GRAPHIC LOG	COMMENTS
0			0	CLAY and highly weathered LIMESTONE fragments, trace SILT, dark brown (7.5YR 3/2), reddish orange stain to subangular limestone, pieces of coal, soft, medium plasticity, damp.	CL		
0			0	Marly LIMESTONE, highly weathered, almost marl, dry. Metal wire wrapped around core barrel.			
5				Marly LIMESTONE, white (10YR 8/2), light gray (10YR 7/1) from 8-9.4 ft., massive hard lenses of limestone <1 in. long, dry, at 7.5 ft. weathered, few vugs and fossils.			
10				Hard massive limestone, dry.			
15				Marly LIMESTONE, white (10YR 8/2), reddish orange stain on high-angle fracture 12 ft. (approx. 2 in. long), massive, highly weathered, dry. Light gray (7.5YR N7), bloturbated. Gray (7.5YR N6). Yellow (2.5Y 7/6), indication of bedding.			
20				Marly LIMESTONE, white (10YR 8/2), massive, weathered, water between lenses at approx. 17 to 18 ft., appears to split along bedding planes, especially with high marl content, 19-19.5 high angle fractures with staining and calcite growth, damp to wet. Grades to pale yellow (2.5Y 7/4).			
25				Marly LIMESTONE, highly weathered, top limestone gravel mixed with soft marl, massive, last .1 ft. hard limestone with vugs - vugs contain calcite deposits, reddish stains, color varies where hard, white (10YR 8/2), where weathered olive yellow (2.5Y 6/6).			
30				Marly LIMESTONE, olive yellow (2.5Y 6/6), marl with limestone gravel, grades from light gray (7.5YR N7) to very dark gray (5Y 3/1), very fine-grained to massive, 29-30 ft. gray (7.5YR N6), from 29-29.5 few small zones of crystalline limestone, damp to wet.			
30				TOTAL DEPTH = 30 FT.			

SOIL BORING LOG

CAMP STANLEY STORAGE ACTIVITY

BORING LOCATION: BURN AREA 2 (B-2)	BORING NUMBER: B2-SB5
SITE: CAMP STANLEY STORAGE ACTIVITY	CONTRACTOR: PARSONS ENGINEERING SCIENCE
PROJECT: WELL 18 SOURCE CHARACTERIZATION	DRILLING CONTRACTOR: JEDI
LOGGED BY: M. TOWN	REF. LOGBOOK: 1
BORING DEPTH (ft-BGL): 30	DRILLER: T. STARIN
BORING ELEVATION (ft-MSL):	DRILLING RIG: MOBIL B-56
EAST COORDINATE:	DRILLING METHOD: SPLIT-SPOON/AIR CORE
NORTH COORDINATE:	SAMPLING METHOD: SPLIT-SPOON/CORE BARREL
BEGIN DRILLING: 6-MAR-95	END DRILLING: 6-MAR-95

DEPTH (feet)	SAMPLE RECOVERY	ANALYTICAL SAMPLE	HEAD SPACE (DDM)	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
0			0	CLAY soil, dark brown (7.5YR 3/2).	CL		
0-5				Marly LIMESTONE, mottled pale yellow (2.5Y 8/3) and red (2.5YR 4/6), very weathered, friable, damp.			
5-10				Marly LIMESTONE, pale yellow (2.5Y 7/4), highly weathered, friable, with white clasts (possibly caliche), with lenses of white (10YR 8/2) massive limestone, orange staining throughout, black dendritic patterns between beds, possible worm burrow with black staining down edges, dry to damp.			
10-15				Marly LIMESTONE, pale yellow (2.5Y 7/4), highly weathered, friable, vugs at contact with white, large, gravel-sized, white limestone mixed with yellow marl limestone (reworked?), orange staining, black dendritic, damp.			
15-20				White (10YR 8/2), alternating hard fine-grained massive with highly weathered, friable, almost vuggy zone, damp.			
20-25				LIMESTONE, light gray (10YR 7/1), fine-grained to massive limestone, dry to damp, 12-13 ft. olive yellow (2.5Y 6/6), 13-14.5 gray (5Y 6/1), high angle vertical fracture at 14 to 14.3, 14.5 ft. white (10YR 8/2).			
25-30				Olive yellow (2.5Y 6/6).			
30-35				Gray (5Y 6/1), high angle vertical fracture at 14 to 14.3.			
35-40				White (10YR 8/2).			
40-45				Marly LIMESTONE, pale yellow (2.5Y 7/4), 17-18 ft. light gray (5Y 6/1), 18-21 ft. pale yellow (2.5Y 7/4), fine-grained, weathered to highly weathered, weathering increases with depth, dry to damp.			
45-50				Marly LIMESTONE, pale yellow (2.5Y 7/4), highly weathered fine-grained limestone, light gray (5Y 6/1), weathering increasing with depth, from about 23-25 ft. almost a marl with limestone nodules, wet, 25.5 ft. white (10YR 8/2), fine-grained, massive, hard, weathered.			
50-55			0	Marly LIMESTONE, light gray (5Y 6/1), fine-grained to massive, black dendritic staining, 27.3-28.5 ft. black (2.5Y N2), highly weathered friable marly limestone - almost all marl, 28.5 ft light gray (5Y 7/1), hard fine-grained marly limestone, damp to wet.			
55-60				TOTAL DEPTH = 30 FT.			