DRILL HOLE LOG

BORING NO. 08-OR6-B1

PROJECT: I-15 UTAH COUNTY CORRIDOR - OR6, I-15 OVER 400 SOUTH
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:276,529 E:577,850
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 20'
DRILLER: L. HILER
DEPTH TO WATER - INITIAL: ▽ 7.5' **AFTER 24 HOURS:** ▼ 7.5'

PROJECT NUMBER: 200801.200
DATE STARTED: 9/10/08
DATE COMPLETED: 9/11/08
GROUND ELEVATION: 4578.0'
LOGGED BY: J.P., G.P., E.R. J.B.

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Rec. (in)	See Legend	USCS (AASHTO)	Material Description	Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
			■	15	6,8,8,(34)	SM (A-2-4(0))	brown to dk. brown, moist, dense		9.0		NP	12	60	28	
4575							SILTY SAND								
	5		■	5	7,6,3,(19)	SM	brown, moist, med. dense								
4570			■	0	6,2,3,(9)	-	no recovery								
	10		■	8	0.23 0,5,6	CL-ML (A-4(6))	SILTY CLAY brown, moist, soft		25.6	27	7	0	7	93	
						SM	brown, wet, attempted shelby first (disturbed blow count)								
4565			☒	12	Pushed	SM (A-4(0))	brown, wet SILTY SAND lean clay layers to 1" thick		11.8		NP	0	62	38	
	15		■	14	1,3,3,(10) 0.43	SM CL	brown, wet; brown, moist, firm								
4560							LEAN CLAY silt lenses								
	20		☒	16	0.40 Pushed	CL (A-4(7)) SM	brown, moist, firm; brown, wet	95.6	25.5	28	9	0	7	93	DS
							SILTY SAND								
4555			■	17	1,3,3,(9) 0.39	CL	brown, moist, firm								
	25		☒	16	Pushed 0.58	CL (A-6(13))	brown, moist, stiff LEAN CLAY silt & sand lenses & layers to 1" thick	97.6	26.8	34	14	0	1	99	CT UU
4550															
	30		■	15	8,12,14,(34)	SM	brown, wet, dense SILTY SAND few clay layers less than 1" thick								
4545															
	35		■	17	12,17,20,(45)	SP-SM (A-3(0))	brown, wet, dense		24.6		NP	0	90	10	
4540							SAND W/SILT								
	40		■	15	14,20,32,(60)	SP-SM	brown, wet, very dense								
4535															
	45		■	16	15,21,20,(45)	SM (A-2-4(0))	brown, wet, dense SILTY SAND 2" thick silt layer in sample		21.7		NP	0	78	22	
4530															

DH_LOGV1 08-OR6.GPJ US EVAL.GDT 5/22/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE ■ 2,3,2,(6) ← Blow Count per 6"; $(N_1)_{60}$ Value; 0.45 ← Torvane (tsf)

UNDISTURBED SAMPLE ☒ PUSHED; 0.45 ← Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
UU = Unconsolidated, Undrained
CU = Consolidated, Undrained
HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 08-OR6-B1

PROJECT: I-15 UTAH COUNTY CORRIDOR - OR6, I-15 OVER 400 SOUTH
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:276,529 E:577,850
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 20'
DRILLER: L. HILER
DEPTH TO WATER - INITIAL: ▽ 7.5' **AFTER 24 HOURS:** ▼ 7.5'

PROJECT NUMBER: 200801.200
DATE STARTED: 9/10/08
DATE COMPLETED: 9/11/08
GROUND ELEVATION: 4578.0'
LOGGED BY: J.P., G.P., E.R. J.B.

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	USCS (AASHTO)	Material Description		Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
				23	0.36 2,5,7,(13)	CL (A-4(6)) ML	dk. gray, very moist, firm dk. gray, wet, med. dense	LEAN CLAY sand lenses SILT W/SAND		30.2	28	8	0	8	92	
4525																
	55			18	6,23,27	SM	dk. gray, wet, very dense, attempted shelby first (disturbed blow count)									
4520																
	60			18	21,23,35,(57)	SM (A-2-4(0))	dk. gray, wet, very dense			23.1		NP	0	88	12	
4515								SILTY SAND occasional silt layers to 2" thick								
	65			18	20,28,33,(58)	SM	lt. brown to dk. gray, wet, very dense									
4510																
	70			17	18,21,24,(41)	SM (A-2-4(0))	gray, wet, dense			22.0		NP	0	70	30	
4505																
	75			18	8,6,7,(12) 0.55	CL (A-6(17))	gray, moist, stiff	LEAN CLAY sand lenses & layers to 1" thick		31.1	38	18	0	7	93	
4500																
	80			18	6,20,40,(52)	SM (A-2-4(0))	gray, wet, very dense			22.2		NP	0	88	12	
4495																
	85			18	25,33,38,(59)	SM	gray, wet, very dense	SILTY SAND occasional clay layer to 0.38" thick								
4490																
	90			16	20,27,23,(41)	SM (A-2-4(0))	gray, wet, dense			21.9		NP	0	66	34	
4485																
	95															
4480																

DH_LOGV1 08-OR6.GPJ US EVAL.GDT 5/22/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE — 2,3,2,(6) — Blow Count per 6"; $(N_1)_{60}$ Value; 0.45 — Torvane (tsf)

UNDISTURBED SAMPLE — PUSHED; 0.45 — Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
UU = Unconsolidated, Undrained
CU = Consolidated, Undrained
HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 08-OR6-B2

PROJECT: I-15 UTAH COUNTY CORRIDOR - OR6, I-15 OVER 400 SOUTH
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:276,590 E:578,032
DRILLING METHOD: 08-CME-55 / N.W. CASING TO 50'
DRILLER: D. SAMPSON
DEPTH TO WATER - INITIAL: ▽ 6.4' **AFTER 24 HOURS:** ▼ N.M.

PROJECT NUMBER: 200801.200
DATE STARTED: 12/31/08
DATE COMPLETED: 1/2/09
GROUND ELEVATION: 4578.2'
LOGGED BY: C. SANBORN, J. BOONE

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	USCS (AASHTO)	Material Description	Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
				11	6,5,3,(17)	SM	dk. brown, slightly moist, med. dense								
4575							SILTY SAND W/GRAVEL								
	5					SM	lt. brown, very moist								
▽				14	2,4,3,(16)	ML (A-4(0))	brown, wet, med. dense		28.2		NP	0	44	56	
							SANDY SILT								
						ML	brown, wet								
4570				18	2,2,2,(8) 0.26	CL	brown, moist, firm								
	10			18	1,2,2,(7) 0.26	CL (A-6(18))	brown, moist, firm		35.0	39	18	0	5	95	44% -0.005 mm
							LEAN CLAY occasional silt lenses								
						CL	brown, moist, firm								
4565				11	0.44 6,9,10,(35)	SM	brown, wet, dense								
							SILTY SAND								
	15					SM	brown, wet, dense								
				15	8,12,14,(45)	SM (A-2-4(0))	brown, wet, dense		23.7		NP	0	83	17	
							SILTY SAND many clay lenses								
4560				14	2,8,14,(36)	SM	brown, wet, dense								
							SILTY SAND								
						SM	brown, wet								
	20			16	6,7,12,(30) 0.48	CL	brown, moist, firm								
							LEAN CLAY sand lenses								
						SM	brown, wet								
							SILTY SAND								
						CL-ML	brown, moist, stiff								
4555				15	0.66 6,8,8,(24)	ML (A-4(0))	brown, wet, med. dense		22.9		NP	0	46	54	11% -0.005 mm
							SILTY CLAY sand lenses								
	25			17	5,4,3,(10) 0.64	CL (A-6(10))	lt. gray, moist, stiff		25.8	30	12	0	6	94	27% -0.005 mm
							SANDY SILT sand lenses								
							LEAN CLAY sand lenses								
4550				18	2,3,4,(10) 0.65	CL	gray & brown, moist, stiff								
	30			14	7,7,6,(17)	ML (A-4(0))	brown, wet		23.4		NP	0	47	53	19% -0.005 mm
							SANDY SILT								
						ML (A-4(0))	brown, wet, med. dense		24.1		NP	0	35	65	27% -0.005 mm
							SANDY SILT interbedded w/clay lenses & layers								
4545															
	35			18	4,5,6,(14) 0.58	CL	brown, moist, stiff								
							LEAN CLAY sand lenses & layers to 0.25" thick								
4540															
	40			14	10,16,18,(40)	SM (A-2-4(0))	brown, wet, dense		21.1		NP	0	87	13	
4535															
							SILTY SAND silt lenses								
	45			11	5,15,22,(42)	SM	brown, wet, dense								
4530							possible clay layer at 49.5' (driller's observation)								

DH_LOGV1 08-OR6.GPJ US EVAL.GDT 5/22/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE — 2,3,2,(6) — Blow Count per 6"; $(N_1)_{60}$ Value; 0.45 — Torvane (tsf)

UNDISTURBED SAMPLE — PUSHED; 0.45 — Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
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HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 08-OR6-B2

PROJECT: I-15 UTAH COUNTY CORRIDOR - OR6, I-15 OVER 400 SOUTH
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:276,590 E:578,032
DRILLING METHOD: 08-CME-55 / N.W. CASING TO 50'
DRILLER: D. SAMPSON
DEPTH TO WATER - INITIAL: ▽ 6.4' **AFTER 24 HOURS:** ▼ N.M.

PROJECT NUMBER: 200801.200
DATE STARTED: 12/31/08
DATE COMPLETED: 1/2/09
GROUND ELEVATION: 4578.2'
LOGGED BY: C. SANBORN, J. BOONE

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	Sample USCS (AASHTO)	Material Description	Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
			☒	8	Pushed	SM (A-2-4(0))	gray, wet	101.9	21.1		NP	0	76	24	
			■	17	7,18,30,(51)	SM	gray, wet, dense								
4525															
	55		■	14	19,30,38,(71)	SM	gray, wet, very dense								
4520							SILTY SAND silt lenses								
	60		■	18	19,29,29,(58)	SM (A-2-4(0))	gray, wet, very dense		19.5		NP	0	86	14	
4515															
	65		■	18	24,39,42,(78)	SM	gray, wet, very dense								
4510															
	70		■	14	15,18,30,(45)	SM	gray, wet, dense								
4505							SILTY SAND occasional clay layers to 3" thick								
	75		☒	12	Pushed	SM	gray, wet								
			■	15	2,4,9,(12)	SM (A-2-4(0))	gray, wet, med. dense		25.1		NP	0	75	25	
4500															
	80		■	17	27,45,50/5", (REF)	SM	gray, wet, very dense								
4495															
	85		■	16	23,30,30,(51)	SM	gray, wet, very dense								
							SILTY SAND few clay lenses								
4490							thin clay layer at 89' (driller's observation)								
	90		■	16	18,21,27,(40)	SM	gray, wet, dense								
4485															
	95														
4480															

DH_LOGV1 08-OR6.GPJ US EVAL.GDT 5/22/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE ■ 2,3,2,(6) ← Blow Count per 6"; ← $(N_1)_{60}$ Value; 0.45 ← Torvane (tsf)

UNDISTURBED SAMPLE ☒ PUSHED; 0.45 ← Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
CT = Consolidation
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DRILL HOLE LOG

BORING NO. 09-OR6-B1A

SHEET 1 OF 1

PROJECT: I-15 UTAH COUNTY CORRIDOR - OR6, I-15 OVER 400 SOUTH

CLIENT: UTAH DEPARTMENT OF TRANSPORTATION

LOCATION: N:276,533 E:577,840

DRILLING METHOD: 96-CME-55 / N.W. CASING TO 23'

DRILLER: E. RICHARDSON

DEPTH TO WATER - INITIAL: 7.0' **AFTER 24 HOURS:** 6.8'

PROJECT NUMBER: 200801.200

DATE STARTED: 3/18/09

DATE COMPLETED: 3/18/09

GROUND ELEVATION: 4575.8'

LOGGED BY: C. SANBORN, J. BOONE

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	Sample USCS (AASHTO)	Material Description	Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
4575							NOT SAMPLED								
4570	5														
4565	10			15	1,1,0,(2) 0.54	CL	brown, moist, stiff — LEAN CLAY								
				14	0,1,5,(11) 0.47	CL (A-7-6(23))	brown, moist, firm — LEAN CLAY sand lenses		34.1	41	22	0	2	98	
				17	1,1,2,(5) 0.58	CL	brown, moist, stiff								
4560	15			18	0.39 3,3,3,(10) 0.43	SM (A-4(0)) ML	brown, moist, firm; brown, wet, loose — SILTY SAND; brown, wet — SILT W/SAND		25.4		NP	0	63	37	6% -0.005 mm 30% -0.005 mm
				13	1,2,2,(6) 0.39	CL (A-6(11))	brown, moist, firm — LEAN CLAY silt lenses		26.3	31	12	0	5	95	
4555	20			12	7,11,12,(36)	SM	brown, wet, dense — SILTY SAND								
				13	0.40 7,11,13,(36)	CL SM	brown, moist, firm — LEAN CLAY; brown, wet, dense — silt & sand lenses; SILTY SAND								
				15	3,3,4,(10) 0.44	CL (A-6(12))	brown, moist, firm — LEAN CLAY silt & sand lenses		26.9	32	13	0	5	95	
4550	25														
4545	30														
4540	35														
4535	40														
4530	45														

DH_LOGV1 08-OR6.GPJ US EVAL.GDT 5/22/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE — 2,3,2,(6) Blow Count per 6"; $(N_1)_{60}$ Value; 0.45 Torvane (tsf)

UNDISTURBED SAMPLE — PUSHED; 0.45 Torvane (tsf)

OTHER TESTS

UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
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DRILL HOLE LOG

BORING NO. 09-OR6-B3

SHEET 1 OF 1

PROJECT: I-15 UTAH COUNTY CORRIDOR - OR6, I-15 OVER 400 SOUTH
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:276,584 E:577,852
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 24'
DRILLER: E. RICHARDSON
DEPTH TO WATER - INITIAL: N.M. **AFTER 24 HOURS:** 5.9'

PROJECT NUMBER: 200801.200
DATE STARTED: 3/19/09
DATE COMPLETED: 3/19/09
GROUND ELEVATION: 4575.0'
LOGGED BY: C. SANBORN, J. BOONE

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Rec. (in)	See Legend	USCS (AASHTO)	Material Description	Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
							NOT SAMPLED								
4570	5			1	5,4,3,(16)	GM	brown, wet, very loose — SILTY GRAVEL W/SAND								
				16	1,3,3,(13) *0.61*	CL	brown, moist, stiff — LEAN CLAY sand layers to 3/4" thick								
				18	0/12",2,(4) *0.40*	CL (A-6(17))	brown, moist, firm		36.1	36	16	0	1	99	
4565	10			11	*0.33* 5,3,3,(12)	CL SM	brown, moist, firm; brown, wet, med. dense — SILTY SAND silt layers to 2" thick								
				13	6,7,6,(24)	SM (A-2-4(0))	brown, wet, med. dense		24.3		NP	0	66	34	9% -0.005 mm
4560	15			16	3,5,4,(16) *0.61*	CL	brown, moist, stiff — LEAN CLAY sand layers to 3/8" thick								
				18	2,3,3,(10) *0.68*	CL (A-6(14))	brown, moist, stiff		25.8	32	16	1	7	92	
				12	*0.44* 4,9,12,(34)	CL SM	brown, moist, firm; brown, wet, dense — SILTY SAND								
4555	20			16	3,4,5,(14) *0.26*	CL (A-4(5))	brown, very moist, firm — LEAN CLAY W/SAND sand lenses & layers to 2" thick		26.6	26	9	0	21	79	24% -0.005 mm
				10	2,5,6,(17) *0.50*	CL	brown, moist, firm to stiff								
4550	25			17	5,5,4,(13) *0.63*	ML (A-4(0)) CL	brown, wet — SANDY SILT sand lenses; brown, moist, stiff — LEAN CLAY sand & silt lenses		26.3		NP	0	49	51	13% -0.005 mm
4545	30														
4540	35														
4535	40														
4530	45														

DH_LOGV1 08-OR6.GPJ US EVAL.GDT 5/22/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE — 2,3,2,(6) — Blow Count per 6"; $(N_1)_{60}$ Value; 0.45 — Torvane (tsf)

UNDISTURBED SAMPLE — PUSHED; 0.45 — Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
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