DRILL HOLE LOG

BORING NO. 08-AF3-B1

PROJECT: I-15 UTAH COUNTY CORRIDOR - AF3, I-15 OVER AM. FORK CREEK
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:305,270 E:558,006
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 45'
DRILLER: L. HILER, D. SAMPSON
DEPTH TO WATER - INITIAL: N.M. **AFTER 24 HOURS:** 18.7'

PROJECT NUMBER: 200801.200
DATE STARTED: 9/24/08
DATE COMPLETED: 9/29/08
GROUND ELEVATION: 4574.1'
LOGGED BY: J.P., C.S., 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
				14	3,7,7,(29)	GP (*A-1-a*)	brown-gray, moist, med. dense, angular	GRAVEL W/SAND possible cobbles (fill)		2.5		NP	69	27	4	
4570	5			12	8,11,9,(42)	GP	gray, moist, med. dense, angular	GRAVEL W/SAND slag, possible cobbles (fill)								
4565	10			9	11,20,13,(53)	GP-GM (*A-1-a*)	brown, moist, dense, angular			6.4		NP	65	24	11	
4560	15			0	16,25,26,(68)	-	no recovery	GRAVEL W/SILT & SAND possible cobbles								
4555	20			15	3,0,2,(2) *0.35*	GP-GM CL-ML (*A-4(2)*)	brown, wet brown, wet, firm	SILTY CLAY W/SAND sand lenses & layers to 3" thick		30.0	25	5	0	20	80	
4550	25			4	12,13,10,(26)	GP-GM	gray, wet, loose	GRAVEL W/SILT & SAND possible cobbles								
4545	30			17	3,3,2,(5) *0.20* *0.39*	ML (*A-4(2)*)	brown, wet, soft to firm	SILT W/SAND plastic, sandy silt layers		28.0	26	4	0	20	80	
4540	35			13	13,2,2,(4)	GP-GM SM	gray, wet, med. dense brown, wet, very loose	GRAVEL W/SILT & SAND SILTY SAND								
4535	40			14	5,5,2,(7)	SM (*A-1-b*) SP-SM GM	brown-gray, wet, loose red-brown, wet, loose dk. gray, wet, very loose	SILTY SAND W/GRAVEL SAND W/SILT SILTY GRAVEL W/SAND clay lenses		14.2		NP	19	66	15	
4530	45			18	Pushed *0.56*	CL	gray, moist, stiff	LEAN CLAY sand lenses								
4525																

DH_LOGV1 08-AF3.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-AF3-B1

PROJECT: I-15 UTAH COUNTY CORRIDOR - AF3, I-15 OVER AM. FORK CREEK
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:305,270 E:558,006
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 45'
DRILLER: L. HILER, D. SAMPSON
DEPTH TO WATER - INITIAL: N.M. **AFTER 24 HOURS:** 18.7'

PROJECT NUMBER: 200801.200
DATE STARTED: 9/24/08
DATE COMPLETED: 9/29/08
GROUND ELEVATION: 4574.1'
LOGGED BY: J.P., C.S., 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
			■	18	1,0,1,(1) *0.26*	CL	gray, moist, firm — LEAN CLAY sand lenses								
4520	55		☒	18	Pushed *0.21*	CH (*A-7-6(38)*)	gray, wet, soft — FAT CLAY	67.3	55.0	57	33	0	0	100	CT UU
4515	60		■	18	0,2,4,(5) *0.39*	CL	gray, moist, firm — LEAN CLAY								
4510	65		■	18	1,2,3 *0.54*	CL (*A-4(7)*)	gray, moist, stiff, attempted shelby first (disturbed blow count)		22.3	29	9	0	9	91	
4505	70		☒	18	Pushed	CL (*A-4(4)*) SM	gray, moist; gray, wet		20.2	26	6	0	11	89	
			■	18	1,2,10,(10)	SM	gray, wet, loose — SILTY SAND vertical clay layers								
4500	75														
4495	80		■	11	4,10,13,(19)	ML (*A-4(0)*)	gray, wet, med. dense — SANDY SILT clay lenses & layers		21.3		NP	0	32	68	
4490	85						LEAN CLAY sand lenses								
4485	90		■	18	*0.42* 1,3,20,(18)	CL (*A-6(20)*) GP-GM	dk. gray, moist, firm; gray, wet		29.7	39	20	0	4	96	
4480	95						GRAVEL W/SILT & SAND (dense gravel to 100' - driller's observation)								
4475															

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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RB&G ENGINEERING, INC.

DRILL HOLE LOG

BORING NO. 08-AF3-B2

PROJECT: I-15 UTAH COUNTY CORRIDOR - AF3, I-15 OVER AM. FORK CREEK
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:305,171 E:557,891
DRILLING METHOD: CME-75 / N.W. CASING TO 48'
DRILLER: M.W. (BEDKE)
DEPTH TO WATER - INITIAL: N.M. **AFTER 24 HOURS:** 17.5'

PROJECT NUMBER: 200801.200
DATE STARTED: 9/24/08
DATE COMPLETED: 9/25/08
GROUND ELEVATION: 4574.8'
LOGGED BY: M. HANSEN, 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
				12	8,10,9,(44)	GP-GM	gray, slightly moist, med. dense									
4570	5			12	5,10,18,(65)	GP-GM (*A-1-a*)	gray, moist, dense	GRAVEL W/SILT & SAND slag (fill)		8.0		NP	56	37	7	
4565	10			7	7,7,3,(19)	GP-GM	gray, moist, loose									
4560	15			2	3,2,3,(8)	GM	brown, very moist, very loose									
4555	20			11	7,19,20,(52)	GM (*A-1-a*)	brown, wet, dense	SILTY GRAVEL W/SAND possible cobbles, very loose layers		6.6		NP	47	40	13	
				1	14,1/12",(1)	GM	brown, wet, very loose									
4550	25			10	7,7,10,(21)	GM	brown, wet, loose									
4545	30			9	5,5,4,(11)	SM (*A-1-b*)	brown, wet, med. dense	SILTY SAND W/GRAVEL		10.8		NP	43	43	14	3% -0.005 mm
				12	14,15,19,(40)	GP-GM (*A-1-a*)	brown, wet, med. dense	GRAVEL W/SILT & SAND possible cobbles		6.2		NP	46	42	12	
4540	35			5	7,3,7,(11)	GP-GM	brown, wet, very loose									
				14	1,2,7,(10) *0.30*	ML (*A-4(10)*)	lt. brown, moist, firm	SILT plastic, sandy silt layers		21.5	35	10	0	6	94	
4535	40			15	*0.36* 1,8,5,(14)	ML GM SM	brown, moist, firm ~~brown, wet~~ brown, wet, med. dense	SILTY GRAVEL W/SAND SILTY SAND								
4530	45			17	10,15,16,(32)	ML (*A-4(0)*)	gray, wet, dense	SANDY SILT		22.3		NP	2	42	56	11% -0.005 mm
				18	1,4,8,(12) *0.61*	ML	gray, moist, stiff	SILT plastic, sandy silt layers								

DH_LOGV1 08-AF3.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-AF3-B2

PROJECT: I-15 UTAH COUNTY CORRIDOR - AF3, I-15 OVER AM. FORK CREEK
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:305,171 E:557,891
DRILLING METHOD: CME-75 / N.W. CASING TO 48'
DRILLER: M.W. (BEDKE)
DEPTH TO WATER - INITIAL: N.M. **AFTER 24 HOURS:** 17.5'

PROJECT NUMBER: 200801.200
DATE STARTED: 9/24/08
DATE COMPLETED: 9/25/08
GROUND ELEVATION: 4574.8'
LOGGED BY: M. HANSEN, 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
4520	55			18	Pushed 0.81	CL (A-7-6(24))	gray, moist, stiff LEAN CLAY	74.8	45.0	46	21	0	0	100	CT UU
4515	60			18	0/17",1/1",(1) 0.33	CL	gray, moist, firm								
4510	65			18	Pushed 0.31	CL (A-6(21))	gray, moist, firm	94.2	32.8	40	21	0	5	95	UC UU
4505	70			18	0/13",4/5",(4) 0.42	CL	gray-brown, moist, firm LEAN CLAY silt lenses								
4500	75			8	Pushed 0.41	CL (A-7-6(30))	lt. gray, moist, firm	80.1	39.9	49	26	0	0	100	CT
4495	80														
4490	85														
4485	90														
4480	95														

DH_LOGV1 08-AF3.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. 09-AF3-B3

PROJECT: I-15 UTAH COUNTY CORRIDOR - AF3, I-15 OVER AM. FORK CREEK
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:305,384 E:558,123
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 42'
DRILLER: E. RICHARDSON
DEPTH TO WATER - INITIAL: ▽ 15.3' **AFTER 24 HOURS:** ▼ 14.0'

PROJECT NUMBER: 200801.200
DATE STARTED: 3/19/09
DATE COMPLETED: 3/19/09
GROUND ELEVATION: 4572.6'
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
4570								NOT SAMPLED								
	5			1	4,3,2,(11)	CL	dk. brown, moist, firm	LEAN CLAY W/SAND								
4565				7	1,2,1,(6)	CL	dk. brown, moist, firm			29.5	32	11	0	23	77	
					0.39	(A-6(7))										
					0.33	CL	brown, moist, firm									
				8	2,8,6,(27)	GM	gray-brown, moist, med. dense	SILTY GRAVEL W/SAND possible cobbles								
	10			7	9,15,12,(46)	GM	gray-brown, moist, med. dense									
4560				6	8,7,5,(19)	GM	gray-brown, moist, loose									
					0.14	CL	brown, very moist, soft	SANDY LEAN CLAY								
	15			16	0/18",(0)	ML	brown, wet, very loose	SANDY SILT plastic		27.1	26	4	0	43	57	17% -0.005 mm
					0.11	(A-4(0))	brown, wet, very loose									
				15	0/18",(0)	ML	brown, moist, firm	LEAN CLAY W/SAND								
4555					0.40	CL										
				6	7,6,6,(17)	GP-GM	gray-brown, wet, very loose									
	20			8	6,6,8,(19)	GP-GM (A-1-a(0))	gray-brown, wet, loose	GRAVEL W/SILT & SAND possible cobbles		8.2		NP	64	27	9	
4550				5	5,6,6,(16)	GP-GM	gray-brown, wet, very loose									
	25			6	18,17,13,(38)	GM	gray-brown, wet, med. dense	SILTY GRAVEL W/SAND possible cobbles								
				7	15,7,8,(19)	GM	gray-brown, wet, loose									
4545				8	14,10,9,(23)	GM (A-1-a(0))	gray-brown, wet, loose			10.2		NP	57	28	15	
	30			4	8,8,12,(24)	GM	gray-brown, wet, loose									
4540				7	14,14,14,(33)	GM	gray-brown, wet, med. dense									
	35			7	14,12,8,(23)	SM (A-1-b(0))	gray-brown, wet, med. dense	SILTY SAND W/GRAVEL		15.8		NP	25	57	18	
				15	5,3,5,(9)	SM (A-4(0))	gray-brown, wet, loose	SILTY SAND occasional clay lenses		28.6		NP	0	57	43	6% -0.005 mm
4535				12	5,6,6,(13)	SM (A-4(0))	gray-brown, wet, med. dense			26.0		NP	0	56	44	5% -0.005 mm
	40			14	4,4,5,(10)	ML (A-4(0))	brown to gray, wet, loose	SILT W/SAND		28.2		NP	0	25	75	10% -0.005 mm
4530				13	4,5,6,(12)	CL	gray, moist, stiff	LEAN CLAY silt lenses								
	45				0.59											
4525																

DH_LOGV1 08-AF3.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. 09-AF3-B4

SHEET 1 OF 1

PROJECT: I-15 UTAH COUNTY CORRIDOR - AF3, I-15 OVER AM. FORK CREEK
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:305,208 E:557,699
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 42'
DRILLER: E. RICHARDSON
DEPTH TO WATER - INITIAL: ▽ 16.0' **AFTER 24 HOURS:** ▼ 12.6'

PROJECT NUMBER: 200801.200
DATE STARTED: 3/20/09
DATE COMPLETED: 3/20/09
GROUND ELEVATION: 4566.8'
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
4565								NOT SAMPLED								
	5			0	1,3,2,(11)	-	no recovery									
4560				10	1,2,2,(9)	ML	brown, moist, loose	SANDY SILT								
				15	1,0/12",(0)	ML (A-4(2))	brown, wet, very soft	SILT W/SAND plastic		29.5	26	4	0	26	74	
	10			6	2,3,9,(21)	GM	dk. brown, very moist, loose	SILTY GRAVEL W/SAND possible cobbles								
4555				1	6,5,7,(19)	GM	brown, wet, loose									
	15			12	12,13,16,(44)	SP-SM (A-1-a(0))	gray-brown, wet, med. dense	SAND W/SILT & GRAVEL		9.4		NP	44	44	12	
4550				15	13,15,8,(34) 0.57	SP-SM	gray-brown, wet, m. dense									
						CL	dk. brown, moist, stiff	LEAN CLAY W/SAND								
				12	2,1,15,(23)	ML (A-4(0))	dk. brown, wet, med. dense	SANDY SILT		21.6		NP	10	40	50	14% -0.005 mm
	20			8	9,8,7,(21)	GP-GM (A-1-a(0))	gray-brown, wet, loose	GRAVEL W/SILT & SAMD possible cobbles		10.8		NP	52	36	12	
4545				18	0.35	CL	brown, moist, firm	LEAN CLAY W/SAND								
					2,1,0,(1)	ML (A-4(0))	brown, wet, very loose	SANDY SILT		25.9		NP	0	50	50	11% -0.005 mm
	25			20	0,2,3,0/4",(7) 0.44	CL	brown, moist, firm to stiff	LEAN CLAY silt and/or sand layers to 5" thick								
4540				8	3,5,9,(18) 0.60	GM	dk. brown, wet, very loose	SILTY GRAVEL W/SAND								
						CL	dk. brown, moist, stiff	LEAN CLAY								
				11	7,8,7,(19)	SM (A-1-b(0))	gray-brown, wet, med. dense	SILTY SAND W/GRAVEL		13.9		NP	18	66	16	
	30			12	3,7,13,(24)	SM (A-2-4(0))	gray-brown, wet, m. dense			21.3		NP	31	41	28	
4535				15	5,2,3,(6) 0.79	SM CL,ML,SM	gray-brown, wet									
							gray-brown, wet/moist, loose/stiff	LEAN CLAY, SILT W/SAND & SANDY SILT LAYERS								
	35			8	9,14,12,(30)	GM GM	gray-brown, wet gray-brown, wet, med. dense	SILTY GRAVEL W/SAND possible cobbles								
4530				9	7,5,7,(14)	GM ML (A-4(0))	gray-brown, wet gray-brown to gray, wet, med. dense	SILT W/SAND		23.3		NP	2	26	72	14% -0.005 mm
				10	5,7,11,(20)	ML (A-4(0))	gray, wet, med. dense			24.6		NP	0	24	76	13% -0.005 mm
	40			14	2,4,5,(10) 0.54	CL	gray, moist, stiff	LEAN CLAY silt lenses								
4525				15	2,3,3,(6) 0.24	CL (A-6(13))	gray, very moist, soft			34.5	34	12	0	0	100	30% -0.005 mm
	45															
4520																

DH_LOGV1 08-AF3.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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