DRILL HOLE LOG

BORING NO. 08-P8-B1

PROJECT: I-15 UTAH COUNTY CORRIDOR - P8, I-15 OVER 600 SOUTH
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:253,127 E:591,412
DRILLING METHOD: 08-CME-55 / N.W. CASING TO 55'
DRILLER: D. SAMPSON, S.C.
DEPTH TO WATER - INITIAL: ▽ 17.5' **AFTER 24 HOURS:** ▼ 17.3'

PROJECT NUMBER: 200801.200
DATE STARTED: 7/28/08
DATE COMPLETED: 7/30/08
GROUND ELEVATION: 4523.8'
LOGGED BY: J.P., B.H., J.B.

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
				11	20,58,75,(99+)	SM (*A-1-b*)	gray-brown, dry, very dense			2.1		NP	38	42	20	
4520	5			4	75/4",(REF)	SM	gray-brown, wet, very dense	SILTY SAND W/GRAVEL possible cobbles								
4515	10			11	16,24,34,(94)	SM	gray-brown, wet, very dense									
4510	15			7	14,33,30,(85)	GP (*A-1-a*)	brown, wet, very dense			1.2		NP	89	10	1	
4505	20			6	6,12,13,(31)	GP	brown, wet, med. dense	POORLY GRADED GRAVEL possible cobbles								
4500	25			14	9,12,12,(30)	SM (*A-2-4(0)*)	gray, wet, med. dense			26.9		NP	0	75	25	DS
4495	30			15	11,10,14,(28)	SM	gray, wet, med. dense	SILTY SAND								
4490	35			15	14,20,25,(50)	SM	gray, wet, dense									
4485	40			10	8,9,10,(20)	ML (*A-4(0)*)	gray, wet, med. dense	SANDY SILT few clay lenses		30.6		NP	0	43	57	8% -0.005 mm
4480	45			2	5,2,4,(6) *0.23*	CL-ML	gray, wet, soft	SILTY CLAY silt lenses								
4475																

DH_LOGV1 08-P8.GPJ US EVAL.GDT 5/28/09

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

RB&G ENGINEERING, INC.

DRILL HOLE LOG

BORING NO. 08-P8-B1

PROJECT: I-15 UTAH COUNTY CORRIDOR - P8, I-15 OVER 600 SOUTH
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:253,127 E:591,412
DRILLING METHOD: 08-CME-55 / N.W. CASING TO 55'
DRILLER: D. SAMPSON, S.C.
DEPTH TO WATER - INITIAL: ▽ 17.5' **AFTER 24 HOURS:** ▼ 17.3'

PROJECT NUMBER: 200801.200
DATE STARTED: 7/28/08
DATE COMPLETED: 7/30/08
GROUND ELEVATION: 4523.8'
LOGGED BY: J.P., B.H., J.B.

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
			■	18	6,5,4,(9) *0.20*	CL-ML	gray, moist, soft — SILTY CLAY silt lenses								
4470	55		⊠	18	Pushed *0.50*	CL (*A-6(15)*)	gray, moist, firm to stiff — LEAN CLAY	79.0	39.9	37	14	0	1	99	CT UC
4465	60		■	18	0,0,2,(2) *0.32*	CL	gray, moist, firm								
4460	65		⊠	18	Pushed *0.50*	CL	gray, moist, firm to stiff — LEAN CLAY sand & silt lenses	89.3	31.9						
4455	70		■	5	2,3,3,(5) *0.43*	CL	gray, moist, firm — LEAN CLAY								
4450	75		⊠	17	Pushed *0.65*	CL (*A-7-6(25)*)	gray, moist, stiff	87.4	34.5	45	23	0	1	99	CT UU
4445	80		■	18	23,30,23,(44)	SM	gray, moist, dense — SILTY SAND								
4440	85		⊠	18	Pushed *0.55*	CL	gray, moist, stiff — LEAN CLAY sand & silt lenses	86.5	35.1						
4435	90		■	8	1,3,5,(6) *0.63*	CL	gray, moist, stiff								
4430	95		⊠	18	Pushed *0.65*	CL (*A-7-6(31)*)	gray, moist, stiff — LEAN CLAY	83.5	34.8	49	28	0	1	99	CT UC
4425							FAT CLAY silt lenses								

DH_LOGV1 08-P8.GPJ US EVAL.GDT 5/28/09

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-P8-B1

PROJECT: I-15 UTAH COUNTY CORRIDOR - P8, I-15 OVER 600 SOUTH
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:253,127 E:591,412
DRILLING METHOD: 08-CME-55 / N.W. CASING TO 55'
DRILLER: D. SAMPSON, S.C.
DEPTH TO WATER - INITIAL: ▽ 17.5' **AFTER 24 HOURS:** ▼ 17.3'

PROJECT NUMBER: 200801.200
DATE STARTED: 7/28/08
DATE COMPLETED: 7/30/08
GROUND ELEVATION: 4523.8'
LOGGED BY: J.P., B.H., 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	0,4,4,(6) *0.65*	CH	dk. gray, moist, stiff								
4420															
	105		⊠	17	Pushed *0.61*	CH	dk. gray, moist, stiff	93.3	33.2						
4415							FAT CLAY silt lenses								
	110		■	18	1,3,4,(5) *0.72*	CH	dk. gray, moist, stiff								
4410															
	115		⊠	18	Pushed *0.27*	CH (*A-7-6(36)*)	dk. gray, moist, firm	78.8	42.1	54	32	0	1	99	CT UC
4405															
	120		■	16	10,13,15,(19)	SM	gray, wet, med. dense								
							SILTY SAND few clay layers to 2" thick								
4400															
	125						LEAN CLAY								
			⊠	18	Pushed	CL	gray, moist	95.8	25.6						
						ML	gray, wet								
			■	16	3,7,18,(17)	ML (*A-4(0)*)	gray, wet, med. dense		24.1		NP	0	39	61	
							SANDY SILT few clay lenses & layers to 1" thick								
4395															
	130														
4390															
	135														
4385															
	140														
4380															
	145														
4375															

DH_LOGV1 08-P8.GPJ US EVAL.GDT 5/28/09

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

RB&G ENGINEERING, INC.

DRILL HOLE LOG

BORING NO. 08-P8-B2

PROJECT: I-15 UTAH COUNTY CORRIDOR - P8, I-15 OVER 600 SOUTH
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:253,249 E:591,591
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 30'
DRILLER: L. HILLER, D. PAYNE
DEPTH TO WATER - INITIAL: ▽ 20.0' **AFTER 24 HOURS:** ▼ 20.0'

PROJECT NUMBER: 200801.200
DATE STARTED: 7/30/08
DATE COMPLETED: 8/1/08
GROUND ELEVATION: 4523.5'
LOGGED BY: G. PEASLEE, 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
				9	6,9,9,(38)	GP-GM	brown, dry, med. dense									
4520																
	5			13	34,42,42,(99+)	GP-GM (*A-1-a*)	brown, slightly moist, very dense			2.0		NP	57	32	11	
4515																
	10			8	19,21,12,(54)	GP-GM	lt. brown , moist, dense	GRAVEL W/SILT & SAND possible cobbles								
4510																
	15			6	51,29,16,(60)	GP-GM	lt. brown , moist, dense									
4505																
	▽▼ 20			3	26,35,21,(66)	GP-GM	lt. brown , moist, dense									
4500																
	25			12	9,16,18,(38)	SM (*A-2-4*)	dk. gray, wet, dense			22.9		NP	3	73	24	
4495								SILTY SAND								
	30			18	20,20,17,(42)	SM	dk. gray, wet, dense									
4490																
	35			18	15,17,14,(34)	SM	gray, wet, dense									
						ML	gray, moist	SANDY SILT								
4485								SILTY SAND								
	40			18	6,12,6,(19) *0.18*	SM (*A-4(0)*)	dk. gray, moist			28.4		NP	0	57	43	7% -0.005 mm
						ML (*A-4(2)*)	dk. gray, moist, med. dense			29.6	29	4	0	33	67	
4480								SANDY SILT plastic								
	45			18	2,6,8,(14) *0.16*	ML (*A-4(0)*)	dk. gray, moist, soft			32.9	32	1	0	33	67	9% -0.005 mm
						ML (*A-4(0)*)	dk. gray, wet, med. dense	SANDY SILT		30.5		NP	0	50	50	
4475								SILT W/SAND								

DH_LOGV1 08-P8.GPJ US EVAL.GDT 5/28/09

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

RB&G ENGINEERING, INC.

DRILL HOLE LOG

BORING NO. 08-P8-B2

PROJECT: I-15 UTAH COUNTY CORRIDOR - P8, I-15 OVER 600 SOUTH
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:253,249 E:591,591
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 30'
DRILLER: L. HILLER, D. PAYNE
DEPTH TO WATER - INITIAL: ▽ 20.0' **AFTER 24 HOURS:** ▼ 20.0'

PROJECT NUMBER: 200801.200
DATE STARTED: 7/30/08
DATE COMPLETED: 8/1/08
GROUND ELEVATION: 4523.5'
LOGGED BY: G. PEASLEE, 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
			■	18	2,4,4,(8)	ML (A-4(0))	dk. gray, moist, loose	SILT W/SAND		32.4		NP	0	28	72	
4470																
	55		⊠	13	Pushed 0.18	CL (A-6(18))	gray, moist, soft			33.7	38	17	0	2	98	
4465																
	60		■	18	0/18",(0) 0.25	CL	gray, moist, soft	LEAN CLAY								
4460																
	65		⊠	12	Pushed 0.12	CL (A-6(10))	dk. gray, moist, soft		94.4	26.5	32	11	0	7	93	CT UU
4455								LEAN CLAY silt lenses								
	70		■	24	0,4,3,3,(6) 0.27	CL	dk. gray, moist									
						CL	dk. gray, moist, firm									
4450								LEAN CLAY								
	75		⊠	16	Pushed 0.56	CL (A-6(15))	dk. gray, moist, stiff		97.8	28.6	35	15	0	1	99	
4445																
	80		■	2	22,33,22,(45)	ML	dk. gray, moist, dense	SANDY SILT								
4440																
	85		⊠	14	Pushed 0.55	CL (A-7-6(22))	gray, moist, stiff	LEAN CLAY	90.1	32.7	43	20	0	1	99	CT UC
4435																
	90		■	18	0/12",4,(3) 0.45	CL	gray, moist, firm	LEAN CLAY silt lenses								
4430																
	95		⊠	15	Pushed 0.54	CL (A-7-6(27))	dk. gray, moist, stiff	LEAN CLAY	83.8	37	45	25	0	1	99	
4425																

DH_LOGV1 08-P8.GPJ US EVAL.GDT 5/28/09

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-P8-B2

PROJECT: I-15 UTAH COUNTY CORRIDOR - P8, I-15 OVER 600 SOUTH
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:253,249 E:591,591
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 30'
DRILLER: L. HILLER, D. PAYNE
DEPTH TO WATER - INITIAL: ▽ 20.0' **AFTER 24 HOURS:** ▼ 20.0'

PROJECT NUMBER: 200801.200
DATE STARTED: 7/30/08
DATE COMPLETED: 8/1/08
GROUND ELEVATION: 4523.5'
LOGGED BY: G. PEASLEE, 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
				24	0/18",2,(0) *0.35*	CL	gray, moist, firm								
4420							LEAN CLAY								
	105			22	0/16",2,(1) *0.48*	CL	gray, moist, firm								
4415															
	110			15	Pushed *0.84*	CH (*A-7-6(33)*)	dk. gray, moist, stiff	77.3	40.9	53	30	0	2	98	CT UC
4410							FAT CLAY organics								
	115			26	0/26",(0) *0.36*	CH	dk. gray, moist, firm								
4405															
	120			16	Pushed *0.34*	ML (*A-4(8)*)	dk. gray, moist, firm	103.5	30.6	32	8	0	2	98	
4400							SILTY SAND								
	125			18	20,32,35,(45)	SM	gray, moist, dense								
						ML	gray, moist LEAN CLAY								
						SM	gray, moist, dense SILTY SAND								
4395															
	130			17	13,19,24,(29)	SM,CL	dk. gray, moist, med. dense								
4390							INTERBEDDED SILTY SAND & LEAN CLAY								
	135														
4385							LEAN CLAY								
	140			15	Pushed *0.90*	CL (*A-7-6(33)*)	dk. gray, moist, stiff	84.5	35.5	49	31	0	1	99	CT
4380															
	145														
4375															

DH_LOGV1 08-P8.GPJ US EVAL.GDT 5/28/09

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
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HYD = Hydrometer
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DC = Dispersive Clay

RB&G ENGINEERING, INC.

DRILL HOLE LOG

BORING NO. 08-P8-C1

SHEET 1 OF 1

PROJECT: I-15 UTAH COUNTY CORRIDOR - P8, I-15 OVER 600 SOUTH
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:253,157 E:591,611
DRILLING METHOD: 08-CME-55 / N.W. CASING TO 30'
DRILLER: D. SAMPSON
DEPTH TO WATER - INITIAL: N.M. **AFTER 24 HOURS:** 17.6'

PROJECT NUMBER: 200801.200
DATE STARTED: 11/11/08
DATE COMPLETED: 11/12/08
GROUND ELEVATION: 4522.2'
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
4520																
	5			6	6,5,5,(23)	SM	brown, moist, med. dense	SILTY SAND W/GRAVEL								
4515																
	10			6	19,34,35,(99+)	GM	brown, very moist, very dense									
4510																
	15			12	27,36,48,(99+)	GM	brown, wet, very dense	SILTY GRAVEL W/SAND possible cobbles								
4505																
4500	20															
	25			10	21,10,11,(26)	GM	brown, wet									
						SM	brown, wet, med. dense									
4495								SILTY SAND								
	30			14	8,6,8,(16)	SM	gray, wet									
						ML	gray, wet, med. dense	SANDY SILT								
4490								Note: Predrilled hole to 31.5' for CPT sounding.								
	35															
4485																
	40															
4480																
	45															
4475																

DH_LOGV1 08-P8.GPJ US EVAL.GDT 5/28/09

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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HYD = Hydrometer
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