

Location Map:

See Figure 1
Site Map



Compliance • Engineering • Remediation
LT Environmental, Inc.
4400 W. 46th Avenue
Denver, Colorado 80212

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: <i>nw01</i>	Project: HSR Austin 16-26/Elliot 15-26				
Date: 3/20/2008	Project Number: KMG08355				
Logged By: Justin Solomon	Drilled By: Drill Pro				
Drilling Method: Direct Push	Sampling Method: Continuous				
Seal: Bentonite Chips	Grout: NA				
Casing Type: Schedule 40 PVC	Diameter: 1"	Length: 10'	Hole Diameter: 2"	Depth to Liquid:	
Screen Type: Schedule 40 PVC	Slot: 0.01	Diameter: 1"	Length: 10'	Total Depth: 12'	Depth to Water: ~6'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Soil/Rock Type	Lithology/Remarks	Well Completion
LOW	MOIST	0.3			0			SAND/GRAVEL BACKFILL	
					2			SILTS - SAND, DARK-BROWN, MOIST	
					4			MED-GRAIN SAND, MOIST, YELLOWISH-BRN	
MED	WET	0.1			6			POORLY GRADED, NO GRAVEL	
					8			SATURATED	
					10			NO ODORS OR STAINING	
MED					12			TD = 12'	
					14				
					16				
					18				
					20				
					22				
					24				
					26				
					28				
					30				

Location Map:

See Figure 1
Site map



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW02	Project: HSR Austin 16-26/Elliot 15-26
Date: 3/20/2008	Project Number: KMG08355
Logged By: Justin Solomon	Drilled By: Drill Pro
Drilling Method: Direct Push	Sampling Method: Continuous
Seal: Bentonite Chips	Grout: NA
Casing Type: Schedule 40 PVC	Diameter: 1"
Screen Type: Schedule 40 PVC	Slot: 0.01
Hole Diameter: 2"	Depth to Liquid: ~6'
Total Depth: 12'	Depth to Water: ~6'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Soil/Rock Type	Lithology/Remarks	Well Completion
LOW	MOIST	0.2			0			BAKE SOIL, BACK FILL	
					2			DARK - BROWN SILTS - SAND, FINE SAND, MOIST	
		0.1			4			FINE - MED GRAIN SAND, MED - BROWN, MOIST, NO GRAVEL, NO FINES	
MED	SAT				6				
					8			BLACK - STAINED SILTS SAND, FINE SAND, MILD HC ODOR	
MED					10				
					12			TD = 12'	
					14				
					16				
					18				
					20				
					22				
					24				
					26				
					28				
					30				

Location Map:

See Figure 1
Site Map



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW03, MW04, MW05, MW06		Project: HSR Austin 16-26/Elliot 15-26	
Date: 3/20/2008		Project Number: KMG08355	
Logged By: Justin Solomon		Drilled By: Drill Pro	
Drilling Method: Direct Push		Sampling Method: Continuous	
Scal: Bentonite Chips		Grout: NA	
Casing Type: Schedule 40 PVC		Diameter: 1"	Length: 2'
Screen Type: Schedule 40 PVC		Diameter: 1"	Length: 10'
Slot: 0.01		Hole Diameter: 2"	Depth to Liquid: ~5-6'
		Total Depth: 12'	Depth to Water: ~5-6'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Soil/Rock Type	Lithology/Remarks	Well Completion
					0			BARE SOIL	
					2				
					4				
					6			NO SAMPLING, DRIVE PT TO TD.	
					8				
					10				
					12			TD = 12'	
					14				
					16				
					18				
					20				
					22				
					24				
					26				
					28				
					30				

Location Map:

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 LT Environmental, Inc.
 4600 West 60th Ave.
 Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: TMWO7	Project: HSR Austin 16-26 HSR Elliot 15-26		
Date: 4/29/2015	Project Number: KMG08355		
Logged By: Andy Verbonitz G.I.T.	Drilled By: Alpine Remediation		
Drilling Method: Direct Push	Sampling Method: Continuous		
Seal: bentonite	Grout: None		
Diameter: 1" Length: 5'	Hole Diameter: 2.25"	Depth to Liquid: —	
Diameter: 1" Length: 10'	Total Depth: 12.5'	Depth to Water: 6'	

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Soil/Rock Type	Lithology/Remarks	Stick up Well Completion
					0			0-6' Hand Auger - Not Logged	
					2			no stain, no odor,	
					4			tan/brown, fine sand (f-m)	
					6		SA	wet @ 6' clayey at bottom	
soft + wet			none		8			6'-7.5'	
		2.4	2.4	@ 8.5'	10			sand (uf-f), silty, grey,	
↓		1020			12			wet, no stain, no odor	
hard		37.2		@ 11'	14			7.5-9'	
↓		1200			16			sand (uf-m), no fines,	
refuse		Ø	none		18			very wet, black stain,	
					20			odor (bos?)	
					22			9-10'	
					24			same as 6-7.5' but w/	
					26			light odor + stain	
					28			10'-11.5'	
					30			same as 7.5-9	
								11.5-12.5'	
								silty sand very fine,	
								no stain, no odor	

Well sampled +
 abandoned per Mr. Ulrich

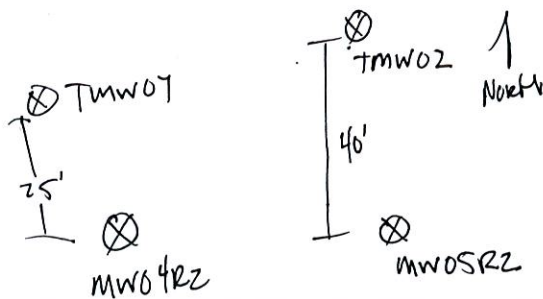
Refusal at 12.5'
 10:10 - soft well

Location Map:		 Compliance Engineering Remediation LT Environmental, Inc. 4600 West 60th Ave. Arvada, Colorado 80003	
BORING LOG/MONITORING WELL COMPLETION DIAGRAM			
Boring/Well Number: TMW02		Project: HSR Austin 16-26 HSR Elliot 15-26	
Date: 4/29/2015		Project Number: KMG08355	
Logged By: Andy Verbonitz G.I.T.		Drilled By: Alpine Remediation	
Elevation: NA	Detector: MiniRac 3000	Drilling Method: Direct Push	Sampling Method: Continuous
Gravel Pack: 10-20 silica sand		Seal: bentonite	Grout: None
Casing Type: PVC	Diameter: 1"	Length: 5'	Hole Diameter: 2.25"
Screen Type: PVC	Slot: 0.01	Diameter: 1"	Length: 10'
			Depth to Liquid: 6'
			Depth to Water: 6'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Soil/Rock Type	Lithology/Remarks	Stick up Well Completion
					0			0-6' Hand Auger - Not Logged	
					2			no stain no odor	
					4			tan brown sand (uf-m)	
					6			moist to wet	
Soft	moist								
↓	↓	↓	↓	↓					
hard	wet	none	40.1		8			6-6.5'	
↓	↓	↓	250		10			sand (uf-m), wet,	
↓	↓	↓	34.2		12			tan brown, no stain	
↓	↓	↓	1.3		14			6.5-8'	
refuse	dry	none			16			sand (uf), clayey, hard, wet,	
	↓	↓			18			grey w/ red Fe staining,	
					20			weathered, no stain, no odor	
					22			8'-11'	
					24			same but w/ black staining	
					26			and odor	
					28			11'-13'	
					30			silty sand (uf), no stain,	
								no odor	
								Refusal @ 13'	
								10:00 - set well	

Well sampled + abandoned per Mr. Ulrich

Well Location Sketch:



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Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

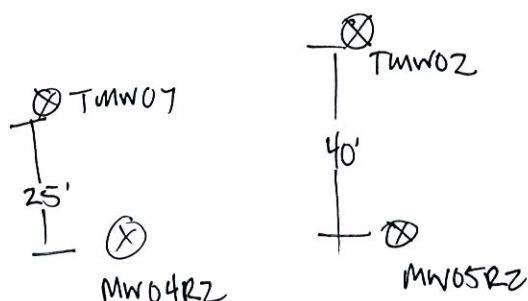
Boring/Well Number:	TMW02	Project:	HSR Austin 16-26, Elliot 15-26
Date:	12/29/15	Project Number:	KMG08355
Logged By:	RYAN ZERU	Drilled By:	Site Services
Drilling Method:	Direct Push	Sampling Method:	Continuous
Seal:	Bentonite	Grout:	-
Casing Type:	PVC	Diameter:	1"
Screen Type:	PVC	Length:	5
Slot:	0.01	Hole Diameter:	3"
		Depth to Liquid:	-
		Total Depth:	13
		Depth to Water:	6'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
					2				Hydrovac, Not Logged	
					4					
					6				6.5'	
					8				6.5-8' Sands (fg-mg) wet	
					10				Tan, Brown no odor. NO STAIN.	
					12				6.5-8' Sandy clays Tan/grey	
					14				odor. NO STAIN. Iron/fractures	
					16				WEATHERED.	
					18				8-11' Sandy (mg-fg) clays	
					20				Tan/grey, white. Slight odor. NO STAIN.	
					22				FE STAINING in fractures. Low plastic	
					24				Low cohesion. BRITTLE.	
					26				11-13' Silty clays. MED plastic	
					28				MED cohesion. NO odor. NO STAIN	
					30				White/Tan, grey fg stain	
					32				(Silty)	
					34				TO 13.0' SCREEN 10' casing 5'	
					36				Sand to 3' PVC stickup.	
					38					
					40					

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Well Location Sketch:



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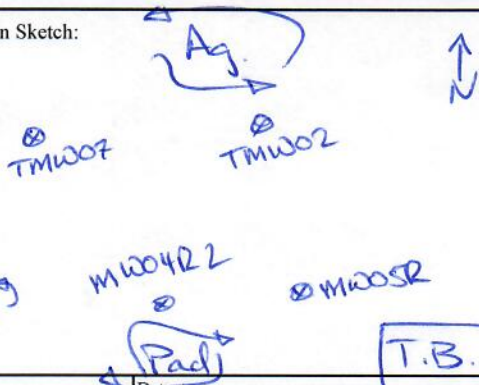
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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: TMW07	Project: HSR Austin 16-26, Elliot 15-26
Date: 12/29/15	Project Number: KMG08355
Logged By: RANZERN	Drilled By: Site Services
Drilling Method: Direct Push	Sampling Method: Continuous
Seal: Bentonite	Grout: -
Casing Type: PVC	Diameter: 1"
Screen Type: PVC	Slot: 0.01
Diameter: 1"	Length: 3.5
Hole Diameter: 3"	Depth to Liquid: -
Total Depth: 11.5	Depth to Water: 6'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
					2				Hydrovac, Not Logged	
					4					
					6					
Silt	WET	3.7	NO		8	25'	SP		6-7.5' Brown. SAND. Silty. (Fq-Fg) NO STAIN NO ODOOR.	
					10					
	WET	491	yes		12		SP/CL		7.5-8.5 SANDS. Fq-mg WET Blackstain. ODOOR.	
		230			14					
		225	slight		16		SP/CL		8.5-10' grey Silty SANDS. ODOOR + STAIN.	
		31.1	yes		18					
					20		SP/CL		10-10.5 BLACK Silty SANDS Slight ODOOR must/wet. BLACK IN FRACTURE CARBON?	
		3.2	NO		22					
					24				10.5-11.5 Silty SANDS TAN NO STAIN NO ODOOR.	
					26					
					28					
					30				TD 11.5' SCREEN @ Casing 4' SAND TO 3' Bentonite Grout PVC Struck Up.	
					32					
					34					
					36					
					38					
					40					

Well Location Sketch:



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: TMW02 Project: Aesth 16-26/Eliot 15-26
 Date: 12/19/2016 Project Number: KMG108355
 Logged By: Kris Shepherd Drilled By: LTE

Elevation: Detector: PID Drilling Method: Hand Auger Sampling Method: Continuous

Gravel Pack: Silica Sand Seal: Bentonite Grout: -

Casing Type: PVC Diameter: 1" Length: 2' Hole Diameter: 3" Depth to Liquid: -

Screen Type: PVC Slot: 0.01 Diameter: 1" Length: 7.5' Total Depth: 9.5' Depth to Water: ~5'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
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					0					
	moist	0.1	none		2				0' - 6.5' fg sand, brown, moist, no stain, no odor	
		0.1			4			SP	→ wet @ ~5'	
	wet	0.8			6				6.5' - 8' clayey fg - mgs sand,	
		67.9	stain		8			SC	tan, no stain, no odor, wet	
		56.7	↓		10			CL	8' - 9.5' Sandy clay, gray	
		12.3	none		12				stain, cohesive, mod. plasticity, odor, wet	
					14				→ stain + odor ends @ ~9.25'	
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

→ PVC Riser,
Temp well

NOTES:

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Well Location Sketch:



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

TMW07

Project:

Austin 16-26 / Elliot 15-26

Date:

12/16/2016

Project Number:

KMG08355

Logged By:

Kris Shepherd

Drilled By:

LTE

Elevation:

Detector:

PID

Drilling Method:

Hand Auger

Sampling Method:

Continuous

Gravel Pack:

Silica Sand

Seal:

Bentonite

Grout:

-

Casing Type:

PVC

Diameter:

1"

Length:

2'

Hole Diameter:

3"

Depth to Liquid:

-

Screen Type:

PVC

Slot:

0.01

Diameter:

1"

Length:

9'

Total Depth:

11'

Depth to Water:

~4.5'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	0.0	none		2				0' → 5.5' fg sand, trace Mg, brown, no stain, no odor, moist	
	↓	0.0	↓		4				→ wet @ ~4.5' bgs	
	Wet	0.1	↓		6				5.5' → 11' Sandy clay, gray/orange, cohesive, mod plasticity, no stain & no odor, wet	
	↓	0.9	↓		8				→ hydrocarbon staining & odor @ ~7.5'	
		11.6	Stain		10				→ Temp Well, PVC Riser	
		62.3	↓		12					
		130			14					
		109			16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

NOTES:

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