

Well Location Sketch:



Compliance • Engineering • Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, Colorado 80003

## BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

MW004R2

Project:

UPRR 38 Pan Am GU #1

Date:

8/28/2015

Project Number:

KMG0574

Logged By:

Kris Shepherd

Drilled By:

HydroDig

Elevation:

Detector:

PID

Drilling Method:

Super Vac

Sampling Method:

Hand Auger (2' intervals)

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:

10'

Total Depth:

12'

Depth to Water:

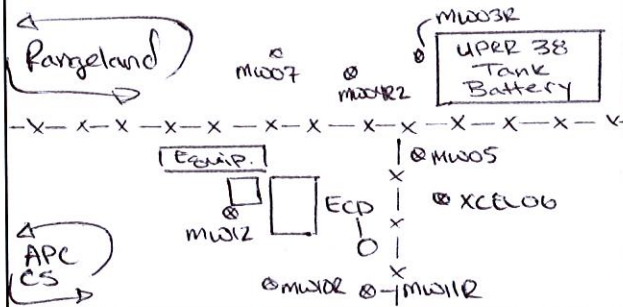
~6'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	moist	0.3	none		2	x		SP	2' - fg sand, brown, no stain, no odor, moist	
	↓	0.5			4	x		SP	4' - fg sand, trace clay, no stain, no odor, moist	
	wet	0.2			6	x		SP	6' - fg sand, trace clay & coarse sand, brown, no stain, no odor, wet	
	↓	1.3			8	x		SP	8' - fg sand, trace clay, gray	
		2.1			10	x		SP	10' - SAA	
	↓	179			12	x		SP	12' - SAA	
					14				— flush mount	
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

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**BORING LOG/MONITORING WELL COMPLETION DIAGRAM**

Boring/Well Number:	Project:		
MW0112	UPRR 38 Pan Am GU #1		
Date:	Project Number:		
8/28/2015	KMG0574		
Logged By:	Drilled By:		
Kris Shepherd	HydroDig		
Drilling Method:	Sampling Method:		
Super Vac	Hand Auger (2' intervals)		
Seal:	Grout:		
Bentonite	-		
Diameter:	Length:	Hole Diameter:	Depth to Liquid:
1"	2'	3"	-
Diameter:	Length:	Total Depth:	Depth to Water:
1"	10'	12'	~8'

Elevation:		Detector:		PID		Drilling Method:		Super Vac		Sampling Method:		Hand Auger ( 2' intervals)		
Gravel Pack:						Seal:		Bentonite		Grout:				
Silica Sand														
Casing Type:						Diameter:		Length:		Hole Diameter:		Depth to Liquid:		
PVC						1"		2'		3"		-		
Screen Type:						Slot:		Diameter:		Length:		Total Depth:		
PVC						0.01		1"		10'		12'		
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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## BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

MW12

Project:

UPRR 38 Pan Am GU #1

Date:

8/28/15

Project Number:

KMG0574

Logged By:

Kris Shepherd

Drilled By:

HydroDig

Elevation:

Detector:

PID

Drilling Method:

Super Vac

Sampling Method:

Hand Auger (2' intervals)

Gravel Pack:

Silica Sand

Seal:

Bentonite

Grout:

-

Casing Type:

PVC

Diameter:

1"

Length:

1'

Hole Diameter:

3"

Depth to Liquid:

-

Screen Type:

PVC

Slot:

0.01

Diameter:

1"

Length:

10'

Total Depth:

11'

Depth to Water:

~8'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	moist	0.2	none		2	x		SP	2' - fg sand, brown, no stain, no odor, moist	
		0.2			4	x		SC	4' - clayey fg - DMg sand, brown, no odor no stain, moist	
		0.7			6	x		SC		
	wet	0.4	Black		8	x		CL	6' - SAA	
		0.0			10	x		GC	8' - v. sandy clay, brown w/ black mottled stain, low cohesion, mod. plasticity, no odor, wet	
					12	x		N/A		
					14					
					16				10' - Sandy gravel w/ trace clay, brown - stain, no odor, no stain, wet	
					18					
					20				11' - Large hard cobbles, no recovery w/ hand auger, Hydro-vac could not progress and deeper	
					22					
					24					
					26					
					28				- flush mount	
					30					
					32					
					34					
					36					
					38					
					40					

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## BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

SB09/MW21

Project:

Ione Compressor Station

Date:

12/2/2015

Project Number:

14215188

Logged By:

Kris Shepherd

Drilled By:

LTE / HydroDig

Elevation:

Detector:

PID

Drilling Method:

Hydro-vac

Sampling Method:

Hand Auger

Gravel Pack:

Silica Sand

Seal:

Bentonite

Grout:

-

Casing Type:

PVC

Diameter:

2"

Length:

Hole Diameter:

8"

Depth to Liquid:

-

Screen Type:

PVC

Slot:

0.01

Diameter:

2"

Length:

Total Depth:

18'

Depth to Water:

~8'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Moist	0.4	None	@ 1'	2				1'-fg sand, brown, no odor, no stain, moist	
		0.2		@ 5'	4				SP - 3'-SAA	
		0.5		(1250)	6				5'-clayey fg sand, tan, no odor, no stain, moist	
	Wet	0.1			8				SC - 7'-SAA, wet	
		0.2			10				- 9'-SAA	
		0.7		@ 11'	12				CL - 11'- gravelly, sandy clay, brown, low cohesion, no odor, no stain, wet	
		0.3		(1315)	14				- 12'-SAA	
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

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## BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW12R Project: Ione Compressor Station

Date: 4/27/2016 Project Number: 14215188

Logged By: Kris Shepherd Drilled By: Drill Pro

Elevation: Detector: PID Drilling Method: Direct Push 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: 10' Total Depth: ~12' 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					
	N/A	N/D	N/A	N/A	8			N/A	→ Not sampled, not logged. Push point to 12' bgs	
					10					
					12				→ Push point	
					14					
					16					
					18					
					20					
					22					
					24					
					26					
					28					
					30					
					32					
					34					
					36					
					38					
					40					

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