

Well Location Sketch:

See MW08



Compliance - Engineering - Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: <i>MW01</i>	Project: Jack Berger C #1
Date: <i>4/27/18</i>	Project Number: 14215255
Logged By: David Stainback	Drilled By: Drill Pro
Elevation:	Drilling Method: Direct Push
Detector: PID	Sampling Method: Continuous
Gravel Pack: Silica Sand	Seal: Bentonite
Casing Type: PVC	Diameter: 1"
Screen Type: PVC	Slot: 0.01
	Length: 5'
	Hole Diameter: 2.25"
	Depth to Liquid: -
	Total Depth: 16'
	Depth to Water: 16'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					FM
					2				Not logged, pot holed to 8' bgs	
					4					
					6					
					8					
					10					
					12					
					14					
					16					
					18					

to @ 16' bgs
Set well @ 15' bgs

Well Location Sketch:

See mw08



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

MW02

Project:

Jack Berger C #1

Date:

4/27/18

Project Number:

14215255

Logged By:

David Stainback

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:

5'

Hole Diameter:

2.25"

Depth to Liquid:

-

Screen Type:

PVC

Slot:

0.01

Diameter:

1"

Length:

10'

Total Depth:

16'

Depth to Water:

10'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
					2					
					4					
					6					
					8					
					10					
					12					
					14					
					16					
					18					

Pathed to 8' bgs, not logged

8-12', Light brown to tan silty sands, fine, poorly graded, wet from 10-12', iron oxidation present

12-15' SAA, w/ increasing silt content w/ depth

15-16' Sandy clay, tan, moist, low-moist plast, fine sands, no stain below

TDE @ 16' bgs

Set well @ 15'

moist wet 0.0

0.0

moist 0.1

N₂

SP

SP

CL

Well Location Sketch:

See MW08



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LT Environmental, Inc.

4600 W. 60th Avenue

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW03	Project: Jack Berger C #1
Date: 4/27/18	Project Number: 14215255
Logged By: David Stainback	Drilled By: Drill Pro
Elevation:	Drilling Method: Direct Push
Detector: PID	Sampling Method: Continuous
Gravel Pack: Silica Sand	Seal: Bentonite
Casing Type: PVC	Diameter: 1" Length: 5'
Screen Type: PVC	Diameter: 1" Length: 10'
Slot: 0.01	Hole Diameter: 2.25"
	Total Depth: 16'
	Depth to Liquid: -
	Depth to Water: 10'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
					2				Not logged, potholed to 8' bgs	
					4					
					6					
					8					
moist		0.0	ND		10			M.L. SP	8-9.5' Light brown silt, non cohesive, loose.	
wet		0.0			12				9.5-12' Brown to tan fine sands, wet 10-12', poor grading, no staining odor	
		0.0			14				12-13.5' SAA	
moist		0.0			16				13.5'-16' clayey sands, grey, moist, increasing clays & density w/ depth no staining/odor	
		0.0			18					

TID @ 16' bgs

Set well @ 15' bgs

Well Location Sketch:

See mw 08



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4600 W. 60th Avenue

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

mw04

Project:

Jack Berger C #1

Date:

4/27/18

Project Number:

14215255

Logged By:

David Stainback

Drilled By:

Drill Pro

Drilling Method:

Direct Push

Sampling Method:

Continuous

Elevation:

Detector:

PID

Gravel Pack:

Silica Sand

Seal:

Bentonite

Grout:

Casing Type:

PVC

Diameter:

1"

Length:

5'

Hole Diameter:

2.25"

Depth to Liquid:

-

Screen Type:

PVC

Slot:

0.01

Diameter:

1"

Length:

10'

Total Depth:

16'

Depth to Water:

11'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
					2				Not logged, potholed to 8' bgs	
					4					
					6					
					8					
moist	0.0	NO			10			ML-SP	8-10' Brown silt w/ sand, fine, non cohesive, moist	
not	0.5				12			SP	10'-12', Brown to tan poorly graded sands, wet 11-12', no storm odor, fine	
	20	YES			14			SP-CL	12-14', SAA, but w/ heavy storm obs. 13-14'	
moist	628	NO			16				14-16', turns to sandy clay, grey to brown brown, moist, low med plast, more dense w/ depth, SI odor obs.	
	93				18				TD @ 16' bgs Set well @ 15' bgs	

Well Location Sketch:

See MW05



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LT Environmental, Inc.

4600 W. 60th Avenue

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

SB15/MW05

Project:

Jack Berger C #1

Date:

4/27/18

Project Number:

14215255

Logged By:

David Stainback

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:

5'

Hole Diameter:

2.25"

Depth to Liquid:

-

Screen Type:

PVC

Slot:

0.01

Diameter:

1"

Length:

10'

Total Depth:

20'

Depth to Water:

10'

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	NO		2	X		CL	Pothole to 8', sample w/ auger	
					4	X		CL	2' bgs, sandy clay, trc gravels, brown, moist, no storn/odor obs, low-med plast.	
		0.3			6	X		CL	4' bgs, SAA	
		3.8			8	X		CL	6' bgs, SAA (fill?)	
		149	Yes	SB15 @ 8'	10	X		CL	8' bgs, SAA, but w/ storn/odor present, moist	
		305			12	X		SM	8-10', SAA	
	wet				14	X		SM	10-12', Trans to silty sand, fine, poorly graded, heavy impacts, wet	
		1,667			16	X		SM	12-15.5', SAA, wet	
		1,993			18	X		CL	15.5'-16', Brown clay, moist, SL odor, no storn, med plast, sandy, fines.	
	moist	19	NO		20	X		CL	16-20', SAA	
									TD @ 20' bgs	
									Set well @ 15' bgs	

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Well Location Sketch:

See MW08



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LT Environmental, Inc.

4600 W. 60th Avenue

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring Well Number: SB12/MW06	Project: Jack Berger C #1
Date: 3/27/18 4/27/18	Project Number: 14215255
Logged By: David Stainback	Drilled By: Drill Pro
Drilling Method: Direct Push	Sampling Method: Continuous
Seal: Bentonite	Grout:
Gravel Pack: Silica Sand	Hole Diameter: 2-25"
Casing Type: PVC	Depth to Liquid: -
Screen Type: PVC	Depth to Water: 10'
Slot: 0.01	Total Depth: 20'
Diameter: 1"	Length: 10'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0				Pothole to 8', Sampled w/ hand auger	
	moist 0.1		NO		2	X		CL	2' bgs, light grey clay, dense, med plast, wet, no stain/odor	
	moist 0.6		NO		4	X		ML	4' bgs, light brown silt, low plast, moist, no stain/odor	
	moist 46.7		Yes	SB12 @ 6'	6	X		CL	6' bgs, grey sandy clays, stain/odor obs., med plast, wet	
	moist 31.6		Yes		8	X		CL	8' bgs, SAA	
	moist 12		Yes		10			CL	8-10', SAA	
	wet 13				12			SM	10-12', Grey silty sands, wet, stain/odor, fine	
	4.3				14			SM	12-14' SAA, w/ heavy stain, trans to 2'	
	7.8		Heavy		16			CL	14-16 Brown sandy clay, dense, med-high plast, moist, no stain/odor	
	moist 0.5		NO		18			CL	14-20' SAA, moist, no impact	
	1.2								TD @ 20'	
									Set well @ 16' bgs	

NOTES:

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Well Location Sketch:



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LT Environmental, Inc.

4600 W. 60th Avenue

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB13 / MW07	Project: Jack Berger C #1
Date: 4/27/18	Project Number: 14215255
Logged By: David Stainback	Drilled By: Drill Pro

Elevation:	Detector: PID	Drilling Method: Direct Push	Sampling Method: Continuous
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Gravel Pack: Silica Sand	Seal: Bentonite	Grout:
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Casing Type: PVC	Diameter: 1"	Length: 6'	Hole Diameter: 2.25"	Depth to Liquid:
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Screen Type: PVC	Slot: 0.01	Diameter: 1"	Length: 10'	Total Depth: 20'	Depth to Water: 11'
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Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	Dry	0.0	NO		2	X		ML	Pothole to 8', Sampled w/ hand auger	
	moist	347	NO		4	X		CL	2' bgs, Brown silt, tight, dry, non cohesive, no stain/odor obs.	
	moist	700	YES		6	X		CL	4' bgs sandy clay, light grey, w/ odor, moist low-mud plast, + no gravels	
	moist	2,230	YES	SB13 C8'	8	X		CL	6' bgs, SAA but no gravels	
	moist	1,265			10			SC	8 bgs, SAA	
	wet	1,443			12				8-12', Grey to black clayey sands, fine, wet 11-12', stain & odor obs., poorly sorted.	
		1,800			14				12-14", SAA, heavy stain observed, very saturated	
	moist	5	NO		16			CL	14-20', Light brown sandy clay, increasing plasticity & density w/ depth, moist, no stain/odor	
		3.7			18					
		1.8								

TD @ 20' bgs

Set well @ 16' bgs

Well Location Sketch:

Ag Field



Ag Field



Compliance - Engineering - Remediation

LT Environmental, Inc.

4600 W. 60th Avenue

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:

SB14/MW08

Project:

Jack Berger C #1

Date:

4/27/18

Project Number:

14215255

Logged By:

David Stainback

Drilled By:

Drill Pro

Drilling Method:

Direct Push

Sampling Method:

Continuous

Elevation:

Detector:

PID

Gravel Pack:

Silica Sand

Seal:

Bentonite

Grout:

Casing Type:

PVC

Diameter:

1"

Length:

6'

Hole Diameter:

2-2.5"

Depth to Liquid:

-

Screen Type:

PVC

Slot:

0.01

Diameter:

1"

Length:

10'

Total Depth:

20'

Depth to Water:

11'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Diagram
					0					
	moist 168		Yes		2	X		CL	2' bgs, grey clay, tight, med plast, wet, stain/odor	
	moist 224		Yes		4	X		CL	4' bgs, SAA	
	moist 1789		Yes	SB14 @ 6'	6	X		SC	6' bgs, clayey sands, fine, fine gravels, wet, stain/odor obs, poorly sorted	
	moist 1743		Yes		8	X		CL	8' bgs, SAA but no gravels	
	moist 2025				8-11'			CL	8-11' Light grey sandy clay, low-med plast, moist, stain/odor obs, fines	
	1324				10			SC	11-12' grey fine sands, clayey, stain/odor, poorly sorted	
	wet 2106			SB14 @ 10.5'	12			SC	12-14' SAA, but w/ heavy stain @ 13'	
	1973				14			CL	14-20' Light brown sandy clay, med-high plast, moist, no stain/odor, plast. & density increase w/ depth	
	moist 14.2		NO		16					
	3.8				18					
									TD @ 20' bgs	
									SEA well @ 16' bgs	