

TABLES

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS

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SUMMARY OF SOIL ANALYTICAL RESULTS
SOIL ABATMENT AND COMPLETION REPORT
TURNER B SOUTH TANK BATTERY
SECTION 29, TOWNSHIP 17 SOUTH, RANGE 31 EAST
LOCO HILLS, EDDY COUNTY, NEW MEXICO

			ANIONS	BTEX					TPH		
Sample Name	Sample Depth (ft-bgs)	Sample Date	Chloride	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Total BTEX	GRO C ₆ -C ₁₀ Hydrocarbons	DRO >C ₁₀ -C ₂₈ Hydrocarbons	Total Petroleum Hydrocarbons
			SW90506 mg/kg	8021B mg/kg	8021B mg/kg	8021B mg/kg	8021B mg/kg	8021B mg/kg	8021B mg/kg	SW8015 mg/kg	SW8015 mg/kg
CONFIRMATION SAMPLES AOC #1											
SW-1	6	6/1/14	<16.0	--	--	--	--	--	--	--	--
SW-2	6	6/1/14	<16.0	--	--	--	--	--	--	--	--
SW-3	6	6/1/14	32.0	--	--	--	--	--	--	--	--
SW-4	2	6/1/14	480	--	--	--	--	--	--	--	--
SW-5	2	6/1/14	80.0	--	--	--	--	--	--	--	--
SW-6	2	6/1/14	1,600	--	--	--	--	--	--	--	--
SW-6B	2	6/3/14	96.0	--	--	--	--	--	--	--	--
SW-7	2	6/2/14	32.0	--	--	--	--	--	--	--	--
SW-8	2	6/2/14	2,360	--	--	--	--	--	--	--	--
SW-8B	2	6/3/14	<16.0	--	--	--	--	--	--	--	--
SW-9	2	6/2/14	624	--	--	--	--	--	--	--	--
SW-10	2	6/2/14	16.0	--	--	--	--	--	--	--	--
SW-11	2	6/4/14	<16.0	--	--	--	--	--	--	--	--
SW-11-1	2	6/5/14	366	--	--	--	--	--	--	--	--
SW-12	2	6/4/14	112	--	--	--	--	--	--	--	--
SW-12-1	2	6/5/14	288	--	--	--	--	--	--	--	--
SW-13	2	6/4/14	<16.0	--	--	--	--	--	--	--	--
SW-14	2	6/5/14	1,260	--	--	--	--	--	--	--	--
SW-14B	2	6/6/14	192	--	--	--	--	--	--	--	--
SW-15	2	6/3/14	816	--	--	--	--	--	--	--	--
SW-16	2	6/3/14	64.0	--	--	--	--	--	--	--	--
SW-17	2	6/3/14	32.0	--	--	--	--	--	--	--	--
CONFIRMATION SAMPLES AOC #2											
B-1	2.5	6/8/14	<16.0	--	--	--	--	--	--	--	--
B-2	2.5	6/8/14	32.0	--	--	--	--	--	--	--	--
B-11	2	6/8/14	1,960	--	--	--	--	--	--	--	--
B-11B	1.5	6/9/14	2,120	--	--	--	--	--	--	--	--
SW-1	1	6/8/14	<16.0	--	--	--	--	--	--	--	--
SW-2	1	6/8/14	1,920	--	--	--	--	--	--	--	--
SW-2B	1	6/9/14	2,000	--	--	--	--	--	--	--	--
SW-2C	1	6/10/14	432	--	--	--	--	--	--	--	--
SW-3	1	6/8/14	800	--	--	--	--	--	--	--	--
SW-5	1	6/8/14	<16.0	--	--	--	--	--	--	--	--
SW-6	1	6/8/14	<16.0	--	--	--	--	--	--	--	--
SW-12	1	6/8/14	576	--	--	--	--	--	--	--	--
SW-13	1	6/8/14	336	--	--	--	--	--	--	--	--
SW-14	1	6/8/14	528	--	--	--	--	--	--	--	--
CONFIRMATION SAMPLES AOC #3											
B-1	2.5	5/28/14	--	--	--	--	--	--	<10.0	<10.0	<10.0
B-2	2.5	5/28/14	--	--	--	--	--	--	<50.0	130	130
SW-1	1	5/28/14	--	--	--	--	--	--	<10.0	<10.0	<10.0
SW-2	1	5/28/14	--	--	--	--	--	--	<10.0	<10.0	<10.0
SW-3	1	5/28/14	--	--	--	--	--	--	<10.0	<10.0	<10.0
SW-4	1	5/28/14	--	--	--	--	--	--	<10.0	70.1	70.1
SW-5	1	5/28/14	--	--	--	--	--	--	<10.0	<10.0	<10.0
SW-6	1	5/28/14	--	--	--	--	--	--	<10.0	<10.0	<10.0
BACKFILL CONFIRMATION SAMPLES											
BACKFILL 1	--	5/29/14	64.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
BACKFILL 2	--	5/29/14	64.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
REGULATORY STANDARDS											
New Mexico (NM) Oil Conservation Division (OCD) Default Remediation Action Levels for Soil			1,000	10	--	--	--	50	--	--	5,000

NOTES:
"- " represents not analyzed.
"--" represents not applicable.
"mg/kg" represents milligrams per kilogram.
"<10.0" indicates the analyte was NOT detected at or above the specified sample detection limit (SDL).
Concentrations in bold exceed their specified SDLs.
Concentrations in bold and highlighted yellow exceed the NM OCD Default Remediation Action Level.

APPENDICES

APPENDIX 1 REFERENCES

References

Groundwater Conditions in Northern Lea County, New Mexico, Sidney R. Ash, United States Geologic Survey, 1963.

Soil Resource Report for Lea County, New Mexico, United States Department of Agriculture, National Resource Conservation Service, 2010.

Guidelines for Remediation of Leaks, Spills and Releases, New Mexico Oil Conservation Division, 1993.

APPENDIX 2
SKA SOIL BORING LOGS

PROFESSIONAL SEAL
STATE OF TEXAS
BRIAN T. WEAVER
GEOLOGY
274
LICENSED
PROFESSIONAL * GEOSCIENTIST

PROJECT NO./NAME 12009-0005 / Turner B Tank Battery		PROJECT LOCATION Section 29, Township 17 South, Range 31 East	
DRILLING COMPANY Peterson Drilling	DRILLING METHOD Direct Push Geoprobe	LOGGED BY Scott Drewry	
SAMPLING METHOD Solid Core Barrel with Disp. Sleeve	DATE STARTED 8/13/2013	DATE COMPLETED 8/13/2013	
BOREHOLE DIAMETER 2 inches	CASING TYPE / DIAMETER --- / ---	SCREEN TYPE / SLOT SIZE --- / ---	
GRAVEL PACK TYPE ---	GROUT TYPE ----	GROUND ELEVATION N/A	

DEPTH TO WATER DURING DRILLING ▽ -- ft.	STATIC DEPTH TO GROUNDWATER ▽ -- ft.	TOP OF CASING ELEVATION ----

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		100	10.1			0-12' Silty sand, brownish red, moist, loose, very fine.	
			3.8				
			6.6				
			4.0				
5		100	14.1	SM			
			10.1				
		100	5.8				
10			--			9.75' Crushed rock/caliche present. 10'-12' No recovery.	
		100	7.1			11.75" Silty clay, brownish red, friable, moist, cohesive, medium plasticity when wetted.	
			6.8				
15			2.4	CL			
		100					
			5.6				
20						Bottom of borehole at 20.0 feet.	

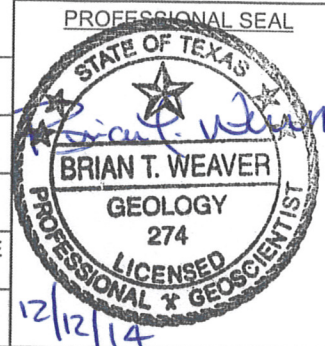


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SOIL BORING SB-2

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/13/2013

DATE COMPLETED

8/13/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

--- / ---

SCREEN TYPE / SLOT SIZE

--- / ---

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ▽

-- ft.

STATIC DEPTH TO GROUNDWATER ▽

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		50	13.7			0-2.5' Silty sand, brownish red, moist, loose, very fine.	
			4.5	SM			
			--			2.5'-4' No recovery.	
			--				
5		75	22.8			4'-7' Silty sand, brownish red, moist, loose, very fine.	
			16.8	SM			
						7'-8' No recovery.	
		100	9.6			8'-18' Silty sand, brownish red, moist, very loose, very fine.	
10			2.0				
		100	14.7				
			8.9	SM			
15							
		50	--			15.5' Crushed rock, caliche, and calcareous smearing present.	
			--			18'-20' No recovery.	
20						Bottom of borehole at 20.0 feet.	

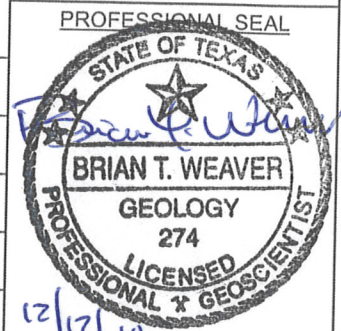


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SOIL BORING SB-3

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/13/2013

DATE COMPLETED

8/13/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

---- / ----

SCREEN TYPE / SLOT SIZE

---- / ----

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ▽

-- ft.

STATIC DEPTH TO GROUNDWATER ▽

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		75	17.5			0-3' Silty sand, brownish red, moist, loose, very fine.	
			5.6	SM			
			12.4				
			--			2.5' Dark staining and odor present.	
						3'-4' No recovery.	
		100	13.6			4'-16' Silty sand, brownish red, moist, loose, very fine.	
5			3.0				
		100	8.1				
10			12.2	SM			
		100	25.9			12' Becomes dry and very loose.	
			15.5				
15			16.5	CL		15.5' Crushed rock/caliche present, grey color.	
		100				16'-17' Silty clay, brownish red, friable, cohesive, high plasticity when wetted.	
						17'-20' Silty sand, brownish red, moist, very loose, very fine.	
			15.3	SM			
20						Bottom of borehole at 20.0 feet.	

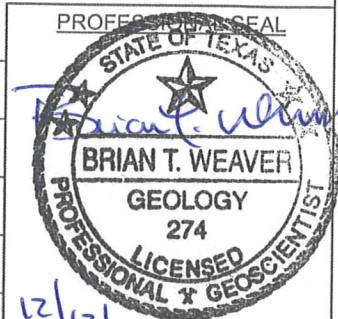


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SOIL BORING SB-4

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/13/2013

DATE COMPLETED

8/13/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

---- / ----

SCREEN TYPE / SLOT SIZE

---- / ----

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

12/12/14

DEPTH TO WATER DURING DRILLING ▽

-- ft.

STATIC DEPTH TO GROUNDWATER ▼

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		75	408			0-1.5' Silty sand, brownish red, very moist, loose, very fine, odor present	
			744	SM			
			20.1	SW		1.5' Sand, light brown, moist, loose, fine, apparent fill material.	
		-				3'-4' No recovery.	
		75	23.6	SW		4'-5.5' Sand, light brown, moist, loose, fine, apparent fill material.	
5			15.2				
			20.3	SM		5.5'-7' Silty sand, brownish red, moist, loose, very fine.	
			-			7'-8' No recovery.	
		100	8.4	CL		8'-9.5' Silty clay, brownish red, medium stiff, moist, medium plasticity, cohesive.	
			15.1				
10			8.6			9.5'-15' Silty sand, brownish red, moist, loose, very fine.	
			15.7				
		75	9.6	SM		12' Becomes very loose.	
			14.2				
			10.5				
15			-			15'-16' No recovery.	
		100	22.9			16'-20' Silty sand, brownish red, moist, loose, very fine.	
			15.5				
			7.8	SM		18' Crushed rock/caliche and calcareous smearing present.	
			10.9				
20						Bottom of borehole at 20.0 feet.	

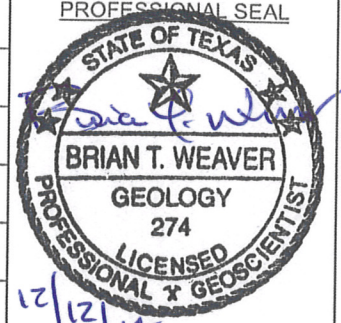


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SOIL BORING SB-5

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/13/2013

DATE COMPLETED

8/13/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

---- / ----

SCREEN TYPE / SLOT SIZE

---- / ----

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ▽

-- ft.

STATIC DEPTH TO GROUNDWATER ▽

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		75	26.2			0-3' Silty sand, brownish red, very moist, very fine, loose, slight odor.	
			3.8	SM			
			3.5				
		--	--			3'-4' No recovery.	
5		100	7.6			4'-16' Silty sand, brownish red, very moist, loose, very fine.	
			23.8				
		100	0.7			8' Becomes very loose.	
10			2.5	SM			
		100	3.5				
			9.8			14.5' Becomes dry with some gravel and calcareous smearing.	
15		100	7.3	CL		16'-18' Silty clay, brownish red, friable, moist, cohesive, high plasticity when wetted.	
			3.2	SM		18'-20' Silty sand, brownish red, dry, very loose, very fine.	
20						Bottom of borehole at 20.0 feet.	

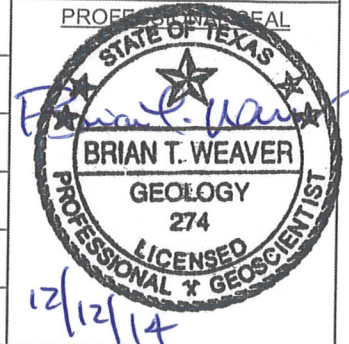


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SOIL BORING SB-6

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/14/2013

DATE COMPLETED

8/14/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

--- / ---

SCREEN TYPE / SLOT SIZE

--- / ---

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ∇

-- ft.

STATIC DEPTH TO GROUNDWATER ∇

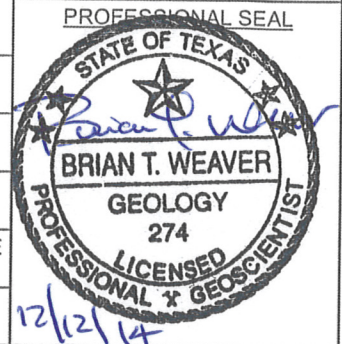
-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
	X	75	0.0			0-3' Silty sand, brownish red, moist, loose, very fine.	
			0.0	SM			
	X		0.2				
			-			3'-4' No recovery.	
5		75	1.0			4'-7' Silty sand, brownish red, moist, loose, very fine.	
			1.2	SM			
			7.3				
			-			7'-8' No recovery.	
		75	1.5			8'-11' Silty sand, brownish red, moist, loose, very fine.	
10	X		10.1	SM			
			9.1				
			-			11'-12' No recovery.	
	X	100	1.5			12'-20' Silty clay, brownish red, friable, moist, cohesive, medium plasticity when wetted. 12' Crushed rock/caliche and calcareous smearing present.	
			5.0				
			6.8				
15			7.1				
		100	5.5	CL		16' No crushed rock/caliche or calcareous smearing present.	
			3.5				
			2.0				
	X		3.5				
20						Bottom of borehole at 20.0 feet.	

PROFESSIONAL SEAL



12/12/14

PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/13/2013

DATE COMPLETED

8/13/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

000-000-000 / 000-000-000

SCREEN TYPE / SLOT SIZE

2025-2026 / 2024-2025

GRAVEL PACK TYPE

000-000-000

GROUT TYPE

■■■■■

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ∇

- ft.

STATIC DEPTH TO GROUNDWATER

- ft.

TOP OF CASING ELEVATION

■■■■■

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		75	7.6			0-3' Silty sand, brownish red, moist, loose, very fine.	
			4.0	SM			
			2.1				
			--			3'-4' No recovery.	
		100	0.0	SC		4'-5' Clayey sand, brownish red, moist, loose, very fine.	
5			0.0			5'-12' Silty sand, brownish red, moist, loose, very fine. 12' Increased clay content, some calcareous smearing.	
		100	0.0	SM			
10			0.0				
		100	3.0			12'-20' Silty clay, brownish red, friable, moist, cohesive, high plasticity when wetted.	
			1.5				
15			7.8	CL			
		100	2.5				
20						Bottom of borehole at 20.0 feet.	

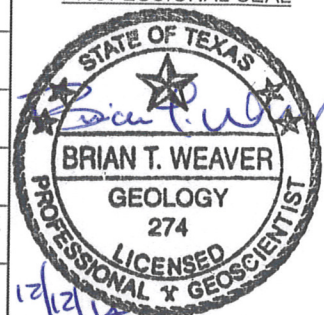


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SOIL BORING SB-8

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/14/2013

DATE COMPLETED

8/14/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

---- / ----

SCREEN TYPE / SLOT SIZE

---- / ----

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ∇

-- ft.

STATIC DEPTH TO GROUNDWATER ∇

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		75	4.3			0-3' Silty sand, brownish red, moist, loose, very fine, trace clay content.	
			4.6	SM			
			1.2				
			-			3'-4' No recovery.	
		100	4.8			4'-14' Silty sand, brownish red, moist, loose, very fine, no trace clay.	
5			4.5				
			5.3				
			6.6				
		100	1.5			7.5' Becomes very loose.	
			5.0	SM			
10			5.3				
			5.8				
		100	56			12' Becomes loose.	
			5.8				
			6.6	CL		14'-15' Silty clay, brownish red, friable, cohesive, medium plasticity when wetted.	
15			7.3			15'-18' Silty sand, brownish red, moist, loose, very fine.	
		100	5.6	SM			
			4.5				
			4.5			18'-20' Silty clay, brownish red, friable, cohesive, medium plasticity when wetted.	
			4.3	CL			
20						Bottom of borehole at 20.0 feet.	

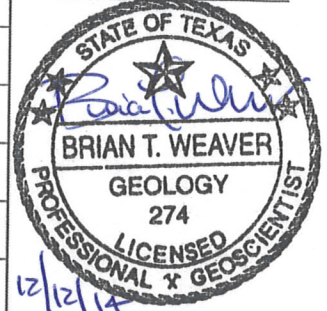


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SOIL BORING SB-9

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/14/2013

DATE COMPLETED

8/14/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

--- / ---

SCREEN TYPE / SLOT SIZE

--- / ---

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ▽

-- ft.

STATIC DEPTH TO GROUNDWATER ▽

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		75	4.8			0-3' Silty sand, brownish red, moist, loose, very fine. 6" Some calcareous smearing present.	
			4.8	SM			
			5.3				
		-				3'-4' No recovery.	
		75	6.3			4'-7' Silty sand, brownish red, moist, loose, very fine, trace clay and very small calcareous nodules and smearing present.	
5			9.6	SM			
			6.1				
		-				7'-8' No recovery.	
		100	5.8			8'-12' Silty sand, brownish red, moist, loose, very fine.	
			7.6				
10			5.7	SM			
			6.3				
		100	8.9			12'-18' Silty clay, brownish red, friable, moist, stiff, medium plasticity when wetted.	
			7.1				
			6.5				
15			6.3	CL			
		100	7.3				
			5.6				
			5.8			18'-20' Silty sand, brownish red, moist, loose, very fine, some calcareous smearing present.	
			5.3	SM			
20						Bottom of borehole at 20.0 feet.	

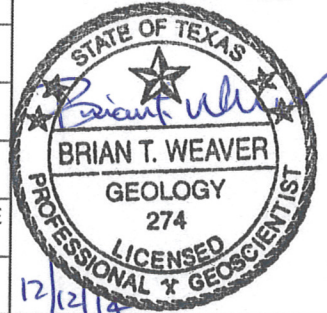


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SOIL BORING SB-10

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PROFESSIONAL SEAL



PROJECT NO./NAME
12009-0005 / Turner B Tank Battery

PROJECT LOCATION
Section 29, Township 17 South, Range 31 East

DRILLING COMPANY
SKA Consulting

DRILLING METHOD
Hand Auger

LOGGED BY
Chris Brown

SAMPLING METHOD
Hand Auger

DATE STARTED
8/13/2013

DATE COMPLETED
8/13/2013

BOREHOLE DIAMETER
N/A

CASING TYPE / DIAMETER
--- / ---

SCREEN TYPE / SLOT SIZE
--- / ---

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION
N/A

DEPTH TO WATER DURING DRILLING ▽
-- ft.

STATIC DEPTH TO GROUNDWATER ▽
-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
	X	100	9.9	SM		0-1' Silty sand, brownish red, dry, loose, very fine.	
						Bottom of borehole at 1.0 feet.	

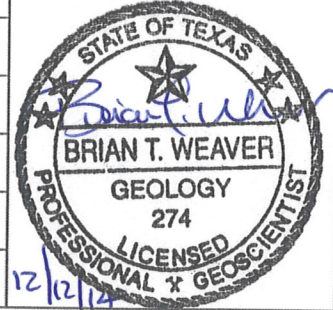


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SOIL BORING SB-11

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/14/2013

DATE COMPLETED

8/14/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

--- / ---

SCREEN TYPE / SLOT SIZE

--- / ---

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ▽

-- ft.

STATIC DEPTH TO GROUNDWATER ▽

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		75	5.8			0-3' Silty sand, brownish red, moist, loose, very fine, slight odor.	
			21.1	SM			
			71.5				
			-			3'-4' No recovery.	
		75	139.4			4'-7' Silty sand, brownish red, moist, loose, very fine.	
5			119.7	SM			
			47.6				
			-			7'-8' No recovery.	
		100	92.6			8'-17' Silty clay, brownish red, friable, moist, medium plasticity when wetted.	
			69.5				
10			80.3				
			79.4				
		100	97.5	CL			
			98.5				
			67.9				
15			99.3				
		75	78.4				
			81.3			17'-19' Silty sand, brownish red, moist, loose, very fine.	
			3.0	SM			
			-			19'-20' No recovery.	
20						Bottom of borehole at 20.0 feet.	

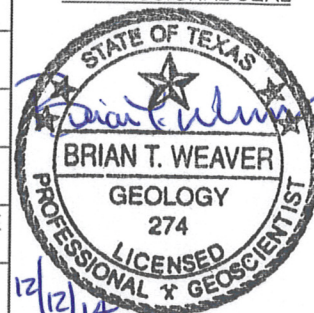


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SOIL BORING SB-12

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/14/2013

DATE COMPLETED

8/14/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

--- / ---

SCREEN TYPE / SLOT SIZE

--- / ---

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ▽

-- ft.

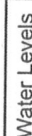
STATIC DEPTH TO GROUNDWATER ▼

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		100	1.5			0-4' Silty sand, brownish red, moist, loose, very fine, slight odor.	
			6.3				
			3.0	SM		2'-3' Color becomes light brown, dense.	
			2.3				
5		100	2.5			4'-7' Silty clay, brownish red, moist, stiff, medium plasticity, cohesive, some calcareous nodules.	
			4.3	CL			
			2.8				
			15.7			7'-14' Silty sand, brown with dark staining, moist, loose, strong odor.	
		100	2.3			8' Becomes brownish red, increasing clay content with depth.	
			6.6				
10			2.8	SM			
			1.5				
		100	1.5				
			3.5				
			2.5			14'-17' Silty clay, brownish red, friable, cohesive, medium plasticity when wetted.	
15			2.5	CL			
		100	3.8				
			4.0			17'-20' Silty sand, brownish red, moist, medium dense, very fine.	
			2.4	SM			
			4.0				
20						Bottom of borehole at 20.0 feet.	



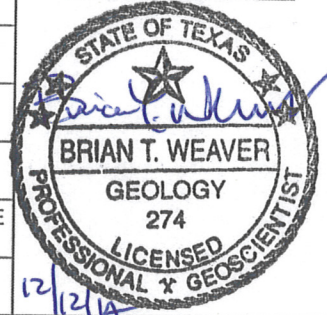


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SOIL BORING SB-14

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/13/2013

DATE COMPLETED

8/13/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

--- / ---

SCREEN TYPE / SLOT SIZE

--- / ---

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ▽

-- ft.

STATIC DEPTH TO GROUNDWATER ▼

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		50	5.8			0-2' Silty sand, brownish red, moist, loose, very fine.	
			8.6	SM			
			-			2'-4' No recovery.	
			-				
5		75	12.7			4'-7' Silty sand, brownish red, moist, loose, very fine.	
			7.1	SM			
						7'-8' No recovery.	
		75	8.1			8'-13' Silty sand, brownish red, moist, very loose, very fine.	
10			17.0	SM			
		100	3.3				
			6.3			13'-18.5' Silty clay, brownish red, friable, stiff, cohesive, medium plasticity when wetted.	
15			7.8	CL			
		100					
			4.8			18.5'-20' Silty sand, brownish red, moist, very loose, very fine.	
20				SM			
						Bottom of borehole at 20.0 feet.	

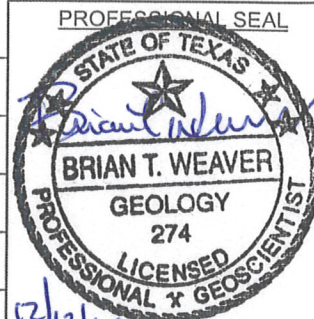


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SOIL BORING SB-15

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/14/2013

DATE COMPLETED

8/14/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

--- / ---

SCREEN TYPE / SLOT SIZE

--- / ---

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ∇

-- ft.

STATIC DEPTH TO GROUNDWATER ∇

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		50	0.0			0-2' Silty sand, brownish red, moist, very loose, very fine.	
			0.5	SM			
			-			2'-4' No recovery.	
			-				
		75	0.2			4'-7' Silty sand, brownish red, moist, loose, very fine.	
5			2.0	SM			
			3.3				
			-			7'-8' No recovery.	
		75	0.0			8'-11' Silty sand, brownish red, moist, loose, very fine.	
			0.0	SM			
10			1.5				
			-			11'-12' No recovery.	
		75	2.0			12'-15' Silty sand, brownish red, moist, loose, very fine.	
			2.2	SM			
			0.5			14' Crusehd rock/caliche and calcareous smearing present.	
15			-			15'-16' No recovery.	
		100	2.2	SM		16'-17' Silty sand, brownish red, moist, loose, very fine, crushed rock/caliche and calcareous smearing present.	
			2.2			17'-20' Silty clay, brownish red, friable, moist, cohesive, medium plasticity when wetted.	
			0.7	CL			
			0.5				
20						Bottom of borehole at 20.0 feet.	

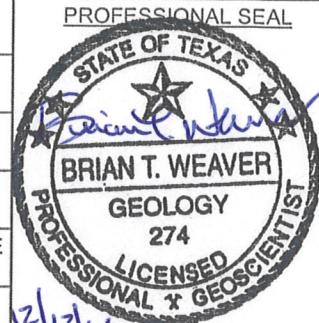


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SOIL BORING SB-16

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/13/2013

DATE COMPLETED

8/13/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

--- / ---

SCREEN TYPE / SLOT SIZE

--- / ---

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ▽

-- ft.

STATIC DEPTH TO GROUNDWATER ▽

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		50	12.9			0-2' Silty clay, brownish red, friable, cohesive, medium plasticity when wetted.	
			9.9	CL			
			-			2'-4' No recovery.	
			-				
5		100	12.7			4'-15' Silty sand, brownish red, moist, loose, very fine.	
			12.2				
			12.2				
			7.6				
		100	16.0			8' Becomes very loose.	
			7.1	SM			
10			6.6				
			7.1			11' Crushed rock/caliche and calcareous smearing present.	
		100	9.6				
			11.2			13' Crushed rock/caliche, no calcareous smearing present.	
			16.2				
15			11.2			15'-20' Silty clay, brownish red, friable, cohesive, medium plasticity when wetted.	
		100	4.8				
			5.6	CL			
			6.6				
			7.3				
20						Bottom of borehole at 20.0 feet.	

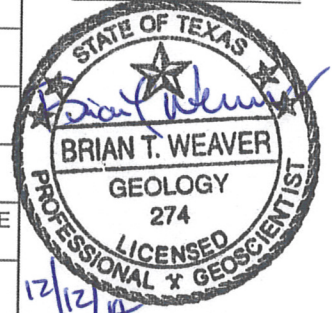


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SOIL BORING SB-17

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/14/2013

DATE COMPLETED

8/14/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

---- / ----

SCREEN TYPE / SLOT SIZE

---- / ----

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ∇

-- ft.

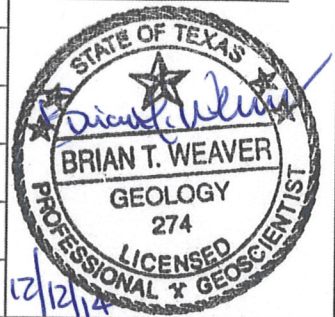
STATIC DEPTH TO GROUNDWATER ∇

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		75	8.1			0-3' Silty sand, brownish red, moist, loose, very fine.	
			0.0	SM			
			2.1				
			-			3'-4' No recovery.	
		50	0.0			4'-6.5' Silty sand, brownish red, moist, loose, very fine.	
5			0.7	SM			
			-				
			-			6.5'-8' No recovery.	
		50	0.0			8'-10' Silty sand, brownish red, moist, loose, very fine.	
			0.0	SM			
10			0.0			10'-12' No recovery.	
			-				
		100	0.0			12'-13.5' Silty sand, brownish red, moist, loose, very fine.	
			0.0	SM			
			0.0			13.5'-15.5' Silty clay, brownish red, friable, stiff, medium plasticity when wetted.	
15			0.0	CL			
			0.1				
		100	0.0			15.5'-18' Silty sand, brownish red, moist, loose, very fine.	
			0.0	SM			
			0.0			17' Crushed rock/caliche and calcareous smearing present.	
			0.0			18'-20' Silty clay, brownish red, friable, stiff, medium plasticity when wetted.	
			0.0	CL			
20						Bottom of borehole at 20.0 feet.	



Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		50	14.7			0-2' Silty sand, brownish red, moist, loose, very fine.	
			7.3	SM			
			-			2'-4' No recovery.	
			-				
		75	12.4			4'-7' Silty sand, brownish red, moist, loose, very fine.	
5			15.7	SM			
			9.3				
			-			7'-8' No recovery.	
		100	18.5			8'-20' Silty sand, brownish red, moist, very loose, very fine.	
			12.7				
10			13.4			10' Becomes dry.	
			11.2				
		100	9.5				
			12.0				
			5.8	SM		14' Becomes moist, crushed rock/caliche and calcareous smearing present.	
15			16.0				
		100	12.2				
			15.7				
			8.6				
			14.5				
20						Bottom of borehole at 20.0 feet.	

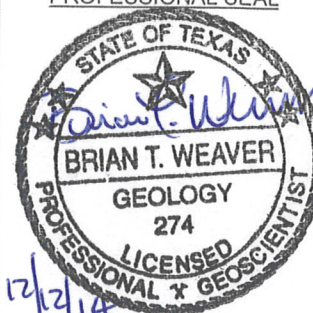


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SOIL BORING SB-19

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PROFESSIONAL SEAL



PROJECT NO./NAME 12009-0005 / Turner B Tank Battery		PROJECT LOCATION Section 29, Township 17 South, Range 31 East	
DRILLING COMPANY Peterson Drilling	DRILLING METHOD Direct Push Geoprobe	LOGGED BY Scott Drewry	
SAMPLING METHOD Solid Core Barrel with Disp. Sleeve	DATE STARTED 8/14/2013	DATE COMPLETED 8/14/2013	
BOREHOLE DIAMETER 2 inches	CASING TYPE / DIAMETER ---- / ----	SCREEN TYPE / SLOT SIZE ---- / ----	
GRAVEL PACK TYPE ---	GROUT TYPE ---	GROUND ELEVATION N/A	

DEPTH TO WATER DURING DRILLING ▽ -- ft.	STATIC DEPTH TO GROUNDWATER ▽ -- ft.	TOP OF CASING ELEVATION ----
--	---	---------------------------------

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		75	2.8	CL		0-1' Silty clay, brownish red, friable, moist, cohesive, medium plasticity when wetted.	
			4.5			1'-3' Silty sand, brownish red, moist, loose, very fine.	
			2.0	SM			
			-			3'-4' No recovery.	
		100	7.1			4'-16' Silty sand, brownish red, moist, loose, very fine.	
5			5.6				
			3.5				
			6.6				
		100	4.6			8' Trace clay content.	
			5.0				
10			2.5	SM			
			5.6			11' No trace clay.	
		100	5.6				
			4.5				
			5.0				
15			6.1				
		100	6.3			16'-19' Silty clay, brownish red, friable, cohesive, medium plasticity when wetted.	
			5.6	CL			
			2.7				
			3.0	SM		19'-20' Silty sand, brownish red, moist, loose, very fine.	
20						Bottom of borehole at 20.0 feet.	

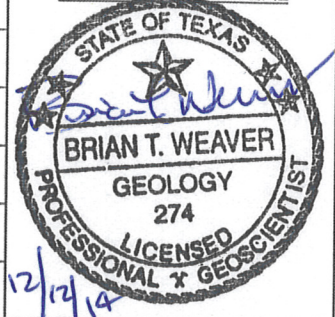


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SOIL BORING SB-20

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/14/2013

DATE COMPLETED

8/14/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

---- / ----

SCREEN TYPE / SLOT SIZE

---- / ----

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ▽

-- ft.

STATIC DEPTH TO GROUNDWATER ▽

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		50	14.0			0-2' Silty sand, brownish red, dry loose, very fine.	
			3.5	SM		1' Crushed rock/caliche and calcareous smearing present.	
			-			2'-4' No recovery.	
			-				
		75	23.4			4'-7' Silty sand, brownish red, dry, very loose, very fine.	
5			62.8	SM			
			14.0				
			-			7'-8' No recovery.	
		100	23.6			8'-12' Silty sand, brownish red, dry, very loose, very fine.	
			29.0				
10			41.2	SM			
			19.0				
		100	8.4	CL		12'-13.5' Silty clay, brownish red, friable, cohesive, medium plasticity when wetted.	
			21.3				
			32.0			13.5'-18' Silty sand, brownish red, dry, very loose, very fine.	
15			7.6	SM			
		100	19.6			16' Becomes dense.	
			14.1				
			42.0			18'-20' Silty clay, brownish red, friable, cohesive, medium plasticity when wetted.	
			2.8	CL			
20						Bottom of borehole at 20.0 feet.	

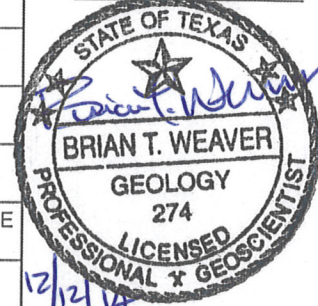


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SOIL BORING SB-21

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PROFESSIONAL SEAL



PROJECT NO./NAME 12009-0005 / Turner B Tank Battery		PROJECT LOCATION Section 29, Township 17 South, Range 31 East	
DRILLING COMPANY Peterson Drilling	DRILLING METHOD Direct Push Geoprobe	LOGGED BY Scott Drewry	
SAMPLING METHOD Solid Core Barrel with Disp. Sleeve	DATE STARTED 8/14/2013	DATE COMPLETED 8/14/2013	
BOREHOLE DIAMETER 2 inches	CASING TYPE / DIAMETER ---- / ----	SCREEN TYPE / SLOT SIZE ---- / ----	
GRAVEL PACK TYPE ----	GROUT TYPE ----	GROUND ELEVATION N/A	
DEPTH TO WATER DURING DRILLING ▽ -- ft.		STATIC DEPTH TO GROUNDWATER ▽ -- ft.	TOP OF CASING ELEVATION ----

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		75	20.3			0-3' Silty sand, dark brownish red, moist, loose, very fine, slight odor.	
			103.7	SM			
			13.2				
		-				3'-4' No recovery.	
		75	26.9			4'-7' Silty sand, dark brownish red, moist, loose, very fine, slight odor.	
5			30.2	SM			
			30.5				
		-				7'-8' No recovery.	
		100	16.2			8'-18' Silty sand, brownish red, moist, loose, very fine, slight odor.	
			5.8				
10			12.2				
			25.2				
		100	3.5				
			15.6	SM			
			24.9				
15			44.8				
		75	20.8				
			79.1			17' Crushed rock/caliche present.	
			143.2	CL		18'-19' Silty clay, brownish red, friable, cohesive, medium plasticity, slight odor.	
		-				19'-20' No recovery.	
20						Bottom of borehole at 20.0 feet.	

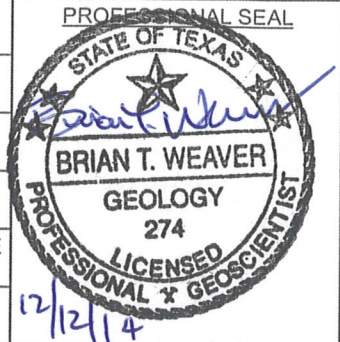


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SOIL BORING SB-22

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/14/2013

DATE COMPLETED

8/14/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

--- / ---

SCREEN TYPE / SLOT SIZE

--- / ---

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ∇

-- ft.

STATIC DEPTH TO GROUNDWATER ∇

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		50	2.5			0-2' Silty sand, brownish red, dry, loose, very fine, many crushed rocks/caliche.	
			3.8	SM			
			-			2'-4' No recovery.	
			-				
		50	4.3			4'-6' Silty sand, brownish red, dry, loose, very fine, many crushed rocks/caliche.	
5			4.5	SM			
			-			6'-8' No recovery.	
			-				
		50	4.5			8'-9.5' Silty clay, brownish red, friable, moist, cohesive, medium plasticity when wetted.	
			81.6	CL			
10			-			9.5'-10' Becomes brown with black staining, moist, medium stiff, medium plasticity, odor present.	
			-			10'-12' No recovery.	
			-				
		50	6.3			13.5'-14' Silty sand, brown, moist, loost, very fine, odor present.	
			16.9	SM			
			-			14'-16' No recovery.	
			-				
15			4.5			16'-18' Silty sand, brownish red, dry, loose, very fine, many crushed rock/caliche.	
		100	149.7	SM			
			121.5			18'-20' Silty clay, brownish red with dark staining, moist, medium plasticity, odor present.	
			216.5	CL			
20						Bottom of borehole at 20.0 feet.	

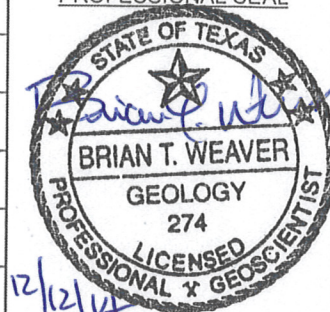


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SOIL BORING SB-23

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/14/2013

DATE COMPLETED

8/14/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

--- / ---

SCREEN TYPE / SLOT SIZE

--- / ---

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ∇

-- ft.

STATIC DEPTH TO GROUNDWATER ∇

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		75	0.7			0-3' Silty sand, brownish red, moist, loose, very fine.	
			2.0	SM			
			1.7				
			-			3'-4' No recovery.	
		100	1.5			4'-15' Silty sand, brownish red, moist, loose, very fine.	
5			20				
			3.0				
			1.7				
		100	7.1				
			11.1	SM			
10			7.3				
			6.3				
		75	4.8			12' Crushed rock/caliche and calcareous smearing present.	
			5.0				
			2.2				
15			-			15'-16' No recovery.	
		75	5.6			16'-18' Silty sand, brownish red, moist, loose, very fine, crushed rock/caliche and calcareous smearing present.	
			2.5	SM			
			2.5	CL		18'-18.5' Silty clay, brownish red, friable, moist, cohesive, medium plasticity when wetted.	
				SM		18.5'-19' Silty sand, brownish red, moist, loose, very fine.	
			-			19'-20' No recovery.	
20						Bottom of borehole at 20.0 feet.	

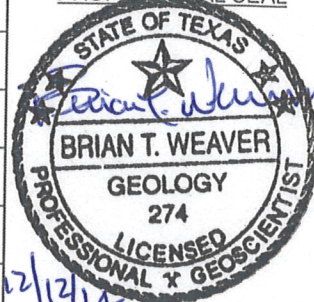


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SOIL BORING SB-24

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/14/2013

DATE COMPLETED

8/14/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

--- / ---

SCREEN TYPE / SLOT SIZE

--- / ---

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ▽

-- ft.

STATIC DEPTH TO GROUNDWATER ▽

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		75	0.5			0-3' Silty sand, brownish red, moist, very loose, very fine.	
			0.5	SM			
			1.2				
			-			3'-4' No recovery.	
		75	0.7			4'-7' Silty sand, brownish red, moist, very loose, very fine.	
5			3.0	SM			
			1.7				
			-			7'-8' No recovery.	
		75	1.7			8'-11' Silty sand, brownish red, moist, very loose, very fine. 8' Crushed rock/caliche or calcareous smearing present.	
			1.5	SM		9' No crushed rock/caliche or calcareous smearing present.	
10			-				
			-			11'-12' No recovery.	
		75	3.5			12'-15' Silty sand, brownish red, moist, loose, very fine.	
			1.5	SM			
			2.0				
15			-			15'-16' No recovery.	
		100	2.2	SM		16'-16.5' Silty sand, brownish red, moist, loose, very fine.	
			0.5	CL		16.5'-19' Silty clay, brownish red, friable, moist, cohesive, medium plasticity when wetted, crushed rock/caliche and calcareous smearing present.	
			1.7				
			1.5	SM		19'-20' Silty sand, brownish red, moist, loose, very fine.	
20						Bottom of borehole at 20.0 feet.	

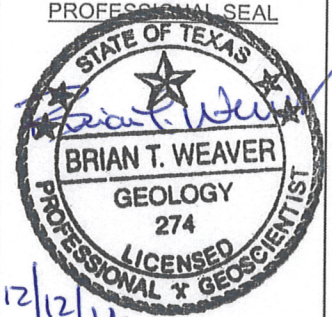


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SOIL BORING SB-25

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

Peterson Drilling

DRILLING METHOD

Direct Push Geoprobe

LOGGED BY

Scott Drewry

SAMPLING METHOD

Solid Core Barrel with Disp. Sleeve

DATE STARTED

8/13/2013

DATE COMPLETED

8/13/2013

BOREHOLE DIAMETER

2 inches

CASING TYPE / DIAMETER

--- / ---

SCREEN TYPE / SLOT SIZE

--- / ---

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

DEPTH TO WATER DURING DRILLING ∇

-- ft.

STATIC DEPTH TO GROUNDWATER ∇

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
		50	4.8			0-2' Silty sand, brownish red, moist, loose, very fine.	
			7.8	SM			
			--			2'-4' No recovery.	
			--				
5		100	11.2			4'-14' Silty sand, brownish red, moist, loose, very fine.	
			7.8				
		100	6.6	SM			
10			5.0			10.5' Crused rock/caliche and calcareous smearing present.	
		100	6.6				
			5.8			14'-20' Silty clay, brownish red, friable, very stiff, cohesive, medium plasticity when wetted.	
15		100	3.8	CL			
			0.7				
20						Bottom of borehole at 20.0 feet.	

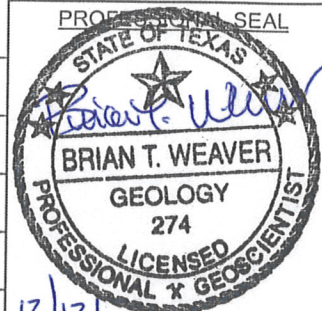


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SOIL BORING SB-26

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PROFESSIONAL SEAL



PROJECT NO./NAME

12009-0005 / Turner B Tank Battery

PROJECT LOCATION

Section 29, Township 17 South, Range 31 East

DRILLING COMPANY

SKA Consulting

DRILLING METHOD

Hand Auger

LOGGED BY

Chris Brown

SAMPLING METHOD

Hand Auger

DATE STARTED

8/13/2013

DATE COMPLETED

8/13/2013

BOREHOLE DIAMETER

N/A

CASING TYPE / DIAMETER

---- / ----

SCREEN TYPE / SLOT SIZE

---- / ----

GRAVEL PACK TYPE

GROUT TYPE

GROUND ELEVATION

N/A

12/12/14

DEPTH TO WATER DURING DRILLING ▽

-- ft.

STATIC DEPTH TO GROUNDWATER ▼

-- ft.

TOP OF CASING ELEVATION

REMARKS: This boring log should not be used separately from the original report.

Depth (ft. bgs)	Sample	Recovery %	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Water Levels
	X	100	11.2	SM		0-1' Silty sand, brownish red, dry, loose, very fine.	
						Bottom of borehole at 1.0 feet.	

APPENDIX 3
WATER WELL DOCUMENTATION

BANKS WATER WELL REPORT

Prepared for:

SKA CONSULTING, L.P.
1515 Witte Rd. #150
Houston, TX 77080



Water Well Report

Turner Tank Battery

Section 9, Township 17 S, Range
31 East

Loco Hills, NM 88255

Eddy County

PO #: 12009-0005

ES-107558

Monday, September 30, 2013

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Geographic Summary *Turner Tank Battery***Location**

Eddy, NM

Coordinates

Longitude & Latitude in Degrees Minutes Seconds -103° 53' 48", 32° 48' 29"

Longitude & Latitude in Decimal Degrees -103.896709°, 32.808056°

X and Y in UTM 603290.09, 3630547.22 (Zone 13)

Elevation

Target Property lies 3655.38 feet above sea level.

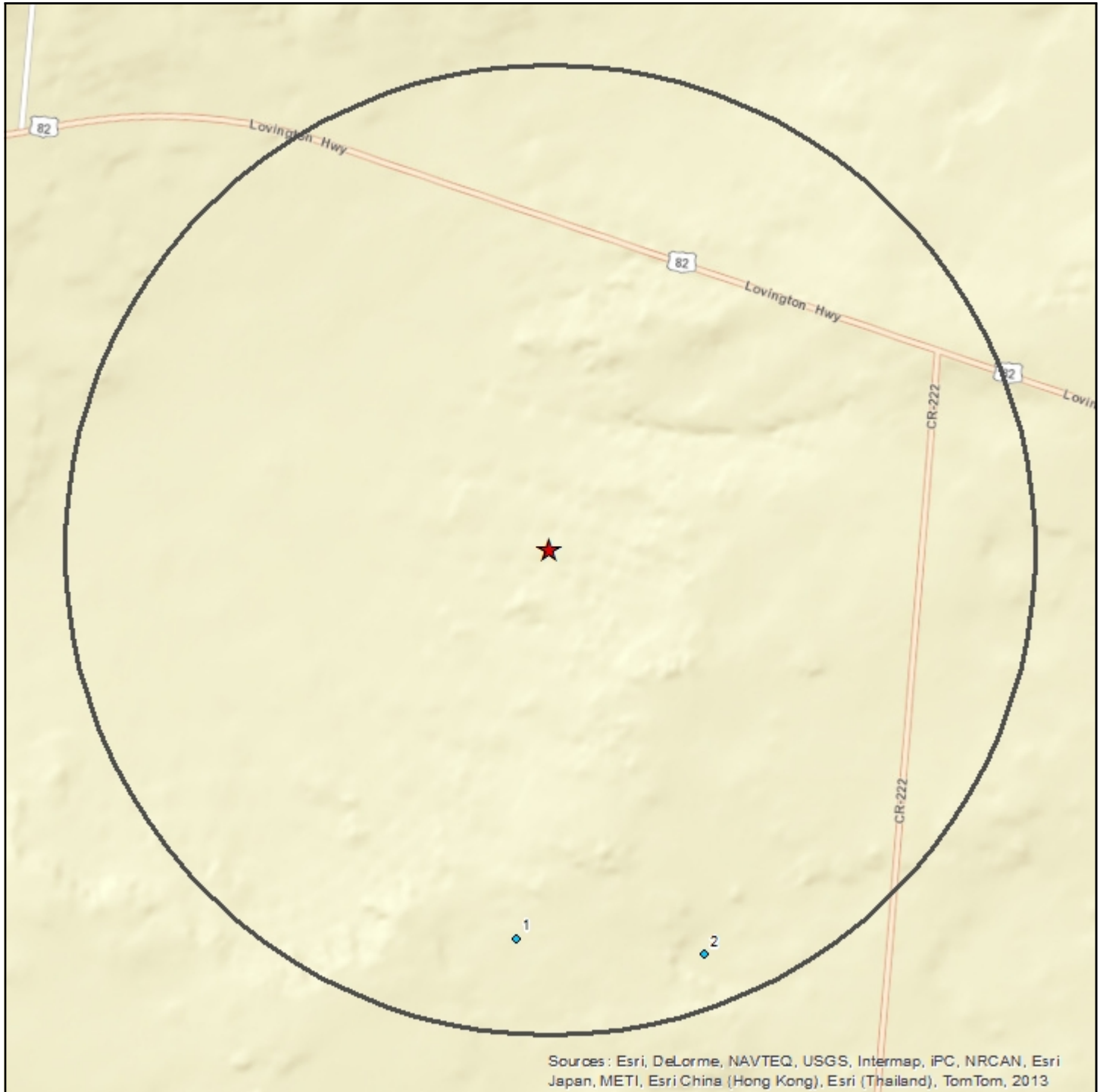
Zip Codes Searched

Search Distance	Zip Codes
Target Property	88210, 88211, 88254, 88255
1 mile	88210, 88211, 88254, 88255

Topos Searched

Search Distance	Topo Name
Target Property	Loco Hills (1985)
1 mile	Loco Hills (1985)

Summary Map - 1 Mile Radius



Turner Tank Battery

- Well
- Well Cluster

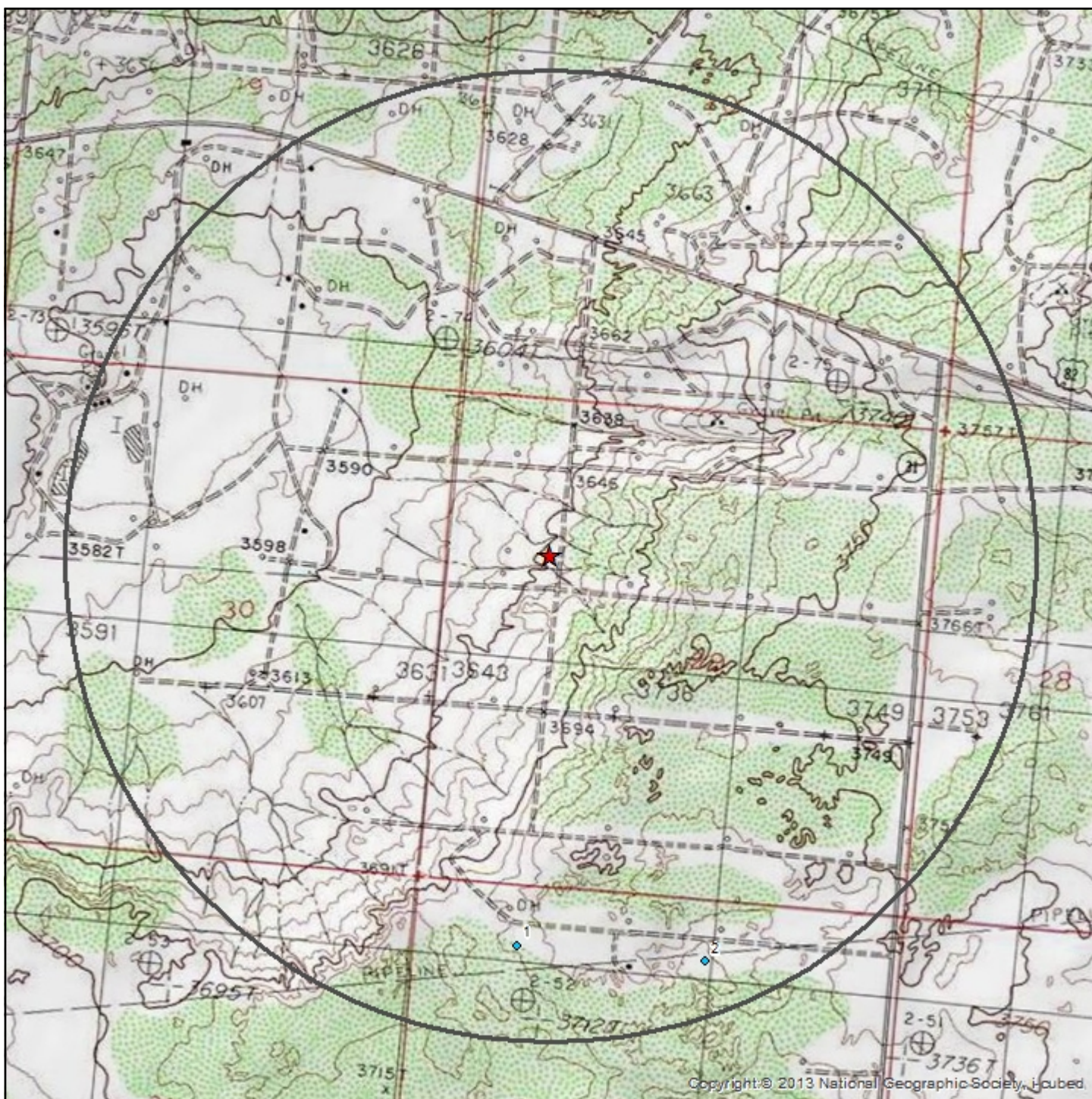
- ★ Target Property
- Search Buffer

1 : 19,000

Lambert Conformal Conic Projection
1983 North American Datum
First Standard Parallel: 33° 0' 00" North
Second Standard Parallel: 45° 0' 00" North
Central Meridian: 96° 0' 00" West
Latitude of Origin: 39° 0' 00" North



Topographic Overlay Map - 1 Mile Radius



Turner Tank Battery

- Well
- Well Cluster

- ★ Target Property
- Search Buffer

1 : 19,000

Lambert Conformal Conic Projection
1983 North American Datum
First Standard Parallel: 33° 0' 00" North
Second Standard Parallel: 45° 0' 00" North
Central Meridian: 96° 0' 00" West
Latitude of Origin: 39° 0' 00" North

N

