

**OPERATOR**

Company: WERTH EXPLORATION TRUST  
Address: 1308 SCHWALLER AVENUE  
HAYS, KANSAS  
67601-2242  
Contact Geologist: ANDY WERTH  
Contact Phone Nbr: 785-625-4968  
Well Name: WORCESTER #3-3  
Location: NW SE SE NE S3 T7S R22W  
API: 15-065-24089-00-00  
Pool:  
State: KANSAS  
Field: LAST HOPE NORTHEAST  
Country: USA

Scale 1:240 Imperial

Well Name: WORCESTER #3-3  
Surface Location: NW SE SE NE S3 T7S R22W  
Bottom Location:  
API: 15-065-24089-00-00  
License Number: 30259  
Spud Date: 12/9/2014  
Region: GRAHAM COUNTY  
Drilling Completed: 12/14/2014  
Surface Coordinates: 2170 FNL & 435 FEL  
Bottom Hole Coordinates:  
Ground Elevation: 2238.00ft  
K.B. Elevation: 2245.00ft  
Logged Interval: 3100.00ft  
Total Depth: 3754.00ft  
Formation: LANSING / KANSAS CITY  
Drilling Fluid Type:  
Time: 12:00 PM  
Time: 8:33 PM  
To: 3754.00ft

**SURFACE CO-ORDINATES**

Well Type: Vertical  
Longitude: -99.7519497  
Latitude: 39.4751071  
N/S Co-ord: 2170 FNL  
E/W Co-ord: 435 FEL

**LOGGED BY**

Company: SOLUTIONS CONSULTING, INC.  
Address: 108 WEST 35TH  
HAYS, KANSAS 67601

Phone Nbr: 785-650-4540 / 785-639-1337  
Logged By: Geologist

Name: STEVE REED

**CONTRACTOR**

Contractor: SKYTOP DRILLING, LLC  
Rig #: 1  
Rig Type: MUD ROTARY  
Spud Date: 12/9/2014  
TD Date: 12/14/2014  
Rig Release: 12/15/2014  
Time: 12:00 PM  
Time: 8:33 PM  
Time: 3:00 PM

**ELEVATIONS**

K.B. Elevation: 2245.00ft  
K.B. to Ground: 7.00ft  
Ground Elevation: 2238.00ft

**NOTES**

THE WORCESTER #3-3 RAN STRUCTURALLY LOW TO AREA PRODUCERS. THIS COMBINED WITH LACK OF

SIGNIFICANT SHOWS AND LOG ANALYSIS LEAD TO THE DECISION TO PLUG AND ABANDON THE WELL

OPEN HOLE LOGGING PROVIDED BY: NABORS COMPLETION AND PRODUCTION SERVICES COMPANY  
RADIATION GUARD LOG AND MICRORESISTIVITY LOGS WERE COMPLETED

NO DRILL STEM TESTS WERE PERFORMED

### FORMATION TOPS COMPARISON AND DAILY ACTIVITY SUMMARY

	WELL NAME		COMPARISON WELL	COMPARISON WELL
	WORCESTER #3-3		WORCESTER #1-3	WORCESTER #1-3
	API: 15-065-24089		API: 15-065-23876	API: 15-065-23021
	2245 KB		2240 KB	2259 KB
FORMATION	SAMPLE TOPS	LOG TOPS	LOG TOPS (DATUM)	LOG TOPS (DATUM)
ANHYDRITE TOP	1885' (+360')	1882' (+363')	+364'	+385'
TOPEKA	3250' (-1005')	3245' (-1000')	-998'	-997'
HEEBNER	3447' (-1202')	3445' (-1200')	-1199'	-1199'
TORONTO	3472' (-1227')	3470' (-1225')	-1223'	-1222'
LKC	3490' (-1245')	3488' (-1243')	-1240'	-1240'
BKC	3684' (-1439')	3682' (-1437')	-1431'	-1431'
ARBUCKLE	NOT REACHED		-1535'	-1563'
RTD	3754' (-1509')	3748' (-1503')	-1595'	-1608'

### SUMMARY OF DAILY ACTIVITY

**12-8-14** M.I.R.U.

**12-9-14** spud @ 12:00pm, drill to 222, set 8 5/8" surface casing @ 217 w/ 150 sks common, 2% gel, 3%cc, plug down @ 10:00pm, woc

**12-10-14** 222, drill plug @ 9:00am, drilling

**12-11-14** 1251, drilling

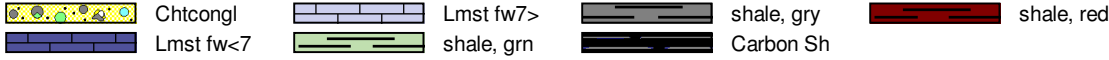
**12-12-14** 2290, drilling

**12-13-14** 3078, drilling, CFS @ 3495

**12-14-14** 3555, drilling, CFS @ 3568, TD of 3754 reached @ 8:33pm, CFS, short trip, CTCH, TOWB for logs, survey 1°

**12-15-14** 3754, logging, prepare for plugging, plugging, release rig

## ROCK TYPES



## ACCESSORIES

### MINERAL

~ Glauconite  
 △ Chert White  
 Mc Mica

### FOSSIL

F Fossils < 20%  
 ○ Oolite  
 O Oomoldic

### STRINGER

~ Chert

### TEXTURE

C Chalky  
 L Lithogr

## OTHER SYMBOLS

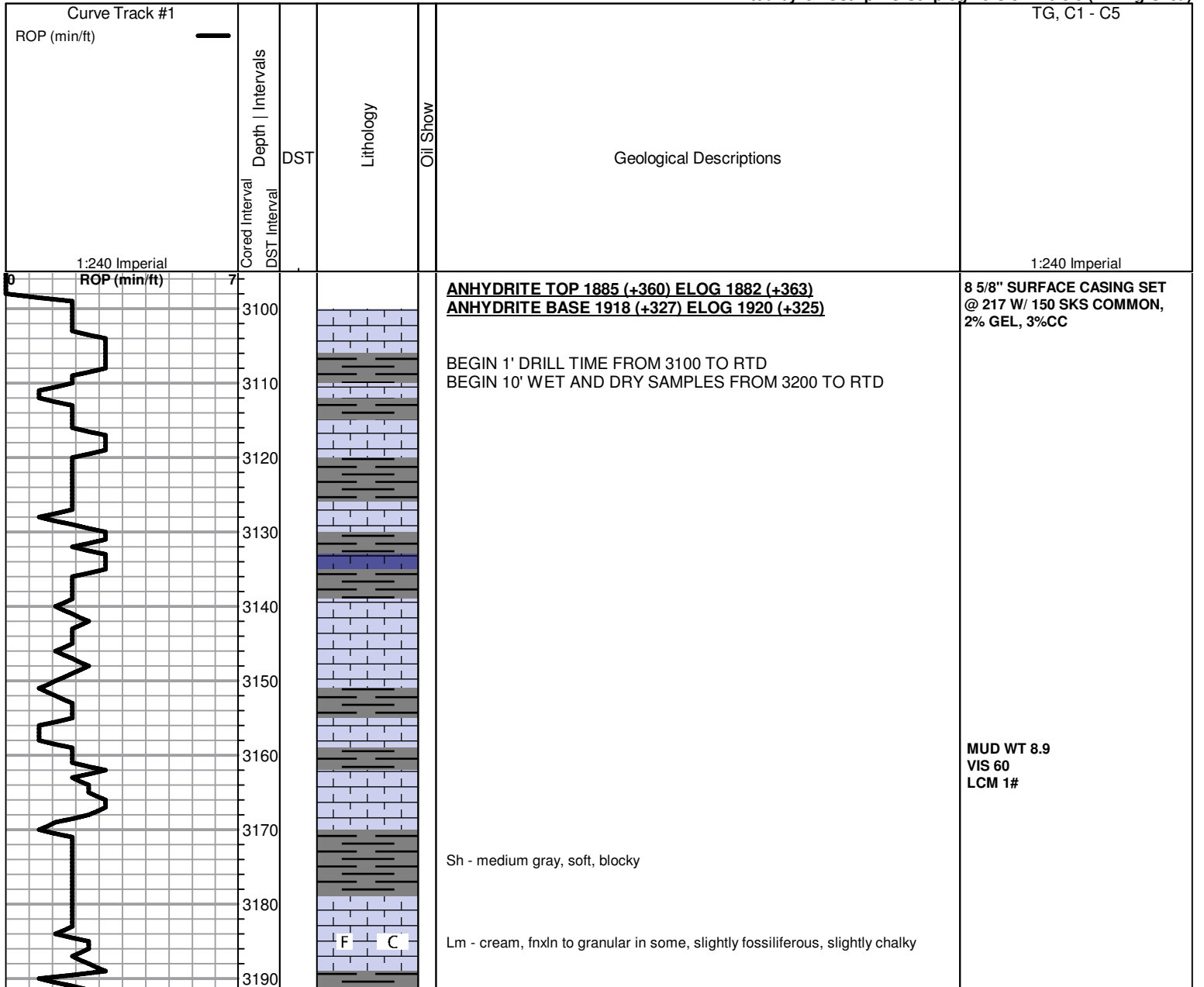
### Oil Show

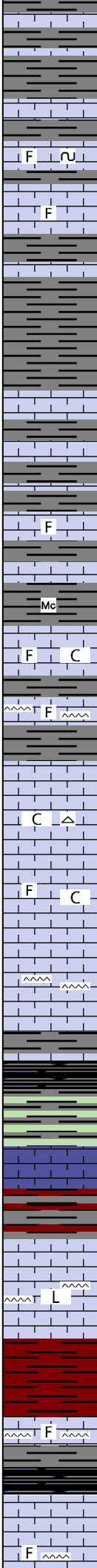
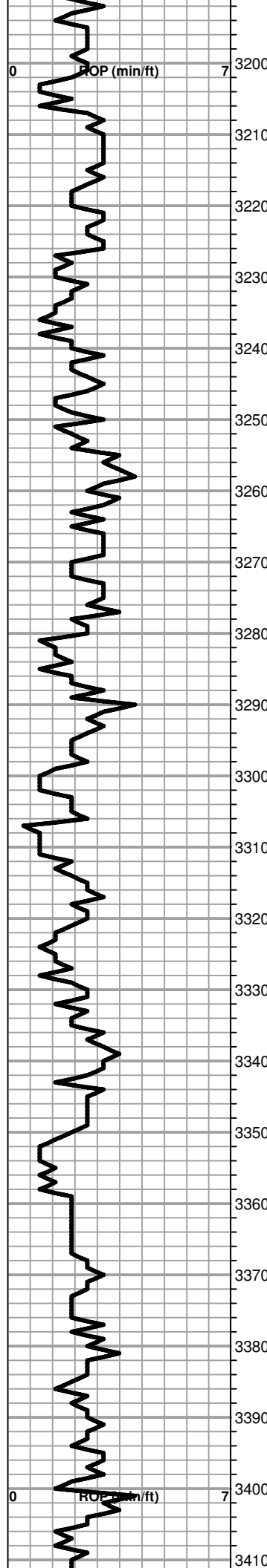
● Good Show  
 ● Fair Show  
 ● Poor Show  
 ○ Spotted or Trace  
 ○ Questionable Stn  
 D Dead Oil Stn  
 ■ Fluorescence  
 \* Gas

### DST

■ DST Int  
 ■ DST alt  
 ■ Core  
 ■ tail pipe  
 ■ DST  
 ■ DST  
 ■ DST

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Sh - light-medium gray, soft blocky

Lm - cream, slightly fossiliferous, fnxn, some secondary calcite recrystallization, dense, hard, brittle, glauconite specks

Lm - light gray, slightly fossiliferous, fnxn, hard, brittle, no shows

Sh - medium gray, soft, blocky

Sh - light-medium gray, soft, blocky, forming sticky clumps

**TOPEKA SPL 3250 (-1005) ELOG 3245 (-1000)**

Lm - cream, slightly fossiliferous, sandy, fnxn to granular, friable to brittle, no shows

Sh - light-medium gray, soft, blocky

Lm - cream, fossiliferous, fnxn, hard, brittle, no shows

Sh - light gray, micaceous, soft, blocky

Lm - cream, fossiliferous, granular, friable, slightly chalky, no shows

Lm - cream-light brown, slightly fossiliferous, fnxn, hard, brittle, cherty, no shows

Sh - medium gray, soft, blocky, silty

Lm -cream, medxn, brittle, slightly chalky, bone white chert

Lm - cream-tan, dark fossil clasts in med-fnxn matrix, hard, brittle, white sticky chalk, tan chert

Lm - cream-tan, fnxn, dense, very hard, bedded chalk in part, cherty

Sh - black carbonaceous, soft, waxy

Sh - light greenish gray, soft, blocky

Sh - maroon/light gray, soft, blocky, silty, forming sticky clumps

Lm - tan-light gray, vfxn to lithographic, dense, very hard, cherty, no shows

Sh - reddish brown, soft, sticky, forming red wash

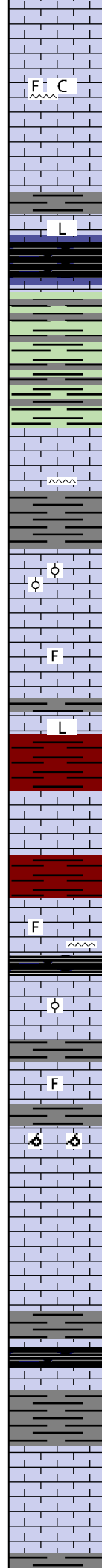
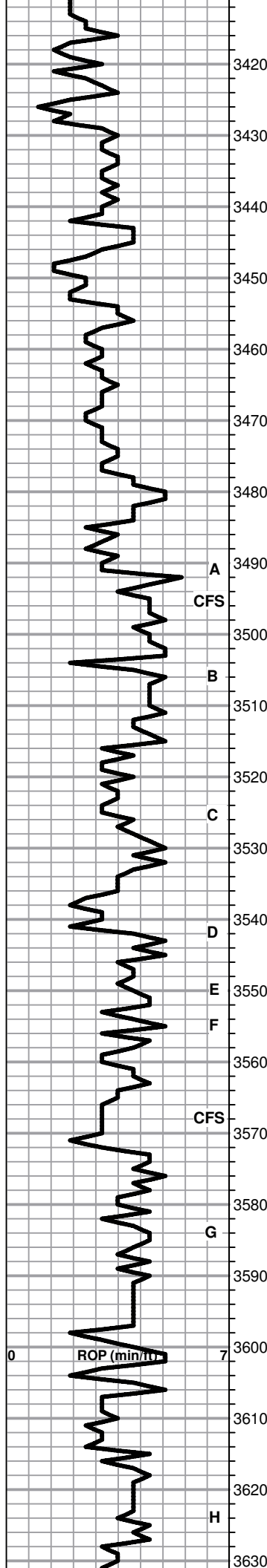
Lm - cream-tan, fossiliferous, slightly oolitic, poor development, hard, bedded chalk, no shows, cherty

Sh - black, carbonaceous, waxy, soft

Lm - cream, slightly fossiliferous, granular, soft, bedded chalk, chert, no shows

MUD WT 8.9  
VIS 60  
LCM 2#

MUD WT 8.9  
VIS 62  
LCM 2#



Lm - cream-offwhite, medxln, slightly fossiliferous, slightly chalky, cherty, no shows

Lm - buff, fnxln to lithographic, dense, very hard, bedded chalk in part, no shows

Lm - cream-light gray, fnxln to lithographic, dense, hard, clean and barren

**HEEBNER SPL 3447 (-1202) ELOG 3445 (-1200)**

Sh - black, carbonaceous, waxy, soft, fissile, bronze specks

Lm - cream, fnxln, dense, hard, no shows

Sh - dove gray, soft, blocky, forming extremely sticky clumps

**TORONTO SPL 3472 (-1227) ELOG 3470 (-1225)**

Lm - bright white, fnxln, dense, hard, clean and barren, brittle, slightly chalky

Lm - white, fnxln, brittle, cherty, no shows

Sh - medium gray, soft, blocky

**LKC SPL 3490 (-1245) ELOG 3488 (-1243)**

Lm - tan, oolitic, poorly developed, dense, hard, brittle, no visible porosity, no shows

Lm - tan, fnxln, dense, very hard, no shows

Lm - cream-tan, fossiliferous, dense, hard, brittle, slight bedded chalk, no shows

Lm - cream-tan, fnxln to lithographic in some, dense, hard, brittle, no shows

Sh - reddish brown / greenish gray, soft, blocky

○ Lm - cream, oolitic, fine interxln porosity with light brown stain, spotted vugs, NSFO, no odor, limited total porosity

Sh - reddish brown, soft, sticky

○ Lm - cream, fossiliferous, fine interxln porosity, spotted light brown stain, slight gassy sheen, NSFO, fair odor, slight streaming wet cut, limited total porosity, cherty

Sh - dark gray, carbonaceous, waxy

○ Lm - cream, suboolitic, fine interxln porosity, spotted staining, slight streaming wet cut, NSFO, no odor

○ Lm - cream, slightly fossiliferous, fine interxln porosity with slight scattered light brown staining, rare vuggy porosity, NSFO, faint odor

D Lm - cream, oomoldic with gilsonitic dead oil stain, only a couple chips found, faint odor

Lm - cream, fnxln, hard, bedded chalk in part, no shows

Lm - cream-light gray, vfxln, slight bedded chalk, dense, hard, no shows

Sh - black, carbonaceous, waxy, firm

Sh - dark gray, soft, blocky

D Lm - white chalky, soft, gilsonitic staining, NSFO, no odor

Lm - cream-light gray, fnxln, dense, hard, no shows

Sh - light gray, soft, blocky, some sticky

MUD WT 9.2  
VIS 60  
LCM 2#

