

OPERATOR

Company: LIBERTY OPERATIONS_COMPLETIONS INC.
 Address: 100 SW 9TH
 PLAINVILLE, KANSAS 67663-2229

Contact Geologist: ROGER COMEAU
 Contact Phone Nbr: 785-434-4686
 Well Name: LINDSEY # 1
 Location: SE SW SE
 API: 15-163-00367-00-01
 Pool:
 State: KANSAS

Field: WEBSTER VIEW
 Country: USA

Scale 1:240 Imperial

Well Name: LINDSEY # 1
 Surface Location: SE SW SE
 Bottom Location:
 API: 15-163-00367-00-01
 License Number: 8925
 Spud Date: 8/29/2015 Time: 2:00 AM
 Region: ROOKS COUNTY
 Drilling Completed: 8/30/2015 Time: 9:48 AM
 Surface Coordinates: 330' FSL & 1350' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 1922.00ft
 K.B. Elevation: 1927.00ft
 Logged Interval: 2700.00ft To: 3566.00ft
 Total Depth: 3510.00ft
 Formation: ARBUCKLE
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -99.3844706
 Latitude: 39.3948965
 N/S Co-ord: 330' FSL
 E/W Co-ord: 1350' FEL

LOGGED BY

Company: SOLUTIONS CONSULTING, INC.
 Address: 108 W 35TH
 HAYS, KS 67601

Phone Nbr: (785) 639-1337
 Logged By: GEOLOGIST

Name: HERB DEINES

CONTRACTOR

Contractor: WHITE KNIGHT DRILLING LLC
 Rig #: 1
 Rig Type: MUD ROTARY
 Spud Date: 8/29/2015 Time: 2:00 AM
 TD Date: 8/30/2015 Time: 9:48 AM
 Rig Release: 8/31/2015 Time: 9:00 AM

ELEVATIONS

K.B. Elevation: 1927.00ft Ground Elevation: 1922.00ft
 K.B. to Ground: 5.00ft

NOTES

THE LINDSEY # 1 WAS A REENTRY OF AN OLD DRY AND ABANDONED WELL DRILLED IN 1950. THE WELL WAS

REENTERED AND WASHED DOWN TO THE LKC WHERE AN OUT OF GAUGE HOLE WAS ENCOUNTERED WHICH REQUIRED SOME REAMING. THE CONDITION AND WEAR PATTERN ON THE BIT CONFIRMED SUSPICIONS. ONCE IT WAS DETERMINED THAT THE HOLE WAS CLEAN TO THE OLD ROTARY TOTAL DEPTH, THE OLD STARCH MUD WAS DISPLACED WITH A FRESH CHEMICAL MUD SYSTEM TO ALLOW GOOD LOGS TO BE RAN AND POSSIBLE TESTING. AFTER DISPLACEMENT SOME ARTESIAN FLOW WAS NOTED AT THE FLOW LINE WHICH WAS CONTROLLED BY INCREASING THE MUD WEIGHT. DECISION TO RUN CASING BASED ON FAVORABLE STRUCTURE, LOG ANALYSIS AND UNFAVORABLE HOLE CONDITIONS WHICH MADE FURTHER TESTING RISKY.

OPEN HOLE LOGGING BY GEMINI WIRELINE: DUAL INDUCTION LOG, COMPENSATED DENSITY NEUTRON LOG, MICRO RESISTIVITY LOG AND BOREHOLE COMPENSATED SONIC LOG

NO DRILL STEM TESTS WERE RAN ON THE WELL.

LINDSEY # 1	HILGERS B-1	FARR # 2
SE SW SE	NW NW NE	SW NW NE NE
SEC.36-7S-19W	SEC.1-8-19W	SEC.1-8-19W
1922'GL 1927'KB	KB 1940'	KB 1930'

<u>FORMATION</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1363 +564	+ 565	+ 575
B-Anhydrite	1398 +529	+ 530	+ 538
Topeka	2858- 931	- 936	- 936
Heebner Sh.	3063-1136	-1142	-1144
LKC	3102-1175	-1182	-1180
BKC	3323-1396	-1406	-1406
Arbuckle	3407-1480	-1470	-1486
RTD	3566-1639	-1545	-1585

SUMMARY OF DAILY ACTIVITY

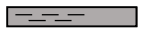








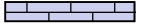


8-28-15 Move and rig up mud rotary rig

8-29-15 Spud 2:00 AM, drill cement plug, wash down to OTD with old starch mud in hole

8-30-15 3510', displaced old mud system with chemical mud system, RTD 3566' @9:48AM, mini short trip, CCH, TOWB, slope survey 1 degree @ 3566', logs-DIL-CDNL-MEL-BCS, TIWB, CCH, LDDP

8-31-15 3566', run production casing and cement bottom and top stages, RD

ROCK TYPES

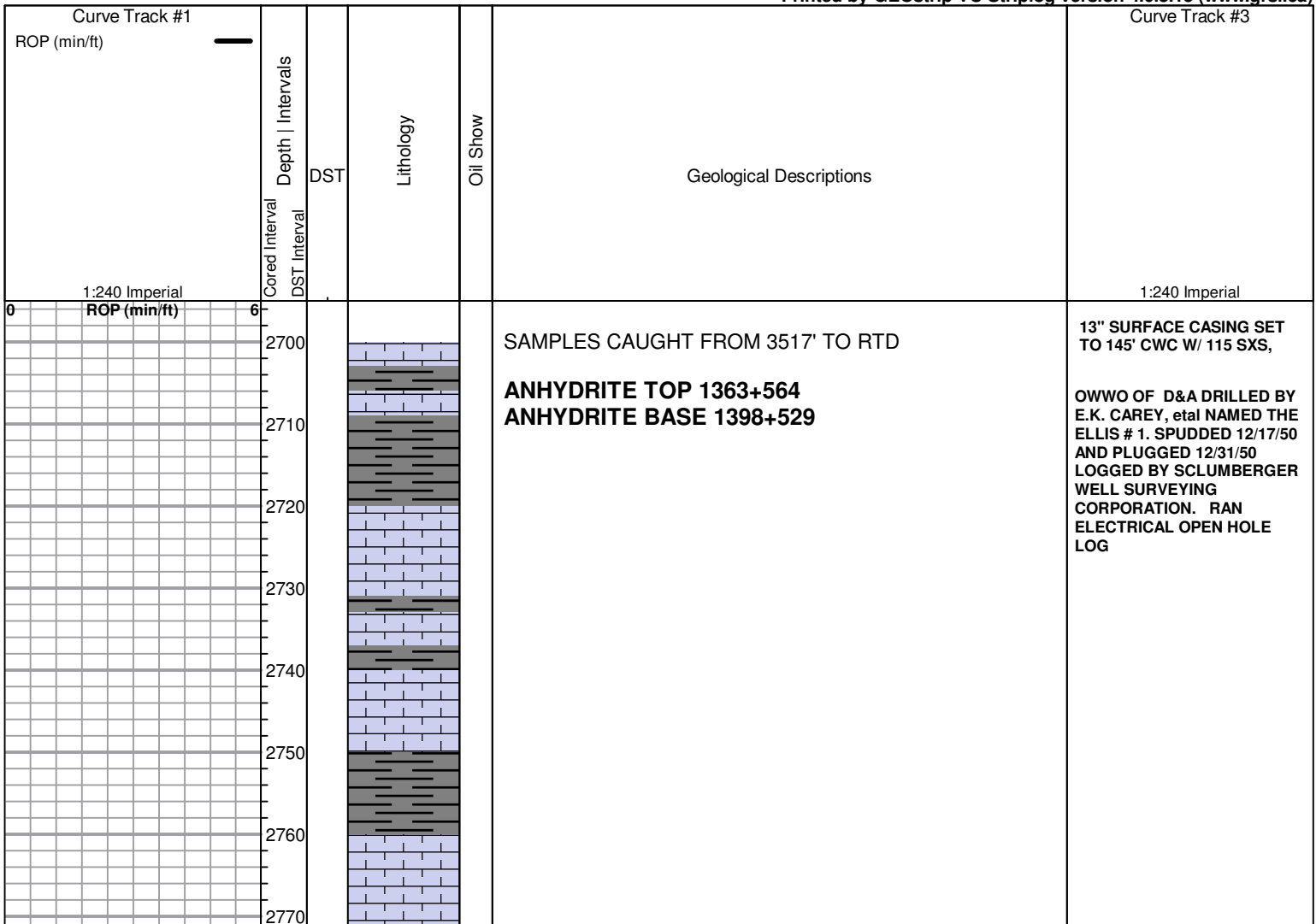
 Clystgy	 Dolprim	 shale, grn	 shale, red
 Clystcol	 Lmst fw<7	 shale, gry	 Ss
 Congl	 Lmst fw>7	 Carbon Sh	 Igne

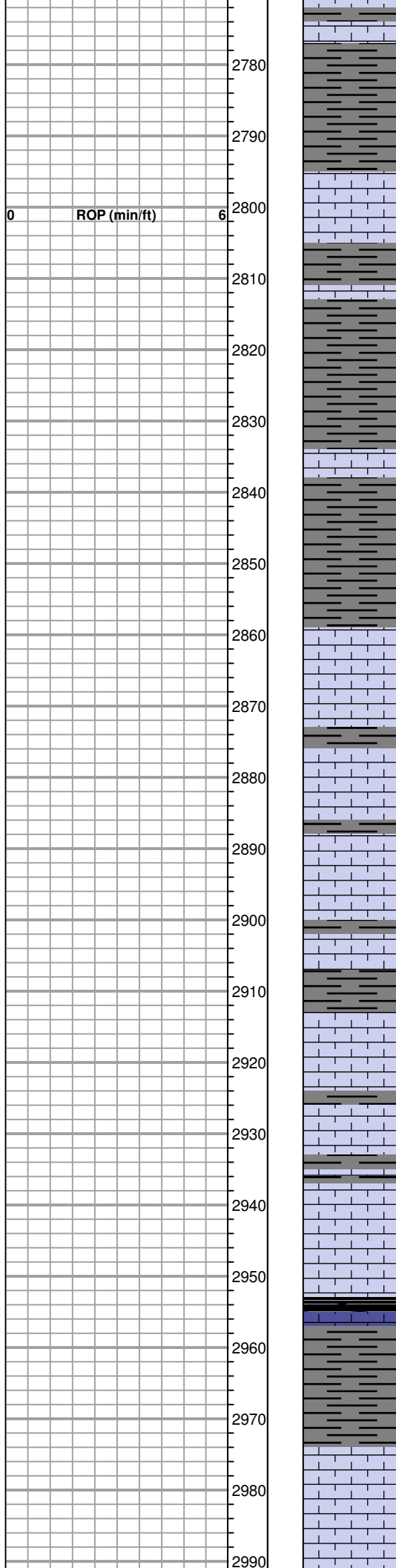
ACCESSORIES

MINERAL

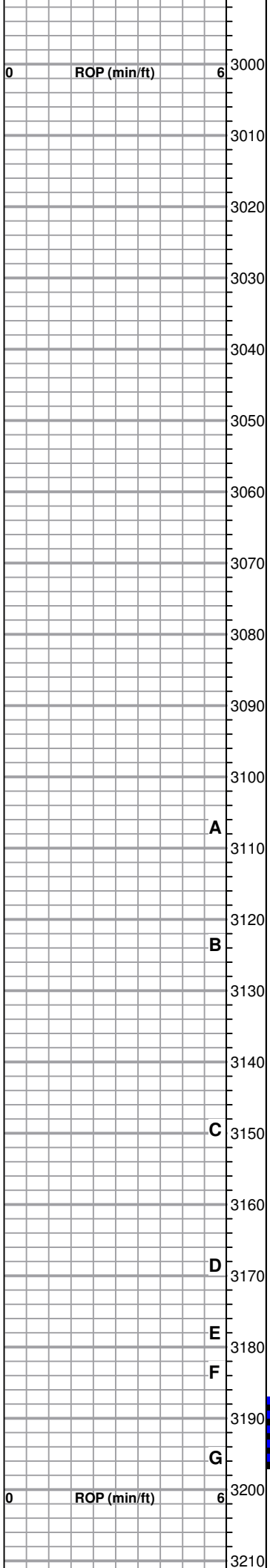
•• Sandy

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TOPEKA 2858-931



HEEBNER SHALE 3064-1137

TORONTO 3086-1159

LKC 3102-1175

A

B

C

D

E

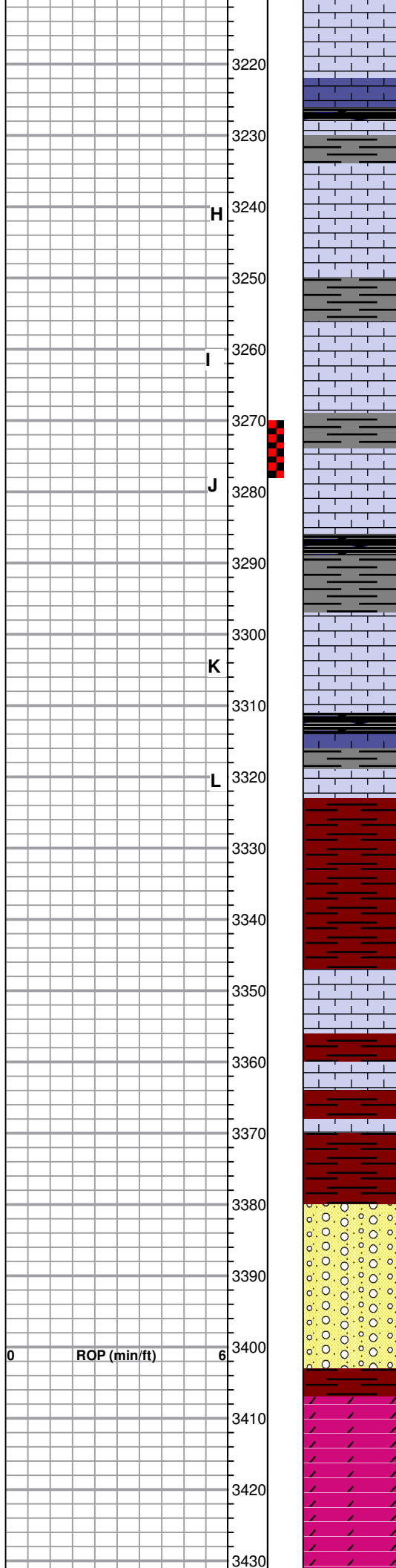
F

G

LOG INTERVAL 3104 TO 3106
SHOULD BE PERFORATED
AND TESTED.

LOG INTERVAL 3143 TO
3145 SHOULD BE
PERFORATED AND TESTED
PRIOR TO ABANDONMENT
OF WELL

DST # 1 3187' TO 3195'
OPEN 30 MINUTES
WEAK BLOW 20 MINUTES
RECOVERED 36' SALT
WATER
B.H.P. 950#



H

I

J

K

L

BKC 3323-1396

ARBUCKLE 3407-1480

LOG INTERVAL 3235 TO 3238
SHOULD BE PERFORATED
AND TESTED PRIOR TO
ABANDONMENT OF WELL

DST # 2 3270' TO 3278'
OPEN 30 MINUTES
WEAK BLOW FOR 2 MINUTES
RECOVERED 5' DRILLING
MUD
B.H.P. 976#

LOG INTERVAL 3274 TO 3280
SHOULD BE PERFORATED
AND TESTED PRIOR TO
ABANDONMENT OF WELL.
EVEN THOUGH THE ZONE
WAS TESTED, THE BHP
PRESSURE OF 975# WAS
GOOD. MICROLOG SHOWS
SOME PERMEABILITY
ALBEIT THINLY DEVELOPED

LOG INTERVAL 3436 TO 3443
SHOULD BE PERFORATED
AND TESTED. THIS ZONE
APPEARS TO CORRESPOND

0 ROP (min/ft) 6

APPEARS TO CORRESPOND TO THE SAME ZONE IN THE SECOND BREAK IN THE FARR # 2 OWWO BUT APPEARS TO BE HIGHER IN STRUCTURE.

3440
3450
3460
3470
3480
3490
3500
3510
3520
3530
3540
3550
3560
3570

OLD ROTARY TOTAL DEPTH 3457-1530

GRANITE WASH 3498-1571

Quartz, black mica and red to orange feldspars
Some offwhite to pearl dolomite, fnxln-coarse granular with rhombic development in part. Few chips with lt saturated staining, no odor or SFO due to how low samples were started. Few chips of coarse sandstone, lightly cemented with dolomite, No stain, No Odor, NFO

Quartz, black mica and red to orange feldspars as above

Quartz, black mica and red to orange feldspars as above

RTD 3566-1639

3517' STOPPED AND DISPLACED OLD STARCH MUD WITH FRESH CHEMICAL MUD. STARTED WET AND DRY SAMPLES AFTER DISPLACEMENT

5 1/2' PRODUCTION CASING SET TO RTD-1'. DV SET IN ANHYDRITE AND CEMENTED TO SURFACE WITH 450 SXS CEMENT WHICH DID CIRCULATE TO SURFACE

SLOPE 1 DEGREE @3566'