

OPERATOR

Company: DENIS F. ROBERTS
 Address: 3904 FAIRWAY DRIVE
 HAYS, KANSAS 67601

Contact Geologist: DENIS F. ROBERTS
 Contact Phone Nbr: 785-625-8526
 Well Name: ROBERTS # 1
 Location: NW SE NE SW, SEC. 5-T9S-R20W
 API: 15-163-24,253-00-00
 Pool:
 State: KANSAS

Field: ARPIN
 Country: USA

Scale 1:240 Imperial

Well Name: ROBERTS # 1
 Surface Location: NW SE NE SW, SEC. 5-T9S-R20W
 Bottom Location:
 API: 15-163-24,253-00-00
 License Number: 32322
 Spud Date: 10/2/2014 Time: 5:00 PM
 Region: ROOKS COUNTY
 Drilling Completed: 10/5/2014 Time: 8:00 AM
 Surface Coordinates: 1786' FSL & 2291' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 2131.00ft
 K.B. Elevation: 2139.00ft
 Logged Interval: 3000.00ft To: 3770.00ft
 Total Depth: 3770.00ft
 Formation: ARBUCKLE
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -99.5780989
 Latitude: 39.297747
 N/S Co-ord: 1786' FSL
 E/W Co-ord: 2291' FWL

LOGGED BY

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

Phone Nbr: 785-625-3380
 Logged By: GEOLOGIST

Name: HERB DEINES/BRUCE BASYE

CONTRACTOR

Contractor: DISCOVERY DRILLING, INC.
 Rig #: 1
 Rig Type: MUD ROTARY
 Spud Date: 10/2/2014 Time: 5:00 PM
 TD Date: 10/5/2014 Time: 8:00 AM
 Rig Release: 10/6/2014 Time: 10:00 AM

ELEVATIONS

K.B. Elevation: 2139.00ft Ground Elevation: 2131.00ft
 K.B. to Ground: 8.00ft

NOTES

THE ROBERTS # 1 RAN FLAT IN THE LKC WITH THE A.E.ARPIN # 1 LOCATED NE NE SW. ALL SHOWS IN THE LKC WERE TESTED IN A.E. ARPIN # 1 WITH NEGATIVE RESULTS. THE A.E. ARPIN # 1 WAS COMPLETED AS

AN ARBUCKLE WELL. THE ROBERTS # 1 WAS DRILLED WITH THE INTENTION OF LOCATING THE SAME ARBUCKLE STRUCTURE BUT ENCOUNTERED CONGLOMERATE FILL OF CHERTS AND SHALES INSTEAD OF THE ARBUCKLE. AFTER LOG ANALYSIS AND CAREFUL CONSIDERATION BY ALL PARTIES, IT WAS RECOMMENDED THAT THE WELL BE PLUGGED AND ABANDONED DUE TO THE LACK OF ARBUCKLE DEVELOPMENT BY THE TIME THE WELL REACHED RTD OF 3770'.

OPEN HOLE LOGGING BY PIONEER ENERGY SERVICES: DUAL INDUCTION LOG, DUAL COMPENSATED POROSITY LOG

NO DRILL STEM TESTS WERE RAN ON THIS WELL










FORMATION TOPS COMPARISON

	ROBERTS # 1	A.E. ARPIN # 1
	NW SE NE SW	NE NE SW
	SEC.5-T9S-R20W	SEC.5-T9-R20W
	2131'GL 2139'KB	KB 2131'
<u>FORMATION</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1660+ 479	+ 476
B-Anhydrite	1693+ 446	+ 442
Topeka	3134 - 995	- 996
Heebner Sh.	3341-1202	-1201
Toronto	3362-1223	-1223
LKC	3380-1241	-1241
BKC	3600-1461	-1461
Arbuckle	Not Reached	-1522
RTD	3770-1631	-1549

SUMMARY OF DAILY ACTIVITY

10-2-14	RU, spud 5:00PM, set 8 5/8" surface casing to 266' w/ 160 sxs common 2%gel 3%CC, plug down 9:45PM, WOC 8 hrs
10-3-14	445', drill plug at 5:45PM
10-4-14	2207', drilling
10-5-14	3045', drilling
10-6-14	3568', RTD 3770' @8:00AM, short trip, TOWB, logs
10-7-14	3770, finish logging, P&A,





ROCK TYPES

 Congl	 Lmst fw<7	 shale, grn	 Carbon Sh	 Shcol
 Chtcongl	 Lmst fw>7	 shale, gry	 shale, red	

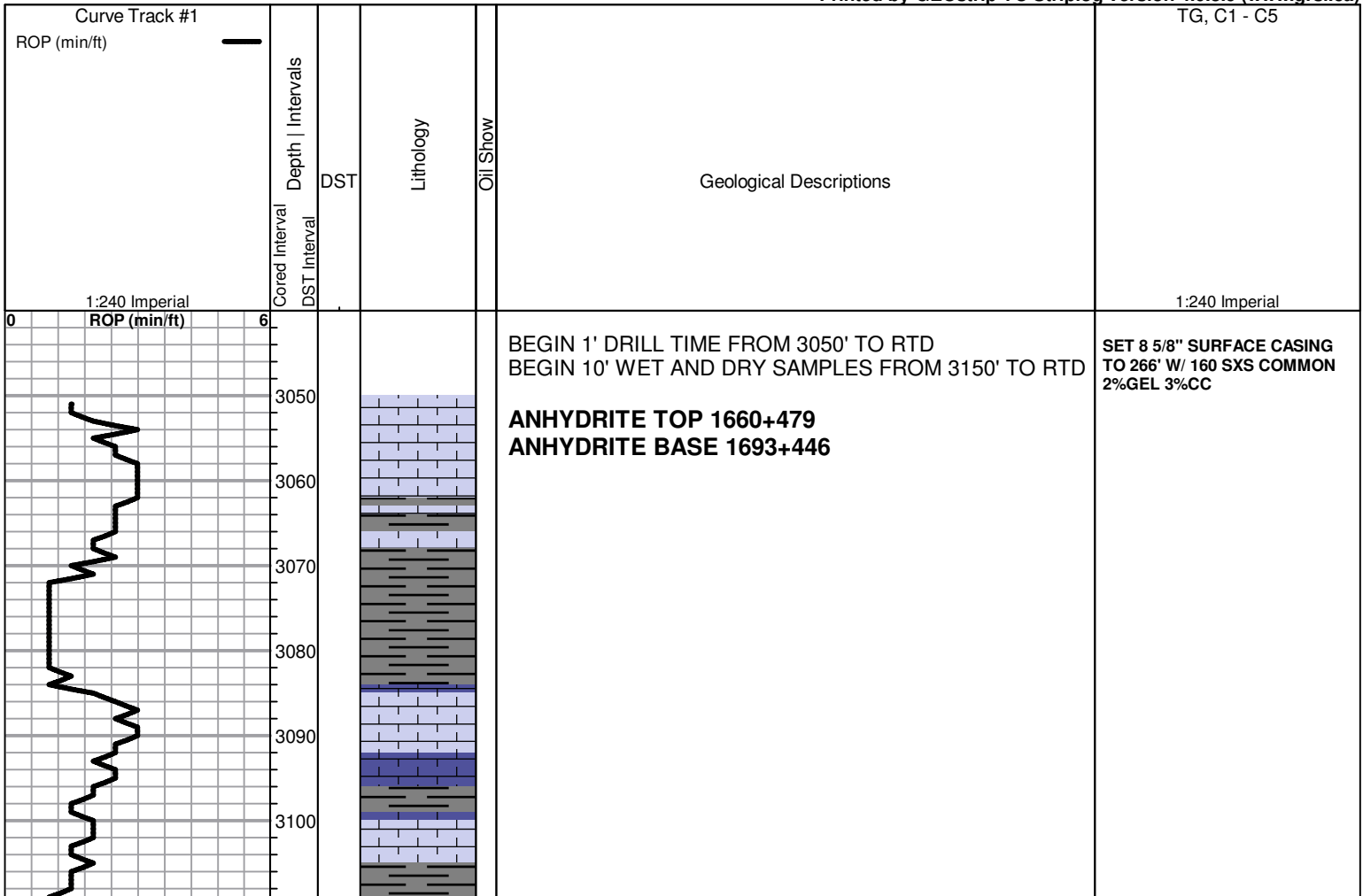
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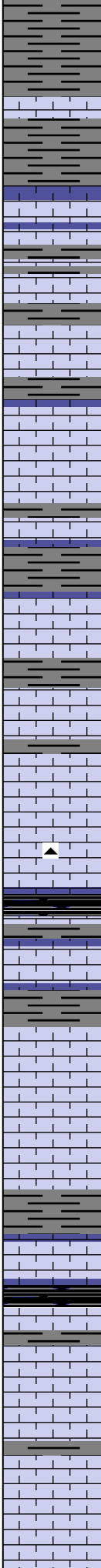
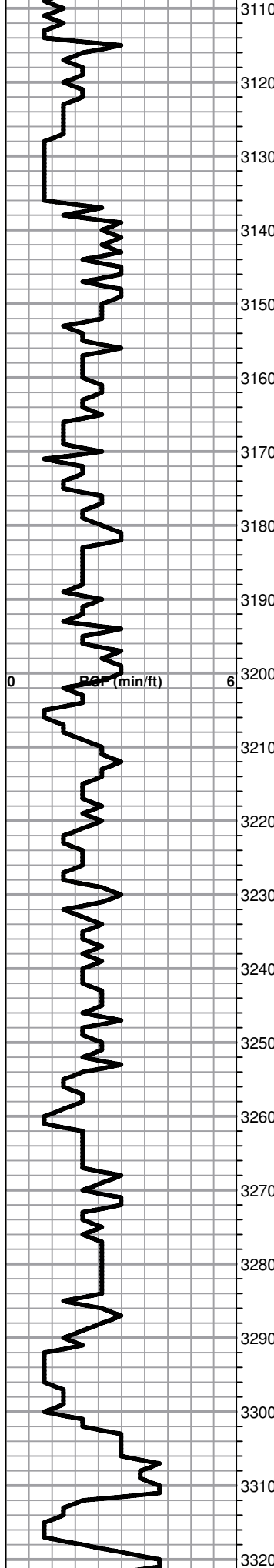
MINERAL
▲ Chert, dark

OTHER SYMBOLS

Oil Show	DST
● Good Show	 DST Int
● Fair Show	 DST alt
● Poor Show	 Core
○ Spotted or Trace	 tail pipe
○ Questionable Stn	
D Dead Oil Stn	
■ Fluorescence	
* Gas	

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Shale, med gray, soft blocky

TOPEKA ELOG 3134-995

Lime, lt-med gray, fnxln, fossiliferous in part

Lime, brn-lt grayish brn, fn-vfxln

Lime, gray, fnxln-granular, fossil fragments in part, NS

Lime, med brn-gray, fnxln-granular, fossil fragments in part

Lime, gray, fn-vfxln

Lime, lt-med grayish brn, fnxln, well cemented fossil beds

Lime, brn, fnxln-granular, slight bedded chalk

Lime, lt-med brn, fnxln-granular, NS

Lime, crm-tan, fnxln, thin cemented fossil beds, NS

Lime, crm-tan, fnxln-granular, increasing chalky matrix

Shale, black carbonaceous, blocky

Lime, crm, granular, chalky with sticky clumps

Lime, granular, fossiliferous beds but well cemented

Lime, crm, fnxln-granular, slightly fossiliferous

Lime, lt-med brn, fnxln-microxln in part

Shale, black carbonaceous, fissile, blocky

Lime, lt-med brn, fn-micro xln

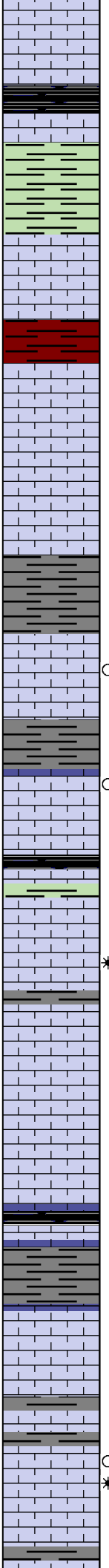
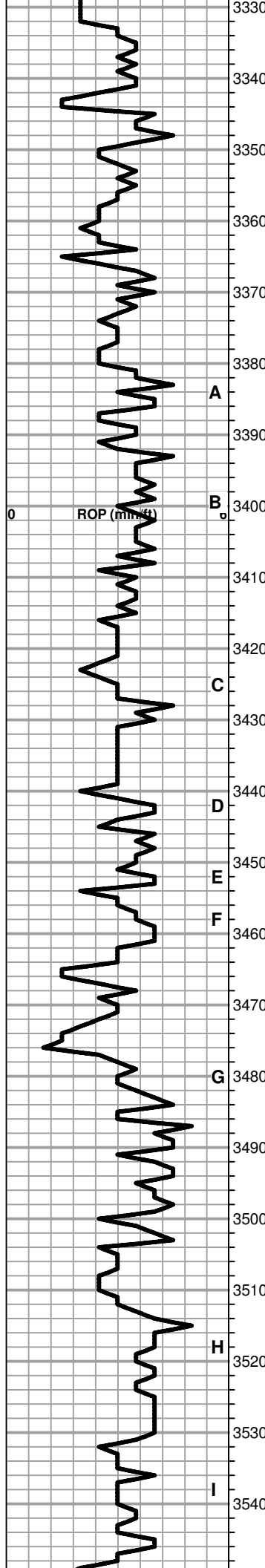
Lime, lt brn, granular, NS

Lime, lt brn-lt grayish brn, fn-micro xln

Lime, lt brn-lt gray, fn-micro xln

Lime, crm-tan, granular, NS

Lime, lt brn, fn-vfxln



Lime, lt brn-lt gray, fnxln-granular

HEEBNER SHALE ELOG 3341-1202

Shale, black carbonaceous, fissile, blocky
Lime, med brn, vfxln

Shale, lt gray-lime green, soft sticky clumping

TORONTO ELOG 3362-1223

Lime, crm, fn-vfxln, NS

Shale, red, soft blocky

LKC ELOG 3380-1241

Lime, crm-lt brn, fn-micro xln

Lime, crm, fn-micro xln, bedded chalk in part

Lime, crm, fn-micro xln, bedded chalk

Shale, med-dark gray, soft blocky

Lime, white-crm, fnxln

Lime, white-crm, fnxln-granular in part , fossil fragments, lt odor

Lime, lt brn-lt grayish brn, fnxln-granular in part, very lt odor

Lime, crm-off white, fn-vfxln

Shale, black carbonaceous, blocky

Lime, lt brn-lt grayish brn, fnxln, NS

* Lime, lt brn-lt grayish brn, fnxln-oomoldic in part, lt-fair odor

Lime, crm-lt brn, fnxln-oomoldic in part, NS

Lime, crm-lt brn, fn-micro xln

Lime, crm-lt brn, fn-micro xln

Shale, gray-black carbonaceous, blocky

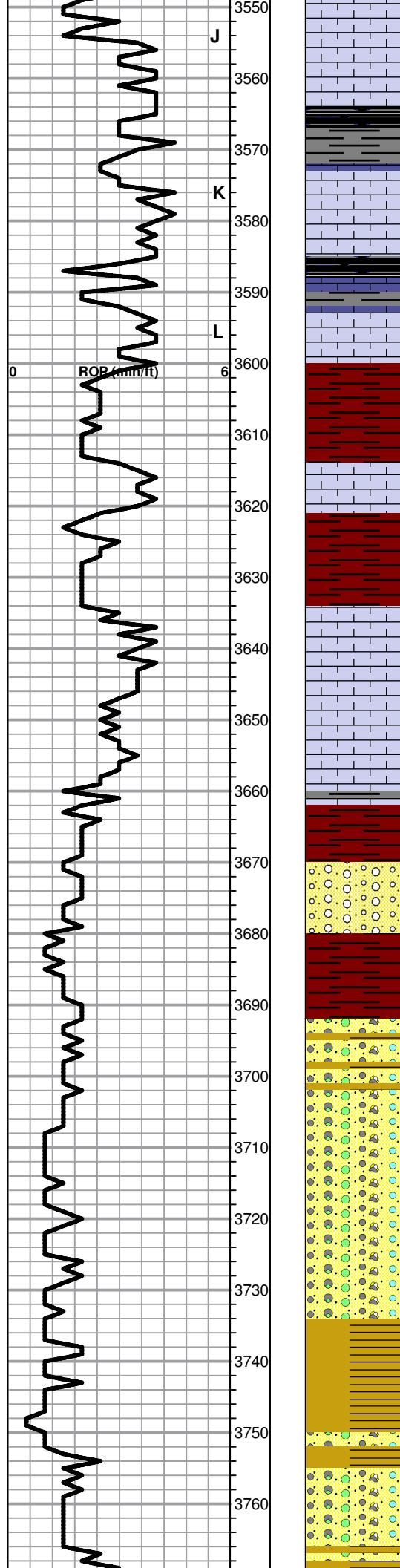
Lime, crm, fn-micro xln in part, NS

Lime, crm-tan, fn-micro xln

Lime, crm, fn-vfxln, lithographic,

* Lime, med brn, fn-vfxln, lt spotty stain, fair odor

Lime, lt med brn, fnxln granular, fossil fragments in fnxln



Lime, lt-med brn, mxin-granular, fossil fragments in mxin matrix, NS

Lime, lt-med brn, fn-vfxln , slightly fossiliferous

Shale, gray-black carbonaceous

Lime, lt brn, fn-micro xln

Lime, lt brn-lt grayish brn.,, fn-micro xln

Shale, gray-black carbonaceous, blocky

Lime, white-crm, fn-vfxln

BKC ELOG 3600-1461

Shale, red, soft to firm blocky

Lime, crm-tan, fn-vfxln

Shale, red, soft sticky

Lime, crm, fn-vfxln, chalky

Lime, crm, fn-vfxln, chalky

Lime, crm, fn-vfxln, chalky

Shale, red, soft blocky

Shale and cherts, vari color

Shale, vari color, soft blocky

Shales and cherts vari color

Shales and cherts vari color

Shales and cherts vari color

Shales and cherts vari color

Shales, vari color

Shales and cherts vari color

ARBUCKLE NOT FOUND

3770

RID 3770-1631 LTD 3771-1632