

GEOLOGICAL REPORT

Larry A. Nicholson

NAD 83
39.754481783
-100.267101793

COMPANY & WELL: Cobalt Energy LLC Ritter 'A' #2-32
LOCATION: 335 FNL 1882 FWL SE NW NE NW
SEC 32 TWP 3S RGE 26W
COUNTY Decatur STATE Ks

COMPANY: Cobalt Energy LLC
API #: 15-039-21231 FIELD: WELL #2-32
LEASE: Ritter 'A'
LOCATION: SE NW NE NW
SURVEY: 335 FNL 1882 FWL
SECTION: 32 TWP 3S RGE 26W
COUNTY: Decatur STATE: Kansas
CONTRACTOR: Murfin Drilling Company, Inc. Rig # 7
SPUD: 9:30 am 07-05-16 COMP: K.B. 2569
RTD: 3832 5:40 am 07-12-16 LTD: 3832
MUD UP AT: 2880
MUD TYPE: Chemical, MudCo, Gary Schmidt
D.F.: 2564
All measurements from K.B. 2569

ELEVATIONS

K.B. 2569
D.F. 2564
All measurements from K.B. 2569

CASING RECORD

Surface	218	of	8.58	248'	of	165	ft
Production		of			of		

FORMATION TOPS & STRUCTURAL POSITION

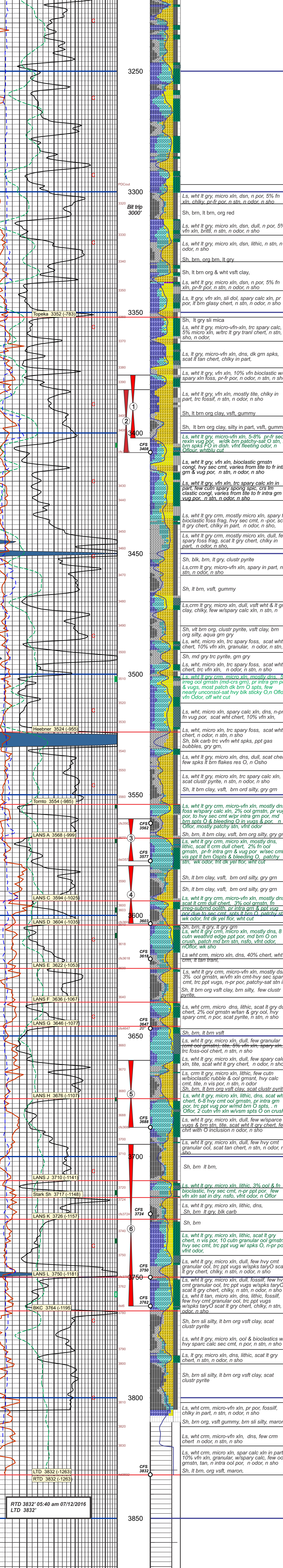
FORMATION	SAMPLE TOPI	SURSEA DATUM	ELEC LOG TOPS	SURSEA DATUM	REFERENCE WELL
Stone C	2157	+412	2158	+411	A
Topoka	3354	-785	3352	-955	
Hoebner	3524	-957	3524	-955	
Tomba	3554	-985	3554	-985	
LANS A	3568	-999	3568	-999	
LANS C	3595	-1026	3594	-1025	
LANS G	3649	-1080	3646	-1077	
LANS J	3714	-1145	3710	-1141	
Stark Sh	3721	-1152	3717	-1148	
LANS K	3730	-1161	3726	-1157	
BKC	3768	-1199	3764	-1195	
RTD	3832	-1263	3832	-1263	
LTD	3832	-1263	3832	-1263	

REMARKS & RECOMMENDATIONS:
Based on weak sample shows and tight dst results the well was P&A

LAN 762, Modified 5/05, 11/11, 4/12 Hanover, KS 66845 1inch = 25.4mm 8.5 x 7.5 216 mm x 2460 mm

LEGEND

Limestone	Oil Limestone	Dolomite	Chert	Shale	Carbonaceous Shale	Salt	Sandstone	Anhydrite
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"BIT RECORD"

Surface Bit: HFCO Vln-1, 12 1/4", #5219122, (2-14's, 1-15), surf. 210'

Bit No. 1 HFCO DP506, 7-7/8", (2-14's, 1-15), in at 219' - out at 1600'

Bit No. 2 HFCO DP506, 7-7/8", (2-14's, 1-15), in at 1650' - out at 1700'

Bit No. 3 HFCO DP506, 7-7/8", (2-14's, 1-15), in at 3300' - out at 1700'

"VERTICAL SURVEYS"

3/4" @ 219' 1/2" @ 1519'
1/2" @ 3300'
1/2" @ 3602'

"PUMP DATA"

Emasco D-375
Stroke 14" Liner 6"
64 Stroke
322 GAL/Min

"DAILY REPORT"

07-05-2016 - 9:30 AM Spud
Set new 8-5/8" 5 Jts 23W set @ 216'
165 sx A Comm 3%CC, 2% Gel
Allied, circ 4 bbls
Plug down 02:00 pm 07-05-16
Drig plug 10:00 pm 07-05-16

07-06-2016 - 7:00 AM Drig @ 1030'
07-07-2016 - 7:00 AM Drig @ 2,585'
07-08-2016 - 7:00 AM Drig #1 @ 3,408'
07-09-2016 - 7:00 AM Drig @ 3,505'
07-10-2016 - 7:00 AM Drig #4 @ 3,603'
07-11-2016 - 7:00 AM Drig #5 @ 3,688'
07-12-2016 - 5:40 AM RTD @ 3,832'
07-12-2016 - 9:30 AM LTD @ 3,832'

DST (1) 3382-3408 [3376-3402] Topoka 30-60-60

Tool lifts & feet & banded
Flow from bottom. Formation not tested

IF: blow built to BOB 21'
IS: n blow
FF: n blow
FS: n blow

Total Rec: 268' MCW
79W 30W

FP: 123-149 FFP: 1419-1292
SIP: 1183 FSP: 1232
HP: 1626 FHP: 1573

Temp 100' F
@ 80' F RW = 85,000 ppm

DST (2) 3682-3408 Topoka 30-60-60

IF: blow built to BOB 22.5'
IS: 1st blow died in 9 min
FF: BOB 20 min
FS: n blow

Total Rec: 488' MCW
99W 190W

FP: 24-131 FFP: 135-230
SIP: 1097 FSP: 1062
HP: 1597 FHP: 1585

Temp 100' F
@ 77' F RW = 85,000 ppm

DST (3) 3560-3577 Lansing A 30-30-30

IF: n blow
FF: n blow
FS: n blow

Total Rec: 1' hvy mud plugged
10W

Oil specks in tool

FP: 31-42 FFP: 31-23
SIP: 162 FSP: 88
HP: 1747 FHP: 1608

Temp 104' F

Tool run recs: Tool did plug. Outside formation recorder indicated allowing tool to plug

DST (4) 3579-3603 Lansing C 30-60-60

IF: weak surf blow
FF: n blow
FS: n blow

Total Rec: 10'
10' MCW 99W 49W

FP: 20-24 FFP: 24-34
SIP: 276 FSP: 286
HP: 1797 FHP: 1782

Temp 100' F
226 @ 100' F RW = 19,000 ppm

DST (5) 3610-3688 Lansing H 30-60-60-90

IF: surf blow built to 1"
IS: n blow back
FF: weak surface blow in 12"
FS: n blow

Total Rec: 72'
72' MCW 99W 39W

FP: 24-44 FFP: 49-77
SIP: 727 FSP: 707
HP: 1797 FHP: 1600

Temp 100' F
112 @ 79' F RW = 62,000 ppm

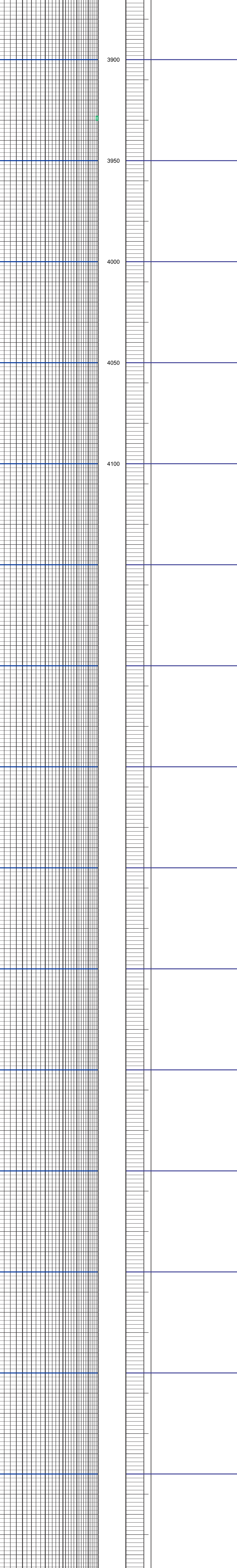
DST (6) 3695-3762 Lansing J K L 30-60-30-30

IF: surf blow died in 11"
IS: n blow
FF: n blow
FS: n blow

Total Rec: 3' OSM

FP: 25-26 FFP: 26-25
SIP: 79 FSP: 34
HP: 1707 FHP: 1707

Temp 100' F



COMPANY: Cobalt Energy LLC
LEASE: Ritter 'A' #2-32 SE NW NE NW
LOCATION: 335 FNL 1882 FWL SEC 32 TWP 3S RGE 26W
COUNTY: Decatur STATE: Ks

ELEVATIONS

K.B. 2569
D.F. 2564
All measurements from K.B. 2569