GEOLOGICAL REPORT

Larry A. Nicholson

NAD 83
39.7914400
-101.0484000

COMPANY Cobalt Energy, LLC
API # 15-039-21239 FIELD Wildcat
LEASE Evelyn "A" WELL # #1-27
LOCATION SW SE NW SW
SURVEY 1361' FSL, 2154' FWL
SECTION 27 TWP 3S RGE 26W
COUNTY Decatur STATE Kansas

CONTRACTOR Murfin RIG # 7
SPUD 06-14-17, 04:45 pm COMP.
RTD 4010, 06-20-17, 01:15 pm LTD 4012
MUD UP at 2940
MUD TYPE MudCo Gary Schmmittberger

ELEVATIONS
K.B. 2554
D.F.
G.L. 2549
All measurements from K.B. 2554

27

SAMPLES SAVED FROM 2300 TO RTD
DRILLING TIME FROM 2300 TO RTD
SAMPLES EXAMINED FROM 2300 TO RTD
GEOLOGICAL SUPERVISION FROM 3300 TO RTD
WELLSITE GEOLOGIST LARRY A. NICHOLSON

CASING RECORD
Conductor 0 in @ 0 ft
Surface 213 in @ 8-5/8 LBS / 150 sx
Production in @ ft

ELECTRICAL SURVEYS Halliburton Neo Den. Dual Ind. Micro. Dip.

FORMATION TOPS & STRUCTURAL POSITION

FORMATION	SAMPLE TOPS	SUBSEA datum	ELEC LOG TOPS	SUBSEA datum	REFERENCE WELL 1	2	3
Stone C	2167	+607	2147	+607	2123	612	-5
Brown Lime	2192	+582	2172	+582	2150	585	-3
Topeka	3351	-797	3347	-793	3319	-784	-9
Heebner	3520	-966	3516	-962	3487	-952	-9
Toronto	3547	-993	3548	-994	3519	-984	-10
LANS A	3563	-1035	3568	-1034	3531	-1029	-5
POLLNOW	3588	-1035	3587	-1033	3559	-1024	-14
Stark Sh	3714	-1160	3712	-1158	3682	-1147	-13
BKC	3741	-1187	3741	-1187	3708	-1174	-13
Arbuckle	3953	-1399	3952	-1398	3920	-1385	-3
RTD	4010	-1456	4010	-1456	4000	-1465	
LTD			4012	-1458	4002	-1467	

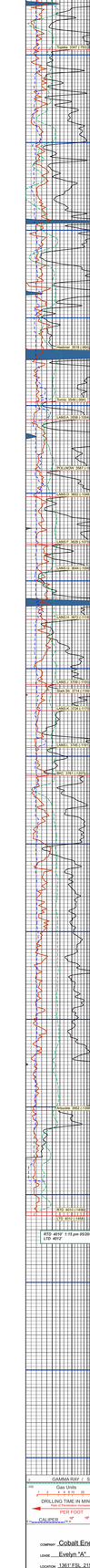
REFERENCE WELLS
1 Cobalt Energy, LLC Rifter "A" #1-32 Sec 32 T3S R26W 330' FNL 1200 FWL KB 2538

REMARKS & RECOMMENDATIONS:
Based on sample shows, dst recovery & pressures, 5 1/2" csg was run

LAN TRC, Modified 5/05, 11/11, 4/12 Hardware: KD 88940 touch = 20.lines 8.5 x 8.5 2.16 mm x 2.16 mm

LEGEND

Limestone, Oolitic Limestone, Dolomite, Chert, Shale, Carbonaceous Shale, Salt, Sandstone, Anhydrite


GAMMA RAY / SP
Gas Units
DRILLING TIME IN MINUTES
PER FOOT
CALIPER
DEPTH
LITHOLOGY
SAMPLE DESCRIPTIONS
REMARKS
2200
2150
2300
3300
3350
3400
3450
3500
3550
3600
3650
3700
3750
3800
3850
3900
3950
4000
4050
4100
Stone Corral (2147)
Heebner (3516)
Toronto (3548)
LANS (3568)
Stark (3712)
BKC (3741)
Arbuckle (3952)
RTD 4010 1:15 pm 06/20/2017
LTD 4012
Wiper Trip 4 stands
Stone Corral Formation
Heebner Shale
Toronto Limestone
Lansing Kansas City
Stark Shale
Base Kansas City
Marmaton
Cherokee Shale
Mississippian
Arbuckle
Spud 4:45 PM, 06-14-2017
RTD 01:15 PM 06-20-2017
"RIT RECORD"
Surface Bit - HR11 12.74
#6(19/32) out at 213'
Bit #1 - 7 7/8" Smith GF505, 7-3/8" 415-4010(3)
Bit #2 - 7 7/8" Hughes M 324
Bit No.3 - HTC(GX09) 7-7/8", 3/15 #6(9/32-3), in at 2300 - out at 4010
"VERTICAL SURVEYS"
1/2° @ 213', 3/4° @ 1600'
1/2° @ 3310'
1° @ 3800'
1 1/4° @ 4000'
"PUMP DATA"
Emsco D-375
Stroke 14" Liner 7"
"DAILY REPORT"
Spud
06-14-2017 - 4:45 PM
Drlg to 12 1/4" to 213'
Set 8-5/8" 5 jts
set @ 213'
150 sx 60/40
3% CC 2 % gel
circ 12 bbl to pit
Plug down 6:45 PM 06-14-17
Drlg plug 5:00 AM 06-15-17
06-15-2017 - 7:00 AM
Drlg @ 365'
06-16-2017 - 7:00 AM
Drlg @ 3,040'
06-17-2017 - 7:00 AM
Drlg @ 3,950'
06-18-2017 - 7:00 AM
Dst #2 @ 3,599'
06-19-2017 - 7:00 AM
TH @ 3,885
06-20-2017 - 7:00 AM
Drlg @ 3,984
06-20-2017 - 1:15 PM
RTD @ 4010
06-20-2017 - 7:00 PM
Pioneer
LTD @ 4012
finished-11:30 PM
Mud Check # 06/16/17 at 3,580
Vis 54 wt 9.2 Chlor 3,000
LCM 0.0# Ph 10.0 WL 8.2
DST (1) 3519-3562
Toronto
45-45-45-45
IF: BOB in 24"
FF: 1 blow back
FS: BOB in 28 1/2"
FP: 15-15
Total Rec: 403 ft Fluid
245 MCW (70% 3300
ppm chlorides) 158 ft
Drlg mud (100 ft mw)
FP: 24-139 FFP: 163-230
HP: 1767 FHP: 1767
IBHP: 1121 FBHP: 1125
Temp 108° F 8HT
Pipe 107(5) @ 90'
Chloride 34,000 ppm
Mud Check # 06/18/17 at 3,580
Vis 54 wt 9.2 Chlor 3,000
LCM 0.0# Ph 10.0 WL 8.2
DST (2) 3565-3599
Pollnow
30-45-60-90
IF: weak surf blow 1/2"
FF: 1 blow back
FS: 1 blow back
Total Rec: 2 Oil Spot 1M
FP: 20-20 FFP: 20-21
HP: 1785 FHP: 1785
IBHP: 1145 FBHP: 1168
Temp 108° F 8HT
Mud Check # 06/19/17 at 3,760
Vis 54 wt 9.2 Chlor 3,000
LCM 0.0# Ph 10.0 WL 8.2
DST (3) 3688-3758
LKC J K L
30-60-30-60
IF: weak surf blow 1/2"
FF: 1 blow back
FS: 1 blow back
FS: 1 blow back
Total Rec: 2 ft Mud
FP: 41-42 FFP: 44-46
HP: 1858 FHP: 1852
IBHP: 1088 FBHP: 1092
Temp 111° F 8HT
Mud Check # 06/20/17 at 3,980
Vis 60+ wt 9.3 Chlor 2,000
LCM 0.0# Ph 10.0 WL 8.8
Gas 10 hr
TDM Ex Logs
Gas 10 hr
Gas 10 hr
Gas 10 hr