COBALT ENERGY
OIL & NATURAL GAS

GEOLOGICAL REPORT
DRILLING TIME & SAMPLE LOG

REPORT PREPARED BY FRANK S. MIZE/GEOLOGIST

API#: 15-065-24,012

365

COMPANY Cobalt Energy, LLC
LEASE Pinnick "A" #1-33
FIELD Wildcat
LOCATION 2,219' FSL & 454' FEL
SEC 33 TWSP 9S RGE 24W
COUNTY Graham STATE Kansas
CONTRACTOR Southwind Drilling Rig #8
SPUD 3-12-14 COMP 3-20-14
SAMPLES SAVED FROM 3700 TO 3916

ELEVATION
K.B. 2519
D.F.
G.L. 2510

DEPTH MEASURED FROM KB

Log Drilling ✓

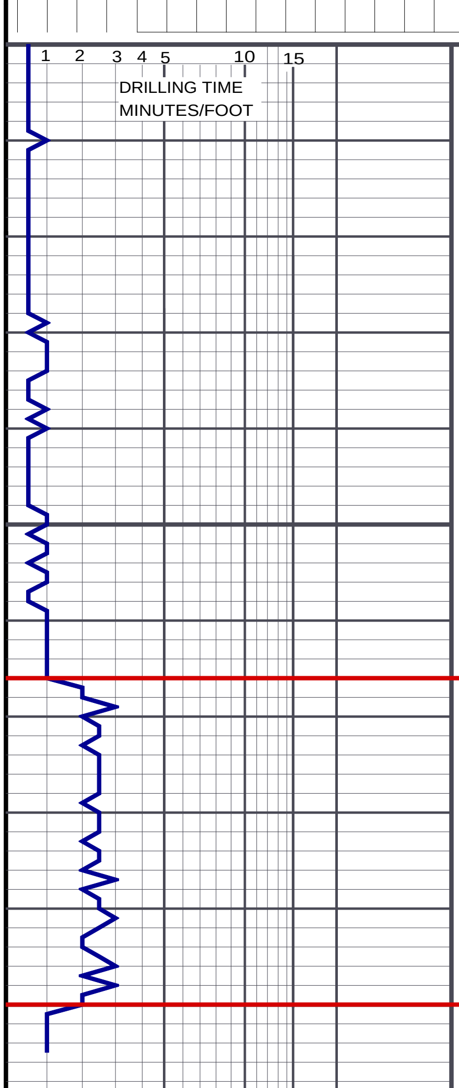
CASING
Surface 8 5/8" @ 230'
Production

Electric Logs
Lost Hole
See Report

FORMATION	SAMPLE	E LOG	DATUM	A. ELOG	B. ELOG	C.ELOG
Anhydrite	2166		+353	+335	+358	+361
Base Anhydrite	2200		+319	+300	+324	+324
Heebner	3824		-1305	-1309	-1295	-1301
Toronto	3846		-1327	-1332	-1316	-1324
Lansing	3860		-1341	-1346	-1328	-1348
Muncie Creek				-1472	-1449	-1458
Stark				-1537	-1516	-1527
Hushpuckney				-1556	-1536	-1547
BKC				-1575	-1556	-1568
RTD	3916		-1397	-1604	-1458	-1571

REFERENCE WELLS
A. 1,980' FSL & 335' FEL 32-9S-24W, Cobalt Energy, Critchfield "A" #1-32
B. 1,540' FNL & 2,100' FEL 34-9S-24W Phillips Exploration, Herman Trust #1-34
C. C NE SW NE 33-9S-24W National Oil, #1 Kohart

SHALE
SANDSTONE
LIMESTONE
DOLOMITE
HALITE
ANHYDRITE/GYPSUM



2100

2150

Anhydrite 2166 +353

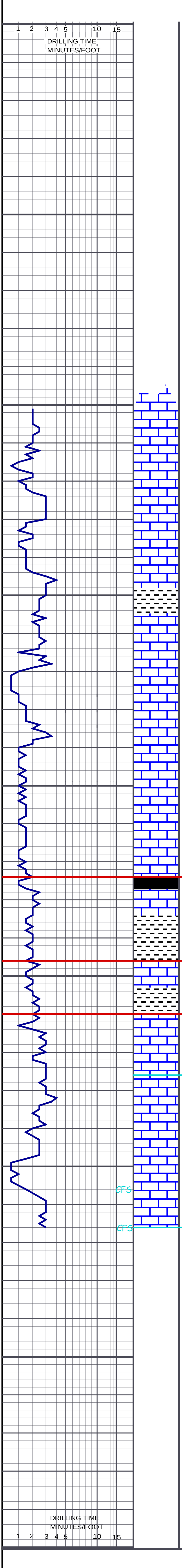
2200

Base Anhydrite 2200 +319

While tripping pipe back in the hole after DST #1, the bit came loose from the drill pipe and lodged near 1000'.

Tried to fish/mill the bit for the next 36 hours resulted in lowering the bit in the hole approximately 70'. Originally, the bit was sideways in the hole. No idea of its final orientation. At 9:00 PM on March 19, the drilling contractor could no longer move the bit, and it was decided to plug and abandon the hole and skd the rig to the north, drilling a 'twin' location.

Final Sumation:
There is a 7 7/8" bit lodged in this hole near 1070' with unknown orientation.



3600

3650

3700

Limestone: off white to beige to gray, medium crystalline, fair intercrystalline porosity, no show, fossiliferous w/ fusulinids

Limestone: off white to gray, medium crystalline, fair to good intercrystalline porosity, no show

Limestone: off white to gray, medium crystalline, fair to good intercrystalline porosity, some interoolitic porosity, no show

Limestone: beige to gray, mudstone, little visible porosity, no show

Limestone: beige to gray, medium crystalline, fair intercrystalline porosity, no show, fossiliferous with fusulinids.

3750

Limestone: off white to gray, medium to coarsely crystalline, little visible porosity, no show

Shale: green to gray

Limestone: off white to gray, medium to coarsely crystalline, little visible porosity, no show,

Limestone: off white to gray, medium to coarsely crystalline, little visible porosity, no show, trace black shale

Limestone: gray to beige, medium to coarsely crystalline, fair intercrystalline porosity, trace oolitic w/poor inter-oolitic porosity, no show

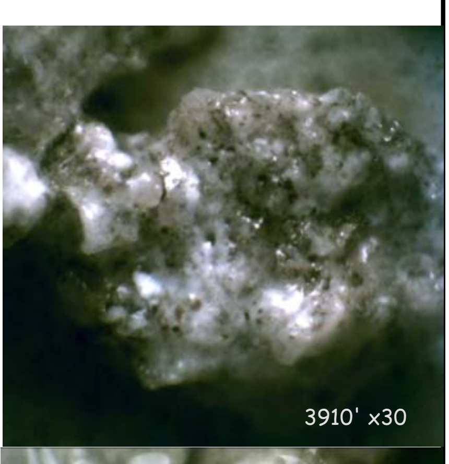
Limestone: gray to beige, medium to coarsely crystalline, very poor intercrystalline porosity, trace oolitic w/poor inter-oolitic porosity, no show

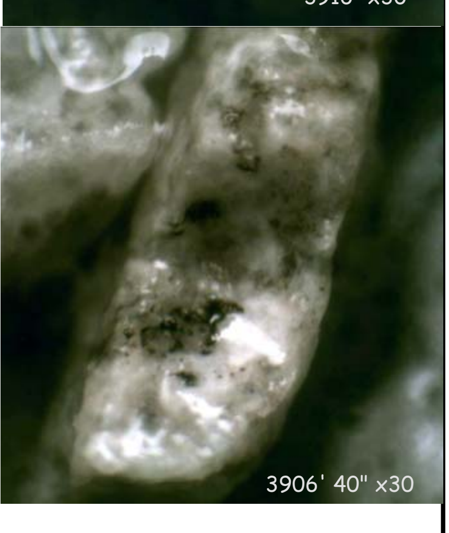
Limestone: beige to gray, coarsely crystalline, no visible porosity, no show

3800

Limestone: off white to gray, coarsely crystalline, little visible porosity, no show

Limestone: off white to gray, coarsely crystalline, some oolitic w/poor interoolitic porosity, no show, trace chert, fossiliferous w/fusulinids


3910' x30


3906' 40" x30

Heebner 3824 -1305

Shale: black, carbonaceous

Limestone: beige to light brown, coarsely crystalline, dense, no porosity, no show

Shale: vari-colored

Toronto 3846 -1327

3850

Limestone: off white to gray, medium to coarsely crystalline, little visible porosity, no show

Shale: gray to dark gray

Lansing 3860 -1341

Limestone: off white to gray, medium to coarsely crystalline, trace pinpoint porosity, no show, trace gray chert

Limestone: off white to gray, coarsely crystalline, dense, little visible porosity, no show, fossiliferous with fusulinids, fair amount chert

Limestone: gray, coarsely crystalline, dense, no porosity, no show

Limestone: gray, coarsely crystalline, dense, no porosity, no show, trace red to gray shale

3900

Limestone: off white to gray, medium crystalline, some oolitic, fair intercrystalline porosity, slight show free oil, extremely faint odor, no fluorescence, fair amount oomoldic in 60" sample that appears barren.

Limestone: off white to gray, medium crystalline, very poor intercrystalline porosity, slight show free oil, no odor, no fluorescence, trace oolitic, oolicastic


3906' 60" x19


3916' x15


3916' 60" x25

3950

4000

Comments:

GENERAL INFORMATION:

Formation: **LKC "C&D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:52:32
Time Test Ended: 05:29:41

Test Type: Conventional Bottom Hole (Initial)
Tester: Tate Lang/Phillip Ga
Unit No: 49

Interval: 3876.00 ft (KB) To 3916.00 ft (KB) (TVD)
Total Depth: 3916.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2519.00 ft (KB)
2510.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8898 **Outside**
Press@RunDepth: 56.77 psig @ 3880.00 ft (KB)
Start Date: 2014.03.17 End Date: 2014.03.18
Start Time: 20:13:23 End Time: 05:29:41

Capacity: 8000.00 psig
Last Calib.: 2014.03.18
Time On Btm: 2014.03.17 @ 22:52:22
Time Off Btm: 2014.03.18 @ 02:54:01

TEST COMMENT: 30-IF-Built to 3"
60-IS-No Return
60-FF-Built to 3 1/2"
90-FSI-No Return

Recovery Table

Length ft	Description	Volume bbl
60.00	MW 50%m, 50%w	0.842
30.00	WM 30%w , 70%m, w ith oil spots	0.421

Total Length: 90.00 ft Total Volume: 1.263 bbl

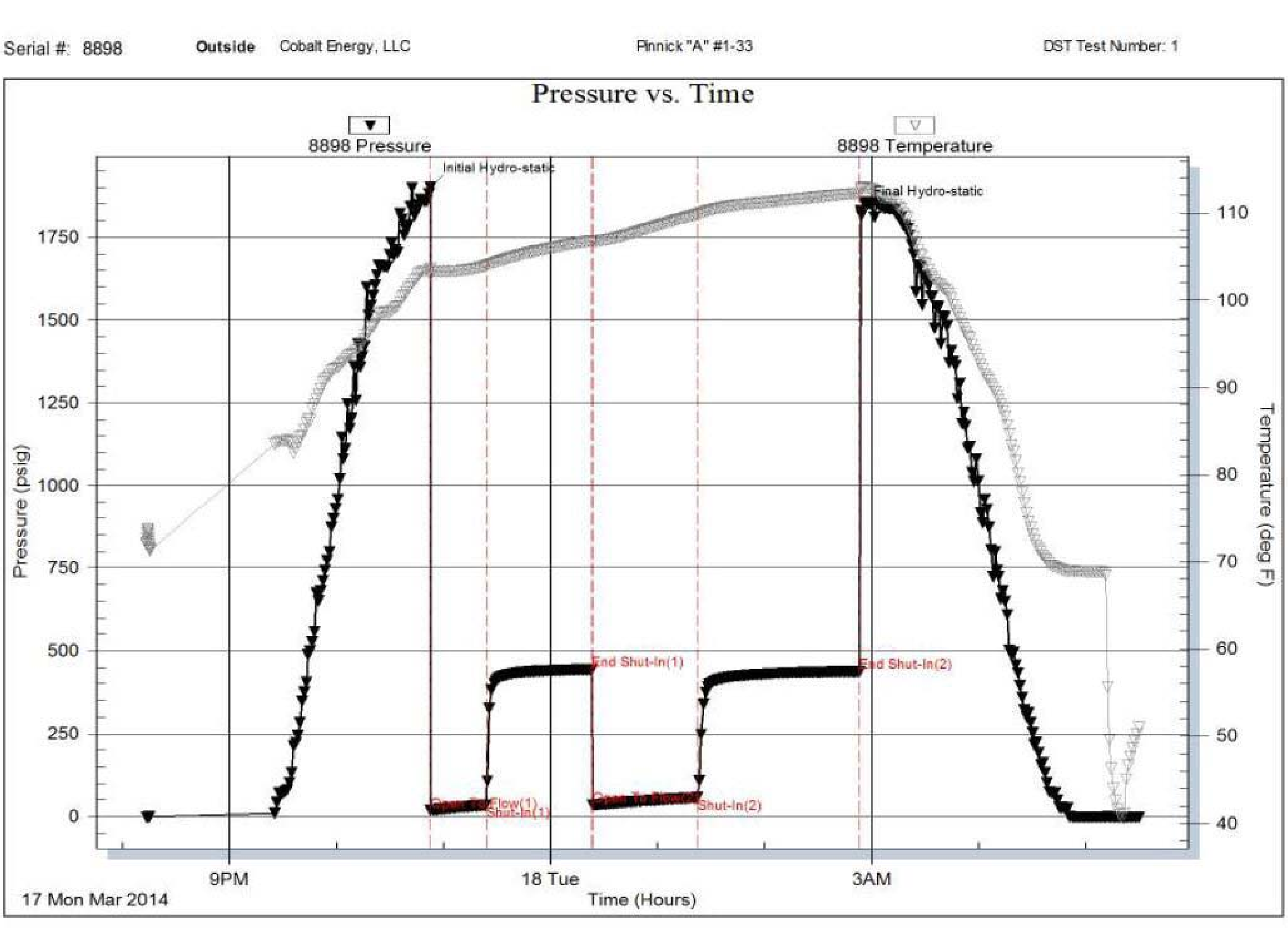
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: Salinity : .675 at 37 degrees = 19,500

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1899.47	103.69	Initial Hydro-static
1	17.96	102.87	Open To Flow (1)
32	34.63	103.92	Shut-In(1)
91	443.67	106.76	End Shut-In(1)
91	34.74	106.64	Open To Flow (2)
151	56.77	109.81	Shut-In(2)
241	437.56	112.21	End Shut-In(2)
242	1829.61	112.69	Final Hydro-static

TRILOBITE TESTING, INC

Serial #: 8898 **Outside** Cobalt Energy, LLC Pinnick "A" #1-33 DST Test Number: 1



03-11-14 MIRT. Had trouble with the bridle line, will spud tomorrow.

03-12-14 Spud well at 11:30p.m. Drilled 12 ¼" surface hole to 230'. Ran 5 joints of new 8 5/8", 23# surface casing. Set @ 230'. Allied cemented with 175 sacks of common with 3% CC and 2% gel. Plug down @ 6:00a.m. on 03/13/14. Cement did circulate. (Ticket #62504) Deviation survey 1/4? @ 230'.

03-13-14 7:00a.m., @ 230' WOC.

03-14-14 7:00a.m., @ 946'. Drilling ahead. Drillers Anhydrite: 2166-2200'.

03-15-14 7:00a.m., @ 2678'. Drilling ahead.

03-16-14 7:00a.m., @ 3122'. Drilling ahead.

03-17-14 7:00a.m., @ 3754'. Drilling ahead.

03-18-14 7:00a.m., @ 3916'. Preparing to TIH following DST #1.

03-19-14 Following DST #1, the morning crew were heading back in the hole with the bit when they hit an obstruction somewhere around 1,000'. They could not get past it and decided to attempt to rotate on it with about 2000#. The geo noticed metal shavings in the samples. They decided to come out of the hole to inspect the drill bit but when they got out of the hole realized the bit had come off. They have spent the last 24 hours trying to retrieve the bit. They attempted to fish it out with a magnet but failed. They ran an impression block and discovered the bit is wedged on its side. They attempted to hook it to get it more upright to retrieve it but that also failed. The geologist told me this morning that they are going to use a milling tool and mill it out. I have spoken with the owner of Southwind Drilling and they are determined to do whatever it takes to get this resolved as quickly as they can.

03-20-14 The attempt to mill the bit and retrieve it has failed and we have decided to skid the rig 30' north and drill the Pinnick 'A' #1-33X. The bit would slide 10-20' at a time as they milled and pushed it down the hole until they got to a point where it got wedged and progress essentially stopped. The decision was made to skid around 9:00pm last evening.