



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1226668
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1226668

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____						
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity		

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Cobalt Energy LLC
Well Name	Yale "A" 1-24
Doc ID	1226668

Tops

Name	Top	Datum
Anhydrite	2367	466
Base Anhydrite	2403	430
Heebner	3925	-1092
Lansing	3968	-1135
Stark	4186	-1353
BKC	4237	-1404
Ft Scott	4437	-1604
Cherokee	4465	-1632
Miss	4529	-1696

ALLIED OIL & GAS SERVICES, LLC 064181

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Oakley, TX

DATE <u>2/23/14</u>	SEC <u>24</u>	TWP. <u>11</u>	RANGE <u>29</u>	CALLED OUT	ON LOCATION	JOB START <u>11:30A</u>	JOB FINISH <u>12:30P</u>
LEASE <u>Valle A</u>	WELL # <u>1-24</u>	LOCATION <u>Crownfield 570 AA W 70 1044</u>		COUNTY <u>Goetz</u>	STATE <u>TX</u>		
OLD OR NEW (Circle one) <u>NEW</u>		LOCATION <u>1/2 N EXT</u>					

CONTRACTOR Southward 70 OWNER Same

TYPE OF JOB PTA
 HOLE SIZE 7 7/8 T.D.
 CASING SIZE 8 5/8 DEPTH 265'
 TUBING SIZE DEPTH
 DRILL PIPE 4 1/2 DEPTH
 TOOL DEPTH
 PRES. MAX MINIMUM
 MEAS. LINE SHOE JOINT

CEMENT AMOUNT ORDERED 250 60/40 47000
19 P/B
 CEMENT 60/40 47000 250 @ 18.72 = 4720.00
 POZMIX @
 GEL @
 CHLORIDE @
 ASC @

EQUIPMENT
 PUMP TRUCK CEMENTER Alan Ryan
 # 424-281 HELPER Herwin Ryan
 BULK TRUCK
 # 891 DRIVER Chris (TAS)
 BULK TRUCK
 # DRIVER

REMARKS:
50 SK @ 23.80
100 SK @ 14.20
50 SK @ 3.20
10 SK @ 4.0
30 SK @ Rat Hole

HANDLING 268.54 @ 2.40 = 665.00
 MILEAGE 22 @ 11.00 = 242.00
 TOTAL

CHARGE TO: Cobalt Energy
 STREET
 CITY STATE ZIP

SERVICE
 DEPTH OF JOB 2380'
 PUMP TRUCK CHARGE 2483.22
 EXTRA FOOTAGE @
 MILEAGE 25 @ 7.20 = 182.50
 MANIFOLD @
4.40 @ 4.40 = 19.16
4.40 @ 4.40 = 19.16
 TOTAL 5,542.78

PLUG & FLOAT EQUIPMENT
 @
 @
 @
 @
 @
 TOTAL

SALES TAX (If Any)

TOTAL CHARGES 10,459.89
 DISCOUNT 2691.97 (23%) IF PAID IN 30 DAYS

PRINTED NAME San Stamps
 SIGNATURE San Stamps
8,367.91 Net

ALLIED OIL & GAS SERVICES, LLC 064181

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT:
Oakley, KY

DATE <u>8/28/14</u>	SEC <u>24</u>	TWP. <u>11</u>	RANGE <u>29</u>	CALLED OUT	ON LOCATION	JOB START <u>11:30A</u>	JOB FINISH <u>12:30P</u>
LEASE <u>Yule A</u>	WELL# <u>1-24</u>	LOCATION <u>Crossfield ST0 AA W 70 1044</u>		COUNTY <u>COUM</u>	STATE <u>KY</u>		
OLD OR <u>NEW</u> (Circle one)				<u>1/2 N EXT0</u>			

CONTRACTOR Southwind 70
 TYPE OF JOB PTA
 HOLE SIZE 7 7/8 T.D. _____
 CASING SIZE 8 5/8 DEPTH 265'
 TUBING SIZE _____ DEPTH _____
 DRILL PIPE 4 1/2 DEPTH _____
 TOOL _____ DEPTH _____
 PRES. MAX _____ MINIMUM _____
 MEAS. LINE _____ SHOE JOINT _____
 CEMENT LEFT IN CSG. _____
 PERFS. _____
 DISPLACEMENT _____

OWNER Same
 CEMENT AMOUNT ORDERED 250 60/40 47090
14 F60

EQUIPMENT

PUMP TRUCK CEMENTER Alan Ryan
 # 423-281 HELPER Devin Ryan
 BULK TRUCK # 891 DRIVER Chris (TAS)
 BULK TRUCK # _____ DRIVER _____

60/40 47090 250 @ 8.92 = 4730.00
 POZMIX @ _____
 GEL @ _____
 CHLORIDE @ _____
 ASC @ _____
F60 Seal 63 @ 2.72 = 187.16
Interior O Taste @ 4.917.11
(983.40 / 2000)
 HANDLING 268.54 @ 2.40 = 665.00
 MILEAGE 220 @ 1.12700 = 247.94

REMARKS:

50 SK @ 2380
100 SK @ 1420
50 SK @ 320
10 SK @ 40
30 SK @ Rat Hole

TOTAL _____

SERVICE

DEPTH OF JOB 2380'
 PUMP TRUCK CHARGE 2483.52
 EXTRA FOOTAGE @ _____
 MILEAGE 25 @ 7.20 = 192.50
 MANIFOLD @ _____
67000 25 @ 4.40 = 110.00
Hour Excess of 4 hrs @ 4.40 = 132.00
3 hrs (1108.55 / 2000) TOTAL 5,542.78

CHARGE TO: Cobalt Energy
 STREET _____
 CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

 @ _____
 @ _____
 @ _____
 @ _____
 @ _____
 TOTAL _____

To: Allied Oil & Gas Services, LLC.
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (if Any) _____
 TOTAL CHARGES 10,459.89
 DISCOUNT 2091.97 (20%) IF PAID IN 30 DAYS
8,367.91 Net

PRINTED NAME Sam Stagg
 SIGNATURE [Signature]



DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy, LLC**

PO Box 8037
Wichita, KS 67208

ATTN: Max Lovely/Cliff Ott

Yale 'A' #1-24

S24-11s-29w Gove,KS

Start Date: 2014.08.18 @ 18:50:00

End Date: 2014.08.19 @ 01:31:09

Job Ticket #: 57200 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.08.25 @ 08:41:54



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Cobalt Energy, LLC

S24-11s-29w Gove,KS

PO Box 8037
Wichita, KS 67208

Yale 'A' #1-24

Job Ticket: 57200

DST#: 1

ATTN: Max Lovely/Cliff Ott

Test Start: 2014.08.18 @ 18:50:00

GENERAL INFORMATION:

Formation: **LKC 'H'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:41:00

Time Test Ended: 01:31:09

Test Type: Conventional Bottom Hole (Initial)

Tester: Chuck Smith

Unit No: 61

Interval: 4107.00 ft (KB) To 4128.00 ft (KB) (TVD)

Reference Elevations: 2830.00 ft (KB)

Total Depth: 4128.00 ft (KB) (TVD)

2818.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

Serial #: 6751 Outside

Press@RunDepth: 25.50 psig @ 4110.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.18

End Date:

2014.08.19

Last Calib.:

2014.08.19

Start Time: 18:50:02

End Time:

01:31:10

Time On Btm:

2014.08.18 @ 21:37:40

Time Off Btm:

2014.08.18 @ 23:48:10

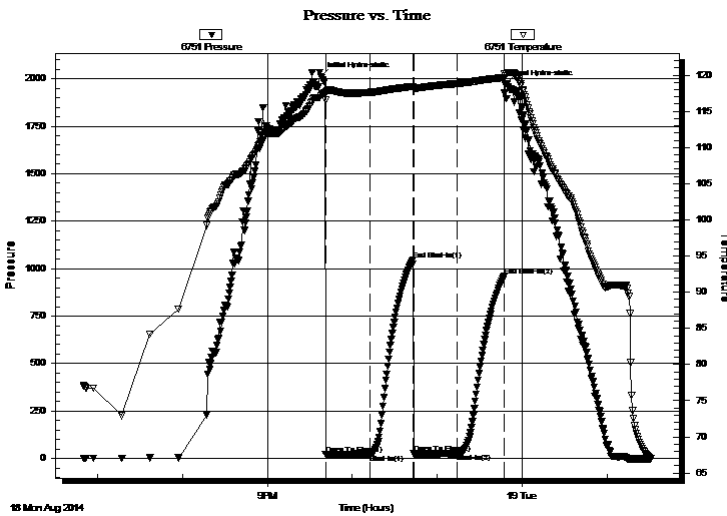
TEST COMMENT: 30- 2" Blow , bled off to 1/2" and died @ 25 min. (Tool slid 2-3' and mud dropped 3')

30- No return.

30- No blow .

30- No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2012.31	117.13	Initial Hydro-static
4	22.81	116.57	Open To Flow (1)
35	24.22	117.62	Shut-In(1)
66	1044.61	118.45	End Shut-In(1)
66	24.78	118.02	Open To Flow (2)
97	25.50	118.84	Shut-In(2)
130	961.08	119.69	End Shut-In(2)
131	1967.01	119.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	M 100m Oil spots in tool.	0.21

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Cobalt Energy, LLC

S24-11s-29w Gove,KS

PO Box 8037
Wichita, KS 67208

Yale 'A' #1-24

Job Ticket: 57200

DST#: 1

ATTN: Max Lovely/Cliff Ott

Test Start: 2014.08.18 @ 18:50:00

Tool Information

Drill Pipe:	Length: 4095.00 ft	Diameter: 3.80 inches	Volume: 57.44 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 57.44 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.50 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4107.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	21.00 ft			
Tool Length:	48.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4080.50	
Shut In Tool	5.00			4085.50	
Hydraulic tool	5.00			4090.50	
Jars	5.00			4095.50	
Safety Joint	2.50			4098.00	
Packer	5.00			4103.00	27.50 Bottom Of Top Packer
Packer	4.00			4107.00	
Stubb	1.00			4108.00	
Perforations	2.00			4110.00	
Recorder	0.00	8357	Inside	4110.00	
Recorder	0.00	6751	Outside	4110.00	
Perforations	15.00			4125.00	
Bullnose	3.00			4128.00	21.00 Bottom Packers & Anchor

Total Tool Length: 48.50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Cobalt Energy, LLC

S24-11s-29w Gove,KS

PO Box 8037
Wichita, KS 67208

Yale 'A' #1-24

Job Ticket: 57200

DST#: 1

ATTN: Max Lovely/Cliff Ott

Test Start: 2014.08.18 @ 18:50:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	M 100m Oil spots in tool.	0.210

Total Length: 15.00 ft Total Volume: 0.210 bbl

Num Fluid Samples: 0

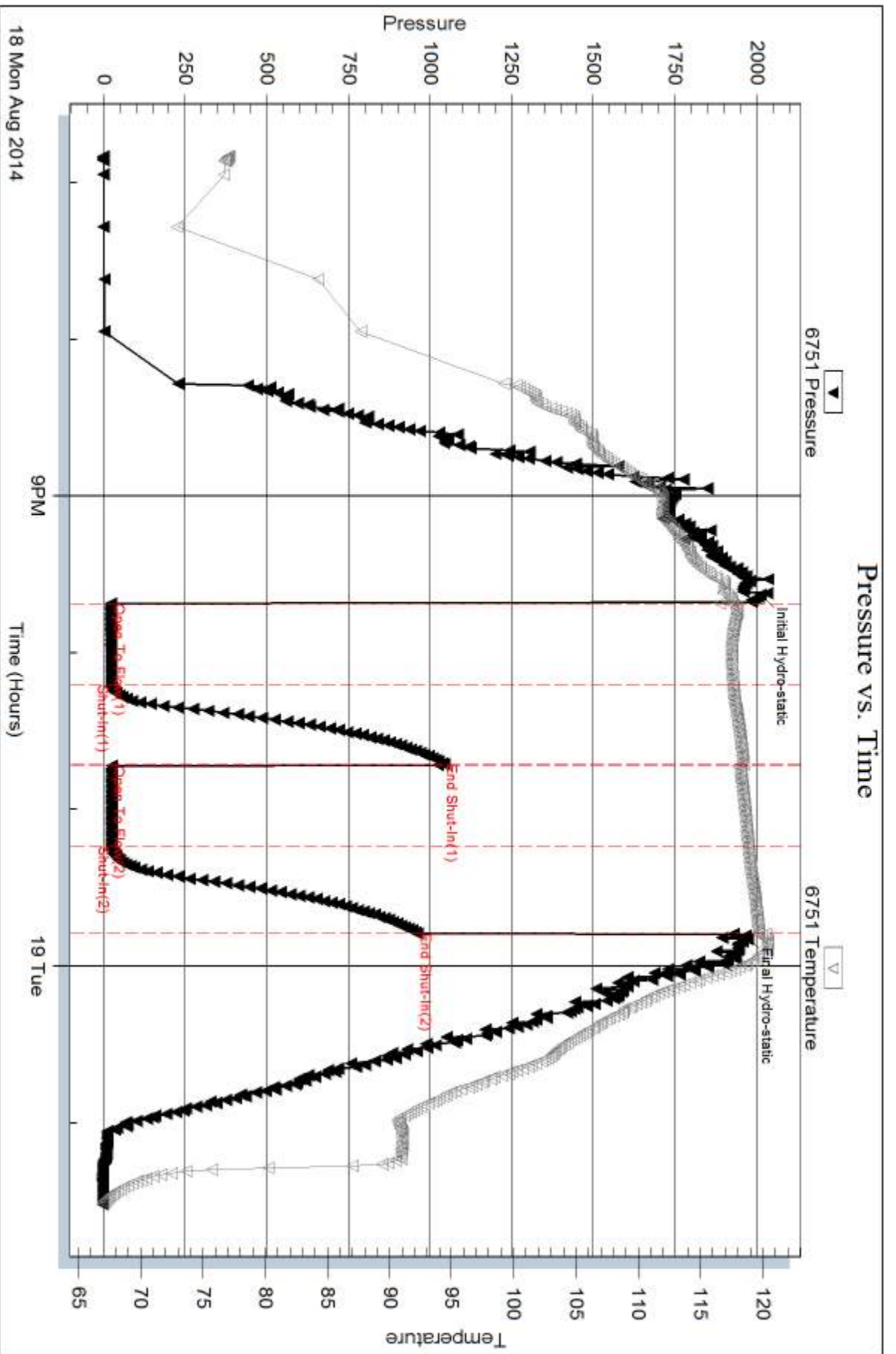
Num Gas Bombs: 0

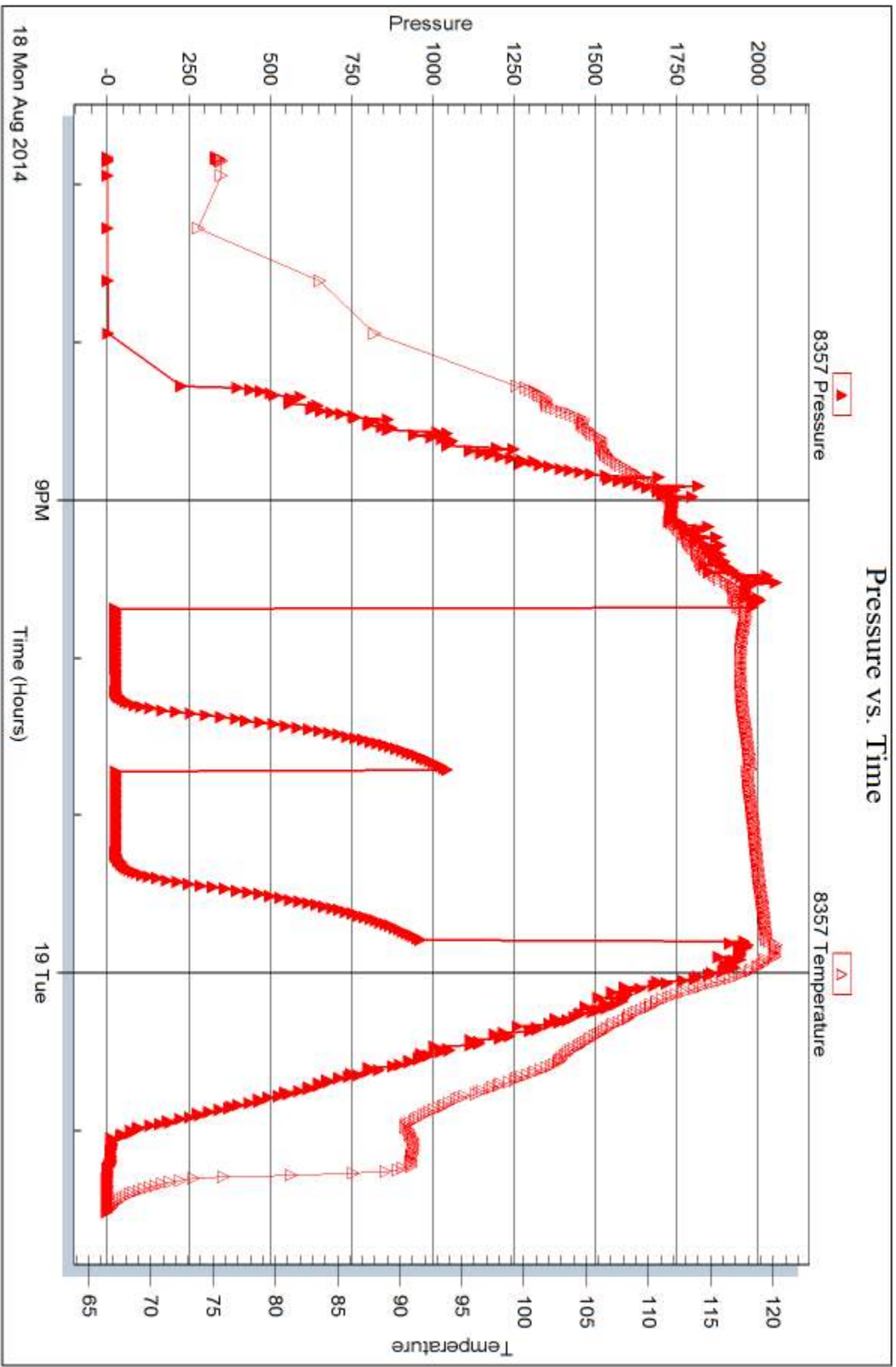
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy, LLC**

PO Box 8037
Wichita, KS 67208

ATTN: Max Lovely/Cliff Ott

Yale 'A' #1-24

S24-11s-29w Gove,KS

Start Date: 2014.08.19 @ 13:40:00

End Date: 2014.08.19 @ 19:33:30

Job Ticket #: 57376 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.08.25 @ 08:38:08



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Cobalt Energy, LLC

S24-11s-29w Gove,KS

PO Box 8037
Wichita, KS 67208

Yale 'A' #1-24

Job Ticket: 57376

DST#: 2

ATTN: Max Lovely/Cliff Ott

Test Start: 2014.08.19 @ 13:40:00

GENERAL INFORMATION:

Formation: **LKC 'J'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:51:50

Time Test Ended: 19:33:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 61

Interval: 4158.00 ft (KB) To 4189.00 ft (KB) (TVD)

Reference Elevations: 2830.00 ft (KB)

Total Depth: 4189.00 ft (KB) (TVD)

2818.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

Serial #: 8357

Inside

Press@RunDepth: 20.19 psig @ 4161.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.19

End Date:

2014.08.19

Last Calib.:

2014.08.19

Start Time:

13:40:02

End Time:

19:33:30

Time On Btm:

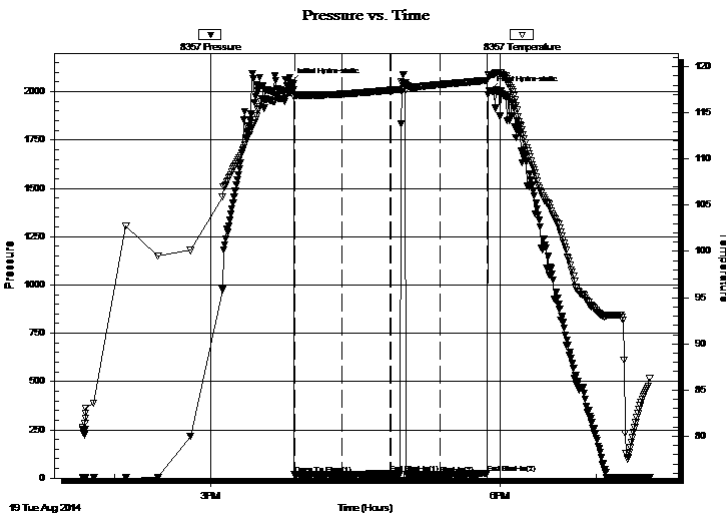
2014.08.19 @ 15:49:20

Time Off Btm:

2014.08.19 @ 17:53:40

TEST COMMENT: 30- Very weak blow died @ 2 min.
30- No return.
30- No blow, flushed tool, surge died.
30- No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2045.81	117.24	Initial Hydro-static
3	17.67	116.76	Open To Flow (1)
32	19.35	117.03	Shut-In(1)
63	23.35	117.45	End Shut-In(1)
63	19.06	117.46	Open To Flow (2)
94	20.19	118.06	Shut-In(2)
123	24.19	118.51	End Shut-In(2)
125	2006.78	119.09	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	M 100m	0.03

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Cobalt Energy, LLC

S24-11s-29w Gove,KS

PO Box 8037
Wichita, KS 67208

Yale 'A' #1-24

Job Ticket: 57376

DST#: 2

ATTN: Max Lovely/Cliff Ott

Test Start: 2014.08.19 @ 13:40:00

Tool Information

Drill Pipe:	Length: 4162.00 ft	Diameter: 3.80 inches	Volume: 58.38 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.38 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.50 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4158.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 ft			
Tool Length:	58.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4131.50	
Shut In Tool	5.00			4136.50	
Hydraulic tool	5.00			4141.50	
Jars	5.00			4146.50	
Safety Joint	2.50			4149.00	
Packer	5.00			4154.00	27.50 Bottom Of Top Packer
Packer	4.00			4158.00	
Stubb	1.00			4159.00	
Perforations	2.00			4161.00	
Recorder	0.00	8357	Inside	4161.00	
Recorder	0.00	6751	Outside	4161.00	
Perforations	25.00			4186.00	
Bullnose	3.00			4189.00	31.00 Bottom Packers & Anchor

Total Tool Length: 58.50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Cobalt Energy, LLC

S24-11s-29w Gove,KS

PO Box 8037
Wichita, KS 67208

Yale 'A' #1-24

Job Ticket: 57376

DST#: 2

ATTN: Max Lovely/Cliff Ott

Test Start: 2014.08.19 @ 13:40:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	M 100m	0.028

Total Length: 2.00 ft Total Volume: 0.028 bbl

Num Fluid Samples: 0

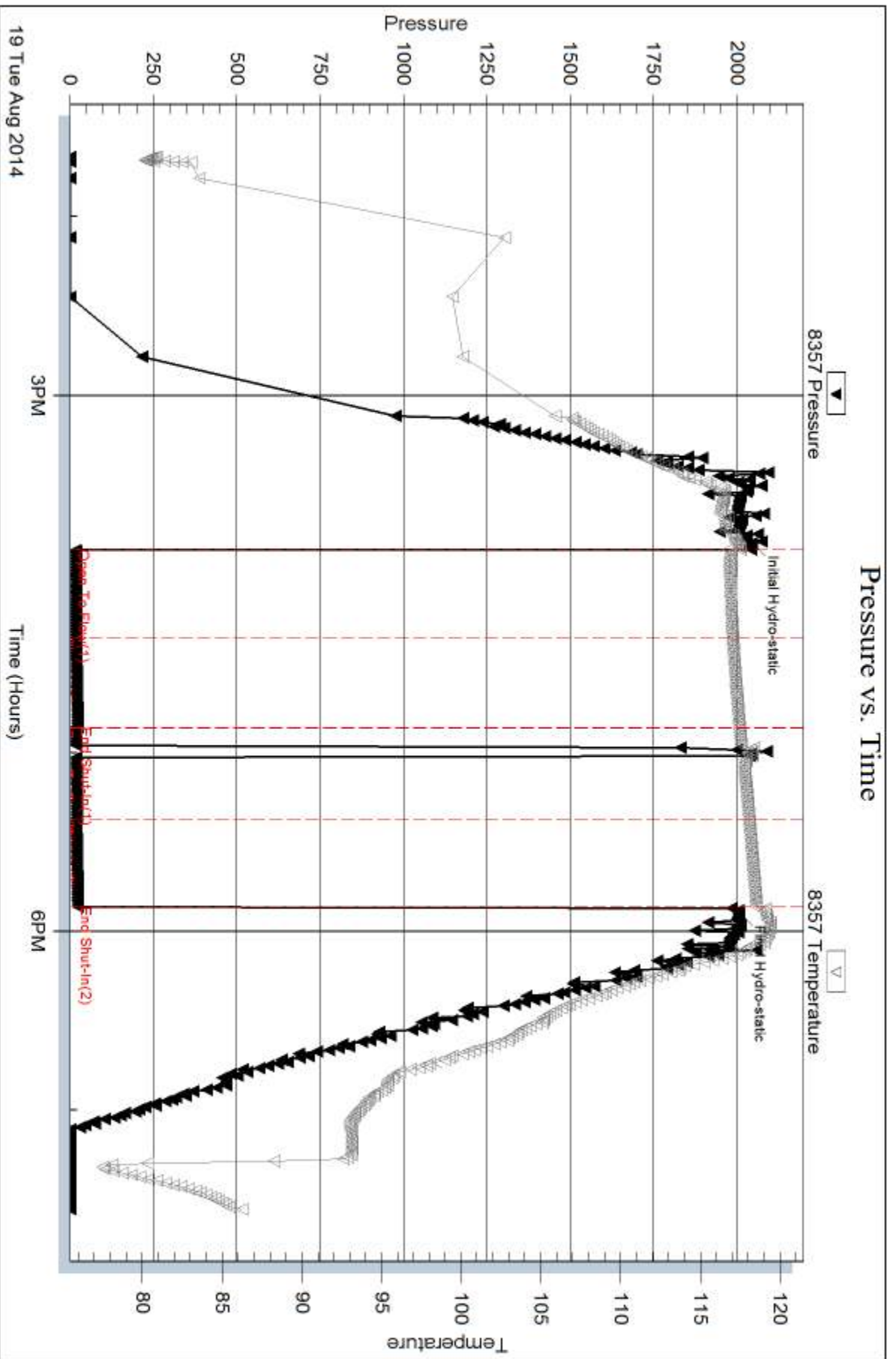
Num Gas Bombs: 0

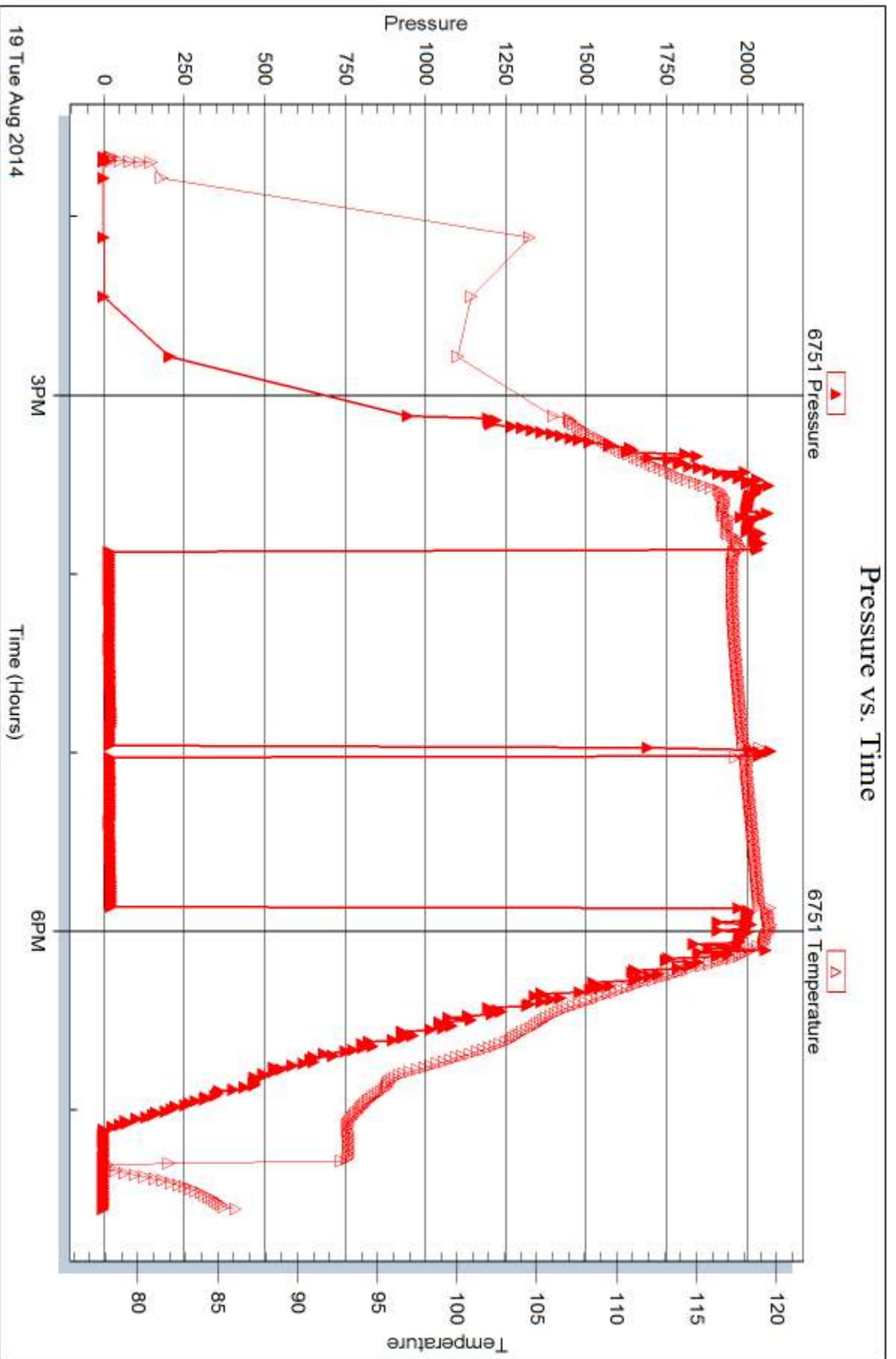
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy, LLC**

PO Box 8037
Wichita, KS 67208

ATTN: Max Lovely/Cliff Ott

Yale 'A' #1-24

S24-11s-29w Gove,KS

Start Date: 2014.08.20 @ 19:46:00

End Date: 2014.08.21 @ 01:42:00

Job Ticket #: 57377 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.08.25 @ 08:34:27



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Cobalt Energy, LLC

S24-11s-29w Gove,KS

PO Box 8037
Wichita, KS 67208

Yale 'A' #1-24

Job Ticket: 57377

DST#: 3

ATTN: Max Lovely/Cliff Ott

Test Start: 2014.08.20 @ 19:46:00

GENERAL INFORMATION:

Formation: **Altamont 'C'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:33:30

Time Test Ended: 01:42:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 61

Interval: 4331.00 ft (KB) To 4381.00 ft (KB) (TVD)

Reference Elevations: 2830.00 ft (KB)

Total Depth: 4381.00 ft (KB) (TVD)

2818.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

Serial #: 8357

Inside

Press@RunDepth: 23.88 psig @ 4335.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.20

End Date:

2014.08.21

Last Calib.: 2014.08.21

Start Time: 19:46:02

End Time:

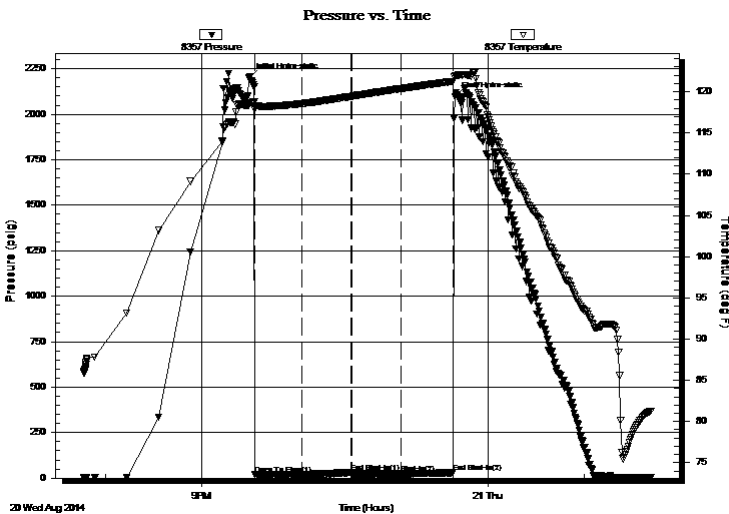
01:42:00

Time On Btm: 2014.08.20 @ 21:30:10

Time Off Btm: 2014.08.20 @ 23:39:00

TEST COMMENT: 30- Weak blow died @ 5 min.
30- No return.
30- No blow , flushed tool, surge died.
30- No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2203.88	118.56	Initial Hydro-static
4	21.00	117.81	Open To Flow (1)
33	21.09	118.57	Shut-In(1)
64	30.30	119.43	End Shut-In(1)
64	19.68	119.44	Open To Flow (2)
95	23.88	120.38	Shut-In(2)
128	30.58	121.26	End Shut-In(2)
129	2096.77	121.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOCM 1 to 99m	0.07

* Recovery from multiple tests

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Cobalt Energy, LLC

S24-11s-29w Gove,KS

PO Box 8037
Wichita, KS 67208

Yale 'A' #1-24

Job Ticket: 57377

DST#: 3

ATTN: Max Lovely/Cliff Ott

Test Start: 2014.08.20 @ 19:46:00

Tool Information

Drill Pipe:	Length: 4322.00 ft	Diameter: 3.80 inches	Volume: 60.63 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 60.63 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4331.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	75.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			4307.00	
Shut In Tool	5.00			4312.00	
Hydraulic tool	5.00			4317.00	
Jars	5.00			4322.00	
Packer	5.00			4327.00	25.00 Bottom Of Top Packer
Packer	4.00			4331.00	
Stubb	1.00			4332.00	
Perforations	3.00			4335.00	
Recorder	0.00	8357	Inside	4335.00	
Recorder	0.00	6751	Outside	4335.00	
Perforations	10.00			4345.00	
Change Over Sub	1.00			4346.00	
Drill Pipe	31.00			4377.00	
Change Over Sub	1.00			4378.00	
Bullnose	3.00			4381.00	50.00 Bottom Packers & Anchor

Total Tool Length: 75.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Cobalt Energy, LLC

S24-11s-29w Gove,KS

PO Box 8037
Wichita, KS 67208

Yale 'A' #1-24

Job Ticket: 57377

DST#: 3

ATTN: Max Lovely/Cliff Ott

Test Start: 2014.08.20 @ 19:46:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.48 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	SOCM 1o 99m	0.070

Total Length: 5.00 ft Total Volume: 0.070 bbl

Num Fluid Samples: 0

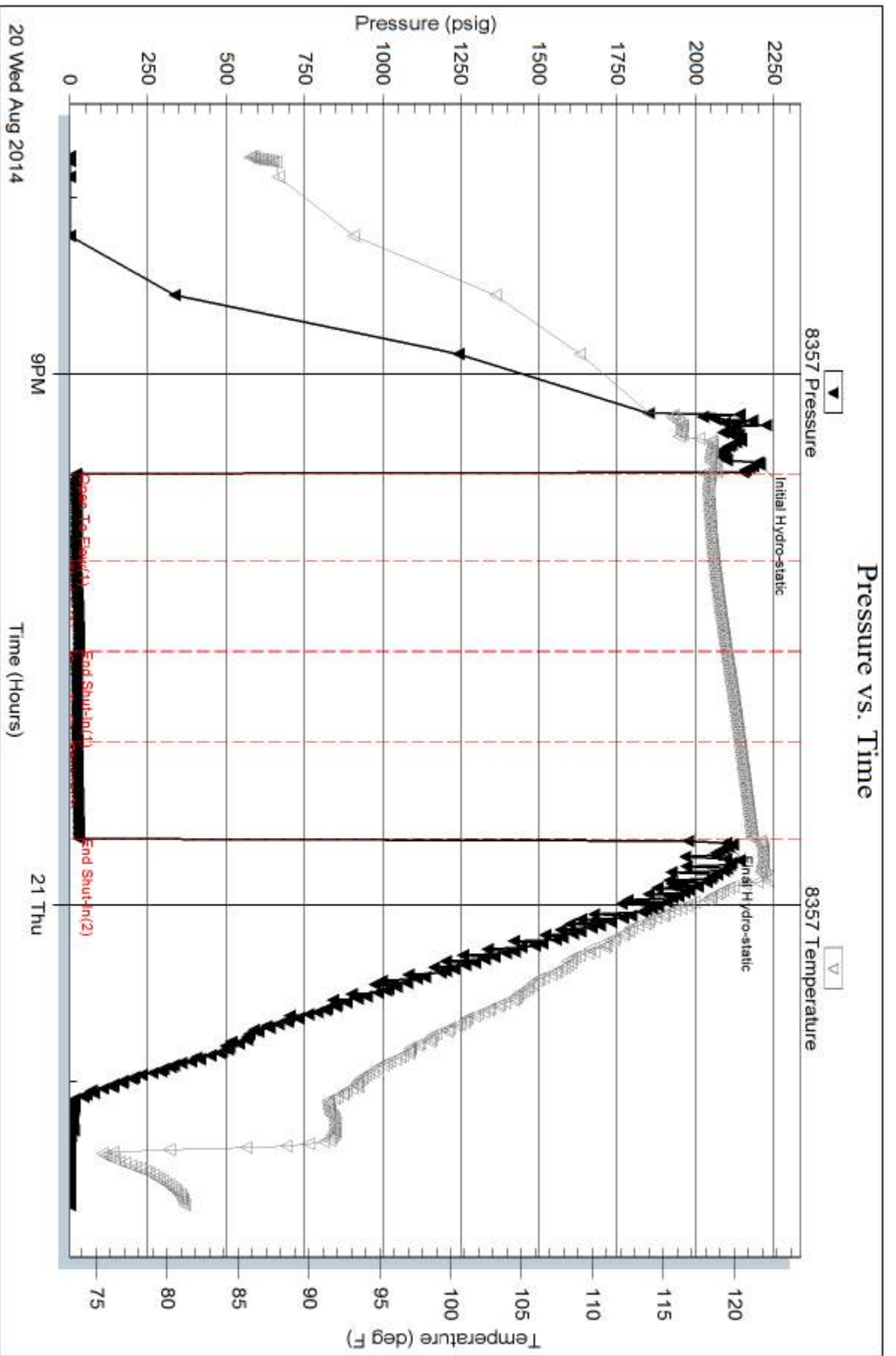
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

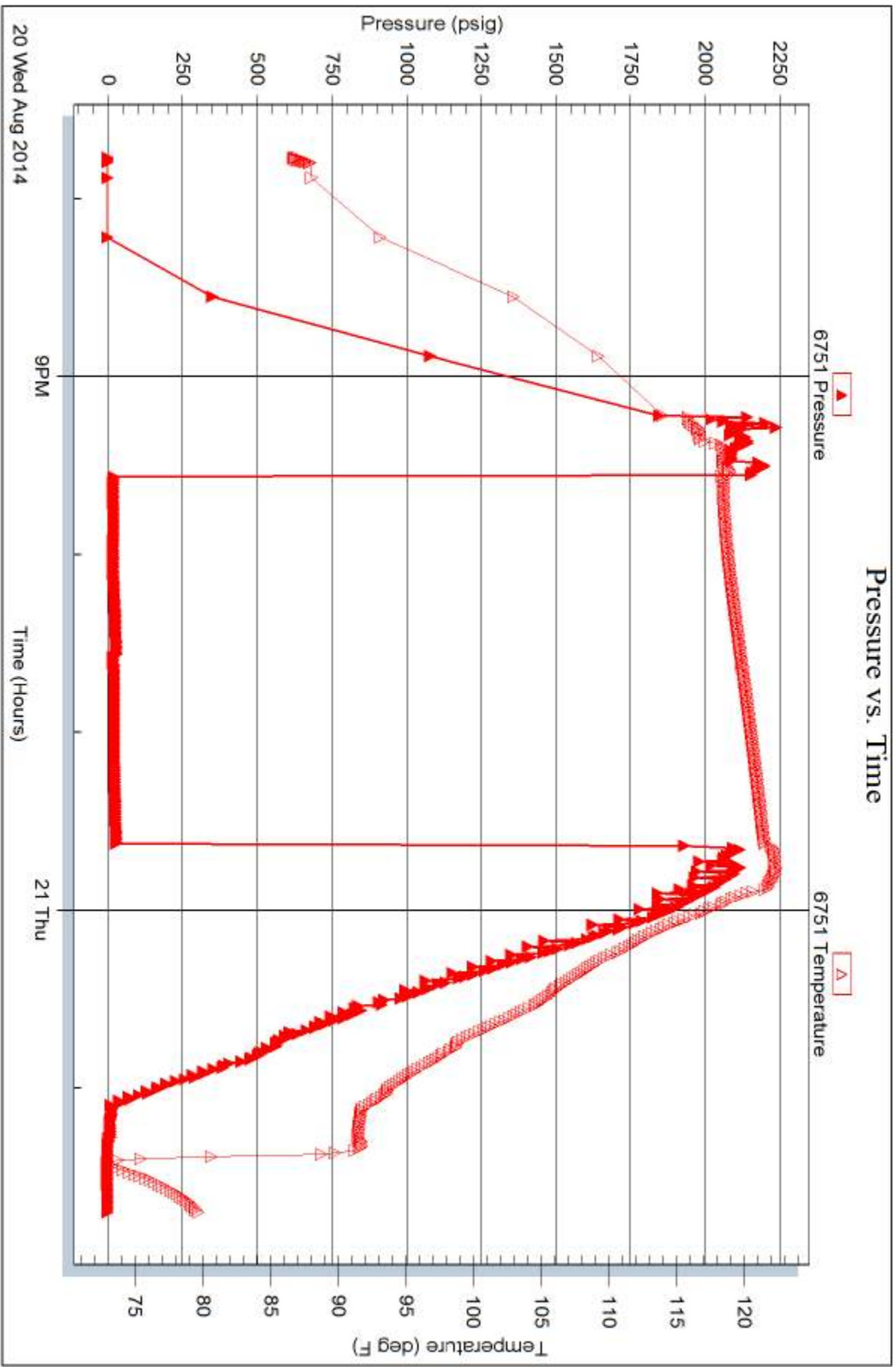


Serial #: 6751

Outside Cobalt Energy, LLC

Yale 'A' #1-24

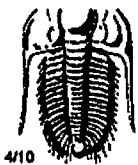
DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 57377

Printed: 2014.08.25 @ 08:36:12



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 0200

Well Name & No. Yale A #1-24 Test No. 1 Date 8-18-14
 Company Cobalt Energy, LLC Elevation 2830 KB 2818 GL
 Address POB 8037 Wichita, KS 67208
 Co. Rep / Geo. Max Lovely Rig Southwind #70
 Location: Sec. 24 Twp. 11s Rge. 29w Co. Grave State Ks

Interval Tested 4107-4128 Zone Tested Lansing 'H'
 Anchor Length 21 Drill Pipe Run 409.5 Mud Wt. 9.2
 Top Packer Depth 4103 Drill Collars Run 0 Vis 5.3
 Bottom Packer Depth 4107 Wt. Pipe Run 0 WL 8.2
 Total Depth 4128 Chlorides 1800 ppm System LCM 1st

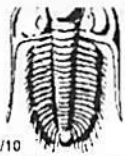
Blow Description 2" Blow, bled off to 1/2" and died @ 2.5 min. (Top slid 2:3' mud dropped .3')
No returns
No blows
No reason.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>15</u>	Feet of <u>M oil spots in tool</u>				<u>100</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 15 BHT 120 Gravity — API RW @ — °F Chlorides — ppm
 (A) Initial Hydrostatic 2012 Test 1250 T-On Location 18:50
 (B) First Initial Flow 23 Jars 250 T-Started 18:50
 (C) First Final Flow 24 Safety Joint 75 T-Open 21:41
 (D) Initial Shut-In 1045 Circ Sub _____ T-Pulled 23:48
 (E) Second Initial Flow 25 Hourly Standby _____ T-Out 1:31
 (F) Second Final Flow 26 Mileage 128 RT 198.40
 (G) Final Shut-In 961 Sampler _____
 (H) Final Hydrostatic 1967 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Initial Open 30 Extra Packer _____ Extra Copies _____
 Initial Shut-In 30 Extra Recorder _____ Sub Total 0
 Final Flow 30 Day Standby _____ Total 1773.40
 Final Shut-In 30 Accessibility _____ MP/DST Disc't _____
 Sub Total 1773.40

Approved By _____ Our Representative Chuck Smith

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO.

Well Name & No. Yale 'A' 1-24 Test No. 2 Date 8-19-14
 Company Cobalt Energy, LLC Elevation 2830 KB 2810 GL
 Address POB 8037 Wichita, KS 67208
 Co. Rep / Geo. Max Lovely Rig Southwind *70
 Location: Sec. 24 Twp. 11s Rge. 29w Co. Gove State KS

Interval Tested 4158-4189 Zone Tested Lansing 'J'
 Anchor Length 31 Drill Pipe Run 4162 Mud Wt. 9.3
 Top Packer Depth 4154 Drill Collars Run 0 Vis 50
 Bottom Packer Depth 4158 Wt. Pipe Run 0 WL 8.8
 Total Depth 4199 Chlorides 1500 ppm System LCM 1"

Blow Description Very weak blow died @ 2 min.
No return.
No blow, flushed tool, surged
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>2</u>	Feet of <u>m</u>				<u>100</u> %mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2 BHT 119 Gravity — API RW @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2046</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>13:39</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>13:40</u>
(C) First Final Flow <u>19</u>	<input type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>15:52</u>
(D) Initial Shut-In <u>23</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>17:52</u>
(E) Second Initial Flow <u>19</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>19:34</u>
(F) Second Final Flow <u>20</u>	<input checked="" type="checkbox"/> Mileage <u>198.40</u>	Comments
(G) Final Shut-In <u>24</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2007</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1773.40</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1773.40</u>	

Approved By Max Lovely Our Representative Chuck Smith

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 0001

Well Name & No. Yale 'A' #1-24 Test No. 3 Date 8-19-14
 Company Cobalt Energy, LLC Elevation 2830 KB 2818 GL
 Address POB 8037 Wichita, KS 67208
 Co. Rep / Geo. Cliff O'rourke Rig Southwind #70
 Location: Sec. 24 Twp. 11s Rge. 29W Co. Gove State Ks

Interval Tested 4331-4381 Zone Tested Altament 'C'
 Anchor Length 50 Drill Pipe Run 4322 Mud Wt. 9.3
 Top Packer Depth 4327 Drill Collars Run 0 Vis 57
 Bottom Packer Depth 4331 Wt. Pipe Run 0 WL 9.5
 Total Depth 4381 Chlorides 1700 ppm System LCM 1"

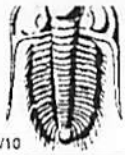
Blow Description Weak blow died @ 5 min.
No return.
No blow, flushed tool, surge died.
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>5</u>	Feet of <u>SOCM</u>	%gas	<u>1</u> %oil	%water	<u>99</u> %mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 121 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2204 Test 1250 T-On Location 19:45
 (B) First Initial Flow 21 Jars _____ T-Started 19:46
 (C) First Final Flow 21 Safety Joint _____ T-Open 21:34
 (D) Initial Shut-In 30 Circ Sub N/C T-Pulled 23:38
 (E) Second Initial Flow 20 Hourly Standby _____ T-Out 1:42
 (F) Second Final Flow 24 Mileage 198.40 Comments _____
 (G) Final Shut-In 31 Sampler _____
 (H) Final Hydrostatic 2097 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 30 Day Standby _____ Total 1448.40
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 30 Sub Total 1448.40

Approved By [Signature] Our Representative Chuck Smith
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 0000

Well Name & No. Yale 'A' #1-24 Test No. _____ Date 8-22-14
 Company Cobalt Energy, LLC Elevation 2830 KB 2818 GL _____
 Address POB 8037 Wichita, KS 67208
 Co. Rep / Geo. Cliff Ottaway Rig Southwind "70"
 Location: Sec. 24 Twp. 11s Rge. 29w Co. Gove State KS

Interval Tested _____ Zone Tested _____
 Anchor Length _____ Drill Pipe Run _____ Mud Wt. _____
 Top Packer Depth _____ Drill Collars Run _____ Vis _____
 Bottom Packer Depth _____ Wt. Pipe Run _____ WL _____
 Total Depth _____ Chlorides _____ ppm System _____ LCM _____
 Blow Description Loaded tools after logs. Rig will drill another ±100'

Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total _____ BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic _____ Test _____ T-On Location 13:05
 (B) First Initial Flow _____ Jars _____ T-Started _____
 (C) First Final Flow _____ Safety Joint _____ T-Open _____
 (D) Initial Shut-In _____ Circ Sub _____ T-Pulled _____
 (E) Second Initial Flow _____ Hourly Standby _____ T-Out _____
 (F) Second Final Flow _____ Mileage 198.40 Comments _____
 (G) Final Shut-In _____ Sampler _____
 (H) Final Hydrostatic _____ Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Initial Open _____ Extra Packer _____ Extra Copies _____
 Initial Shut-In _____ Extra Recorder _____ Sub Total 800
 Final Flow _____ Day Standby 1d 11.25h Total 998.40
 Final Shut-In _____ Accessibility _____ MP/DST Disc't _____
 Sub Total 198.40

Approved By _____ Our Representative Chuck Smith
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GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY **Cobalt Energy, LLC**

LEASE **Yale'A'1-24**

FIELD **Wildcat**

LOCATION **SW SE NW SW**

SEC **24** TWP **11** RGE **29W**

COUNTY **Gove** STATE **KS**

CONTRACTOR **Southwind #70**

SPUD **8-10-14** COMP **8-23-14**

RTD **4650** LTD **4655**

MUD UP **3426** TYPE MUD **Chem**

ELEVATIONS

KB **2833**

DF

GL **2821**

Measurements Are All From **KB**

CASING

SURFACE **8 5/8" @ 265'**

PRODUCTION **DVA,**

ELECTRICAL SURVEYS
CNY/ODL, DIL,
MEL

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION		
				A	B	C
Anhydrite	2366'	2370'	+463	478		
Base Anhydrite	2403'	2402'	+431	447		
Hoebner	3923'	3925'	-1092	-1076		
Lansing	3960'	3960'	-1135	-1111		
Stark	4182'	4186'	-1353	-1338		
BKC	4239'	4236'	-1403	-1393		
Fl. Scott	4437'	4438'	-1605	-1596		
Cherokee	4464'	4464'	-1631	-1622		
Mississipi	4528'	4529'	-1696			
RTD	4650		-1817			
LTD		4655	-1822			
RTD	4750					

REFERENCE WELLS FOR STRUCTURE

A **Cobalt Gillespie Trust #1-27X 27-11-29W**

B

C

REMARKS

BASED ON STRUCTURAL POSITION, DSTs AND LOGS, IT WAS RECOMMENDED AND CONFIRMED TO PLUG THIS TEST HOLE.

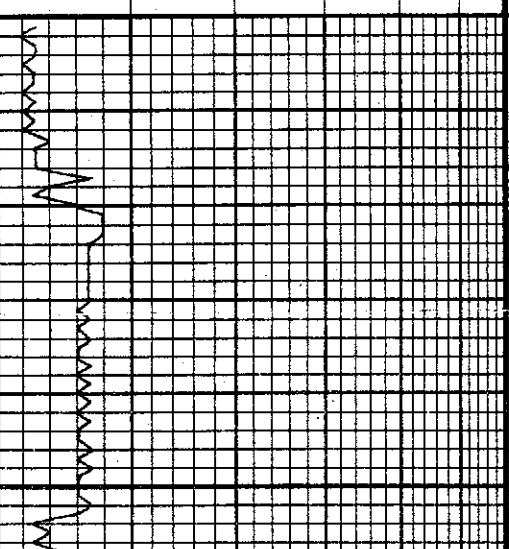
It spect fully

LEGEND

Anhydrite	Salt	Sandstone	Shale	Carb sh	Limestone	Ool.Lime	Chert	Dolomite

DRILLING TIME IN MINUTES PER FOOT
Rate of Penetration Decreases

5" 10" 15" 20" 25"



DEPTH

ANHYDRITE
2366 +464

2400

BASE
2402 +407

LITHOLOGY

SAMPLE DESCRIPTIONS

OIL SHOWS

REMA

2400

BASE
2403 + 127

3700

3800

LS. GRY. FXTLN. CRS. HRD.

LS. TAU, FXTLN, HRD,
ABUN FESS + FRAGS, FESS.

LS. WHT. CRM, FXTLN. HRD
SCT MED FESS, FXTLN.

LS. A.A.

LS. WHT, FXTLN, CRS. TRT,
V. FESS, G.F. NC

LS. CRM, FXTLN, GRNLR. TRT,
ALGAL, V.G.F. NC

LS. WHT, FXTLN, S. DMS, HRD,
MED. FESS, F.F. T. TRT, NC

LS. TAU, FXTLN, HRD,
V. CRMTID FESS, SML. MED
FESS, F.F. TRT, NC

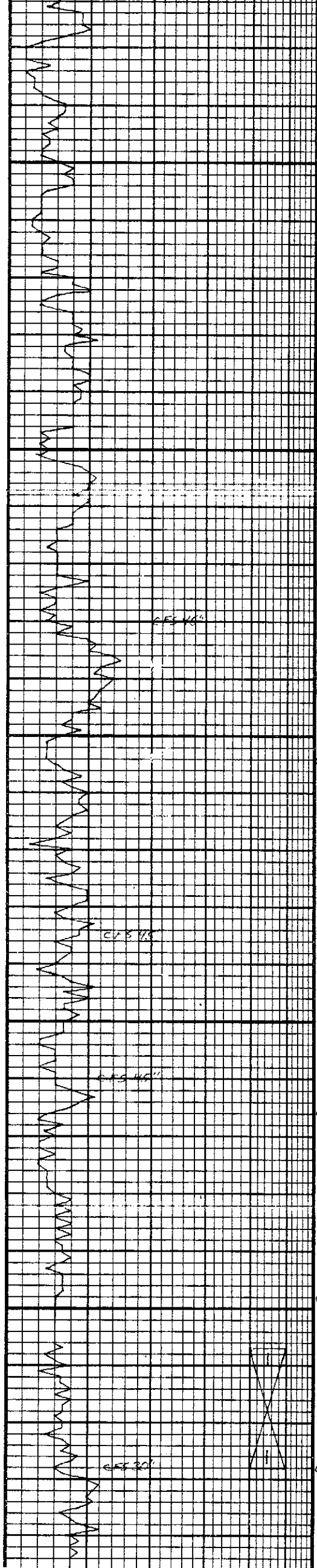
LS. H. GRY.

LS. CRM, FXTLN, CRMTID. ABUN
FESS, HRD, F.F. TRT, NC

LS. GRY, BUFF, GRNLR. SUCR, HRD,
F.F. TRT, NC

21AM 8-1
D-RIG A

M.D. C-
VIS. 44
CHICK. 14
FUT. 70



3900

HEEEMER
3923-3990

3960-4127

4000

4100

DEV 1

SH, BLK, GRAY
LS TAN, FXTLN, FCS, BRTL,
SL HRD, FEW PLS, SGT LG VLS
FMS

LS, GRV, HRD, FXTLN, CI BRTL
FCS, VP SGT XTLN, VS
SGT CRM, WHT CHT

LS, CRM, FXTLN, BRTL, FAN
Pcs V. FCS - W. CHT, MS

SH, BLK, GRAY
CMT WHT, SGT FCS, FRESH
Pcs SHARP, NC

SH, GRV
LS, WHT, FXTLN, HRD, FCS,
VP FMS

LS, WHT, FXTLN, BRTL
Pcs V. FCS - W. CHT, MS

LS, WHT, FXTLN, HRD, FCS,
VP FMS

SH, GRV
LS, WHT, VP FXTLN, HRD, FCS,
VP FMS

LS, AA INCR, MED FCS

SH, GRV, SL SMOY
LS, WHT, CRM, FXTLN, BRTL, FCS
+ FRAGS, PXTLN, SGT
SGT WHT FRESH CHT, W. CHT

LS, LT GRV, VP FXTLN, HRD, FCS,
VP FMS

SH, LT + BK GRV
LS, WHT, CRM, FXTLN, M HRD, STRKS
OF G. IN XTLN, F. G. OIL STAG, VP
SGT F. OIL BRK, SGT Pcs CHIKY W.
FAIR FC ON BRK, MOSTLY ED EDGE
STAG, W. BY SHOPS, FEW Pcs RUBBER
NO GEMER, BK P. AN - BLN OIL

LS, RUFF, FXTLN, HRD, F. TO, VS

LS, CRM, FXTLN, HRD, SML FCS,
FRAGS, VP FMS, NC

LS, WHT, FXTLN, HRD, ABIN FCS,
OCLS, W. CHT, IT, VS

LS, WHT, HLY XTLN, G XTLN,
HRD, VS

LS, WHT, FRESH, AN V FCS
CASTS, VS

SH, BLK, GRV

LS, RAN, TAN, FXTLN, S. HRD,
SL BRTL, SGT FCS, P. VS

LS, WHT, FXTLN, M. MED XTLN, W. HRD,
M. HRD, LT FLUOR STAG, MICRO
FC ON BRK, MED BRN OIL SPIS,
V SLT SHE GAS BBL, VP

LS, AA INCR, BRN EDGE STAG

SLI CRM, GRV

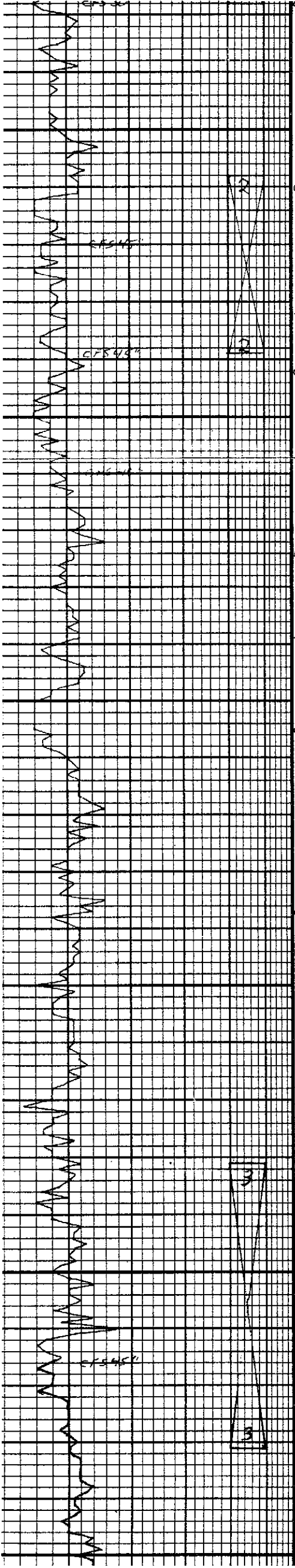
LS, WHT, SML, SL SMOY, HRD, F. TO, W.
FRAC STAG, VP FCS, NC OVR

7 AM 2-10-11
BRG @ 455

MUD CHECK
VIS: 53
CHLOR: 1800
FILT: 80

DST #1 4107-
30-30-3
IF 2" Ho, dead
FF: dead
REC: 15' m w/c
FF: 23-24, 25
SIP: 1045-961
FPI: 2012-1967

SHORT TRIP
STRAP: 4132.5
BOARD: 4128.8
Log: 3.69



DEV 1°

STARK
1182-11349

BKC
4239-11106

4200

4300

4400

SLT STN, GRAY
DICD, LIMP, SL SUCR, HRD, LIPW FRAC STNG, NISFO, NO ODOR SCT WHT CHI W/ FILMY STNG
LS, WHT, TAN, F XTIN, V HRD, TITE, NS
SH, GRAY SLTY, GRAN LS, TAN, LT GRAY, VE XTIN, HRD, DMS, TITE, NS
LS, FEW PLS (D) - CHLKY W/ FLOOR STNG, WHT FXTLN LS W/ G CIL STNG, FEW BRN FO SPTS W/ CAS BBLS
SH, DK GRAY
LS, WHT, F-M XTIN, HRD, FOSS, TITE, NS
LS, LT GRAY, BUFF, F XTIN, MED HRD, ABUN FOSS, FAIR FINS
LS, GRAY, VE XTIN, DMS, HRD
SH, GRAY, BRN/GRAY, BLK
LS, BRN, F-M XTIN, NODEN W/N, FOSS, V HRD, NO APP. NS
LS, WHT, GRAY, F XTIN, CMT'D FOSS, ABUN FOSS, TITE, NS
SLT STN, GRAY
DICD, GRAY, GRANUL, HRD TITE, NS, SCT LS PLS W/N
SH, BLK, GRAY, SLT STN, GRAY
LS, TAN, MED XTIN, HRD, LG FOSS W/N, NO VIS. NS
LS, TAN, BRN, VE XTIN, V DMS, V HRD, TITE, NS
LS, WHT, FXTIN, SL WEATH, RED SH W/N, SL BRILL. NS
LS, CRM, VE XTIN, V HRD, W/N CMT'D COLS, ABUN FOSS, NS
SH GRAY/TAN, SL SLTY
LS, TAN, F XTIN, ABUN CMT'D FOSS, HRD, TITE
SH, GRAY
LS, BRN, F XTIN, DMS, HRD, TITE NS
LS, TAN, F XTIN, HRD, ABUN RE XTLD CRACS, NO VIS. NS
CHI, TEACH, WHT, ABUN RE XTLD FRACS, NS
CHI, SMOKE, PEACH, WHT, CREAM, FRESH, FRACD, TCS SHARP, NS, NO OPCR
LS, WHT, F XTIN, SOFT-MED HRD, ABUN FUSK + ASST FOSS, FINS
LS, TAN, WHT, LG RE XTLD FRACS, CRS XTLN W/N FRACS G FRAC FILL. NS
LS, WHT, F-M XIN, HRD, GATE NO G EVEN BRN OIL ST, G ORDER, GASSY, LT BRN OIL, SL BLEED FLUOR FO RANBN SPTS
LS, TAN-GRAY F-M XIN, FOSS DENSE NS.
SH, BLK Carb-Gray, Silty
LS, WHT-CRM FXIN, FOSS T-H ST VE ORD, FRA TITE

STRAP: 4132.55
BOARD: 4128.87
long 3.68

7 AM 8-19-14
DRLG @ 4156'

20' LS

MUD CHECK
VIS: 50 WT: 9
CHLOR: 1,500 LCM
FLT: 8.8

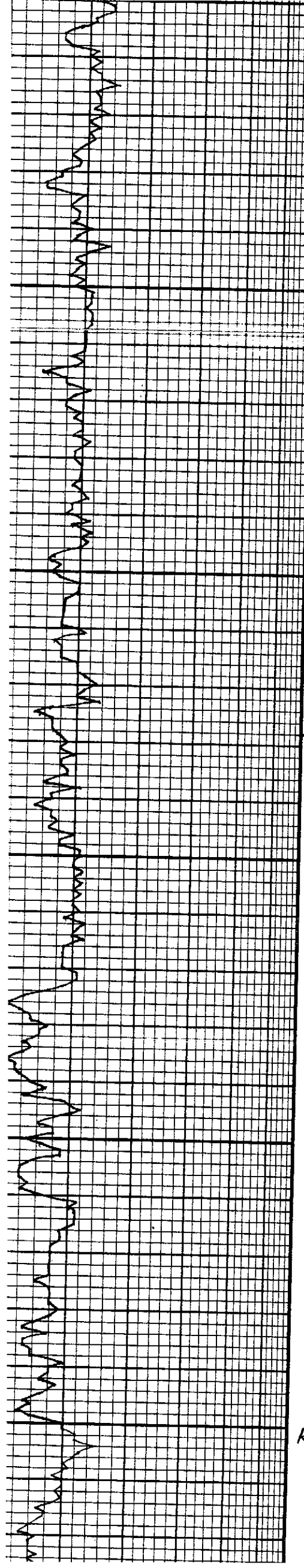
IF: WAK BLO, dead 2'
FF: dead, flush, clea
REC: 2' M
FT: 18-19, 19-20
SIP: 23-24
HF: 2046-2007

7 AM 8-20-14
DRLG @ 4283'

MUD CHECK
VIS: 63 WT:
CHLOR: 1,700 LC
FLT: 9.5

DST No 3 4331-
30-30-30-:
REC: 5' 500
IF WEAK DIED @
FF No blow, Flush.
IF: 21-21
FF: 20-24
ISIP: 30
FSIP: 31

8-21-14



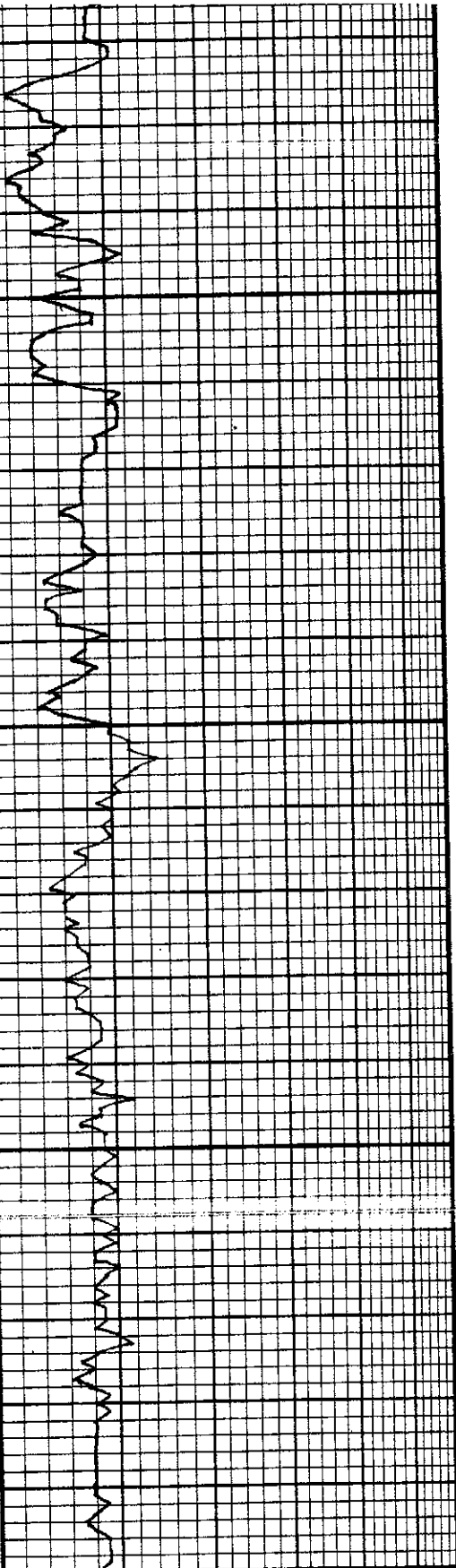
4400	sh. Blk-Gey-Silky
	sh. Blk-Grey
	ls. GRAY-TAN, FxN-Foss, DENSE
	sh - AA
F. SCOTT 4437-1604	sh. Blk Carb.
	ls. GRAY-Cem-F-MxN, Foss, DENSE sl pyritic, sl cherty No show
	ls. Cem-FxN, Foss, sl cherty, sl cherty, tight No show
	ls AA
Checked sh 4464-1631	sh Blk-Carb-BRN-GRY
	ls. GRAY-Cem F-MxN Foss Pyritic, sl cherty
	ls. wh-ltgray F-MicroxN, Foss cherty-Firm No show Poor TURITIC
	sh. BRN-GRY -
c 4500	ls. wh-GRY-F-MxN Foss. sl cherty A.S.
	sh BRN-GRY
	ls. wh-ltgray, FxN-Foss, No show
	sh. VARI-Color, cherty
	ls. AA
MISS. c 4528-1695	sh. Multi-Color ARG, COAG cherty T-F-Mgr Ss clusters
	ls. wh-ltgray F-MxN No show cherty.
	sh. GRAY-BRN GRN
	ls. AA
	ls. wh-lt yellow-lt RED, FxN Foss, sl cherty No show
	ls AA
	ls. wh-F-MxN SACROSIC cherty, sl cherty No show POOR
	ls. AA No show
4600	ls. AA INCREASE wht OPAQUE chert No show
	ls. AA
	ls. wh-F-MxN SACROSIC cherty-Firm, cherty, No show
	AA
	ls. AA Mostly-wh, OPAQUE chert
	AA
R.T.D. 4650	ls. wh-ltgray-FxN-MicroxN Foss, cherty, sharp, angular No show
	ls wh-TAN F-MxN, Foss wh opaque chert No show
	sh BRN-GRY

8-21-14
7:AM Drlg @
Mud check
VIS: 56 WT:
Lcm #1 Filt
Chloe: 1,900

Mud check
VIS: 51 WT: 9
Lcm: #1

Mud check
VIS: 60 WT: 5
Lcm: Tee

8-22-14 7:AM
Cik @ 4650



4600

R.T.D.
4650

4700

R.T.D.
4750

5" 10" 15" 20" 25"
DRILLING TIME Minutes/Foot
Rate of Penetration Decreases

LITHOLOGY	SAMPLE DESCRIPTIONS	OIL SHOWS	REMARKS
LS. Wh-F-MX/N	SACROSIC. Chalky, Sl cherty No show		
LS. AA	AA No show		
LS. AA	AA		
LS. AA	AA		
LS. Wh-F-MX/N	SACROSIC Chalky-Firm, cherty No show		
LS. AA	AA		
LS. AA	AA		
LS. AA	AA		
LS. AA	AA		
LS. Wh-Lt Grey-Fx/N	Uliceox/N Foss, cherty, sharp, angular No show		
LS Wh-TAN F-MX/N	Foss wh opaque chert No show		
SH	BEN-GRY		
LS	AA wh-grey chert No show		
LS	Wh-TAN-MX/N-Foss, sh chalky No show		
SH	BEN-Grey, yellow, GEN		
LS	AA		
SH	Grey-BEN-Blk silty		
LS	Wh-F-MX/N, Foss, Chalky Firm cherty No show		
LS	AA		
LS	AA		
LS	Wh-F-MX/N, very chalky Sl cherty No show		

Mud check
VIS: 60 w/
Lcm: Tec.

8-22-14 7
Cie @ 4650

VIS: 57 w/
Lcm # 1

CONTRACTOR Southern Drilling
LEASE VALE "A" 1-24 IP
ELEVATION 2833 RTD 4750

LOCATION ...
SEC 24 TWP 11 RNG 25
COUNTY GOVE STATE KANSAS