



KANSAS CORPORATION COMMISSION 1062835  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
June 2009  
Form Must Be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 8628  
Name: Credo Petroleum Corporation  
Address 1: 1801 BROADWAY # 900  
Address 2: \_\_\_\_\_  
City: DENVER State: CO Zip: 80202 + 3858  
Contact Person: Jack Renfro  
Phone: ( 303 ) 297-2200  
CONTRACTOR: License # 33575  
Name: WW Drilling, LLC  
Wellsite Geologist: Bruce Ard  
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  
 Conv. to GSW  
 Plug Back: \_\_\_\_\_ Plug Back Total Depth  
 Commingled    Permit #: \_\_\_\_\_  
 Dual Completion    Permit #: \_\_\_\_\_  
 SWD    Permit #: \_\_\_\_\_  
 ENHR    Permit #: \_\_\_\_\_  
 GSW    Permit #: \_\_\_\_\_

<u>8/23/2011</u>	<u>9/1/2011</u>	<u>9/19/2011</u>
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-101-22306-00-00  
Spot Description: \_\_\_\_\_  
E2 SW NW NE Sec. 3 Twp. 17 S. R. 29  East  West  
990 Feet from  North /  South Line of Section  
2100 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE     NW     SE     SW  
County: Lane  
Lease Name: Sandra Well #: 1-3  
Field Name: \_\_\_\_\_  
Producing Formation: Johnson/Cherokee/Marmaton/LKC  
Elevation: Ground: 2803 Kelly Bushing: 2808  
Total Depth: 4650 Plug Back Total Depth: \_\_\_\_\_  
Amount of Surface Pipe Set and Cemented at: 260 Feet  
Multiple Stage Cementing Collar Used?  Yes  No  
If yes, show depth set: 2318 Feet  
If Alternate II completion, cement circulated from: 2318  
feet depth to: 260 w/ 380 sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: 2600 ppm Fluid volume: 345 bbls  
Dewatering method used: Evaporated  
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

- Letter of Confidentiality Received  
Date: 02/23/2012  
 Confidential Release Date: \_\_\_\_\_  
 Wireline Log Received  
 Geologist Report Received  
 UIC Distribution  
ALT  I  II  III Approved by: Doanna Garbar Date: 02/27/2012



1062835

Operator Name: Credo Petroleum Corporation Lease Name: Sandra Well #: 1-3  
 Sec. 3 Twp. 17 S. R. 29  East  West County: Lane

**INSTRUCTIONS:** Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken (Attach Additional Sheets)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Anhydrite	2207	601
Electric Log Run	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Topeka	3682	-874
Electric Log Submitted Electronically (If no, Submit Copy)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Heebner	3916	-1108
List All E. Logs Run:		Lansing	3956	-1148
<b>Attached</b>		Marmaton	4316	-1508
		Cherokee	4449	-1641
		Johnson	4518	-1710

CASING RECORD <input checked="" 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
Surface	12.25	8.625	24	260	Common	160	3%CC, 2%gel
Production	7.825	5.5	14	4648	ASC/POZ	540	10% salt, 2%gel/8%gel, 1/4csc

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
___ Perforate				
___ Protect Casing				
___ Plug Back TD	-			
___ Plug Off Zone	-			

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
3	10	500gal 15%MCA	4518-4528
3	11	500gal 15%MCA, 3000gal 15%NEFE	4489-4500
4	4	500gal 15%MCA	4316-4320
4	18	750gal 15%MCA	4274-7226, 4262-4268

TUBING RECORD: Size: <u>2.875</u> Set At: <u>4552</u> Packer At:		Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Date of First, Resumed Production, SWD or ENHR: <u>10/5/2011</u>	Producing Method: <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) _____	
Estimated Production Per 24 Hours	Oil Bbls. <u>74</u>	Gas Mcf <u>0</u> Water Bbls. <u>19</u> Gas-Oil Ratio <u>0</u> Gravity <u>37</u>

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease (If vented, Submit ACO-18.)	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input checked="" type="checkbox"/> Commingled (Submit ACO-5) (Submit ACO-4) <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: <u>4262</u> <u>4528</u>
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Form	ACO1 - Well Completion
Operator	Credo Petroleum Corporation
Well Name	Sandra 1-3
Doc ID	1062835

All Electric Logs Run

Dual Induction
Dual Compensated Porosity
Microlog
Borehole Compensated Sonic

# ALLIED CEMENTING CO., LLC. 037349

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:  
Secret Bend KS

DATE <u>8-24-11</u>	SEC. <u>3</u>	TWP. <u>17S</u>	RANGE <u>23W</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE <u>Sandra</u>		WELL # <u>1-3</u>		LOCATION <u>Heavy KS 123N - 104 West</u>		COUNTY <u>Lane</u>	STATE <u>KS</u>
OLD OR NEW (Circle one) <u>NEW</u>				<u>3/4 West North 104</u>			

CONTRACTOR Ww Drilling Rig #10 OWNER Credo

TYPE OF JOB Surface  
 HOLE SIZE 12 1/4 T.D. 260 CEMENT  
 CASING SIZE 8 1/4 DEPTH 260 AMOUNT ORDERED 160 sq cone 3% cc 29a  
 TUBING SIZE DEPTH  
 DRILL PIPE 4 1/2 DEPTH 260  
 TOOL DEPTH

PRES. MAX MINIMUM COMMON 160 @  
 MEAS. LINE SHOE JOINT POZMIX @  
 CEMENT LEFT IN CSG. 15 ft GEL 3 @  
 PERFS. CHLORIDE 6 @  
 DISPLACEMENT Fresh water ASC @

EQUIPMENT  
 PUMP TRUCK CEMENTER Bob R  
 # 395 HELPER Beary  
 BULK TRUCK  
 # 341 DRIVER Jacob  
 BULK TRUCK  
 # DRIVER

REMARKS:  
Pipe on bottom break circulation with Rig  
made Max 100sq cone 3% cc 29a gel.  
shut down release plug and displace fresh  
fluid circulation and shut in  
Cement did circulate

HANDLING	@	
MILEAGE <u>45</u>	@	
TOTAL		

CHARGE TO: Credo  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE  
 DEPTH OF JOB 260  
 PUMP TRUCK CHARGE  
 EXTRA FOOTAGE @  
 MILEAGE @  
 MANIFOLD @  
 @  
 @

To Allied Cementing Co., 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.

TOTAL \_\_\_\_\_  
 PLUG & FLOAT EQUIPMENT  
Wooden plug @  
 @  
 @  
 @  
 @  
 TOTAL \_\_\_\_\_

PRINTED NAME Maxwell Mills  
 SIGNATURE Maxwell Mills  
 Thank you!

SALES TAX (if Any) \_\_\_\_\_  
 TOTAL CHARGES \_\_\_\_\_  
 DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAY

# ALLIED CEMENTING CO., LLC. 035976

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:  
*Bottom* 1100 # 12100 #

DATE <u>9/3/14</u>	SEC <u>3</u>	TWP <u>17</u>	RANGE <u>29</u>	CALLED OUT	ON LOCATION <u>Top</u>	JOB START <u>3:00</u>	JOB FINISH <u>4:00</u>
LEASE <u>Sandra</u>	WELL # <u>1-3</u>	LOCATION <u>Healy 5 1/2 E N = E 20</u>			COUNTY <u>Lane</u>	STATE <u>Ks</u>	
OLD OR NEW (Circle one) <u>NEW</u>							

CONTRACTOR WPK 10  
 TYPE OF JOB Production  
 HOLE SIZE 7 1/2 T.D. 14  
 CASING SIZE 5 1/2 DEPTH 4652.7  
 TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TOOL D.V. DEPTH 2279 - R8  
 PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_  
 MEAS. LINE \_\_\_\_\_ SHOE JOINT 19.76  
 CEMENT LEFT IN CSG. 19.76  
 PERFS. \_\_\_\_\_  
 DISPLACEMENT Bottom 5460 57 Mud Top 566 660

OWNER Same  
 CEMENT  
 AMOUNT ORDERED 160 SKs ASC 1000 # 270  
gel 5" Silicate 400 SKs PLW 49 16 Flo  
Seal 500 gal WPK II

EQUIPMENT  
 PUMP TRUCK CEMENTER Alan  
 # 422 HELPER Wayne  
 BULK TRUCK  
 # 404 DRIVER Earl  
 BULK TRUCK  
 # 394 DRIVER Austin (G.B.)

COMMON	@		
POZMIX	@		
GEL	@	<u>3</u>	<u>21.25</u> <u>63.75</u>
CHLORIDE	@		
ASC	@	<u>160 SKs</u>	<u>19.00</u> <u>3090.00</u>
PLW	@	<u>14 1/2 Flo Seal</u>	<u>14.50</u> <u>5802.00</u>
Salt	@	<u>15 SKs</u>	<u>23.25</u> <u>359.25</u>
Silicate	@	<u>800 16</u>	<u>.89</u> <u>712.00</u>
Flo Seal	@	<u>100 16</u>	<u>2.70</u> <u>270.00</u>
WPK II	@		<u>1.22</u> <u>635.00</u>
HANDLING	@	<u>635 SKs</u>	<u>2.25</u> <u>1428.75</u>
MILEAGE	@	<u>119.54/mile</u>	<u>4191.00</u>
		TOTAL	<u>16549.75</u>

REMARKS:  
Cement did not circulate.  
Run Cement Circulate, Mix 500 gal WPK II,  
mix 160 SKs ASC, Wash Truck Lines, Displace Plug,  
Cement to Latchburn ~ 154 880.66 @ 57.88 Rg, Mud  
1/2 @ 20 PSI WPK Land Phys 200 PSI. Displace  
not - 800 SKs, Circulate 2 hrs, pay 80 SKs 16 1/2 Rg,  
380 SKs Brown Co. Wash Truck Lines, Displace Plug  
1/2 @ 1500 PSI WPK Land Phys 200 PSI. Tool  
did close. [unclear]  
lost Circulation @ 25 1/2 out Alan, Wayne, Earl  
stop down to 14 880 Rg for remainder of displacement. Discontinue  
 CHARGE TO Credo Petroleum Corp

SERVICE

DEPTH OF JOB		<u>4652.7</u>
PUMP TRUCK CHARGE		<u>2405.00</u>
EXTRA FOOTAGE	@	
MILEAGE	@	<u>60 x 2</u> <u>7.00</u> <u>840.00</u>
MANIFOLD	@	<u>Head</u> <u>2.00</u> <u>200.00</u>
Latchburn cle box 2	@	<u>4.00</u> <u>480.00</u>
		TOTAL <u>3925.00</u>

STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PLUG & FLOAT EQUIPMENT

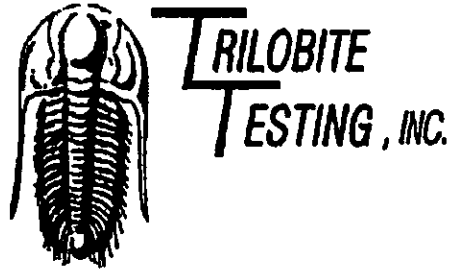
DV Tool		<u>4921.00</u>
Basket	@	<u>337.00</u> <u>337.00</u>
Control Jars	@	<u>49.00</u> <u>491.00</u>
Lat. Ch. Blower Assembly	@	<u>277.00</u>
APU Plant Share	@	<u>349.00</u>
		TOTAL <u>6275.00</u>

To Allied Cementing Co., 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.

PRINTED NAME DON GUY  
 SIGNATURE Don Guy

SALES TAX (If Any) \_\_\_\_\_  
 TOTAL CHARGES \_\_\_\_\_  
 DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

SEP 12 2011



## DRILL STEM TEST REPORT

Prepared For: **Credo Petroleum Corporation**

1801 Broadway #900  
Denver, CO 80202

ATTN: Bruce Ard

**3-17s-29w Lane,KS**

**Sandra #1-3**

Start Date: 2011.08.29 @ 06:19:00

End Date: 2011.08.29 @ 13:18:00

Job Ticket #: 43640                      DST#: 1

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Credo Petroleum Corporation

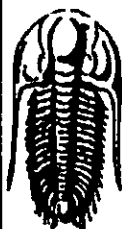
Sandra #1-3

3-17s-29w Lane,KS

DST # 1

Lansing, KS

2011.08.29



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Credo Petroleum Corporation

Sandra #1-3

1801 Broadway #900  
Denver, CO 80202

3-17s-29w Lane, KS

Job Ticket: 43640

DST#: 1

ATTN: Bruce Ard

Test Start: 2011.08.29 @ 06:19:00

### GENERAL INFORMATION:

Formation: **Lansing I-J**

Deviated: No Whipstock ft (KB)

Time Tool Opened: 08:06:30

Time Test Ended: 13:18:00

Test Type: Conventional Bottom Hole

Tester: Bradley Walter

Unit No: 40

Interval: 4152.00 ft (KB) To 4200.00 ft (KB) (TVD)

Total Depth: 4200.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2808.00 ft (KB)

2803.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8652

Inside

Press@RunDepth: 84.13 psig @ 4153.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.29

End Date: 2011.08.29

Last Calib.: 2011.08.29

Start Time: 06:19:05

End Time: 13:17:59

Time On Btm: 2011.08.29 @ 08:06:15

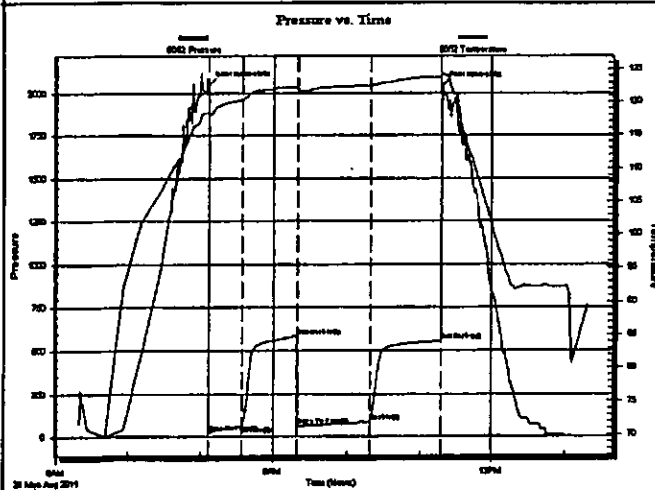
Time Off Btm: 2011.08.29 @ 11:18:30

TEST COMMENT: IF: 9 1/2" Blow.

IS: No return.

FF: BOB@ 16 minutes.

FSI No return blow.



### PRESSURE SUMMARY

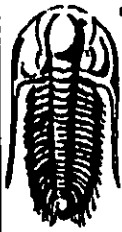
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2045.53	118.47	Initial Hydro-static
1	20.69	117.72	Open To Flow (1)
29	60.22	120.29	Shut-in(1)
74	583.51	122.21	End Shut-in(1)
74	61.43	121.88	Open To Flow (2)
133	84.13	122.45	Shut-in(2)
191	554.85	123.71	End Shut-in(2)
193	2040.25	124.20	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
180.00	grmco 20g 30m 50o	0.89
20.00	fo 100%o	0.24
0.00	540ft GIP	0.00

### Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mc/d)



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Credo Petroleum Corporation

Sandra #1-3

1801 Broadway #900  
Denver, CO 80202

3-17s-29w Lane, KS

Job Ticket: 43640

DST#: 1

ATTN: Bruce Ard

Test Start: 2011.08.29 @ 06:19:00

**Tool Information**

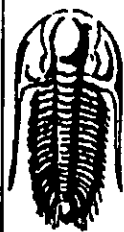
Drill Pipe:	Length: 3954.00 ft	Diameter: 3.80 inches	Volume: 55.46 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 184.00 ft	Diameter: 2.25 inches	Volume: 0.90 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 56.36 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4152.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	76.00 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			4125.00	
Shut In Tool	5.00			4130.00	
Hydraulic tool	5.00			4135.00	
Jars	5.00			4140.00	
Safety Joint	2.00			4142.00	
Packer	5.00			4147.00	28.00 Bottom Of Top Packer
Packer	5.00			4152.00	
Stubb	1.00			4153.00	
Recorder	0.00	8652	Inside	4153.00	
Recorder	0.00	8360	Outside	4153.00	
Perforations	10.00			4163.00	
Change Over Sub	1.00			4164.00	
Drill Pipe	32.00			4196.00	
Change Over Sub	1.00			4197.00	
Buttnose	3.00			4200.00	48.00 Bottom Packers & Anchor

**Total Tool Length: 76.00**





**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Credo Petroleum Corporation

Sandra #1-3

1801 Broadway #900  
Denver, CO 80202

3-17s-29w Lane, KS

Job Ticket: 43640      DST#: 1

ATTN: Bruce Ard

Test Start: 2011.08.29 @ 06:19:00

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 37 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 0 ppm
Viscosity: 68.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.32 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 1300.00 ppm		
Filter Cake: 1.00 inches		

### Recovery Information

Recovery Table

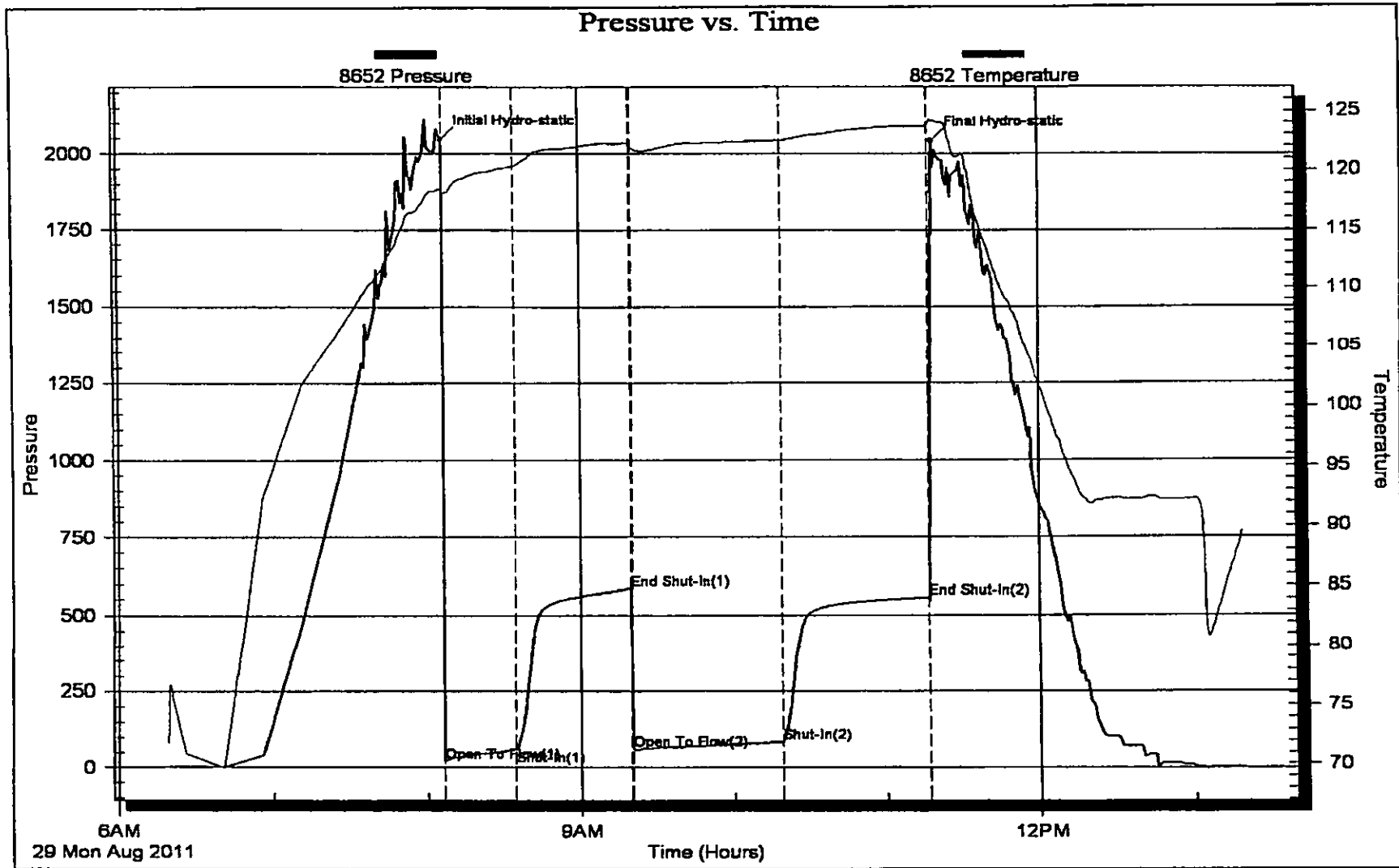
Length ft	Description	Volume bbl
180.00	grco 20g 30m.50o	0.885
20.00	fo 100%o	0.244
0.00	540ft GIP	0.000

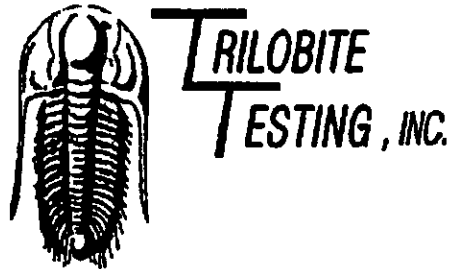
Total Length: 200.00 ft      Total Volume: 1.129 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: API is 39 @ 80 = 37





## DRILL STEM TEST REPORT

Prepared For: **Credo Petroleum Corporation**

1801 Broadway #900  
Denver, CO 80202

ATTN: Bruce Ard

**3-17s-29w Lane,KS**

**Sandra #1-3**

Start Date: 2011.08.29 @ 20:58:00

End Date: 2011.08.30 @ 04:19:30

Job Ticket #: 43641                      DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Credo Petroleum Corporation

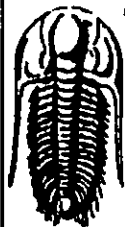
Sandra #1-3

3-17s-29w Lane,KS

DST # 2

LKC K-L

2011.08.29



**TRIOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Credo Petroleum Corporation

1801 Broadway #900  
Denver, CO 80202

ATTN: Bruce Ard

Sandra #1-3

3-17s-29w Lane, KS

Job Ticket: 43641 DST#: 2

Test Start: 2011.08.29 @ 20:58:00

### GENERAL INFORMATION:

Formation: LKC K-L  
 Deviated: No Whipstock ft (KB)  
 Time Tool Opened: 22:50:30  
 Time Test Ended: 04:19:30  
 Interval: 4202.00 ft (KB) To 4249.00 ft (KB) (TVD)  
 Total Depth: 4200.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole  
 Tester: Bradley Walter  
 Unit No: 40  
 Reference Elevations: 2808.00 ft (KB)  
 2803.00 ft (CF)  
 KB to GR/CF: 5.00 ft

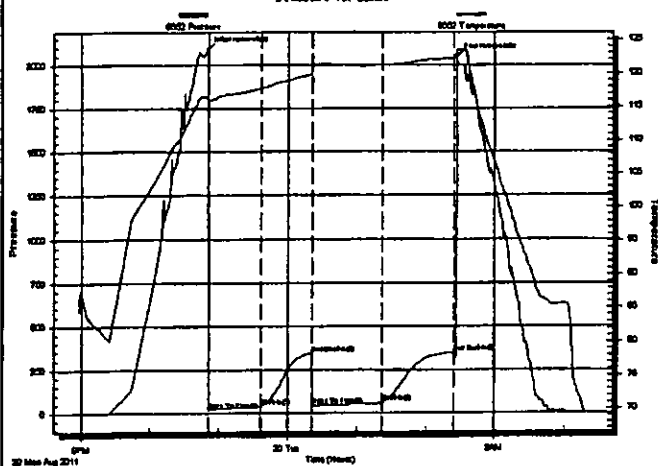
### Serial #: 8652

Inside

Press@RunDepth: 57.92 psig @ 4203.00 ft (KB)  
 Start Date: 2011.08.29 End Date: 2011.08.30  
 Start Time: 20:58:05 End Time: 04:19:29  
 Capacity: 8000.00 psig  
 Last Calib.: 2011.08.30  
 Time On Btm: 2011.08.29 @ 22:50:15  
 Time Off Btm: 2011.08.30 @ 02:26:30

TEST COMMENT: IF: 1 1/4" blow.  
 IS: No return.  
 FF: 1" blow.  
 FS: No return.

Pressure vs. Time



### PRESSURE SUMMARY

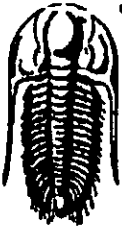
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2087.69	116.44	Initial Hydro-static
1	19.49	115.12	Open To Flow (1)
47	38.77	117.66	Shut-in(1)
91	344.41	119.77	End Shut-in(1)
92	42.19	120.80	Open To Flow (2)
152	57.92	121.16	Shut-in(2)
214	346.57	122.22	End Shut-in(2)
217	2045.62	123.31	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
80.00	gocm 5g 350 60m	0.39
0.00	100ft GIP	0.00

### Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mcfd)



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Credo Petroleum Corporation

Sandra #1-3

1801 Broadway #900  
Denver, CO 80202

3-17s-29w Lane, KS

Job Ticket: 43641

DST#: 2

ATTN: Bruce Ard

Test Start: 2011.08.29 @ 20:58:00

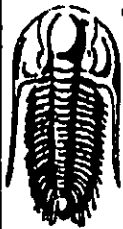
**Tool Information**

Drill Pipe:	Length: 4077.00 ft	Diameter: 3.80 inches	Volume: 57.19 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 77000.00 lb
			<u>Total Volume: 57.79 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4202.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 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			4175.00	
Shut In Tool	5.00			4180.00	
Hydraulic tool	5.00			4185.00	
Jars	5.00			4190.00	
Safety Joint	2.00			4192.00	
Packer	5.00			4197.00	28.00 Bottom Of Top Packer
Packer	5.00			4202.00	
Stubb	1.00			4203.00	
Recorder	0.00	8652	Inside	4203.00	
Recorder	0.00	8360	Outside	4203.00	
Perforations	10.00			4213.00	
Change Over Sub	1.00			4214.00	
Drill Pipe	31.00			4245.00	
Change Over Sub	1.00			4246.00	
Bullnose	3.00			4249.00	47.00 Bottom Packers & Anchor

**Total Tool Length: 75.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Credo Petroleum Corporation

Sandra #1-3

1801 Broadway #900  
Denver, CO 80202

3-17s-29w Lane, KS

Job Ticket: 43641

DST#: 2

ATTN: Bruce Ard

Test Start: 2011.08.29 @ 20:58:00

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 70.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.33 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
80.00	gocm 5g 350 60m	0.393
0.00	100ft GIP	0.000

Total Length: 80.00ft

Total Volume: 0.393 bbl

Num Fluid Samples: 0

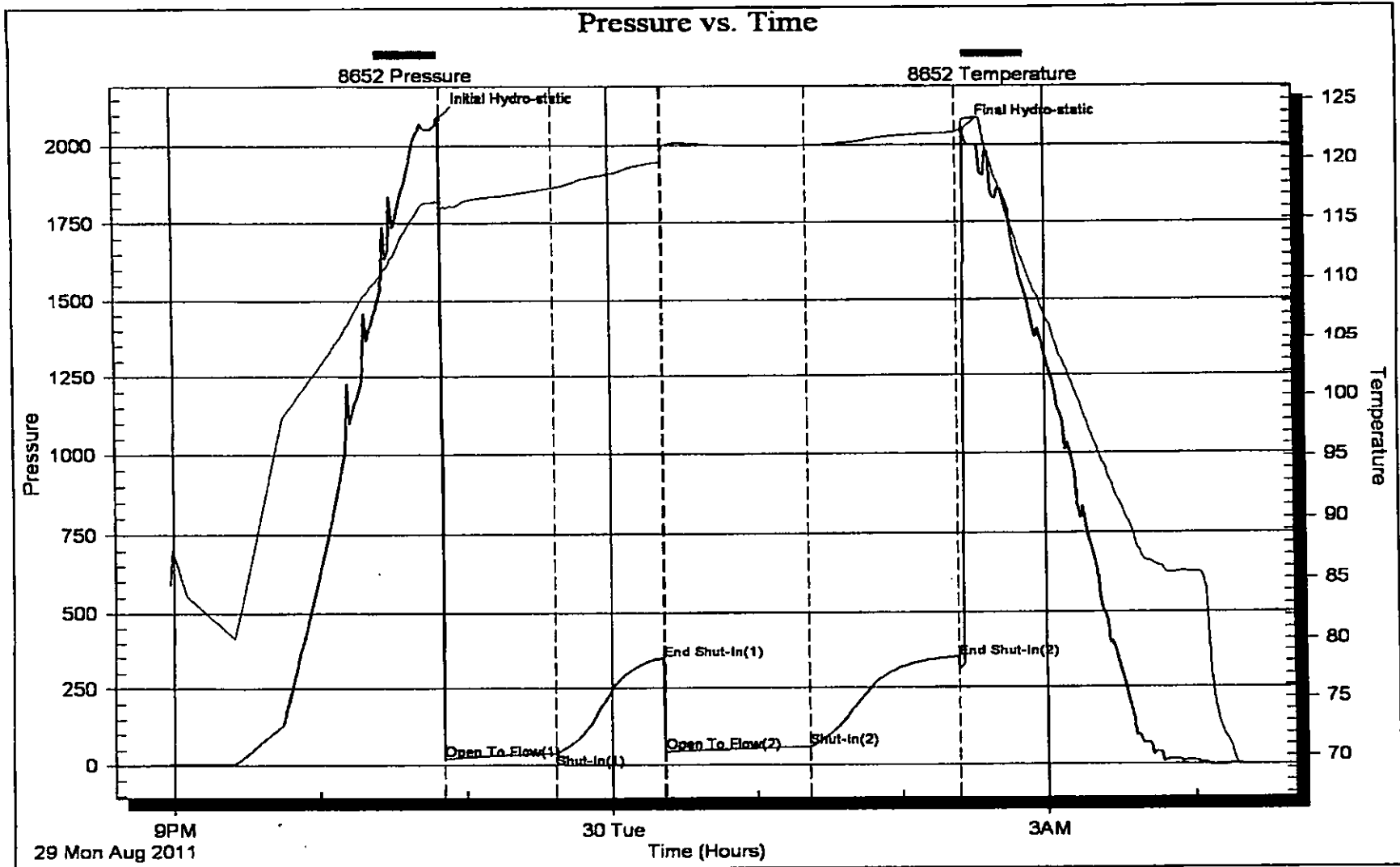
Num Gas Borrb: 0

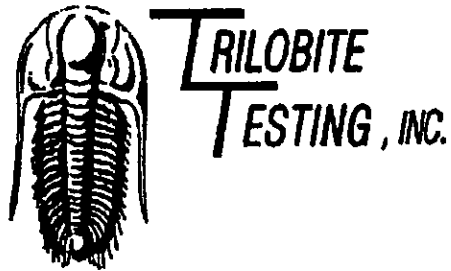
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





## DRILL STEM TEST REPORT

Prepared For: **Credo Petroleum Corporation**

1801 Broadway #900  
Denver, CO 80202

ATTN: Bruce Ard

**3-17s-29w Lane,KS**

**Sandra #1-3**

Start Date: 2011.08.30 @ 14:05:00

End Date: 2011.08.30 @ 21:03:45

Job Ticket #: 43642                      DST #: 3

Trilobite Testing, Inc  
PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620





**TRIOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Credo Petroleum Corporation

Sandra #1-3

1801 Broadway #900  
Denver, CO 80202

3-17s-29w Lane, KS

Job Ticket: 43642      DST#: 3

ATTN: Bruce Ard

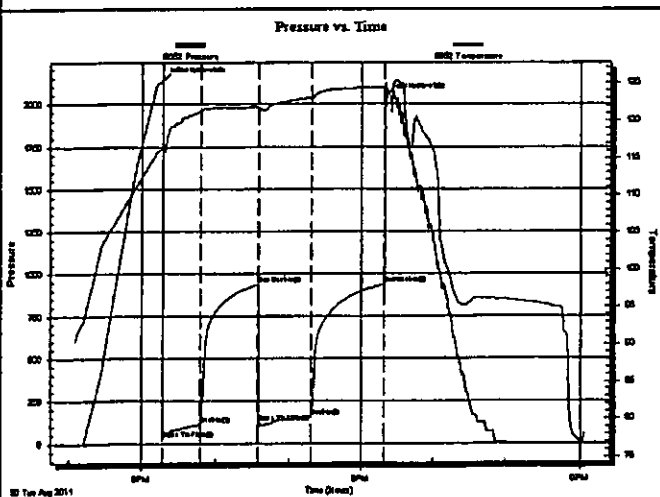
Test Start: 2011.08.30 @ 14:05:00

### GENERAL INFORMATION:

Formation: **LKC L-Marmaton**  
 Deviated: **No Whipstock**      ft (KB)  
 Test Type: **Conventional Bottom Hole**  
 Time Tool Opened: **15:17:45**  
 Tester: **Bradley Walter**  
 Time Test Ended: **21:03:45**  
 Unit No: **40**  
 Interval: **4252.00 ft (KB) To 4328.00 ft (KB) (TVD)**  
 Reference Elevations: **2808.00 ft (KB)**  
 Total Depth: **4200.00 ft (KB) (TVD)**  
**2803.00 ft (CF)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
 KB to GR/CF: **5.00 ft**

Serial #: **8652**      Inside  
 Press@RunDepth: **156.77 psig @ 4253.00 ft (KB)**  
 Capacity: **8000.00 psig**  
 Start Date: **2011.08.30**      End Date: **2011.08.30**      Last Calib.: **2011.08.30**  
 Start Time: **14:05:05**      End Time: **21:03:44**      Time On Btm: **2011.08.30 @ 15:17:30**  
 Time Off Btm: **2011.08.30 @ 18:20:00**

TEST COMMENT: IF: BOB @ 12 minutes.  
 IS: No return blow.  
 FF: BOB @ 12 minutes.  
 FSI 1" return, started @ 10 minutes



### PRESSURE SUMMARY

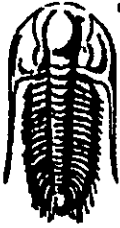
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2136.44	116.33	Initial Hydro-static
1	29.26	115.59	Open To Flow (1)
30	111.17	121.24	Shut-In(1)
77	936.49	121.90	End Shut-In(1)
78	121.66	121.61	Open To Flow (2)
121	156.77	123.04	Shut-In(2)
182	936.40	124.44	End Shut-In(2)
183	2044.19	125.05	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
400.00	GMCO 35g 20m45o	4.50
0.00	530 GIP	0.00

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Credo Petroleum Corporation

Sandra #1-3

1801 Broadway #900  
Denver, CO 80202

3-17s-29w Lane,KS

Job Ticket: 43642

DST#: 3

ATTN: Bruce Ard

Test Start: 2011.08.30 @ 14:05:00

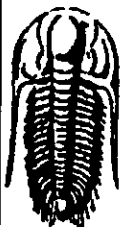
**Tool Information**

Drill Pipe:	Length: 4109.00 ft	Diameter: 3.80 inches	Volume: 57.64 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 79000.00 lb
		<u>Total Volume:</u>	<u>58.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4252.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	104.00 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			4225.00	
Shut In Tool	5.00			4230.00	
Hydraulic tool	5.00			4235.00	
Jars	5.00			4240.00	
Safety Joint	2.00			4242.00	
Packer	5.00			4247.00	28.00 Bottom Of Top Packer
Packer	5.00			4252.00	
Stubb	1.00			4253.00	
Recorder	0.00	8652	Inside	4253.00	
Recorder	0.00	8360	Outside	4253.00	
Perforations	6.00			4259.00	
Change Over Sub	1.00			4260.00	
Drill Pipe	64.00			4324.00	
Change Over Sub	1.00			4325.00	
Bullnose	3.00			4328.00	76.00 Bottom Packers & Anchor

**Total Tool Length: 104.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Credo Petroleum Corporation

**Sandra #1-3**

1801 Broadway #900  
Denver, CO 80202

**3-17s-29w Lane, KS**

Job Ticket: 43642

**DST#: 3**

ATTN: Bruce Ard

Test Start: 2011.08.30 @ 14:05:00

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 61.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.70 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3200.00 ppm			
Filter Cake: 1.00 inches			

**Recovery Information**

Recovery Table

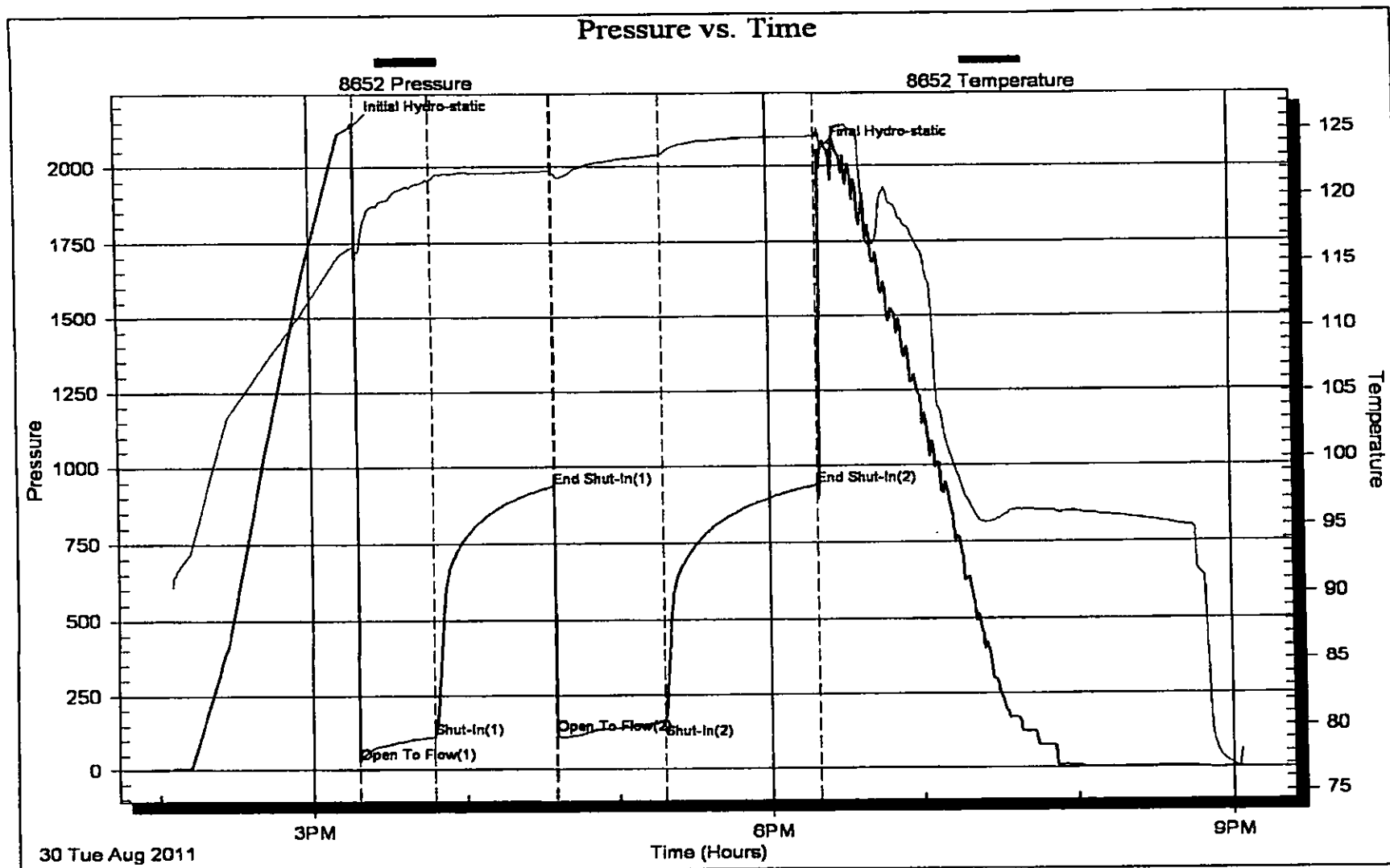
Length ft	Description	Volume bbl
400.00	GMOO 35g 20m 45o	4.500
0.00	530 GIP	0.000

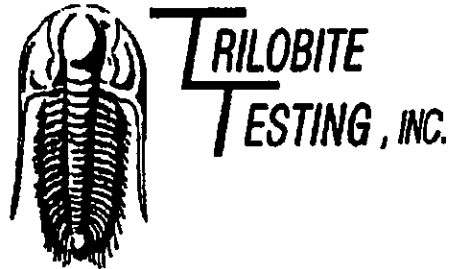
Total Length: 400.00ft      Total Volume: 4.500 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments:





## DRILL STEM TEST REPORT

Prepared For: **Credo Petroleum Corporation**

1801 Broadway #900  
Denver, CO 80202

ATTN: Bruce Ard

**3-17s-29w Lane,KS**

**Sandra #1-3**

Start Date: 2011.08.31 @ 08:40:05

End Date: 2011.08.31 @ 15:09:59

Job Ticket #: 43643                      DST #: 4

Trilobite Testing, Inc  
PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2011.09.08 @ 13:33:43 Page 1

Credo Petroleum Corporation

Sandra #1-3

3-17s-29w Lane,KS

DST # 4

Marmaton / Pawnee

2011.08.31



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Credo Petroleum Corporation

1801 Broadway #900  
Denver, CO 80202

ATTN: Bruce Ard

Sandra #1-3

3-17s-29w Lane, KS

Job Ticket: 43643

DST#: 4

Test Start: 2011.08.31 @ 08:40:05

### GENERAL INFORMATION:

Formation: **Marmaton / Pawnee**

Deviated: **No Whipstock** ft (KB)

Time Tool Opened: 10:23:45

Time Test Ended: 15:09:59

Interval: **4324.00 ft (KB) To 4408.00 ft (KB) (TVD)**

Total Depth: **4408.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Test Type: **Conventional Bottom Hole**

Tester: **Will MacLean**

Unit No: **40**

Reference Elevations: **2808.00 ft (KB)**

**2803.00 ft (CF)**

KB to GR/CF: **5.00 ft**

Serial #: **8652**

Inside

Press@RunDepth: **33.06 psig @ 4325.00 ft (KB)**

Start Date: **2011.08.31**

End Date:

**2011.08.31**

Start Time: **08:40:05**

End Time:

**15:09:59**

Capacity: **8000.00 psig**

Last Calb.: **2011.08.31**

Time On Btm: **2011.08.31 @ 10:23:15**

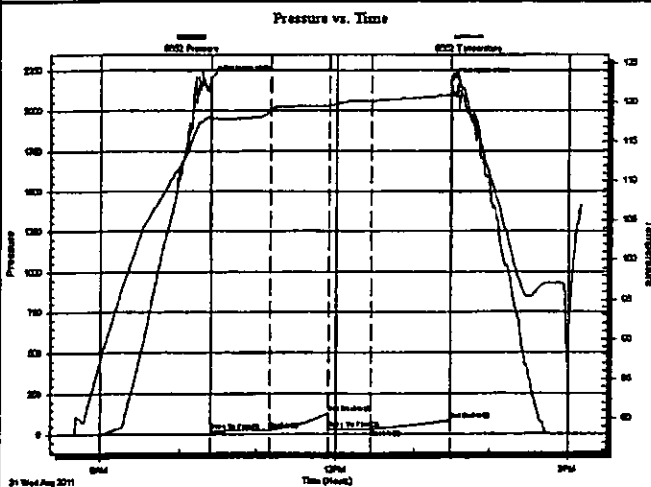
Time Off Btm: **2011.08.31 @ 13:28:14**

TEST COMMENT: **IF-Surface Blow Built to 1/2" Died to Weak Surface Blow**

**IS- No Blow**

**FF- No Blow**

**FS- No Blow**



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2196.10	118.20	Initial Hydro-static
1	20.12	117.59	Open To Flow (1)
47	27.11	119.14	Shut-In(1)
92	128.91	119.61	End Shut-In(1)
92	30.22	119.54	Open To Flow (2)
124	33.06	120.17	Shut-In(2)
185	81.04	120.94	End Shut-In(2)
185	2177.15	122.30	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud with Oil Spots	0.07

### Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mc/K)



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Credo Petroleum Corporation

Sandra #1-3

1801 Broadway #900  
Denver, CO 80202

3-17s-29w Lane, KS

Job Ticket: 43643

DST#: 4

ATTN: Bruce Ard

Test Start: 2011.08.31 @ 08:40:05

### Tool Information

Drill Pipe:	Length: 4144.00 ft	Diameter: 3.80 inches	Volume: 58.13 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 184.00 ft	Diameter: 2.25 inches	Volume: 0.90 bbl	Weight to Pull Loose: 18000.00 lb
			<u>Total Volume: 59.03 bbl</u>	Tool Chased: ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4324.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.00 ft			
Tool Length:	112.00 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			4297.00	
Shut In Tool	5.00			4302.00	
Hydraulic tool	5.00			4307.00	
Jars	5.00			4312.00	
Safety Joint	2.00			4314.00	
Packer	5.00			4319.00	28.00 Bottom Of Top Packer
Packer	5.00			4324.00	
Stubb	1.00			4325.00	
Recorder	0.00	8652	Inside	4325.00	
Recorder	0.00	8360	Outside	4325.00	
Perforations	15.00			4340.00	
Change Over Sub	1.00			4341.00	
Drill Pipe	63.00			4404.00	
Change Over Sub	1.00			4405.00	
Bullnose	3.00			4408.00	84.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>112.00</b>				



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Credo Petroleum Corporation

**Sandra #1-3**

1801 Broadway #900  
Denver, CO 80202

**3-17s-29w Lane, KS**

Job Ticket: 43643      DST#: 4

ATTN: Bruce Ard

Test Start: 2011.08.31 @ 08:40:05

**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: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.31 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3700.00 ppm			
Filter Cake: 1.00 inches			

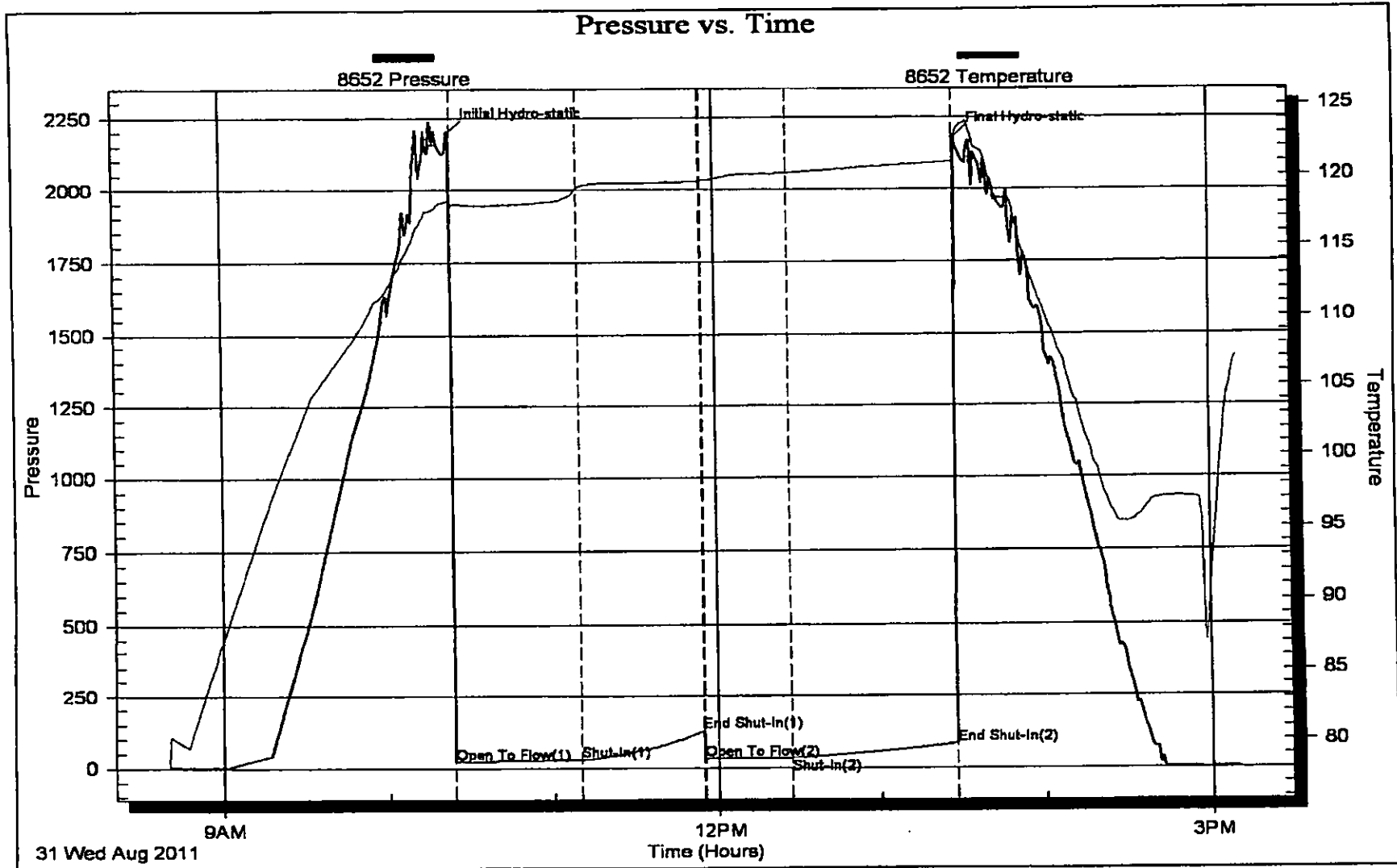
**Recovery Information**

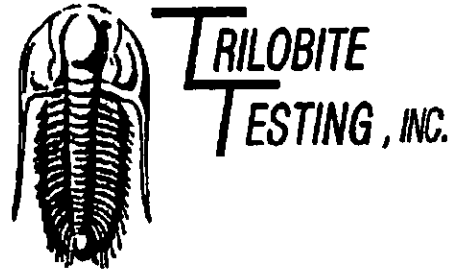
Recovery Table

Length ft	Description	Volume bbl
15.00	Mud with Oil Spots	0.074

Total Length: 15.00ft      Total Volume: 0.074 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Credo Petroleum Corporation**

1801 Broadway #900  
Denver, CO 80202

ATTN: Bruce Ard

**3-17s-29w Lane,KS**

**Sandra #1-3**

Start Date: 2011.09.01 @ 02:22:05

End Date: 2011.09.01 @ 09:59:44

Job Ticket #: 43644                      DST #: 5

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Credo Petroleum Corporation

Sandra #1-3

3-17s-29w Lane,KS

DST # 5

Fl Scott - Upper Che

2011.09.01



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

Credo Petroleum Corporation  
1801 Broadway #900  
Denver, CO 80202  
ATTN: Bruce Ard

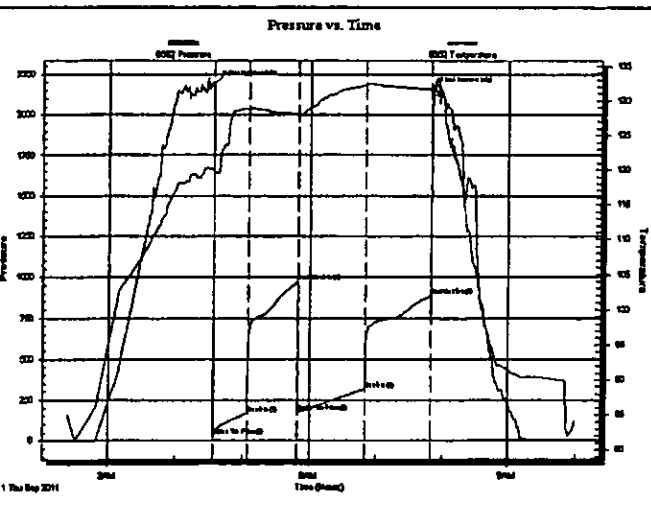
**Sandra #1-3**  
3-17s-29w Lane, KS  
Job Ticket: 43644      DST#: 6  
Test Start: 2011.09.01 @ 02:22:05

**GENERAL INFORMATION:**

Formation: **Ft Scott - Upper Che**  
 Deviated: **No Whipstock**      ft (KB)  
 Test Type: **Conventional Bottom Hole**  
 Time Tool Opened: **04:34:00**  
 Tester: **Will MacLean**  
 Time Test Ended: **09:59:44**  
 Unit No: **40**  
 Interval: **4408.00 ft (KB) To 4479.00 ft (KB) (TVD)**  
 Reference Elevations: **2808.00 ft (KB)**  
 Total Depth: **4200.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
 KB to GR/CF: **5.00 ft**

**Serial #: 8652**      Inside  
 Press@RunDepth: **315.35 psig @ 4412.00 ft (KB)**      Capacity: **8000.00 psig**  
 Start Date: **2011.09.01**      End Date: **2011.09.01**      Last Calib.: **2011.09.01**  
 Start Time: **02:22:05**      End Time: **09:59:44**      Time On Btm: **2011.09.01 @ 04:33:45**  
 Time Off Btm: **2011.09.01 @ 07:49:59**

**TEST COMMENT:** IF- BOB In 18 min  
 IS- No Blow  
 FF- Surface Blow Built to 1" Died to Weak Surface Blow  
 FS- No Blow



**PRESSURE SUMMARY**

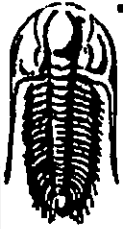
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2193.22	120.02	Initial Hydro-static
1	30.85	119.29	Open To Flow (1)
31	166.62	128.75	Shut-In(1)
76	972.95	128.13	End Shut-In(1)
76	172.70	127.92	Open To Flow (2)
137	315.35	132.19	Shut-In(2)
196	886.74	131.65	End Shut-In(2)
197	2151.72	132.11	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
120.00	1% oil 40% m 59% w	0.59
190.00	1% oil 4% g 15% w 80% m	2.08
330.00	2% oil 5% g 93% m	4.63
0.00	120' GIP	0.00

**Gas Rates**

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Credo Petroleum Corporation

**Sandra #1-3**

1801 Broadway #900  
Denver, CO 80202

**3-17s-29w Lane, KS**

Job Ticket: 43644      DST#: 5

ATTN: Bruce Ard

Test Start: 2011.09.01 @ 02:22:05

**Tool Information**

Drill Pipe:	Length: 4212.00 ft	Diameter: 3.80 inches	Volume: 59.08 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 184.00 ft	Diameter: 2.25 inches	Volume: 0.90 bbl	Weight to Pull Loose:	20000.00 lb
			<u>Total Volume: 59.98 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4406.00 ft			Final	66000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	73.00 ft				
Tool Length:	101.00 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			4379.00	
Shut In Tool	5.00			4384.00	
Hydraulic tool	5.00			4389.00	
Jars	5.00			4394.00	
Safety Joint	2.00			4396.00	
Packer	5.00			4401.00	28.00      Bottom Of Top Packer
Packer	5.00			4406.00	
Stubb	1.00			4407.00	
Perforations	4.00			4411.00	
Change Over Sub	1.00			4412.00	
Recorder	0.00	8652	Inside	4412.00	
Recorder	0.00	8360	Outside	4412.00	
Drill Pipe	63.00			4475.00	
Change Over Sub	1.00			4476.00	
Bullnose	3.00			4479.00	73.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>101.00</b>				



**TRIOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Credo Petroleum Corporation

Sandra #1-3

1801 Broadway #900  
Denver, CO 80202

3-17s-29w Lane, KS

Job Ticket: 43644

DST#: 5

ATTN: Bruce Ard

Test Start: 2011.09.01 @ 02:22:05

**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:

4600 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.31 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3700.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
120.00	1% oil 40% m 59% w	0.590
190.00	1% oil 4% g 15% w 80% m	2.082
330.00	2% oil 5% g 93% m	4.629
0.00	120' GIP	0.000

Total Length: 640.00ft Total Volume: 7.301 bbl

Num Fluid Samples: 0

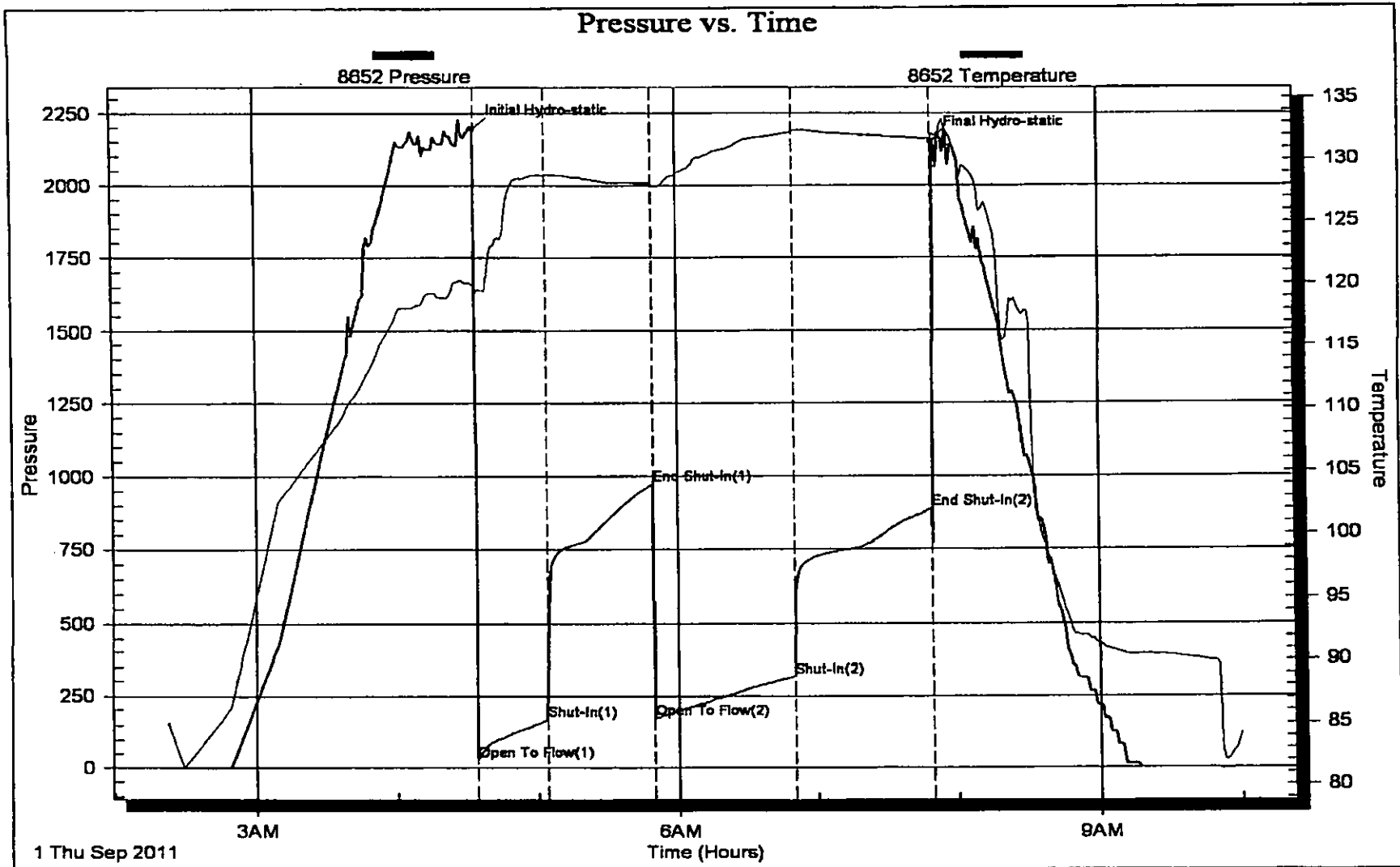
Num Gas Bombs: 0

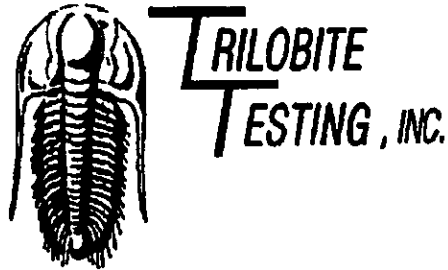
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW is 1. @ 871= 4600





## DRILL STEM TEST REPORT

Prepared For: **Credo Petroleum Corporation**

1801 Broadway #900  
Denver, CO 80202

ATTN: Bruce Ard

**3-17s-29w Lane,KS**

**Sandra #1-3**

Start Date: 2011.09.01 @ 20:17:05

End Date: 2011.09.02 @ 04:10:59

Job Ticket #: 43645                      DST #: 6

Trilobite Testing, Inc  
PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Credo Petroleum Corporation

Sandra #1-3

3-17s-29w Lane,KS

DST # 6

Lower Cherokee - Joh

2011.09.01



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Credo Petroleum Corporation

Sandra #1-3

1801 Broadway #900  
Denver, CO 80202

3-17s-29w Lane, KS

Job Ticket: 43645      DST#: 6

ATTN: Bruce Ard

Test Start: 2011.09.01 @ 20:17:05

### GENERAL INFORMATION:

Formation: Lower Cherokee - Joh

Deviated: No Whipstock      ft (KB)

Time Tool Opened: 22:23:30

Time Test Ended: 04:10:59

Test Type: Conventional Bottom Hole

Tester: Will MacLean

Unit No: 40

Interval: 4480.00 ft (KB) To 4531.00 ft (KB) (TVD)

Total Depth: 4531.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2808.00 ft (KB)

2803.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8652

Inside

Press@RunDepth: 170.80 psig @ 4481.00 ft (KB)

Start Date: 2011.09.01

End Date:

2011.09.02

Start Time: 20:17:05

End Time:

04:10:59

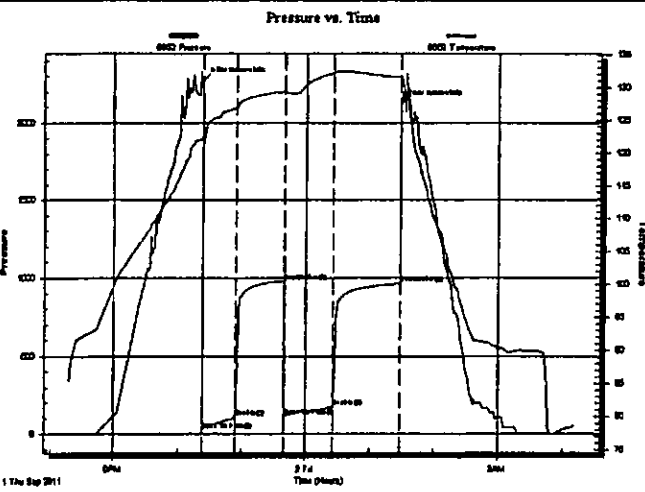
Capacity: 8000.00 psig

Last Calib.: 2011.09.02

Time On Btm 2011.09.01 @ 22:23:15

Time Off Btm 2011.09.02 @ 01:27:44

TEST COMMENT: IF- BOB in 7 min  
IS- Surface Blow Built to 1/2" Died in 19min  
FF- BOB in 10 min  
FS- Surface Blow Built to 3 1/4" Died Back to 1 1/4"



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2270.76	122.38	Initial Hydro-static
1	27.26	121.50	Open To Flow (1)
31	105.28	126.81	Shut-In(1)
77	979.10	129.36	End Shut-In(1)
77	110.88	129.19	Open To Flow (2)
123	170.80	132.09	Shut-In(2)
184	963.40	131.54	End Shut-In(2)
185	2123.93	131.89	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (tbl)
63.00	10% oil 20%g 70%m	0.31
122.00	25%g 30%oil 45%m	0.61
125.00	30%g 30%m 40%oil	1.75
170.00	30%g 70%oil	2.38
0.00	800' GIP	0.00

### Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (McF/d)





**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Credo Petroleum Corporation

**Sandra #1-3**

1801 Broadway #900  
Denver, CO 80202

**3-17s-29w Lane, KS**

Job Ticket: 43645

**DST#: 6**

ATTN: Bruce Ard

Test Start: 2011.09.01 @ 20:17:05

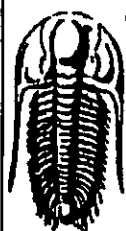
**Tool Information**

Drill Pipe:	Length: 4271.00 ft	Diameter: 3.80 inches	Volume: 59.91 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 184.00 ft	Diameter: 2.25 inches	Volume: 0.90 bbl	Weight to Pull Loose: 12000.00 lb
			<u>Total Volume: 60.81 bbl</u>	Tool Chased: ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4480.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	51.00 ft			
Tool Length:	79.00 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			4453.00	
Shut In Tool	5.00			4458.00	
Hydraulic tool	5.00			4463.00	
Jars	5.00			4468.00	
Safety Joint	2.00			4470.00	
Packer	5.00			4475.00	28.00 Bottom Of Top Packer
Packer	5.00			4480.00	
Stubb	1.00			4481.00	
Recorder	0.00	8652	Inside	4481.00	
Recorder	0.00	8360	Outside	4481.00	
Perforations	13.00			4494.00	
Change Over Sub	1.00			4495.00	
Drill Pipe	32.00			4527.00	
Change Over Sub	1.00			4528.00	
Bullhose	3.00			4531.00	51.00 Bottom Packers & Anchor

**Total Tool Length: 79.00**



**TRIOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Crede Petroleum Corporation

**Sandra #1-3**

1801 Broadway #900  
Denver, CO 80202

**3-17s-29w Lane, KS**

Job Ticket: 43645

DST#: 6

ATTN: Bruce Ard

Test Start: 2011.09.01 @ 20:17:05

### 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: 48.00 sec/qt

Cushion Volume:

bbf

Water Loss: 9.15 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2600.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbf
63.00	10% oil 20%g 70%m	0.310
122.00	25%g 30%oil 45%m	0.609
125.00	30%g 30%m 40%oil	1.753
170.00	30%g 70%oil	2.385
0.00	800' GIP	0.000

Total Length: 480.00ft Total Volume: 5.057 bbf

Num Fluid Samples: 0

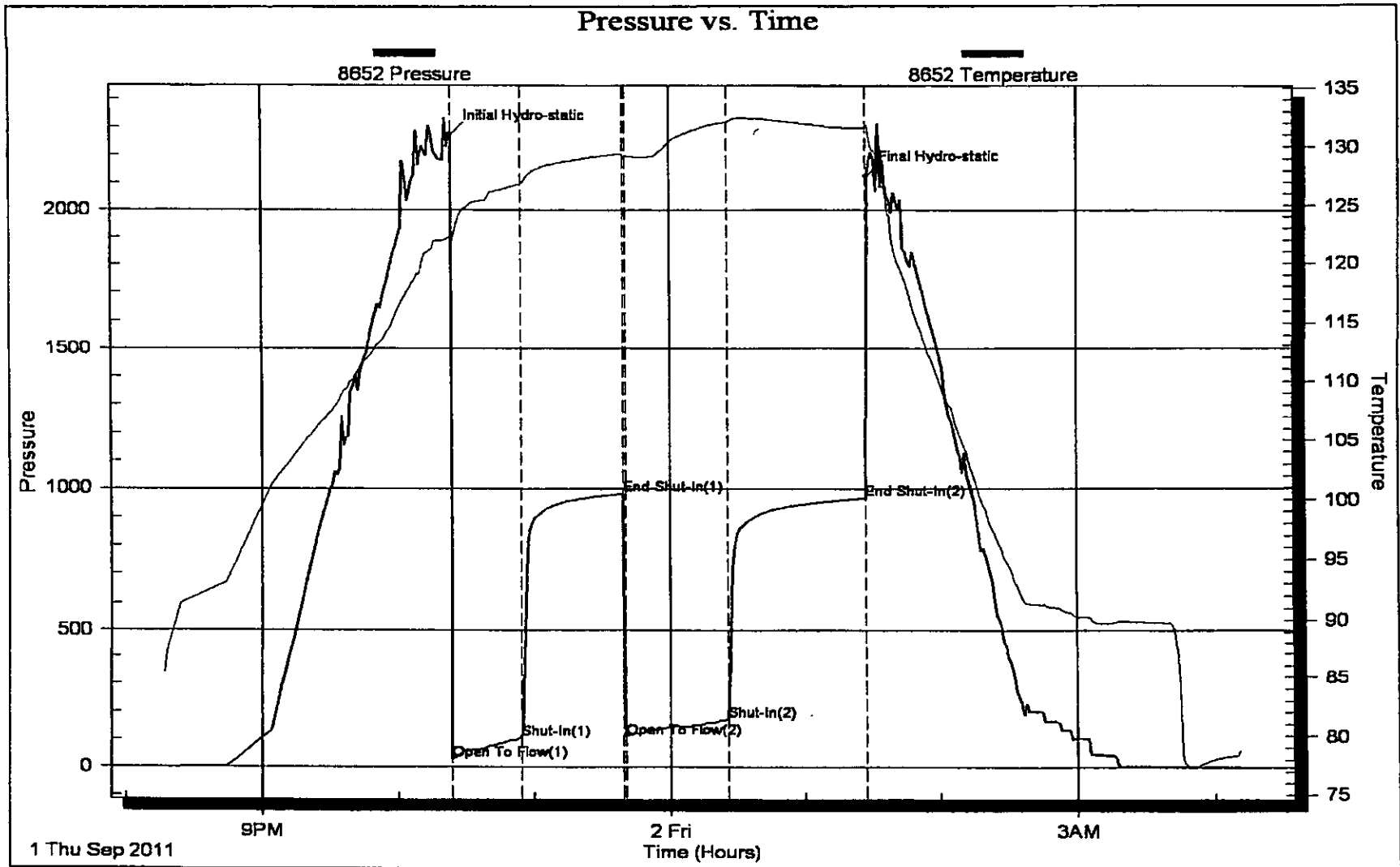
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API is 40 @ 80f = 38



Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Ward Loyd, Commissioner  
Thomas E. Wright, Commissioner

Sam Brownback, Governor

February 23, 2012

Jack Renfro  
Credo Petroleum Corporation  
1801 BROADWAY # 900  
DENVER, CO 80202-3858

Re: ACO1  
API 15-101-22306-00-00  
Sandra 1-3  
NE/4 Sec.03-17S-29W  
Lane County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
Jack Renfro

Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 207B  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Ward Loyd, Commissioner  
Thomas E. Wright, Commissioner

Sam Brownback, Governor

February 24, 2012

Jack Renfro  
Credo Petroleum Corporation  
1801 BROADWAY # 900  
DENVER, CO 80202-3858

Re: ACO-1  
API 15-101-22306-00-00  
Sandra 1-3  
NE/4 Sec.03-17S-29W  
Lane County, Kansas

Dear Jack Renfro:

K.A.R. 82-3-107 provides for all completion information to be filed within 120 days of the spud date. Subsection(e)(2) of that regulation states "All rights to confidentiality shall be lost if the filings are not timely."

The above referenced well was spudded on 8/23/2011 and the ACO-1 was received on February 23, 2012 (not within the 120 days timely requirement).

Therefore, your request for confidential treatment of data contained within the ACO-1 filing cannot be granted at this time.

If you should have any questions, please do not hesitate to contact me at (316)337-6200.

Sincerely,

Production Department