

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

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

Gas DH EOR

OG GSW

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 EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

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 Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

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 Geologist Report / Mud Logs <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
--	---

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				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	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> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Coachman Energy Operating Company LLC
Well Name	WASINGER 1-23-15-20
Doc ID	1361079

All Electric Logs Run

Borehole Volume
Comp. Density Neutron
Dual Induction
Micro Resistivity

Form	ACO1 - Well Completion
Operator	Coachman Energy Operating Company LLC
Well Name	WASINGER 1-23-15-20
Doc ID	1361079

Tops

Name	Top	Datum
Anhydrite Top	1300	+774
Anhydrite Base	1339	+735
Stottler	2880	-806
Tarkio	2921	-847
Topeka	3046	-972
King Hill	3172	-1098
Queen Hill	3234	-1160
Heebner	3318	-1244
Toronto	3342	-1268
Lansing	3364	-1290
Pre-Cambrian	3685	-1618

Form	ACO1 - Well Completion
Operator	Coachman Energy Operating Company LLC
Well Name	WASINGER 1-23-15-20
Doc ID	1361079

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	3391-3395	2500 gal	3414
4	3398-3402		
4	3410-3414		



1473

RECEIVED

Date: 7/10/2017
Invoice # 1585

JUL 17 2017

P.O.#:

QUALITY OILWELL CEMENTING, INC.
PO Box 32 - 740 WEST WICHITA AVE, RUSSELL KS 67665
PHONE:785-324-1041 FAX:785-483-1087
EMAIL: cementing@ruraltel.net

Due Date: 8/9/2017
Division: Russell

BP

Invoice

Contact:
CYNOSURE ENERGY LLC
Address/Job Location:

1125 17th Street, Suite 410
DENVER CO 80113

Reference:
WASINGER 1-23 SEC 23-15-20

Description of Work:
PORT COLLAR JOB

APPROVED
By Bob Plante at 12:18 pm, Jul 17, 2017



Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 501.64	No				
Multi Density- 80/20	225	\$ 2,656.63	Yes				
Bulk Truck Matl-Material Service Charge	300	\$ 202.41	No				
Flo Seal	75	\$ 101.20	Yes				
Pump Truck Mileage-Job to Nearest Camp	21	\$ 63.76	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	21	\$ 49.59	No				

Invoice Terms:

Net 30

SubTotal: \$ 3,575.23

Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (89.38)

SubTotal for Taxable Items: \$ 2,688.89

SubTotal for Non-Taxable Items: \$ 796.96

Total: \$ 3,485.85

Tax: \$ 188.22

7.00% Ellis County Sales Tax

Thank You For Your Business!

Amount Due: \$ 3,674.07

Applied Payments:

Balance Due: \$ 3,674.07

Past Due Invoices are subject to a service charge (annual rate of 24%)
This does not include any applicable taxes unless it is listed.
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QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

Home Office P.O. Box 32 Russell, KS 67665

No. 1585

Cell 785-324-1041

Date	7-10-17	Sec.	23	Twp.	15	Range	20	County	Ellis	State	KS	On Location		Finish	11:30 a.m.
------	---------	------	----	------	----	-------	----	--------	-------	-------	----	-------------	--	--------	------------

Location Antonino 3w 3s 1w

Lease	<u>Wassinger B</u>	Well No.	<u>1-23</u>	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	<u>Express</u>			Charge To	<u>Coachman Energy</u>
Type Job	<u>Part Collar</u>	T.D.		Street	
Hole Size	<u>7 1/8</u>	Depth		City	State
Csg.	<u>5 1/2</u>	Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tbg. Size	<u>2 7/8</u>	Depth	<u>1313</u>	Cement Amount Ordered	<u>300 80/100 QMDC 1/4 #10</u>
Tool	<u>Part Collar</u>	Shoe Joint			
Cement Left in Csg.					

Meas Line		Displace	<u>4 BCL</u>	Common	<u>used 225 80/100 QMDC</u>
EQUIPMENT				Poz. Mix	
Pumptrk	<u>18</u>	No.	<u>Cement Helper Craig</u>	Gel.	
Bulktrk		No.	<u>Driver Brett</u>	Calcium	
Bulktrk	<u>20</u>	No.	<u>Driver Tom</u>	Hulls	

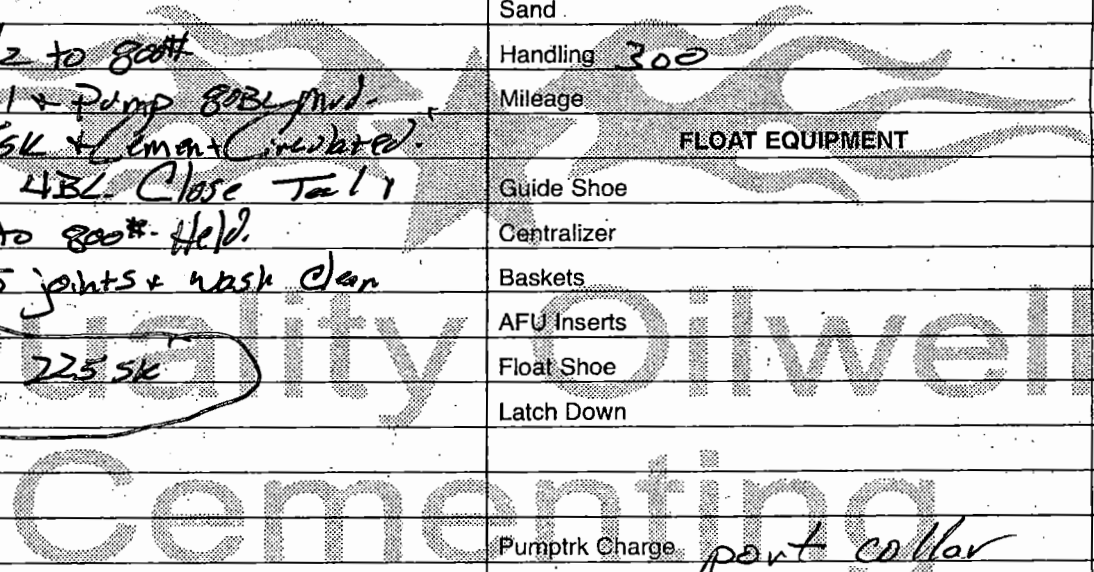
JOB SERVICES & REMARKS

Remarks:	<u>KCC Pat Before</u>	Salt	
Rat Hole		Flowseal	<u>75#</u>
Mouse Hole		Kol-Seal	
Centralizers		Mud CLR 48	
Baskets		CFL-117 or CD110 CAF 38	
D/V or Port Collar		Sand	
	<u>Test 5 1/2 to 800#</u>	Handling	<u>300</u>
	<u>Open Tool + Pump 800# Mud.</u>	Mileage	
	<u>Mix 225 SK + Cement (circulated).</u>		
	<u>Displace 4 BCL. Close Tail</u>		
	<u>Test to 800# - Held.</u>		
	<u>Run 5 joints + wash clean</u>		

FLOAT EQUIPMENT

		Guide Shoe	
		Centralizer	
		Baskets	
		AFU Inserts	
		Float Shoe	
		Latch Down	
		Pumptrk Charge	<u>part collar</u>
		Mileage	<u>21</u>

X Signature	<u>Bob Plaut</u>	Tax	
		Discount	
		Total Charge	



RECEIVED

MTB

JUL 05 2017

Date: 6/20/2017
Invoice # 1569

P.O.#:

Due Date: 7/20/2017

Division: Russell

BP



QUALITY OILWELL CEMENTING, INC.
PO Box 32 - 740 WEST WICHITA AVE, RUSSELL KS 67665
PHONE: 785-324-1041 FAX: 785-483-1087
EMAIL: cementing@ruraltel.net

Invoice

ENTERED

Contact:
CYNOSURE ENERGY LLC
Address/Job Location:

1125 17th Street, Suite 410
DENVER CO 80113

Reference:

Wasinger 1-23 sec. 23-15-20

Description of Work:
SURFACE JOB

APPROVED

By Bob Plante at 8:32 pm, Jul 07, 2017



Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 601.97	No				
Common-Class A	136	\$ 1,523.20	Yes				
Calcium Chloride	6	\$ 226.70	Yes				
POZ Mix-Standard	34	\$ 160.58	Yes				
Bulk Truck Matl-Material Service Charge	179	\$ 120.77	No				
Pump Truck Mileage-Job to Nearest Camp	22	\$ 66.80	No				
Premium Gel (Bentonite)	3	\$ 58.70	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	22	\$ 51.95	No				

Invoice Terms:

Net 30

SubTotal: \$ 2,810.66

~~Discount Available ONLY if Invoice is Paid & Received~~
within listed terms of invoice: \$ (70.27)

SubTotal for Taxable Items: \$ 1,919.95

SubTotal for Non-Taxable Items: \$ 820.45

Total: \$ 2,740.39

Tax: \$ 134.40

7.00% Ellis County Sales Tax

Amount Due: \$ 2,874.79

Applied Payments:

Balance Due: \$ 2,874.79

Thank You For Your Business!

Past Due Invoices are subject to a service charge (annual rate of 24%)
This does not include any applicable taxes unless it is listed.
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QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1569

Date	Sec.	Twp.	Range	County	State	On Location	Finish
6-20-17	23	15	20	Ellis	KS		3:45 AM

Location Antero 3w 3s 1w into

Lease: Wasinger 1-23	Well No.	Owner
Contractor: Duke #2		To: Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Type Job: Surface		Charge To: Coachman
Hole Size: 12 1/4	T.D. # 212	
Csg. 8 5/8	Depth 211	
Tbg. Size	Depth	Street
Tool	Depth	City
Cement Left in Csg. 10'	Shoe Joint	State
Meas Line	Displace 12 3/4 BC	The above was done to satisfaction and supervision of owner agent or contractor.
		Cement Amount Ordered 170 8/20 3-1-CC 2-1-CEL

EQUIPMENT

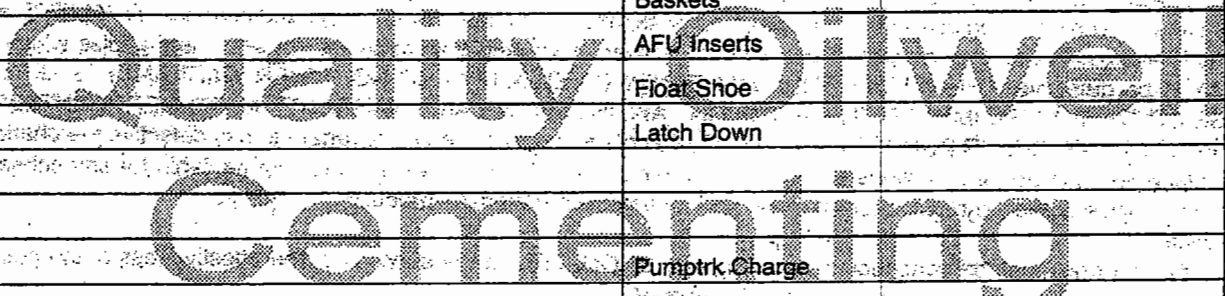
Pumptrk 20 No. Cementer/Helper [Signature]	Common
Bulktrk No. Driver [Signature]	Poz. Mix
Bulktrk 3 No. Driver [Signature]	Gel.
	Calcium

JOB SERVICES & REMARKS

Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48'
D/V or Port Collar	CFL-117 or CD110 CAF 38
Cement [Signature]	Sand
	Handling
	Mileage

FLOAT EQUIPMENT

Guide Shoe 8 5/8 Sauge	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	



Pumptrk Charge	
Mileage	
	Tax
	Discount
Signature: [Signature]	Total Charge

1473 RECEIVED

JUL 05 2017

Date: 6/28/2017
Invoice # 1577



QUALITY OILWELL CEMENTING, INC.
PO BOX 32 - 740 WEST WICHITA AVE, RUSSELL KS 67665
PHONE: 785-324-1041 FAX: 785-483-1087
EMAIL: cementing@ruraltel.net

BP

P.O.#:
Due Date: 7/28/2017
Division: Russell

Invoice

Contact:
CYNOSURE ENERGY LLC
Address/Job Location:



1125 17th Street, Suite 410
DENVER CO 80113

APPROVED
By Bob Plante at 8:34 pm, Jul 07, 2017

Reference:
WASINGER 1-23 SEC 23-15-20

Description of Work:
PROD STRING

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 601.97	No	Pump Truck Mileage-Job to Nearest Camp	18	\$54.65	No
Multi Density- 80/20	185	\$ 2,184.34	Yes	Bulk Truck Mileage-Job to Nearest Bulk Plant	18	\$42.51	No
Cement Port Collar, 5 1/2"	1	\$ 1,754.22	Yes				
Gilsonite	850	\$ 860.24	Yes				
5 1/2" Basket	3	\$ 566.75	Yes				
5 1/2" Turbolizer	10	\$ 485.78	Yes				
Mud Clear	500	\$ 249.64	Yes				
Auto Fill Float Shoe, 5 1/2"	1	\$ 226.70	Yes				
Latch Down Plug & Baffle, 5 1/2"	1	\$ 179.47	Yes				
Salt (Fine)	15	\$ 132.58	Yes				
Bulk Truck Matl-Material Service Charge	208	\$ 140.34	No				

Invoice Terms:

Net 30

	SubTotal:	\$ 7,479.17
	Discount Available ONLY if Invoice is Paid & Received	\$ (186.98)
	within listed terms of invoice:	
	SubTotal for Taxable Items:	\$ 6,473.72
	SubTotal for Non-Taxable Items:	\$ 818.47
	Total:	\$ 7,292.19
	Tax:	\$ 453.16

7.00% Ellis County Sales Tax

Thank You For Your Business!

Amount Due: \$ 7,745.35
Applied Payments:
Balance Due: \$ 7,745.35

Past Due Invoices are subject to a service charge (annual rate of 24%)
This does not include any applicable taxes unless it is listed.
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Discount Price

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1577

Date	Sec.	Twp.	Range	County	State	On Location	Finish
6-28-17	23	15	20	Ellis	KS		8:22 AM

Location Antonino 3w 3s 1w

Lease <u>Wesinger</u>	Well No. <u>1-23</u>	Owner
Contractor <u>Duke</u>		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Type Job <u>Production String</u>		Charge To <u>Coachmen Energy</u>
Hole Size <u>7 7/8</u>	T.D. <u>3750</u>	Street
Csg. <u>5 1/2</u>	Depth <u>3745</u>	City
Tbg. Size	Depth	State
Tool <u>Port Collar</u>	Depth <u>1311</u>	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg. <u>20.90</u>	Shoe Joint <u>20.90</u>	Cement Amount Ordered <u>18.5 com 10% Salt 5% li/sol wt</u>
Meas Line	Displace <u>88 1/2 BC</u>	<u>500 gal mud clar</u> 500 gal <u>pro C</u>
EQUIPMENT		Common <u>185 pro C</u>
Pumptrk <u>5</u> No. <u>Craig</u>	Cement Helper	Poz. Mix
Bulktrk	No. <u>Driver</u> <u>Brent</u>	Gel.
Bulktrk <u>9</u> No. <u>Driver</u> <u>Tony</u>	Driver	Calcium

JOB SERVICES & REMARKS

Remarks:
Rat Hole 30 SK
Mouse Hole
Centralizers
Baskets
DNV or Port Collar
5 1/2 @ 3745 - Full @ 3724
Est. Circulation Pump 500 gal mud
Clear. Plug Rate @ 30 SK
Cement 5 1/2 with 155 SK.
Clear lines Displace Plug
Li. Pressure Cost.
Plug landed @ 1320 ft

Hulls	
Salt <u>15</u>	
Flowseal	
Kol-Seal <u>850 ft</u>	
Mud CLR 48 <u>500 gal</u>	
CFL-117 or CD110 CAF 38	
Sand	
Handling <u>208</u>	
Mileage	
FLOAT EQUIPMENT	
Guide Shoe	
Centralizer <u>10</u>	
Baskets <u>3</u>	
AFU Inserts <u>Port Collar</u>	
Float Shoe <u>1</u>	
Latch Down <u>1</u>	
Pumptrk Charge <u>prod string</u>	
Mileage <u>18</u>	

X Signature Bob Planty

Tax
Discount
Total Charge



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Coachman Energy Operating Co., LLC

23-15S-20W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Charlie Sturdavant

Wasinger #1-23-15-20

Job Ticket: 63197 **DST#: 1**

Test Start: 2017.06.23 @ 21:47:56

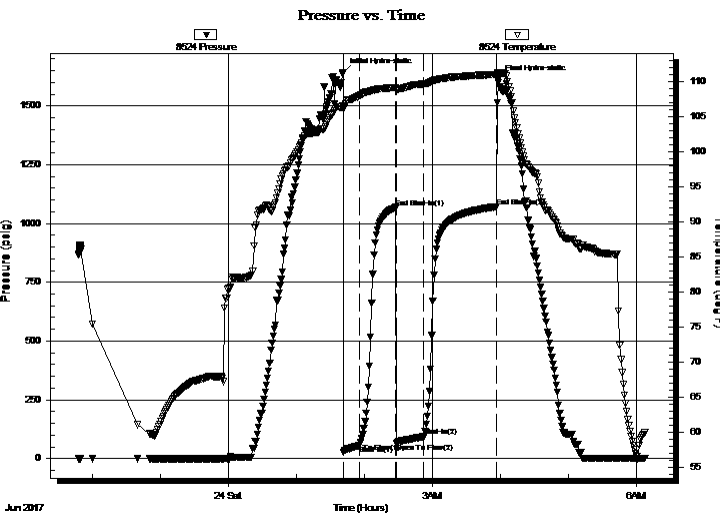
GENERAL INFORMATION:

Formation: **LKC "A-D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:41:47
 Time Test Ended: 06:08:02
 Interval: **3354.00 ft (KB) To 3420.00 ft (KB) (TVD)**
 Total Depth: 3420.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 2074.00 ft (KB)
 2066.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8524 Outside

Press@RunDepth: 93.07 psig @ 3385.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.06.23 End Date: 2017.06.24 Last Calib.: 2017.06.24
 Start Time: 21:47:57 End Time: 06:08:02 Time On Btm: 2017.06.24 @ 01:41:32
 Time Off Btm: 2017.06.24 @ 03:58:17

TEST COMMENT: 15- IF- BOB 5mins
 30- IS- Surface blow died in 10mins
 30- FF- BOB instantly
 60- FSI- Built to 2" then died back to 1"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1642.70	106.58	Initial Hydro-static
1	27.62	106.24	Open To Flow (1)
15	56.37	108.03	Shut-In(1)
46	1068.11	109.20	End Shut-In(1)
48	63.27	108.94	Open To Flow (2)
72	93.07	109.72	Shut-In(2)
136	1071.49	111.07	End Shut-In(2)
137	1611.55	111.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	GMCO, 30%G 25%M 45%O	2.64

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Coachman Energy Operating Co., LLC

23-15S-20W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Charlie Sturdavant

Wasinger #1-23-15-20

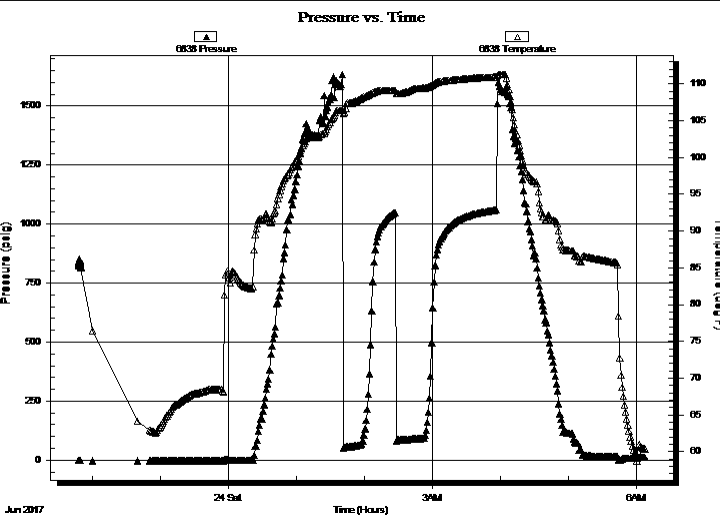
Job Ticket: 63197 **DST#: 1**
Test Start: 2017.06.23 @ 21:47:56

GENERAL INFORMATION:

Formation: **LKC "A-D"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 01:41:47
 Tester: Brannan Lonsdale
 Time Test Ended: 06:08:02
 Unit No: 73
 Interval: **3354.00 ft (KB) To 3420.00 ft (KB) (TVD)**
 Reference Elevations: 2074.00 ft (KB)
 Total Depth: 3420.00 ft (KB) (TVD)
 2066.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 KB to GR/CF: 8.00 ft

Serial #: 6838 Inside
 Press@RunDepth: psig @ 3385.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.06.23 End Date: 2017.06.24 Last Calib.: 2017.06.24
 Start Time: 21:47:31 End Time: 06:07:36 Time On Btm:
 Time Off Btm:

TEST COMMENT: 15- IF- BOB 5mins
 30- IS- Surface blow died in 10mins
 30- FF- BOB instantly
 60- FSI- Built to 2" then died back to 1"



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery		
Length (ft)	Description	Volume (bbl)
186.00	GMCO, 30%G 25%M 45%O	2.64

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Coachman Energy Operating Co., LLC

23-15S-20W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Charlie Sturdavant

Wasinger #1-23-15-20

Job Ticket: 63197

DST#: 1

Test Start: 2017.06.23 @ 21:47:56

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.00 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3100.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	GMCO, 30%G 25%M 45%O	2.637

Total Length: 186.00 ft Total Volume: 2.637 bbl

Num Fluid Samples: 0

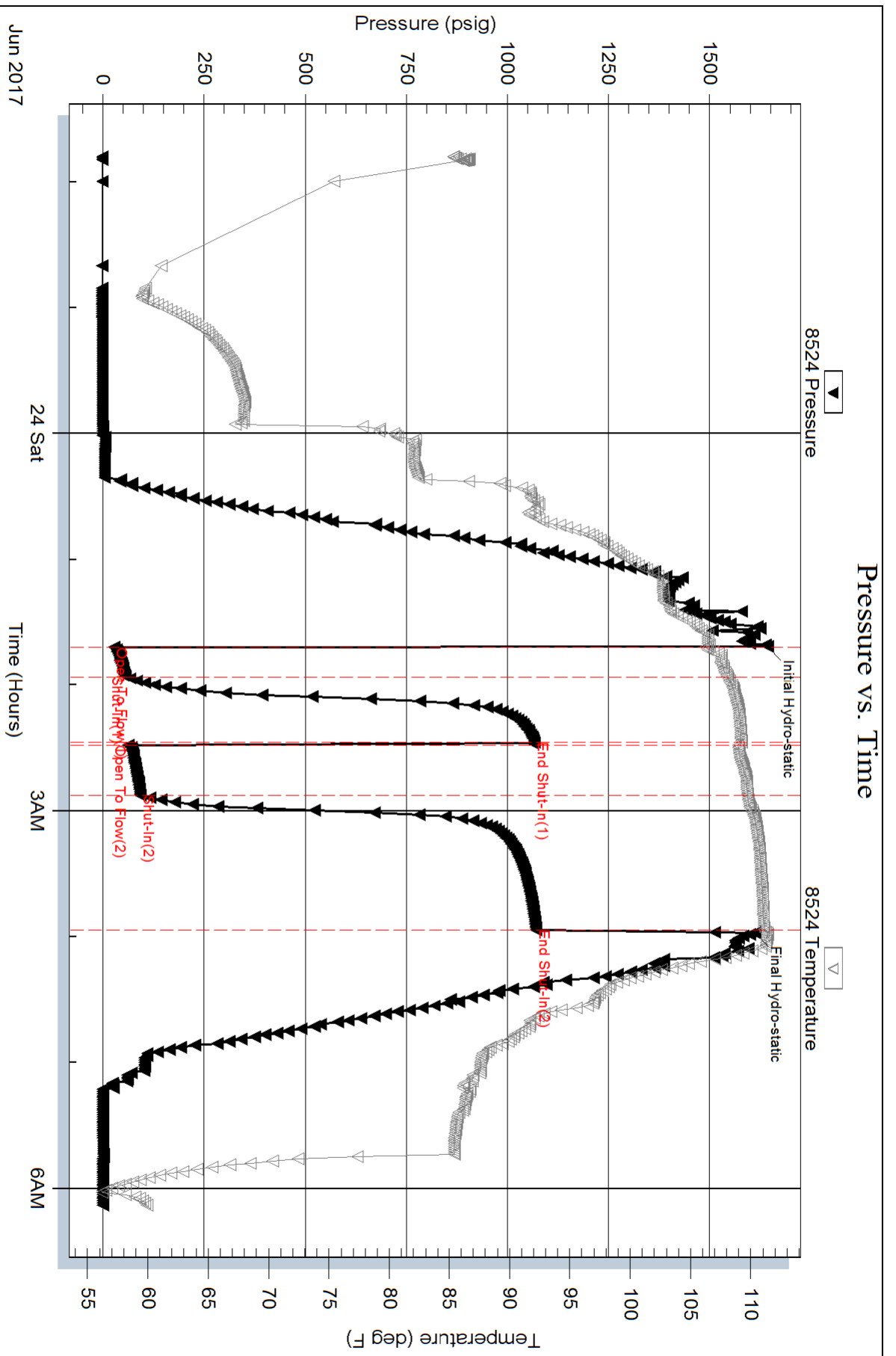
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler: 2000mL O @ 1170 PSI



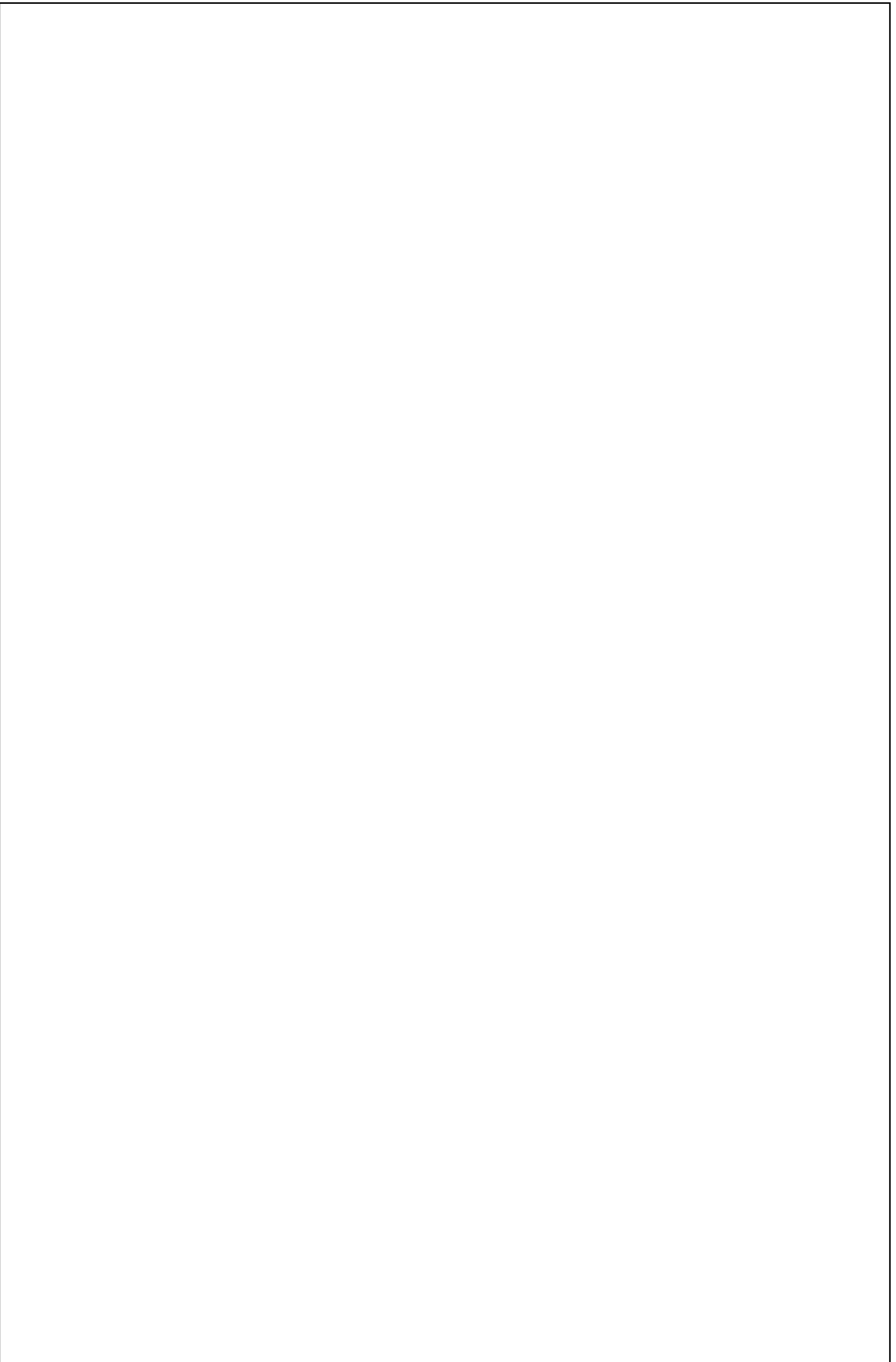
Serial #: 6838

Inside

Coachman Energy Operating Co., LLC

Wasinger #1-23-15-20

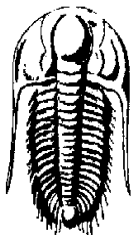
DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 63197

Printed: 2017.06.24 @ 07:57:15



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Coachman Energy Operating Co., LLC

23-15S-20W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Charlie Sturdavant

Wasinger #1-23-15-20

Job Ticket: 63198 **DST#: 2**
Test Start: 2017.06.24 @ 14:59:51

GENERAL INFORMATION:

Formation: **LKC "E&F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:05:12

Time Test Ended: 22:22:57

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 73

Interval: **3425.00 ft (KB) To 3450.00 ft (KB) (TVD)**

Total Depth: 3450.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2074.00 ft (KB)

2066.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8524 Outside

Press@RunDepth: 95.01 psig @ 3447.00 ft (KB)

Start Date: 2017.06.24

Start Time: 14:59:52

End Date:

End Time:

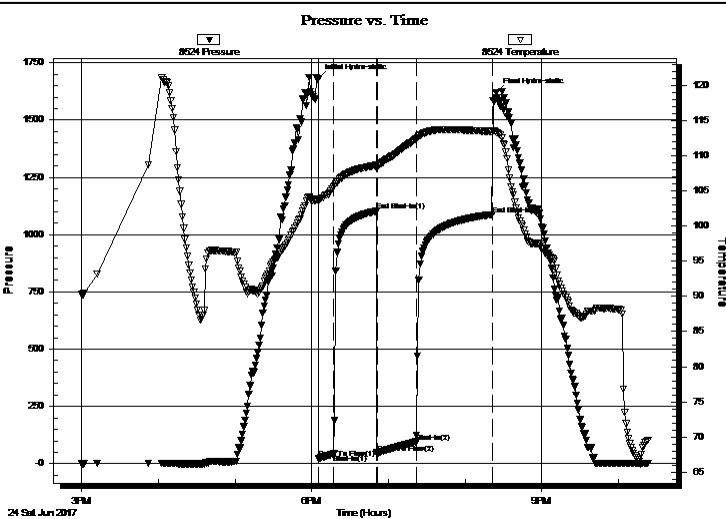
Capacity: 8000.00 psig

Last Calib.: 2017.06.24

Time On Btm: 2017.06.24 @ 18:04:57

Time Off Btm: 2017.06.24 @ 20:23:57

TEST COMMENT: 15- IF- Slow ly built to 5.5"
30- IS- No blow
30- FF- Slow ly built to 8.5"
60- FSI- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1681.94	103.87	Initial Hydro-static
1	21.87	103.58	Open To Flow (1)
13	42.88	105.60	Shut-In(1)
46	1102.16	108.62	End Shut-In(1)
47	46.48	108.48	Open To Flow (2)
77	95.01	112.38	Shut-In(2)
136	1087.96	113.45	End Shut-In(2)
139	1620.50	113.40	Final Hydro-static

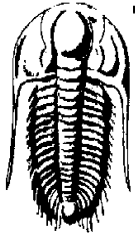
Recovery

Length (ft)	Description	Volume (bbl)
155.00	MW, 30%M 70%W	2.20

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Coachman Energy Operating Co., LLC

23-15S-20W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Charlie Sturdavant

Wasinger #1-23-15-20

Job Ticket: 63198 **DST#: 2**

Test Start: 2017.06.24 @ 14:59:51

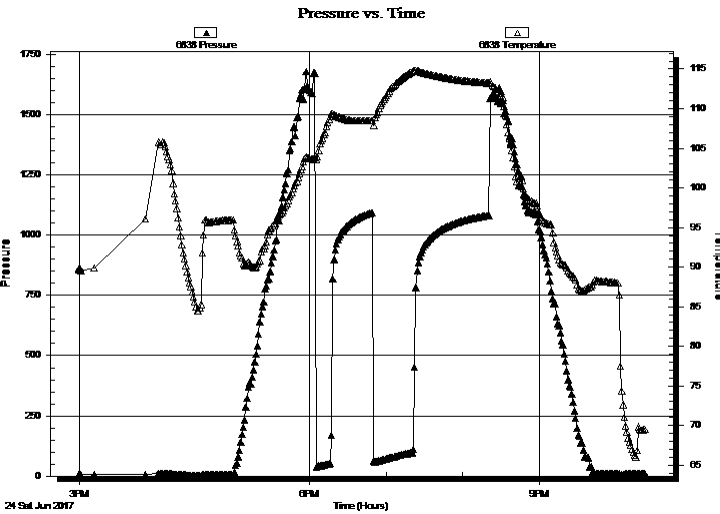
GENERAL INFORMATION:

Formation: LKC "E&F"			
Deviated: No Whipstock:		ft (KB)	Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 18:05:12			Tester: Brannan Lonsdale
Time Test Ended: 22:22:57			Unit No: 73
Interval: 3425.00 ft (KB) To 3450.00 ft (KB) (TVD)			Reference Elevations: 2074.00 ft (KB)
Total Depth: 3450.00 ft (KB) (TVD)			2066.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Fair		KB to GR/CF: 8.00 ft

Serial #: 6838 Inside

Press@RunDepth: psig @ 3447.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2017.06.24 End Date: 2017.06.24	Last Calib.: 2017.06.24
Start Time: 14:59:26 End Time: 22:22:31	Time On Btm:
	Time Off Btm:

TEST COMMENT: 15- IF- Slow ly built to 5.5"
 30- IS- No blow
 30- FF- Slow ly built to 8.5"
 60- FS- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
155.00	MW, 30%M 70%W	2.20

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Coachman Energy Operating Co., LLC

23-15S-20W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Charlie Sturdavant

Wasinger #1-23-15-20

Job Ticket: 63198

DST#: 2

Test Start: 2017.06.24 @ 14:59:51

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:

72000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7100.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
155.00	MW, 30%M 70%W	2.197

Total Length: 155.00 ft Total Volume: 2.197 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

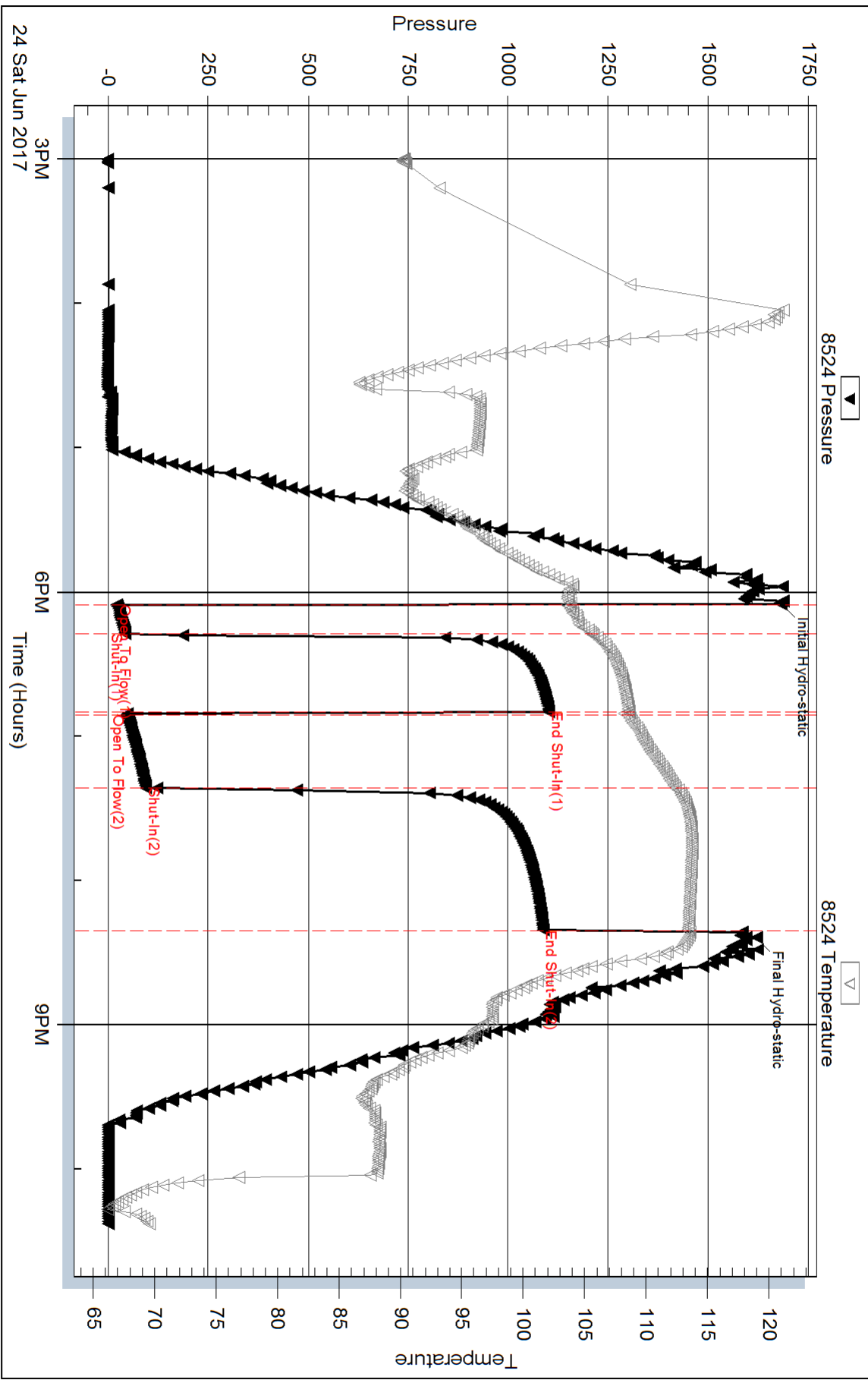
Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler: 300mL M & 1700mL W @ 95 PSI

RW: .09 @ 71deg

Pressure vs. Time



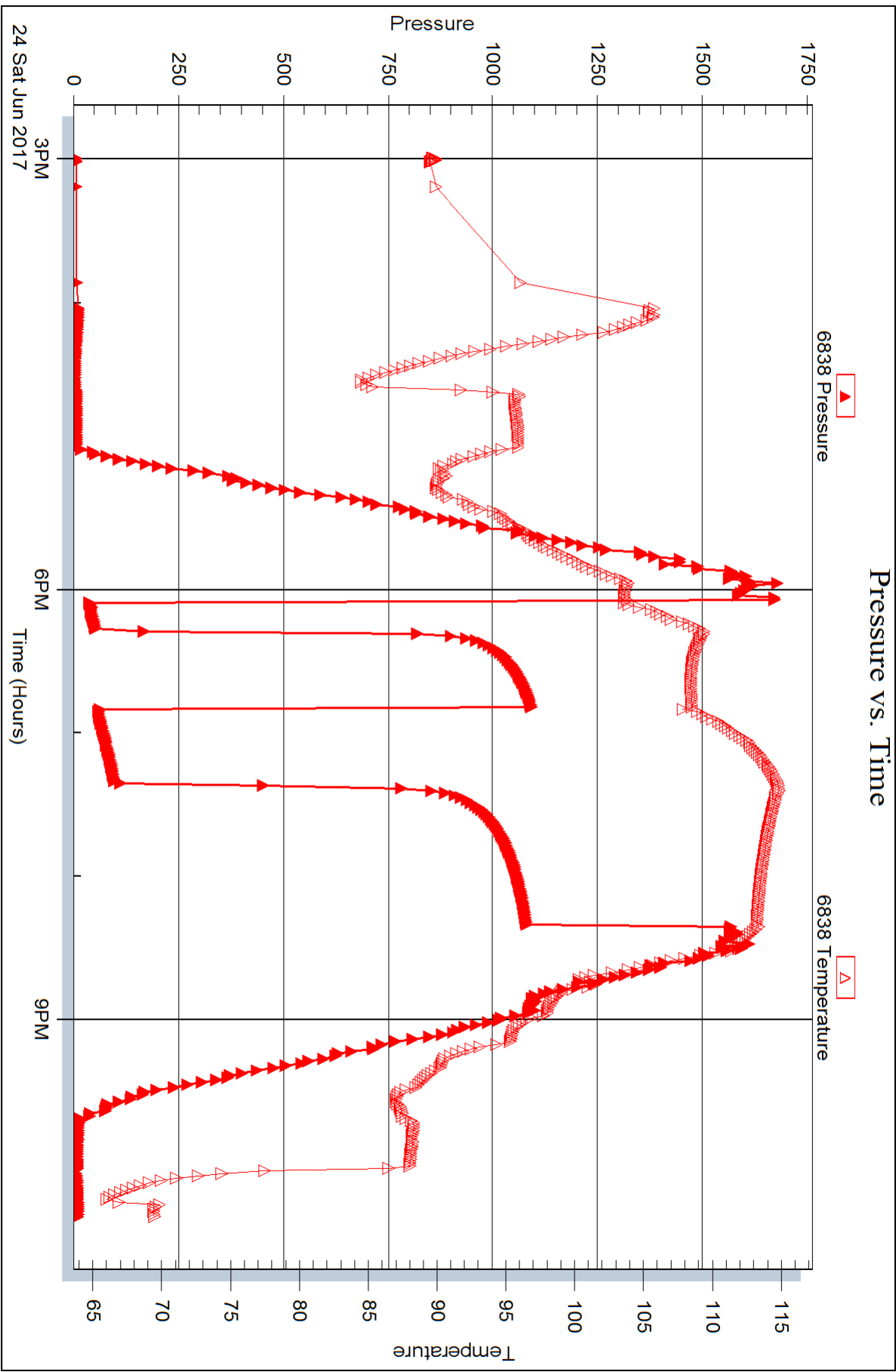
Serial #: 6838

Inside

Coachman Energy Operating Co., LLC

Wasinger #1-23-15-20

DST Test Number: 2





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Coachman Energy Operating Co., LLC

23-15S-20W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Charlie Sturdavant

Wasinger #1-23-15-20

Job Ticket: 63199 **DST#: 3**

Test Start: 2017.06.25 @ 10:59:19

GENERAL INFORMATION:

Formation: **LKC "G-I"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:57:55
 Time Test Ended: 17:15:55
 Interval: **3495.00 ft (KB) To 3540.00 ft (KB) (TVD)**
 Total Depth: 3540.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 2074.00 ft (KB)
 2066.00 ft (CF)
 KB to GR/CF: 8.00 ft

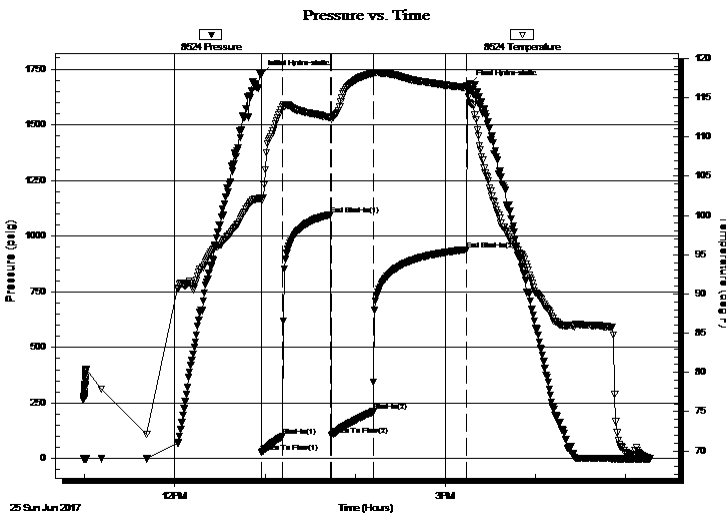
Serial #: 8524

Outside

Press@RunDepth: 211.51 psig @ 3507.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.06.25 End Date: 2017.06.25 Last Calib.: 2017.06.25
 Start Time: 10:59:20 End Time: 17:15:55 Time On Btm: 2017.06.25 @ 12:57:40
 Time Off Btm: 2017.06.25 @ 15:15:55

TEST COMMENT: 15- IF- BOB 7mins
 30- IS- No blow
 30- FF- BOB 10mins
 60- FSI- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1724.88	102.19	Initial Hydro-static
1	28.67	101.94	Open To Flow (1)
14	100.47	113.87	Shut-In(1)
46	1095.76	112.54	End Shut-In(1)
47	105.86	112.27	Open To Flow (2)
75	211.51	118.08	Shut-In(2)
136	939.58	116.31	End Shut-In(2)
139	1682.21	114.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	WM, 15%W 85%M	1.77
280.00	MW, 35%M 65%W	3.97

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Coachman Energy Operating Co., LLC

23-15S-20W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Charlie Sturdavant

Wasinger #1-23-15-20

Job Ticket: 63199

DST#: 3

Test Start: 2017.06.25 @ 10:59:19

GENERAL INFORMATION:

Formation: **LKC "G-I"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:57:55
 Time Test Ended: 17:15:55
 Interval: **3495.00 ft (KB) To 3540.00 ft (KB) (TVD)**
 Total Depth: 3540.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 2074.00 ft (KB)
 2066.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6838

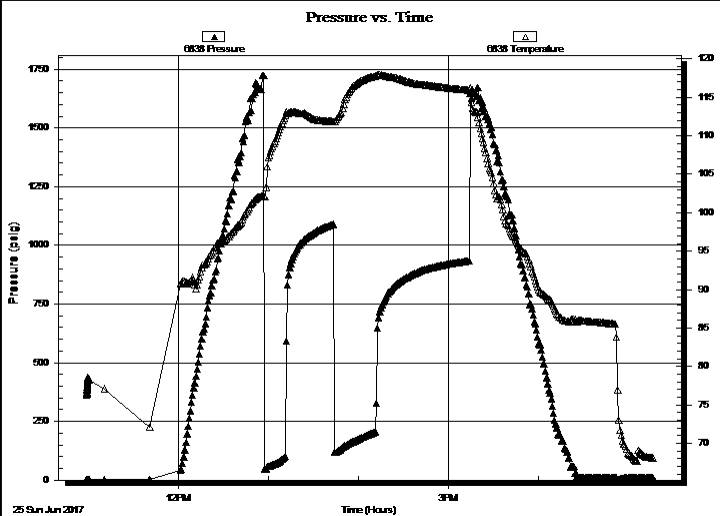
Inside

Press@RunDepth: psig @ 3507.00 ft (KB)
 Start Date: 2017.06.25 End Date: 2017.06.25
 Start Time: 10:59:07 End Time: 17:15:42

Capacity: 8000.00 psig
 Last Calib.: 2017.06.25
 Time On Btm:
 Time Off Btm:

TEST COMMENT: 15- IF- BOB 7mins
 30- IS- No blow
 30- FF- BOB 10mins
 60- FS- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
125.00	WM, 15%W 85%M	1.77
280.00	MW, 35%M 65%W	3.97

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Coachman Energy Operating Co., LLC

23-15S-20W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Charlie Sturdavant

Wasinger #1-23-15-20

Job Ticket: 63199

DST#: 3

Test Start: 2017.06.25 @ 10:59:19

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 45.00 sec/qt
Water Loss: 7.80 in³
Resistivity: ohm.m
Salinity: 12800.00 ppm
Filter Cake: inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: 90000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	WM, 15%W 85%M	1.772
280.00	MW, 35%M 65%W	3.969

Total Length: 405.00 ft Total Volume: 5.741 bbl

Num Fluid Samples: 0

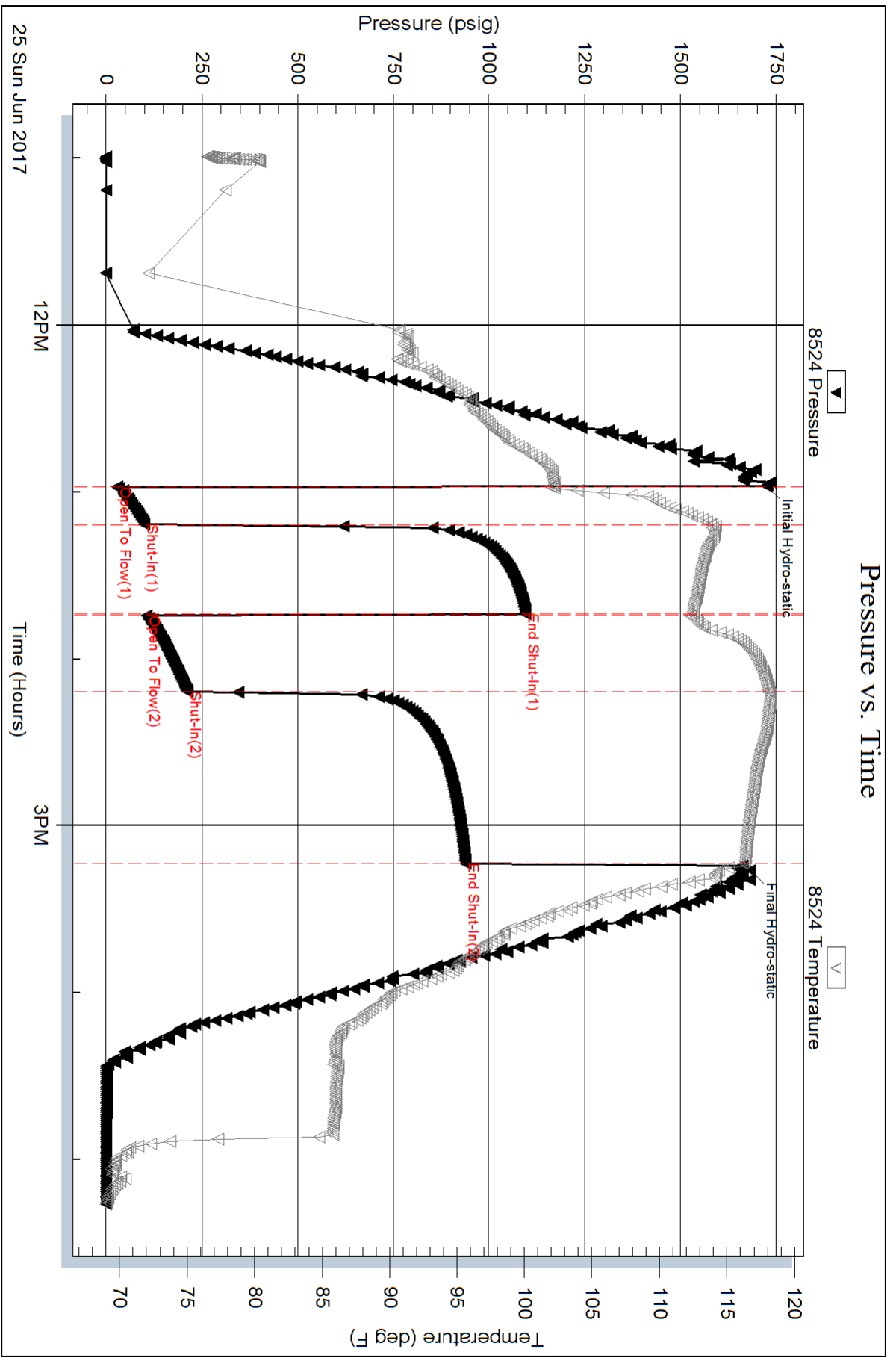
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler: 600mL M & 1400mL W @ 600 PSI
RW: .08 @ 65deg



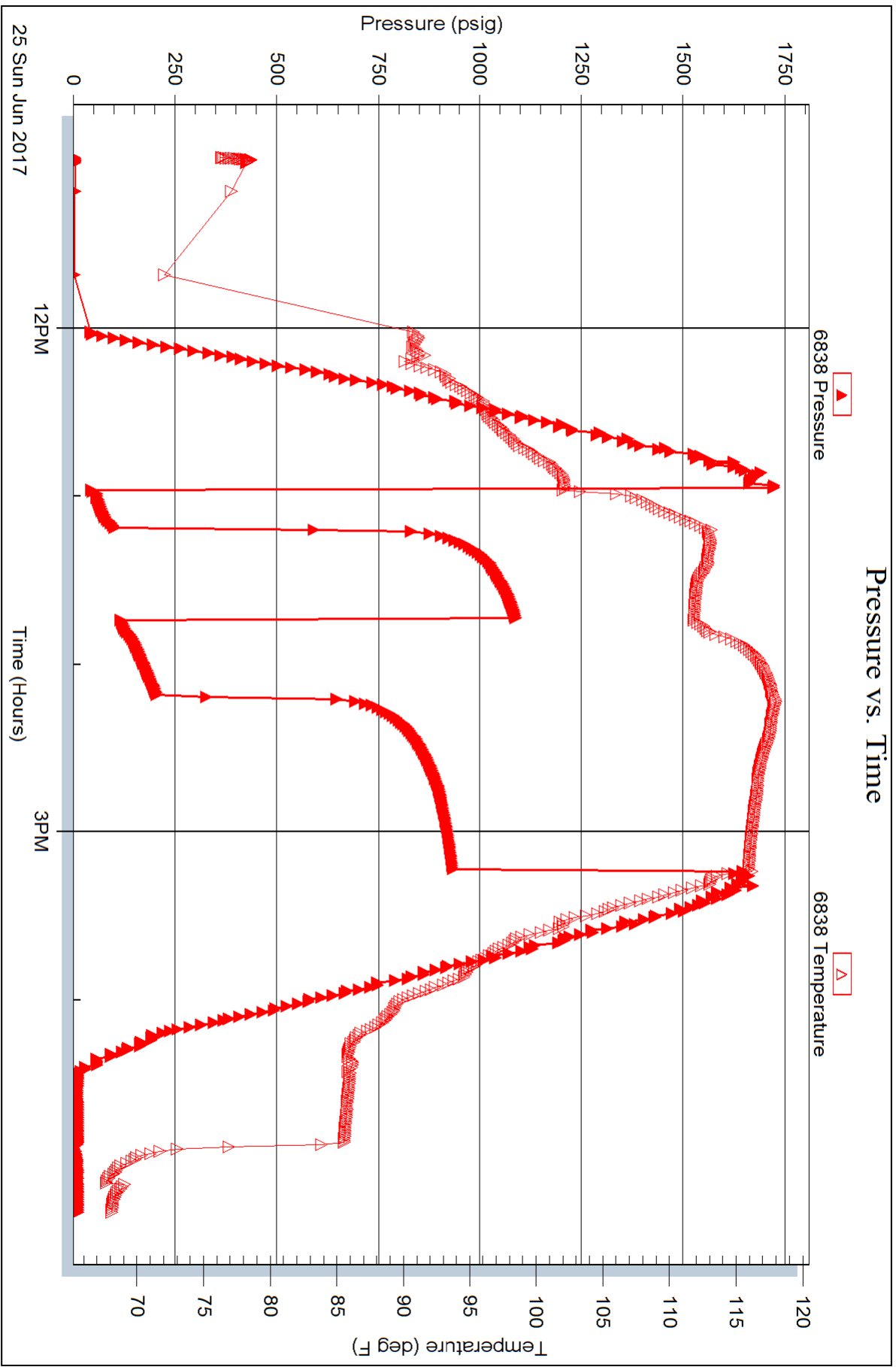
Serial #: 6838

Inside

Coachman Energy Operating Co., LLC

Wasinger #1-23-15-20

DST Test Number: 3





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Coachman Energy Operating Co., LLC

23-15S-20W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Charlie Sturdavant

Wasinger #1-23-15-20

Job Ticket: 63200 **DST#: 4**
Test Start: 2017.06.26 @ 09:51:46

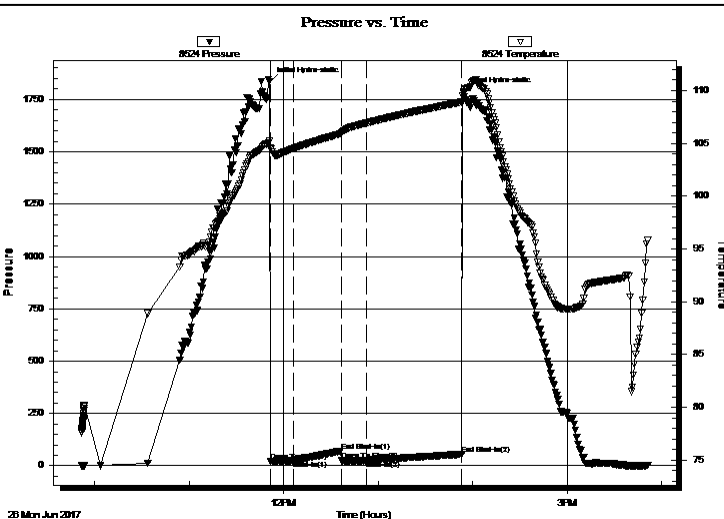
GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 11:51:37 Tester: Brannan Lonsdale
 Time Test Ended: 15:51:37 Unit No: 73
 Interval: **3612.00 ft (KB) To 3680.00 ft (KB) (TVD)** Reference Elevations: 2074.00 ft (KB)
 Total Depth: 3680.00 ft (KB) (TVD) 2066.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8524 Outside

Press@RunDepth: 24.88 psig @ 3616.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.06.26 End Date: 2017.06.26 Last Calib.: 2017.06.26
 Start Time: 09:51:47 End Time: 15:51:37 Time On Btm: 2017.06.26 @ 11:51:22
 Time Off Btm: 2017.06.26 @ 13:54:07

TEST COMMENT: 15- IF- Weak blow built to .5"
 30- IS- No blow
 15- FF- No blow
 60- FSI- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1834.95	105.21	Initial Hydro-static
1	22.54	104.61	Open To Flow (1)
15	24.30	104.51	Shut-In(1)
45	70.08	105.93	End Shut-In(1)
46	24.41	105.97	Open To Flow (2)
62	24.88	106.92	Shut-In(2)
122	55.28	108.91	End Shut-In(2)
123	1786.26	109.78	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	M	0.07

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Coachman Energy Operating Co., LLC

23-15S-20W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Charlie Sturdavant

Wasinger #1-23-15-20

Job Ticket: 63200 **DST#: 4**
Test Start: 2017.06.26 @ 09:51:46

GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 11:51:37 Tester: Brannan Lonsdale
 Time Test Ended: 15:51:37 Unit No: 73
Interval: 3612.00 ft (KB) To 3680.00 ft (KB) (TVD) Reference Elevations: 2074.00 ft (KB)
 Total Depth: 3680.00 ft (KB) (TVD) 2066.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

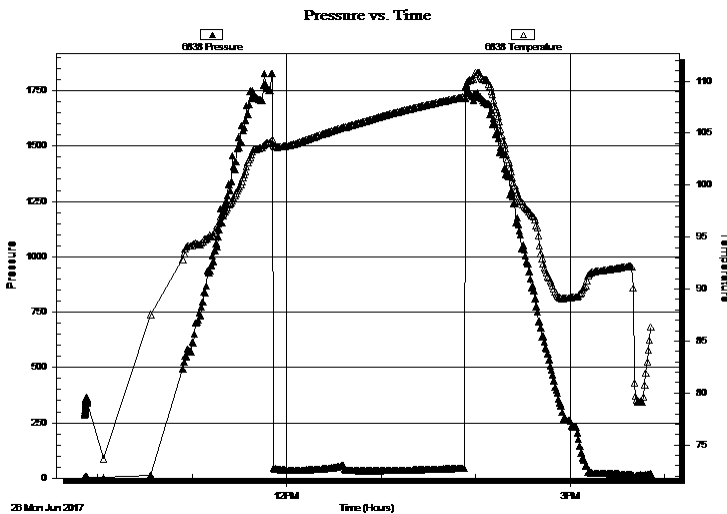
Serial #: 6838

Inside

Press@RunDepth: psig @ 3616.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.06.26 End Date: 2017.06.26 Last Calib.: 2017.06.26
 Start Time: 09:51:42 End Time: 15:51:32 Time On Btm:
 Time Off Btm:

TEST COMMENT: 15- IF- Weak blow built to .5"
 30- ISL- No blow
 15- FF- No blow
 60- FSI- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

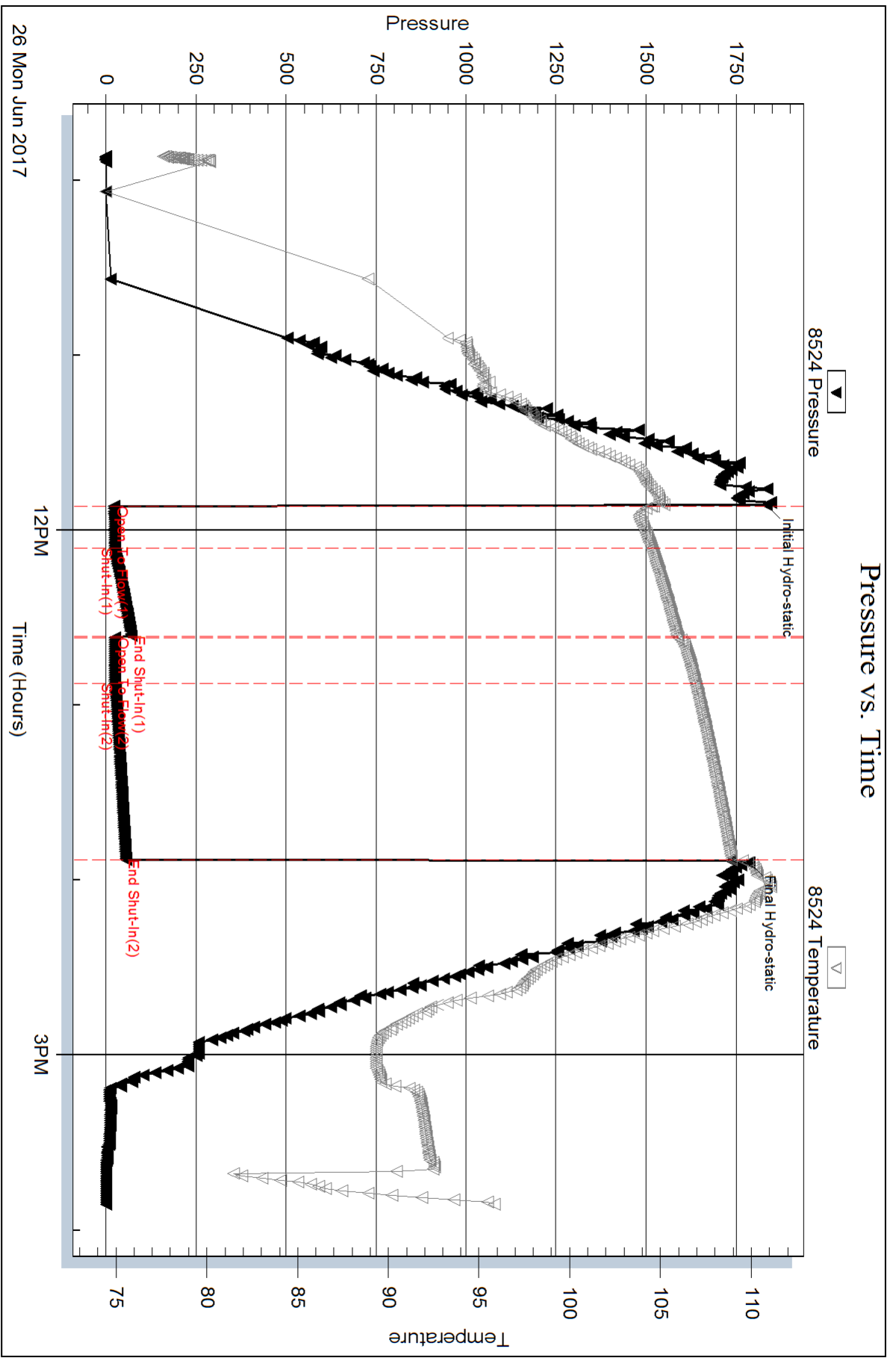
Recovery

Length (ft)	Description	Volume (bbl)
5.00	M	0.07

* Recovery from multiple tests

Gas Rates

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



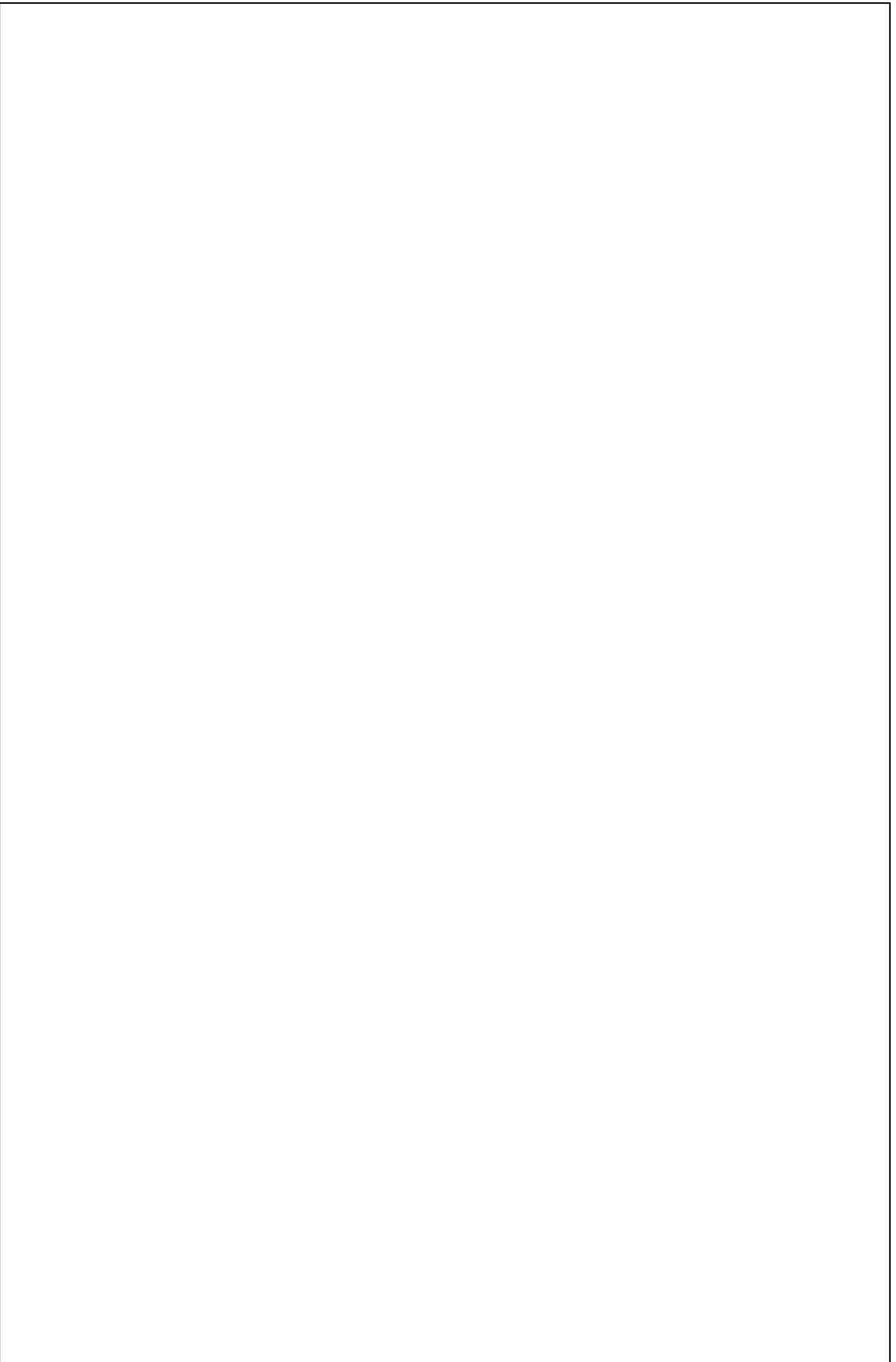
Serial #: 6838

Inside

Coachman Energy Operating Co., LLC

Wasinger #1-23-15-20

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 63200

Printed: 2017.06.26 @ 18:01:56

Cynsure Energy, LLC

1125 17th Street, Suite 410
Denver, CO 80202

Wasinger # 1-23-15-20

1170' FNL & 520' FEL
Sec. 23-T155-R20W
Ellis County, Kansas
KB = 2074'

Scale: 1:240 Imperial
Well Name: Cynsure Wasinger #1-23-15-20
Surface Location: 1125 FNL, 520' FEL, Sec 23-T155-R20W
Bottom Location: 15-015-26882

License Number: APL: 15-015-26882
Spud Date: 6/19/2017 Time: 7:45 PM
Region: Ellis County Time: 12:15 AM
Drilling Completed: 6/27/2017
Surface Coordinates:
Bottom Hole Coordinates:
Ground Elevation: 2066.00ft
Formation: Lansing/Kansas City
Logged Interval: 2800.00ft To: 3751.00ft
Total Depth: 3750.00ft
API: Lansing/Kansas City
Drilling Fluid Type: Chemical/Fresh Water Gel

OPERATOR
Cynsure Energy LLC
Address: 1125 17th Street, Suite 410
Denver, CO 80202

Contact Geologist: Gene Davis
Contact Phone Nbr: 720-272-9620/720-476-3678
Well Name: Cynsure-Wasinger #1-23-15-20
Location: 1125 FNL, 520' FEL, Sec 23-T155-R20W
API: 15-015-26882
Pool: Unnamed Field: Unnamed Country: USA

LOGGED BY
Company: Charlie Sturdivant Consulting
Address: 920 12th Street
Golden, CO 80401
Phone Nbr: 303-907-2295-303-984-9481
Logged By: Geologist Name: Charlie Sturdivant

NOTES
The Cynsure Wasinger # 1-23-15-20 well was drilled to an RTD of 3750' and an LTD of 3751', bottoming in the Precambrian Quartzite. The geologist was on location from 2683' and examining samples from 3000'. Sample shows of oil were noted in the Pleasanton/Oread, Lansing A, B, C, D, E, F, and I and possibly in the Pawnee.
Four DST's were conducted in the Lansing, with encouraging results, free oil having been recovered in only the C-D zones. The E, F, H, and I zones proved to be wet, and the Pawnee was light, yielding only 5' of mud.
Based on the sample shows, DST results, and log analysis, it was determined by all parties involved that the well should be further tested through production casing.
The samples were saved and will be available for review at the Kansas Geological Survey well sample library, located in Wichita, Kansas.
Respectfully submitted,
Charlie Sturdivant
Consulting Geologist

Well Comparison Sheet

CHARLIE STURDIVANT CONSULTING
WELL COMPARISON SHEET

DRILLING WELL	COMPARISON WELL	COMPARISON WELL
Cynsure Energy Wasinger #1-23-15-20 1170' FNL & 520' FEL Sec. 23-T155-R20W Ellis Co. KS	Cynsure Energy Wasinger #1-23-15-20 135' FNL & 555' FEL Sec. 14-T165-R10W Ellis Co. KS	Cynsure Energy Wasinger #1-23-15-20 700' FNL & 430' FVW Sec. 25-T155-R20W Ellis Co. KS
2074 KB	2092 KB	2108 KB
Formation Samples	Field	Structural
Top	Top	Top
Bottom	Bottom	Bottom
Anythin	Anythin	Anythin
Stottler	Stottler	Stottler
Tarkio	Tarkio	Tarkio
King Hill	King Hill	King Hill
Toronto	Toronto	Toronto
Hebner	Hebner	Hebner
Lansing	Lansing	Lansing
Pre-Cambrian	Pre-Cambrian	Pre-Cambrian
Basal KC	Basal KC	Basal KC
Marmaton	Marmaton	Marmaton
Prema	Prema	Prema
Cherokee Shale	Cherokee Shale	Cherokee Shale
Pre-Cambrian	Pre-Cambrian	Pre-Cambrian
Pre-Cambrian	Pre-Cambrian	Pre-Cambrian
Total Depth	Total Depth	Total Depth

Daily Drilling Report

CHARLIE STURDIVANT CONSULTING
DAILY DRILLING REPORT

Company: Charlie Sturdivant Consulting
Address: 920 12th Street, Golden, CO 80401
Operator: Cynsure Energy, LLC
Well: Wasinger # 1-23-15-20
Location: 1170' FNL & 520' FEL, Sec. 23-T155-R20W, Ellis County, Kansas

Operator Contacts: Gene Davis
Contact: 720-476-3678
Ben Jackson
Contact: 720-476-3678
Website Geologist: Charlie Sturdivant
Contact: 303-907-2295
Office: 303-384-9481

Drilling Contractor: Duke Drilling Co. #461
Elevation: 2066, KB: 2074
K.B. Elevation: 2074, 600ft
N/S Co-ord: 99.506330
E/W Co-ord: 38.736955

Drilling Contractor: Duke Drilling Co. #461
Elevation: 2066, KB: 2074
K.B. Elevation: 2074, 600ft
N/S Co-ord: 99.506330
E/W Co-ord: 38.736955

DATE	TIME (AM/DEPT)	REMARKS
6/19/2017	7:00	Spud @ 1945 hrs.
6/20/2017	21:11	Drill to 211 ft. Set 5 ft. (200.75') of New 2 1/2" 6.56" log. @ 211'. Cement at 170 ft. ss. 69.20 post mix w/ 15% CaCl ₂ & 2% gel. Plug down @ 0345 hrs. Drill out @ 0345 hrs.
6/21/2017	14:57	Drilling ahead.
6/22/2017	2:46 PM	Drilling ahead. Geologist on location @ 1100 hrs. 2683 ft.
6/23/2017	3:23 PM	Drilling ahead. Prepare to conduct DST # 1: 3354-3429', Lansing A-D.
6/24/2017	3:42 PM	Tripping in hole w/ bit # 3 after conducting DST # 1, Rec: 186' GMCO (40% gas, 20% mud), SIP: 1066-1078. Drill to 3450' and Conduct DST # 2: 3425-3489'. Rec: 156' MW (65% mud), SIP: 1066-1078. Drill to 3489' and Conduct DST # 3: 3430-3549'. Rec: 125' WM (65% mud), SIP: 1066-1078. Drill to 3549' and Conduct DST # 4: 3612-3660'. Rec: 5' mud.
6/25/2017	3:52 PM	Drilling ahead. Drill to 3549' and conduct DST # 3: 3430-3549'. Rec: 125' WM (65% mud), SIP: 1066-1078. Drill to 3549' and Conduct DST # 4: 3612-3660'. Rec: 5' mud.
6/26/2017	3:50 PM	Running electric logs. Reached RTD of 3750' @ 0915 hrs. LTD: 3751'. Pre-Cambrian quartzite. Geologist off location @ 1500 hrs.

SURFACE CO-ORDINATES

Well Type: Vertical
Longitude: 99.506330
Latitude: 38.736955
N/S Co-ord: 99.506330
E/W Co-ord: 38.736955

CONTRACTOR

Contractor: Duke Drilling
Rig # 2
Rig Type: mud rotary
Spud Date: 6/19/2017
K.B. Elevation: 2074, 600ft
K.B. to Ground: 8.00ft

ELEVATIONS

Ground Elevation: 2066.00ft
K.B. Elevation: 2074, 600ft
K.B. to Ground: 8.00ft

ROCK TYPES

Chert vari	Limst tw-7	shale, grn	shale, grn	shale, red	Meta
Limst tw-7	shale, grn	shale, grn	shale, red	Meta	

ACCESSORIES

MINERAL: Argillaceous, Calcareous, Chert, dark, Nodules, Pyritic, Siliceous, Spines, Spongy, etc.

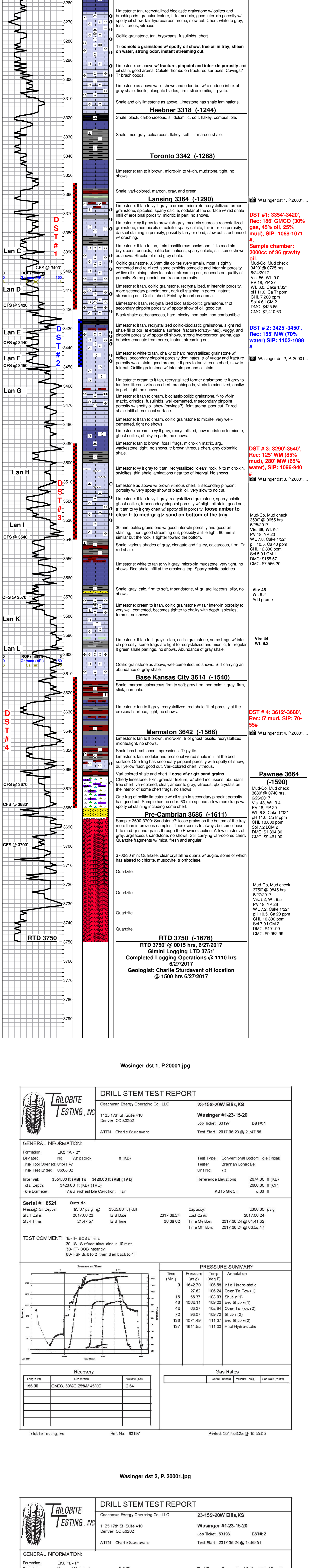
FOSSIL: Bioclastic or Fragmental, Brachiopod, Crinoid, Fish Scale, Fossiliferous, etc.

STRAT. SED. STRUCTS: Shaly, etc.

TEXTURE: Chalky, etc.

OTHER SYMBOLS

MISC: Daily Report, Digital Photo, Document, Folder, Link, Vertical Log File, Horizontal Log File, Core Log File, Drill Cuttings Rpt, DST, DST Int, etc.



Completed Logging Operations @ 1100 hrs

6/27/2017
Geologist: Charlie Sturdivant off location @ 1500 hrs 6/27/2017

Wasinger dst 1, P.2001.jpg

DRILL STEM TEST REPORT
Coachman Energy Operating Co., LLC
23-155-20W Ellis Co. KS
1125 17th St. Suite 410
Denver, CO 80202
Well Name: Wasinger #1-23-15-20
Job Ticket: 63197
ATTN: Charlie Sturdivant
Test Start: 2017.06.23 @ 21:47:36
DST# 1

GENERAL INFORMATION:
Formation: LNC 'A - V'
Deviated: No
Time Tool Opened: 11:51:37
Time Test Ended: 06:08:02
Interval: 3354.00 ft (KB) To 3420.00 ft (KB) (TV-D)
Total Depth: 3420.00 ft (KB) (TV-D)
Hole Diameter: 7.88 inches-Irwell Condition: Fair
KB to GWC: 8.00 ft

Serial #: 8524
Press@Run/Depth: 95.07 psig @ 3360.00 ft (KB)
Start Date: 2017.06.23
Start Time: 21:47:57
End Date: 2017.06.24
End Time: 06:08:02
Capacity: 8000.00 ppg
Last Call: 2017.06.24
Time Off Cam: 2017.06.24 @ 03:56:17

TEST COMMENT:
15- FF: BOB 5 mins
30- SI: Surface blow dead in 10 mins
Time Tool Opened: 11:51:37
69- FS- Built to 2' then dead back to 1'

RECOVERY
Length (ft) Description Value (lbs)
108.00 GMCO, 30%W 45%N2 2.94

Pressure Summary:
Time (Min) Pressure (psig) Temp (deg F) Annotation
0 1651.94 106.56 Initial Hydro-static
1 21.87 103.56 Open To Flow (1)
4 122.94 106.81 Open To Flow (1)
15 56.37 106.03 SHU-#(1)
46 108.11 106.20 End SHU-#(1)
48 105.79 112.34 End SHU-#(1)
72 93.97 109.72 SHU-#(2)
136 1071.49 111.07 End SHU-#(2)
137 1071.59 113.53 Final Hydro-static

Wasinger dst 2, P. 2001.jpg

DRILL STEM TEST REPORT
Coachman Energy Operating Co., LLC
23-155-20W Ellis Co. KS
1125 17th St. Suite 410
Denver, CO 80202
Well Name: Wasinger #1-23-15-20
Job Ticket: 63196
ATTN: Charlie Sturdivant
Test Start: 2017.06.24 @ 11:59:51
DST# 2

GENERAL INFORMATION:
Formation: LNC 'A - V'
Deviated: No
Time Tool Opened: 12:57:55
Time Test Ended: 17:15:55
Interval: 3425.00 ft (KB) To 3540.00 ft (KB) (TV-D)
Total Depth: 3540.00 ft (KB) (TV-D)
Hole Diameter: 7.88 inches-Irwell Condition: Fair
KB to GWC: 8.00 ft

Serial #: 8524
Press@Run/Depth: 95.01 psig @ 3447.00 ft (KB)
Start Date: 2017.06.24
Start Time: 12:58:52
End Date: 2017.06.24
End Time: 17:15:55
Capacity: 8000.00 ppg
Last Call: 2017.06.24
Time Off Cam: 2017.06.24 @ 03:23:57

TEST COMMENT:
15- FF: Slowly built to 5 1/2'
30- SI: No blow
60- FS- Built to 8 1/2'
60- FS- No blow

RECOVERY
Length (ft) Description Value (lbs)
155.00 MW 30%W 65%N2 2.20

Pressure Summary:
Time (Min) Pressure (psig) Temp (deg F) Annotation
0 1651.94 103.67 Initial Hydro-static
1 23.87 103.56 Open To Flow (1)
14 100.47 106.81 Open To Flow (1)
47 105.86 112.37 End SHU-#(1)
48 105.79 112.34 End SHU-#(1)
72 93.97 109.72 SHU-#(2)
136 1071.49 111.07 End SHU-#(2)
137 1071.59 113.53 Final Hydro-static

Wasinger dst 3, P.2001.jpg

DRILL STEM TEST REPORT
Coachman Energy Operating Co., LLC
23-155-20W Ellis Co. KS
1125 17th St. Suite 410
Denver, CO 80202
Well Name: Wasinger #1-23-15-20
Job Ticket: 63199
ATTN: Charlie Sturdivant
Test Start: 2017.06.25 @ 10:59:19
DST# 3

GENERAL INFORMATION:
Formation: LNC 'A - V'
Deviated: No
Time Tool Opened: 12:57:55
Time Test Ended: 17:15:55
Interval: 3495.00 ft (KB) To 3540.00 ft (KB) (TV-D)
Total Depth: 3540.00 ft (KB) (TV-D)
Hole Diameter: 7.88 inches-Irwell Condition: Fair
KB to GWC: 8.00 ft

Serial #: 8524
Press@Run/Depth: 95.01 psig @ 3447.00 ft (KB)
Start Date: 2017.06.24
Start Time: 12:58:52
End Date: 2017.06.25
End Time: 17:15:55
Capacity: 8000.00 ppg
Last Call: 2017.06.25
Time Off Cam: 2017.06.25 @ 15:19:55

TEST COMMENT:
15- FF: Slowly built to 5 1/2'
30- SI: No blow
60- FS- Built to 8 1/2'
60- FS- No blow

RECOVERY
Length (ft) Description Value (lbs)
155.00 MW 30%W 65%N2 3.97

Pressure Summary:
Time (Min) Pressure (psig) Temp (deg F) Annotation
0 1651.94 103.67 Initial Hydro-static
1 23.87 103.56 Open To Flow (1)
14 100.47 106.81 Open To Flow (1)
47 105.86 112.37 End SHU-#(1)
48 105.79 112.34 End SHU-#(1)
72 93.97 109.72 SHU-#(2)
136 1071.49 111.07 End SHU-#(2)
137 1071.59 113.53 Final Hydro-static

Wasinger dst 4, P.2001.jpg

DRILL STEM TEST REPORT
Coachman Energy Operating Co., LLC
23-155-20W Ellis Co. KS
1125 17th St. Suite 410
Denver, CO 80202
Well Name: Wasinger #1-23-15-20
Job Ticket: 63198
ATTN: Charlie Sturdivant
Test Start: 2017.06.25 @ 09:51:46
DST# 4

GENERAL INFORMATION:
Formation: Pawnee
Deviated: No
Time Tool Opened: 11:51:37
Time Test Ended: 15:31:37
Interval: 3612.00 ft (KB) To 3680.00 ft (KB) (TV-D)
Total Depth: 3680.00 ft (KB) (TV-D)
Hole Diameter: 7.88 inches-Irwell Condition: Fair
KB to GWC: 8.00 ft

Serial #: 8524
Press@Run/Depth: 24.88 psig @ 3616.00 ft (KB)
Start Date: 2017.06.25
Start Time: 11:52:29
End Date: 2017.06.25
End Time: 15:31:37
Capacity: 8000.00 ppg
Last Call: 2017.06.25
Time Off Cam: 2017.06.25 @ 11:51:22

TEST COMMENT:
15- FF: Wellbore built to 152'
30- SI: No blow
60- FS: No blow

RECOVERY
Length (ft) Description Value (lbs)
115.00 M 100% 0.67

Pressure Summary:
Time (Min) Pressure (psig) Temp (deg F) Annotation
0 1651.94 100.21 Initial Hydro-static
1 24.88 106.81 Open To Flow (1)
15 24.30 104.51 SHU-#(1)
45 70.36 105.93 End SHU-#(1)
48 82.42 105.97 Open To Flow (2)
62 24.48 106.92 SHU-#(2)
122 55.28 108.91 End SHU-#(2)
123 178.29 109.76 Final Hydro-static