

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 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
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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	ARP Operating, LLC
Well Name	CV 1-9
Doc ID	1500097

All Electric Logs Run

CND
DIL
MIC
SON

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-1071
Cell 785-324-1041

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

No. 1928

Date	Sec.	Twp.	Range	County	State	On Location	Finish
1-30-20	9	12	20	Ellis	KS		6:45p

Location *Ellis 70 Severn Rd Vao Dinto*

Lease	Well No.	Owner	
<i>CV</i>	<i>1-9</i>	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		Charge To	
<i>Morfin #8</i>		<i>ARP Operating, LLC</i>	
Type Job	T.D.	Street	
<i>Surface</i>	<i>220</i>	<i>1444 Wazee Street Suite 125</i>	
Hole Size	Depth	City	
<i>12 1/4</i>	<i>219</i>	<i>Denver</i>	
Csg.	Depth	State	
<i>8 5/8</i>		<i>CO 80202</i>	
Tbg. Size	Depth	The above was done to satisfaction and supervision of owner agent or contractor.	
		Cement Amount Ordered	<i>150 @ 10 3/4 21-652</i>
Cement Left in Csg.	Shoe Joint		
<i>10'</i>			
Meas Line	Displace		
	<i>1332</i>		

EQUIPMENT

Pumptrk	No.	Cement	Common
<i>20</i>		<i>300</i>	<i>120</i>
		Helper	Poz. Mix
		<i>1/2</i>	<i>30</i>
Bulktrk	No.	Driver	Gel.
		<i>1/2</i>	<i>3</i>
Bulktrk	No.	Driver	Calcium
<i>1</i>		<i>1/2</i>	<i>6</i>

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
<i>8 5/8 on bottom. Est. Circulation</i>	Sand
<i>MIX 150 SK 9 Displace</i>	Handling <i>159</i>
<i>Cement Circulated!</i>	Mileage
	FLOAT EQUIPMENT <i>8 5/8 Surge</i>
	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

Thank's

Pumptrk Charge *Surface*
Mileage *24'*

X Signature *Jim Datti*

Tax
Discount
Total Charge

Sean Deenihan

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY **ARP Operating, LLC**

LEASE **CV #1-9**

FIELD **Wildcat**

LOCATION **1650' FSL & 1690' FEL**

SEC **9** TWP **12S** RGE **20W**

COUNTY **Ellis** STATE **Kansas**

CONTRACTOR **Murfin Drilling Rig #8**

SPUD **1/30/20** COMP **2/5/20**

RTD **4044'** LTD **4045'**

MUD UP **3400'** TYPE MUD **Chemical**

SAMPLES SAVED FROM **3700'** TO **RTD**

DRILLING TIME KEPT FROM **3800'** TO **RTD**

SAMPLES EXAMINED FROM **3700'** TO **RTD**

GEOLOGICAL SUPERVISION FROM **3700'**

REFERENCE WELL **CND/DIL. MIC, SON**

ELEVATIONS
KB 2284'

DF _____

GL 2279'

Measurements Are All From Kelly Bushing

CASING

CONDUCTOR _____

SURFACE 8-5/8" at 219'

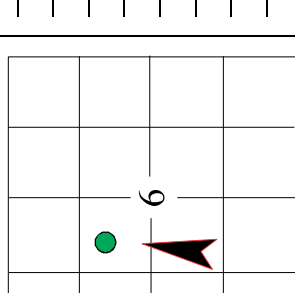
PRODUCTION 8-5/8" @ TD

ELECTRICAL SURVEYS

ELI

CND/DIL. MIC, SON

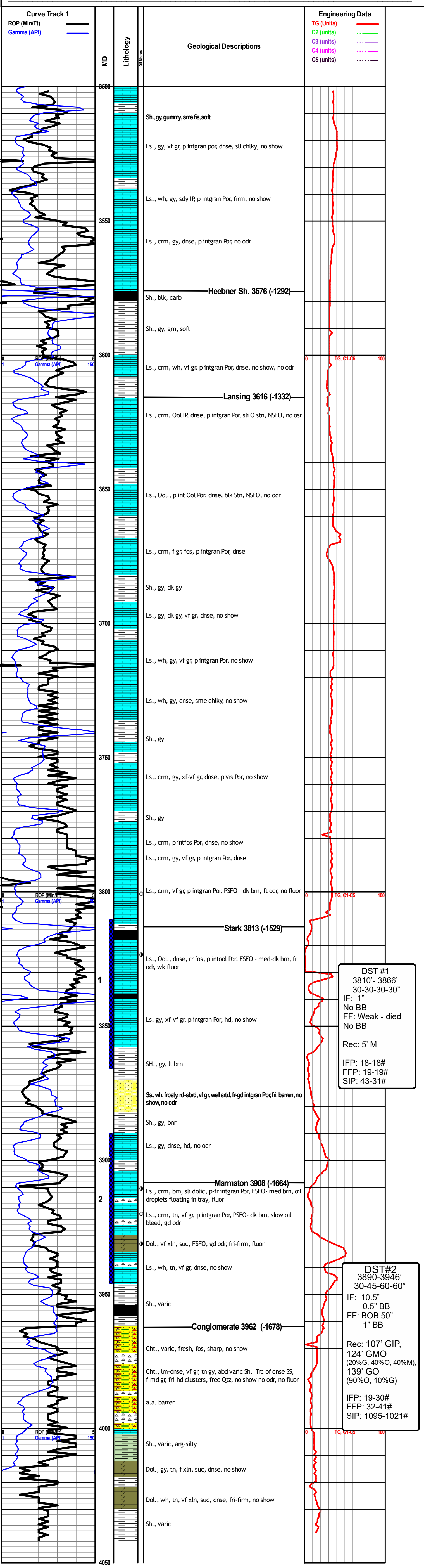
Formation	Sample Tops	E-log Tops	Struct. Pos.
Anhydrite		1692 (-4592)	
Heebner Sh.		3576 (-1292)	
Lansing		3616 (-1332)	
Stark Shale		3813 (-1529)	
Marmaton		3908 (-1624)	



REMARKS The CV #1-9 Will be further evaluated through 5.5" Production casing.

Respectfully Submitted,

Sean P. Deenihan



DST #1
3810'- 3866"
30-30-30-30"
IF: 1"
No BB
FF: Weak - died
No BB
Rec: 5' M
IFP: 18-18#
FFP: 19-19#
SIP: 43-31#

DST #2
3890-3946'
30-45-60-60"
IF: 10.5"
No BB
FF: BOB 50"
1" BB
Rec: 107' GIP,
124' GMO
(20%G, 40%O, 40%M),
139' GO
(90%O, 10%G)
IFP: 19-30#
FFP: 32-41#
SIP: 1095-1021#

RTD: 4044'
LTD: 4045'

ARP Operating, LLC
CV# 1-9
9-12S-20W
Ellis Co., KS

KB: 2284'



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

ARP Operating LLC
 1444 Wazee St
 Suite 125
 Denver, CO 80202+1386
 ATTN: Sean Deenihan

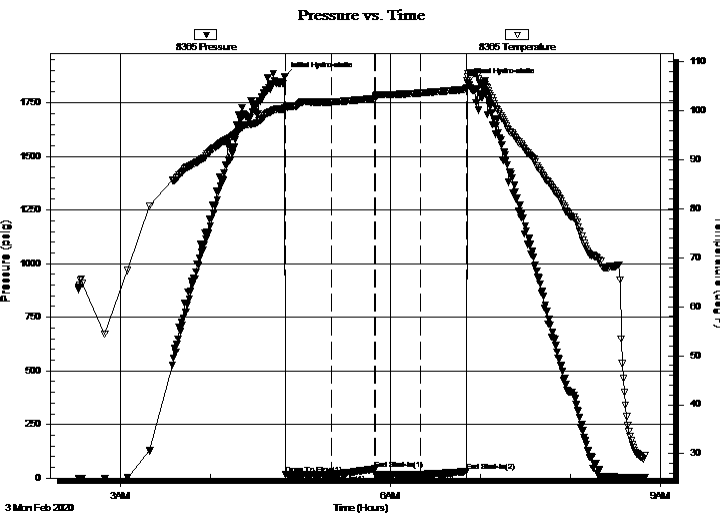
9/12S/20W/Ellis
CV #1-9
 Job Ticket: 66229 **DST#: 1**
 Test Start: 2020.02.03 @ 02:32:00

GENERAL INFORMATION:

Formation: **Lansing**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:50:02
 Time Test Ended: 08:50:02
 Interval: **3810.00 ft (KB) To 3866.00 ft (KB) (TVD)**
 Total Depth: 3866.00 ft (KB) (TVD)
 Hole Diameter: 7.80 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72 Hays/44
 Reference Elevations: 2284.00 ft (KB)
 2279.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8365 **Inside**
 Press@RunDepth: 18.59 psig @ 3811.00 ft (KB) Capacity: psig
 Start Date: 2020.02.03 End Date: 2020.02.03 Last Calib.: 2020.02.03
 Start Time: 02:32:01 End Time: 08:50:02 Time On Btm: 2020.02.03 @ 04:49:32
 Time Off Btm: 2020.02.03 @ 06:51:17

TEST COMMENT: IF 30 Minutes/ Blow built to 1 inch
 ISI 30 Minutes/ No blow back
 FF 30 Minutes/ Few bubbles at open then dead
 FSI 30 Minutes/ No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1872.85	100.72	Initial Hydro-static
1	17.97	100.72	Open To Flow (1)
31	18.18	101.82	Shut-In(1)
60	43.23	102.57	End Shut-In(1)
61	19.04	102.85	Open To Flow (2)
91	18.59	103.66	Shut-In(2)
121	31.01	104.44	End Shut-In(2)
122	1841.46	106.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	VSOCW O 5% M 95%	0.02

Gas Rates

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



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 1444 Wazee St
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 ATTN: Sean Deenihan

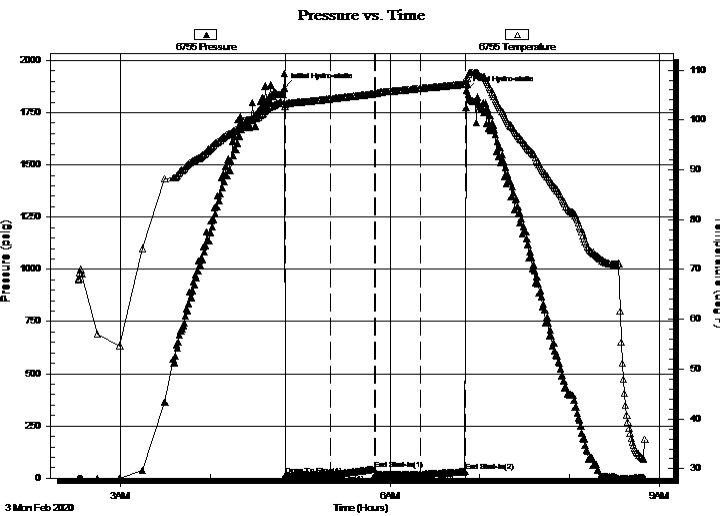
9/12S/20W/Ellis
CV #1-9
 Job Ticket: 66229 **DST#: 1**
 Test Start: 2020.02.03 @ 02:32:00

GENERAL INFORMATION:

Formation: **Lansing**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:50:02
 Time Test Ended: 08:50:02
 Interval: **3810.00 ft (KB) To 3866.00 ft (KB) (TVD)**
 Total Depth: 3866.00 ft (KB) (TVD)
 Hole Diameter: 7.80 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72 Hays/44
 Reference Elevations: 2284.00 ft (KB)
 2279.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6755 Outside
 Press@RunDepth: 31.90 psig @ 3812.00 ft (KB) Capacity: psig
 Start Date: 2020.02.03 End Date: 2020.02.03 Last Calib.: 2020.02.03
 Start Time: 02:32:01 End Time: 08:50:02 Time On Btm: 2020.02.03 @ 04:49:32
 Time Off Btm: 2020.02.03 @ 06:51:02

TEST COMMENT: IF 30 Minutes/ Blow built to 1 inch
 ISI 30 Minutes/ No blow back
 FF 30 Minutes/ Few bubbles at open then dead
 FSI 30 Minutes/ No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1867.89	103.32	Initial Hydro-static
1	14.24	102.71	Open To Flow (1)
31	17.72	104.24	Shut-In(1)
60	44.31	105.26	End Shut-In(1)
61	18.29	105.27	Open To Flow (2)
91	18.37	106.33	Shut-In(2)
121	31.90	107.21	End Shut-In(2)
122	1857.88	107.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	VSOCM O 5% M 95%	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

ARP Operating LLC

9/12S/20W/Ellis

1444 Wazee St
Suite 125
Denver, CO 80202+1386
ATTN: Sean Deenihan

CV #1-9

Job Ticket: 66229

DST#: 1

Test Start: 2020.02.03 @ 02:32:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.00 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	VSOCW O 5% M 95%	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

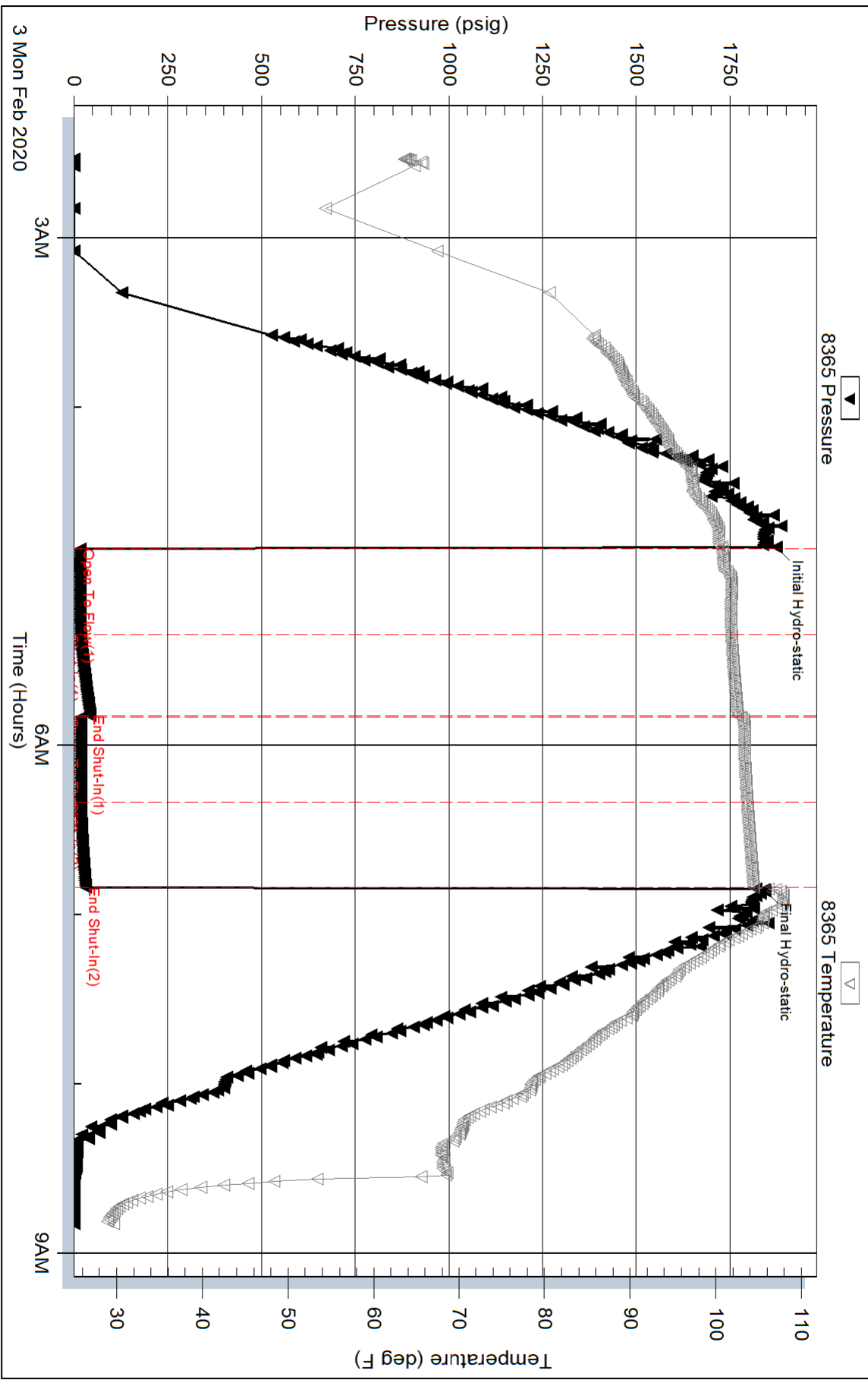
Serial #:

Laboratory Name:

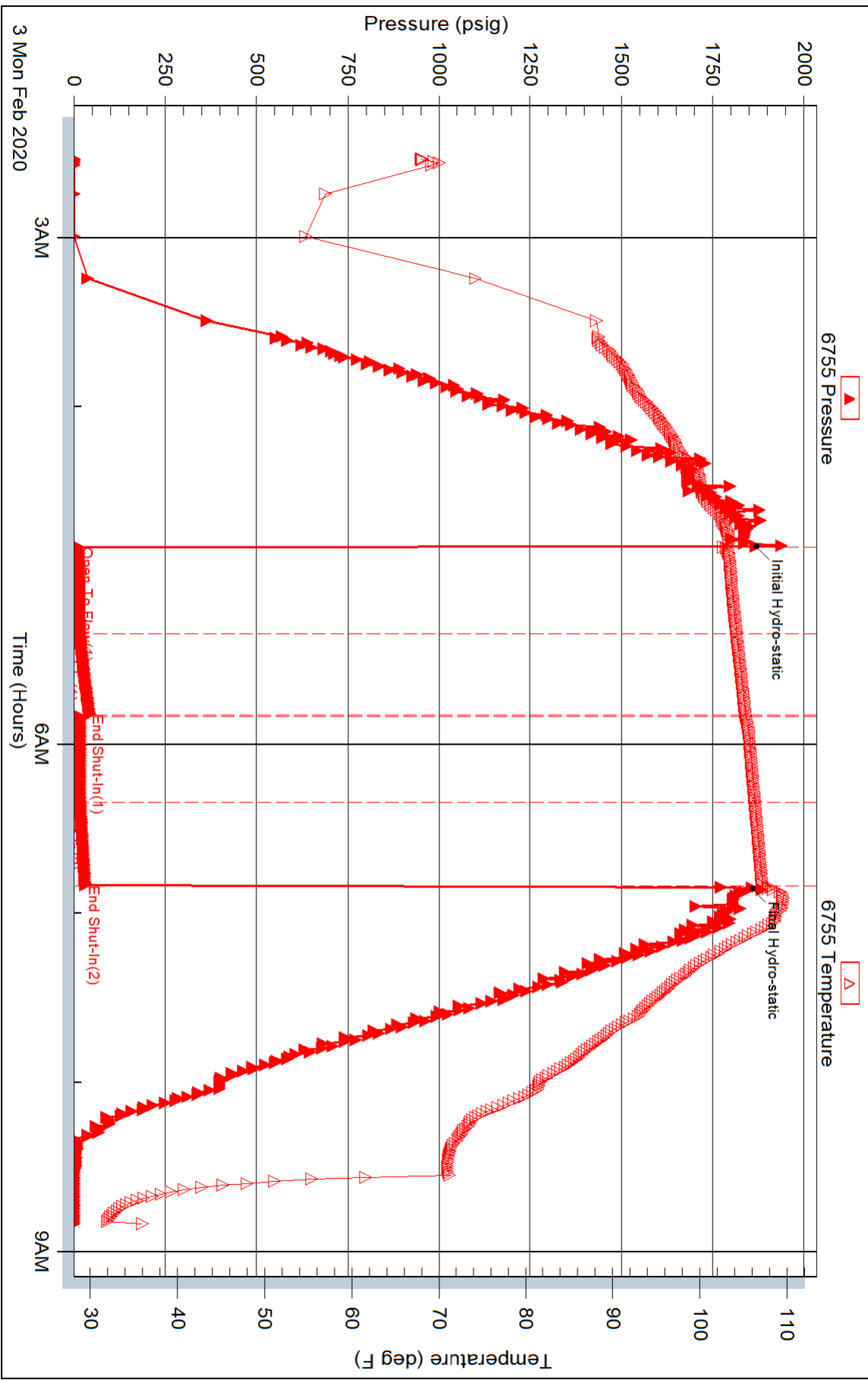
Laboratory Location:

Recovery Comments:

Pressure vs. Time



Pressure vs. Time





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

ARP Operating LLC
 1444 Wazee St
 Suite 125
 Denver, CO 80202+1386
 ATTN: Sean Deenihan

9/12S/20W/Ellis
CV #1-9
 Job Ticket: 66230 **DST#: 2**
 Test Start: 2020.02.03 @ 17:47:00

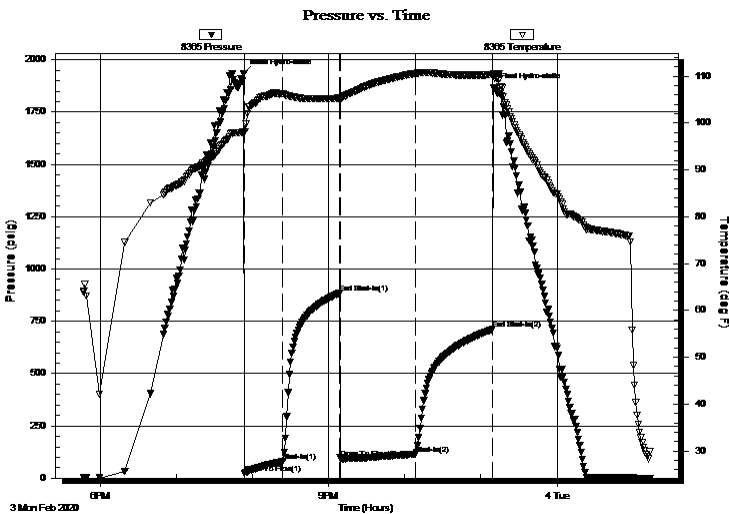
GENERAL INFORMATION:

Formation: **Marmaton**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 19:53:47
 Time Test Ended: 01:13:02
 Interval: **3890.00 ft (KB) To 3946.00 ft (KB) (TVD)**
 Total Depth: 3946.00 ft (KB) (TVD)
 Hole Diameter: 7.80 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72 Hays/ 44
 Reference Elevations: 2284.00 ft (KB)
 2279.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8365 Inside
 Press@RunDepth: 114.80 psig @ 3891.00 ft (KB) Capacity: psig
 Start Date: 2020.02.03 End Date: 2020.02.04 Last Calib.: 2020.02.04
 Start Time: 17:47:01 End Time: 01:13:02 Time On Btm: 2020.02.03 @ 19:53:17
 Time Off Btm: 2020.02.03 @ 23:10:02

TEST COMMENT: IF 30 Minutes/ Blow built to 10 1/2 inches
 ISI 45 Minutes/ 1/2 inch blow back
 FF 60 Minutes/ Blow built to BOB in 50 minutes/ Total build 14 inches
 FSI 60 Minutes/ 1 inch blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1935.43	98.07	Initial Hydro-static
1	21.54	98.03	Open To Flow (1)
31	79.21	106.22	Shut-In(1)
76	883.40	105.27	End Shut-In(1)
76	93.13	105.23	Open To Flow (2)
136	114.80	110.58	Shut-In(2)
196	711.75	110.29	End Shut-In(2)
197	1866.21	110.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	GMO / O 40% G 20% M 40%	0.61
139.00	GO / O 90% G 10%	1.44
0.00	107 feet GIP	0.00

Gas Rates

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



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9/12S/20W/Ellis
CV #1-9
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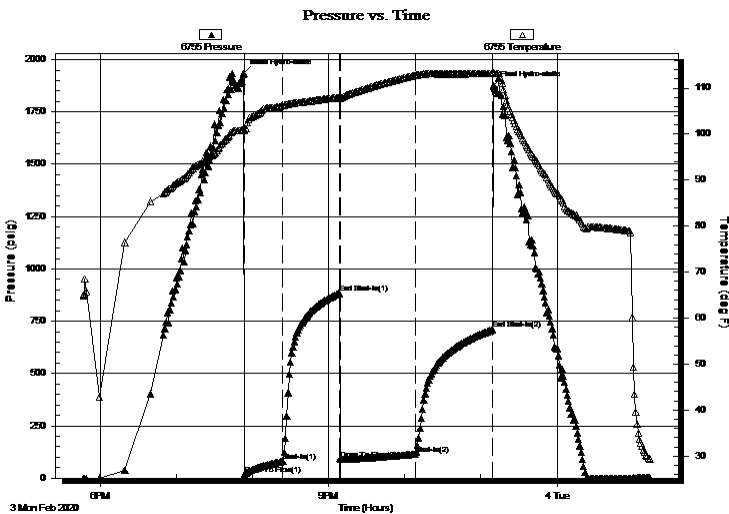
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 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72 Hays/ 44
 Reference Elevations: 2284.00 ft (KB)
 2279.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6755 Outside
 Press@RunDepth: 711.13 psig @ 3892.00 ft (KB) Capacity: psig
 Start Date: 2020.02.03 End Date: 2020.02.04 Last Calib.: 2020.02.04
 Start Time: 17:47:01 End Time: 01:13:02 Time On Btm: 2020.02.03 @ 19:53:17
 Time Off Btm: 2020.02.03 @ 23:10:17

TEST COMMENT: IF 30 Minutes/ Blow built to 10 1/2 inches
 ISI 45 Minutes/ 1/2 inch blow back
 FF 60 Minutes/ Blow built to BOB in 50 minutes/ Total build 14 inches
 FSI 60 Minutes/ 1 inch blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1934.44	101.07	Initial Hydro-static
1	20.25	100.85	Open To Flow (1)
31	80.60	106.23	Shut-In(1)
76	882.91	107.95	End Shut-In(1)
76	91.47	107.88	Open To Flow (2)
136	114.22	112.77	Shut-In(2)
196	711.13	113.25	End Shut-In(2)
197	1876.41	113.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	GMO / O 40% G 20% M 40%	0.61
139.00	GO / O 90% G 10%	1.44
0.00	107 feet GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

ARP Operating LLC

9/12S/20W/Ellis

1444 Wazee St
Suite 125
Denver, CO 80202+1386
ATTN: Sean Deenihan

CV #1-9

Job Ticket: 66230

DST#: 2

Test Start: 2020.02.03 @ 17:47:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 60.00 sec/qt
Water Loss: 6.00 in³
Resistivity: ohm.m
Salinity: 3000.00 ppm
Filter Cake: 1.00 inches

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

Oil API: 34 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	GMO / O 40% G 20% M 40%	0.610
139.00	GO / O 90% G 10%	1.440
0.00	107 feet GIP	0.000

Total Length: 263.00 ft Total Volume: 2.050 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

