

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
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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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JAMES C. MUSGROVE

Petroleum Geologist, LLC
212 Main Street
P.O. Box 215
Claflin, KS 67525

Office (620) 588-4250

Res. Claflin (620) 587-3444

Pioneer Oil Company, Inc.
Schlamberger #1-28
E/2-SW-SE-SW (330' FSL & 1755' FWL)
Section 28-8s-28w
Sheridan County, Kansas

Page 1

5 1/2" Production Casing Set

Contractor: Discovery Drilling Co. (rig #2)
Commenced: March 27, 2019
Completed: April 6, 2019
Elevation: 2746' K.B., 2744' D.F., 2738' G.L.
Casing program: Surface; 8 5/8" @ 279'
Production, 5 1/2: @ 4200'
Sample: Samples saved and examined 3200' to the Rotary Total Depth.
Drilling time: One (1) foot drilling time recorded and kept 3200' to the Rotary Total Depth.
Measurements: All depths measured from the Kelly Bushing.
Drill Stem Tests: There were five (5) Drill Stem Tests ran by Trilobite Testing Co.
Electric Log: By Pioneer Energy Services, Dual Induction, Dual Compensated Porosity Log; and Micro-Resistivity Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	2391	+355
Base Anhydrite	2425	+321
Elmont	3535	-789
Howard	3573	-827
Topeka	3623	-877
Heebner	3838	-1092
Toronto	3861	-1115
Lansing	3878	-1132
Base Kansas City	4104	-1358
Rotary Total Depth	4200	-1454
Log Total Depth	4202	-1456

All tops and zones corrected to Electric Log Measurements)

SAMPLE ANALYSIS, SHOWS OF OIL, TESTING DATA, ETC.

ELMONT SECTION

3535-3546' Limestone, white, gray, fine to medium crystalline, few fossiliferous, scattered inter-crystalline to vuggy type porosity, black to gray and dark brown stain, show of free oil and questionable odor in fresh samples.

Drill Stem Test #1 3525-3550

Times: 10-30-45-90

Blow: Good

Recovery: 434' muddy water

Pressures: ISIP 1053 psi
FSIP 1055 psi
IFP 40-75 psi
FFP 81-187 psi
HSH 1719-1652 psi

3556-3564' Limestone; tan and gray, finely crystalline, fossiliferous, chalky; no shows.

HOWARD SECTION

3573-3580' Limestone, white, gray and cream, finely crystalline, fossiliferous, scattered vuggy type porosity, few with sparry calcite infill, dark brown and black stain, trace of free oil and faint odor in fresh samples.

3593-3604' Limestone, white, chalky, poor visible porosity, black and brown stain, no show of free oil and no odor in fresh samples

3606-3614' Limestone, white, cream, finely crystalline, fossiliferous/oolitic, few slightly cherty, black stain, trace of free oil (dead) appearing, no odor in fresh samples.

TOPEKA SECTION

3623-3630' Limestone, gray, fossiliferous, chalky, few cherty, trace black stain, no free oil and no odor.

3640-3647' Limestone, white, chalky, poor to fair pinpoint porosity, gray and black stain, no show of free oil and no odor in fresh samples.

3650-3666' Limestone, tan, granular, fossiliferous, chalky, trace brown and light brown and gray stain, no show of free oil and no odor in fresh samples.

3682-3696' Limestone, white, tan, finely crystalline, few granular, sucrosic; scattered porosity; no show.

3696-3710' Limestone, as above; good inter-crystalline to fine vuggy type porosity; plus white chalk; no show.

3730-3752; Sand, gray, very fine grained; sub-rounded, friable, calcareous, scattered intergranular porosity; plus green gray soft silty shale.

3763-3770' Limestone, white, gray, finely crystalline, chalky, fair porosity, gray and black stain, trace of free oil and no odor in fresh samples.

- 3763-3770' Limestone, white, gray, finely crystalline, chalky; fair porosity, gray and black stain, trace of free oil and no odor in fresh samples.
- 3783-3793' Limestone, white, gray, oolitic, chalky in part, fair porosity; fair stain and saturation, show of free oil and fair odor in fresh samples,
- 3798-3804' Limestone, cream and gray, white, oolitic, slightly chalky; few sub-oomoldic, fair porosity; fair stain and saturation; show of free oil and fair odor in fresh samples.

Drill Stem Test #2 **3789-3806**
(Log Measurements 3791-3808)

Times: 10-30-45-90

Blow: Strong

Recovery: 672' muddy water

Pressures: ISIP 1180 psi
FSIP 1178 psi
IFP 24-113 psi
FFP 118-321 psi
HSH 1956-1842 psi

- 3810-3821' Limestone, gray, white, fossiliferous/oolitic, chalky, poor to fair porosity, trace brown and black stain, trace of free oil and fair odor in fresh samples.

TORONTO SECTION

- 3861-3870' Limestone, tan, gray, oolitic/fossiliferous, chalky in part; poor porosity; light brown to brown stain; fair show of free oil and fair odor in fresh samples.

Drill Stem Test #3 **3835-3870**
(Log Measurements 3837-3872)

Times: 10-30-20-45

Blow: Weak

Recovery: 5' mud

Pressures: ISIP 543 psi
FSIP 856 psi
IFP 8-12 psi
FFP 12-14 psi
HSH 1870-1821 psi

LANSING SECTION

- 3878-3884' Limestone, white, oolitic, chalky, brown stain, some with black dead looking stain, show of free oil and no odor in fresh samples.

3903-3910' Limestone, white, cream, oolitic, fossiliferous, scattered fair vuggy type porosity, fair brown to light brown stain; fair show of free oil and good odor in fresh samples.

Drill Stem Test #4 3895-3917

Times: 15-30-30-60

Blow: Strong

Recovery: 1720' muddy water

Pressures: ISIP 1089 psi
FSIP 1101 psi
IFP 159-451 psi
FFP 474-998 psi
HSH 1954-1959 psi

3914-3918' Limestone, cream, white, fine to medium crystalline; few oolitic, chalky; scattered fine pinpoint porosity, fair brown, light brown stain, fair show of free oil and good odor in fresh samples.

3920-3933' Limestone, white, gray, finely crystalline, few fossiliferous, poor visible porosity, trace brown stain, no free oil and no odor in fresh samples.

3938-3950' Limestone, white, gray, finely crystalline, few fossiliferous, poor visible porosity; trace brown stain; no show of free oil and fair odor in fresh samples.

3954-3968' Limestone, tan, gray, oomoldic, good oomoldic porosity; (barren); plus white chalk.

3570-3590' Limestone, white, cream, chalky; poorly developed porosity, abundant white and amber opaque chert, no show.

4004-4014' Limestone, white, gray, finely crystalline, slightly dolomitic, poor visible porosity, black (dead) stain, no free oil and faint odor in fresh samples.

4032-4046' Limestone, white, gray, highly oolitic, fossiliferous, fair vuggy type porosity; brown and dark brown stain, show of free oil and good odor in fresh samples.

Remarks; The well was circulated for samples @ 4046; the samples were thought to be coming from the 'I' Zone; after log analysis it was determined that the show and samples were coming from the top 2' of the 'J' Zone.

4046-4052' Limestone, white, gray oolitic, fossiliferous, fair porosity, fair brown and dark brown stain, show of free oil and good odor in fresh samples.

4068-4080' Limestone, white, cream, few oolitic, chalky in part, fair stain, and saturation, weak show of free oil and faint odor in fresh samples.

4093-4100' Limestone, white, gray, chalky, poor porosity, trace stain, no free oil and faint odor in fresh samples.

BASE KANSAS CITY

Drill Stem Test #5 **4014-4113**

Times: 15-30-45-90

Blow: Strong

**Recovery: 30' gassy oil
(40% gas; 60% oil)
255' gassy oil
(70% gas; 30% oil)
185' oil and gas cut mud
(45% gas; 15% oil; 40% mud)**

**Pressures: ISIP 1333 psi
FSIP 1341 psi
IFP 27-83 psi
FFP 95-181 psi
HSH 2028-1983 psi**

- 4110-4132' Sand, white, gray, very fine grained, glauconitic, sub-rounded, friable, black stain, no show of free oil and no odor.
- 4140-4150' Limestone, tan, gray, fossiliferous, dense plus maroon green shale.
- 4150-4160' Limestone, as above, plus shale as above.
- 4160-4180' Limestone, white, gray, tan, chalky increasingly cherty, (dense), and maroon/rusty brown, brick red shale.
- 4180-4190' Limestone, white, gray, cream, granular, chalky; plus white/gray chert.
- 4190-4202' Coral; white, cream, honey combed, scattered porosity, no visible shows, plus varied colored shale.

Rotary Total Depth 4200
Log Total Depth 4202

Recommendations:

5 1/2" production casing was set and cemented on the Pioneer Oil Company, Inc., Schlamberger #1-28.

Respectfully submitted,

James C. Musgrove
Petroleum Geologist



DRILL STEM TEST REPORT

Prepared For: **Pioneer Oil Company Inc**

PO Box 237
Vincennes IN 47501

ATTN: Jim Musgrove

Schamberger #1-28

28-2s-28w Sheridan,KS

Start Date: 2019.04.01 @ 18:54:00

End Date: 2019.04.02 @ 02:40:09

Job Ticket #: 65298 DST #: 1

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

Printed: 2019.04.09 @ 14:36:25



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pioneer Oil Company Inc
 PO Box 237
 Vincennes IN 47501
 ATTN: Jim Musgrove

28-2s-28w Sheridan,KS

Schamberger #1-28

Job Ticket: 65298 **DST#: 1**

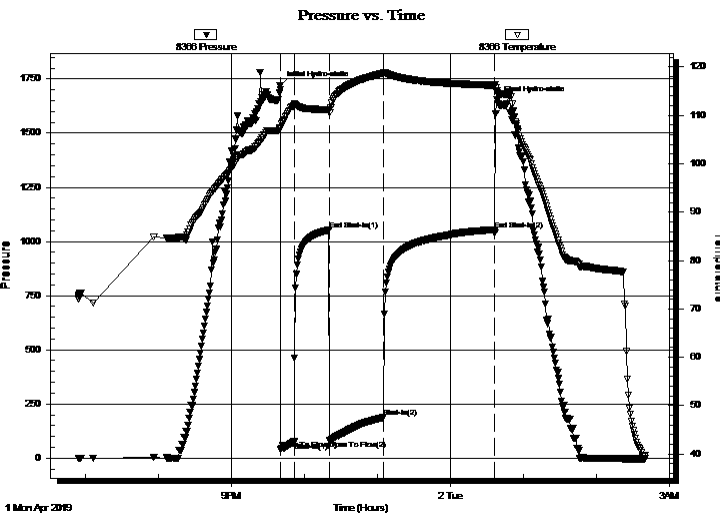
Test Start: 2019.04.01 @ 18:54:00

GENERAL INFORMATION:

Formation: **Elmont**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:40:20
 Time Test Ended: 02:40:09
 Interval: **3525.00 ft (KB) To 3550.00 ft (KB) (TVD)**
 Total Depth: 3550.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ryan Nichols
 Unit No: 71
 Reference Elevations: 2749.00 ft (KB)
 2741.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8366 Outside
 Press@RunDepth: 187.17 psig @ 3526.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.01 End Date: 2019.04.02 Last Calib.: 2019.04.02
 Start Time: 18:54:01 End Time: 02:40:10 Time On Btm: 2019.04.01 @ 21:39:50
 Time Off Btm: 2019.04.02 @ 00:38:30

TEST COMMENT: 10 IF - Slide 5', 3" blow built to 7 1/2"
 30 ISI - No return
 45 FF - Surface blow built to BoB @ 35 mins
 90 FSI - No return



PRESSURE SUMMARY

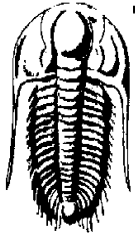
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1718.58	107.35	Initial Hydro-static
1	40.24	107.25	Open To Flow (1)
12	74.95	112.05	Shut-In(1)
41	1053.37	111.21	End Shut-In(1)
41	80.79	110.59	Open To Flow (2)
86	187.17	118.74	Shut-In(2)
177	1054.74	116.25	End Shut-In(2)
179	1652.43	114.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	MCW - 40%M - 60%W	0.46
311.00	MCW - 5%M - 95%W	2.72
60.00	MCW - 35%M - 65%W	0.84

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pioneer Oil Company Inc
 PO Box 237
 Vincennes IN 47501
 ATTN: Jim Musgrove

28-2s-28w Sheridan,KS

Schamberger #1-28

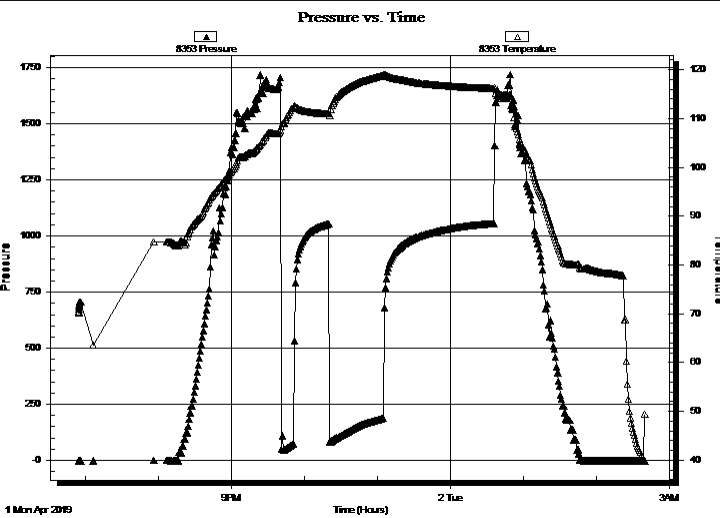
Job Ticket: 65298 **DST#: 1**
 Test Start: 2019.04.01 @ 18:54:00

GENERAL INFORMATION:

Formation: **Elmont**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 21:40:20 Tester: Ryan Nichols
 Time Test Ended: 02:40:09 Unit No: 71
 Interval: **3525.00 ft (KB) To 3550.00 ft (KB) (TVD)** Reference Elevations: 2749.00 ft (KB)
 Total Depth: 3550.00 ft (KB) (TVD) 2741.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 8.00 ft

Serial #: 8353 Inside
 Press@RunDepth: psig @ 3526.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.01 End Date: 2019.04.02 Last Calib.: 2019.04.02
 Start Time: 18:54:01 End Time: 02:40:10 Time On Btm:
 Time Off Btm:

TEST COMMENT: 10 IF - Slide 5', 3" blow built to 7 1/2"
 30 ISI - No return
 45 FF - Surface blow built to BoB @ 35 mins
 90 FSI - No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
63.00	MCW - 40%M - 60%W	0.46
311.00	MCW - 5%M - 95%W	2.72
60.00	MCW - 35%M - 65%W	0.84

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

Job Ticket: 65298

DST#: 1

ATTN: Jim Musgrove

Test Start: 2019.04.01 @ 18:54:00

Tool Information

Drill Pipe:	Length: 3225.00 ft	Diameter: 3.80 inches	Volume: 45.24 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 309.00 ft	Diameter: 2.75 inches	Volume: 2.27 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 47.51 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3525.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	47.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3508.00	
Sampler	2.00			3510.00	
Hydraulic tool	5.00			3515.00	
Packer	5.00			3520.00	22.00 Bottom Of Top Packer
Packer	5.00			3525.00	
Stubb	1.00			3526.00	
Recorder	0.00	8353	Inside	3526.00	
Recorder	0.00	8366	Outside	3526.00	
Perforations	21.00			3547.00	
Bullnose	3.00			3550.00	25.00 Bottom Packers & Anchor
Total Tool Length:	47.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

Job Ticket: 65298 **DST#: 1**

ATTN: Jim Musgrove

Test Start: 2019.04.01 @ 18:54:00

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: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.58 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

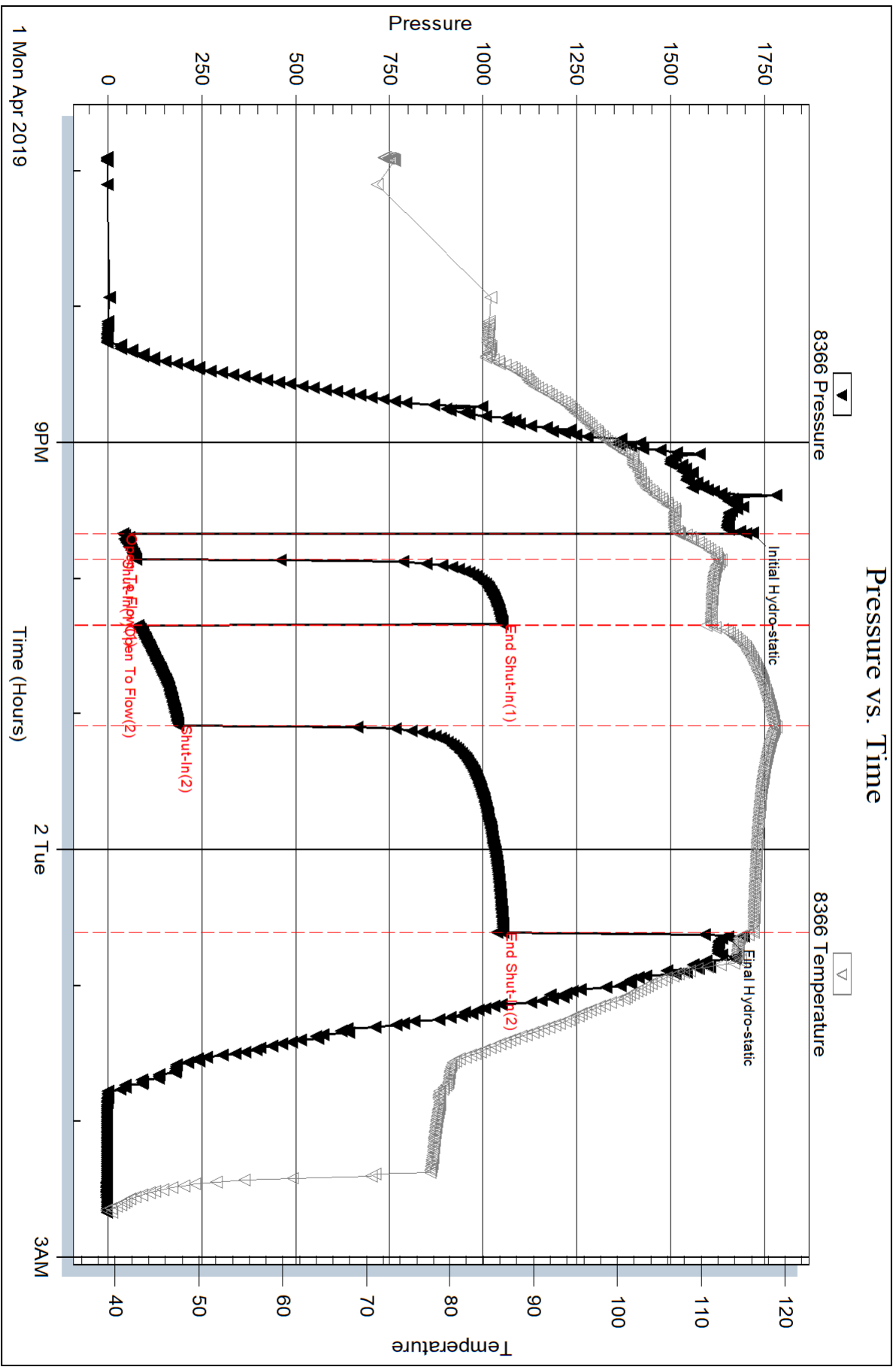
Length ft	Description	Volume bbl
63.00	MCW - 40%M - 60%W	0.463
311.00	MCW - 5%M - 95%W	2.719
60.00	MCW - 35%M - 65%W	0.842

Total Length: 434.00 ft Total Volume: 4.024 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW = .192 @ 41 DEG F
CHLORIDES = 65,000
Sample Chamber = 2500ml W @ 180 PSI



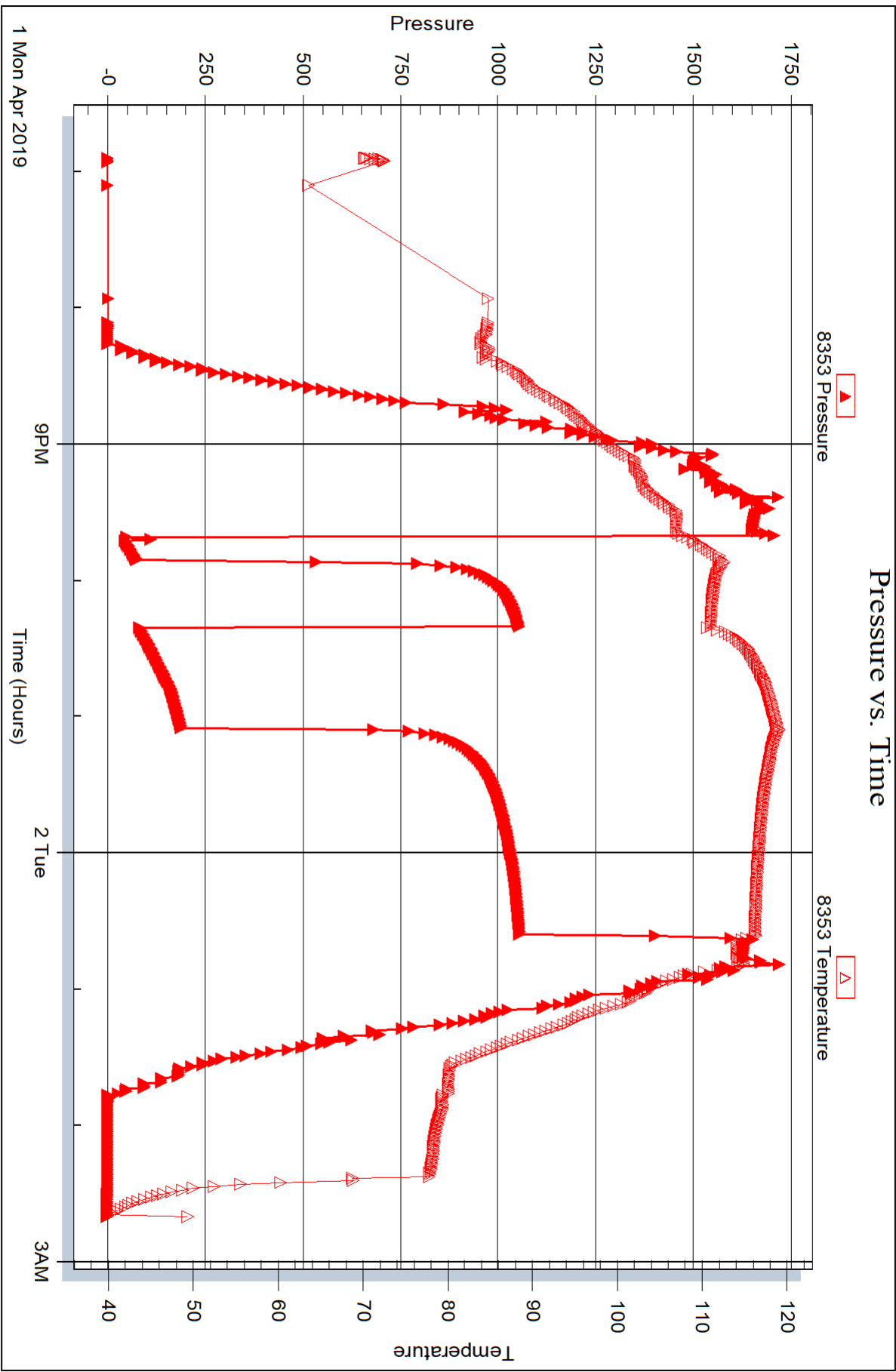
Serial #: 8353

Inside

Pioneer Oil Company Inc

Schanberger #1-28

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 65298

Printed: 2019.04.09 @ 14:36:26



DRILL STEM TEST REPORT

Prepared For: **Pioneer Oil Company Inc**

PO Box 237
Vincennes IN 47501

ATTN: Jim Musgrove

Schamberger #1-28

28-2s-28w Sheridan,KS

Start Date: 2019.04.02 @ 23:15:00

End Date: 2019.04.03 @ 05:49:39

Job Ticket #: 65299 DST #: 2

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

Printed: 2019.04.09 @ 14:35:14

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

Schamberger #1-28

DST # 2

Plattsmouth

2019.04.02



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

ATTN: Jim Musgrove

Job Ticket: 65299

DST#: 2

Test Start: 2019.04.02 @ 23:15:00

GENERAL INFORMATION:

Formation: **Plattsmouth**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:52:00

Time Test Ended: 05:49:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 3789.00 ft (KB) To 3806.00 ft (KB) (TVD)

Reference Elevations: 2749.00 ft (KB)

Total Depth: 3806.00 ft (KB) (TVD)

2741.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8366 Outside

Press@RunDepth: 321.22 psig @ 3790.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.04.02

End Date:

2019.04.03

Last Calib.:

2019.04.03

Start Time: 23:15:01

End Time:

05:49:40

Time On Btm:

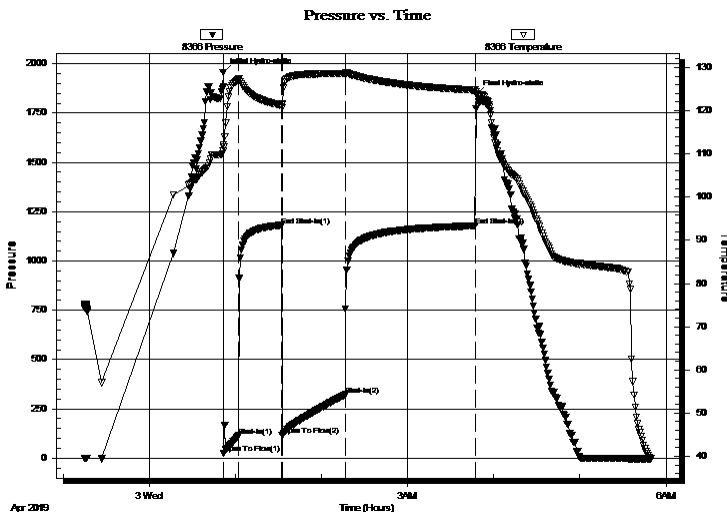
2019.04.03 @ 00:51:30

Time Off Btm:

2019.04.03 @ 03:48:10

TEST COMMENT: 10 IF - Slide 4', 1" blow built to BoB @ 9 mins
30 ISI - Surface blow
45 FF - BoB @ 11 mins
90 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1955.75	110.59	Initial Hydro-static
1	23.81	111.57	Open To Flow (1)
11	112.65	127.13	Shut-In(1)
41	1180.36	121.31	End Shut-In(1)
41	117.75	120.67	Open To Flow (2)
86	321.22	128.62	Shut-In(2)
176	1177.55	124.78	End Shut-In(2)
177	1841.62	123.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
672.00	MCW - 5%M - 95%W	7.36

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

Job Ticket: 65299

DST#: 2

ATTN: Jim Musgrove

Test Start: 2019.04.02 @ 23:15:00

GENERAL INFORMATION:

Formation: **Platts mouth**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:52:00

Time Test Ended: 05:49:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 3789.00 ft (KB) To 3806.00 ft (KB) (TVD)

Reference Elevations: 2749.00 ft (KB)

Total Depth: 3806.00 ft (KB) (TVD)

2741.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8353 Inside

Press@RunDepth: psig @ 3790.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.04.02 End Date: 2019.04.03

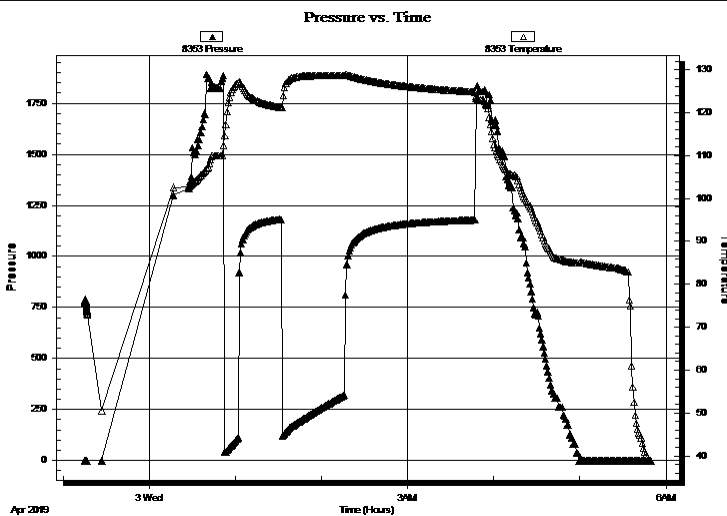
Last Calib.: 2019.04.03

Start Time: 23:15:01 End Time: 05:49:40

Time On Btm:

Time Off Btm:

TEST COMMENT: 10 IF - Slide 4', 1" blow built to BoB @ 9 mins
30 ISI - Surface blow
45 FF - BoB @ 11 mins
90 FSI - No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
672.00	MCW - 5%M - 95%W	7.36

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

Job Ticket: 65299

DST#: 2

ATTN: Jim Musgrove

Test Start: 2019.04.02 @ 23:15:00

Tool Information

Drill Pipe:	Length: 3475.00 ft	Diameter: 3.80 inches	Volume: 48.75 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 309.00 ft	Diameter: 2.75 inches	Volume: 2.27 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 51.02 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3789.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	17.00 ft			
Tool Length:	39.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3772.00	
Sampler	2.00			3774.00	
Hydraulic tool	5.00			3779.00	
Packer	5.00			3784.00	22.00 Bottom Of Top Packer
Packer	5.00			3789.00	
Stubb	1.00			3790.00	
Recorder	0.00	8353	Inside	3790.00	
Recorder	0.00	8366	Outside	3790.00	
Perforations	13.00			3803.00	
Bullnose	3.00			3806.00	17.00 Bottom Packers & Anchor
Total Tool Length:	39.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

Job Ticket: 65299

DST#: 2

ATTN: Jim Musgrove

Test Start: 2019.04.02 @ 23:15:00

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:

68000 ppm

Viscosity: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
672.00	MCW - 5%M - 95%W	7.362

Total Length: 672.00 ft Total Volume: 7.362 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

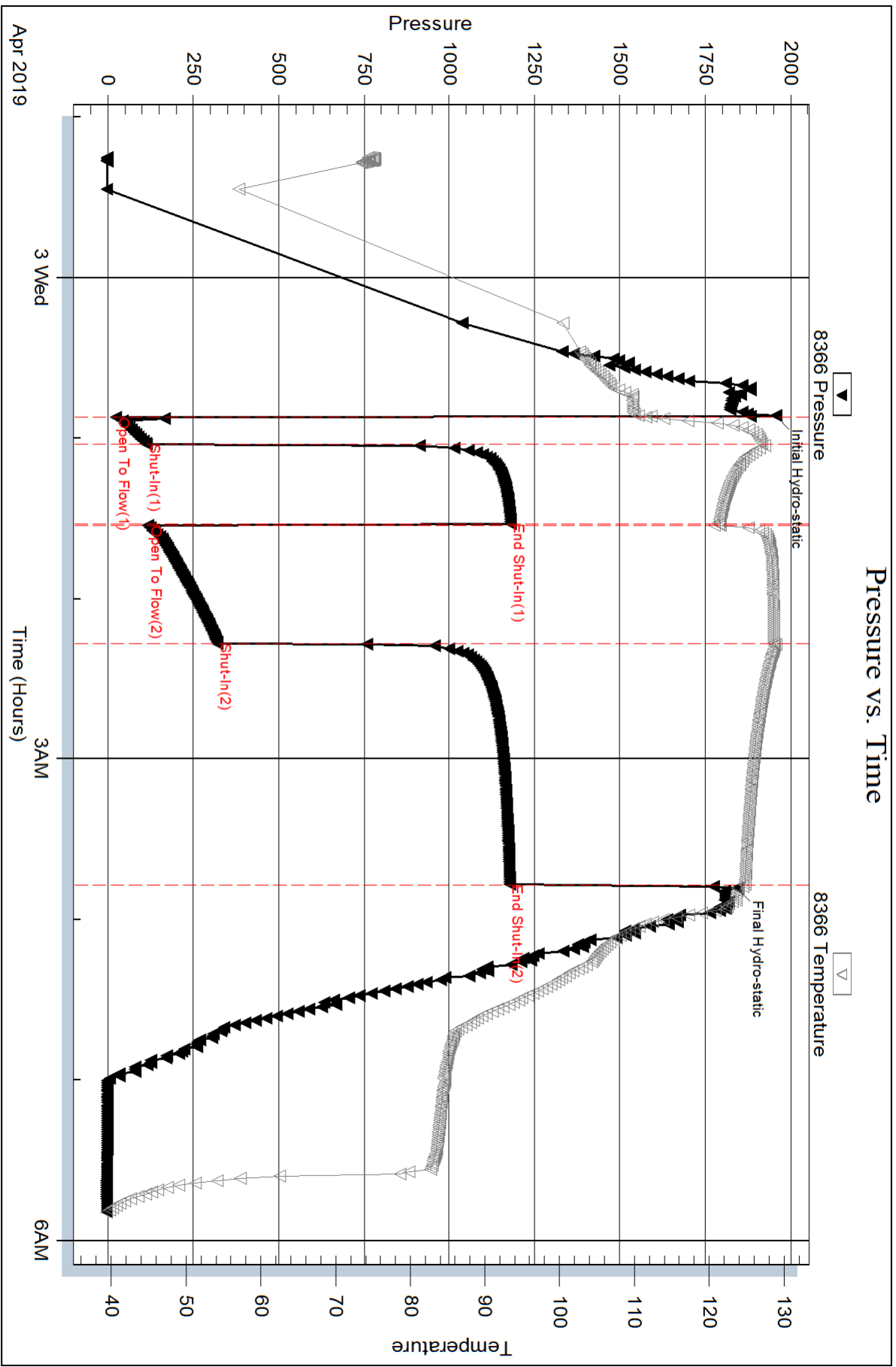
Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .190 @ 38 DEG F CHLORIDES = 68,000 ppm

Sample Chamber = 2500mL W 250 PSI

.150 @ 42 DEG F CHLORIDES = 83,000 ppm



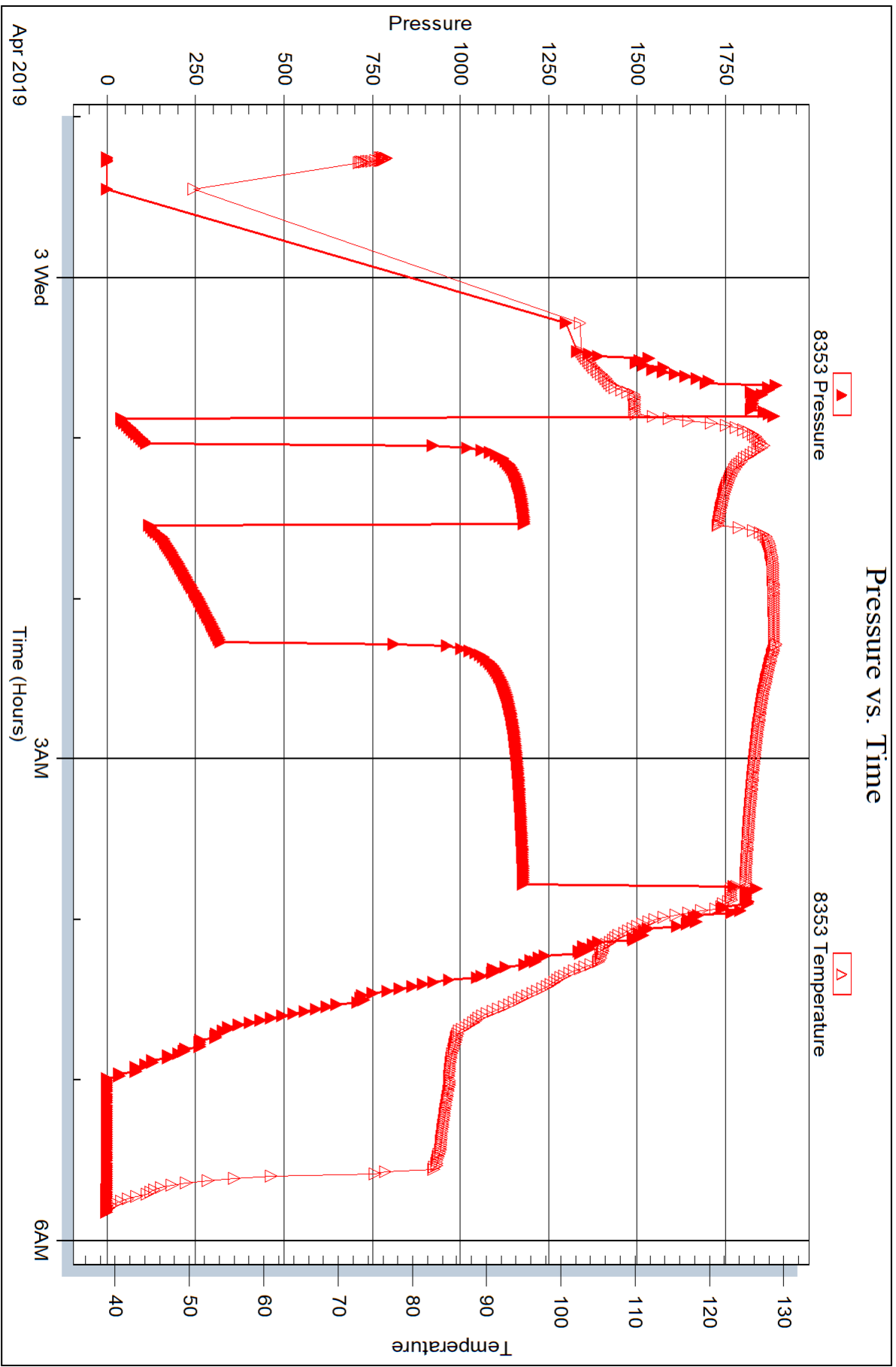
Serial #: 8353

Inside

Pioneer Oil Company Inc

Scharberger #1-28

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Pioneer Oil Company Inc**

PO Box 237
Vincennes IN 47501

ATTN: Jim Musgrove

Schamberger #1-28

28-2s-28w Sheridan,KS

Start Date: 2019.04.03 @ 15:28:00

End Date: 2019.04.03 @ 21:09:20

Job Ticket #: 65300 DST #: 3

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

Printed: 2019.04.09 @ 14:34:48



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Pioneer Oil Company Inc
PO Box 237
Vincennes IN 47501
ATTN: Jim Musgrove

28-2s-28w Sheridan,KS

Schamberger #1-28

Job Ticket: 65300

DST#: 3

Test Start: 2019.04.03 @ 15:28:00

GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:20:20

Time Test Ended: 21:09:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 3835.00 ft (KB) To 3870.00 ft (KB) (TVD)

Reference Elevations: 2749.00 ft (KB)

Total Depth: 3870.00 ft (KB) (TVD)

2741.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8366 Outside

Press@RunDepth: 14.30 psig @ 3836.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.04.03 End Date: 2019.04.03

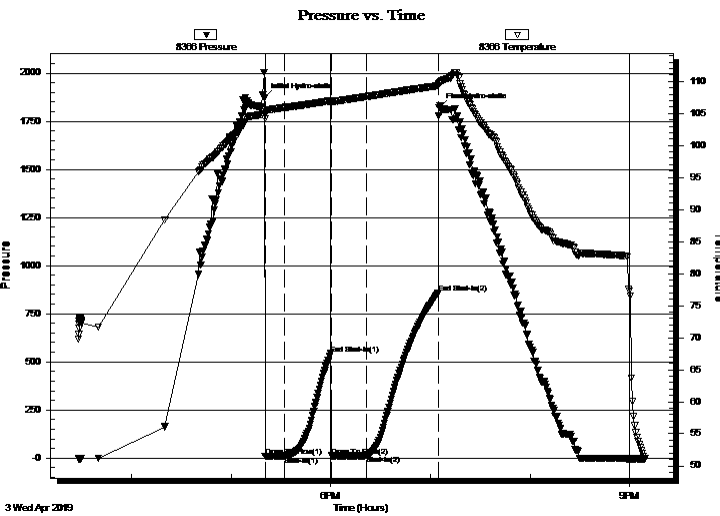
Last Calib.: 2019.04.03

Start Time: 15:28:01 End Time: 21:09:20

Time On Btm: 2019.04.03 @ 17:19:50

Time Off Btm: 2019.04.03 @ 19:05:10

TEST COMMENT: 10 IF - Surface blow built to 1/2"
30 ISI - No return
20 FF - Flushed tool, no blow
45 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1870.33	105.34	Initial Hydro-static
1	8.11	104.19	Open To Flow (1)
12	12.08	105.92	Shut-In(1)
40	542.45	106.96	End Shut-In(1)
41	12.10	106.65	Open To Flow (2)
62	14.30	107.62	Shut-In(2)
105	856.23	109.33	End Shut-In(2)
106	1820.54	109.61	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100%M	0.04

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pioneer Oil Company Inc
 PO Box 237
 Vincennes IN 47501
 ATTN: Jim Musgrove

28-2s-28w Sheridan,KS

Schamberger #1-28

Job Ticket: 65300

DST#: 3

Test Start: 2019.04.03 @ 15:28:00

GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:20:20

Time Test Ended: 21:09:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 3835.00 ft (KB) To 3870.00 ft (KB) (TVD)

Reference Elevations: 2749.00 ft (KB)

Total Depth: 3870.00 ft (KB) (TVD)

2741.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8353 Inside

Press@RunDepth: psig @ 3836.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.04.03

End Date:

2019.04.03

Last Calib.:

2019.04.03

Start Time: 15:28:01

End Time:

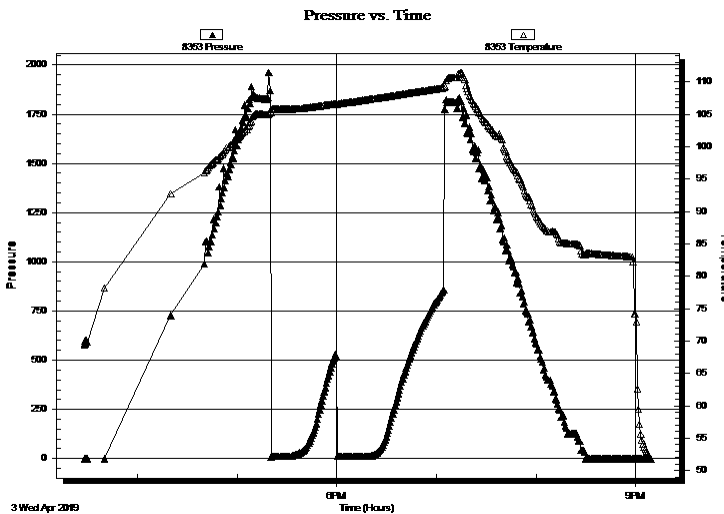
21:09:10

Time On Btm:

Time Off Btm:

TEST COMMENT: 10 IF - Surface blow built to 1/2"
 30 ISI - No return
 20 FF - Flushed tool, no blow
 45 FSI - No return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100%M	0.04

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

Job Ticket: 65300

DST#: 3

ATTN: Jim Musgrove

Test Start: 2019.04.03 @ 15:28:00

Tool Information

Drill Pipe:	Length: 3536.00 ft	Diameter: 3.80 inches	Volume: 49.60 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length: 309.00 ft	Diameter: 2.75 inches	Volume: 2.27 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 51.87 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	3835.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	35.00 ft				
Tool Length:	57.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3818.00	
Sampler	2.00			3820.00	
Hydraulic tool	5.00			3825.00	
Packer	5.00			3830.00	22.00 Bottom Of Top Packer
Packer	5.00			3835.00	
Stubb	1.00			3836.00	
Recorder	0.00	8353	Inside	3836.00	
Recorder	0.00	8366	Outside	3836.00	
Perforations	31.00			3867.00	
Bullnose	3.00			3870.00	35.00 Bottom Packers & Anchor
Total Tool Length:	57.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

Job Ticket: 65300

DST#: 3

ATTN: Jim Musgrove

Test Start: 2019.04.03 @ 15:28:00

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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100%M	0.037

Total Length: 5.00 ft Total Volume: 0.037 bbl

Num Fluid Samples: 0

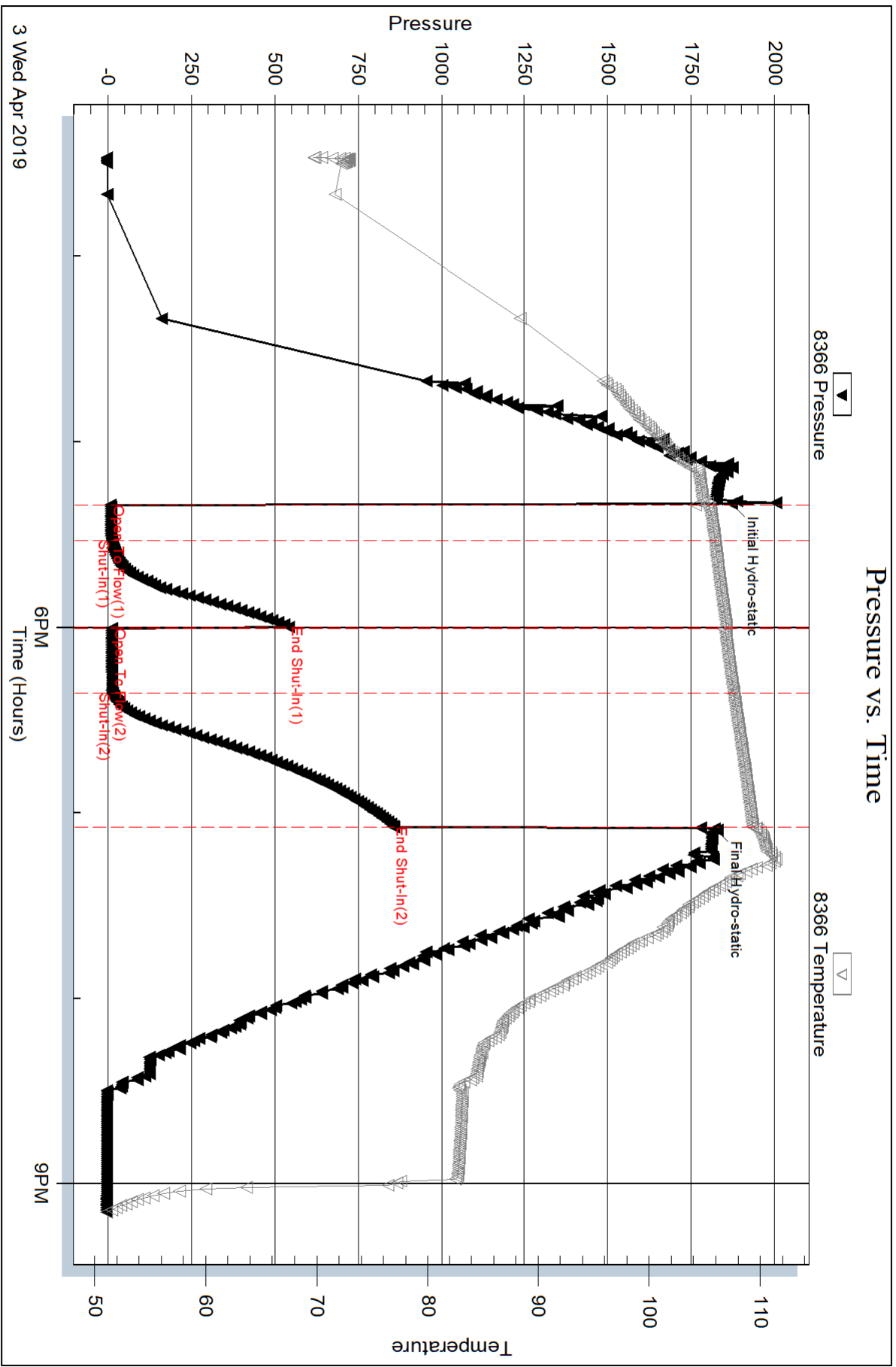
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sample Chamber = 2500 ml Mud 100%m @ 15 PSI



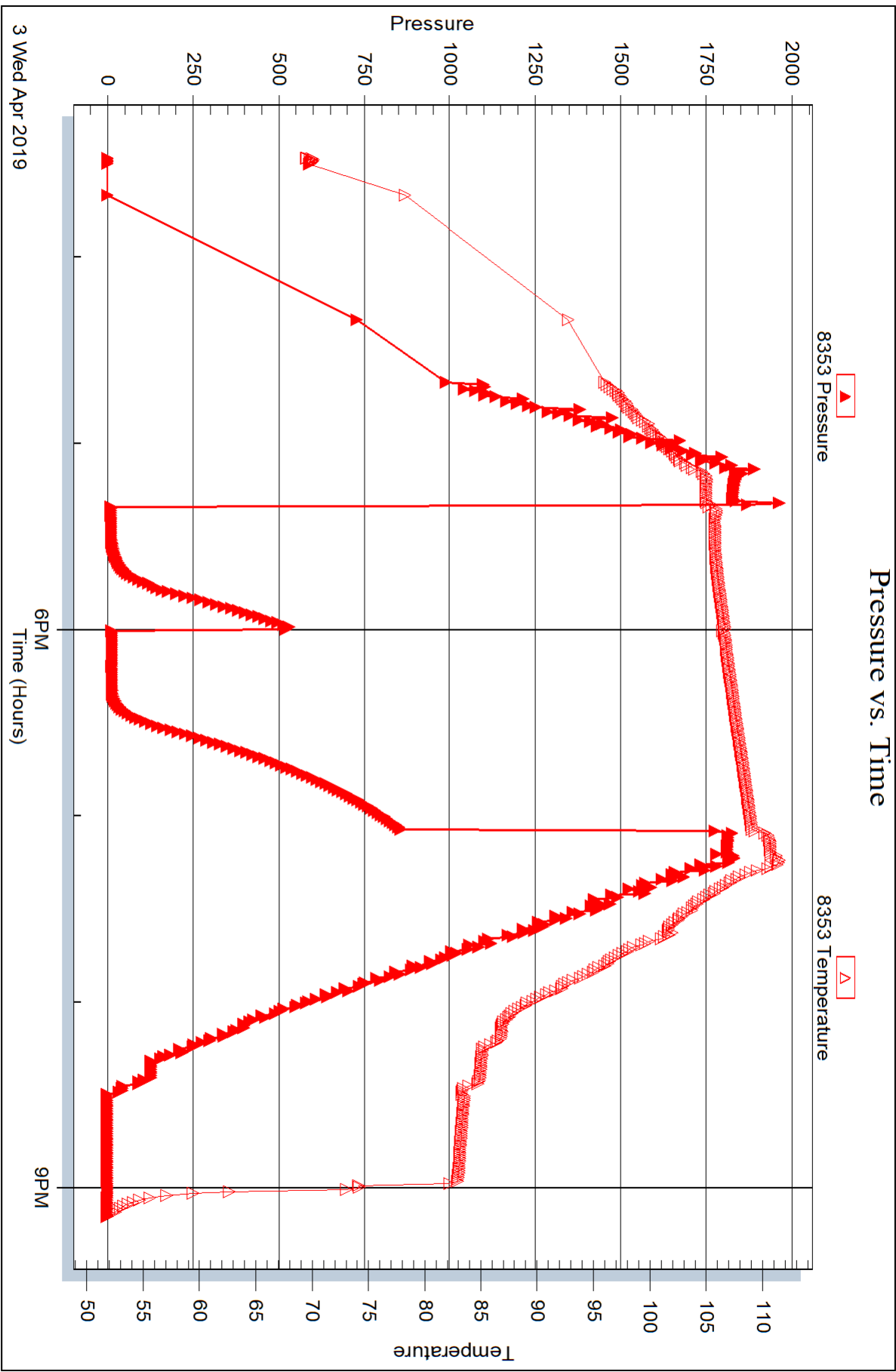
Serial #: 8353

Inside

Pioneer Oil Company Inc

Schanberger #1-28

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Pioneer Oil Company Inc**

PO Box 237
Vincennes IN 47501

ATTN: Jim Musgrove

Schamberger #1-28

28-2s-28w Sheridan,KS

Start Date: 2019.04.04 @ 08:35:00

End Date: 2019.04.04 @ 15:29:00

Job Ticket #: 65526 DST #: 4

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

Printed: 2019.04.09 @ 14:32:16



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pioneer Oil Company Inc
 PO Box 237
 Vincennes IN 47501
 ATTN: Jim Musgrove

28-2s-28w Sheridan,KS

Schamberger #1-28

Job Ticket: 65526 **DST#: 4**
 Test Start: 2019.04.04 @ 08:35:00

GENERAL INFORMATION:

Formation: **LKC " C "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 10:31:20
 Time Test Ended: 15:29:00
 Interval: **3895.00 ft (KB) To 3915.00 ft (KB) (TVD)**
 Total Depth: 3915.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 71
 Reference Elevations: 2749.00 ft (KB)
 2741.00 ft (CF)
 KB to GR/CF: 8.00 ft

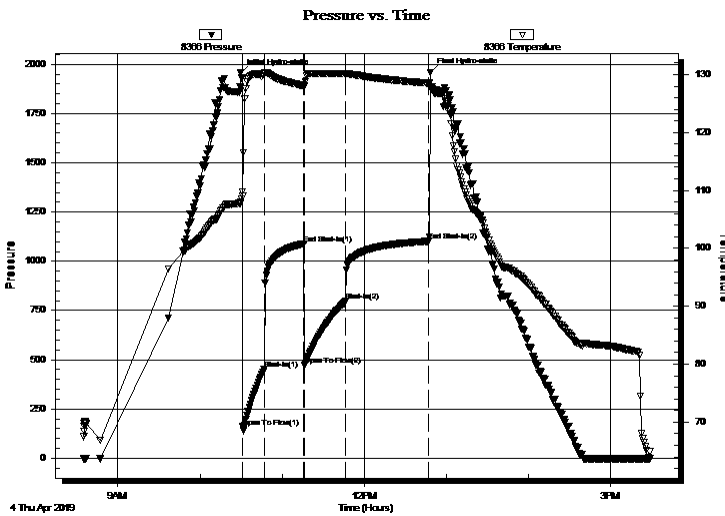
Serial #: 8366

Outside

Press@RunDepth: 798.12 psig @ 3896.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.04 End Date: 2019.04.04 Last Calib.: 2019.04.04
 Start Time: 08:35:01 End Time: 15:29:00 Time On Btm: 2019.04.04 @ 10:29:40
 Time Off Btm: 2019.04.04 @ 12:48:30

TEST COMMENT: 15 IF - BoB @ 1 1/2 mins
 30 ISI - Surface blow built to 1"
 30 FF - BoB @ 2 mins
 60 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1954.69	107.93	Initial Hydro-static
2	159.49	108.96	Open To Flow (1)
18	450.53	130.20	Shut-In(1)
47	1089.01	128.02	End Shut-In(1)
47	474.14	127.92	Open To Flow (2)
77	798.12	130.13	Shut-In(2)
138	1101.31	128.51	End Shut-In(2)
139	1958.64	127.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	MCW - 20%M - 80%W	0.44
1410.00	MCW - 3%M - 97%W	18.12
250.00	MCW - 15%M - 85%W	3.51

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pioneer Oil Company Inc
 PO Box 237
 Vincennes IN 47501
 ATTN: Jim Musgrove

28-2s-28w Sheridan,KS
Schamberger #1-28
 Job Ticket: 65526 **DST#: 4**
 Test Start: 2019.04.04 @ 08:35:00

GENERAL INFORMATION:

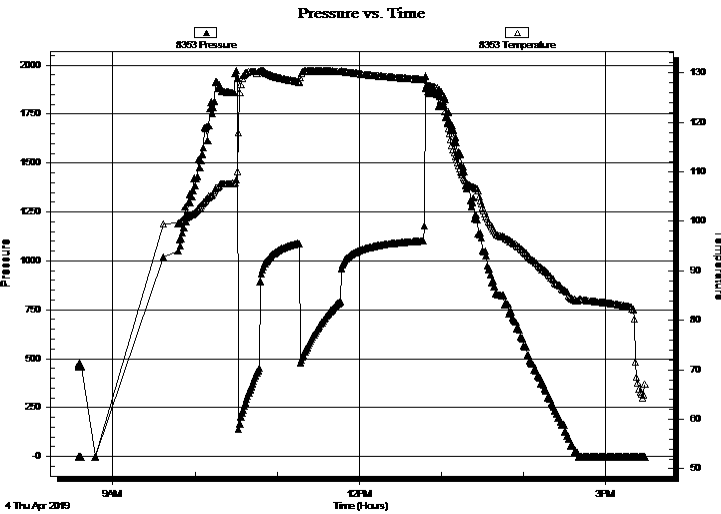
Formation: **LKC " C "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 10:31:20
 Time Test Ended: 15:29:00
Interval: 3895.00 ft (KB) To 3915.00 ft (KB) (TVD)
 Total Depth: 3915.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 71
 Reference Elevations: 2749.00 ft (KB)
 2741.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8353

Inside

Press@RunDepth: psig @ 3896.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.04 End Date: 2019.04.04 Last Calib.: 2019.04.04
 Start Time: 08:35:01 End Time: 15:29:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: 15 IF - BoB @ 1 1/2 mins
 30 ISI - Surface blow built to 1"
 30 FF - BoB @ 2 mins
 60 FSI - No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	MCW - 20%M - 80%W	0.44
1410.00	MCW - 3%M - 97%W	18.12
250.00	MCW - 15%M - 85%W	3.51

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

Job Ticket: 65526

DST#: 4

ATTN: Jim Musgrove

Test Start: 2019.04.04 @ 08:35:00

Tool Information

Drill Pipe:	Length: 3597.00 ft	Diameter: 3.80 inches	Volume: 50.46 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 309.00 ft	Diameter: 2.75 inches	Volume: 2.27 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 52.73 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3895.00 ft			Final 67000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	42.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3878.00	
Sampler	2.00			3880.00	
Hydraulic tool	5.00			3885.00	
Packer	5.00			3890.00	22.00 Bottom Of Top Packer
Packer	5.00			3895.00	
Stubb	1.00			3896.00	
Recorder	0.00	8353	Inside	3896.00	
Recorder	0.00	8366	Outside	3896.00	
Perforations	16.00			3912.00	
Bullnose	3.00			3915.00	20.00 Bottom Packers & Anchor
Total Tool Length:	42.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

Job Ticket: 65526

DST#: 4

ATTN: Jim Musgrove

Test Start: 2019.04.04 @ 08:35:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

53 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

53000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	MCW - 20%M - 80%W	0.441
1410.00	MCW - 3%M - 97%W	18.115
250.00	MCW - 15%M - 85%W	3.507

Total Length: 1720.00 ft Total Volume: 22.063 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

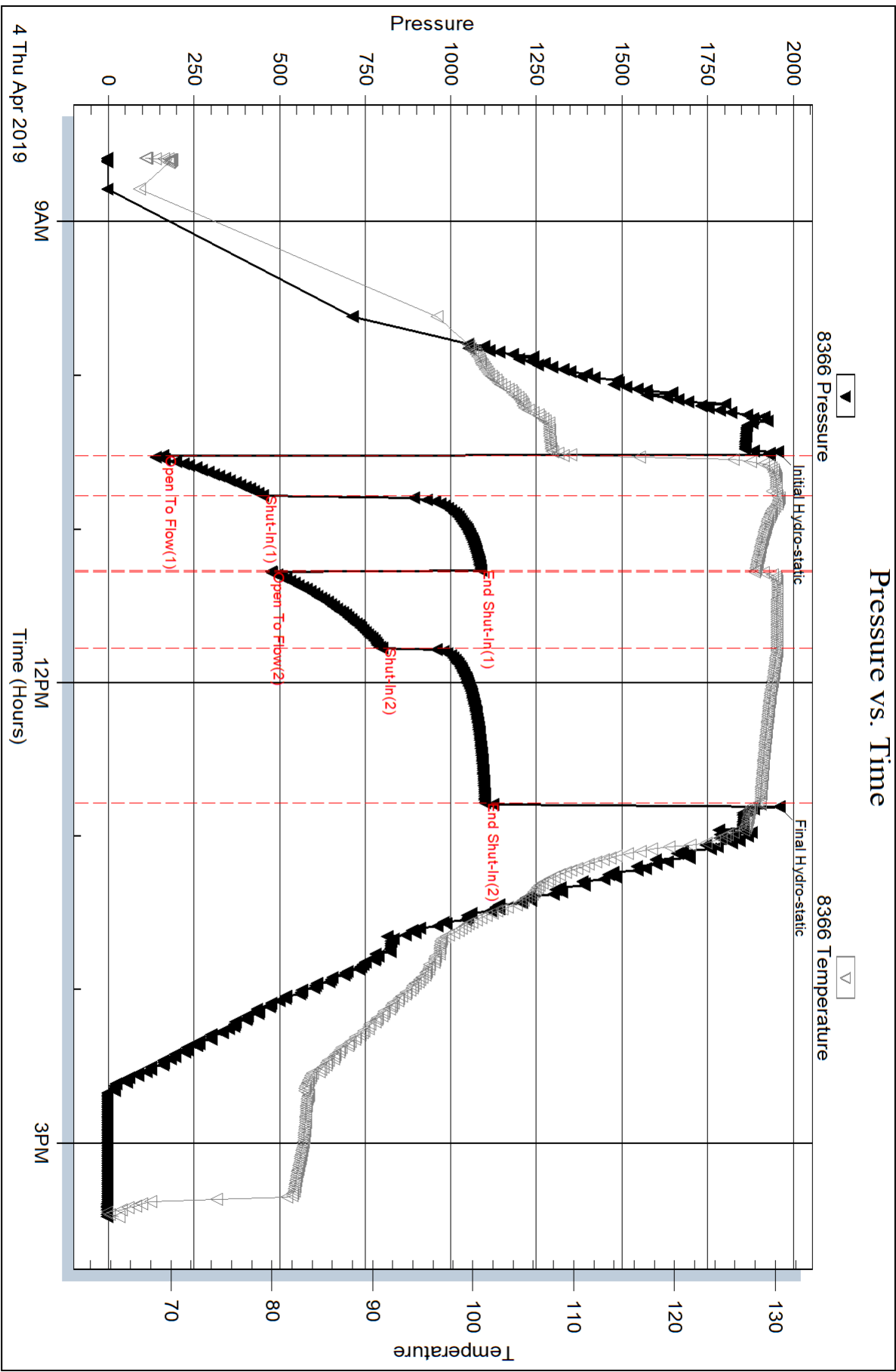
Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .140 @ 70 DEG F CHLORIDES = 53,000 PPM

Sample Chamber - .090 @ 75 DEG F 2500 ML 100%W

Chlorides 75,000ppm @ 800 PSI



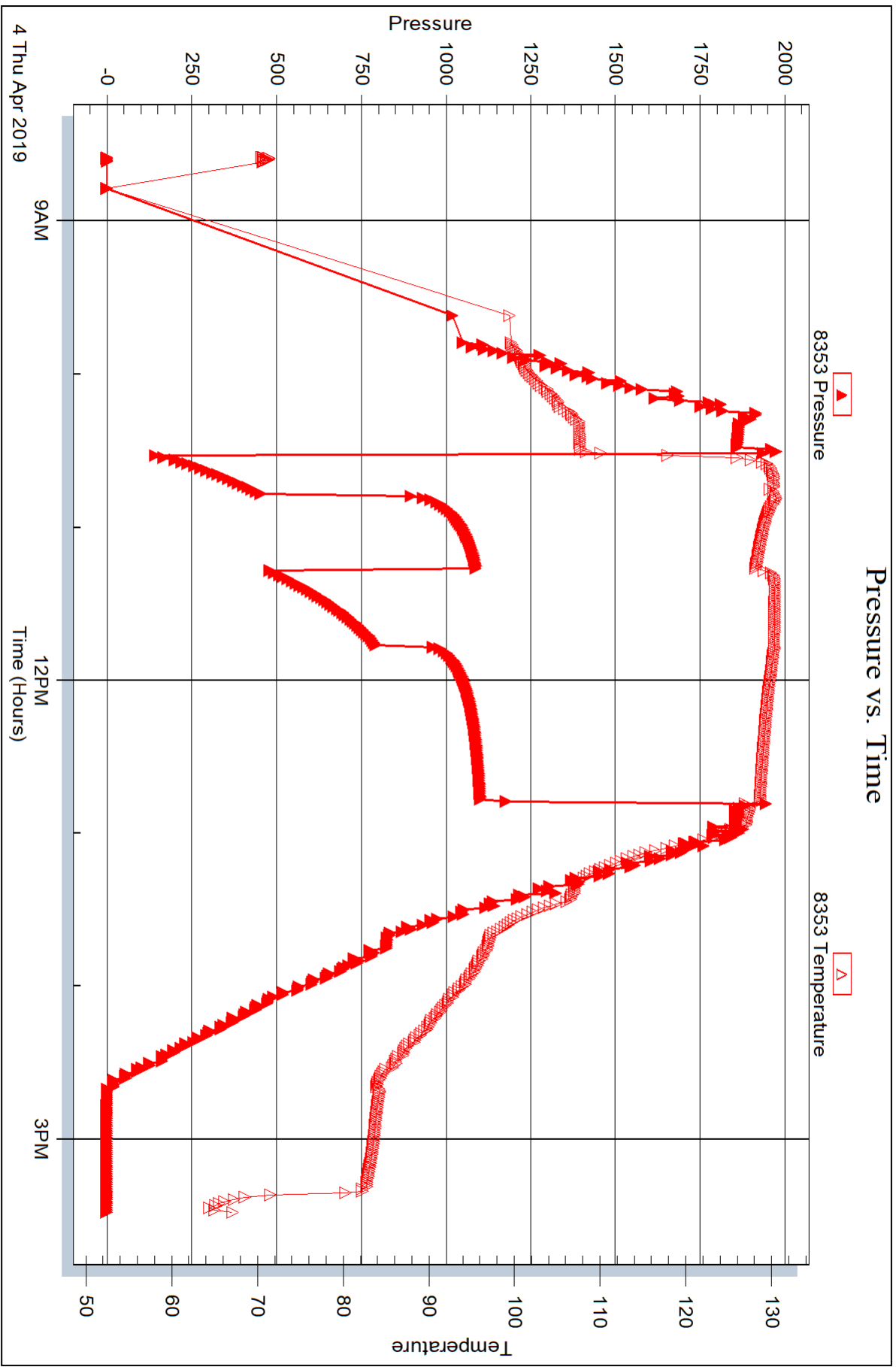
Serial #: 8353

Inside

Pioneer Oil Company Inc

Scharberger #1-28

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Pioneer Oil Company Inc**

PO Box 237
Vincennes IN 47501

ATTN: Jim Musgrove

Schamberger #1-28

28-2s-28w Sheridan,KS

Start Date: 2019.04.05 @ 19:38:00

End Date: 2019.04.06 @ 03:41:00

Job Ticket #: 65527 DST #: 5

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

Printed: 2019.04.09 @ 14:27:24

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

Schamberger #1-28

DST # 5

LKC "I-J"

2019.04.05



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

Job Ticket: 65527

DST#: 5

ATTN: Jim Musgrove

Test Start: 2019.04.05 @ 19:38:00

GENERAL INFORMATION:

Formation: **LKC "I - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:41:10

Time Test Ended: 03:41:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: **4014.00 ft (KB) To 4113.00 ft (KB) (TVD)**

Reference Elevations: 2749.00 ft (KB)

Total Depth: 4113.00 ft (KB) (TVD)

2741.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8366

Outside

Press@RunDepth: 180.55 psig @ 4015.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.04.05

End Date:

2019.04.06

Last Calib.:

2019.04.06

Start Time: 19:38:01

End Time:

03:41:00

Time On Btm:

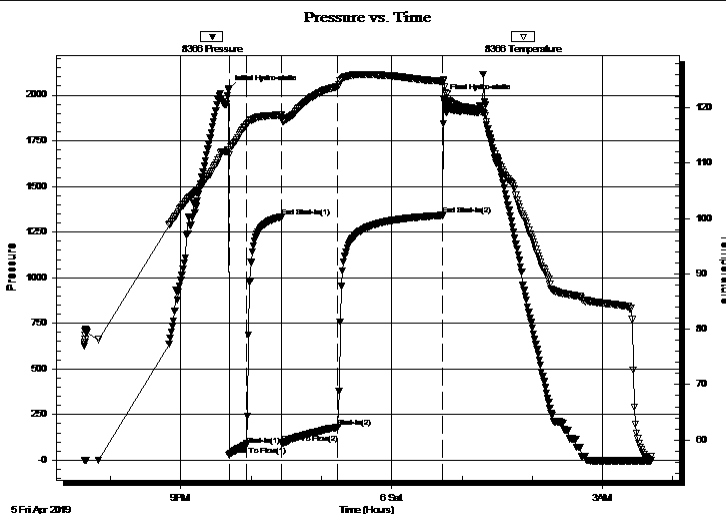
2019.04.05 @ 21:40:50

Time Off Btm:

2019.04.06 @ 00:44:20

TEST COMMENT: 15 IF - BoB @ 9 mins
30 ISI - Surface blow built to 3 1/2"
45 FF - BoB @ 6 mins
90 FSI - BoB @ 13 mins died back to 10"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2027.63	112.42	Initial Hydro-static
1	26.90	111.56	Open To Flow (1)
15	82.97	116.88	Shut-In(1)
45	1333.22	118.65	End Shut-In(1)
46	94.61	118.08	Open To Flow (2)
94	180.55	123.86	Shut-In(2)
183	1341.34	124.77	End Shut-In(2)
184	1982.75	124.77	Final Hydro-static

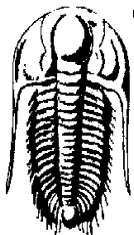
Recovery

Length (ft)	Description	Volume (bbl)
185.00	GOCM - 45%G - 15%o - 40%M	1.36
225.00	GO - 70%G - 30%o	2.33
30.00	GO - 40%G - 60%o	0.42
0.00	1470' GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

ATTN: Jim Musgrove

Job Ticket: 65527 **DST#: 5**

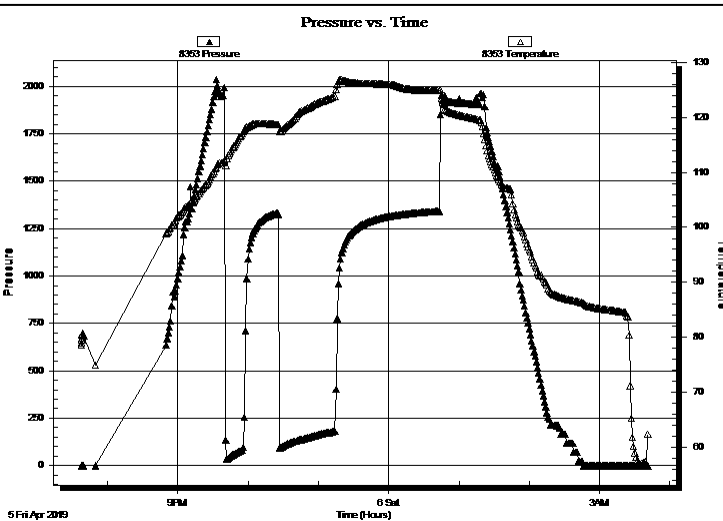
Test Start: 2019.04.05 @ 19:38:00

GENERAL INFORMATION:

Formation: **LKC "I - J"**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 21:41:10 Tester: Ryan Nichols
 Time Test Ended: 03:41:00 Unit No: 71
Interval: 4014.00 ft (KB) To 4113.00 ft (KB) (TVD) Reference Elevations: 2749.00 ft (KB)
 Total Depth: 4113.00 ft (KB) (TVD) 2741.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 8.00 ft

Serial #: 8353 Inside
 Press@RunDepth: psig @ 4015.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.05 End Date: 2019.04.06 Last Calib.: 2019.04.06
 Start Time: 19:38:01 End Time: 03:41:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: 15 IF - BoB @ 9 mins
 30 ISI - Surface blow built to 3 1/2"
 45 FF - BoB @ 6 mins
 90 FSI - BoB @ 13 mins died back to 10"



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

Recovery		
Length (ft)	Description	Volume (bbl)
185.00	GOCM - 45%G - 15%o - 40%M	1.36
225.00	GO - 70%G - 30%o	2.33
30.00	GO - 40%G - 60%o	0.42
0.00	1470' GIP	0.00

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

Job Ticket: 65527

DST#: 5

ATTN: Jim Musgrove

Test Start: 2019.04.05 @ 19:38:00

Tool Information

Drill Pipe:	Length: 3690.00 ft	Diameter: 3.80 inches	Volume: 51.76 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length: 309.00 ft	Diameter: 2.75 inches	Volume: 2.27 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	95000.00 lb
			<u>Total Volume: 54.03 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	4014.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	99.00 ft				
Tool Length:	121.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3997.00	
Sampler	2.00			3999.00	
Hydraulic tool	5.00			4004.00	
Packer	5.00			4009.00	22.00 Bottom Of Top Packer
Packer	5.00			4014.00	
Stubb	1.00			4015.00	
Recorder	0.00	8353	Inside	4015.00	
Recorder	0.00	8366	Outside	4015.00	
Perforations	30.00			4045.00	
Blank Spacing	65.00			4110.00	
Bullnose	3.00			4113.00	99.00 Bottom Packers & Anchor

Total Tool Length: 121.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Oil Company Inc

28-2s-28w Sheridan,KS

PO Box 237
Vincennes IN 47501

Schamberger #1-28

Job Ticket: 65527

DST#: 5

ATTN: Jim Musgrove

Test Start: 2019.04.05 @ 19:38:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
185.00	GOCM - 45%G - 15%o - 40%M	1.359
225.00	GO - 70%G - 30%o	2.328
30.00	GO - 40%G - 60%o	0.421
0.00	1470' GIP	0.000

Total Length: 440.00 ft Total Volume: 4.108 bbl

Num Fluid Samples: 0

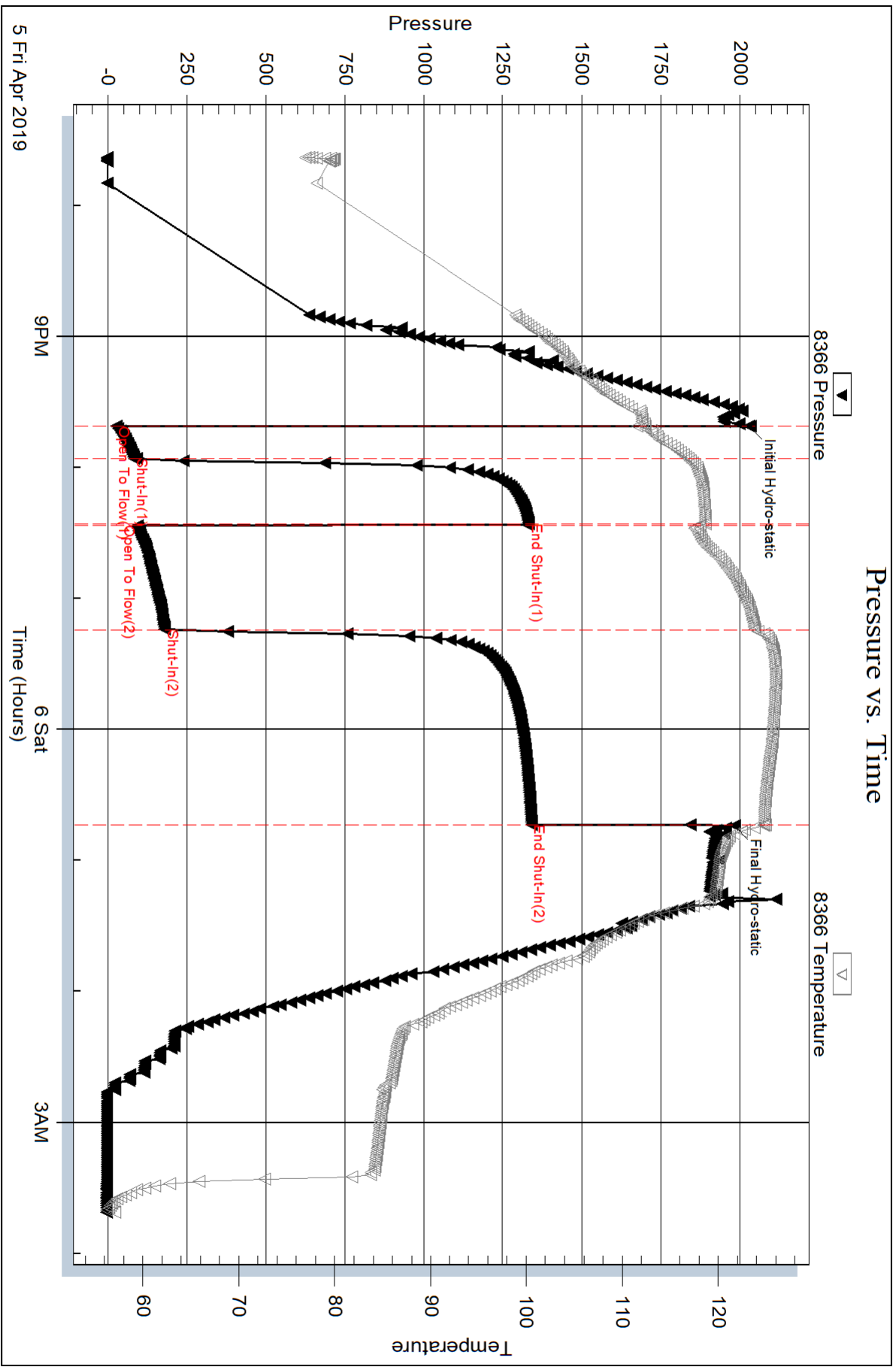
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sample Chamber - 1250 ML Gas - 1250 ML Oil @ 300 PSI
Gravity = 39 @ 60 DEG F



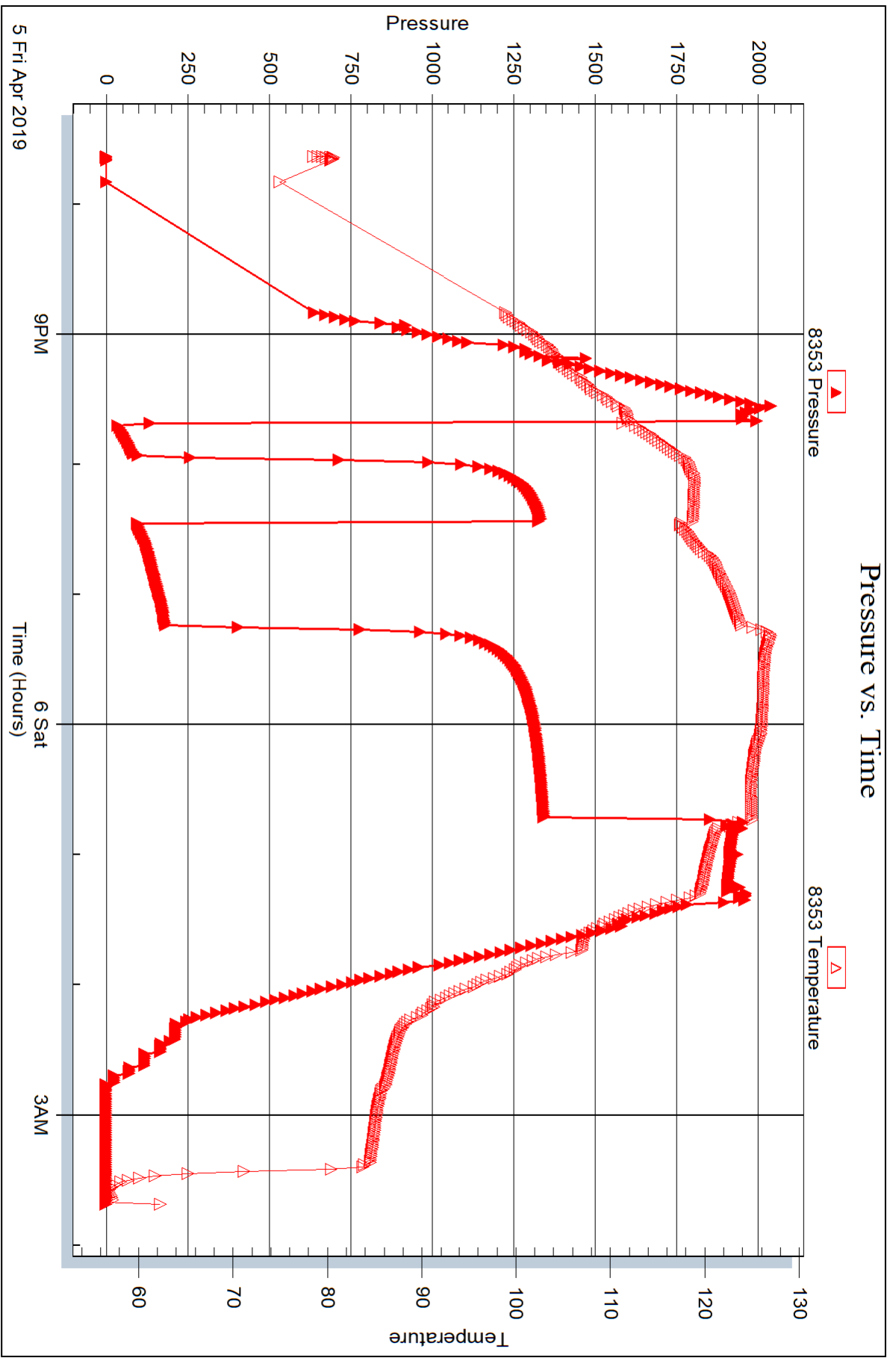
Serial #: 8353

Inside

Pioneer Oil Company Inc

Scharberger #1-28

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 65527

Printed: 2019.04.09 @ 14:27:25



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65298

Well Name & No. Schamberger #1-28 Test No. 1 Date 4/1/19
 Company Pioneer Oil Company Inc. Elevation 2749 KB 2741 GL
 Address 400 Main St. P.O. Box 237 Vincennes IN 47501
 Co. Rep / Geo. Jim Musgrave Rig Discovery #2
 Location: Sec. 28 Twp 2S Rge. 28 W Co. Sheridan State KS

Interval Tested 3525 - 3550 Zone Tested ~~3525 - 3550~~ Elmont
 Anchor Length 25' Drill Pipe Run 3225' Mud Wt. 8.6
 Top Packer Depth 3520 Drill Collars Run 0' Vis 60
 Bottom Packer Depth 3525 Wt. Pipe Run 309' WL 7.6
 Total Depth 3550 Chlorides 1000 ppm System LCM 1.5
 Blow Description 10 IF - slide 5' ~~3"~~ 3" blow built to 7 1/2"
30 ISI - No return
45 FF - Surface blow built to BoB @ 35 mins
90 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>MCW</u>		<u>65</u>	<u>35</u>	
<u>311</u>	<u>MCW</u>		<u>95</u>	<u>5</u>	
<u>63</u>	<u>MCW</u>		<u>60</u>	<u>40</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 434' BHT 116° Gravity — API RW 192 @ 41° F Chlorides 65,000 ppm

(A) Initial Hydrostatic <u>1719</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>18:00</u>
(B) First Initial Flow <u>40</u>	<input type="checkbox"/> Jars	T-Started <u>18:54</u>
(C) First Final Flow <u>75</u>	<input type="checkbox"/> Safety Joint	T-Open <u>21:40</u>
(D) Initial Shut-In <u>1053</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>00:36</u>
(E) Second Initial Flow <u>81</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>02:45</u>
(F) Second Final Flow <u>187</u>	<input checked="" type="checkbox"/> Mileage <u>83</u>	Comments
(G) Final Shut-In <u>1055</u>	<input checked="" type="checkbox"/> Sampler <u>83 RT</u>	
(H) Final Hydrostatic <u>1652</u>	<input type="checkbox"/> Straddle <u>250</u>	
Initial Open <u>10</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> EM Tool
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Shale Packer
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Ruined Packer
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	<input type="checkbox"/> Extra Copies
	<input type="checkbox"/> Accessibility	Sub Total <u>0</u>
	Sub Total <u>1533</u>	Total <u>1533</u>

Approved By _____

Our Representative Page 2 (checked)

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



TRILOBITE TESTING, INC.

1515 Commerce Parkway • Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 65298 Date 4/1/19
 Company Name Pioneer Oil Company Inc
 Lease Schanberger # 1-28 Test No. 1
 County Sheridan KS Sec. 28 Twp. 25 Rng. 28W

SAMPLER RECOVERY

Gas 0 ML
 Oil 0 ML
 Mud 0 ML
 Water 2500 ML
 Other 0 ML
 Pressure ~~180~~ 180 PSI ML
 Total 2500 ML

PIT MUD ANALYSIS

Chlorides 1000 ppm.
 Resistivity _____ ohms @ _____ F
 Viscosity 60
 Mud Weight 8.6
 Filtrate 7.6
 Other LCM-1/2 Lake-1

SAMPLER ANALYSIS

Resistivity .189 ohms @ 42.7 F
 Chlorides 62,000 ppm.
 Gravity _____ corrected @60F

PIPE RECOVERY

TOP
 Resistivity .232 ohms @ 38° F
 Chlorides 63,000 ppm.
MIDDLE
 Resistivity .192 ohms @ 41° F
 Chlorides 65,000 ppm.
BOTTOM
 Resistivity .152 ohms @ 42 1/2° F
 Chlorides 79,000 ppm.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65299

Well Name & No. Schamberger #1-28 Test No. 2 Date 4/2/19
 Company Pioneer Oil Company Inc. Elevation 2749 KB 2741 GL
 Address 400 Main St. P.O. Box 237 Vincennes IN 47501
 Co. Rep / Geo. Jim Musgrave Rig Discovery #2
 Location: Sec. 28 Twp 25 Rge. 28 W Co. Sheridan State KS

Interval Tested 3789 - 3806 Zone Tested Platts mouth
 Anchor Length 17' Drill Pipe Run 3475' Mud Wt. 8.8
 Top Packer Depth 3784 Drill Collars Run 0 Vis 64
 Bottom Packer Depth 3789 Wt. Pipe Run 309' WL 7.6
 Total Depth 3806 Chlorides 1500 ppm System LCM 1.5
 Blow Description 10 FF - Slide 4', 1" blow built to BoB @ 9 mins
30 ISI - Surface blow return
45 FF - BoB @ 11 mins
90 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
672'	MCW			95%	5%

Rec Total 672' BHT 1 Gravity — API RW 190 @ 38° F Chlorides 68,000 ppm
 (A) Initial Hydrostatic 1956 Test 1200 T-On Location 23:00
 (B) First Initial Flow 24 Jars _____ T-Started 23:15
 (C) First Final Flow 113 Safety Joint _____ T-Open 00:52
 (D) Initial Shut-In 1180 Circ Sub _____ T-Pulled 03:47
 (E) Second Initial Flow 118 Hourly Standby _____ T-Out 05:45
 (F) Second Final Flow 321 Mileage 83 RT 83 Comments _____
 (G) Final Shut-In 1178 Sampler 250 _____
 (H) Final Hydrostatic 1842 Straddle _____
 Initial Open 10 Shale Packer _____
 Initial Shut-In 30 Extra Packer _____
 Final Flow 45 Extra Recorder _____
 Final Shut-In 90 Day Standby _____
 Sub Total 1533 Accessibility _____
 Sub Total 1533 Total 1533
 MP/DST Disc't _____

Approved By _____

Our Representative Jim Musgrave

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TRILOBITE TESTING, INC.

1515 Commerce Parkway • Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 65299 Date 4/2/19
 Company Name Pioneer Oil Company Inc.
 Lease Schamberger #1-28 Test No. 2
 County Sheridan KS Sec. 28 Twp. 2S Rng. 28W

SAMPLER RECOVERY

Gas 0 ML
 Oil 0 ML
 Mud 0 ML
 Water 2500 ML
 Other 0 ML
 Pressure 250 psi ML
 Total 2500 ML

PIT MUD ANALYSIS

Chlorides 1500 ppm.
 Resistivity _____ ohms @ _____ F
 Viscosity 64
 Mud Weight 8.8
 Filtrate 7.6
 Other LCM-1.5 Lake - 1

SAMPLER ANALYSIS

Resistivity .150 ohms @ 42 F
 Chlorides 83,000 ppm.
 Gravity — corrected @60F

PIPE RECOVERY

TOP
 Resistivity .285 ohms @ 35 F
 Chlorides 50,000 ppm.
MIDDLE
 Resistivity .190 ohms @ 38 F
 Chlorides 68,000 ppm.
BOTTOM
 Resistivity .190 ohms @ 40 F
 Chlorides 68,000 ppm.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65300

Well Name & No. Schanberger # 1-28 Test No. 3 Date 4/3/19
 Company Pioneer Oil Company Inc. Elevation 2749 KB 2741 GL
 Address 400 Main St. P.O. Box 237 Vincennes IN 47501
 Co. Rep / Geo. Jim Musgrove Rig Discovery # 2
 Location: Sec. 28 Twp 25 Rge. 28 W Co. Sheridan State KS

Interval Tested 3835 - 3870 Zone Tested Toronto
 Anchor Length 35' Drill Pipe Run ~~3536~~ 3536' Mud Wt. 9.2
 Top Packer Depth 3830 Drill Collars Run 80' Vis 54
 Bottom Packer Depth 3835 Wt. Pipe Run 309' WL 8.0
 Total Depth 3870 Chlorides 1500 ppm System LCM 1
 Blow Description 10 IF - Surface blow built to 1/2"
30 ISI - No return
20 FF - Flushed tool, no blow
45 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
5'	Mud			100	

Rec Total 5' BHT 109° Gravity — API RW — @ —° F Chlorides — ppm

(A) Initial Hydrostatic <u>1870</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>1500</u>
(B) First Initial Flow <u>8</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>15:28</u>
(C) First Final Flow <u>12</u>	<input type="checkbox"/> Safety Joint <u>—</u>	T-Open <u>17:20</u>
(D) Initial Shut-In <u>542</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>19:04</u>
(E) Second Initial Flow <u>12</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>21:00</u>
(F) Second Final Flow <u>14</u>	<input checked="" type="checkbox"/> Mileage <u>83 RT</u> 83	Comments <u>—</u>
(G) Final Shut-In <u>856</u>	<input checked="" type="checkbox"/> Sampler <u>250</u>	<u>—</u>
(H) Final Hydrostatic <u>1820</u>	<input type="checkbox"/> Straddle <u>—</u>	<input type="checkbox"/> EM Tool <u>—</u>
Initial Open <u>10</u>	<input type="checkbox"/> Shale Packer <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Final Flow <u>20</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby <u>—</u>	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility <u>—</u>	Total <u>1533</u>
	Sub Total <u>1533</u>	MP/DST Disc't <u>—</u>

Approved By _____

Our Representative Jim Musgrove

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TRILOBITE TESTING, INC.

1515 Commerce Parkway • Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 65300 Date 4/3/19

Company Name Pioneer Oil Company Inc.

Lease Schamberger # 1-28 Test No. 3

County Sheridan KS Sec. 28 Twp. 2S Rng. 28W

SAMPLER RECOVERY

Gas 0 ML
 Oil 0 ML
 Mud 2500 ML
 Water 0 ML
 Other 0 ML
 Pressure 15 psi ML
 Total 2500 ML

PIT MUD ANALYSIS

Chlorides 1500 ppm.
 Resistivity _____ ohms @ _____ F
 Viscosity 54
 Mud Weight 9.2
 Filtrate 8.0
 Other LCM-1 Cake - 1

SAMPLER ANALYSIS

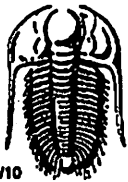
Resistivity _____ ohms @ _____ F
 Chlorides _____ ppm.
 Gravity _____ corrected @60F

PIPE RECOVERY

TOP
 Resistivity _____ ohms @ _____ F
 Chlorides _____ ppm.

MIDDLE
 Resistivity _____ ohms @ _____ F
 Chlorides _____ ppm.

BOTTOM
 Resistivity _____ ohms @ _____ F
 Chlorides _____ ppm.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65526

Well Name & No. Schamberger # 1-28 Test No. 4 Date 4/4/19
 Company Pioneer Oil Company Inc Elevation 2749 KB 2741 GL
 Address 400 Main St. P.O. Box 237 Vincennes IN 47501
 Co. Rep / Geo. Jim Musgrove Rig Discovery # 2
 Location: Sec. 28 Twp 25 Rge. 28W Co. Sheridan State KS

Interval Tested 3895 - 3915 Zone Tested LKC "C"
 Anchor Length 20' Drill Pipe Run 3597' Mud Wt. 9.2
 Top Packer Depth 3890 Drill Collars Run 0' Vis 53
 Bottom Packer Depth 3895 Wt. Pipe Run 309' WL 8.0
 Total Depth 3915 Chlorides 1500 ppm System LCM 2
 Blow Description 15 IF - BoB @ 1 1/2 mins
30 ISI - Surface blow built to 1"
30 FF - BoB @ 2 mins
60 FSI

Rec	Feet of	%gas	%oil	%water	%mud
<u>250</u>	<u>MCW</u>		<u>85</u>	<u>15</u>	
<u>1410</u>	<u>MCW</u>		<u>97</u>	<u>3</u>	
<u>60</u>	<u>MCW</u>		<u>80</u>	<u>20</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1720' BHT 129 Gravity — API RW 140 @ 70 ° F Chlorides 53,000 ppm
 (A) Initial Hydrostatic 1955 Test 1200 T-On Location 08:00
 (B) First Initial Flow 159 Jars _____ T-Started 08:35
 (C) First Final Flow 450 Safety Joint _____ T-Open 10:31
 (D) Initial Shut-In 1089 Circ Sub _____ T-Pulled 12:47
 (E) Second Initial Flow 474 Hourly Standby _____ T-Out 15:30
 (F) Second Final Flow 798 Mileage 83 RT ⁸³ Comments _____
 (G) Final Shut-In 1101' Sampler 250 _____
 (H) Final Hydrostatic 1958 Straddle _____
 Initial Open 105 Shale Packer _____
 Initial Shut-In 30 Extra Packer _____
 Final Flow 30 Extra Recorder _____
 Final Shut-In 60 Day Standby _____
 Sub Total 1533 Accessibility _____
 Sub Total 1533 EM Tool _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1533
 MP/DST Disc't _____

Approved By _____ Our Representative Ken Nicks
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TRILOBITE TESTING, INC.

1515 Commerce Parkway • Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 65526 Date _____
 Company Name Pioneer Oil Company Inc
 Lease Schamberger #1-28 Test No. 4
 County Sheridan KS Sec. 28 Twp. 25 Rng. 28W

SAMPLER RECOVERY

Gas 0 ML
 Oil 0 ML
 Mud 0 ML
 Water 2500 ML
 Other 0 ML
 Pressure 800 ML
 Total 2500 ML

PIT MUD ANALYSIS

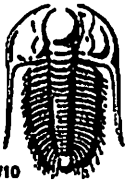
Chlorides ~~1500~~ 1500 ppm.
 Resistivity _____ ohms @ _____ F
 Viscosity 53
 Mud Weight 9.2
 Filtrate 8.0
 Other LCM-2 Lake-1

SAMPLER ANALYSIS

Resistivity .090 ohms @ 75 F
 Chlorides ~~75,000~~ 75,000 ppm.
 Gravity _____ corrected @60F

PIPE RECOVERY

TOP
 Resistivity .140 ohms @ 70 F
 Chlorides 53,000 ppm.
MIDDLE
 Resistivity .130 ohms @ 60 F
 Chlorides 68,000 ppm.
BOTTOM
 Resistivity .090 ohms @ 78 F
 Chlorides 75,000 ppm.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65527

Well Name & No. Schamberger #1-28 Test No. 5 Date 4/5/19
 Company Pioneer O'Il Company Inc. Elevation 2749 KB 2741 GL
 Address 400 Main St. P.O. Box 237 Vincennes IN 47501
 Co. Rep / Geo. Jim Musgrave Rig Discovery #2
 Location: Sec. 28 Twp 25 Rge. 28W Co. Sheridan State KS

Interval Tested 4014 - 4113 Zone Tested LKC "I-L"
 Anchor Length 99' Drill Pipe Run 3690' Mud Wt. 9.3
 Top Packer Depth 4009 Drill Collars Run 0' Vis 55
 Bottom Packer Depth 4014 Wt. Pipe Run 309' WL 8.8
 Total Depth 4113 Chlorides 1500 ppm System LCM 2

Blow Description 15 IF - BoB @ 9 mins
30 ISI - Surface blow built to 3 1/2"
45 FF - BoB @ 6 mins
90 FSI - BoB @ 13 mins died back to 10"

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>60</u>	<u>40</u>	<u>60</u>		
<u>255</u>	<u>60</u>	<u>70</u>	<u>30</u>		
<u>185'</u>	<u>60CM</u>	<u>45</u>	<u>15</u>		<u>40</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 470' BHT 125° Gravity 39 @ 60° API RW — @ — F Chlorides — ppm
 (A) Initial Hydrostatic 2028 Test 1300 T-On Location 19:30
 (B) First Initial Flow 27 Jars _____ T-Started 19:38
 (C) First Final Flow 83 Safety Joint _____ T-Open 21:41
 (D) Initial Shut-In 1333 Circ Sub _____ T-Pulled 00:43
 (E) Second Initial Flow 95 Hourly Standby _____ T-Out 03:45
 (F) Second Final Flow 181 Mileage 83 RT ⁸³ Comments 1420' GIP
 (G) Final Shut-In 1341 Sampler 250
 (H) Final Hydrostatic 1983 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1633 MP/DST Disc't _____

Initial Open 15
 Initial Shut-In 30
 Final Flow 45
 Final Shut-In 90

Approved By _____ Our Representative [Signature]

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



TRILOBITE TESTING, INC.

1515 Commerce Parkway • Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 65527 Date 4/5/19
 Company Name Pioneer Oil Company Inc.
 Lease Schamberger #1-28 Test No. 5
 County Sheridan KS Sec. 28 Twp. 25 Rng. 28W

SAMPLER RECOVERY

Gas 1250 ML
 Oil 1250 ML
 Mud 0 ML
 Water 0 ML
 Other 0 ML
 Pressure 300 psi ML
 Total 2500 ML

PIT MUD ANALYSIS

Chlorides 1500 ppm.
 Resistivity _____ ohms @ _____ F
 Viscosity 55
 Mud Weight 9.3
 Filtrate 8.8
 Other LCM-2 Lake-1

SAMPLER ANALYSIS

Resistivity _____ ohms @ _____ F
 Chlorides _____ ppm.
 Gravity 39 corrected @60F

PIPE RECOVERY

TOP
 Resistivity _____ ohms @ _____ F
 Chlorides _____ ppm.
MIDDLE
 Resistivity _____ ohms @ _____ F
 Chlorides _____ ppm.
BOTTOM
 Resistivity _____ ohms @ _____ F
 Chlorides _____ ppm.



Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country Estates Road, Liberal KS 67901

Job Log

Customer:	Pioneer Oil Company	Cement Pump No.:	37223 19572 16HRS	Operator TRK No.:	78938
Address:	PO Box 237	Ticket #:	1718 19419 L	Bulk TRK No.:	30463 19578 Jaime
City, State, Zip:	Vincennes, IN 47591	Job Type:	Z42 - Cement Production Casing		
Service District:	1718-Liberal KS	Well Type:	OIL		
Well Name and No.:	Shamberger 1-28	Well Location:	28,8,28	County:	Sheridan
				State:	Ks

Type of Cmt	Sacks	Additives	Truck Loaded On		
A-Con' Blend	325	3% Calcium Chloride, 1/4# Polyflake, .2%C-51	30463 19578 Jaime	Front	Back
AA2 Cement	125	5%W-60, 10%Salt, 5%C-17, 1/4# Defoamer, 5# Gilonite	19827 19808 Jesse	Front	Back
Premium/Common	50	Neat		Front	Back

Lead/Tail:	Weight #1 Gal.	Cu/Ft/sk	Water Requirements	CU. FT.	Man Hours / Personnel
Lead:	11.2	3.16	19.64	1027	TT Man Hours: 68
Tail:	14.8	1.51	6.65	188.75	# of Men on Job: 4

Time (am/pm)	(BPM)	Volume (BBLS)	Pumps		Pressure (PSI)		Description of Operation and Materials
			T	C	Tubing	Casing	
2:00am							
2:15am							Arrived at location
6:30am							Spot trucks/Rig up
6:50am							Safety meeting
6:57am	6	11				3000	Pressure test lines to 3000psi
6:59am	6	20				580	Pump 500GAL of mud flush
7:10am	2	10				580	Pump 20bbbls of water/2% KCL
7:24am	5	182				zero	Pump 10bbbls to fill rat and mouse hole
8:00am	5	33				300	Pump lead 182bbbls from 325sks at 11.2lbs
8:15am						200	Pump tail 33bbbls from 125sks at 14.8lbs
8:21am							Shut down/drop plug/wash pump and lines
8:25am	5	20					Start displacement of 96bbbls/2%KCL
8:29am	5	40				120	20bbbls gone
8:33am	5	60				400	40bbbls gone
8:38am	5	80				950	60bbbls gone
8:45am	3	96				1050	80bbbls gone/Slow down rate
						2000	Bump Plug
							Check if float holds
							Close valves on manifold and wait 1 hour
							Got 10bbbls of cement to surface/18 sacks
							Rig down
							Job completed

Size Hole	7 7/8	Depth	4200		TYPE	Latch down Buffle	
Size & Wt. Csg.	5.5 17#	Depth	4199.34	New / Used	Latch down	4170.38	Depth
Casing	J-55	Depth			Retainer		Depth
Shoe Joint		Type	28.96		Perfs		CIBP

Customer Signature:	Basic Representative:	Victor A. Corona
	Basic Signature:	<i>Victor A. Corona</i>
	Date of Service:	4/7/2019

4/7/2019



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

Date: 3/28/2019
 Invoice # 1244

P.O.#:
 Due Date: 4/27/2019
 Division: Russell

Invoice

Contact:
 PIONEER OIL CO INC
Address/Job Location:

PO Box 237
 Vincennes, IN 47591-0237

Reference:
 SCHAMBERGER 1-28 SEC 28-8-28

Description of Work:
 SURFACE JOB

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 684.02	No				
Common-Class A	145	\$ 2,290.03	Yes				
Calcium Chloride	8	\$ 343.47	Yes				
POZ Mix-Standard	35	\$ 187.83	Yes				
Bulk Truck Matl-Material Service Charge	191	\$ 146.43	No				
Pump Truck Mileage-Job to Nearest Camp	35	\$ 120.75	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	35	\$ 93.92	No				
Premium Gel (Bentonite)	3	\$ 66.70	Yes				

Invoice Terms:

Net 30

	SubTotal: \$	3,933.15
	<i>Discount Available <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice:</i>	\$ (98.33)
<hr/>		
	SubTotal for Taxable Items: \$	2,815.83
	SubTotal for Non-Taxable Items: \$	1,018.99
<hr/>		
	Total: \$	3,834.82
	Tax: \$	239.35
	Amount Due: \$	4,074.17

8.50% Sheridan County Sales Tax

Thank You For Your Business!

Applied Payments:
Balance Due: \$ 4,074.17

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

No. 1244

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

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

Date	Sec.	Twp.	Range	County	State	On Location	Finish
3-28-19	28	8	28	Shenandoah	KS		4:00 PM
Lease				Well No.		Owner	
Schamberger				1-28		To Quality Oilwell Cementing, Inc.	
Contractor				You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.			
Discovery #2				Charge To			
Surface				Power Oil			
Hole Size		T.D.		Street			
12 1/4		279		City			
Csg.		Depth		State			
8 5/8		278		The above was done to satisfaction and supervision of owner agent or contractor.			
Tbg. Size		Depth		Cement Amount Ordered			
				180 8/20 3/4 2/CEL			
Tool		Shoe Joint					
Cement Left in Csg.		Displace		Common			
10		16 1/2 B/L		145			
Meas Line		EQUIPMENT		Poz. Mix			
				35			
Pumptrk		No.		Gel.			
20		Cement		3			
		Helper		Calcium			
Bulktrk		No.		8			
9		Driver		Hulls			
		Driver		Salt			
		Driver		Flowseal			
		Driver		Kol-Seal			
		Driver		Mud CLR 48			
		Driver		CFL-117 or CD110 CAF 38			
		Driver		Sand			
		Driver		Handling			
		Driver		191			
		Driver		Mileage			
		Driver		FLOAT EQUIPMENT			
		Driver		Guide Shoe			
		Driver		Centralizer			
		Driver		Baskets			
		Driver		AFU Inserts			
		Driver		Float Shoe			
		Driver		Latch Down			
		Driver		Pumptrk Charge			
		Driver		Surface			
		Driver		Mileage			
		Driver		35			
		Driver		Tax			
		Driver		Discount			
		Driver		Total Charge			

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

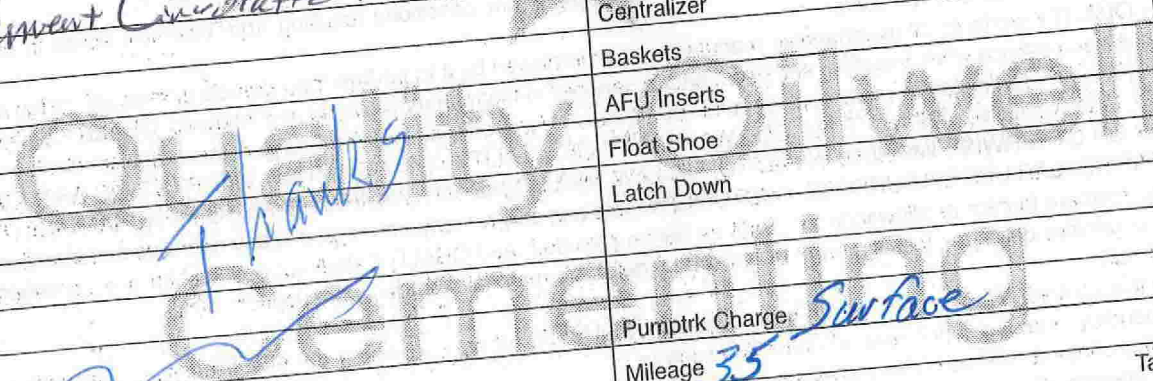
8 5/8 on bottom Est. Completion

M.V. 180SK & Displace

Cement Completion

Thanks

Signature



X Signature