KOLAR Document ID: 1414688

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 # 35245
Name: Suemaur Exploration & Production, LLC
Address 1: 539 N. CARANCAHUA STE 1100
Address 2:
City: CORPUS CHRISTI State: TX Zip: 78401 + __ __ __ __
Contact Person: Andy Grubb
Phone: (817) 737-0500
CONTRACTOR: License # 30606
Name: Murfin Drilling Co., Inc.
Wellsite Geologist: Bob Petersen
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 #:

6/15/2018	6/26/2018	6/27/2018
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No.: 15-039-21250-00-00
Spot Description:
NW - NE - SW - SE Sec. 16 Twp. 4 S. R. 28 ☐ East ☑ West
1017 Feet from ☐ North / ☑ South Line of Section
1936 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☑ SE ☐ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Decatur
Lease Name: R&V INC. Well #: 1-16
Field Name:
Producing Formation: NA
Elevation: Ground: 2696 Kelly Bushing: 2701
Total Vertical Depth: 4500 Plug Back Total Depth: 0
Amount of Surface Pipe Set and Cemented at: 257 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: 1000 ppm Fluid volume: 800 bbls
Dewatering method used: Evaporated
Location of fluid disposal if hauled offsite:
Operator Name:
Lease Name: License #:
Quarter Sec. Twp. S. R. ☐ East ☐ West
County: Permit #:

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

☐ **Confidentiality Requested**
Date: 08/06/2018
☐ **Confidential Release Date:** 08/05/2020
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 08/08/2018

Operator Name: Suemaur Exploration & Production, LLC Lease Name: R&V INC. Well #: 1-16

Sec. 16 Twp. 4 S. R. 28 ☐ East ☑ West County: Decatur

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 *(Attach Additional Sheets)*	☑ Yes	☐ No
Samples Sent to Geological Survey	☑ Yes	☐ No
Cores Taken	☐ Yes	☑ No
Electric Log Run	☑ Yes	☐ No
Geologist Report / Mud Logs	☑ Yes	☐ No

List All E. Logs Run:

DIL-D-N-Sonic

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Stone Corral	2479	222
Heebner	3806	-1105
LKC "A"	3848	-1147
Pawnee	4129	-1428
Arbuckle	4363	-1662

CASING RECORD ☑ New ☐ Used

Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.25	8.625	24	257	Class A	230	3% CaCl

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone	-			
	-			

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: ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS:	METHOD OF COMPLETION:	PRODUCTION INTERVAL:
☐ Vented ☐ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)*	☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*	Top / Bottom

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*

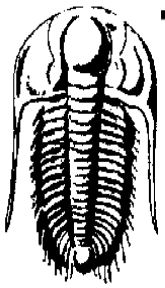
TUBING RECORD: Size: Set At: Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Suemaur Exploration & Production, LLC
Well Name	R&V INC. 1-16
Doc ID	1414688

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	24	257	Class A	230	3% CaCl



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Suemaur Exploration & Prod LLC**

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401

ATTN: Bob Peterson

R&V Inc #1-16

16-4s-28w Decatur,KS

Start Date: 2018.06.20 @ 13:10:34
End Date: 2018.06.20 @ 21:07:58
Job Ticket #: 64228 DST #: 1

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

Printed: 2018.06.27 @ 10:05:07

DRILL STEM TEST REPORT

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 64228 **DST#: 1**

Test Start: 2018.06.20 @ 13:10:34

GENERAL INFORMATION:

Formation: **LKC C**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:54:44
Time Test Ended: 21:07:58

Test Type: Conventional Bottom Hole (Initial)
Tester: Ray Schw ager
Unit No: 77

Interval: 3861.00 ft (KB) To 3879.00 ft (KB) (TVD)
Total Depth: 3879.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

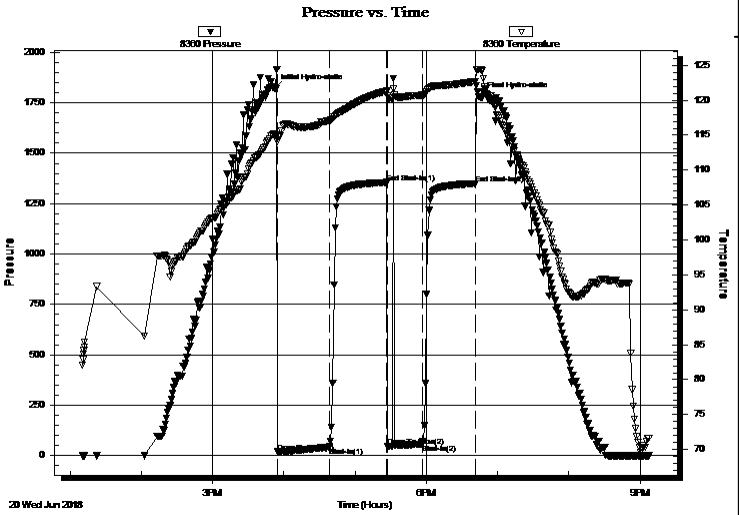
Reference Elevations: 2706.00 ft (KB)
2701.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8360 **Inside**

Press@RunDepth: 58.55 psig @ 3862.00 ft (KB)
Start Date: 2018.06.20 End Date: 2018.06.20
Start Time: 13:10:34 End Time: 21:07:58

Capacity: 8000.00 psig
Last Calib.: 2018.06.20
Time On Btm: 2018.06.20 @ 15:52:29
Time Off Btm: 2018.06.20 @ 18:45:13

TEST COMMENT: 45-IFP- surface to 1/2" blow
45-ISIP-no blow back
30-FFP-no blow flushed tool got surge
45-FSIP-no blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1821.71	115.13	Initial Hydro-static
3	19.22	114.05	Open To Flow (1)
46	43.84	117.09	Shut-In(1)
95	1355.17	121.32	End Shut-In(1)
95	48.30	120.59	Open To Flow (2)
125	58.55	120.74	Shut-In(2)
169	1349.70	122.68	End Shut-In(2)
173	1778.32	124.37	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
80.00	Water w / show of oil on top of fluid	0.39

Gas Rates

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

DRILL STEM TEST REPORT

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 64228 **DST#: 1**

Test Start: 2018.06.20 @ 13:10:34

GENERAL INFORMATION:

Formation: **LKC C**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:54:44
Time Test Ended: 21:07:58

Test Type: Conventional Bottom Hole (Initial)
Tester: Ray Schw ager
Unit No: 77

Interval: 3861.00 ft (KB) To 3879.00 ft (KB) (TVD)
Total Depth: 3879.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

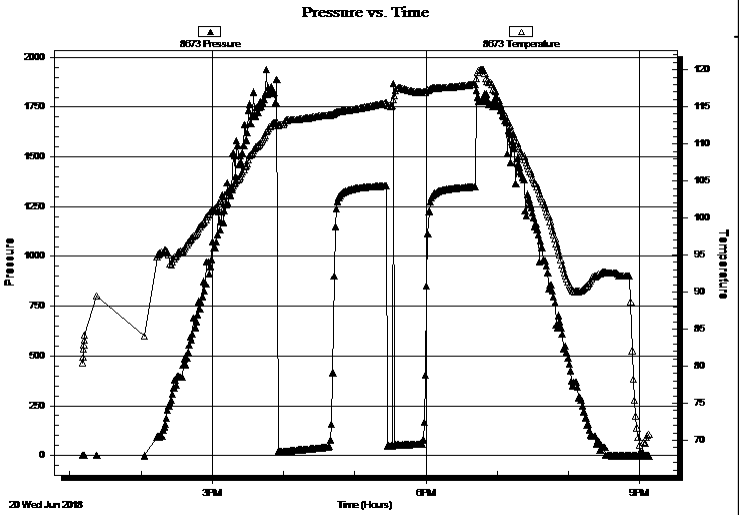
Reference Elevations: 2706.00 ft (KB)
2701.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8673 **Outside**

Press@RunDepth: psig @ 3862.00 ft (KB)
Start Date: 2018.06.20 End Date: 2018.06.20
Start Time: 13:10:48 End Time: 21:08:12

Capacity: 8000.00 psig
Last Calib.: 2018.06.20
Time On Btm:
Time Off Btm:

TEST COMMENT: 45-IFP- surface to 1/2" blow
45-ISIP-no blow back
30-FFP-no blow flushed tool got surge
45-FSIP-no blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
80.00	Water w / show of oil on top of fluid	0.39

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 64228 **DST#: 1**

Test Start: 2018.06.20 @ 13:10:34

Tool Information

Drill Pipe:	Length:	3644.00 ft	Diameter:	3.80	inches	Volume:	51.12	bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	
Drill Collar:	Length:	210.00 ft	Diameter:	2.25	inches	Volume:	1.03	bbl	
						Total Volume:	52.15	bbl	

Drill Pipe Above KB:	26.00 ft
Depth to Top Packer:	3861.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	18.00 ft
Tool Length:	51.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2200.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		70000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	54000.00 lb
	Final	54000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3829.00		
Shut In Tool	5.00			3834.00		
Hydraulic tool	5.00			3839.00		
Jars	5.00			3844.00		
Blank Spacing	4.00			3848.00		
Safety Joint	3.00			3851.00		
Packer	5.00			3856.00	33.00	Bottom Of Top Packer
Packer	5.00			3861.00		
Stubb	1.00			3862.00		
Recorder	0.00	8360	Inside	3862.00		
Recorder	0.00	8673	Outside	3862.00		
Perforations	14.00			3876.00		
Bullnose	3.00			3879.00	18.00	Bottom Packers & Anchor
Total Tool Length:	**51.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 64228 **DST#: 1**

Test Start: 2018.06.20 @ 13:10:34

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:	55000 ppm
Viscosity:	61.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.33 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	700.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

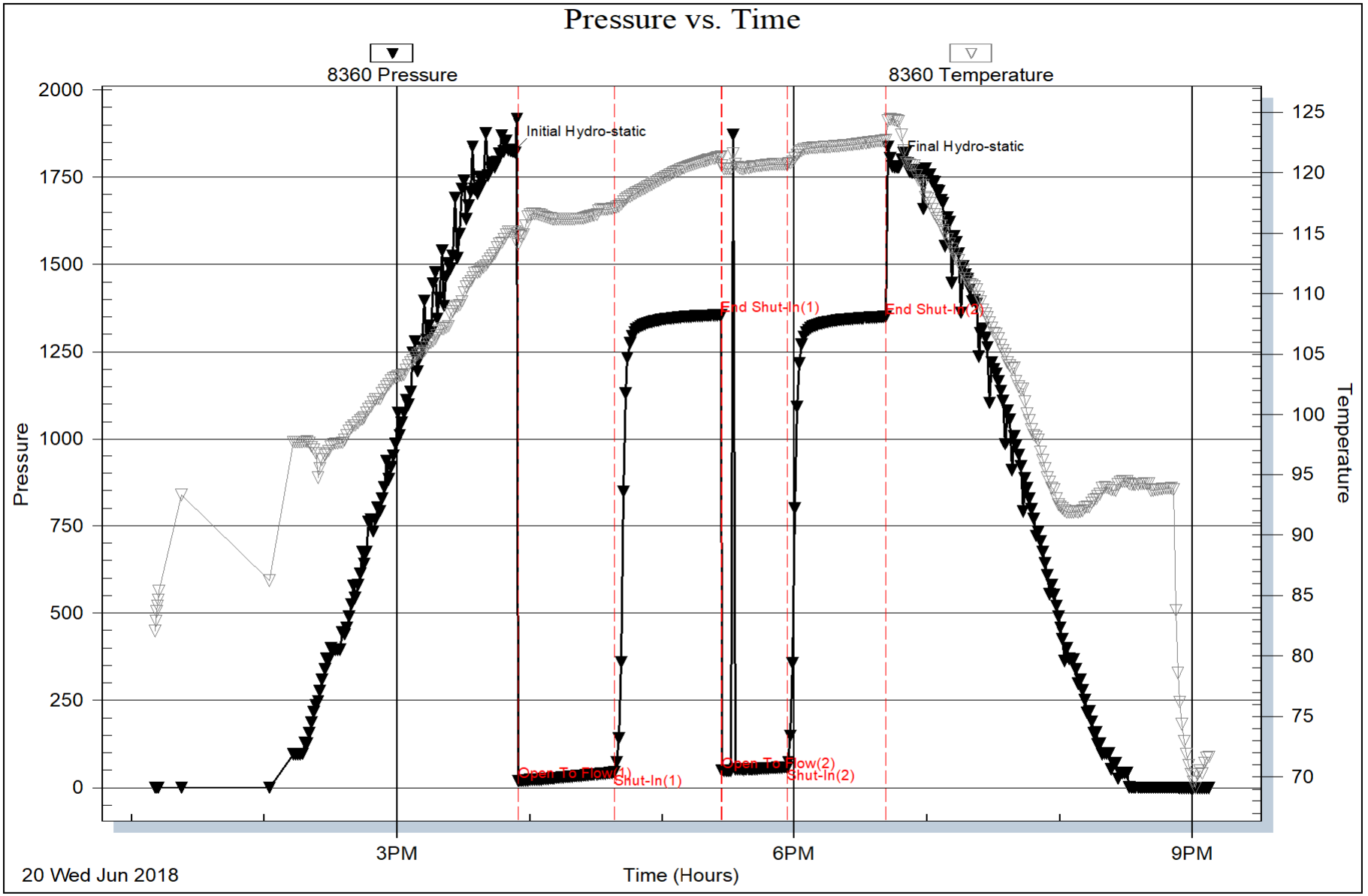
Recovery Table

Length ft	Description	Volume bbl
80.00	Water w / show of oil on top of fluid	0.393

Total Length: 80.00 ft Total Volume: 0.393 bbl

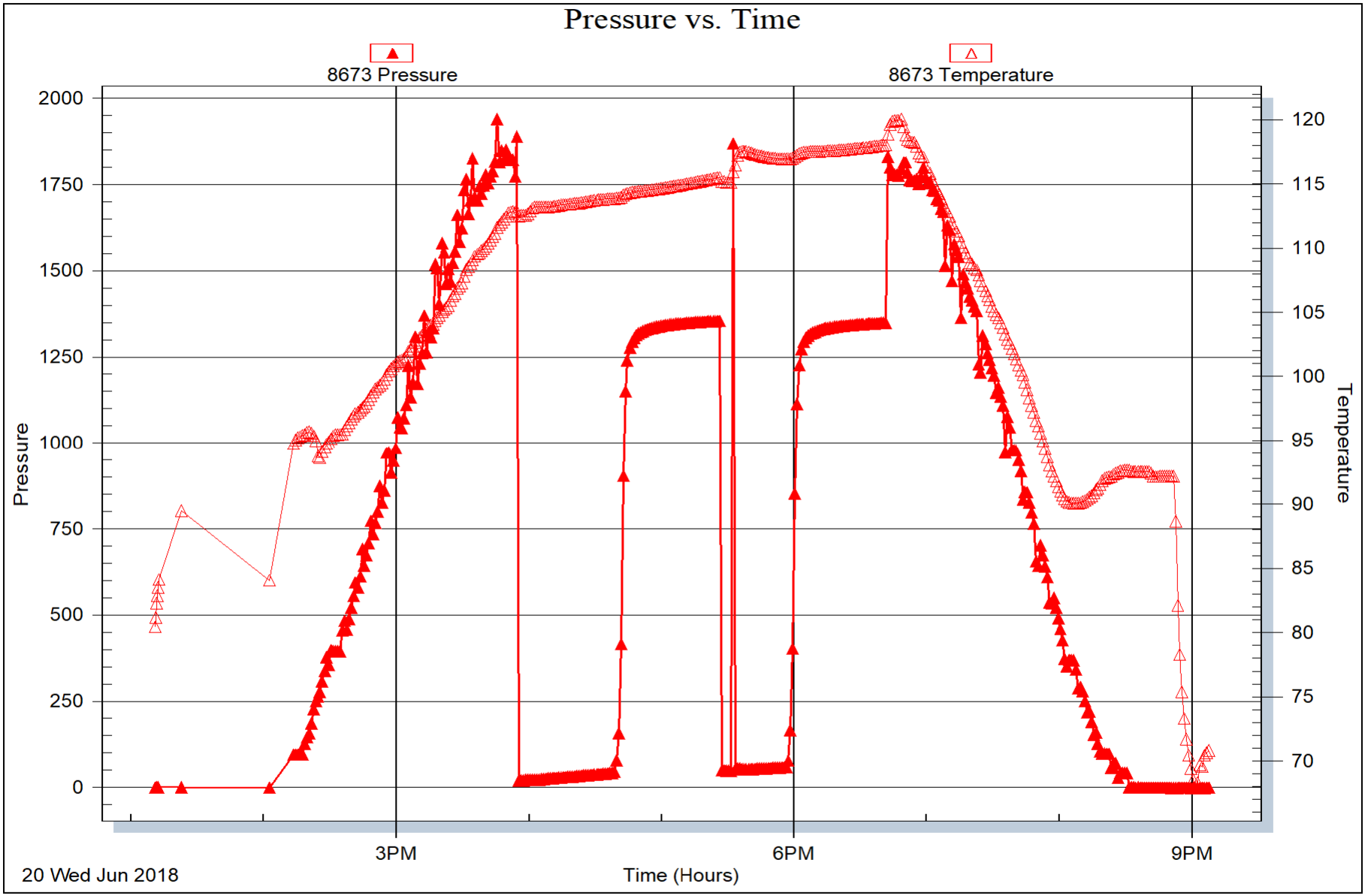
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: RW .12 @ 79F

Serial #: 8360 **Inside** Suemaur Exploration & Prod LLC R&V Inc #1-16 DST Test Number: 1

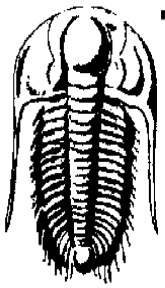


Trilobite Testing, Inc Ref. No: 64228 Printed: 2018.06.27 @ 10:05:08

Serial #: 8673 **Outside** Suemaur Exploration & Prod LLC R&V Inc #1-16 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 64228 Printed: 2018.06.27 @ 10:05:08



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Suemaur Exploration & Prod LLC**

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401

ATTN: Bob Peterson

R&V Inc #1-16

16-4s-28w Decatur,KS

Start Date: 2018.06.21 @ 08:50:55
End Date: 2018.06.21 @ 17:16:19
Job Ticket #: 64229 DST #: 2

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

Printed: 2018.06.27 @ 10:04:06

DRILL STEM TEST REPORT

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 64229 **DST#: 2**

Test Start: 2018.06.21 @ 08:50:55

GENERAL INFORMATION:

Formation: **LKC "G"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:17:35
Time Test Ended: 17:16:19

Test Type: Conventional Bottom Hole (Reset)
Tester: Ray Schw ager
Unit No: 77

Interval: 3902.00 ft (KB) To 3925.00 ft (KB) (TVD)
Total Depth: 3925.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

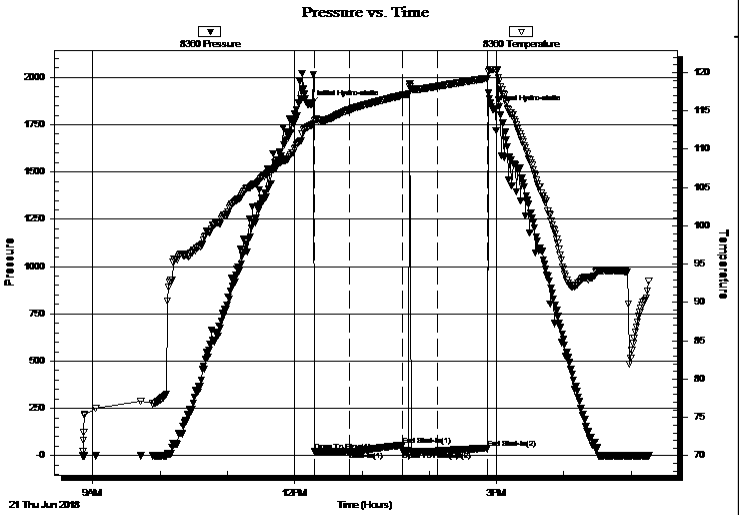
Reference Elevations: 2706.00 ft (KB)
2701.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8360 **Inside**

Press@RunDepth: 25.00 psig @ 3903.00 ft (KB)
Start Date: 2018.06.21 End Date: 2018.06.21
Start Time: 08:50:55 End Time: 17:16:19

Capacity: 8000.00 psig
Last Calib.: 2018.06.21
Time On Btm: 2018.06.21 @ 12:14:05
Time Off Btm: 2018.06.21 @ 14:57:04

TEST COMMENT: 30-IFP-surface blow thru-out
45-ISIP-no blow
30-FFP-no blow flushed tool , got surge
45-FSIP-no blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1856.08	113.05	Initial Hydro-static
4	21.08	113.72	Open To Flow (1)
35	21.70	115.13	Shut-In(1)
82	55.80	117.00	End Shut-In(1)
83	25.31	117.04	Open To Flow (2)
113	25.00	118.18	Shut-In(2)
158	39.55	119.25	End Shut-In(2)
163	1830.98	120.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud	0.02

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 64229 **DST#: 2**

Test Start: 2018.06.21 @ 08:50:55

GENERAL INFORMATION:

Formation: **LKC "G"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:17:35
Time Test Ended: 17:16:19

Test Type: Conventional Bottom Hole (Reset)
Tester: Ray Schw ager
Unit No: 77

Interval: 3902.00 ft (KB) To 3925.00 ft (KB) (TVD)
Total Depth: 3925.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

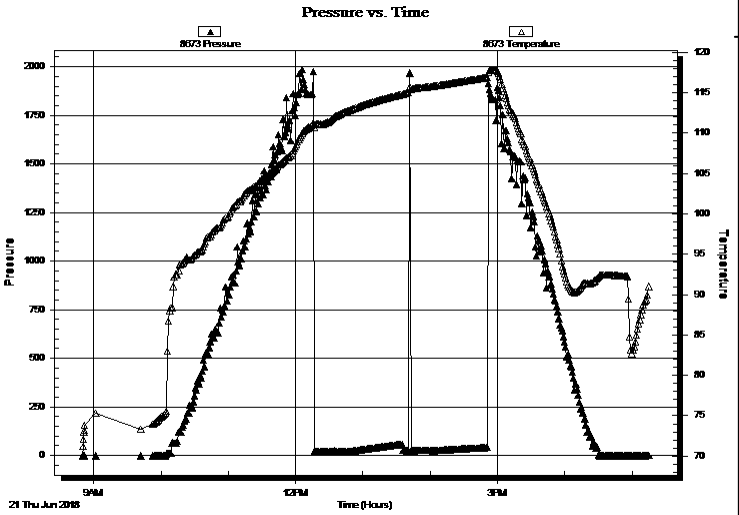
Reference Elevations: 2706.00 ft (KB)
2701.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8673 **Outside**

Press@RunDepth: psig @ 3903.00 ft (KB)
Start Date: 2018.06.21 End Date: 2018.06.21
Start Time: 08:50:10 End Time: 17:15:19

Capacity: 8000.00 psig
Last Calib.: 2018.06.21
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP-surface blow thru-out
45-ISIP-no blow
30-FFP-no blow flushed tool , got surge
45-FSIP-no blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud	0.02

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 64229 **DST#: 2**

Test Start: 2018.06.21 @ 08:50:55

Tool Information

Drill Pipe:	Length:	3679.00 ft	Diameter:	3.80	inches	Volume:	51.61	bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	
Drill Collar:	Length:	210.00 ft	Diameter:	2.25	inches	Volume:	1.03	bbl	
						Total Volume:	52.64	bbl	

Drill Pipe Above KB:	20.00 ft
Depth to Top Packer:	3902.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	23.00 ft
Tool Length:	56.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2200.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		70000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	55000.00 lb
	Final	55000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3870.00		
Shut In Tool	5.00			3875.00		
Hydraulic tool	5.00			3880.00		
Jars	5.00			3885.00		
Blank Spacing	4.00			3889.00		
Safety Joint	3.00			3892.00		
Packer	5.00			3897.00	33.00	Bottom Of Top Packer
Packer	5.00			3902.00		
Stubb	1.00			3903.00		
Recorder	0.00	8360	Inside	3903.00		
Recorder	0.00	8673	Outside	3903.00		
Perforations	19.00			3922.00		
Bullnose	3.00			3925.00	23.00	Bottom Packers & Anchor
Total Tool Length:	**56.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 64229 **DST#: 2**

Test Start: 2018.06.21 @ 08:50:55

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:	61.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.33 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	700.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

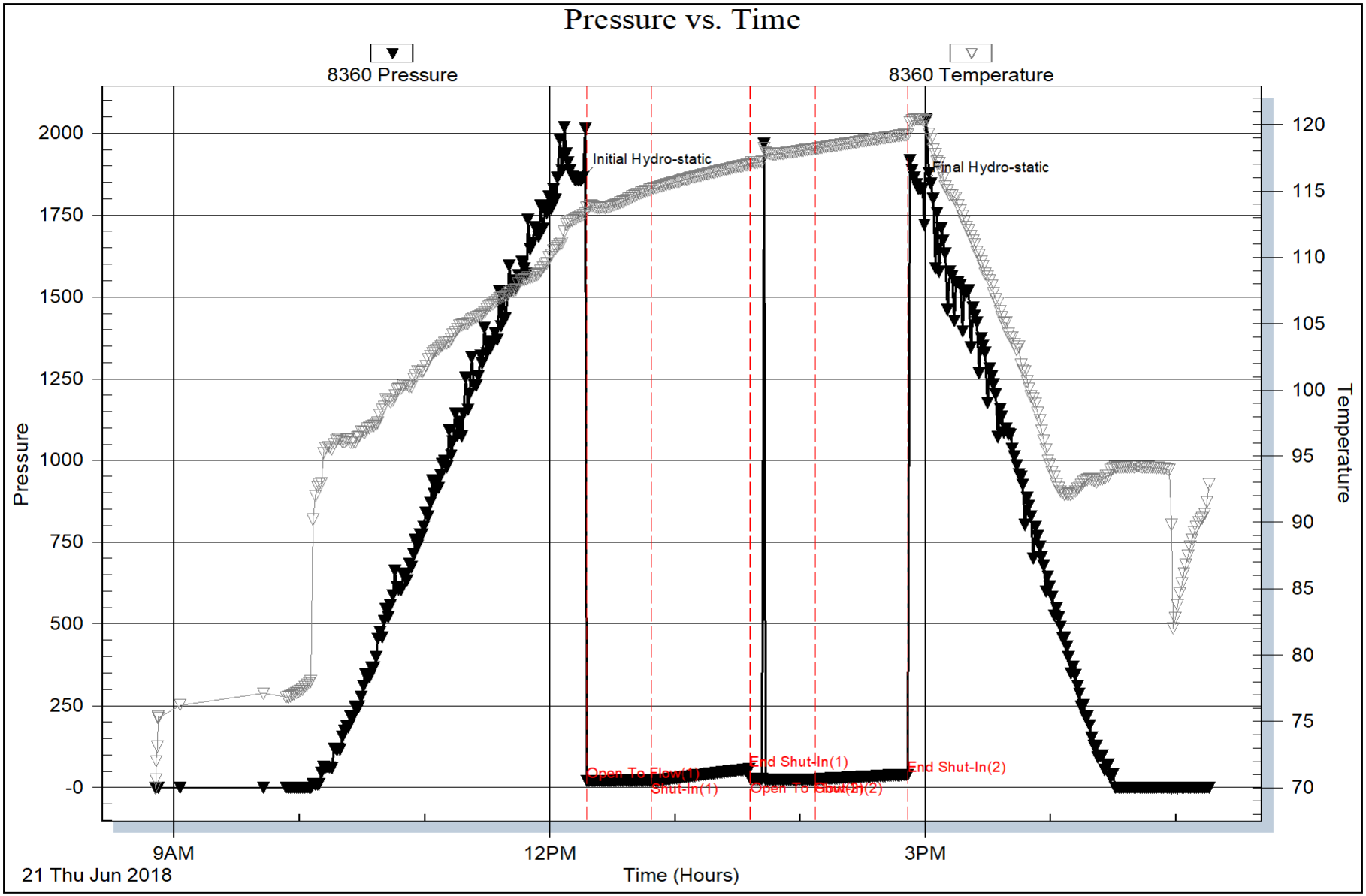
Recovery Table

Length ft	Description	Volume bbl
5.00	Mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

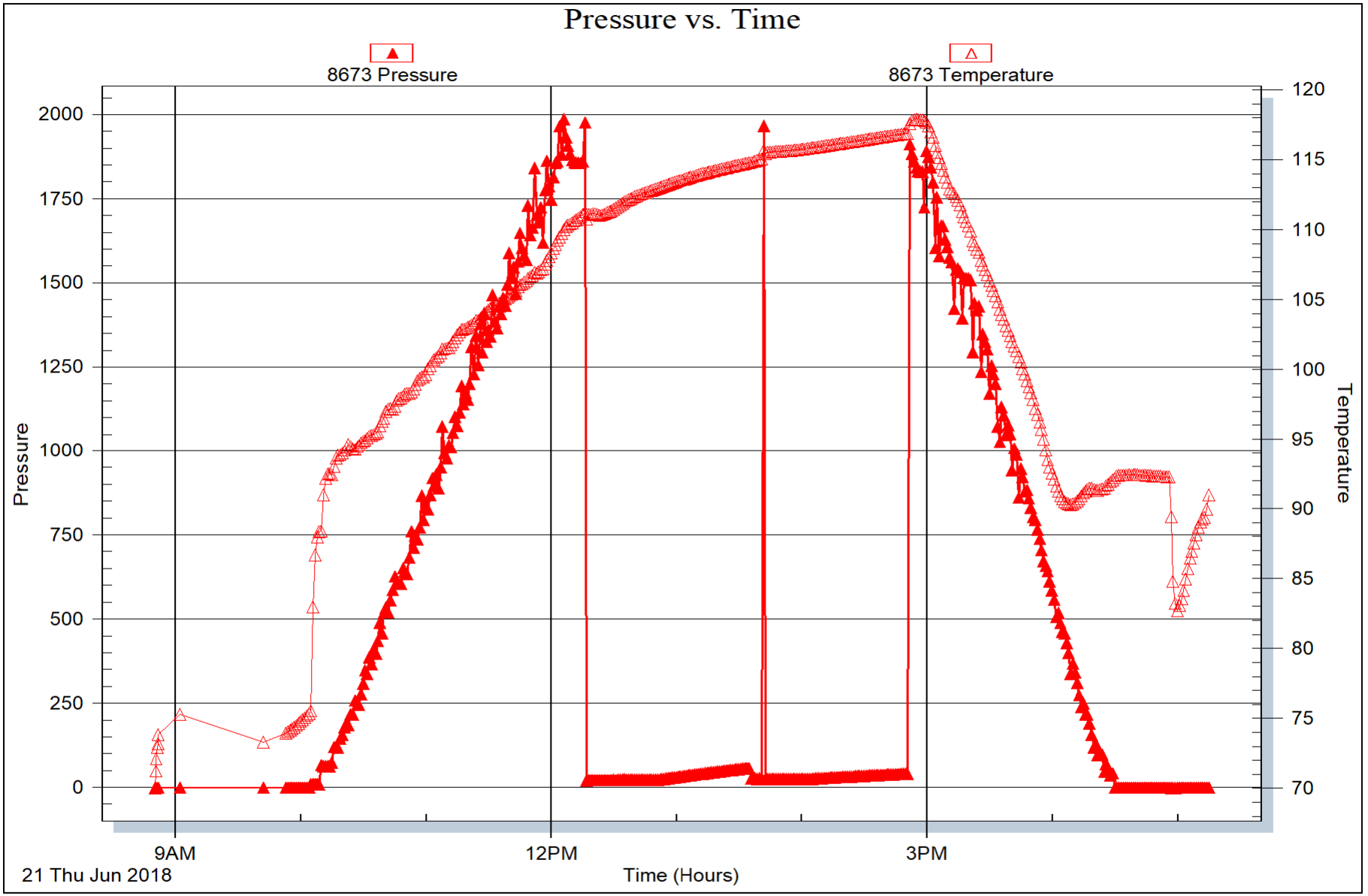
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8360 **Inside** Suemaur Exploration & Prod LLC R&V Inc #1-16 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 64229 Printed: 2018.06.27 @ 10:04:07

Serial #: 8673 **Outside** Suemaur Exploration & Prod LLC R&V Inc #1-16 DST Test Number: 2



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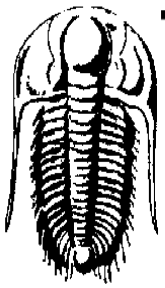


TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Suemaur Exploration & Prod LLC**

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401

ATTN: Bob Peterson

R&V Inc #1-16

16-4s-28w Decatur,KS

Start Date: 2018.06.22 @ 04:25:27
End Date: 2018.06.22 @ 13:04:52
Job Ticket #: 64230 DST #: 3

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

Printed: 2018.06.27 @ 10:03:22

DRILL STEM TEST REPORT

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 64230 **DST#: 3**

Test Start: 2018.06.22 @ 04:25:27

GENERAL INFORMATION:

Formation: **LKC G-H**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:43:22
Time Test Ended: 13:04:52

Test Type: Conventional Bottom Hole (Reset)
Tester: Ray Schw ager
Unit No: 77

Interval: 3923.00 ft (KB) To 3974.00 ft (KB) (TVD)
Total Depth: 3974.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

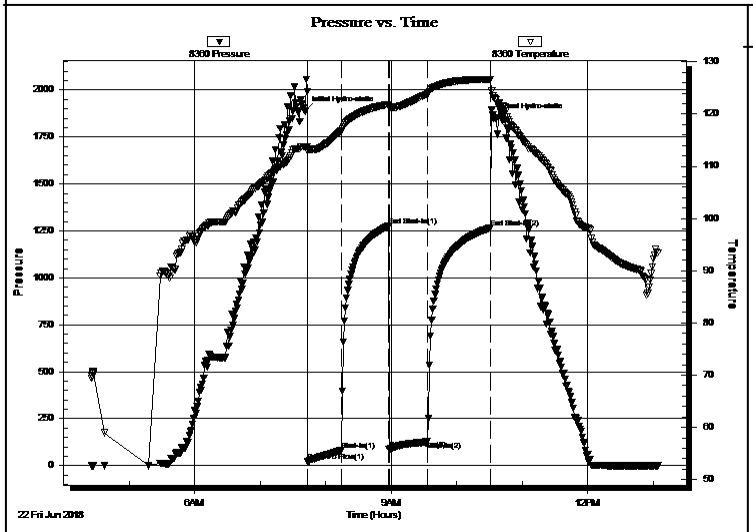
Reference Elevations: 2706.00 ft (KB)
2701.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8360 **Inside**

Press@RunDepth: 128.52 psig @ 3925.00 ft (KB)
Start Date: 2018.06.22 End Date: 2018.06.22
Start Time: 04:25:27 End Time: 13:04:52

Capacity: 8000.00 psig
Last Calib.: 2018.06.22
Time On Btm: 2018.06.22 @ 07:41:07
Time Off Btm: 2018.06.22 @ 10:35:21

TEST COMMENT: 30-IFP-w eak blow 1/2" to 3" blow
45-ISIP-no blw
30-FFP-w eak to a fair blow 1" to 3 1/4" blow
60-FSIP-no blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1887.88	113.71	Initial Hydro-static
3	22.52	113.04	Open To Flow (1)
33	80.37	116.75	Shut-In(1)
77	1275.51	121.84	End Shut-In(1)
77	85.97	121.41	Open To Flow (2)
113	128.52	123.91	Shut-In(2)
170	1266.50	126.63	End Shut-In(2)
175	1851.08	122.84	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
80.00	MW 20%M80%W	0.39
120.00	Water	0.59

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 64230 **DST#: 3**

Test Start: 2018.06.22 @ 04:25:27

GENERAL INFORMATION:

Formation: **LKC G-H**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:43:22
Time Test Ended: 13:04:52

Test Type: Conventional Bottom Hole (Reset)
Tester: Ray Schw ager
Unit No: 77

Interval: 3923.00 ft (KB) To 3974.00 ft (KB) (TVD)
Total Depth: 3974.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

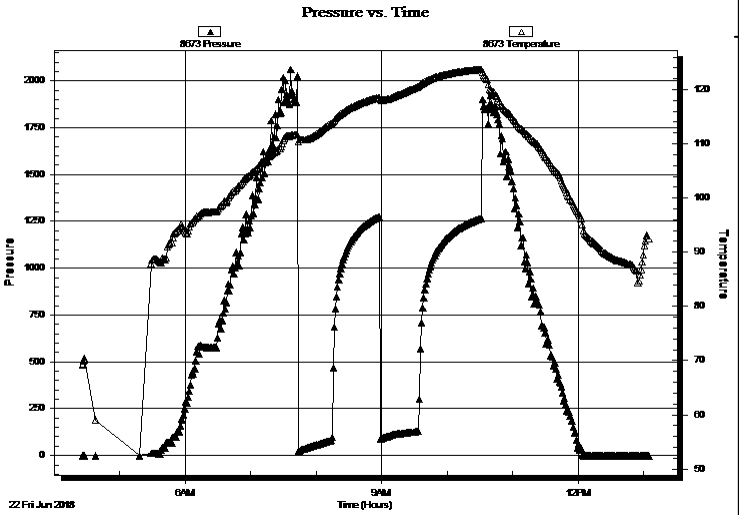
Reference Elevations: 2706.00 ft (KB)
2701.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8673 **Outside**

Press@RunDepth: psig @ 3925.00 ft (KB)
Start Date: 2018.06.22 End Date: 2018.06.22
Start Time: 04:25:49 End Time: 13:05:14

Capacity: 8000.00 psig
Last Calib.: 2018.06.22
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP-w eak blow 1/2" to 3" blow
45-ISIP-no blw
30-FFP-w eak to a fair blow 1" to 3 1/4" blow
60-FSIP-no blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
80.00	MW 20%M80%W	0.39
120.00	Water	0.59

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 64230 **DST#: 3**

Test Start: 2018.06.22 @ 04:25:27

Tool Information

Drill Pipe:	Length:	3705.00 ft	Diameter:	3.80 inches	Volume:	51.97 bbl	Tool Weight:		2200.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:		25000.00 lb
Drill Collar:	Length:	210.00 ft	Diameter:	2.25 inches	Volume:	1.03 bbl	Weight to Pull Loose:		65000.00 lb
					Total Volume:	53.00 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		21.00 ft					String Weight:	Initial	55000.00 lb
Depth to Top Packer:		3923.00 ft						Final	56000.00 lb
Depth to Bottom Packer:		ft							
Interval betw een Packers:		51.00 ft							
Tool Length:		80.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3895.00		
Shut In Tool	5.00			3900.00		
Hydraulic tool	5.00			3905.00		
Jars	5.00			3910.00		
Safety Joint	3.00			3913.00		
Packer	5.00			3918.00	29.00	Bottom Of Top Packer
Packer	5.00			3923.00		
Stubb	1.00			3924.00		
Perforations	1.00			3925.00		
Recorder	0.00	8360	Inside	3925.00		
Recorder	0.00	8673	Outside	3925.00		
Blank Spacing	33.00			3958.00		
Perforations	13.00			3971.00		
Bullnose	3.00			3974.00	51.00	Bottom Packers & Anchor
Total Tool Length:	**80.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 64230 **DST#: 3**

Test Start: 2018.06.22 @ 04:25:27

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:	52.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.32 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	600.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
80.00	MW 20%M80%W	0.393
120.00	Water	0.590

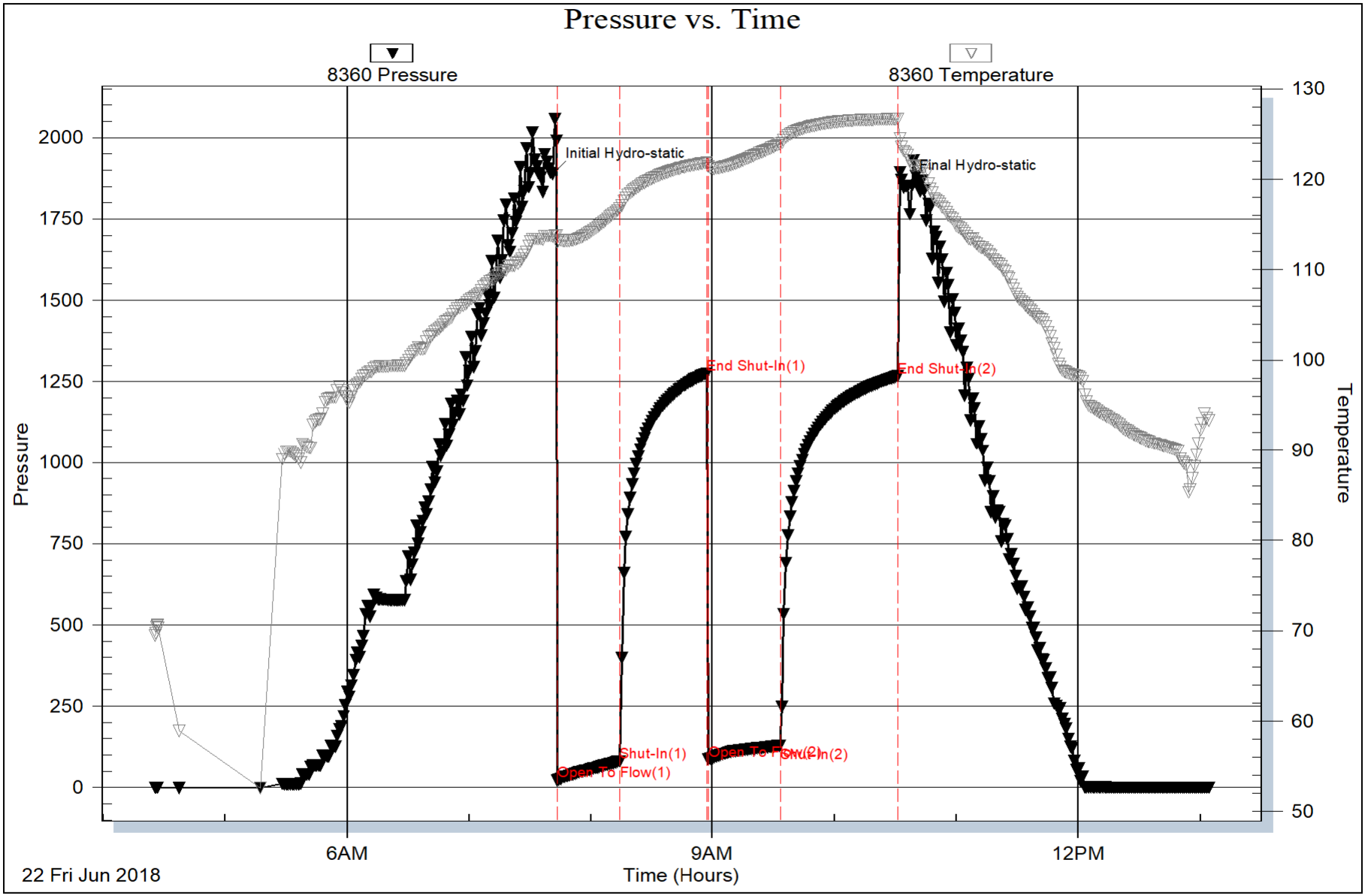
Total Length: 200.00 ft Total Volume: 0.983 bbl

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

Laboratory Name: Laboratory Location:

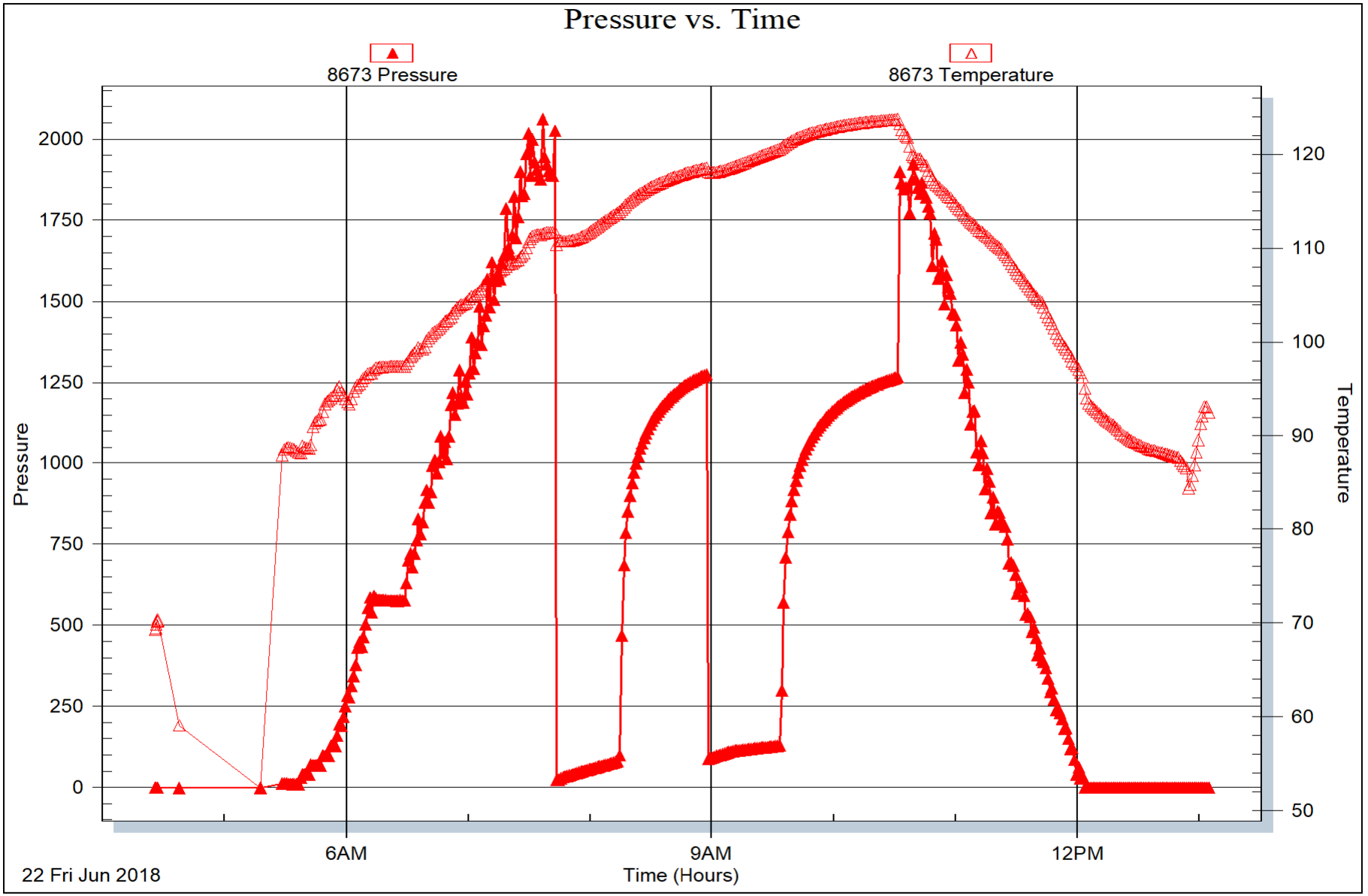
Recovery Comments: RW .1@78F

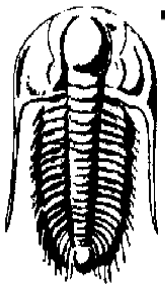
Serial #: 8360 **Inside** Suemaur Exploration & Prod LLC R&V Inc #1-16 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 64230 Printed: 2018.06.27 @ 10:03:23

Serial #: 8673 **Outside** Suemaur Exploration & Prod LLC R&V Inc #1-16 DST Test Number: 3





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Suemaur Exploration & Prod LLC**

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401

ATTN: Bob Peterson

R&V Inc #1-16

16-4s-28w Decatur,KS

Start Date: 2018.06.22 @ 22:36:00
End Date: 2018.06.23 @ 06:32:00
Job Ticket #: 63730 DST #: 4

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

Printed: 2018.06.27 @ 10:02:42

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 63730 **DST#: 4**

Test Start: 2018.06.22 @ 22:36:00

GENERAL INFORMATION:

Formation: **LKC " J "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:27:31
Time Test Ended: 06:32:00

Test Type: Conventional Bottom Hole (Reset)
Tester: Jim Svaty
Unit No: 76

Interval: 3969.00 ft (KB) To 4007.00 ft (KB) (TVD)
Total Depth: 4007.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

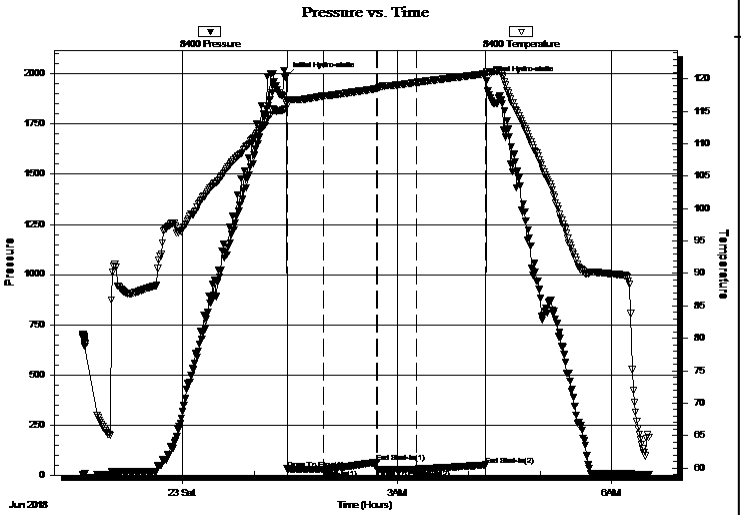
Reference Elevations: 2706.00 ft (KB)
2701.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8400 **Outside**

Press@RunDepth: 30.01 psig @ 3970.00 ft (KB)
Start Date: 2018.06.22 End Date: 2018.06.23
Start Time: 22:36:01 End Time: 06:31:46

Capacity: 8000.00 psig
Last Calib.: 2018.06.23
Time On Btm: 2018.06.23 @ 01:27:16
Time Off Btm: 2018.06.23 @ 04:15:01

TEST COMMENT: 30-IFP- 1/2" Blow Dead in 15 min. IPRO .85
45-ISIP- No Blow IPRO .03
30-FFP- No Blow
60-FSIP- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1987.73	116.76	Initial Hydro-static
1	31.14	115.95	Open To Flow (1)
31	29.71	117.36	Shut-In(1)
76	64.61	118.51	End Shut-In(1)
76	29.89	118.50	Open To Flow (2)
109	30.01	119.45	Shut-In(2)
167	50.97	120.77	End Shut-In(2)
168	1964.45	121.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Oil Speck Mud 3%o 97%m	0.02

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 63730 **DST#: 4**

Test Start: 2018.06.22 @ 22:36:00

GENERAL INFORMATION:

Formation: **LKC " J "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:27:31
Time Test Ended: 06:32:00

Test Type: Conventional Bottom Hole (Reset)
Tester: Jim Svaty
Unit No: 76

Interval: 3969.00 ft (KB) To 4007.00 ft (KB) (TVD)
Total Depth: 4007.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

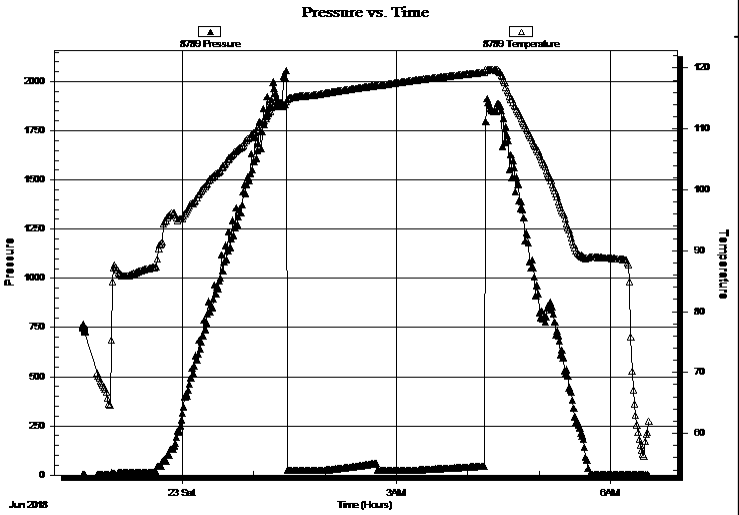
Reference Elevations: 2706.00 ft (KB)
2701.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8789 **Inside**

Press@RunDepth: psig @ 3970.00 ft (KB)
Start Date: 2018.06.22 End Date: 2018.06.23
Start Time: 22:36:01 End Time: 06:32:01

Capacity: 8000.00 psig
Last Calib.: 2018.06.23
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP- 1/2" Blow Dead in 15 min. IPRO .85
45-ISIP- No Blow IPRO .03
30-FFP- No Blow
60-FSIP- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Oil Speck Mud 3%o 97%m	0.02

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 63730 **DST#: 4**

Test Start: 2018.06.22 @ 22:36:00

Tool Information

Drill Pipe:	Length:	3738.00 ft	Diameter:	3.80	inches	Volume:	52.43	bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	
Drill Collar:	Length:	210.00 ft	Diameter:	2.25	inches	Volume:	1.03	bbl	
						Total Volume:	53.46	bbl	

Drill Pipe Above KB:	8.00 ft
Depth to Top Packer:	3969.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	38.00 ft
Tool Length:	67.00 ft
Number of Packers:	2
Diameter:	6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		60000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	55000.00 lb
	Final	55000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3941.00		
Shut In Tool	5.00			3946.00		
Hydraulic tool	5.00			3951.00		
Jars	5.00			3956.00		
Safety Joint	3.00			3959.00		
Packer	5.00			3964.00	29.00	Bottom Of Top Packer
Packer	5.00			3969.00		
Stubb	1.00			3970.00		
Recorder	0.00	8789	Inside	3970.00		
Recorder	0.00	8400	Outside	3970.00		
Perforations	34.00			4004.00		
Bullnose	3.00			4007.00	38.00	Bottom Packers & Anchor
Total Tool Length:	**67.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 63730 **DST#: 4**

Test Start: 2018.06.22 @ 22:36:00

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:	69.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.77 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	700.00 ppm				
Filter Cake:	8.00 inches				

Recovery Information

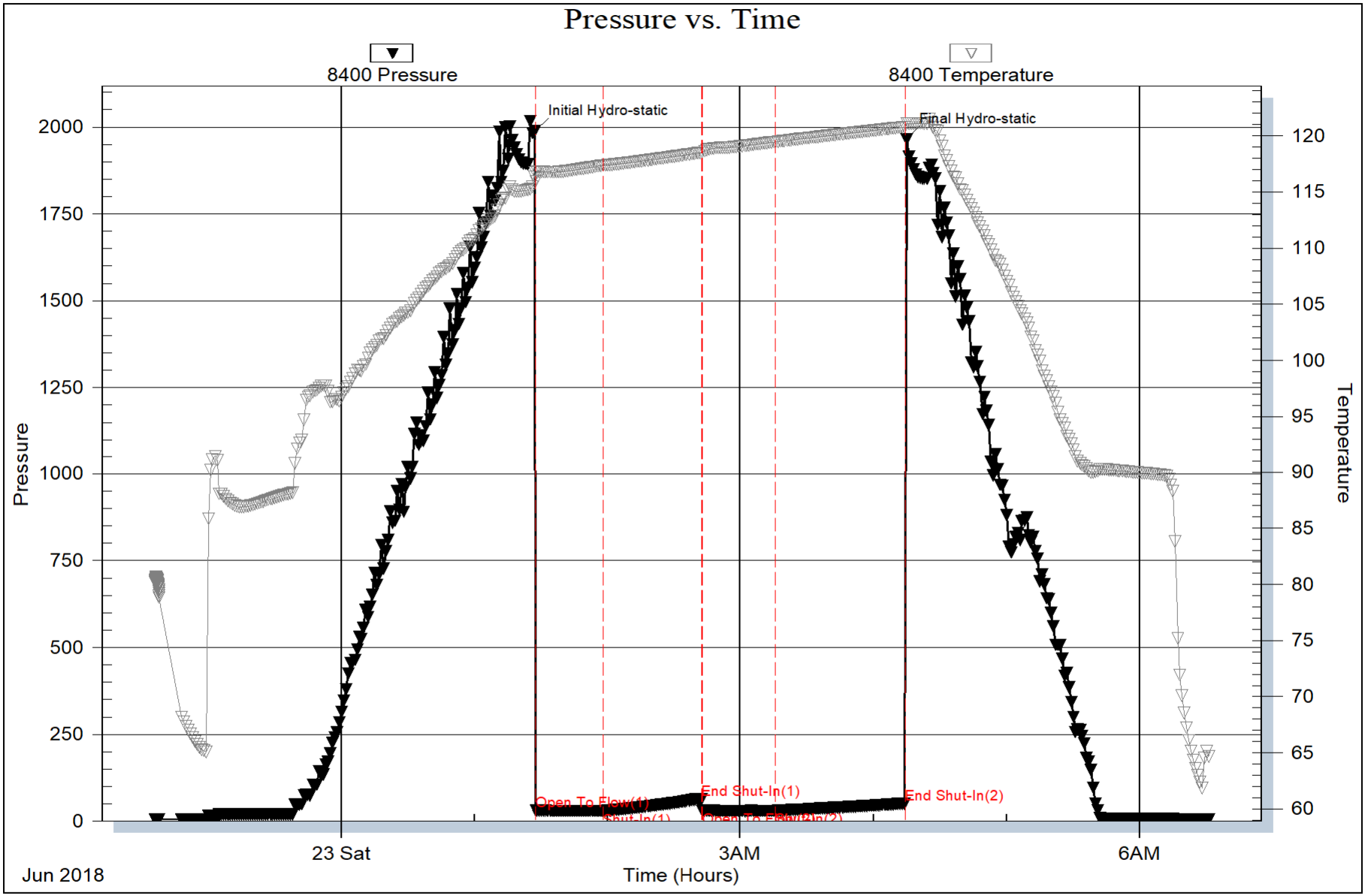
Recovery Table

Length ft	Description	Volume bbl
5.00	Oil Speck Mud 3%o 97%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

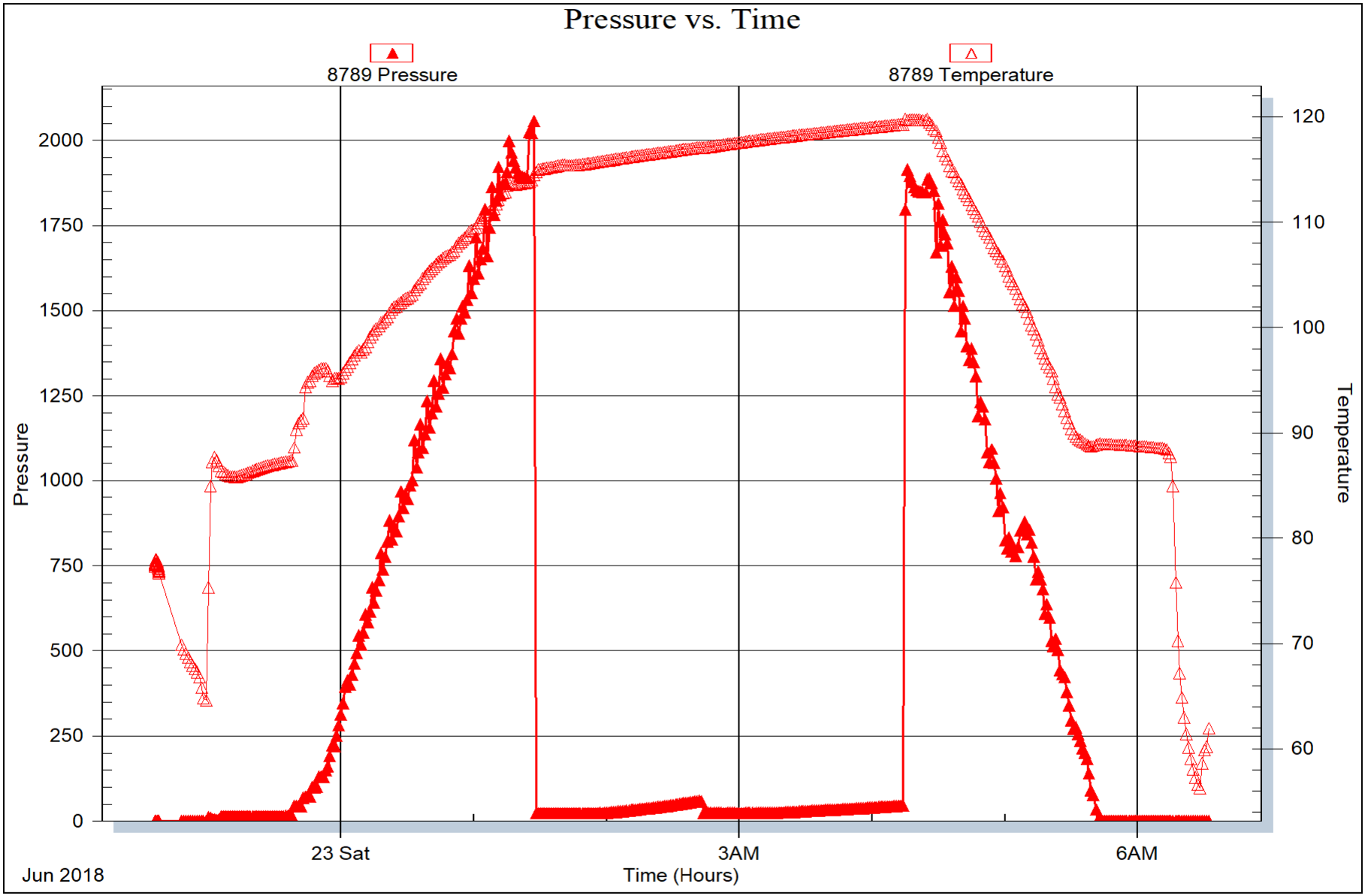
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8400 **Outside** Suemaur Exploration & Prod LLC R&V Inc #1-16 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 63730 Printed: 2018.06.27 @ 10:02:43

Serial #: 8789 **Inside** Suemaur Exploration & Prod LLC R&V Inc #1-16 DST Test Number: 4



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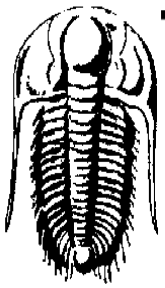


TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Suemaur Exploration & Prod LLC**

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401

ATTN: Bob Peterson

R&V Inc #1-16

16-4s-28w Decatur,KS

Start Date: 2018.06.23 @ 15:40:00
End Date: 2018.06.23 @ 23:35:00
Job Ticket #: 63731 DST #: 5

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

Printed: 2018.06.27 @ 09:59:38

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 63731 **DST#: 5**

Test Start: 2018.06.23 @ 15:40:00

GENERAL INFORMATION:

Formation: **LKC " K "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:30:01
Time Test Ended: 23:35:00

Test Type: Conventional Bottom Hole (Reset)
Tester: Jim Svaty
Unit No: 76

Interval: 4005.00 ft (KB) To 4030.00 ft (KB) (TVD)
Total Depth: 4030.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

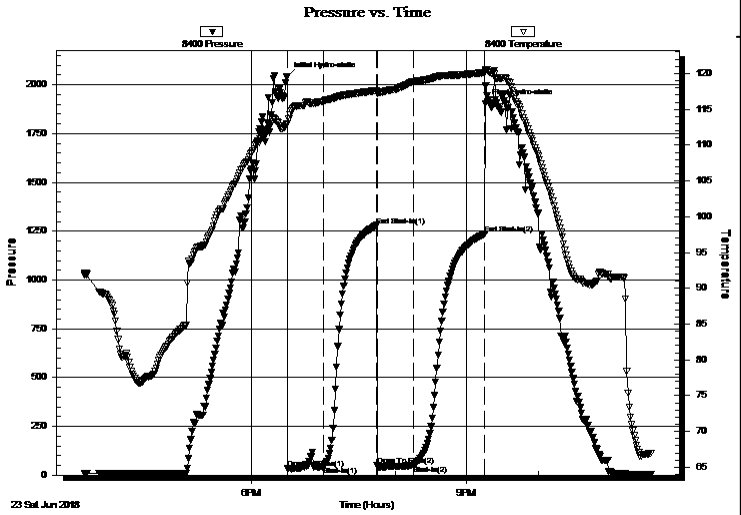
Reference Elevations: 2706.00 ft (KB)
2701.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8400 **Outside**

Press@RunDepth: 50.39 psig @ 4007.00 ft (KB)
Start Date: 2018.06.23 End Date: 2018.06.23
Start Time: 15:40:01 End Time: 23:34:46

Capacity: 8000.00 psig
Last Calib.: 2018.06.23
Time On Btm: 2018.06.23 @ 18:29:31
Time Off Btm: 2018.06.23 @ 21:15:31

TEST COMMENT: 30-IFP- 1/2" Weak Blow to 1 1/2" Died Back in 21 min.
45-ISIP- No Blow
30-FFP- Weak Surface Blow Thru-Out
60-FSIP- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2040.88	112.98	Initial Hydro-static
1	33.19	112.98	Open To Flow (1)
31	43.30	116.10	Shut-In(1)
75	1278.70	117.62	End Shut-In(1)
76	49.40	117.25	Open To Flow (2)
106	50.39	118.84	Shut-In(2)
166	1235.18	120.12	End Shut-In(2)
166	1904.26	120.32	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
25.00	OCM 5%o 95%m	0.12
5.00	CO 100%	0.02

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 63731 **DST#: 5**

Test Start: 2018.06.23 @ 15:40:00

GENERAL INFORMATION:

Formation: **LKC " K "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:30:01
Time Test Ended: 23:35:00

Test Type: Conventional Bottom Hole (Reset)
Tester: Jim Svaty
Unit No: 76

Interval: 4005.00 ft (KB) To 4030.00 ft (KB) (TVD)
Total Depth: 4030.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

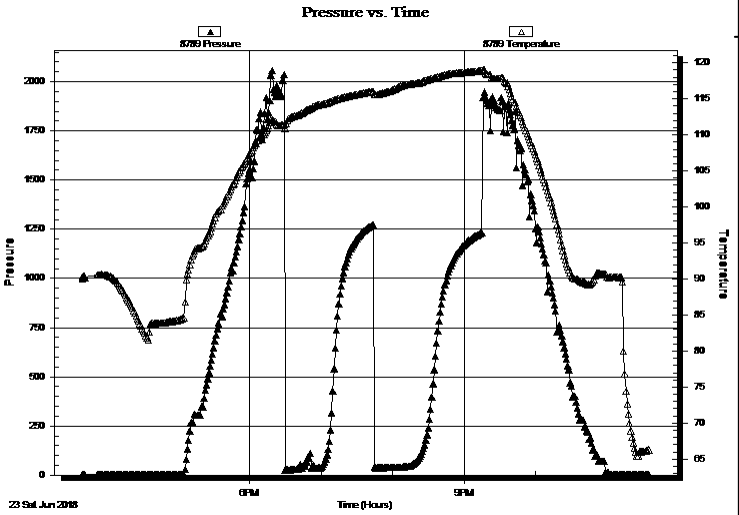
Reference Elevations: 2706.00 ft (KB)
2701.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8789 **Inside**

Press@RunDepth: psig @ 4007.00 ft (KB)
Start Date: 2018.06.23 End Date: 2018.06.23
Start Time: 15:40:01 End Time: 23:35:01

Capacity: 8000.00 psig
Last Calib.: 2018.06.23
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP- 1/2" Weak Blow to 1 1/2" Died Back in 21 min.
45-ISIP- No Blow
30-FFP- Weak Surface Blow Thru-Out
60-FSIP- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
25.00	OCM 5%o 95%m	0.12
5.00	CO 100%	0.02

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 63731 **DST#: 5**

Test Start: 2018.06.23 @ 15:40:00

Tool Information

Drill Pipe:	Length:	3773.00 ft	Diameter:	3.80	inches	Volume:	52.93	bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	
Drill Collar:	Length:	210.00 ft	Diameter:	2.25	inches	Volume:	1.03	bbl	
						Total Volume:	53.96	bbl	

Drill Pipe Above KB:	7.00 ft
Depth to Top Packer:	4005.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	25.00 ft
Tool Length:	54.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		60000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	54000.00 lb
	Final	54000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3977.00		
Shut In Tool	5.00			3982.00		
Hydraulic tool	5.00			3987.00		
Jars	5.00			3992.00		
Safety Joint	3.00			3995.00		
Packer	5.00			4000.00	29.00	Bottom Of Top Packer
Packer	5.00			4005.00		
Stubb	1.00			4006.00		
Perforations	1.00			4007.00		
Recorder	0.00	8789	Inside	4007.00		
Recorder	0.00	8400	Outside	4007.00		
Perforations	20.00			4027.00		
Bullnose	3.00			4030.00	25.00	Bottom Packers & Anchor
Total Tool Length:	**54.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 63731 **DST#: 5**

Test Start: 2018.06.23 @ 15:40:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	20 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	62.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.38 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	800.00 ppm				
Filter Cake:	8.00 inches				

Recovery Information

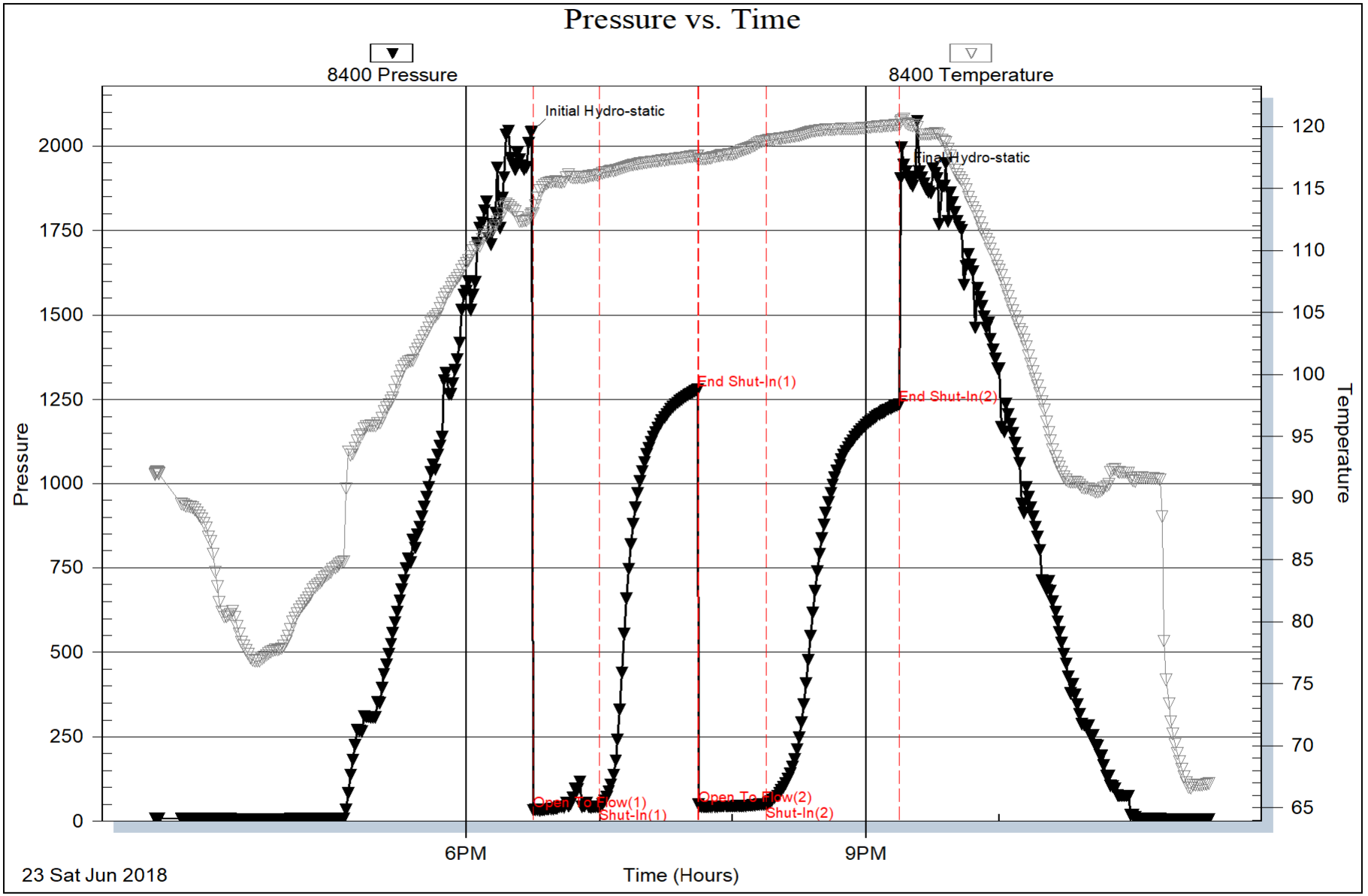
Recovery Table

Length ft	Description	Volume bbl
25.00	OCM 5%o 95%m	0.123
5.00	CO 100%	0.025

Total Length: 30.00 ft Total Volume: 0.148 bbl

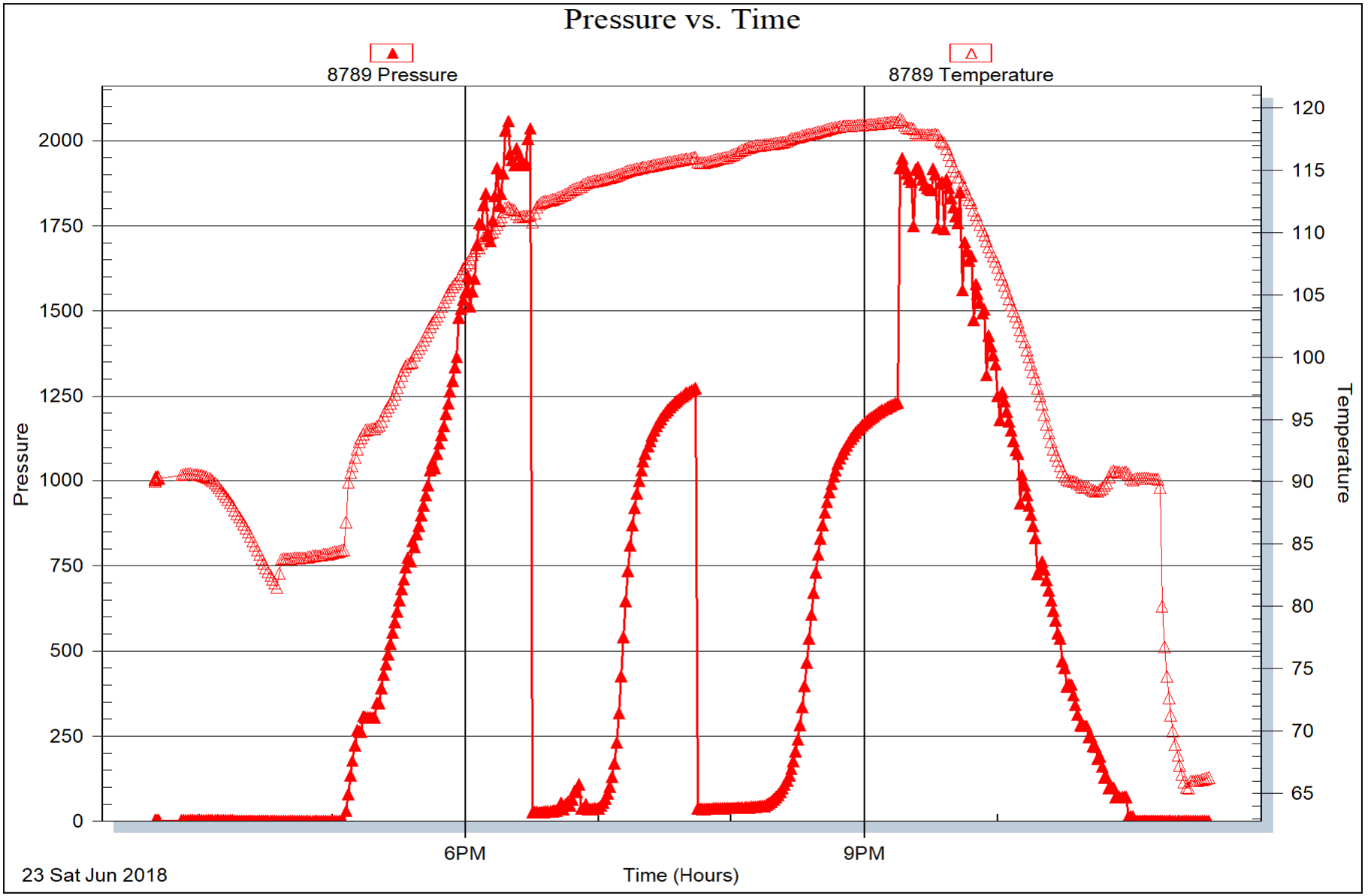
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8400 **Outside** Suemaur Exploration & Prod LLC R&V Inc #1-16 DST Test Number: 5



Trilobite Testing, Inc Ref. No: 63731 Printed: 2018.06.27 @ 09:59:39

Serial #: 8789 **Inside** Suemaur Exploration & Prod LLC R&V Inc #1-16 DST Test Number: 5



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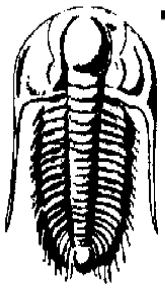


TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Suemaur Exploration & Prod LLC**

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401

ATTN: Bob Peterson

R&V Inc #1-16

16-4s-28w Decatur,KS

Start Date: 2018.06.25 @ 01:01:00
End Date: 2018.06.25 @ 09:16:00
Job Ticket #: 63732 DST #: 6

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

Printed: 2018.06.27 @ 09:54:50

DRILL STEM TEST REPORT

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 63732 **DST#: 6**

Test Start: 2018.06.25 @ 01:01:00

GENERAL INFORMATION:

Formation: **Cherokee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:43:16
Time Test Ended: 09:16:00

Test Type: Conventional Bottom Hole (Reset)
Tester: Jim Svaty
Unit No: 76

Interval: 4188.00 ft (KB) To 4221.00 ft (KB) (TVD)
Total Depth: 4221.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

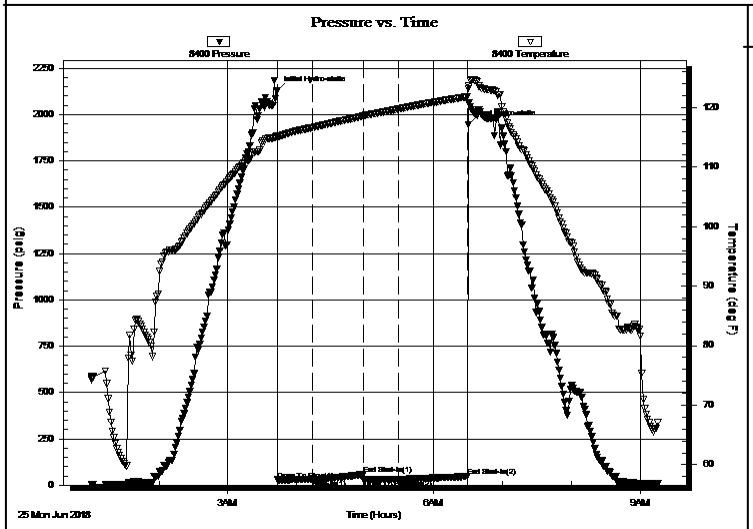
Reference Elevations: 2706.00 ft (KB)
2701.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8400 **Inside**

Press@RunDepth: 30.06 psig @ 4189.00 ft (KB)
Start Date: 2018.06.25 End Date: 2018.06.25
Start Time: 01:01:01 End Time: 09:16:01

Capacity: 8000.00 psig
Last Calib.: 2018.06.25
Time On Btm: 2018.06.25 @ 03:43:01
Time Off Btm: 2018.06.25 @ 06:30:16

TEST COMMENT: 30-IFP- 1/4" Blow Died Back in 21 min.
45-ISIP- No Blow
30-FFP- No Blow
60-FSIP- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2129.46	115.32	Initial Hydro-static
1	27.87	114.84	Open To Flow (1)
31	28.86	116.65	Shut-In(1)
76	56.75	118.57	End Shut-In(1)
76	30.54	118.58	Open To Flow (2)
107	30.06	119.78	Shut-In(2)
167	46.57	121.84	End Shut-In(2)
168	1944.26	123.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Oil Speck Mud 1%o 99%m	0.02

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 63732 **DST#: 6**

Test Start: 2018.06.25 @ 01:01:00

GENERAL INFORMATION:

Formation: **Cherokee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:43:16
Time Test Ended: 09:16:00

Test Type: Conventional Bottom Hole (Reset)
Tester: Jim Svaty
Unit No: 76

Interval: 4188.00 ft (KB) To 4221.00 ft (KB) (TVD)
Total Depth: 4221.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

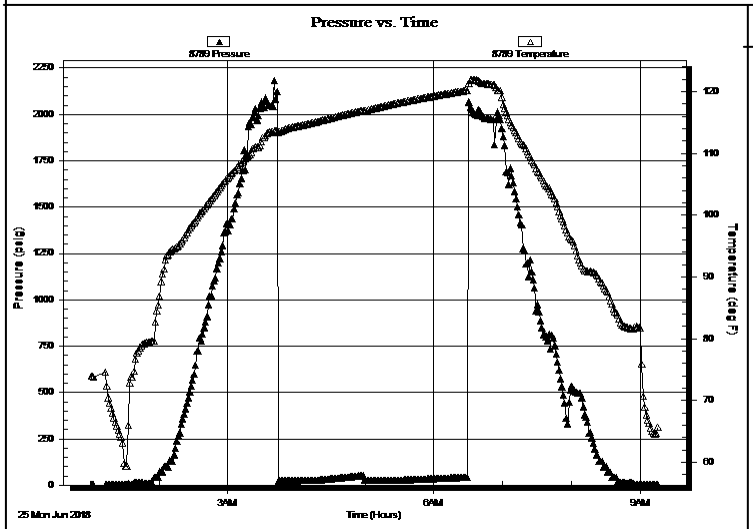
Reference Elevations: 2706.00 ft (KB)
2701.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8789 **Outside**

Press@RunDepth: psig @ 4189.00 ft (KB)
Start Date: 2018.06.25 End Date: 2018.06.25
Start Time: 01:01:01 End Time: 09:16:01

Capacity: 8000.00 psig
Last Calib.: 2018.06.25
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP- 1/4" Blow Died Back in 21 min.
45-ISIP- No Blow
30-FFP- No Blow
60-FSIP- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Oil Speck Mud 1%o 99%m	0.02

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 63732 **DST#: 6**

Test Start: 2018.06.25 @ 01:01:00

Tool Information

Drill Pipe:	Length:	3954.00 ft	Diameter:	3.80 inches	Volume:	55.46 bbl	Tool Weight:		2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.75 inches	Volume:	0.00 bbl	Weight set on Packer:		25000.00 lb
Drill Collar:	Length:	210.00 ft	Diameter:	2.25 inches	Volume:	1.03 bbl	Weight to Pull Loose:		60000.00 lb
					Total Volume:	56.49 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		5.00 ft					String Weight:	Initial	56000.00 lb
Depth to Top Packer:		4188.00 ft						Final	56000.00 lb
Depth to Bottom Packer:		ft							
Interval betw een Packers:		33.00 ft							
Tool Length:		62.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4160.00		
Shut In Tool	5.00			4165.00		
Hydraulic tool	5.00			4170.00		
Jars	5.00			4175.00		
Safety Joint	3.00			4178.00		
Packer	5.00			4183.00	29.00	Bottom Of Top Packer
Packer	5.00			4188.00		
Stubb	1.00			4189.00		
Recorder	0.00	8400	Inside	4189.00		
Recorder	0.00	8789	Outside	4189.00		
Perforations	29.00			4218.00		
Bullnose	3.00			4221.00	33.00	Bottom Packers & Anchor
Total Tool Length:	**62.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Suemaur Exploration & Prod LLC

539 N. Carancahue
STE 1100
Corpus Christi, TX 78401
ATTN: Bob Peterson

16-4s-28w Decatur,KS

R&V Inc #1-16

Job Ticket: 63732 **DST#: 6**

Test Start: 2018.06.25 @ 01:01:00

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:	64.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.39 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1000.00 ppm				
Filter Cake:	6.00 inches				

Recovery Information

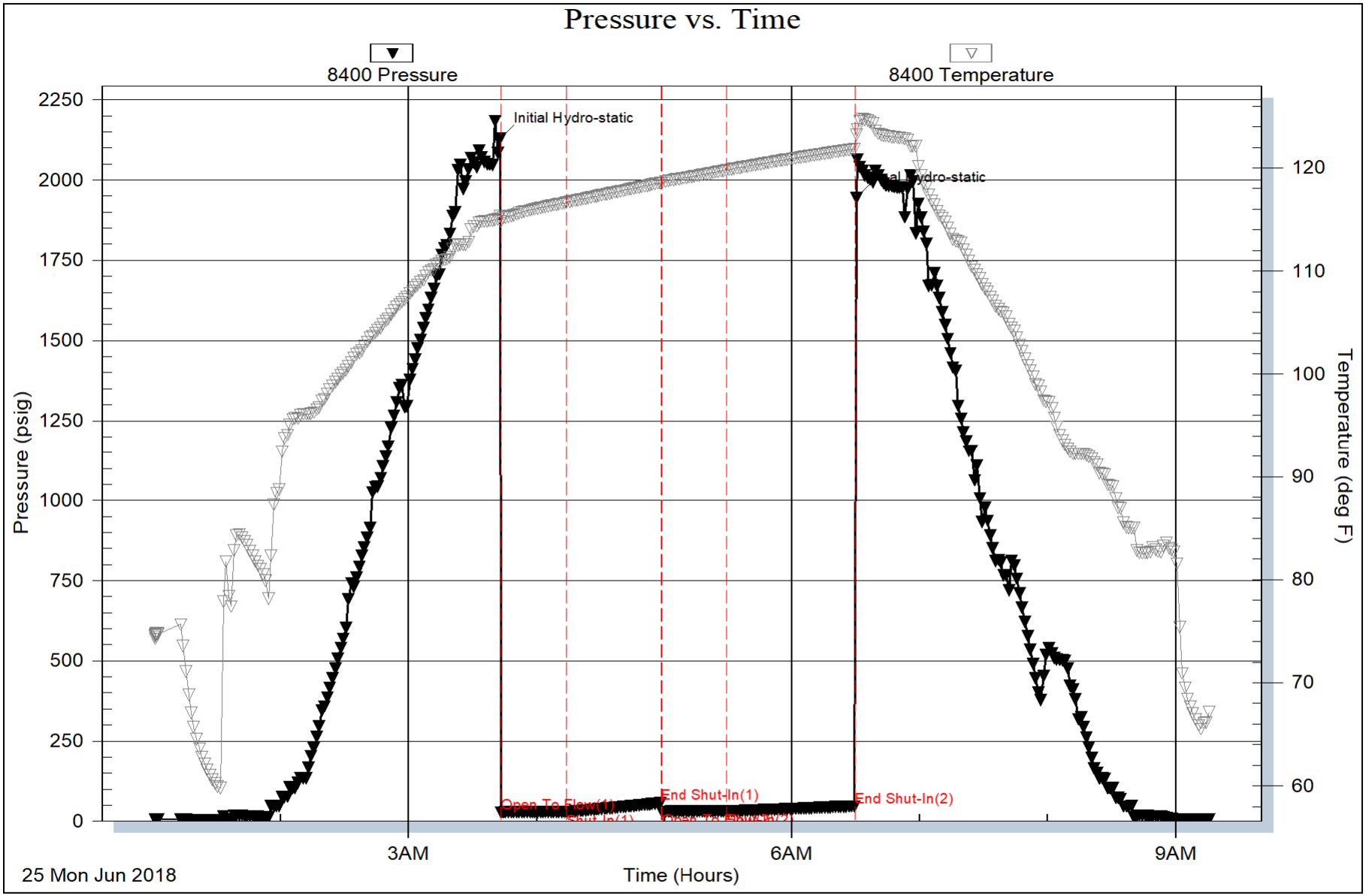
Recovery Table

Length ft	Description	Volume bbl
5.00	Oil Speck Mud 1%o 99%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

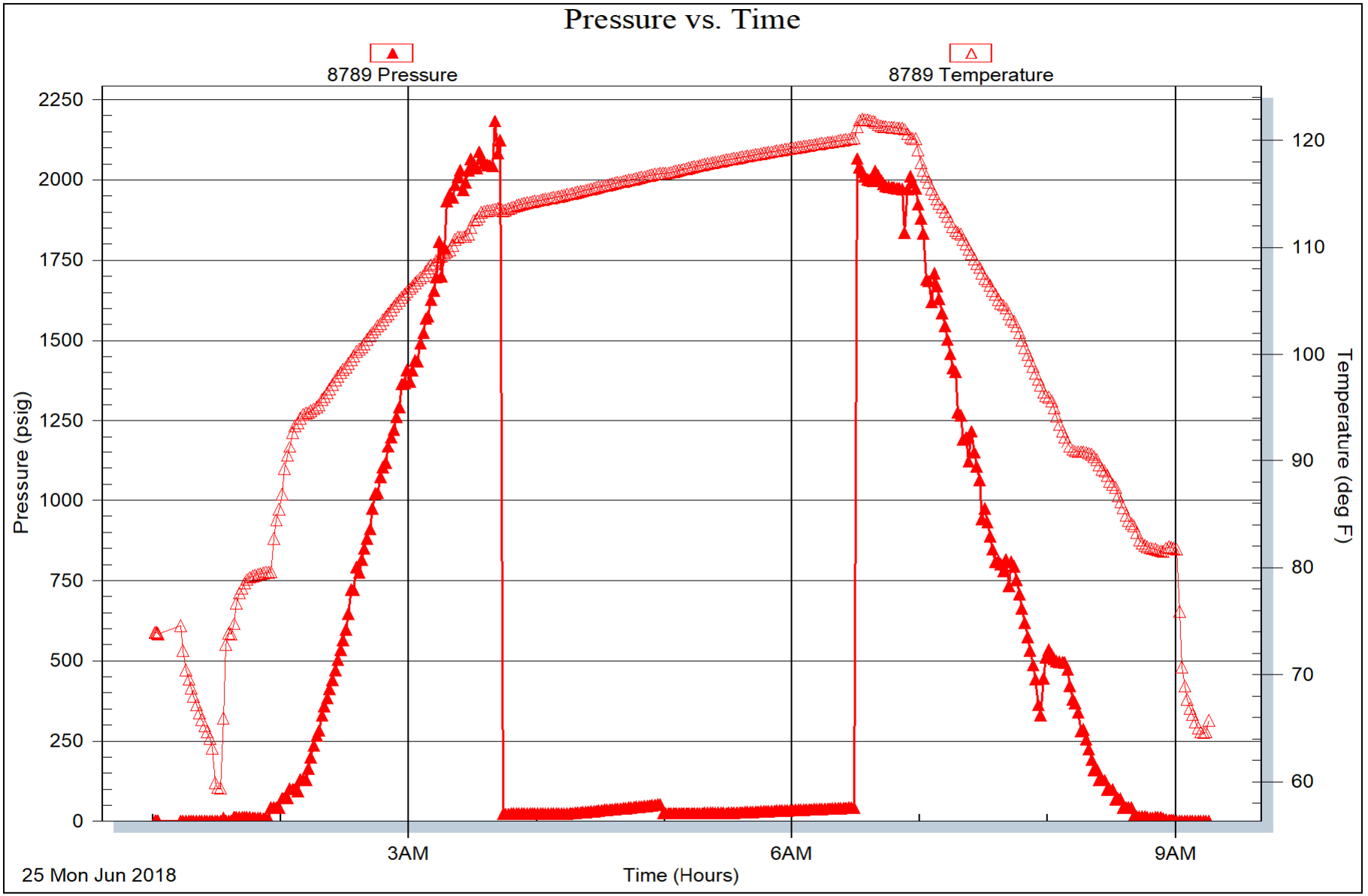
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8400 **Inside** Suemaur Exploration & Prod LLC R&V Inc #1-16 DST Test Number: 6



Trilobite Testing, Inc Ref. No: 63732 Printed: 2018.06.27 @ 09:54:51

Serial #: 8789 **Outside** Suemaur Exploration & Prod LLC R&V Inc #1-16 DST Test Number: 6



Trilobite Testing, Inc Ref. No: 63732 Printed: 2018.06.27 @ 09:54:51

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 64228

Well Name & No. RTV Inc 1-16 Test No. 1 Date 6-20-18

Company Suemaur Exploration + Prod LLC Elevation 2706 KB 2701 GL

Address 539 N. Carancahua, STE 1100 Corpus Christi, Texas 78401

Co. Rep / Geo. Bob Petterson Rig Murfin 24

Location: Sec. 16 Twp 4S Rge. 28W Co. Decatur State Ks

Interval Tested 3861-3879 Zone Tested LKC "C"

Anchor Length 18 Drill Pipe Run 3644 Mud Wt. 9.1

Top Packer Depth 3856 Drill Collars Run 210 Vis 61

Bottom Packer Depth 3861 Wt. Pipe Run — WL 6.4

Total Depth 3879 Chlorides 700 ppm System LCM 1#

Blow Description TFP - Weak Blow, surface to ½" Blow
ISIP - No Blow
FFP - No Blow, flushed Tool got surface Blow
FSIP - No Blow

Rec 80	Feet of WATER	%gas	%oil	%water	%mud
Rec	Feet of w/show of oil on Top	%gas	%oil	%water	%mud
Rec	Feet of of fluid	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 80 BHT 122 Gravity — API RW .12 @ 79 °F Chlorides 700 ppm

(A) Initial Hydrostatic 1821	☑ Test 1050	T-On Location 1045
(B) First Initial Flow 19	☑ Jars 250	T-Started 1310
(C) First Final Flow 43	☑ Safety Joint 75	T-Open 1555
(D) Initial Shut-In 1355	☐ Circ Sub	T-Pulled 1840
(E) Second Initial Flow 48	☐ Hourly Standby	T-Out 2107
(F) Second Final Flow 58	☑ Mileage 35 RT 27rt	Comments
(G) Final Shut-In 1349	☐ Sampler	
(H) Final Hydrostatic 1778	☐ Straddle	☐ Ruined Shale Packer
	☑ Shale Packer 250	☐ Ruined Packer
Initial Open 45	☐ Extra Packer	☐ Extra Copies
Initial Shut-In 45	☐ Extra Recorder	Sub Total 0
Final Flow 30	☐ Day Standby	Total 1652
Final Shut-In 45	☐ Accessibility	MP/DST Disc't
	Sub Total 1652	

Approved By Our Representative Ray Schlagger Hank You

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 64229

Well Name & No. R4V 1-16 Test No. 2 Date 6-21-18

Company Suemaur Exploration + Prod. LLC Elevation 2706 KB 2701 GL

Address 539 N. Carancahua, STE 1100 Corpus Christi, Texas 78401

Co. Rep / Geo. Bob Peterson Rig Murfin 24

Location: Sec. 16 Twp 4S Rge. 28W Co. Decatur State Ks

Interval Tested 3902-3925 Zone Tested LKC "G"

Anchor Length 23 Drill Pipe Run 3679 Mud Wt. 9

Top Packer Depth 3897 Drill Collars Run 210 Vis 52

Bottom Packer Depth 3902 Wt. Pipe Run — WL 6.4

Total Depth 3925 Chlorides 600 ppm System LCM 9#

Blow Description TFP - Surface Blow then-out
ISIP - No Blow
FFP - No Blow flushed Tool, got surge
FSIP - No Blow

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

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

(A) Initial Hydrostatic 1856	☑ Test 1050	T-On Location 0710
(B) First Initial Flow 21	☑ Jars 250	T-Started 0850
(C) First Final Flow 21	☑ Safety Joint 75	T-Open 1215
(D) Initial Shut-In 55	☐ Circ Sub	T-Pulled 1445
(E) Second Initial Flow 25	☐ Hourly Standby	T-Out 1716
(F) Second Final Flow 25	☑ Mileage 27	Comments
(G) Final Shut-In 39	☐ Sampler	
(H) Final Hydrostatic 1830	☐ Straddle	
	☑ Shale Packer 250	☐ Ruined Shale Packer
Initial Open 30	☐ Extra Packer	☐ Ruined Packer
Initial Shut-In 45	☐ Extra Recorder	☐ Extra Copies
Final Flow 30	☐ Day Standby	Sub Total 0
Final Shut-In 45	☐ Accessibility	Total 1652
	Sub Total 1652	MP/DST Disc't

Approved By Our Representative Ray Schwagel Thank you

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 64230

Well Name & No. R+V #1-16 Test No. 3 Date 6-22-18

Company SUEMAUR EXPLORATION + PROD. LLC Elevation 2706 KB 2701 GL

Address 539 N. CARANCAHUA, STE 1100 CORPUS CHRISTI, TEXAS 78401

Co. Rep / Geo. BOB PETERSON Rig MURFIN 24

Location: Sec. 16 Twp 4S Rge. 28W Co. DECATUR State KS

Interval Tested 3923-3974 Zone Tested LKC G-H

Anchor Length 51 Drill Pipe Run 3705 Mud Wt. 9.3

Top Packer Depth 3918 Drill Collars Run 210 Vis 52

Bottom Packer Depth 3923 Wt. Pipe Run — WL 6.4

Total Depth 3974 Chlorides 600 ppm System LCM 9#

Blow Description IFP - WEAK BLOW, ½" TO 3" BLOW
ISIP - NO BLOW
FFP - WEAK TO A FAIR BLOW 1" TO 3¼" BLOW
FSIP - NO BLOW

Rec 80	Feet of MW	%gas	%oil 80	%water 20	%mud
Rec 120	Feet of WATER	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 200 BHT 126 Gravity ____ API RW .1 @ 78 °F Chlorides 68000 ppm

(A) Initial Hydrostatic 1887	☑ Test 1050	T-On Location 0310	
(B) First Initial Flow 22	☑ Jars 250	T-Started 0425	
(C) First Final Flow 80	☑ Safety Joint 75	T-Open 0740	
(D) Initial Shut-In 1275	☐ Circ Sub	T-Pulled 1025	
(E) Second Initial Flow 85	☐ Hourly Standby	T-Out 1304	
(F) Second Final Flow 128	☑ Mileage 27	Comments	
(G) Final Shut-In 1266	☐ Sampler		
(H) Final Hydrostatic 1851	☐ Straddle		
	☑ Shale Packer 250	☐ Ruined Shale Packer	
Initial Open 30	☐ Extra Packer	☐ Ruined Packer	
Initial Shut-In 45	☐ Extra Recorder	☐ Extra Copies	
Final Flow 30	☐ Day Standby	Sub Total 0	
Final Shut-In 60	☐ Accessibility	Total 1652	
	Sub Total 1652	MP/DST Disc't	

Approved By ____ Our Representative RAY SCHWAGER

THANK YOU

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 63730

Well Name & No. R & V New #1-16 Test No. 4 Date 6-22-18

Company Suemaur Exploration & Prod. LLC Elevation 2706 KB 2701 GL

Address 539 N. Carancahua Ste 1100 Corpus Christi, TX 78401

Co. Rep / Geo. Bob Petersen Rig Murfin 24

Location: Sec. 16 Twp 4S Rge. 28W Co. Decatur State KS

Interval Tested 3969-4007 Zone Tested LKC "I" "J"

Anchor Length 38 Drill Pipe Run 3738 Mud Wt. 9.3

Top Packer Depth 3964 Drill Collars Run 210 Vis 69

Bottom Packer Depth 3969 Wt. Pipe Run 0 WL 6.8

Total Depth 4007 Chlorides 700 ppm System LCM 8

Blow Description IFP- 1/2 in. Blow Dead in 15 min. IPRO. 85

ISIP- No Blow IPRO. 03

FFP- No Blow

FSIP- No Blow

Rec 5	Feet of Oil Speck Mud	%gas 3	%oil	%water 97	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	

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

(A) Initial Hydrostatic	1987	☒ Test 1150	T-On Location 21:00
(B) First Initial Flow	31	☒ Jars 250	T-Started 22:36
(C) First Final Flow	29	☒ Safety Joint 75	T-Open 01:28
(D) Initial Shut-In	64	☐ Circ Sub	T-Pulled 04:13
(E) Second Initial Flow	29	☐ Hourly Standby	T-Out 06:32
(F) Second Final Flow	30	☒ Mileage 27RT 27	Comments
(G) Final Shut-In	50	☐ Sampler	
(H) Final Hydrostatic	1964	☐ Straddle	
		☒ Shale Packer 250	☐ Ruined Shale Packer
Initial Open	30	☐ Extra Packer	☐ Ruined Packer
Initial Shut-In	45	☐ Extra Recorder	☐ Extra Copies
Final Flow	30	☐ Day Standby	Sub Total 0
Final Shut-In	60	☐ Accessibility	Total 1752
		Sub Total 1752	MP/DST Disc't

Approved By ____ Our Representative ____

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 63731

Well Name & No. R&V Inc. #1-16 Test No. 5 Date 6-23-18

Company Sue Maur Exploration & Prod. LLC Elevation 2706 KB 2701 GL

Address 539 N. Carancahua Ste 1100 Corpus Christi TX 78401

Co. Rep / Geo. Bob Petersen Rig Murfin 24

Location: Sec. 16 Twp 4S Rge. 28W Co. Decatur State KS

Interval Tested 4006-4030 Zone Tested LKC "K"

Anchor Length ~~24~~ 25 Drill Pipe Run 3773 Mud Wt. 9.2

Top Packer Depth 4000 Drill Collars Run 210 Vis 62

Bottom Packer Depth 4005 Wt. Pipe Run 0 WL 6.4

Total Depth 4030 Chlorides 800 ppm System LCM 8

Blow Description IFP- ½ in. Weak Blow To 1½ in. Died Back in 21 min. - IPRO 2.30

ISIP- No Blow IPRO 1.30

FFP- Weak Surface Blow Thru-out IPRO 1.40

FSIP- No Blow IPRO - 0.80

Rec 25	Feet of OCM	%gas 5	%oil	%water 95	%mud	
Rec 5	Feet of CO	%gas 100	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	

Rec Total 30 BHT 120 Gravity 20 API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic 2040	☒ Test 1150	T-On Location 14:10
(B) First Initial Flow 33	☒ Jars 250	T-Started 15:40
(C) First Final Flow 43	☒ Safety Joint 75	T-Open 18:30
(D) Initial Shut-In 1278	☐ Circ Sub	T-Pulled 21:15
(E) Second Initial Flow 49	☐ Hourly Standby	T-Out 23:35
(F) Second Final Flow 50	☒ Mileage 27	Comments
(G) Final Shut-In 1235	☐ Sampler	
(H) Final Hydrostatic 1904	☐ Straddle	☐ Ruined Shale Packer
	☒ Shale Packer 250	☐ Ruined Packer
Initial Open 30	☐ Extra Packer	☐ Extra Copies
Initial Shut-In 45	☐ Extra Recorder	Sub Total 0
Final Flow 30	☐ Day Standby	Total 1752
Final Shut-In 60	☐ Accessibility	MP/DST Disc't
	Sub Total 1752	

Approved By ____ Our Representative ____

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

4/10

Test Ticket

NO. 63732

Well Name & No. R&V Inc. #1-16 Test No. 6 Date 6-24-18

Company Suemaur Exploration & Prod. LLC Elevation 2706 KB 2701 GL

Address 539 N. Carancahua Ste 1100 Corpus Christi TX 78401

Co. Rep / Geo. Bob Petersen Rig Murfin 24

Location: Sec. 16 Twp 4S Rge. 28W Co. Decatur State KS

Interval Tested 4188-4221 Zone Tested Cherokee

Anchor Length 33 Drill Pipe Run 3954 Mud Wt. 9.3

Top Packer Depth 4183 Drill Collars Run 210 Vis 64

Bottom Packer Depth 4188 Wt. Pipe Run 0 WL 6.4

Total Depth 4221 Chlorides 1000 ppm System LCM 6

Blow Description IFP- 1/4 in Blow Died Back in 2 min. IFP0-2.05

ISIP- No Blow ISIP=.30

FFP- No Blow

FSIP- No Blow

Rec 5	Feet of Oil Specks Mud	%gas 1	%oil	%water 99	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	

Rec Total 5 BHT 124 Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic 2129	☒ Test 1150	T-On Location 23:15	
(B) First Initial Flow 27	☒ Jars 250	T-Started 01:01	
(C) First Final Flow 28	☒ Safety Joint 75	T-Open 03:44	
(D) Initial Shut-In 56	☐ Circ Sub	T-Pulled 06:29	
(E) Second Initial Flow 30	☐ Hourly Standby	T-Out 09:16	
(F) Second Final Flow 30	☒ Mileage X 2 54	Comments Called by Jesus to Pick-up Tool 7:11 am 6-27-18	
(G) Final Shut-In 46	☐ Sampler		
(H) Final Hydrostatic 1944	☐ Straddle	☐ Ruined Shale Packer	
	☒ Shale Packer 250	☐ Ruined Packer	
Initial Open 30	☐ Extra Packer	☐ Extra Copies	
Initial Shut-In 45	☐ Extra Recorder	Sub Total 800	
Final Flow 30	☒ Day Standby 2 1.5d 9.75h	Total 2579	
Final Shut-In 60	☐ Accessibility	MP/DST Disc't	
	Sub Total 1779		

Approved By ____ Our Representative ____

EVENT LOG

Service Line Cementing

Client

District

Quotes:

Plans:

Executions:

Seq.	Well	Job Type	BJ Sup.	BJ Eng.	Start DT / Time	End DT / Time	Duration	Category	Event	Equipment	Density (ppg)	Pump Rate(bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments	Sym
1			Aldo Espinoza Galindo		06/15/2018 22:30:00	06/15/2018 23:00:00	0.50	Mobilization	Arrive on Location							
2					06/15/2018 23:00:00	06/16/2018 18:30:00	19.50	StandBy	Customer						RIG BROKE DOWN	
3					06/16/2018 18:30:00	06/16/2018 20:00:00	1.50	Operational	Other (See comment)						START RUNNING CASING	
4					06/16/2018 20:00:00	06/16/2018 20:09:00	0.15	Operational	Safety Meeting							
5					06/16/2018 20:09:00	06/16/2018 20:10:00	0.02	Operational	Pressure Test		8.3400	0.50	0.30	2000.00		
6					06/16/2018 20:10:00	06/16/2018 20:12:00	0.03	Operational	Pump Spacer		8.3400	3.00	5.00	10.00		
7					06/16/2018 20:12:00	06/16/2018 20:30:00	0.30	Operational	Pumping Cement		14.9000	4.00	54.50	200.00		
8					06/16/2018 20:30:00	06/16/2018 20:36:00	0.10	Operational	Pump Displacement		8.3400	4.00	14.40	200.00		

EVENT LOG

Service Line Cementing

Client

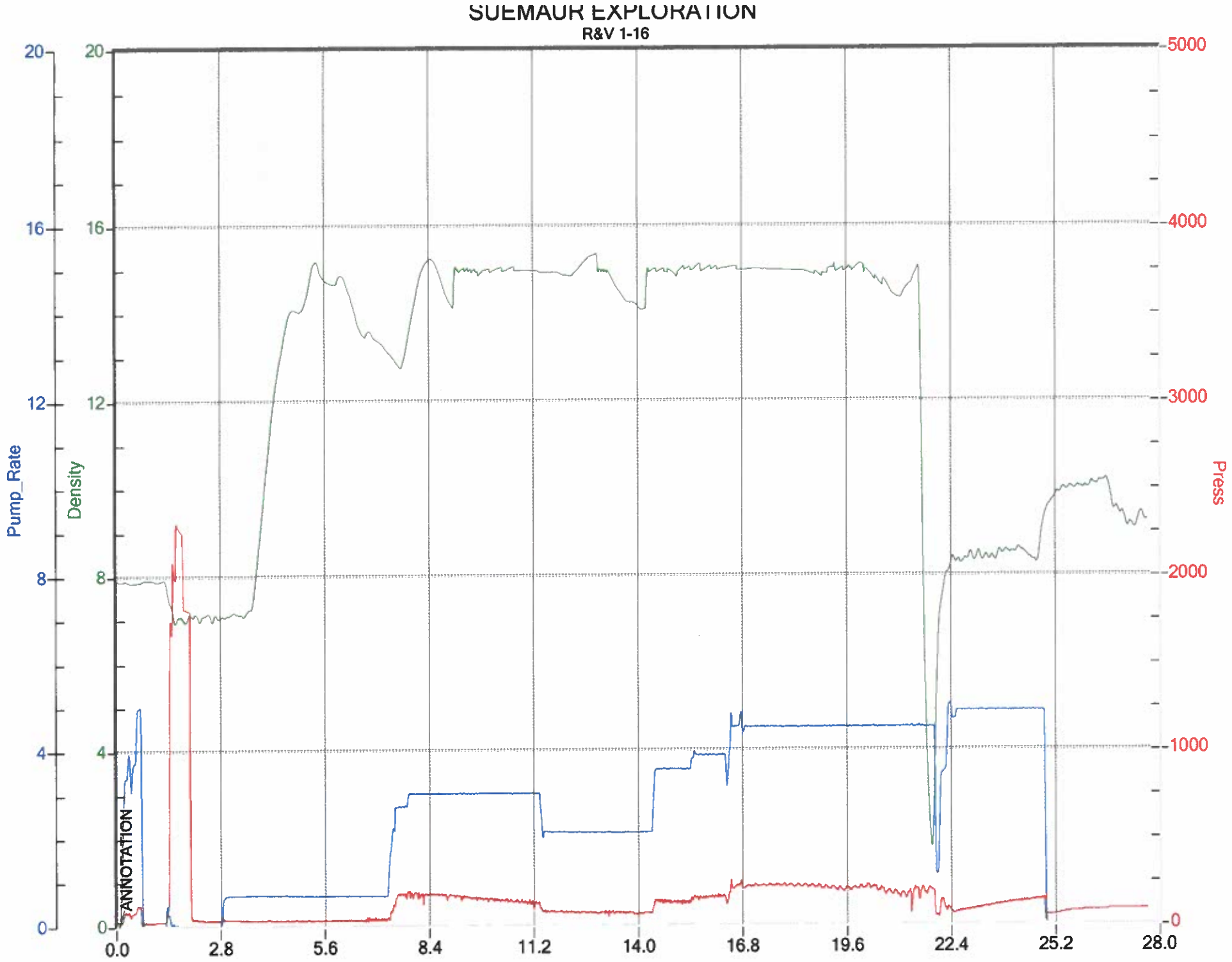
District

9					06/16/2018 20:36:00	06/16/2018 21:00:00	0.40	Operational	Close Wellhead		8.3400			200.00		
10					06/16/2018 21:00:00			Operational	Rig Down							

Customer:	SUEMAUR EXPLORATION and PRODUCTION, L
Date:	Saturday, June 16, 2018
Well Name:	R&V INC. # 1-16
Well Location:	OBERLIN
Supervisor:	Aldo Espinosa

Equipment Operators: ALDO ESPINOZA - CRISTIAN CAMACHO - GERARDO BURCIAGA

Performance	Customer	
Was the appearance of the personnel and equipment satisfactory?	Yes	No
Was the job performed in a professional manner?	Yes	No
Were the calculations prepared and explained properly?	Yes	No
Were the correct services dispatched to the job site?	Yes	No
Were the services performed as requested?	Yes	No
Did the job site environment remain unchanged?	Yes	No
Did the equipment perform in the manner expected?	Yes	No
Did the materials meet your expectations?	Yes	No
Was the crew prepared for the job?	Yes	No
Was the crew prompt in the rig-up and actual job?	Yes	No
Were reasonable recommendations given, as requested?	Yes	No
Did the crew perform safely?	Yes	No
Was the job performed to your satisfaction?	Yes	No
Customer Signature: Date:		
Additional Comments:		


SUEMAUR EXPLORATION
R&V 1-16
Pump_Rate
Density
Press
ANNOTATION
20
16
12
8
4
0
5000
4000
3000
2000
1000
0.0
2.8
5.6
8.4
11.2
14.0
16.8
19.6
22.4
25.2
28.0

CEMENT MIXING WATER GUIDELINES

Company Name: **SUEMAUR EXPLORATION and PRODUCTION, LLC**

Lease Name: **R&V INC. # 1-16**

County: **DECATUR** State: **KS**

Water Source: **TANK**

Submitted By: **Aldo Espinosa** Date: **6/16/2018**

pH Level	7	Must be less than 8.5
Sulfates	400	Must be less than 1,000 PPM
Chlorides	0	Must be less than 3,000 PPM
Temperature	64	

COMMENTS

Customer Signature

Thank You

Cementing Treatment

Start Date	6/15/2018	**Field Ticket#**	FT-07722-B3N5Z20202-02742
End Date	6/16/2018	**Well**	R&V INC. 1-16
Client	SUEMAUR EXPLORATION and PRODUCTION LLC	**API#**	15-039-21250
Client Field Rep.	JOSE VARGAS	**Well Classification**	
Service Sup.	Aldo Espinoza Galindo	**County**	DECATUR
District	Liberal, KS	**State/Province**	KS
Type of Job	Surface	**Formation**	
Execution ID	EXC-07722-B3N5Z202	**Rig**	MURFIN
Project ID	PRJ1007796		

WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)	Grade	Thread
Open Hole	12.25			250.00	250.00	175.00		
Casing	8.10	8.63	24.00	257.74	257.00		J-55	LTC

Shoe Length (ft): 0

HARDWARE

Bottom Plug Used?	No	**Tool Type**	
Bottom Plug Provided By		**Tool Depth (ft)**	
Bottom Plug Size		**Max Tubing Pressure - Rated (psi)**	
Top Plug Used?	No	**Max Tubing Pressure - Operated (psi)**	
Top Plug Provided By		**Max Casing Pressure - Rated (psi)**	2,950.00
Top Plug Size		**Max Casing Pressure - Operated (psi)**	1,000.00
Centralizers Used	Yes	**Pipe Movement**	None
Centralizers Quantity	3.00	**Job Pumped Through**	No Manifold
Centralizers Type	Rigid	**Top Connection Thread**	LTC
Landing Collar Depth (ft)	257	**Top Connection Size**	8.625

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	**Solids Present at End of Circulation**	No

Cementing Treatment

Circulation Prior to Job	Yes	**10 sec SGS**	
Circulation Time (min)	0.50	**10 min SGS**	
Circulation Rate (bpm)	6.00	**30 min SGS**	
Circulation Volume (bbls)	100.00	**Flare Prior to/during the Cement Job**	No
Lost Circulation Prior to Cement Job	No	**Gas Present**	No
Mud Density In (ppg)	9.30	**Gas Units**	
Mud Density Out (ppg)	9.30		
PV Mud In			
PV Mud Out			
YP Mud In			
YP Mud Out			

TEMPERATURE

Ambient Temperature (°F)	90.00	**Slurry Cement Temperature (°F)**	68.00
Mix Water Temperature (°F)	65.00	**Flow Line Temperature (°F)**	70.00

BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O Req. (gals/sk)	Planned Top of Fluid (Ft)	Length (Ft)	Vol (sk)	Vol (Cu Ft)	Vol (bbls)
Spacer / Pre Flush / Flush	Spacer	8.3300			0.00				5.0000
Tail Slurry	Primary Cement	14.8900	1.3372	6.22	0.00	250.00	230	299.0000	53.2000
Displacement 1	displacement	8.3300			0.00			0.0000	15.2000

Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	Spacer	Fresh Water	100.0000	PCT
Tail Slurry	Primary Cement	IntegraSeal CELLO	0.2500	LBS/SK
Tail Slurry	Primary Cement	CEMENT, ASTM TYPE I	100.0000	PCT
Tail Slurry	Primary Cement	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	3.0000	BWOB

TREATMENT SUMMARY

Cementing Treatment

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)	Annulus Pressure (psi)	Comments
	Spacer	0.00	5.00			
	Primary Cement	0.00	54.50			
	displacement	0.00	14.40			

	Min	Max	Avg
Pressure (psi)	0.00	1,000.00	100.00
Rate (bpm)	1.00	6.00	4.00

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	**Amount of Cement Returned/Reversed**	20.00
Calculated Displacement Volume (bbls)	16.40	**Method Used to Verify Returns**	Visual
Actual Displacement Volume (bbls)	14.40	**Amount of Spacer to Surface**	0.00
Did Float Hold?	No	**Pressure Left on Casing (psi)**	0.00
Bump Plug	No	**Amount Bled Back After Job**	0.00
Bump Plug Pressure (psi)	0.00	**Total Volume Pumped (bbls)**	70.00
Were Returns Planned at Surface	Yes	**Top Out Cement Spotted**	Yes
Cement returns During Job	Full	**Lost Circulation During Cement Job**	No

CEMENT PLUG

Bottom of Cement Plug?	No	**Wiper Balls Used?**	No
Wiper Ball Quantity		**Plug Catcher**	No
Number of Plugs			

SQUEEZE

Injection Rate (bpm)	**Fluid Density (ppg)**
Injection Pressure (psi)	**ISIP (psi)**
Type of Squeeze	**FSIP (psi)**
Operators Max SQ Pressure (psi)	

COMMENTS

Treatment Report

Cementing Treatment

Job Summary

PRESSURE TEST LINES TO 2000 PSI
PUMP 230 SK/ 54.5 BBL SLURRY AT 14.9 #/g
DISPLACE 14.4 BBL WATER TO LEAVE 30 FT OF CEMENT ON CASING
SHUT IT IN, LEAVE SWEDGE ON CASING AND 2" VALVE
DONE
20 BBL OF CEMENT BACK TO SURFACE

EVENT LOG

Service Line Cementing

Client SUEMAUR EXPLORATION and PRODUCTION LLC

District Liberal, KS

Quotes: QUO-14357-X3H0K6

Plans: ORD-08141-N0Q7S8

Executions: EXC-08141-N0Q7S802

Seq.	Well	Job Type	BJ Supv	BJ Eng	Start DT / Time	End DT / Time	Duration	Category	Event	Equipment	Density (ppg)	Pump Rate(bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments	Sym
1	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 12:30:00	06/27/2018 12:35:00	0.08	Mobilization	Arrive on Location							
2	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 12:35:00	06/27/2018 12:45:00	0.17	Operational	Spot Units							
3	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 12:45:00	06/27/2018 13:30:00	0.75	Operational	Rig Up							
4	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 13:30:00	06/27/2018 13:43:00	0.22	Operational	Safety Meeting							
5	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 13:43:00	06/27/2018 14:15:00	0.53	Operational	Start Pumping		13.8000	4.00	12.60	30.00	FIRST PLUG @ 4345' 50 SK / 54.3 BBL DISP	
6	R&V INC.	Plug & Abandon	Aldo Espinoza	Kevin Aldridge	06/27/2018 14:15:00	06/27/2018 15:45:00	1.50	Operational	Other (See comment)						PULL PIPE OUT OF	

EVENT LOG

Service Line Cementing

Client SUEMAUR EXPLORATION and PRODUCTION LLC

District Liberal, KS

	1-16		Galindo										HOLE
7	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 15:45:00	06/27/2018 16:00:00	0.25	Operational	Start Pumping	13.8000	4.00	12.60	30.00	SECOND PLUG @2495' 50 SK/28 BBL DISP
8	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 16:00:00	06/27/2018 16:45:00	0.75	Operational	3rd Party Operational					PULL PIPE
9	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 16:45:00	06/27/2018 17:00:00	0.25	Operational	Start Pumping	13.8000	4.00	25.20	30.00	THIRD PLUG @ 1700' 100 SK
10	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 17:00:00	06/27/2018 18:05:00	1.08	Operational	3rd Party Operational					PULL PIPE OUT
11	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 18:05:00	06/27/2018 18:14:00	0.15	Operational	Start Pumping	13.8000	4.00	12.60	20.00	FOURTH PLUG @ 310' 50 SK
12	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 18:14:00	06/27/2018 19:15:00	1.02	Operational	3rd Party Operational					PILL PIPE OUT OF HOLE
13	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 19:15:00	06/27/2018 19:20:00	0.08	Operational	Start Pumping	13.8000	3.00	2.50	10.00	SURFACE PLUG 40'
14	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 19:20:00	06/27/2018 19:40:00	0.33	Operational	Start Pumping	13.8000	3.00	7.50	10.00	RAT HOLE
15	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 19:40:00	06/27/2018 19:50:00	0.17	Operational	Start Pumping	13.8000	3.00	3.70	10.00	MOUSE HOLE

EVENT LOG

Service Line Cementing

Client SUEMAUR EXPLORATION and PRODUCTION LLC

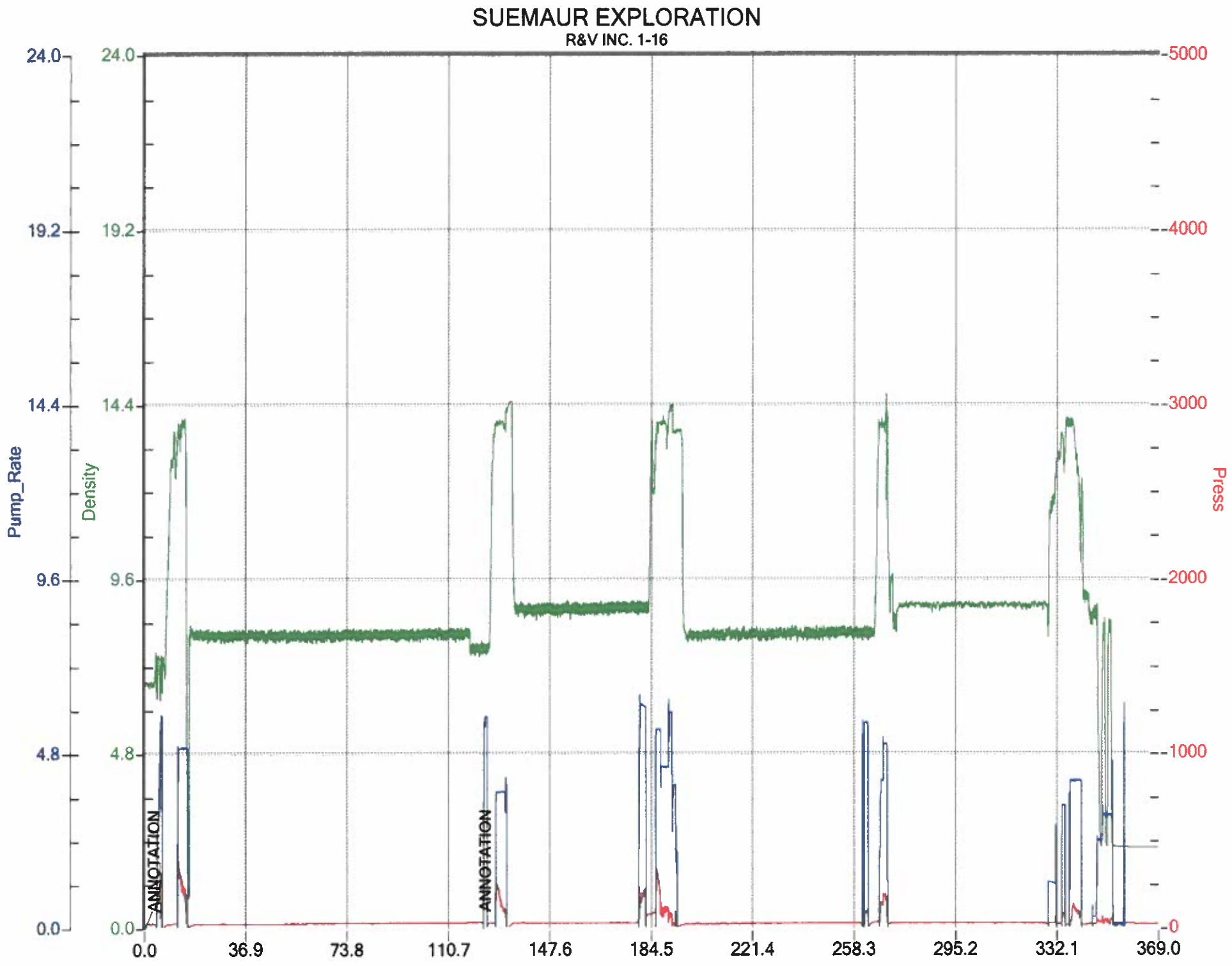
District Liberal, KS

16	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 19:50:00	06/27/2018 20:00:00	0.17	Operational	Clean Pumps and Lines	
17	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 20:00:00	06/27/2018 20:30:00	0.50	Operational	Rig Down	
18	R&V INC. 1-16	Plug & Abandon	Aldo Espinoza Galindo	Kevin Aldridge	06/27/2018 20:30:00			Mobilization	Leave Location	LEAVE F.E. FOR NEXT JOB ON LOCATION

Customer:	SUEMAUR EXPLORATION and PRODUCTION, L
Date:	Wednesday, June 27, 2018
Well Name:	R&V INC. # 1-16
Well Location:	OBERLIN
Supervisor:	Aldo Espinosa

Equipment Operators: ALDO ESPINOZA - CRISTIAN CAMACHO - RAMON ESCARCEGA

Performance	Customer	
Was the appearance of the personnel and equipment satisfactory?	Yes	No
Was the job performed in a professional manner?	Yes	No
Were the calculations prepared and explained properly?	Yes	No
Were the correct services dispatched to the job site?	Yes	No
Were the services performed as requested?	Yes	No
Did the job site environment remain unchanged?	Yes	No
Did the equipment perform in the manner expected?	Yes	No
Did the materials meet your expectations?	Yes	No
Was the crew prepared for the job?	Yes	No
Was the crew prompt in the rig-up and actual job?	Yes	No
Were reasonable recommendations given, as requested?	Yes	No
Did the crew perform safely?	Yes	No
Was the job performed to your satisfaction?	Yes	No
Customer Signature: Jesus Vazquez. Date: 6-27-18.		
Additional Comments:		


SUEMAUR EXPLORATION
R&V INC. 1-16
Pump_Rate
Density
Press
24.0
19.2
14.4
9.6
4.8
0.0
5000
4000
3000
2000
1000
0
0.0
36.9
73.8
110.7
147.6
184.5
221.4
258.3
295.2
332.1
369.0
ANNOTATION
ANNOTATION

CEMENT MIXING WATER GUIDELINES

Company Name: **SUEMAUR EXPLORATION and PRODUCTION, LLC**

Lease Name: **R&V INC. # 1-16**

County: **DECATUR** State: **KS**

Water Source: **TANK**

Submitted By: **Aldo Espinosa** Date: **6/27/2018**

pH Level	7	Must be less than 8.5
Sulfates	400	Must be less than 1,000 PPM
Chlorides	0	Must be less than 3,000 PPM
Temperature	64	

COMMENTS

Customer Signature

Thank You

Cementing Treatment

Start Date	6/27/2018	**Field Ticket#**	FT-08141-N0Q7S80202-51614
End Date	6/27/2018	**Well**	R&V INC. 1-16
Client	SUEMAUR EXPLORATION and PRODUCTION LLC	**API#**	15-039-21250
Client Field Rep.	JESUS VARGAS	**Well Classification**	
Service Sup.	Aldo Espinoza Galindo	**County**	DECATUR
District	Liberal, KS	**State/Province**	KS
Type of Job	Plug & Abandon	**Formation**	
Execution ID	EXC-08141-N0Q7S802	**Rig**	
Project ID	PRJ1008087		

WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)	Grade	Thread
Previous Casing	8.10	8.63	24.00	257.00	257.00		J-55	LTC
Open Hole	7.88			4,500.00	4,500.00			
Tubing	2.44	2.88	6.40	4,345.00	4,345.00			

Shoe Length (ft):

HARDWARE

Bottom Plug Used?	No	**Tool Type**	
Bottom Plug Provided By		**Tool Depth (ft)**	
Bottom Plug Size		**Max Tubing Pressure - Rated (psi)**	33,900.00
Top Plug Used?	No	**Max Tubing Pressure - Operated (psi)**	500.00
Top Plug Provided By		**Max Casing Pressure - Rated (psi)**	
Top Plug Size		**Max Casing Pressure - Operated (psi)**	
Centralizers Used	No	**Pipe Movement**	None
Centralizers Quantity		**Job Pumped Through**	No Manifold
Centralizers Type		**Top Connection Thread**	
Landing Collar Depth (ft)	4,345	**Top Connection Size**	4.5

CIRCULATION PRIOR TO JOB

Cementing Treatment

Well Circulated By	Rig	**Solids Present at End of Circulation**	No
Circulation Prior to Job	Yes	**10 sec SGS**	
Circulation Time (min)	3.00	**10 min SGS**	
Circulation Rate (bpm)	7.00	**30 min SGS**	
Circulation Volume (bbls)	300.00	**Flare Prior to/during the Cement Job**	No
Lost Circulation Prior to Cement Job	No	**Gas Present**	No
Mud Density In (ppg)	9.00	**Gas Units**	
Mud Density Out (ppg)	9.00		
PV Mud In			
PV Mud Out			
YP Mud In			
YP Mud Out			

TEMPERATURE

Ambient Temperature (°F)	108.00	**Slurry Cement Temperature (°F)**	65.00
Mix Water Temperature (°F)	65.00	**Flow Line Temperature (°F)**	70.00

BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O Req. (gals/sk)	Planned Top of Fluid (Ft)	Length (Ft)	Vol (sk)	Vol (Cu Ft)	Vol (bbls)
Tail Slurry	60/40/4	13.8000	1.4241	6.90		0.00	305	435.0000	77.4000

Fluid Type	Fluid Name	Component	Concentration	UOM
Tail Slurry	60/40/4	CEMENT, ASTM TYPE I	60.0000	PCT
Tail Slurry	60/40/4	EXTENDER, BENTONITE	4.0000	BWOB
Tail Slurry	60/40/4	CEMENT, FLY ASH (POZZOLAN)	40.0000	PCT

TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)	Annulus Pressure (psi)	Comments
	60/40/4	0.00	77.40			

	Min	Max	Avg

Cementing Treatment

Pressure (psi)	0.00	500.00	100.00
Rate (bpm)	1.00	6.00	3.00

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	**Amount of Cement Returned/Reversed**	
Calculated Displacement Volume (bbls)	54.00	**Method Used to Verify Returns**	Visual
Actual Displacement Volume (bbls)	54.00	**Amount of Spacer to Surface**	
Did Float Hold?	No	**Pressure Left on Casing (psi)**	
Bump Plug	No	**Amount Bled Back After Job**	
Bump Plug Pressure (psi)		**Total Volume Pumped (bbls)**	205.00
Were Returns Planned at Surface	No	**Top Out Cement Spotted**	No
Cement returns During Job		**Lost Circulation During Cement Job**	No

CEMENT PLUG

Bottom of Cement Plug?	No	**Wiper Balls Used?**	No
Wiper Ball Quantity		**Plug Catcher**	No
Number of Plugs			

SQUEEZE

Injection Rate (bpm)	**Fluid Density (ppg)**
Injection Pressure (psi)	**ISIP (psi)**
Type of Squeeze	**FSIP (psi)**
Operators Max SQ Pressure (psi)	

COMMENTS

Treatment Report

Job Summary

P.T.A.
FIRST PLUG @ 4345' 50 SK
SECOND PLUG @ 2495' 50 SK
THIRD PLUG @ 1700' 100 SK
FOURTH PLUG @ 310' 50 SK

Cementing Treatment

FIFTH PLUG @ 40' 10 SK
RAT HOLE 30 SK
MOUSE HOLE 15 SK

GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

Suemaur Exploration & Production, LLC

R&V INC. #1-16
SEC. 16 TWP 4S RGE 28W
1017 ' FSL & 1936' FEL
DECATUR COUNTY, KANSAS
API: 15-039-21250-00-0
Long.: -100.4669843 Lat: 39.7004646

DRILLING CONTR.: MURFIN RIG #24
SPUD: 06-15-2018 COMP:06-27-2018
MUD UP: 3200' TYPE MUD: CHEM.
DRILL TIME: 3332' to RTD
RTD:4500' LTD:4500'
SAMPLES SAVED: 3380 to RTD
GEOLOGIST: ROBERT J. PETERSEN

ELEVATION
KB: 2701'
GL: 2696'
LOG MEASURED FROM: KB

SURFACE CASING
24#, 8-5/8", SET @ 257' W/ 230 sx

PRODUCTION CASING
D&A

WELL LOG SURVEYS
DUAL INDUCTION
COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICORESISTIVITY
SONIC

ELECTRIC LOG TOPS

Formation	Depth	Datum	Pos A	Pos B
Stone Corral	2478	+223	+8	+5
Base Stone Corral	2512	+189	+2	+4
Foraker	3344	-643	+7	-3
Stotler	3528	-827	+9	-3
Topeka	3636	-935	+10	-5
Lecompton	3746	-1045	+11	-6
Heebner	3804	-1103	+10	-8
Toronto	3832	-1131	+13	-6
LKC A	3845	-1144	+16	-4
LKC C	3872	-1171	+13	-6
LKC G	3915	-1214	+10	-9
Muncie	3943	-1242	+12	-9
BKC	4045	-1344	N/A	-8
Pawnee	4129	-1428	N/A	N/A
Cherokee LS	4202	-1501	N/A	N/A
Arbuckle	4355	-1654	N/A	N/A

LOCATION MAP

REFERENCE WELL

REF WELL A:	REF WELL B:
SAUVAGE DRLG CO INC	GEMINI
GAUMER No. 1	Brown #109
C SE SE	SW SW SW
16-4-28W	9-28W

DAILY REPORT @7:00 A.M.
06/15/18 MIRU/SPUD @18:30
06/16/18 118' Repairing rotary table
06/17/18 332' Drilling
06/18/18 2695' Drilling
06/19/18 3598' TIH W/tricone bit
06/20/18 3879' Condition hole for DST#1
06/21/18 3925' TIH for DST#2
06/22/18 3974' TIH for DST#3
06/23/18 4007' TIH w/bit after DST#4
06/24/18 4070' Drilling
06/25/18 4221' TOOH with DST#6
06/26/18 4419' Drilling
06/27/18 4500' Preparing to plug

REMARKS
THIS WELL WAS PLUGGED AND ABANDONED BY THE OPERATOR

SAMPLE DESCRIPTION

SH; Red/gray, very sandy + LS; Cream, dense, cherty (tan/angular) (3350)

Samples from 3350-3598' are one joint (31') deeper than noted on sample description depths (3350' is 3381' correct depth)

LS; Cream/gray, mottled, fine crystalline, dolomitic, fossiliferous, sub-chalky, cherty (cream/white-angular), tr possible dead stain, nsfo + SH; Gray, blocky (3360)

LS; Cream/gray, fine crystalline, slightly dolomitic, very chalky-mealy, cherty + LS; Brown dense, argillaceous + SH; Gray (3380)

LS; Cream/gray/dark gray, fine crystalline, dolomitic, chalky + SH; Dark gray (3395)

SH; Gray/red, silty-sandy + LS: Cream, fine crystalline, dolomitic, chalky (3410-3420)

SH; Gray, soft, silty-sandy (3430)

LS; Cream/gray mottled, fine crystalline to dense, chalky, + SD; Gray, very fine grained (3430-3440)

SH; Maroon/gray, sandy +SD; Gray/bluish-gray, very fine grained, tr SH; Black (3450-3460)

LS; Cream/white/tan, dense, fossiliferous, chalky, cherty + LS: Gray, dense, sandy (3460-3470)

SH; Red/gray, silty-sandy +SD; Gray/tan, very fine grained, silty-calc+ LS; Gray, dense, argillaceous (3480-3490)

SH; Red, silty-sandy w/trace very hard concretion + SD; Gray, fine grained, friable + LS: Cream, fine crystalline, foss, chalky (3500)

SH; Gray, sandy + SH; Black (3510)

LS; Tan/brown, dense, foss, hard, blocky-sandy in part + SD; Gray, fine grained, friable + SH; Red, sandy (3520)

SH; Gray, sandy + SD; Tan/gray, very fine grained, friable to well-cemented (3530)

LS; Cream/gray, very fine crystalline to dense, foss + SH; Black (3530-3540)

LS; Cream/gray, very fine crystalline to denes, foss, cherty (black-sharp) + SH; Gray (3550)

LS; Cream/brown, dense + SH; Red, silty-sandy + SD; Gray, fine grained, angular, friable (3560)

LS; Cream, fine crystalline, foss, slightly cherty + SH; Red/gray, sandy (3570)

LS; Cream/gray, fine crystalline to dense, slightly foss, chalky + SH; Red, sandy (3598)

LS; Cream/white, fine crystalline; foss, chalky + SH; Red/gray, sandy (3598/10")

Morgan Mud Check @3628'
Vis 59/Wt 8.6/WL 6.4
LCM 12#/Chlor. 600 ppm

SH; Red/gray, sandy (3598/15")

LS; Cream/gray, very fine crystalline to dense, foss, chalky + SH; Gray, sandy (3598 30-45")

Pipe tally off by 1 jt. not entered on board @2633'
Corrected depth 3598 to 3628'

SH; Red/sandy (3640-3650)

LS; Cream/lt gray, fine crystalline, ooli-granular, sl glauconitic, shaly red in part (3650)

LS; Gray, fine crystalline to dense, foss, sl glauconitic, cherty (3660)

LS; Cream/lt gray/white, fine crystalline, foss-subgranular, chalky, sl cherty w/tr red shale impurity + SH; Red, sandy (3670)

LS; Cream/tan, fine crystalline, ool/dolo, chalky, cherty (3680)

LS; Cream/gray, dense, foss + SH; Red, sandy + SD; Gray, fine grained, well-cemented, (3690)

LS; Cream/tan, fine crystalline, foss, w/poor moldic por (barren), chalky w/red shale discoloration (3700)

LS; Cream/gray, fine crystalline w/coarse crystalline regrowth, ool, chalky, hard, blocky (3710)

LS; Cream/gray, fine crystalline to dense, ool/foss, sl cherty (3720)

LS; Cream/tan, fine crystalline, foss-subgranular, chalky (soft-white), cherty (sharp) tr questionable dead stain (3730)

LS; Tan/cream, very fine crystalline, foss, granular in part, chalky, cherty + SH; Black (3740)

LS; Tan/gray/brown fine crystalline w/coarse crystalline regrowth, foss, granular in part, chalky-mealy w/trace dead stain (3750)

LS; Cream, fine crystalline, ool, chalky w/SH; Red, silty (3760)

LS; Cream/lt gray, fine crystalline, foss, chalky (3770)

SH; Red, silty-sandy /SH; Black (tr) + LS: Cream, fine crystalline, foss, chalky (3780)

LS; Gray, fine crystalline, foss, chalky (3790)

SH; Green/gray (3800)

LS; Cream/lt gray, fine crystalline to dense, foss, chalky (3800)

LS; Cream/white, fine crystalline, foss, chalky, sl cherty (3810)

SH; Black, carb (3820)

LS; Gray, dense, foss, hard (3820)

SH; Gray + SD; Gray, fine grained, silty (3830)

SH; Red, silty (3840)

LS; Cream, fine crystalline, oolitic-granular/foss in part, sl cherty, w/poor moldic por, w/red shale discoloration(3845 3845/30")

LS; Gray, dense foss, sl foss (3845/45")

SH; Red, silty-sandy + SH; Gray, sandy(3845/45"-3860)

LS; Cream/gray/white, fine crystalline w/some coarse crystalline regrowth, foss, chalky (soft), cherty (white/tan), w/tr poor moldic por, trace dead oil flake (black-asphaltic) (3860/15-30")

LS; Cream/tan, fine crystalline to dense, chalky (3870)

SH; Red/gray, sandy + LS; Cream/gray, fine crystalline, sl foss, w/chert inclusion, ssdo (black-flakey)(3870-3879)

LS; Cream, fine crystalline, fossiliferous-granular w/good moldic /vug por, sfo (brown), faint odor, med to dark brown saturation on dry (3879/15") increase sfo/odor (3879/30-45")

SH; Blue-gray, sandy (tr 3879/60")

SH; Red/gray, sandy (3890/15")

LS; Cream/white, fine crystalline, foss, cherty (orange-blocky), chalky (white-soft) poor moldic por, tr tarry oil residue, nsfo (3890/15")

LS; Cream/lt gray, chalky (3900)

LS; Cream, fine crystalline to dense, foss, chalky (3904/30")

SH; Black/green (3904/45-60")

SH; Red, silty (3920)

LS; Cream, fine crystalline, oolitic-granular in part w/fair moldic por, ssfo, no odor, med brown stain on dry (3920)

LS Cream, dense, ool, chalky (3925)

LS; Gray, dense, foss shaley red + SH; Red, silty (3925) tr LS; Lt Gray, fine crystalline, foss-granular, w/fair moldic tr vug por, sfo, no odor, med brown stain on dry (3925 15-30")

LS; Gray, dense, shaley red (3925/45-60")

SH; Red + LS; LS; Gray, dense, foss, sl foss, chalky (3934/15")

LS; Cream/gray, very fine crystalline to dense, foss, chalky, cherty (gray/orange (angular) w/r poor moldic por, sfo (black-thick) (3934/30")

LS; Tan/gray, fine crystalline, dolo, foss, granular in part w/r poor vug por w/sfo (black-thick) 3934/45")

LS; Lt gray, very fine crystalline, foss, blocky (3944/15")

SH; Dark gray/green (3944/30") LS; Cream/gray, dense (3944/45")

LS; Cream/lt gray, fine crystalline, sl foss, sub-chalky, cherty (3950)

LS; Gray, very fine crystalline to dense, foss + SH; Black/red + SD; Gray, fine to med grained, well cemented (3960)

SH; Red, sandy/calc (3970)

LS; Cream/lt gray/tan, dense, sl foss, cherty (3970)

LS; Cream, very fine crystalline to dense, sl foss, chalky, cherty (tan/gray) w/fair vug/fracture por,sfo (brown), lt brown stain on dry (3974/15")

LS; Tan/gray, dense, foss, blocky, cherty + SH; Green/gray, sandy (3974/30-45")

SH; Dark gray/red (3980-3990) + LS; Tan/gray/brown dense, blocky, foss + SH; Brown/gray, sandy (3990)

SH; Red/gray, sandy (4000)

LS; Cream/lt gray, fine crystalline to dense, foss-granular w/poor to fair ppt moldic por/tr fair vug por, sfo, (brown), faint odor, med brown stain on dry (4000) Increase sfo, odor, med brown spot to full sat on dry, fair to good. Inter-crystalline/moldic por (4007)

LS; Cream/gray, very fine crystalline to dense, ool/foss in part, sub granular w/poor to fair pinpoint moldic por, sfo, odor, med brown patchy to full sat on dry (4007/15-30")

SH; Black/red (4007 45-60")

SH; Red/gray + tr SH; Gray-green, sandy (4020-4030)

LS; Cream, fine to coarse crystalline, oolitic/foss in part, granular, chalky w/ fair to good, intercrystalline-moldic por/good coarse crystalline vug por, sfo, faint odor, dark sat on por in dry sample (4030/15")LS; Cream, fine crystalline, oolitic-granular in part w/fair to good moldic por, sfo (brown), med brown stain on dry (4030/30")

LS; Cream, very fine crystalline to dense, sl foss, chalky, tr frac por, sfo (4030-45")

SH; Dark gray/red (4030/45-60")

SH; Maroon/gray, silty + SH; Lt gray + SH; Gray, sandy (4040)

LS; Cream, fine crystalline, foss-subgranular, tr poor moldic por, tarry oil stain/sfo (brown), no odor, patchy stain on dry (4050)

LS; Cream/lt gray, dense, foss, chalky (4055/15")

SH; Maroon/gray (4055/15")+ SD; Red, very fine to fine grained, shaley, calcareous (4055/30") SH; Gray, block-soft (4055/45-60")

LS; Tan/gray, very fine crystalline to dense, foss , w/res shale impurity, tr poor vug por w/dead stain, nsfo + SH; Red, Sandy (4070)

SH; Red/gray, silty-sandy + LS; Cream/gray, fine crystalline to dense, sl foss, subchalky/shaley (4080)

SH; Maroon/gray + LS; Gray, dense, w/tr purple shale discoloration (4090)

LS; Cream/gray, dense, hard, foss, poor frac por trace black gilsonite stain +SH; Red/gray, silty-sandy (4100)

SH; Red, silty, sandy + LS; Lt Gray, sl foss, dense, hard (4110)

SH; Red/gray, sandy, calc + LS: Gray, dene, argillaceous, chalky (4120)

+SH; Red/gray, sandy + LS; Gray, very fine crystalline, foss, chalky (4130)

SH; Red, silty-sandy + LS: Cream/gray, fine crystalline to dense, foss, chalky (4140)

LS; Gray, dense, sandy, chalky, trace orange chert (4150)

SH; Gray, sandy + SH; Red + LS: Cream/gray, dense,, argillaceous, chalky (4160)

LS; Cream, fine crystalline, foss + LS: Gray,dense, + SH; Red, sandy (4170)

LS; Gray, fine crystalline, foss, sandy, cherty (white-blocky) + SH; Dark gray/red/green (4180)

LS; Cream, dense, foss, chalky + LS; Gray, dense, arg + SH; Gray, sandy (4190)

LS; Cream/gray, dense, arg, chalky + SH; Gray (4200)

SH; Black (4210)

LS; Cream, fine crystalline, chalky (4210)

SH; Gray, silty, soft (4220)

LS; Cream, very fine crystalline to dense, foss w/r fair pinpoint moldic por/intercrystalline por, sfo (light brown), light edge stain to med brown spot saturation (4220)

LS; Gray, dense, foss + SH; Red/gray, waxy (4221/45")

SH; Gray/olive, brittle + SD; Gray, very fine grained, micaceous (4235)

SH; Gray, sandy (4240)

LS; Cream, dense, chalky, cherty, poor moldic por, trace dead stain, nsfo (4240-4250)

SH; Red/gray + LS; Tan, dense, hard (4260)

SD; clear/orange (reworked chert) , coarse, angular, poorly sorted, hard + LS; Cream/gray, dense, chalky (4265/20")

SH; Red/gray w/yellow disc + LS; Cream, fine crystalline, foss (4265/40")

LS; Cream, dense, foss, hard w/poor frac por, ssfo (4270")

SH; Red, sandy + SD; Red, coarse (4275/20") + SD; Clear, coarse, poorly sorted, calc+ trace Chert; White, angular (4275/40")

SH; Gray/red/tan, sandy + SD; Clear/red (shaley), coarse, well-cem /tr SD; White, fine grained, friable + LS: Cream, dense, foss, chalky, tr frac por, sfo (brown) (4280)

SH; red/gray, blocky + SH; Maroon, sandy + SD; Clear/orange, med to coarse, well-cem, tr Chert; Cream, blocky, weathered, abundant LS; Cream, dense, foss, poor moldic por, tr edge stain, sfo (4285/20")

+ LS; Cream/white, dense, foss, blocky, hard, poor moldic por/fair vug por, dark stain (black tarry) nsfo + Chert; white, blocky (4285/40")

SH; Red, sandy w/tr Dolo; Lt gray, fine crystalline (4290)

LS; Cream/gray, dense, foss, blocky w/good moldic por, sfo (brown) + Dolo; Cream/gray, fine to med crystalline, sl suc, Chert; White/tan, weathered (4295/20")

SH; Gray/dark gray/maroon/bright green, waxy + LS: Tan/cream, dense, ool in part, subchalky tr Chert' Orange/white, tr brown stain, nsfo (4295/40")

SH; green/gray, blocky + LS; Cream, dense + Chert; Gray, sharp w/tr black stain SD; Red/shaley (4295/60")

SH; Red (abundant) + Dolo; Cream/gray, dense + LS; Cream, dense, por vug por, Chert; White w/red shale discoloration, SD; Red, shaley (4305)

SD; Clear/red, shaley in part + SD; Tan, fine grained, angular, sl glauc, well-cem w/SH; Red, sandy (abundant) +SH; Black/green, waxy + LS: Cream, fine crystalline to dense, dolo (4305/20")

SH; Maroon + SH; Brown/tan, hard blocky + SD;Gray, subangular to sub-rounded, coarse, + SD; Clear, med grained, subrounded, hard + Chert; White/orange, weather, Dolo; Gray, dense/LS; Gray, dense, blocky (4305/40")

SH; Red (abund) + SD; Red, shaley, med to coarse + Chert; Orange (shale discoloration) (4305/60") + LS; Cream, dense, foss, (4310)

SH; Red/purple/mustard [illegible] very fine crystalline, shaley + LS; Cream, dense +Hematite nod (4320)

SH; Red/mustard yellow w/chert (brecciated) + SH; Gray, foss + Chert; Cream w/olive shale discoloration + Dolo; Cream, [illegible] yellow mottled w/calc & chert inclusions + hematite nodules (4330)

SH; Red, sandy + SH; Gray/mustard yellow/olive, blocky/platy + SD; Clear/ glauconitic + SD; White, fine grained w/chalky matrix + Chert; White, angular-blocky, weathered to rotten (4340)

Chert; Cream/tan/orange, blocky, foss/tripolitic in part, tr SH; Red (4350)

Chert; Cream/tan/orange, blocky +SH; Red/mustard yellow, hard (4360)

NOTE
4355-4372' APPEARS TO BE VIOLA
4372' POSS. ARB TOP

Dolo; Tan/olive-yellow, very fine crystalline to dense, tr vug por (barren)(4370)

Dolo; Tan/lt gray, fine to med crystalline, sucrosic w/fair vug por (barren), sl chalky + Chert; White, sharp (4375/15")

Dolo; Tan/yellow, fine to coarse crystalline w/good vug por (barren) +SH; Yellow (4375/30")

Dolo; Lt gray, fine med crystalline, sucrosic, Cherty, White/gray, foss, sharp w/some yellow/red shale discoloration(4375/45")

Dolo; Lt gray, fine crystalline, sucrosic, tr vug por (barren) (4375/60" 4380)

Dolo; Lt gray/tan, fine to med crystalline, tr vug por (barren) chalky w/tr SH; Med gray, soft (4390)

Dolo; Cream/lt gray/tan w/tr red/yellow shale stain, fine to coarse crystalline, sucrosic, tr vug por(barren), sl cherty (yellow/white/sharp) + tr SH; Yellow/red (4400)

Dolo; Cream/tan w/yellow stain, coarse crystalline w/good vug por (barren) tr SH; Green/gray/yellow (4410)

Dolo; Cream/lt gray, fine to med crystalline, chalky, trace vug por (barren), cherty (4420)

Dolo; Gray w/r shale discoloration, fine crystalline, tr vug por (barren)+ SH; Red/gray (4430)

Dolo; Tan/cream, fine crystalline, sucrosic, w/ fair vug por (barren)(4440)

Dolo; Cream/white, fine to coarse crystalline, tr vug por (barren) + SH; Red (4450)

Dolo; Lt gray/red shale speckle, fine crystalline to dense + tr SH; Red (4460)

Dolo; Cream/pink, fine to coarse crystalline, intercrystalline/vug por (barren) tr SH; Red (4470)

Dolo; Cream/white/pink; very fine to coarse crystalline, cherty (4480)

+SH; Red/yellow/broght green (4490)

Dolo; Cream/tan/pink, fine to coarse crystalline, cherty (orange/gray-sharp) + SH; Bright green/olive (4500)

Dolo; White/lt gray/pink, fine to coarse crystalline (4500/15")

Dolo; Lt gray/pink, fine crystalline, sl cherty + SH; Red (4500/45")

STRAP @4500'
2.24 LONG TO BOARD

DRILL STEM TESTS

DST#1
3861-3879'
45-45-30-45 min.
IFP: Surface to 1/2" blow
FFP:No blow flushed tool got surge
No blow back on shut-in
Recovered:
80' water w/show of oil on top
SIP: 1355-1349#
FP: 19-43/49-58#
HP: 1821-1778#
BHT: 122F

DST#2
3902-3925'
30-45-30-45 min
IFP: Surface blow thru-out
FFP: No blow flushed tool , got surge
No blow back on shut-ins
Recovered:
5' mud
SIP 30-39#
FP:21-21/25-39#
HP: 1856-1830#

DST#3
3923-3974'
30-45-30-60 min
IFP: Weak blow 1/2" to 3" blow
FFP: Weak to a fair blow 1" to 3 1/4" blow
No blow back on shut-ins
Recovered:
80' MW (20%M 80%W)
12' Water
SIP:1275-1266#
FP:22-60/65-128#
HP: 1887-1851#
BHT: 126F

DST#4
3969-4007'
30-45-30-60 min
IFP: 1/2" Blow Dead in 15 min
FFP: No Blow
No blow back on shut-ins
Recovered:
5' Oil specked Mud (3% oil)
SIP:64-50#
FP:31-29/29-30#
HP: 1987-1964#
BHT: 121F

DST#5
4005-4030'
30-45-30-60 min
IFP: 1/2" Weak Blow to 1 1/2" Died Back in 21 min
FFP: Weak Surface Blow Thru-Out
No blow back on shut-ins
Recovered:
25' OCM (5% oil)
5' Oil
SIP:1278-1233#
FP:33-43/45-50#
HP: 2040-1904#
BHT: 120F

DST#6
4188-4221'
30-45-30-60 min
IFP: 1/4" Blow Died Back in 21 min
FFP: No Blow
No blow back on shut-ins
Recovered:
5' Oil speck mud (1% Oil)
SIP:56-46#
FP:27-28/30-30#
HP: 2129-1944#
BHT: 124F