



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1214147
OIL & GAS CONSERVATION DIVISION

Form ACO-1
August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1214147

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 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)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Valhalla Exploration LLC
Well Name	Morrison 1-1
Doc ID	1214147

All Electric Logs Run

DIL
DUCP
MEL
BHCS

Form	ACO1 - Well Completion
Operator	Valhalla Exploration LLC
Well Name	Morrison 1-1
Doc ID	1214147

Tops

Name	Top	Datum
ANH	804	1119
TOP	2842	-919
HEEB	3202	-1279
BR LM	3316	-1393
LKC	3327	-1404
STARK	3497	-1574
VIOL	3548	-1625
SIMP	3573	-1650
ARB	3623	-1700



PAGE	CUST NO	INVOICE DATE
1 of 1	1007761	06/10/2014
INVOICE NUMBER		
1718 - 91512791		

Pratt (620) 672-1201
 B VALHALLA EXPLORATION LLC
 I 8100 EAST 22ND STREET N 1800-2
 L WICHITA
 L KS US 67226
 T
 O ATTN: KENNEDY

J LEASE NAME Morrison 1-1
 O LOCATION
 B COUNTY Stafford
 S STATE KS
 I JOB DESCRIPTION Cement-New Well Casing/Pi
 T
 E JOB CONTACT

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE
40731413	27463		Net - 30 days	07/10/2014

	QTY	U of M	UNIT PRICE	INVOICE AMOUNT
For Service Dates: 06/05/2014 to 06/05/2014				
0040731413				
171810662A Cement-New Well Casing/Pi 06/05/2014 Cement 5 1/2" Longstring				
50/50 POZ	125.00	EA	8.36	1,044.90 T
60/40 POZ	75.00	EA	9.12	683.94 T
Celloflake	32.00	EA	2.81	89.98 T
C-41P	27.00	EA	3.04	82.07 T
Calcium Chloride	210.00	EA	0.80	167.56 T
Cement Friction Reducer	32.00	EA	4.56	145.91 T
Gypsum	625.00	EA	0.57	356.22 T
FLA-322	84.00	EA	5.70	478.76 T
Cement Gel	210.00	EA	0.19	39.90 T
Gilsonite	625.00	EA	0.51	318.22 T
Claymax KCL Substitute	4.00	EA	26.60	106.39 T
Mud Flush	500.00	EA	1.14	569.95 T
"Latch Down Plug & Baffle, 5 1/2"" (Blu	1.00	EA	303.97	303.97
"Auto Fill Float Shoe 5 1/2"" (Blue)"	1.00	EA	273.57	273.57
"Turbolizer, 5 1/2"" (Blue)"	8.00	EA	83.59	668.74
"5 1/2"" Basket (Blue)"	1.00	EA	220.38	220.38
"Unit Mileage Chg (PU, cars one way)"	45.00	MI	3.23	145.34
Heavy Equipment Mileage	90.00	MI	5.32	478.76
"Proppant & Bulk Del. Chgs., per ton mil	383.00	EA	1.67	640.32
Depth Charge; 3001-4000'	1.00	EA	1,641.42	1,641.42
Blending & Mixing Service Charge	200.00	BAG	1.06	212.78
Plug Container Util. Chg.	1.00	EA	189.98	189.98
"Service Supervisor, first 8 hrs on loc.	1.00	EA	132.99	132.99

PLEASE REMIT TO:	SEND OTHER CORRESPONDENCE TO:	SUB TOTAL	8,992.05
BASIC ENERGY SERVICES, LP	BASIC ENERGY SERVICES, LP	TAX	291.99
PO BOX 841903	801 CHERRY ST, STE 2100	INVOICE TOTAL	9,284.04
DALLAS, TX 75284-1903	FORT WORTH, TX 76102		



BASICSM
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

601073413
FIELD SERVICE TICKET
1718 10662 A

DATE _____ TICKET NO. _____

DATE OF JOB <i>6-5-2014</i> DISTRICT <i>Pratt, KS</i>		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:							
CUSTOMER <i>Vehells Exploration</i>		LEASE <i>Morrison</i>		WELL NO. <i>1-1</i>					
ADDRESS		COUNTY <i>Stafford</i>		STATE <i>Ks</i>					
CITY		STATE		SERVICE CREW <i>Darin</i>					
AUTHORIZED BY		JOB TYPE: <i>CIVIL/Longstrins</i>							
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM/PM	TIME
<i>27283</i>	<i>1</i>						<i>6-5</i>	<i>AM</i>	<i>11:30</i>
<i>27463</i>	<i>1</i>					ARRIVED AT JOB	<i>6-5</i>	<i>AM</i>	<i>3:00</i>
<i>19831</i>	<i>1</i>					START OPERATION	<i>6-5</i>	<i>AM</i>	<i>10:30</i>
<i>19862</i>	<i>1</i>					FINISH OPERATION	<i>6-5</i>	<i>AM</i>	<i>11:30</i>
						RELEASED	<i>6-6</i>	<i>AM</i>	<i>12:30</i>
						MILES FROM STATION TO WELL			<i>46</i>

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: _____
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP104	30/50 P02	SK	125		1,375 00
CP103	60/40 P02	SK	75		900 00
CC102	Celloflocke	Lb	32		118 40
CC105	C-41P	Lb	27		108 00
CC109	CsKium Chloride	Lb	210		220 50
CC112	Cement Friction Reducer	Lb	32		192 00
CC113	Gypsum	Lb	625		464 75
CC129	FLA-322	Lb	84		630 00
CC 200	Cement Gel	Lb	210		52 50
CC 201	Gilsonite	Lb	625		418 75
CF607	Latch Down Plus & Baffle, 5/2 (Blue)	Eg	1		400 00
CF1251	Auto Fill Floater Shoe 5/2 (Blue)	Eg	1		360 00
CF1651	Turbolizer, 5/2 (Blue)	Eg	8		880 00
CF1901	5/2 Baffle (Blue)	Eg	1		290 00
C704	Claymax KCL substitute	Gal	4		140 00
CC151	Mud Flush	Gal	500		750 00
E100	Unit milosse Chorse - Pickup	Mi	45		191 25
E101	Heavy Equipment milosse	Mi	90		630 00
E113	Bulk Delivery	Ton	383		841 50

SUB TOTAL *166*

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$
MATERIALS	%TAX ON \$
TOTAL	

SERVICE REPRESENTATIVE <i>Darin Frank</i>	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: <i>[Signature]</i> (WELL OWNER OPERATOR CONTRACTOR OR AGENT)
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FIELD SERVICE ORDER NO.

Customer <i>V91hills Exploration</i>	Lease No.	Date <i>6-5-2014</i>
Lease <i>Morrison</i>	Well # <i>1-1</i>	
Field Order # <i>10662</i>	Station <i>Pigattiks</i>	Casing <i>5 1/2</i>
Type Job <i>CNW/Consolids</i>	Formation <i>TD. 3750</i>	Depth <i>3750</i>
	County <i>Stafford</i>	State <i>KS</i>
		Legal Description <i>1-21-14</i>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
<i>3 1/2</i>								
Depth <i>3750</i>	Depth	From	To	Pre Pad	Max		5 Min.	
Volume <i>89</i>	Volume	From	To	Pad	Min		10 Min.	
Max Press	Max Press	From	To	Frac	Avg		15 Min.	
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure	
Plug Depth <i>3726</i>	Packer Depth	From	To	Flush	Gas Volume		Total Load	

Customer Representative <i>Kelly</i>	Station Manager <i>Kevin Gordley</i>	Treater <i>Darin Franklin</i>
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Service Units	<i>27283</i>	<i>27463</i>	<i>19831</i>	<i>19862</i>				
Driver Names	<i>Darin</i>	<i>Scott G</i>	<i>Josh H.</i>	<i>Josh H.</i>				

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>3:00pm</i>					<i>On location / Safety meeting</i>
					<i>Run 91 J+5 5 1/2 15.5H Casing - 3750'</i>
					<i>Turbolizers - 1, 3, 5, 7, 11, 13, 15 - B55K #16</i>
<i>10:30pm</i>	<i>300</i>		<i>5</i>		<i>Pump 5 bbls water</i>
	<i>300</i>		<i>12</i>		<i>12 bbls mud plus</i>
	<i>300</i>		<i>5</i>		<i>5 bbls water</i>
	<i>300</i>		<i>12</i>		<i>mix 50sx sequestrer cement</i>
	<i>300</i>		<i>33</i>		<i>mix 125sx + 9:1 cement</i>
					<i>Shut down</i>
					<i>Wash pump & lines</i>
					<i>Release Plus</i>
	<i>200</i>		<i>0</i>	<i>6</i>	<i>Start displacement</i>
	<i>500</i>		<i>65</i>	<i>6</i>	<i>Lift pressure</i>
	<i>500</i>		<i>80</i>	<i>3</i>	<i>Slow rate</i>
	<i>1500</i>		<i>85</i>	<i>3</i>	<i>Bump plug</i>
					<i>Flow+</i>
	<i>100</i>		<i>6</i>	<i>3</i>	<i>Plug RG+ hole</i>
					<i>Wash up</i>
<i>11:30pm</i>					<i>Job complete / Darin & crew</i>
					<i>Thank you!!!</i>



DRILL STEM TEST REPORT

Prepared For: **Valhalla Exploration L.L.C**

8100 E 22nd St N bldg 1800-2 Wichita KS
67208

ATTN: Adam Nighswonger

Morrison#1-1

1-21-14w Stafford

Start Date: 2014.06.01 @ 16:55:00

End Date: 2014.06.01 @ 23:04:30

Job Ticket #: 19245 DST #: 1

Superior Testers Enterprises LLC
PO Box 138 Great Bend KS 67530
1-800-792-6902

Printed: 2014.06.02 @ 00:19:33



DRILL STEM TEST REPORT

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

ATTN: Adam Nighswonger

Job Ticket: 19245

DST#: 1

Test Start: 2014.06.01 @ 16:55:00

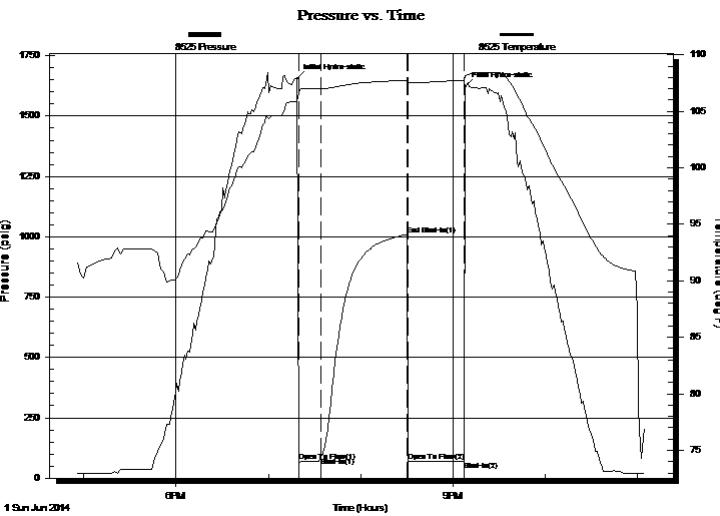
GENERAL INFORMATION:

Formation: **LKC " D-F"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 19:19:30 Tester: Jared Scheck
 Time Test Ended: 23:04:30 Unit No: 3320 Great Bend - 25
 Interval: **3360.00 ft (KB) To 3410.00 ft (KB) (TVD)** Reference Elevations: 1924.00 ft (KB)
 Total Depth: 3410.00 ft (KB) (TVD) 1916.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Poor KB to GR/CF: 8.00 ft

Serial #: 8525

Press@RunDepth: 85.97 psig @ ft (KB) Capacity: 5000.00 psig
 Start Date: 2014.06.01 End Date: 2014.06.01 Last Calib.: 2014.06.02
 Start Time: 16:55:00 End Time: 23:04:30 Time On Btm: 2014.06.01 @ 19:18:30
 Time Off Btm: 2014.06.01 @ 21:08:00

TEST COMMENT: 1st Opening 10 Minutes-Weak blow built 3/4 inch into water
 1st Shut-in 60 Minutes-No blow back
 2nd Opening 30 Minutes-Weak blow did not build
 2nd Shut-in Pull Tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1654.00	105.83	Initial Hydro-static
1	68.33	106.58	Open To Flow (1)
16	85.97	107.00	Shut-In(1)
72	1008.79	107.76	End Shut-In(1)
73	70.42	107.57	Open To Flow (2)
109	71.00	107.76	Shut-In(2)
110	1622.87	108.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	spot oil mud 1%oil 99%mud	0.42

Gas Rates

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



DRILL STEM TEST REPORT

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

Job Ticket: 19245

DST#: 1

ATTN: Adam Nighswonger

Test Start: 2014.06.01 @ 16:55:00

GENERAL INFORMATION:

Formation: **LKC " D-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:19:30

Time Test Ended: 23:04:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3320 Great Bend - 25

Interval: 3360.00 ft (KB) To 3410.00 ft (KB) (TVD)

Reference Elevations: 1924.00 ft (KB)

Total Depth: 3410.00 ft (KB) (TVD)

1916.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 6666

Press@RunDepth: 1001.01 psig @ ft (KB)

Capacity: 5000.00 psig

Start Date: 2014.06.01 End Date: 2014.06.01

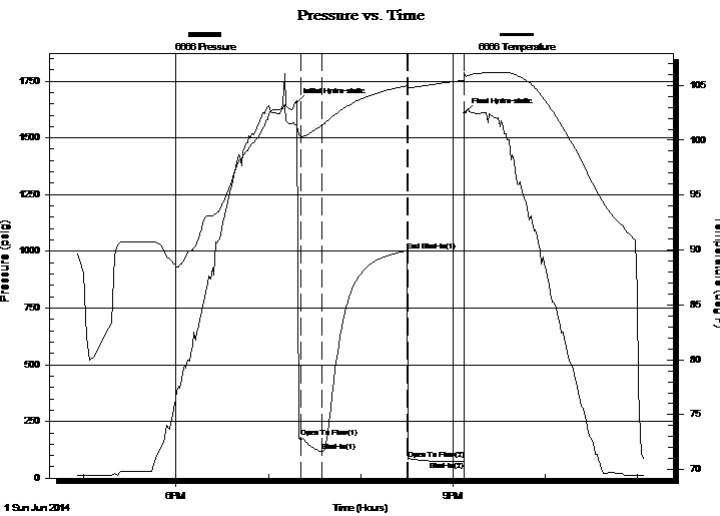
Last Calib.: 2014.06.02

Start Time: 16:55:00 End Time: 23:04:30

Time On Btm: 2014.06.01 @ 19:18:30

Time Off Btm: 2014.06.01 @ 21:07:30

TEST COMMENT: 1st Opening 10 Minutes-Weak blow built 3/4 inch into water
 1st Shut-in 60 Minutes-No blow back
 2nd Opening 30 Minutes-Weak blow did not build
 2nd Shut-in Pull Tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1655.93	101.37	Initial Hydro-static
3	181.88	100.37	Open To Flow (1)
17	116.68	101.38	Shut-In(1)
72	1001.01	104.96	End Shut-In(1)
72	84.13	104.71	Open To Flow (2)
109	73.16	105.44	Shut-In(2)
109	1610.46	106.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	spot oil mud 1%oil 99%mud	0.42

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

Job Ticket: 19245

DST#: 1

ATTN: Adam Nighswonger

Test Start: 2014.06.01 @ 16:55:00

Tool Information

Drill Pipe:	Length: 3357.00 ft	Diameter: 3.80 inches	Volume: 47.09 bbl	Tool Weight: 1000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 47.09 bbl</u>	Tool Chased 10.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3360.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut-In Tool	5.00			3337.00	
Hydraulic Tool	5.00			3342.00	
Jars	6.00			3348.00	
Safety Joint	2.00			3350.00	
Top Packer	5.00			3355.00	
Packer	5.00			3360.00	28.00 Bottom Of Top Packer
Anchor	45.00			3405.00	
Recorder	1.00	8525	Inside	3406.00	
Recorder	1.00	6666	Outside	3407.00	
Bull Plug	3.00			3410.00	50.00 Anchor Tool
Total Tool Length:	78.00				



DRILL STEM TEST REPORT

FLUID SUMMARY

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

Job Ticket: 19245

DST#: 1

ATTN: Adam Nighswonger

Test Start: 2014.06.01 @ 16:55:00

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: 42.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 11.20 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	spot oil mud 1%oil 99%mud	0.421

Total Length: 30.00 ft Total Volume: 0.421 bbl

Num Fluid Samples: 0

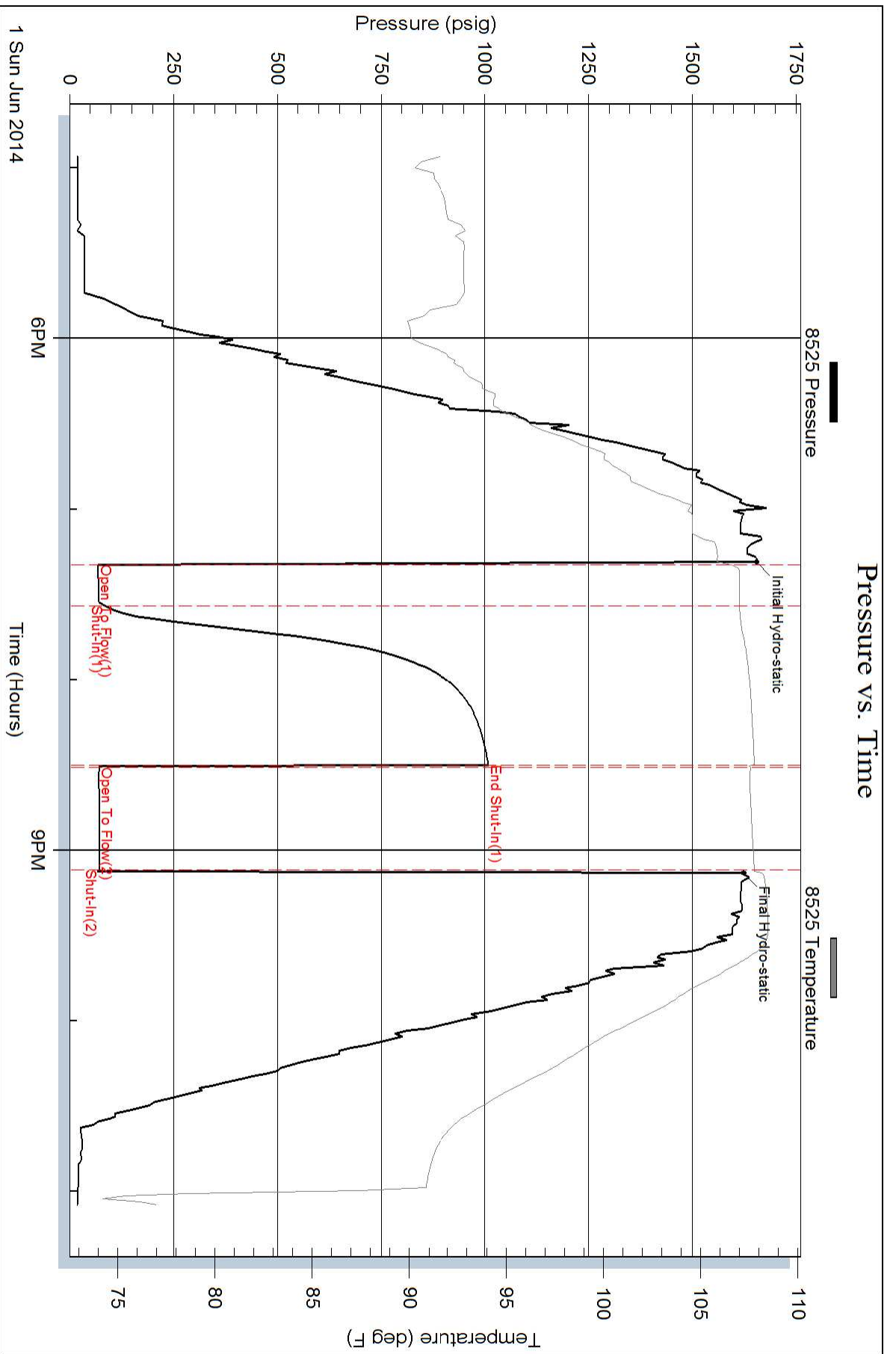
Num Gas Bombs: 0

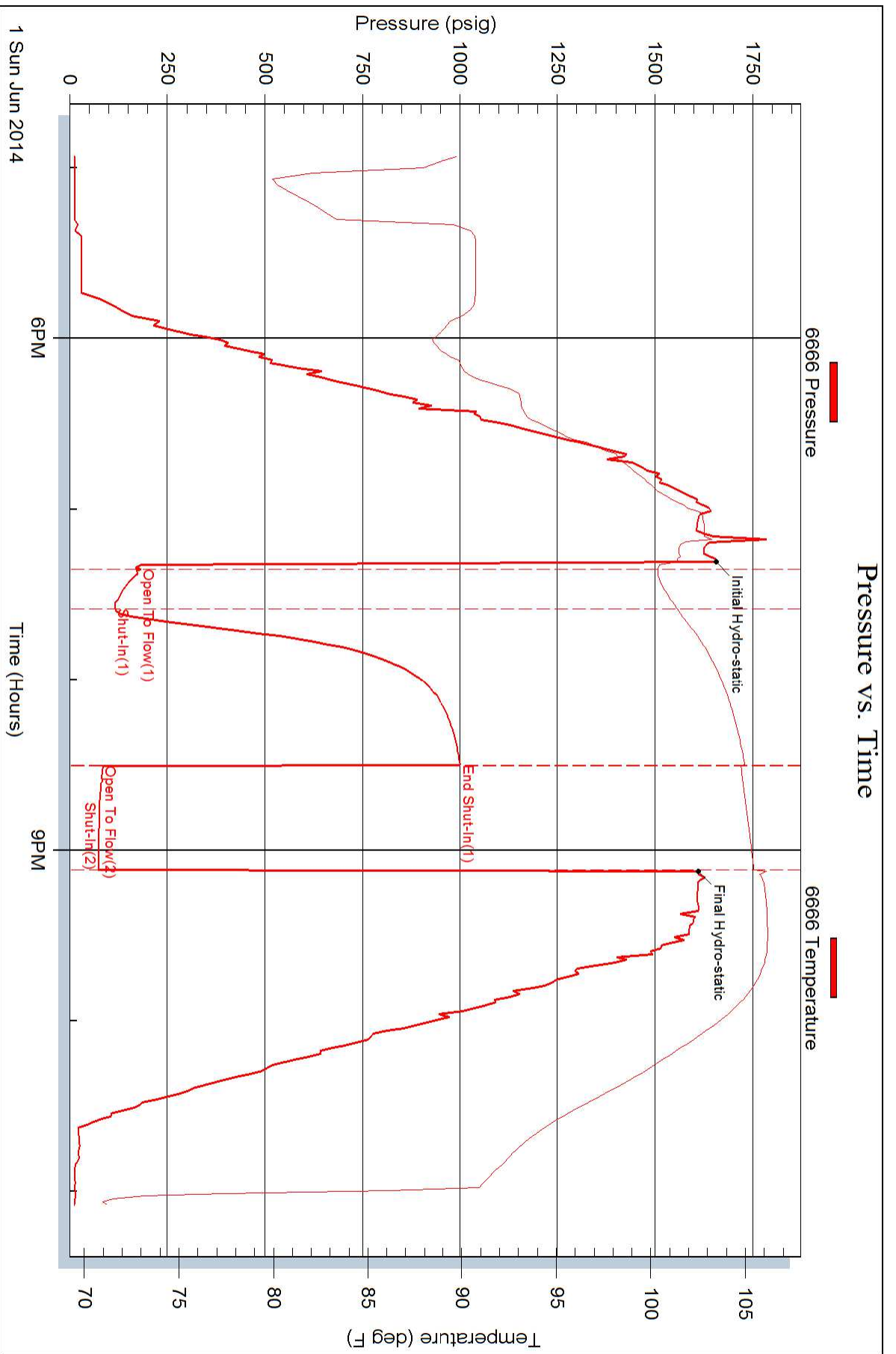
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Valhalla Exploration L.L.C**

8100 E 22nd St N bldg 1800-2 Wichita KS
67208

ATTN: Adam Nighswonger

Morrison#1-1

1-21-14w Stafford

Start Date: 2014.06.02 @ 11:45:00

End Date: 2014.06.02 @ 00:00:00

Job Ticket #: 19246 DST #: 2

Superior Testers Enterprises LLC
PO Box 138 Great Bend KS 67530
1-800-792-6902

Printed: 2014.06.02 @ 19:15:27



DRILL STEM TEST REPORT

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

ATTN: Adam Nighswonger

Job Ticket: 19246

DST#: 2

Test Start: 2014.06.02 @ 11:45:00

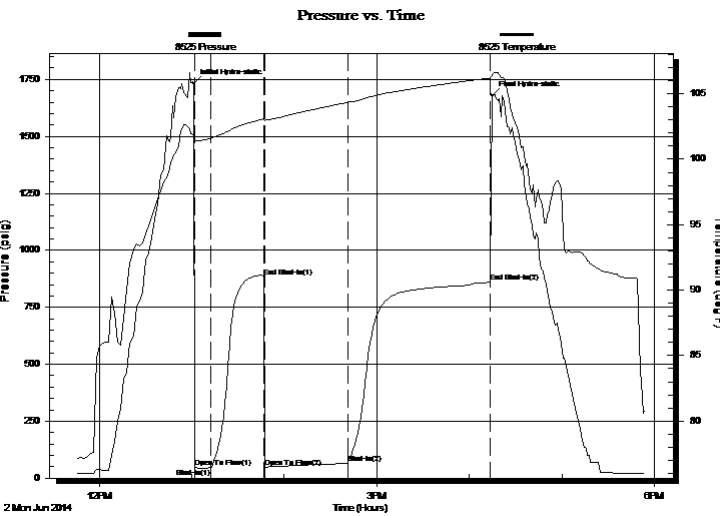
GENERAL INFORMATION:

Formation: **LKC "J"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 13:00:00
 Tester: Jared Scheck
 Time Test Ended: 00:00:00
 Unit No: 3335-Great Bend -25
Interval: 3476.00 ft (KB) To 3500.00 ft (KB) (TVD)
 Reference Elevations: 1924.00 ft (KB)
 Total Depth: 3500.00 ft (KB) (TVD) 1916.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8525

Press@RunDepth: 859.26 psig @ ft (KB) Capacity: 5000.00 psig
 Start Date: 2014.06.02 End Date: 2014.06.02 Last Calib.: 2014.06.02
 Start Time: 11:45:00 End Time: 17:53:30 Time On Btm: 2014.06.02 @ 13:01:00
 Time Off Btm: 2014.06.02 @ 16:14:30

TEST COMMENT: 1st Opening 10 Minutes-Strong blow built bottom of bucket in 8 minutes
 1st Shut-in 45 Minutes-No blow back
 2nd Opening 45 Minutes-Strong blow built bottom of bucket in 1 minute2
 2nd Shut-in 90 Minutes-



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1732.01	101.83	Initial Hydro-static
1	47.36	101.46	Open To Flow (1)
12	45.12	101.63	Shut-In(1)
46	883.23	103.08	End Shut-In(1)
47	47.44	102.98	Open To Flow (2)
100	65.33	104.34	Shut-In(2)
193	859.26	106.21	End Shut-In(2)
194	1679.05	106.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	gas mud oil 10%gas 40%mud 50%oil	0.98
0.00	1150 feet gas in pipe	0.00

Gas Rates

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



DRILL STEM TEST REPORT

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

ATTN: Adam Nighswonger

Job Ticket: 19246

DST#: 2

Test Start: 2014.06.02 @ 11:45:00

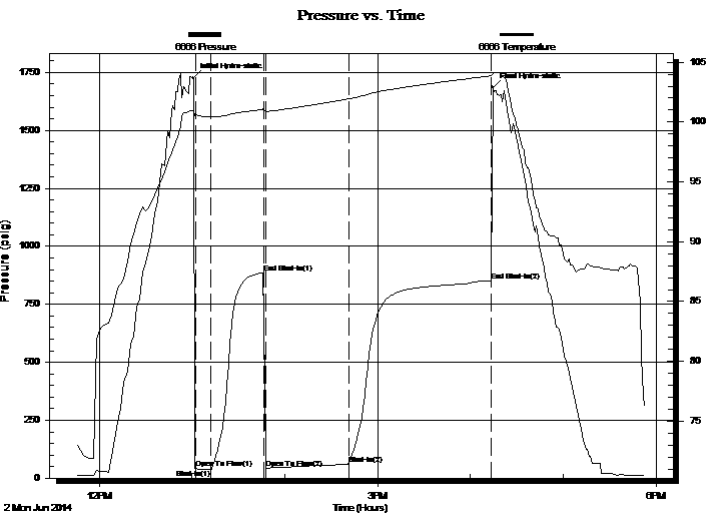
GENERAL INFORMATION:

Formation: **LKC "J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:00:00
 Time Test Ended: 00:00:00
 Interval: **3476.00 ft (KB) To 3500.00 ft (KB) (TVD)**
 Total Depth: 3500.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jared Scheck
 Unit No: 3335-Great Bend -25
 Reference Elevations: 1924.00 ft (KB)
 1916.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6666

Press@RunDepth: 851.67 psig @ ft (KB) Capacity: 5000.00 psig
 Start Date: 2014.06.02 End Date: 2014.06.02 Last Calib.: 2014.06.02
 Start Time: 11:45:00 End Time: 17:53:00 Time On Btm: 2014.06.02 @ 13:01:00
 Time Off Btm: 2014.06.02 @ 16:14:30

TEST COMMENT: 1st Opening 10 Minutes-Strong blow built bottom of bucket in 8 minutes
 1st Shut-in 45 Minutes-No blow back
 2nd Opening 45 Minutes-Strong blow built bottom of bucket in 1 minute2
 2nd Shut-in 90 Minutes-



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1726.79	100.96	Initial Hydro-static
1	42.19	100.65	Open To Flow (1)
11	40.04	100.42	Shut-In(1)
45	886.50	101.07	End Shut-In(1)
47	42.52	100.90	Open To Flow (2)
100	59.51	101.92	Shut-In(2)
193	851.67	103.86	End Shut-In(2)
194	1685.66	104.06	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	gas mud oil 10%gas 40%mud 50%oil	0.98
0.00	1150 feet gas in pipe	0.00

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

Job Ticket: 19246

DST#: 2

ATTN: Adam Nighswonger

Test Start: 2014.06.02 @ 11:45:00

Tool Information

Drill Pipe:	Length: 3453.00 ft	Diameter: 3.80 inches	Volume: 48.44 bbl	Tool Weight: 1000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: lb
			Total Volume: 48.44 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3476.00 ft			Final lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	52.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut-In Tool	5.00			3453.00	
Hydraulic Tool	5.00			3458.00	
Jars	6.00			3464.00	
Safety Joint	2.00			3466.00	
Top Packer	5.00			3471.00	
Packer	5.00			3476.00	28.00 Bottom Of Top Packer
Anchor	19.00			3495.00	
Recorder	1.00	8525	Inside	3496.00	
Recorder	1.00	6666	Outside	3497.00	
Bull Plug	3.00			3500.00	24.00 Anchor Tool
Total Tool Length:	52.00				



DRILL STEM TEST REPORT

FLUID SUMMARY

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

Job Ticket: 19246

DST#: 2

ATTN: Adam Nighswonger

Test Start: 2014.06.02 @ 11:45:00

Mud and Cushion Information

Mud Type: Gel Chem
 Mud Weight: 9.00 lb/gal
 Viscosity: 432.00 sec/qt
 Water Loss: 9.60 in³
 Resistivity: ohm.m
 Salinity: 7500.00 ppm
 Filter Cake: 1.00 inches

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

Oil API: deg API
 Water Salinity: ppm

Recovery Information

Recovery Table

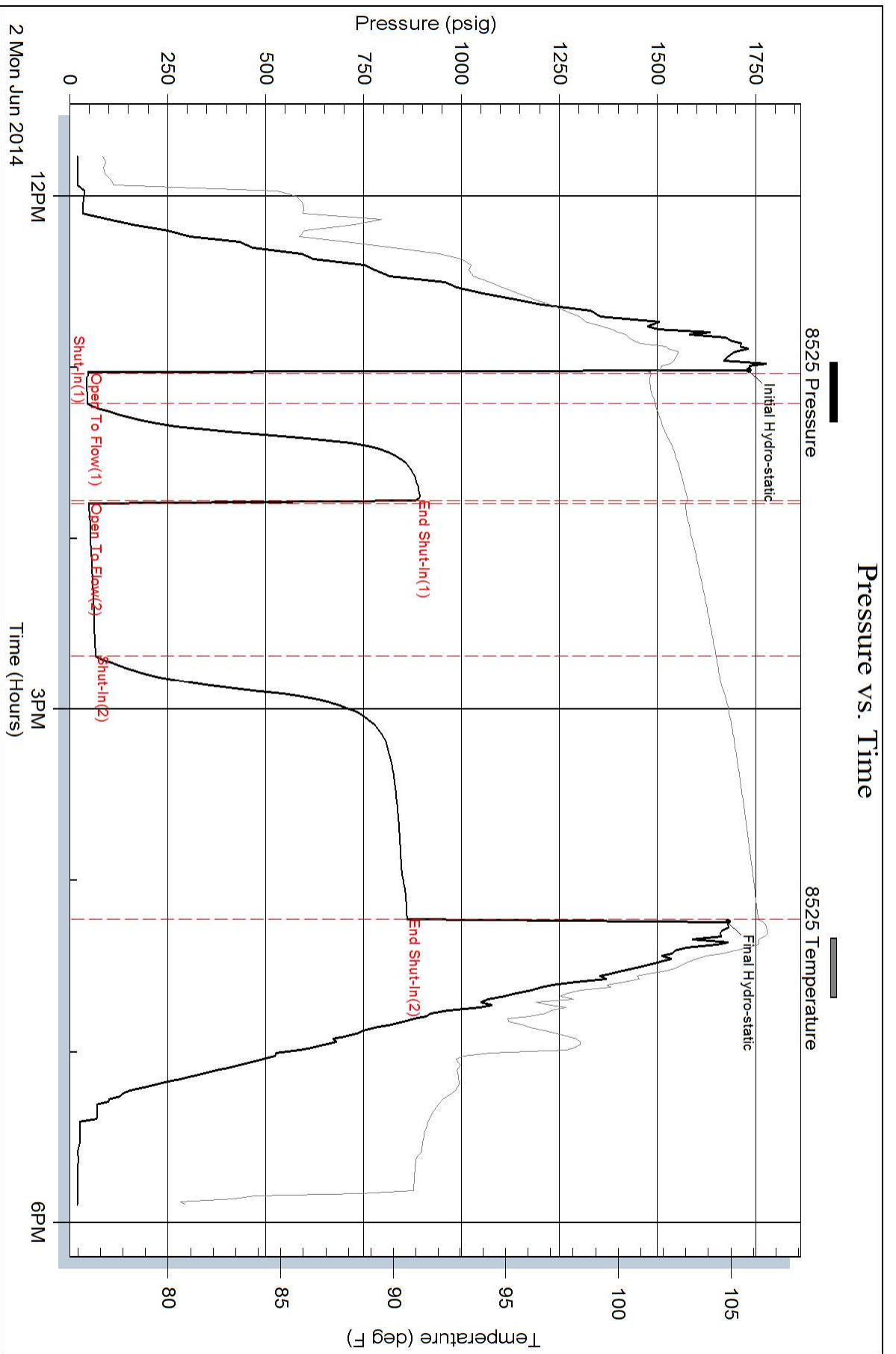
Length ft	Description	Volume bbl
70.00	gas mud oil 10%gas 40%mud 50%oil	0.982
0.00	1150 feet gas in pipe	0.000

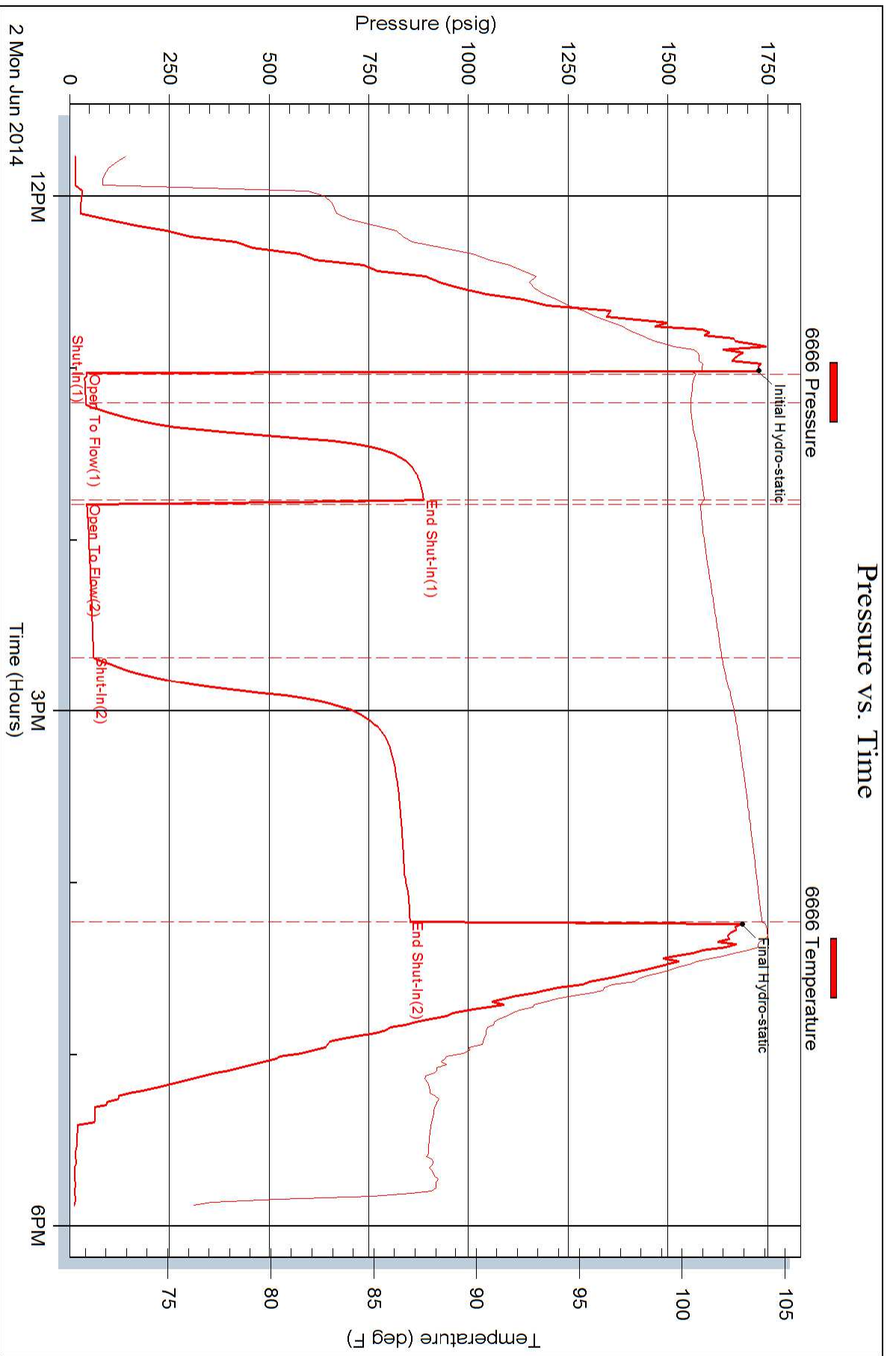
Total Length: 70.00 ft Total Volume: 0.982 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Valhalla Exploration L.L.C**

8100 E 22nd St N bldg 1800-2 Wichita KS
67208

ATTN: Adam Nighswonger

Morrison#1-1

1-21-14w Stafford

Start Date: 2014.06.03 @ 10:00:00

End Date: 2014.06.03 @ 16:17:30

Job Ticket #: 19247 DST #: 3

Superior Testers Enterprises LLC
PO Box 138 Great Bend KS 67530
1-800-792-6902

Printed: 2014.06.03 @ 17:37:20



DRILL STEM TEST REPORT

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

Job Ticket: 19247

DST#: 3

ATTN: Adam Nighswonger

Test Start: 2014.06.03 @ 10:00:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:24:30

Time Test Ended: 16:17:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3335-Great Bend -25

Interval: **3574.00 ft (KB) To 3634.00 ft (KB) (TVD)**

Reference Elevations: 1924.00 ft (KB)

Total Depth: 3634.00 ft (KB) (TVD)

1916.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6666

Press@RunDepth: 495.58 psig @ ft (KB)

Capacity: 5000.00 psig

Start Date: 2014.06.03

End Date: 2014.06.03

Last Calib.: 2014.06.03

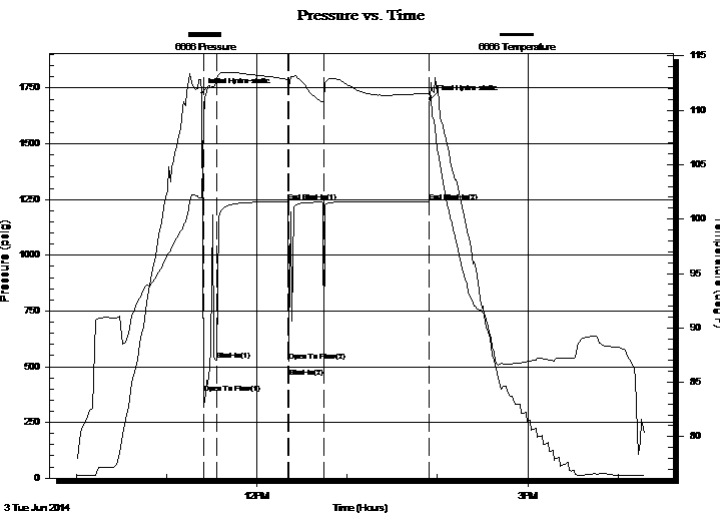
Start Time: 10:00:00

End Time: 16:17:30

Time On Btm: 2014.06.03 @ 11:23:30

Time Off Btm: 2014.06.03 @ 13:55:00

TEST COMMENT: 1st Opening 10 Minutes-Strong blow built bottom of bucket in 1 minute
 1st Shut-in 45 Minutes-4 inch blow back
 2nd Opening 30 Minutes-Strong blow buyilt bottom of bucket in 2 minutes
 2nd Shut-in 60 Minutes-1/2 inch blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1728.04	101.98	Initial Hydro-static
1	382.78	108.95	Open To Flow (1)
10	527.92	112.95	Shut-In(1)
57	1239.69	112.83	End Shut-In(1)
58	524.66	112.03	Open To Flow (2)
81	495.58	110.67	Shut-In(2)
151	1241.17	111.53	End Shut-In(2)
152	1699.26	111.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
745.00	gas oil 10%gas 90%oil	10.45
0.00	250 gas in pipe	0.00
0.00	gravity oil 31	0.00

Gas Rates

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



DRILL STEM TEST REPORT

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

ATTN: Adam Nighswonger

Job Ticket: 19247

DST#: 3

Test Start: 2014.06.03 @ 10:00:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:24:30

Time Test Ended: 16:17:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3335-Great Bend -25

Interval: 3574.00 ft (KB) To 3634.00 ft (KB) (TVD)

Reference Elevations: 1924.00 ft (KB)

Total Depth: 3634.00 ft (KB) (TVD)

1916.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8525

Press@RunDepth: 1252.75 psig @ ft (KB)

Capacity: 5000.00 psig

Start Date: 2014.06.03

End Date: 2014.06.03

Last Calib.: 2014.06.03

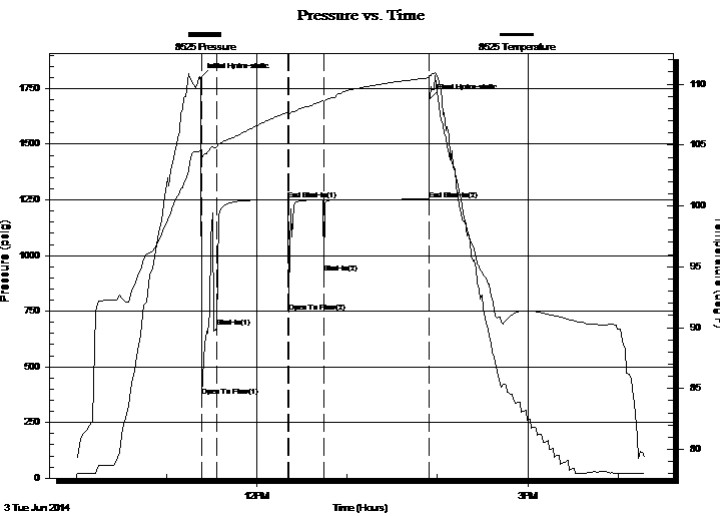
Start Time: 10:00:00

End Time: 16:17:30

Time On Btm: 2014.06.03 @ 11:22:30

Time Off Btm: 2014.06.03 @ 13:55:00

TEST COMMENT: 1st Opening 10 Minutes-Strong blow built bottom of bucket in 1 minute
 1st Shut-in 45 Minutes-4 inch blow back
 2nd Opening 30 Minutes-Strong blow buyilt bottom of bucket in 2 minutes
 2nd Shut-in 60 Minutes-1/2 inch blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1797.53	104.53	Initial Hydro-static
1	370.12	103.87	Open To Flow (1)
11	678.85	104.85	Shut-In(1)
58	1250.17	107.68	End Shut-In(1)
59	747.78	107.51	Open To Flow (2)
82	920.45	108.54	Shut-In(2)
152	1252.75	110.52	End Shut-In(2)
153	1704.15	110.67	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
745.00	gas oil 10%gas 90%oil	10.45
0.00	250 gas in pipe	0.00
0.00	gravity oil 31	0.00

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

Job Ticket: 19247

DST#: 3

ATTN: Adam Nighswonger

Test Start: 2014.06.03 @ 10:00:00

Tool Information

Drill Pipe:	Length: 3576.00 ft	Diameter: 3.80 inches	Volume: 50.16 bbl	Tool Weight: 1000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			Total Volume: 50.16 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3574.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	88.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3551.00	
Hydraulic Tool	5.00			3556.00	
Jars	6.00			3562.00	
Safety Joint	2.00			3564.00	
Top Packer	5.00			3569.00	
Packer	5.00			3574.00	28.00 Bottom Of Top Packer
Anchor	0.00			3574.00	
Change Over Sub	0.75			3574.75	
Drill Pipe	31.50			3606.25	
Change Over Sub	0.75			3607.00	
Anchor	22.00			3629.00	
Recorder	1.00	6666	Inside	3630.00	
Recorder	1.00	8525	Outside	3631.00	
Bull Plug	3.00			3634.00	60.00 Anchor Tool

Total Tool Length: 88.00



DRILL STEM TEST REPORT

FLUID SUMMARY

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

Job Ticket: 19247

DST#: 3

ATTN: Adam Nighswonger

Test Start: 2014.06.03 @ 10:00:00

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: 56.00 sec/qt

Cushion Volume: bbl

Water Loss: 8.80 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
745.00	gas oil 10%gas 90%oil	10.450
0.00	250 gas in pipe	0.000
0.00	gravity oil 31	0.000

Total Length: 745.00 ft Total Volume: 10.450 bbl

Num Fluid Samples: 0

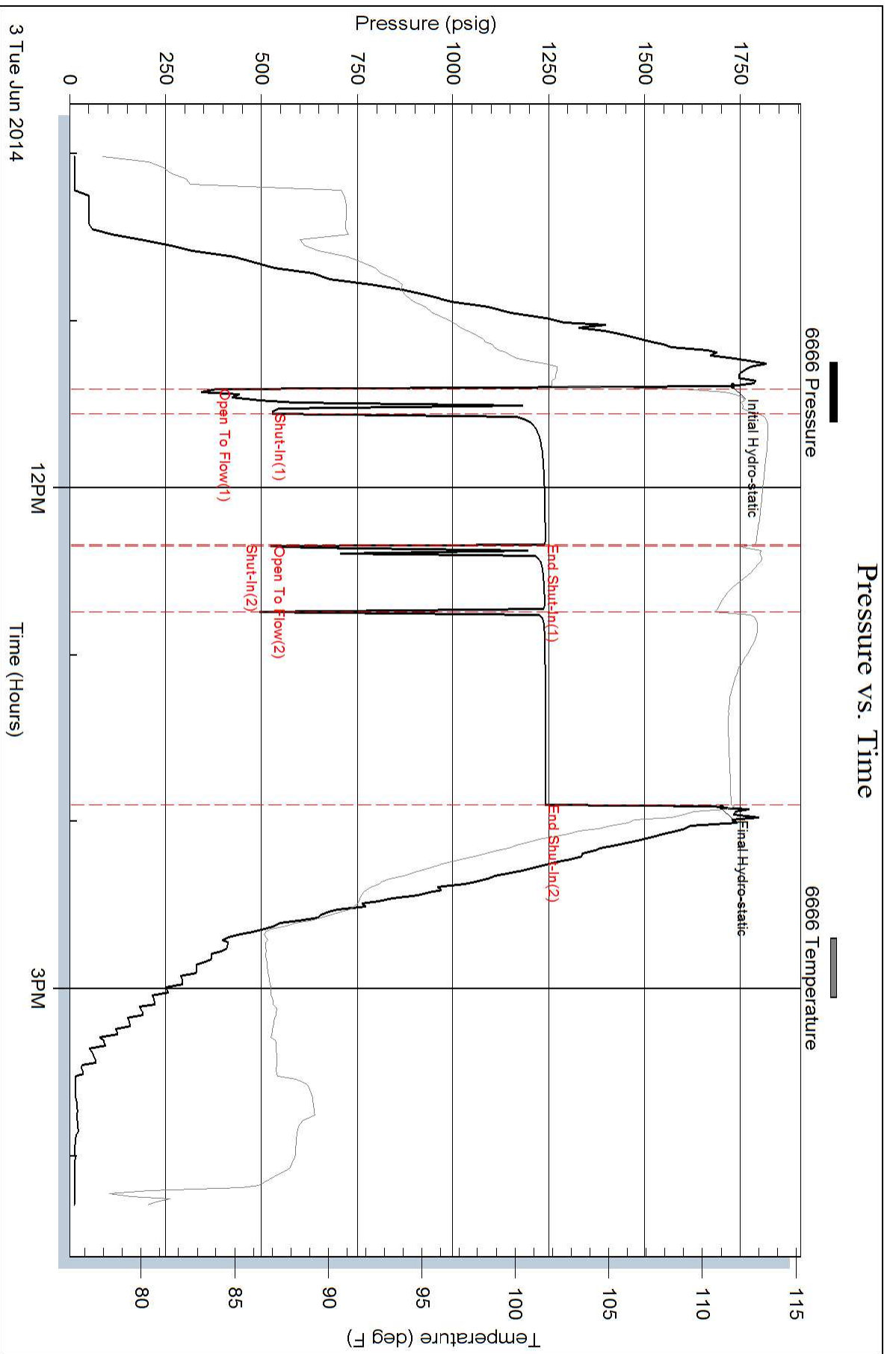
Num Gas Bombs: 0

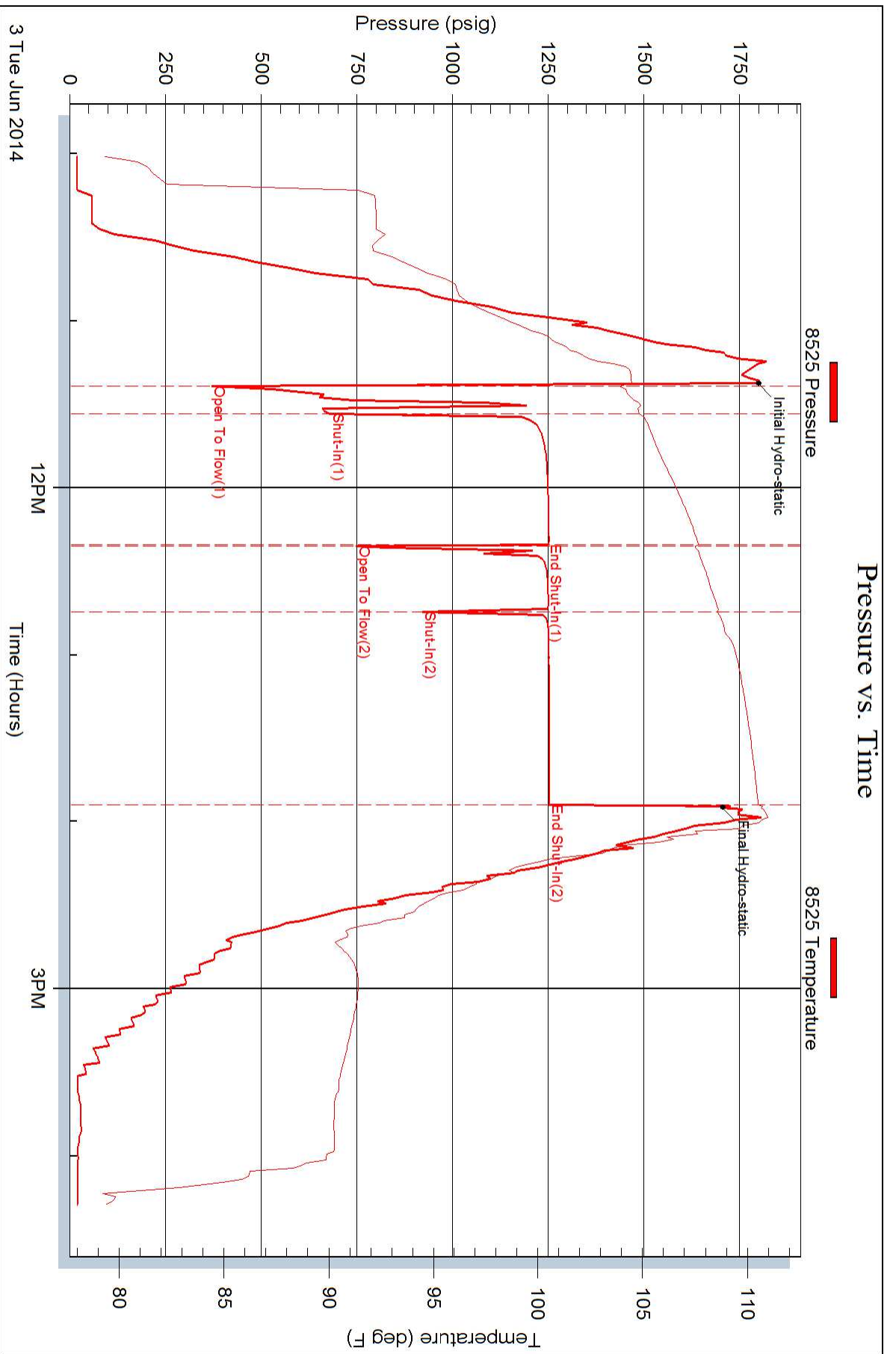
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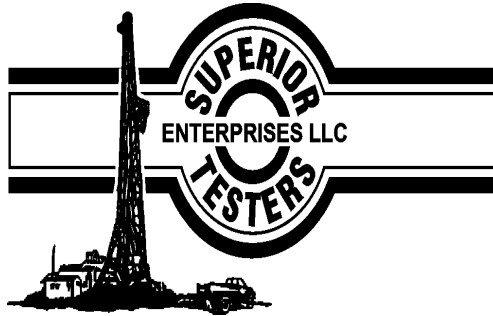
Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Valhalla Exploration**

8100 E 22nd St N bldg Wichita KS 67208

ATTN: Adam Nighswonger

Morrison #1-1

1-21-14w Stafford

Start Date: 2014.06.03 @ 21:15:00

End Date: 2014.06.04 @ 02:33:30

Job Ticket #: 19248 DST #: 4

Superior Testers Enterprises LLC
PO Box 138 Great Bend KS 67530
1-800-792-6902

Printed: 2014.06.04 @ 05:55:48



DRILL STEM TEST REPORT

Valhalla Exploration
 8100 E 22nd St N bldg Wichita KS 67208
 ATTN: Adam Nighswonger

1-21-14w Stafford
Morrison #1-1
 Job Ticket: 19248 **DST#: 4**
 Test Start: 2014.06.03 @ 21:15:00

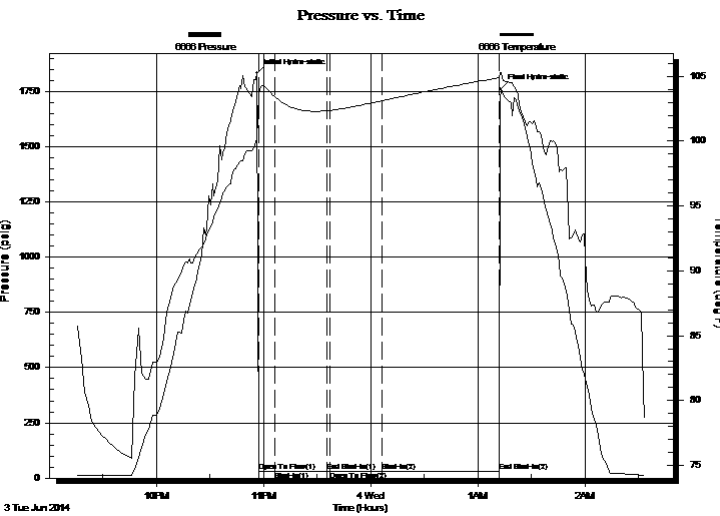
GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:57:30
 Time Test Ended: 02:33:30
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jared Scheck
 Unit No: 3335-Great Bend -25
 Interval: **3634.00 ft (KB) To 3641.00 ft (KB) (TVD)**
 Reference Elevations: 1924.00 ft (KB)
 Total Depth: 3641.00 ft (KB) (TVD) 1916.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 6666

Press@RunDepth: 30.02 psig @ ft (KB) Capacity: 5000.00 psig
 Start Date: 2014.06.03 End Date: 2014.06.04 Last Calib.: 2014.06.04
 Start Time: 21:15:00 End Time: 02:33:30 Time On Btm: 2014.06.03 @ 22:56:30
 Time Off Btm: 2014.06.04 @ 01:13:00

TEST COMMENT: 1st Opening 10 Minutes-Very weak blow did no build
 1st Shut-in 30 Minutes-No blow back
 2nd Opening 30 Minutes-Very weak surge did not build
 2nd Shut-in 60 Minutes-No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1832.08	100.08	Initial Hydro-static
1	28.80	103.63	Open To Flow (1)
10	29.84	103.39	Shut-In(1)
39	29.57	102.34	End Shut-In(1)
41	28.77	102.37	Open To Flow (2)
70	30.02	103.11	Shut-In(2)
136	29.03	104.88	End Shut-In(2)
137	1760.96	105.24	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00		0.00

Gas Rates

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



DRILL STEM TEST REPORT

Valhalla Exploration
 8100 E 22nd St N bldg Wichita KS 67208
 ATTN: Adam Nighswonger

1-21-14w Stafford
Morrison #1-1
 Job Ticket: 19248 **DST#: 4**
 Test Start: 2014.06.03 @ 21:15:00

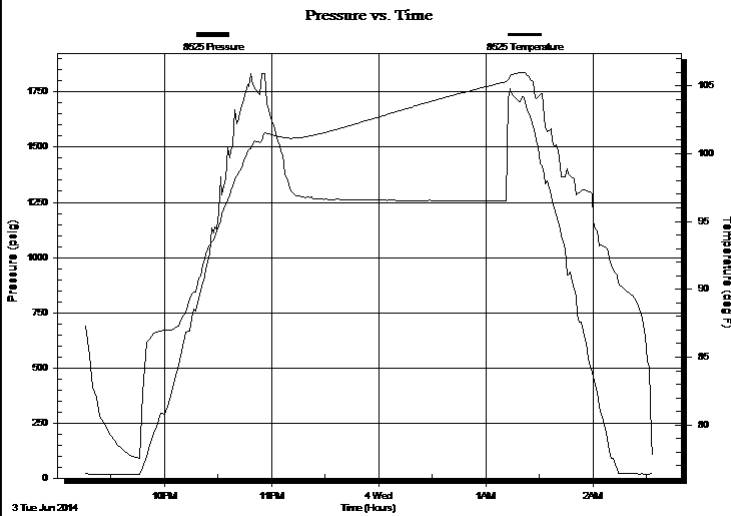
GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 22:57:30 Tester: Jared Scheck
 Time Test Ended: 02:33:30 Unit No: 3335-Great Bend -25
 Interval: **3634.00 ft (KB) To 3641.00 ft (KB) (TVD)** Reference Elevations: 1924.00 ft (KB)
 Total Depth: 3641.00 ft (KB) (TVD) 1916.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8525

Press@RunDepth: psig @ ft (KB) Capacity: psig
 Start Date: 2014.06.03 End Date: 2014.06.04 Last Calib.: 1899.12.30
 Start Time: 21:15:00 End Time: 02:33:30 Time On Btm:
 Time Off Btm:

TEST COMMENT: 1st Opening 10 Minutes-Very weak blow did no build
 1st Shut-in 30 Minutes-No blow back
 2nd Opening 30 Minutes-Very weak surge did not build
 2nd Shut-in 60 Minutes-No blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
0.00		0.00

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

Valhalla Exploration
 8100 E 22nd St N bldg Wichita KS 67208
 ATTN: Adam Nighswonger

1-21-14w Stafford
Morrison #1-1
 Job Ticket: 19248 **DST#: 4**
 Test Start: 2014.06.03 @ 21:15:00

Tool Information

Drill Pipe:	Length: 3611.00 ft	Diameter: 3.80 inches	Volume: 50.65 bbl	Tool Weight:	1000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 50.65 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3634.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	7.00 ft				
Tool Length:	35.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3611.00	
Hydraulic tool	5.00			3616.00	
Jars	6.00			3622.00	
Safety Joint	2.00			3624.00	
Packer	5.00			3629.00	28.00 Bottom Of Top Packer
Packer	5.00			3634.00	
Recorder	1.00			3635.00	
Recorder	1.00			3636.00	
Anchor	2.00			3638.00	
Bullnose	3.00			3641.00	7.00 Bottom Packers & Anchor
Total Tool Length:	35.00				



DRILL STEM TEST REPORT

FLUID SUMMARY

Valhalla Exploration

1-21-14w Stafford

8100 E 22nd St N bldg Wichita KS 67208

Morrison #1-1

Job Ticket: 19248

DST#: 4

ATTN: Adam Nighswonger

Test Start: 2014.06.03 @ 21:15:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.80 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00		0.000

Total Length: ft Total Volume: bbl

Num Fluid Samples: 0

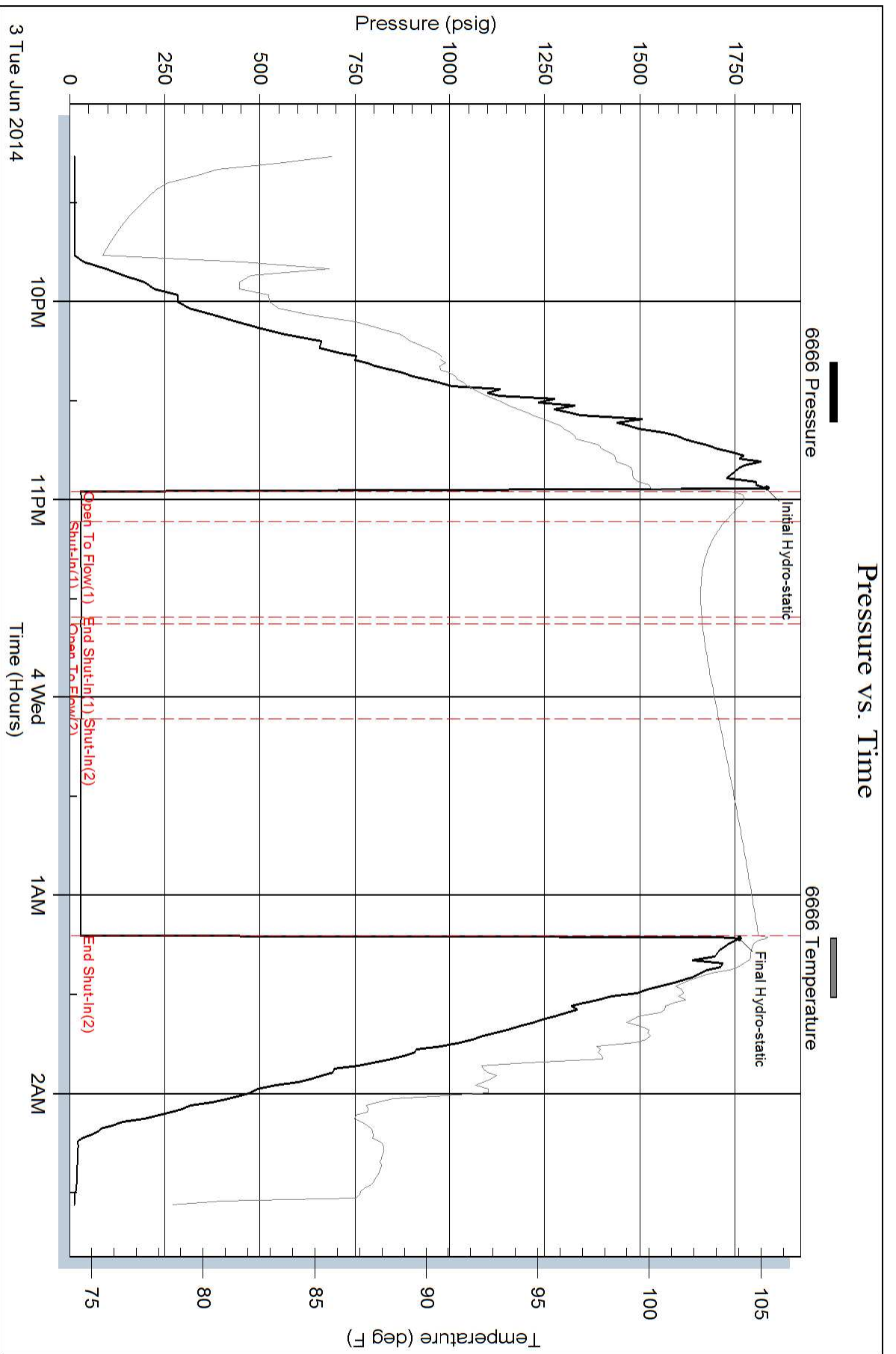
Num Gas Bombs: 0

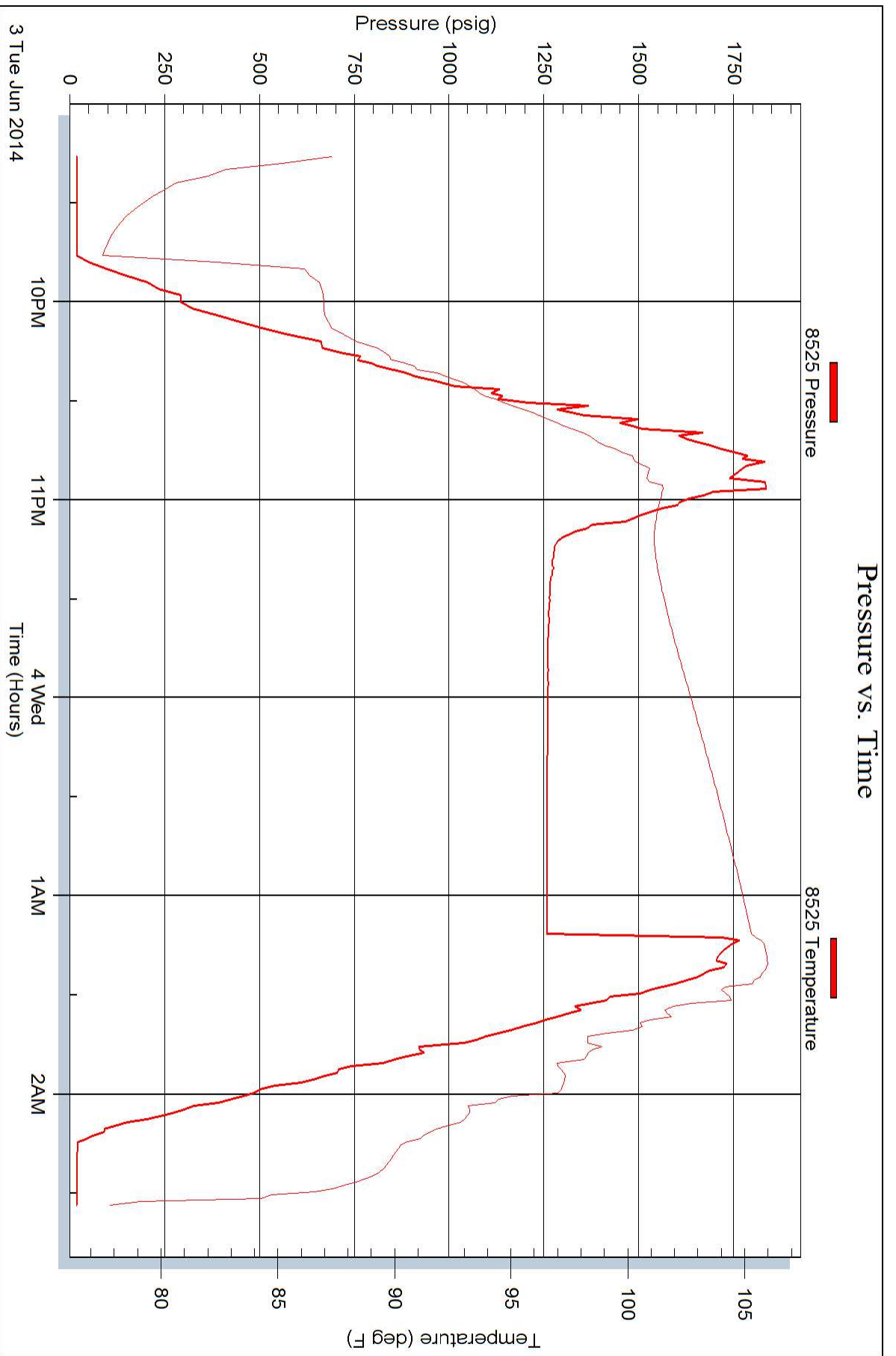
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Valhalla Exploration L.L.C**

8100 E 22nd St N bldg 1800-2 Wichita KS
67208

ATTN: Adam Nighswonger

Morrison#1-1

1-21-14w Stafford

Start Date: 2014.06.04 @ 12:03:00

End Date: 2014.06.04 @ 19:35:30

Job Ticket #: 19249 DST #: 5

Superior Testers Enterprises LLC
PO Box 138 Great Bend KS 67530
1-800-792-6902

Printed: 2014.06.04 @ 20:51:04



DRILL STEM TEST REPORT

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

ATTN: Adam Nighswonger

Job Ticket: 19249

DST#: 5

Test Start: 2014.06.04 @ 12:03:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:28:30

Time Test Ended: 19:35:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3335-Great Bend -25

Interval: **3633.00 ft (KB) To 3641.00 ft (KB) (TVD)**

Reference Elevations: 1924.00 ft (KB)

Total Depth: 3641.00 ft (KB) (TVD)

1916.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6666

Press@RunDepth: 1154.19 psig @ ft (KB)

Capacity: 5000.00 psig

Start Date: 2014.06.04

End Date:

2014.06.04

Last Calib.:

2014.06.04

Start Time: 12:03:00

End Time:

19:35:30

Time On Btm:

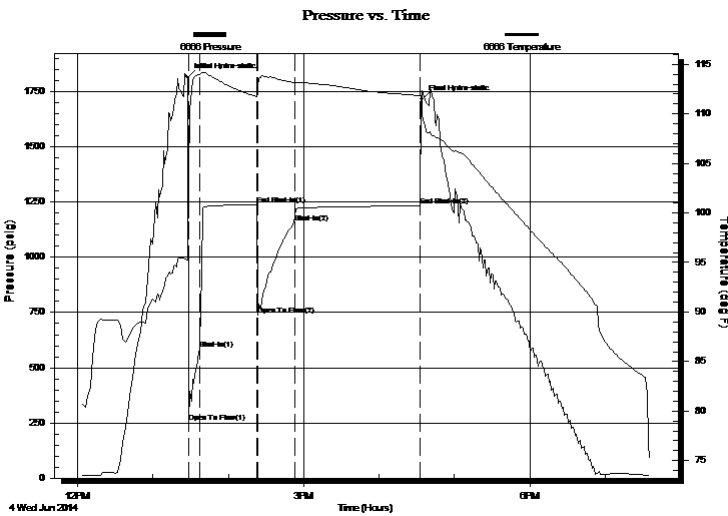
2014.06.04 @ 13:27:30

Time Off Btm:

2014.06.04 @ 16:34:00

TEST COMMENT: 1st Opening 10 Minutes-Strong blow built bottom of bucket in 1 minute
 1st Shut-in 45 Minutes-No blow back
 2nd Opening 30 Minutes-Strong blow built bottom bucket in 1 minute
 2nd Shut-in 90 Minutes-Very weak surface surge

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1814.72	95.28	Initial Hydro-static
1	253.43	103.61	Open To Flow (1)
10	585.56	113.96	Shut-In(1)
55	1238.05	111.70	End Shut-In(1)
56	737.54	112.80	Open To Flow (2)
85	1154.19	113.14	Shut-In(2)
186	1231.93	111.84	End Shut-In(2)
187	1715.73	110.83	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
1740.00	oil cut w ater 20%oil 80%w ater	24.41
840.00	w ater	11.78
0.00	chlorides 23,000	0.00

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



DRILL STEM TEST REPORT

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

ATTN: Adam Nighswonger

Job Ticket: 19249

DST#: 5

Test Start: 2014.06.04 @ 12:03:00

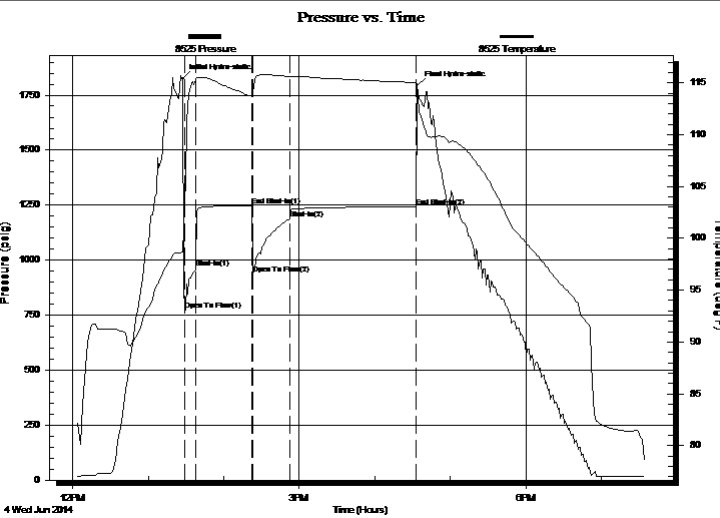
GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:28:30
 Time Test Ended: 19:35:30
 Interval: **3633.00 ft (KB) To 3641.00 ft (KB) (TVD)**
 Total Depth: 3641.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jared Scheck
 Unit No: 3335-Great Bend -25
 Reference Elevations: 1924.00 ft (KB)
 1916.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8525

Press@RunDepth: 1242.53 psig @ ft (KB) Capacity: 5000.00 psig
 Start Date: 2014.06.04 End Date: 2014.06.04 Last Calib.: 2014.06.04
 Start Time: 12:03:00 End Time: 19:35:00 Time On Btm: 2014.06.04 @ 13:27:30
 Time Off Btm: 2014.06.04 @ 16:34:00

TEST COMMENT: 1st Opening 10 Minutes-Strong blow built bottom of bucket in 1 minute
 1st Shut-in 45 Minutes-No blow back
 2nd Opening 30 Minutes-Strong blow built bottom bucket in 1 minute
 2nd Shut-in 90 Minutes-Very weak surface surge



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1824.97	98.65	Initial Hydro-static
2	771.61	103.42	Open To Flow (1)
11	963.14	115.32	Shut-In(1)
55	1248.27	113.75	End Shut-In(1)
56	935.44	114.16	Open To Flow (2)
85	1188.88	115.63	Shut-In(2)
186	1242.53	115.05	End Shut-In(2)
187	1795.10	114.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1740.00	oil cut w ater 20%oil 80%w ater	24.41
840.00	w ater	11.78
0.00	chlorides 23,000	0.00

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

Job Ticket: 19249

DST#: 5

ATTN: Adam Nighswonger

Test Start: 2014.06.04 @ 12:03:00

Tool Information

Drill Pipe:	Length: 3612.00 ft	Diameter: 3.80 inches	Volume: 50.67 bbl	Tool Weight: 1000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 50.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3633.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	8.00 ft			
Tool Length:	36.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3610.00	
Hydraulic tool	5.00			3615.00	
Jars	6.00			3621.00	
Safety Joint	2.00			3623.00	
Packer	5.00			3628.00	28.00 Bottom Of Top Packer
Packer	5.00			3633.00	
Recorder	1.00			3634.00	
Recorder	1.00			3635.00	
Anchor	3.00			3638.00	
Bullnose	3.00			3641.00	8.00 Bottom Packers & Anchor
Total Tool Length:	36.00				



DRILL STEM TEST REPORT

FLUID SUMMARY

Valhalla Exploration L.L.C

1-21-14w Stafford

8100 E 22nd St N bldg 1800-2 Wichita KS 67208

Morrison#1-1

Job Ticket: 19249

DST#: 5

ATTN: Adam Nighswonger

Test Start: 2014.06.04 @ 12:03:00

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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 12.40 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
1740.00	oil cut w ater 20%oil 80%w ater	24.408
840.00	w ater	11.783
0.00	chlorides 23,000	0.000

Total Length: 2580.00 ft Total Volume: 36.191 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: chlorides 23,000

