

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

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

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

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

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

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

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

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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DRILL STEM TEST REPORT

Prepared For: **DK Operating, Inc.**

621 Benton ST.
Jetmore KS 67854

ATTN: Jason Alm

Whitley #5-13

13-20S-23W Ness,KS

Start Date: 2018.05.17 @ 20:37:00

End Date: 2018.05.18 @ 05:28:15

Job Ticket #: 63904 DST #: 1

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

Printed: 2018.05.18 @ 09:20:28



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

DK Operating, Inc.

13-20S-23W Ness,KS

621 Benton ST.
Jetmore KS 67854

Whitley #5-13

Job Ticket: 63904

DST#: 1

ATTN: Jason Alm

Test Start: 2018.05.17 @ 20:37:00

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:35:00

Time Test Ended: 05:28:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Spencer J. Staab

Unit No: 84

Interval: 4277.00 ft (KB) To 4340.00 ft (KB) (TVD)

Reference Elevations: 2238.00 ft (KB)

Total Depth: 4340.00 ft (KB) (TVD)

2231.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8368

Inside

Press@RunDepth: 199.39 psig @ 4280.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.05.17

End Date:

2018.05.18

Last Calib.:

2018.05.18

Start Time:

20:37:15

End Time:

05:28:15

Time On Btm:

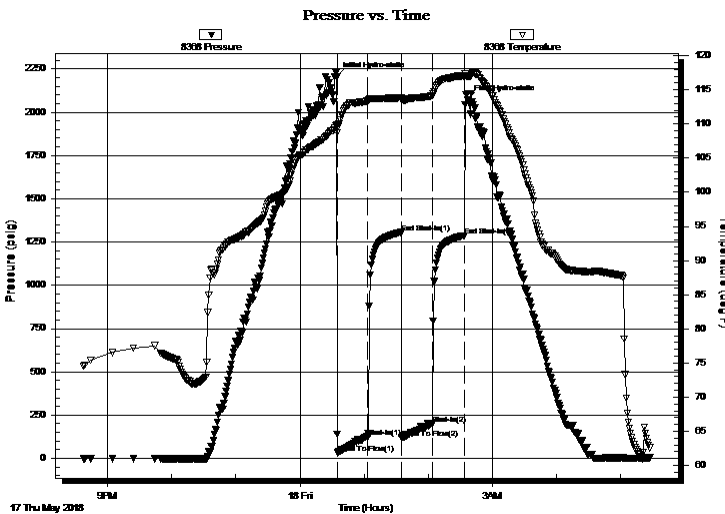
2018.05.18 @ 00:34:30

Time Off Btm:

2018.05.18 @ 02:37:15

TEST COMMENT: 30-IF-Fair Blow ; BOB in 12 mins; Built to 22 1/2"
30-ISI-No Return
30-FF-Fair Blow ; BOB in 10 mins; Built to 31 1/2"
30-FSI-Weak Return; Built to 1"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2202.91	109.93	Initial Hydro-static
1	31.11	109.35	Open To Flow (1)
29	122.47	113.33	Shut-In(1)
61	1305.03	113.83	End Shut-In(1)
61	118.60	113.47	Open To Flow (2)
90	199.39	114.12	Shut-In(2)
120	1287.42	116.99	End Shut-In(2)
123	2073.59	117.01	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
290.00	GSOCM 28%G 2%O 70%M	4.11
60.00	GMO 20%G 30%M 50%O	0.85
90.00	GO 20%G 80%O	1.28
0.00	220' GIP 100%G	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

DK Operating, Inc.

13-20S-23W Ness,KS

621 Benton ST.
Jetmore KS 67854

Whitley #5-13

Job Ticket: 63904

DST#: 1

ATTN: Jason Alm

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Tester: Spencer J. Staab

Unit No: 84

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Reference Elevations: 2238.00 ft (KB)

Total Depth: 4340.00 ft (KB) (TVD)

2231.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8934 Inside

Press@RunDepth: psig @ 4280.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.05.17

End Date:

2018.05.18

Last Calib.:

1899.12.30

Start Time: 20:37:21

End Time:

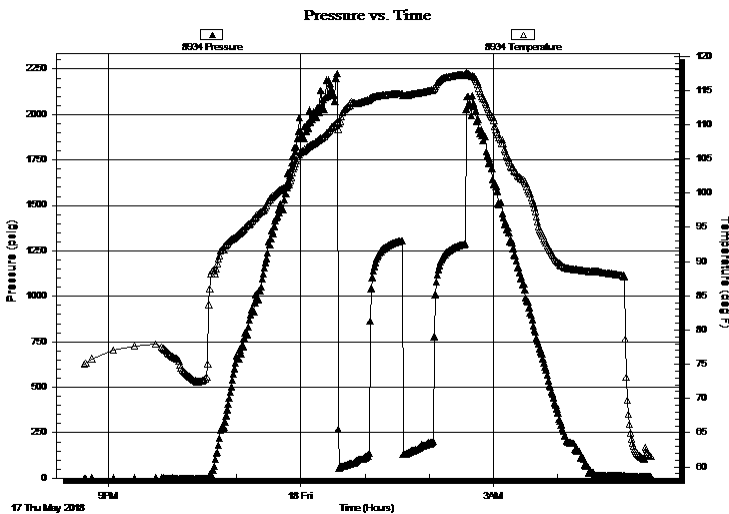
05:28:21

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IF-Fair Blow ; BOB in 12 mins; Built to 22 1/2"
30-ISI-No Return
30-FF-Fair Blow ; BOB in 10 mins; Built to 31 1/2"
30-FSI-Weak Return; Built to 1"

PRESSURE SUMMARY



Time
(Min.)

Pressure
(psig)

Temp
(deg F)

Annotation

Recovery

Length (ft)	Description	Volume (bbl)
290.00	GSOCM 28%G 2%O 70%M	4.11
60.00	GMO 20%G 30%M 50%O	0.85
90.00	GO 20%G 80%O	1.28
0.00	220' GIP 100%G	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

DK Operating, Inc.

13-20S-23W Ness,KS

621 Benton ST.
Jetmore KS 67854

Whitley #5-13

Job Ticket: 63904

DST#: 1

ATTN: Jason Alm

Test Start: 2018.05.17 @ 20:37:00

Tool Information

Drill Pipe:	Length: 4256.00 ft	Diameter: 3.82 inches	Volume: 60.33 bbl	Tool Weight: 2200.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 60.33 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4277.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	63.00 ft			
Tool Length:	91.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4250.00	
Shut In Tool	5.00			4255.00	
Hydraulic tool	5.00			4260.00	
Jars	5.00			4265.00	
Safety Joint	3.00			4268.00	
Packer	5.00			4273.00	28.00 Bottom Of Top Packer
Packer	4.00			4277.00	
Stubb	1.00			4278.00	
Perforations	1.00			4279.00	
Change Over Sub	1.00			4280.00	
Recorder	0.00	8368	Inside	4280.00	
Recorder	0.00	8934	Inside	4280.00	
Drill Pipe	31.00			4311.00	
Change Over Sub	1.00			4312.00	
Perforations	25.00			4337.00	
Bullnose	3.00			4340.00	63.00 Bottom Packers & Anchor
Total Tool Length:	91.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

DK Operating, Inc.

13-20S-23W Ness,KS

621 Benton ST.
Jetmore KS 67854

Whitley #5-13

Job Ticket: 63904

DST#: 1

ATTN: Jason Alm

Test Start: 2018.05.17 @ 20:37:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

43 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
290.00	GSOCM 28%G 2%O 70%M	4.111
60.00	GMO 20%G 30%M 50%O	0.851
90.00	GO 20%G 80%O	1.276
0.00	220' GIP 100%G	0.000

Total Length: 440.00 ft

Total Volume: 6.238 bbl

Num Fluid Samples: 0

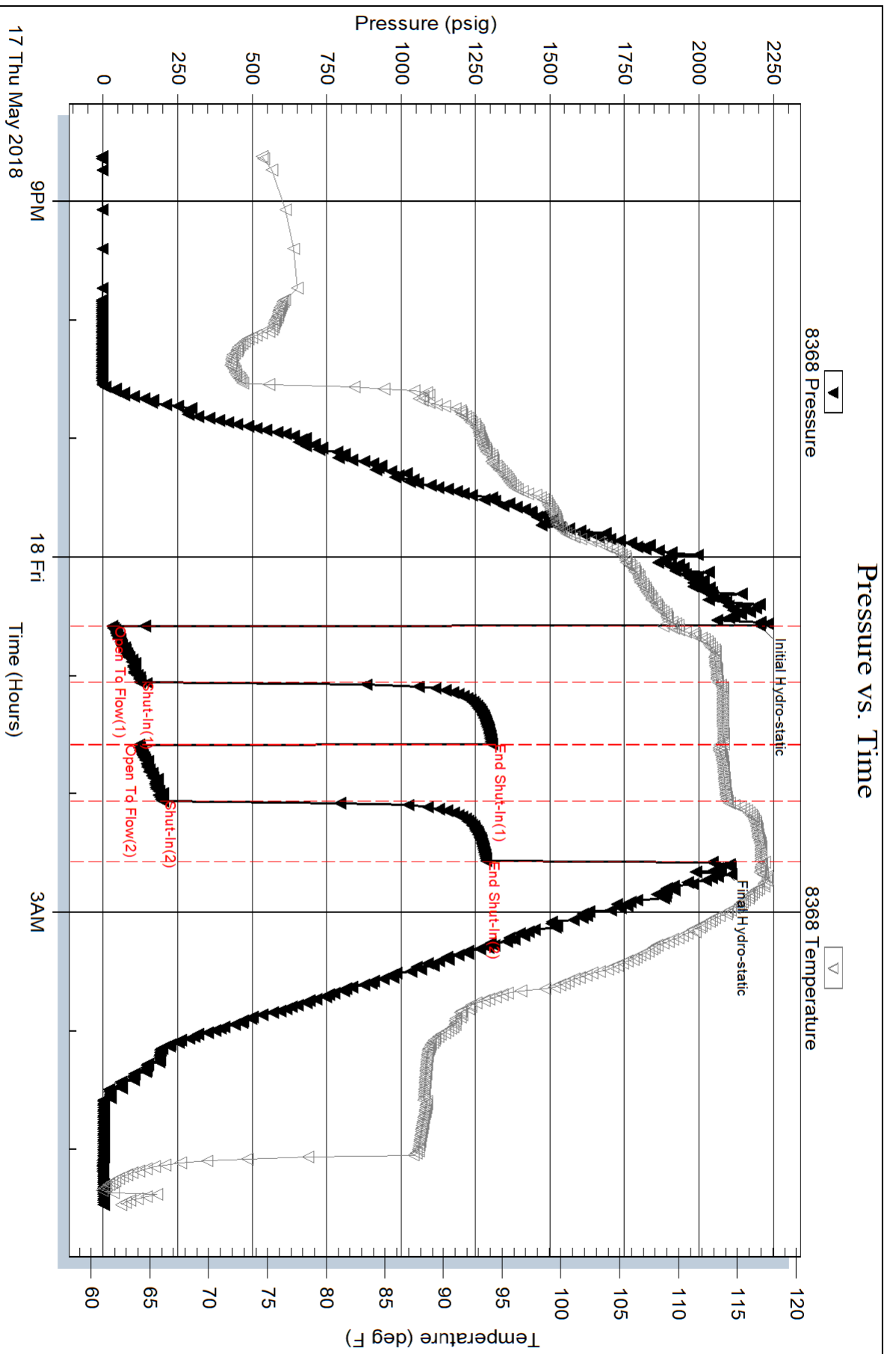
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2#LCM



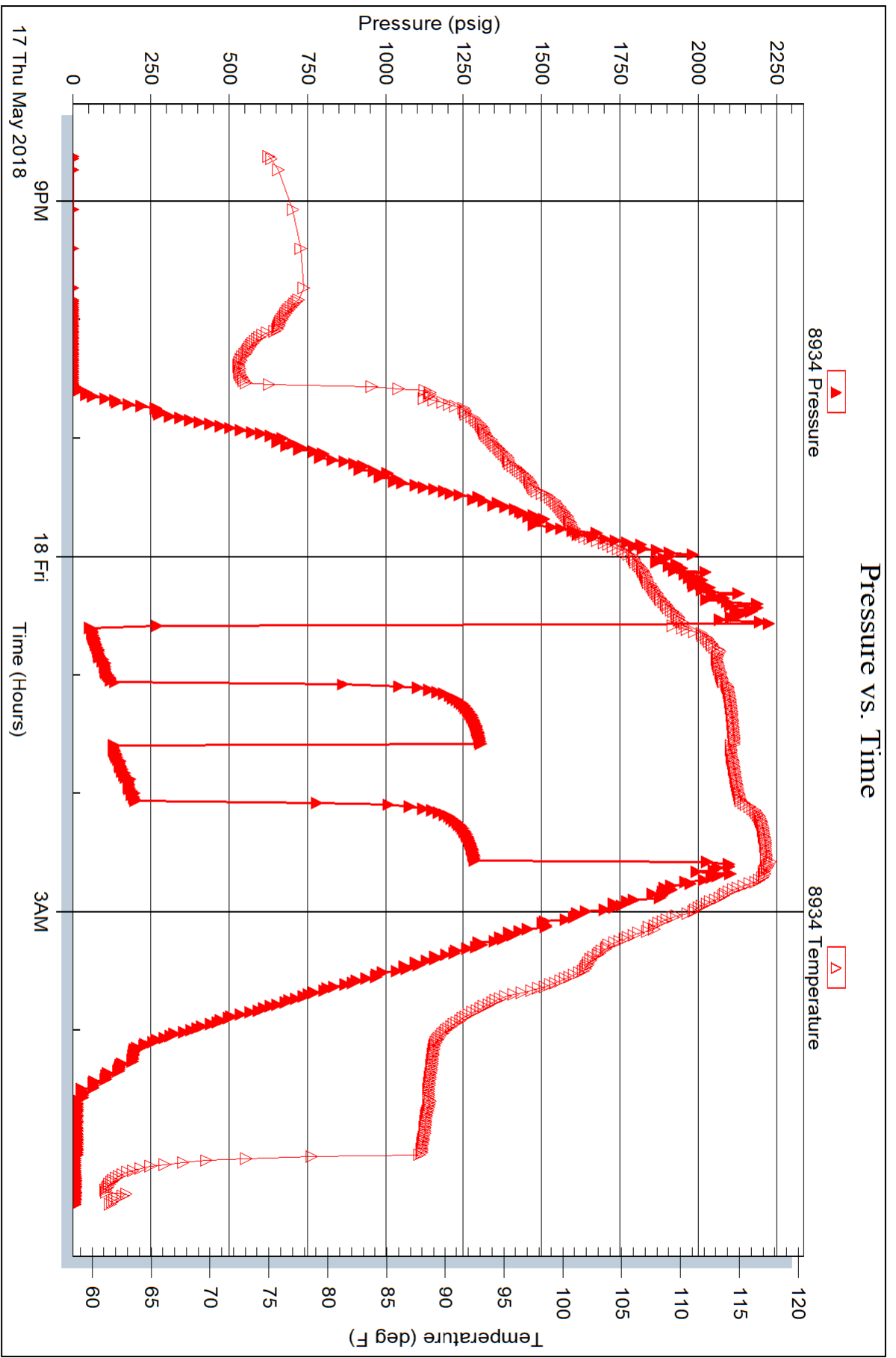
Serial #: 8934

Inside

DK Operating, Inc.

Whitley #5-13

DST Test Number: 1





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63904

Well Name & No. Whitley #5-13 Test No. 1 Date 05/17/2018
 Company OK Operating, Inc. Elevation 2238 KB 2231 GL
 Address 621 Benton St. Jetmore KS 67854
 Co. Rep / Geo. Jason Alm Rig Picknell #10
 Location: Sec. 13 Twp 20s Rge. 23w Co. Miss State KS

Interval Tested 4277' - 4340' Zone Tested Mississippi
 Anchor Length 63' Drill Pipe Run 4256' Mud Wt. 9.4
 Top Packer Depth 4272' Drill Collars Run — Vis 54
 Bottom Packer Depth 4277' Wt. Pipe Run — WL 9.2
 Total Depth 4340 Chlorides 5000 ppm System LCM 2#

Blow Description 17- Fair Blow; BOB in 12 mins; Built to 22 1/2"
1st - No Return
77- Fair Blow; BOB in 10 mins; Built to 31 1/2"
75d - Weak Return; Built to 1"

Rec	Feet of	%gas	%oil	%water	%mud
<u>290'</u>	<u>ASOCM</u>	<u>28</u>	<u>2</u>	<u>70</u>	<u>—</u>
<u>60'</u>	<u>1MO</u>	<u>20</u>	<u>50</u>	<u>30</u>	<u>—</u>
<u>90'</u>	<u>10</u>	<u>20</u>	<u>80</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>220' LDP</u>	<u>100</u>	<u>—</u>	<u>—</u>	<u>—</u>

Rec Total 440' BHT — Gravity 43° API RW — @ — F Chlorides — ppm

(A) Initial Hydrostatic <u>2202</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>20:19</u>
(B) First Initial Flow <u>31</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>20:37</u>
(C) First Final Flow <u>122</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>00:33 05/18/2018</u>
(D) Initial Shut-In <u>1305</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>02:33</u>
(E) Second Initial Flow <u>118</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>05:27</u>
(F) Second Final Flow <u>199</u>	<input checked="" type="checkbox"/> Mileage <u>138R7</u> 138	Comments <u>loaded tools after test</u>
(G) Final Shut-In <u>1287</u>	<input type="checkbox"/> Sampler <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
(H) Final Hydrostatic <u>2073</u>	<input type="checkbox"/> Straddle <u>—</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer <u>—</u>	<input type="checkbox"/> Extra Coples <u>—</u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer <u>—</u>	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Total <u>1613</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby <u>—</u>	MP/DST Disc't <u>—</u>
	<input type="checkbox"/> Accessibility <u>—</u>	
	Sub Total <u>1613</u>	

Approved By _____ Our Representative Spencer J. Jacob Thanks!

Triobite 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.

785-259-0056

SWIFT Services, Inc.

DATE **5-18-18** PAGE NO. **1**

CUSTOMER **D.K. Operating** WELL NO. **#5-13** LEASE **Whitley** JOB TYPE **5 1/2" Longstring** TICKET NO. **#31521**

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1430							on location 5 1/2" 17"
								RTD- 4340' LTD- N/A TP- 4348' SJ- #1 42.20 P.C. - #70 1459' out #56 #105 Turbo- #1 #2 #3 #4 #5 #6 #7 #8 #71 Basket - #69 #70
	1515							Start 5 1/2" 17" casing in well
	1730							Drop Ball Circulate
	1830	6 1/2	12		✓	300		Pump 500 gal Mud Flush
		6 1/2	20		✓	300		Pump 20 tbl KCL Flush
			7					Plug RH 30 sks
	1840	4 1/2	35		✓	200		mix 145 sks EA-2 @ 15.5 ppg
								wash out Pump + Lines Release Latch Down Plug
	1900	6 1/2	Ø		✓	100		Start Displacement
		6 1/2	69		✓	300		Lift Pressure
		6 1/2	99		✓	750		Max lift Pressure
	1915	6 1/2	100		✓	1500		Land Latch Down Plug
								Release Pressure * Plug Hold *
								wash up truck
	1945							Job Complete

Thank You
Dave Prashon Kirby



Engineer Brandon Mendez

E-Mail bmendeztuffmudder@gmail.com

Phone 785-625-3531 Office
785-656-3259 Cell

DRILLING MUD REPORT

REPORT NO. **5** DATE 5/18/2018 DEPTH 4340

OPERATOR	DK Operating, INC.	CONTRACTOR	Pickrell Drilling	RIG NO.	10
ADDRESS	Company	ADDRESS	Rig	SPUD DATE	5/11/2018
REPORT FOR	Daniel King	REPORT FOR	Mike Kern	SEC,TWN,RNG	13-20-23W
WELL NAME AND NO.	WHITLEY # 5-13	COUNTY AREA	Ness	STATE	Kansas

DRILLING ASSEMBLY				CASING		MUD VOLUME (bbl)	
Bit Size	7 7/8	No. Bits	2	Surface		Hole	323.4 Pits
Drill Pipe Size	4 1/2	Weight on Bit	30,000	8 5/8 @	220 ft.	Total Circulating Volume	723.4
Type	XH	Flowing Temp.		Intermediate		Mud Up Depth	3400
Drill Collar Size	6 1/4			@	ft.	Mud Type	Chemical-Pac
Bit RPM	60			Production		Activity	Drilling
Sample from flowline	X	Pit		@	ft.	Pits Used	3

MUD PROPERTIES				CIRCULATION DATA			
Time Sample Taken	915am	Pump Size	6X14	Annular Vel (Ft/Min)			
Depth (ft.)	4340	Pump Model	Assumed Eff.	90%	DP	197	DC
Weight (ppg)	9.4	Bbl/Stroke	0.139	Stroke/Min.	60	Circulation Pressure (PSI)	800
Mud Gradient (psi/ft.)	0.4888	Bbl/Min	8.34	Gal/Min.	350	Bottoms Up (Min.)	38.8
Funnel Viscosity (sec/qt.)	54	Elevation	2218ft	Total Circ Time (Min.)		86.7	
Plastic Viscosity	15	Daily Cost		\$1,970.30		Total	
Yield Point (lb./100 sq. ft.)	20	Product		On Hand		Used	
Gel Strength (lb./100 sq. ft.) 10 sec./10 min.	6/27	Premium Gel		39		Cost	
pH (Strip)	9	Hulls		25		5	
Filtrate API (ml./30 min.)	9.2	Soda Ash		7		2	
API HP-HT Filtrate (ml/30 min.)	XXX	Caustic		4		1	
Cake Thickness 32nd in. API	1/32	Lignite		2		1	
Alkalinity, Mud (Pm)	0.8	Lime		5			
Alkalinity, Filtrate (Pf/Mf)	0.3	Driscopac		0			
Chlorides (ppm)	5000	Desco		2			
Calcium (ppm)	20	PHPA		2			
Sand Content (% by Vol.)	TR	Barite		118		42	
Solids Content (% by Vol.)	5.2	Cedar Fiber					
Oil Content (% by Vol.)	XXX	Pol-E-Flake					
Water Content (% by Vol.)	94.8						
LCM, #/bbl	2#						
Methylene Blue Capacity	XXX						

REMARKS	MUD PROPERTIES SPECIFICATIONS				
	Weight	9.3-9.5	Viscosity	50-54	Filtrate

REMARKS	RECOMMENDED TOUR TREATMENT			
	Keep hole full at all times- very important	MAINTAIN VISCOSITY @ 50-54 SEC/QT WHILE DRLG, DST OR LOG		
If losing fluid pull 5 stands then work to get returns back	Keep weight at 9.3-9.5/ be conservative with running water to build mud wt to 9.3			
Call with any issues or complications 785-656-3259	Maintain 2-3# LCM			
Use PHPA at drillstring for tight connections	**No chemical treatment**			
	***BEFORE tripping out of hole mix 20-25 bar to pitmud with 2 soda ash and 4 hulls ~Fill pipe before coming out.			
	~For more efficient cement job mix desco flush- premix half pitmud half freshwater 2 desco 2 soda ash- run ahead of casing cement			

Reserve Pit Chlorides=	74000ppm.	Calcium=	1550ppm.	Volume=	750 bbls.
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The recommendations made hereon shall not be construed as authorizing the infringement of any valid patent, and are made without assumption of any liability by Andy's Mud & Chemical Co., LLC or its agents, and are statements of opinion only.

General Data

Well Data: DK Operating, Inc.
Whitley #5-13
2403' FNL & 364' FWL
Sec. 13 T20s R23w
Ness County, Kansas
API # 15-135-26006-0000

Drilling Contractor: Pickrell Drilling Rig #10

Geologist: Jason T Alm

Spud Date: May 11, 2018

Completion Date: May 18, 2018

Elevation: 2231' Ground Level
2238' Kelly Bushing

Directions: Bazine KS, West to W rd. South 9 ½ mi. East into location.

Casing: 220' 8 5/8" surface casing
4340' 5 1/2" production casing

Samples: 10' wet and dry, 4000' to RTD

Drilling Time: 3550' to RTD

Electric Logs: None

Drillstem Tests: One, Trilobite Testing, Inc. "Spencer Staab"

Problems: None

Remarks: None

Formation Tops

	DK Operating, Inc. Whitley #5-13 Sec. 13 T20s R23w 2403' FNL & 364' FWL
Formation	
Anhydrite	1436' +802
Base	1470' +768
Heebner	3670' -1432
Lansing	3717' -1479
BKC	4043' -1806
Pawnee	4167' -1929
Fort Scott	4235' -1997
Cherokee	4258' -2020
Mississippian	4318' -2080
Osage	4328' -2090
RTD	4340' -2102

Sample Zone Descriptions

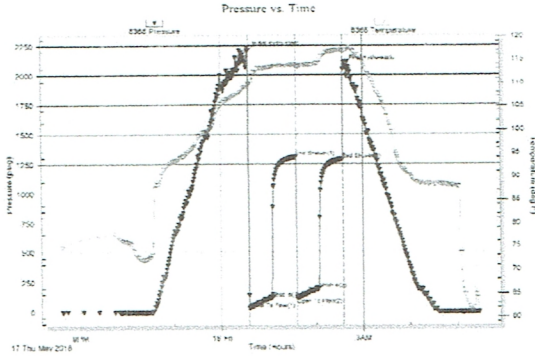
- Fort Scott** (4235', -1997): **Not Tested**
 Ls – Fine crystalline with poor to fair scattered inter-crystalline and vuggy porosity, light scattered fair oil stain with light saturation, slight show of free oil, no odor, good yellow flourescents.
- Miss Warsaw** (4318', -2080): **Covered in DST #1**
 Dolo – Fine crystalline with scattered poor vuggy and inter-crystalline porosity, light spotted oil stain, no show of free oil, light odor, very dull yellow flourescents.
- Miss Osage** (4328', -2090): **Covered in DST #1**
 Δ – Dolo – Mostly fresh, triptolic in part with fair to good vuggy porosity, dolomitic in part with poor inter-crystalline porosity, light to good oil stain in dolo, fair show of free oil, good odor, fair to good yellow flourescents.

Drill Stem Tests
 Trilobite Testing, Inc.
 "Spencer Staab"

DST #1 Mississippian Osage

Interval (4277' - 4340') Anchor Length 63'

IHP	- 2203 #	
IFP	- 30" - B.O.B. 12 min.	31-122 #
ISI	- 30" - Dead	1305 #
FFP	- 30" - B.O.B. 10 min.	118-199 #
FSI	- 30" - Built to 1 in.	1287 #
FHP	- 2074 #	
BHT	- 117°F	



Recovery:	220' GIP	
	90' GCO	
	60' GMO	50% Oil
	290' GSOCM	2% Oil

Structural Comparison

	DK Operating, Inc. Whitley #5-13 Sec. 13 T20s R23w 2403' FNL & 364' FWL	DK Operating, Inc. Ace #1-14 Sec. 14 T20s R23w 2485' FSL & 335' FEL		High Plains Petroleum Maranville B #2 Sec. 13 T20s R23w C NW SW	
Formation					
Anhydrite	1436' +802	1450' +801	(+1)	NA	NA
Base	1470' +768	1487' +764	(+4)	NA	NA
Heebner	3670' -1432	3684' -1433	(+1)	3675' -1441	(+9)
Lansing	3717' -1479	3733' -1482	(+3)	3725' -1491	(+12)
BKC	4043' -1806	4054' -1803	(-3)	NA	NA
Pawnee	4167' -1929	4178' -1927	(-2)	NA	NA
Fort Scott	4235' -1997	4246' -1995	(-2)	4239' -2005	(+8)
Cherokee	4258' -2020	4269' -2018	(-2)	NA	NA
Mississippian	4318' -2080	4330' -2079	(-1)	4330' -2096	(+16)
Osage	4328' -2090	4346' -2095	(+5)	4339' -2105	(+25)

Summary

The location for the Whitley #5-13 was found via 3-D seismic survey. The new well ran structurally as expected via the survey. One Drill Stem Test was conducted which recovered commercial amounts of oil from the Mississippian Osage Formation. After all gathered data had been examined the decision was made to run 5 ½ inch production casing to further evaluate the Whitley #5-13 well.

Recommended Perforations

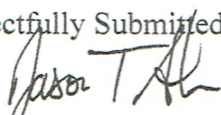
Primary:

Mississippian Osage	(4328' – 4338')	DST #1
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Before Abandonment:

Mississippian Warsaw	(4318' – 4324')	DST #1
Fort Scott	(4248' – 4254')	Not Tested

Respectfully Submitted,



Jason T Alm
Hard Rock Consulting, Inc.

QUALITY WELL SERVICE, INC.

6837

Federal Tax I.D. # 481187368

Home Office 30060 N. Hwy 281, Pratt, KS 67124

Mailing Address P.O. Box 468

Office 620-727-3410
Fax 620-672-3663

Rich's Cell 620-727-3409
Brady's Cell 620-727-6964

Date	5-11-12	Sec.	13	Twp.	20S	Range	23W	County	NESS	State	Ks	On Location	8:45	Finish	12:30			
Lease	WHITLEY		Well No.	5-13		Location NESS CH 5 to Rd												
Contractor	Pikeell Drlg #10							Owner										
Type Job	SURFACE							To Quality Well Service, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.										
Hole Size	12 1/4		T.D.	222'		Charge To OIL OPERATING												
Csg.	8 5/8		Depth	220		Street												
Tbg. Size			Depth			City												
Tool			Depth			State												
Cement Left in Csg.	25		Shoe Joint	25		The above was done to satisfaction and supervision of owner agent or contractor.												
Meas Line			Displace	12.5		Cement Amount Ordered 1705 Common												
EQUIPMENT													2 1/2 GAL 31.00					
Pumptrk	9	No.	Tono				Common		170									
Bulktrk	9	No.	Dillow		BENT		Poz. Mix											
Bulktrk		No.					Gel.		3									
Pickup		No.					Calcium		10									
JOB SERVICES & REMARKS													Hulls					
Rat Hole													Salt					
Mouse Hole													Flowseal					
Centralizers													Kol-Seal					
Baskets													Mud CLR 48					
D/V or Port Collar													CFL-117 or CD110 CAF 38					
Run 5 H's 8 5/8 23' csg 220'													Sand					
csg on Bottom Break circ													Handling 183					
													Mileage 37					
Pump 15 Bbls H2O													FLOAT EQUIPMENT					
Pump: MIC 170 5x Common													Guide Shoe					
2 1/2 GAL 31.00 1/4' CF.													Centralizer					
													Baskets					
Disp 12.5 Bbls H2O													AFU Inserts					
close VALVE on csg 12.15 200'													Float Shoe					
GOOD CIRC THRU JOBS													Latch Down					
CIRC 5 Bbls CUT to RT																		
													SERVICE SUPERVISOR					
													Pumptrk Charge SURFACE					
Thanks													Mileage 75					
PLEASE CALL DEAN													Tax					
Tom Dillow BENT													Discount					

SWIFT Services, Inc.

DATE 30 MAY 18 PAGE NO. 1

Operating		WELL NO.	LEASE	JOB TYPE	TICKET NO.			
		5-13	Whitely	cement port collar	31462			
PART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								175 sk SMD cement w/ 1/4" Floccul 2 3/8 x 5 1/2 port collar @ 1459'
	1350							on loc TRK 114
	1407		1			1000	1000	test to 1000 psi - held
	1412	3 1/2	2			200		open port collar injection rate 3 1/2 @ 200
	1423	3 1/2				200		mix SMD cement @ 11.2 pp - circ to pit.
		3 1/2	2			200		
		3 1/2	73			250		circulate cement to pit
								135 sk 135 sk 20 to pit
			7 1/2					Displace w/ 7 1/2 bbl H ₂ O close port collar
	1505					1000	1000	test to 1000 psi.
	1525							Run 5 joints Reverse hole clean - 2 cement plugs -
								wash track
								Rack up
	1600							job complete thanks Blaine, Flint & Russ



CHARGE TO: DK Operating
 ADDRESS:
 CITY, STATE, ZIP CODE

ICKEL U01402

SERVICE LOCATIONS: New City, KS

WELL/PROJECT NO.: 5-13 LEASE: W. H. H. H. H. COUNTY/PARISH: NEAR STATE: KS CITY: Jefferson DATE: 30 May 18 OWNER:
 TICKET TYPE: SERVICE SALES CONTRACTOR: 10 years RIG NAME/NO.: count + port collar SHIPPED VIA: DELIVERED TO ORDER NO.:
 WELL TYPE: oil WELL CATEGORY: Development JOB PURPOSE: count + port collar WELL PERMIT NO.: WELL LOCATION:

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
675					TRX 114	20	mi				5.00	1.00
576D					Pump Charge	1	ea				1300.00	1300.00
330					SWD count	135	sk				16.25	2193.75
276					Flocals	25	lb				2.50	62.50
290					D-air	1	gal				42.00	42.00
104					Opening tool rental	5 1/2	in		104		200.00	200.00
581					Service charge	175	sk				1.75	306.25
582					Draysage (win)	1	ea				250.00	250.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO PART OF WORK OR DELIVERY OF GOODS.
 SIGNED: [Signature] TIME SIGNED: A.M. P.M.

REMIT PAYMENT TO:
 SWIFT SERVICES, INC.
 P.O. BOX 466
 NESS CITY, KS 67560
 785-798-2300

SURVEY	AGREE	UNDECIDED	DISAGREE
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WE UNDERSTOOD AND MET YOUR NEEDS?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OUR SERVICE WAS PERFORMED WITHOUT DELAY?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND			

PAGE TOTAL: 4454.50
 NESS TAX: 65.90
 TOTAL: 4616.80

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.
 APPROVAL: BAH Thank You!



Services, Inc.

PO Box 466
Ness City, KS 67560
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. **431521**

DATE **5-18-18** PAGE **2** OF **3**

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL				DATE	UNIT PRICE	AMOUNT	
		LOG	ACCT	DF			QTY	U/M	QTY	U/M				TON MILES
325														
284						Standard Cement (EA-2)								
283						Celscan	5	%	175	slks	5-18-18	13.00	2275.00	
292						Self	10	%	900	slks	5-18-18	35.00	2800.00	
276						Heland 322	1/2	%	1000	lbs	5-18-18	00.180	180.00	
290						Floccide	1/4	lls	50	lls	5-18-18	8.00	800.00	
281						D-Air			2	gal	5-18-18	2.50	125.00	
221						Mud Flush Liquid KCL			500	gal	5-18-18	1.50	750.00	
									2	gal	5-18-18	25.00	50.00	
582						Minimum Drayage Charge			1	ea	5-18-18	250.00	250.00	
581						Mileage Charge			175		5-18-18	1.70	306.00	

CONTINUATION TOTAL **5100.**

Quality Well Service, Inc.

PO Box 468
Pratt, KS 67124

5-30-18
CK# 3250

Invoice

Date	Invoice #
5/21/2018	2015

Bill To
DK Operating Inc. 621 Benton Jetmore, KS 67854-5311

P.O. No.	Terms	Lease Name
		Whitley #5-13

Description	Qty	Rate	Amount
Common	170	15.50	2,635.00
Gel	3	22.00	66.00
Calcium	10	60.00	600.00
SFC 0-500'	1	600.00	600.00
Handling	183	2.10	384.30
.08 * sacks * miles	6,771	0.08	541.68
Service Supervisor	1	150.00	150.00
LMV	37	3.75	138.75
Heavy Equipment Mileage	75	8.00	600.00
Customer Discount		-1,600.40	-1,600.40
Discount Expires after 30 days from the date of the invoice		0.00	0.00
Whitley #5-13 Ness Co.			

Thank You for your business!	Subtotal	\$4,115.33
	Sales Tax (6.5%)	\$0.00
	Total	\$4,115.33