KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION 1364357

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 #	API No. 15
Name:	Spot Description:
Address 1:	
Address 2:	Feet from Dorth / South Line of Section
City: State: Zip:+	Feet from East / West Line of Section
Contact Person:	Footages Calculated from Nearest Outside Section Corner:
Phone: ()	
CONTRACTOR: License #	GPS Location: Lat:, Long:
Name:	(e.g. xx.xxxx) (e.gxxx.xxxx)
Wellsite Geologist:	Datum: NAD27 NAD83 WGS84
Purchaser:	County:
Designate Type of Completion:	Lease Name: Well #:
New Well Re-Entry Workover	Field Name:
	Producing Formation:
	Elevation: Ground: Kelly Bushing:
Gas D&A ENHR SIGW	Total Vertical Depth: Plug Back Total Depth:
OG GSW Temp. Abd.	Amount of Surface Pipe Set and Cemented at: Feet
CM (Coal Bed Methane) Cathodic Other (Core, Expl., etc.):	Multiple Stage Cementing Collar Used?
If Workover/Re-entry: Old Well Info as follows:	If yes, show depth set: Feet
Operator:	If Alternate II completion, cement circulated from:
Well Name:	feet depth to:w/sx cmt.
Original Comp. Date: Original Total Depth:	
Deepening Re-perf. Conv. to SWD	
Plug Back     Conv. to GSW     Conv. to Producer	Drilling Fluid Management Plan (Data must be collected from the Reserve Pit)
Commingled Permit #:	Chloride content: ppm Fluid volume: bbls
Dual Completion Permit #:	Dewatering method used:
SWD         Permit #:	Location of fluid disposal if hauled offsite:
ENHR         Permit #:	Operator Name:
GSW Permit #:	Lease Name:License #:
	QuarterSecTwpS. R East West
Spud Date or         Date Reached TD         Completion Date or           Description Date         Description Date or         Description Date or	
Recompletion Date Recompletion Date	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:

	Page Two	1364357
Operator Name:	Lease Name:	Well #:
Sec TwpS. R East West	County:	
INCTDUCTIONS: Chave important tang of formations panetrated. Do	tail all aaroo Banart all final	ponion of drill atoms toots giving interval tootod, time tool

**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 Sh	eets)	Yes No		-	n (Top), Depth an		Sample
Samples Sent to Geolog	gical Survey	Yes No	Nam	e		Тор	Datum
Cores Taken Electric Log Run		☐ Yes ☐ No ☐ Yes ☐ No					
List All E. Logs Run:							
			RECORD Ne				
		Report all strings set-c	onductor, surface, inte	ermediate, producti	on, 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 / SQL	JEEZE RECORD			
Purpose: Perforate	Depth Top Bottom	Type of Cement	# Sacks Used		Type and Pe	ercent Additives	
Protect Casing							
Plug Off Zone							

Did you perform a hydraulic fracturing treatment on this well?	Yes	No	(
Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?	Yes	No	(
Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?	Yes	No	(

(If No, skip questions 2 and 3) (If No, skip question 3)

(If No, fill out Page Three of the ACO-1)

Shots Per Foot		PERFORATION Specify Fo		RD - Bridge F Each Interval I		96			ement Squeeze Record d of Material Used)	Depth
TUBING RECORD:	Si	ze:	Set At:		Packe	r At:	Liner R	un:	No	
Date of First, Resumed	d Product	tion, SWD or ENH	٦.	Producing N		ping	Gas Lift	Other (Explain)		
Estimated Production Per 24 Hours		Oil Bb	ls.	Gas	Mcf	Wate	er	Bbls.	Gas-Oil Ratio	Gravity
DIODOOIT		240			METHOD					
DISPOSIT	d 🗌	Used on Lease		Open Hole	Perf.	OF COMPLE	Comp.	Commingled (Submit ACO-4)	PRODUCTION INT	ERVAL:
(If vented, Su	ibmit ACC	)-18.)		Other (Specify)						

Form	ACO1 - Well Completion
Operator	DK Operating Inc.
Well Name	TULL 1-18
Doc ID	1364357

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Type and Percent Additives
Surface	12.250	8.625	23	223	class A	2% gel,3%cc 1/4 PS

	DK Operating, Inc.
	Tull #1-18
	Sec. 18 T21s R22w
Formation	1250' FNL & 778' FWL
Anhydrite	1440' +839
Base	1483' +796
Heebner	3710' -1431
Lansing	3761' -1482
BKC	4081' -1802
Marmaton	4120' -1841
Pawnee	4199' -1920
Fort Scott	4267' -1988
Cherokee	4293' -2014
Mississippian	4351' -2072
Osage	4362' -2083
RTD	4371' -2092

# **Formation Tops**

## Sample Zone Descriptions

Fort Scott	Ls – Fine crystalline v light spotted oil stain v	<b>Covered in DST 2</b> with poor to fair inter-crystalline porosity, with scattered very light saturation, no show good spotted fluorescents
Miss Osage	$\Delta$ –Weathered in part, vuggy porosity, slight	<b>Covered in DST #1</b> mostly fresh with scattered fair to good tly dolomitic, fine crystalline, light to fair oil n dolomite, slight show of free oil, good

*3*6860 -2661 37-2881 HSI

HURRICANE SERVICES INC

104 Prairie Plaza Parkway Garnett, KS 66032 Ph: 785-448-3100 Fax: 785-448-3102

FED ID# 48 MC ID# 16

48-1214033 165290

Remit to: Hurricane Services, Inc. 250 N. Water, Suite 200 Wichita, KS 67202

Customer:	Invoice Date:		5/13/2017
DK OPERATING INC	Invoice #:		0031041
621 BENTON ST	Lease Name:		TULL
JETMORE, KS 67854-5311	Well #:		1-18
	County:	HC	DGEMAN
Date/Description	HRS/QTY	Rate	Total
Ticket 100735 223' Surface	0.000	0.000	0.00
Light Eq mileage one way	75.000	1.080	81.00
Heavy Eq mileage one way	150.000	2.340	351.00
Ton Mileage one way #242	594.000	0.936	555.98
Regular class A cement	165.000	11.700	1,930.50
Bentonite Gel	310.000	0.216	66.96
Calcium chloride	465.000	0.720	334.80
Pheno Seal	41.000	1.224	50.18
Cementer #231	C 1.000	684.000	684.00
Cementer #231	17		
95	C		
and the second			
300			
16 / te			
B: Jan			

 Net Invoice
 4,054.42

 Sales Tax: (7.65%)
 147.68

 Total
 4,202.10

All invoices are due upon receipt. Interest at the rate of 1 1/2% per month may be charged on all invoices not paid within 30 days from date of invoice.

WE APPRECIATE YOUR BUSINESS!

gi ve



250 N. Water, Ste 200 - Wichita, Ks 67202

## HIRRICANE SERVICES INC

104 Prairie Plaza Parkway - Garnett, Ks 66032

7.150%

Sale Tax: \$

5/13/2016

Todd Seba Tony P

Total: \$

Tax Rate:

Customer Comments:

4,054.43

	HURRICAN	E SERVICI	ES TINC						
Customer	D K Operating	Customer Name:			Ticket No.:		100735	5	
Address	621 Benton St.	Contractor:	Pickrell Drlg. # 10		Date: 5/1		5/13/201	13/2017	
City, State, Zip:	Jetmore,Ks. 67854	Job type	223'Su	rface	Well Type:		Oil		
Service District	Hays,Ks.	Well Details:	Sec:	18	Twp:	21S	R:	22W	
Well name & No.	Tull # 1-18	Well Location:	Jetmore	County:	Hodgeman	State:	Ka	ansas	
Equipment #	Driver		TRUCK CALL	ED			AM PM	TIME	
231	Cody		ARRIVED AT	JOB			AM PM	3:15	
242	Sheldon		START OPER	ATION			AM PM	5:20	
25	Tony		FINISH OPER	ATION			AM PM	5:45	
28	Todd		RELEASED				AM PM	6:15	
			MILES FROM	STATION T	O WELL			82	
	T	reatment Sur	mmary						
Product/Service		Unit of		List	Gross				
Code	Description	Measure	Quantity	Price/Unit	Amount	1.1.10		Net Amou	
:001	Heavy Equip. One Way	mi	150.00	\$3.25	\$487.50			\$351.	
:002	Light Equip. One Way	mi	75.00	\$1.50	\$112.50			\$81.	
:003	Ton Mileage - One way	mi	594.00	\$1.30	\$772.20			\$555.	
P006	Regular - Class A Cement	sack	165.00	\$16.25	\$2,681.25			\$1,930.	
P013	Bentonite Gel	lb	310.00	\$0.30	\$93.00			\$66.	
P014	Calcium - Chloride	lb lb	465.00	\$1.00 \$1.70	\$465.00			\$334.	
C019	Pheno Seal Cement Pump	ea	41.00	\$950.00	\$69.70 \$950.00			\$684.	
				4000.00				<b>4004</b> .	
	· · · · · · · · · · · · · · · · · · ·								
ERMS: Cash in adva	nce unless Hurricane Services Inc. (HSI) has approved credit prior to								
ale. Credit terms of sa	ale for approved accounts are total invoice due on or before the 30th day			Gross:	\$ 5,631.15	Net:	\$	4,054.	

**Total Taxable** 

Date of Service:

HSI Representative:

Frac and Acid service treatments designed with intent to

increase production on newly drilled or existing wells are

not taxable

\$

ance unless Hurricane Services Inc. (HSI) has approved credit pr TERMS: sale. Credit terms of sale for approved accounts are total invoice due on or before the 30th day from the date of invoice. Past due accounts may pay interest on the balance past due at the rate of 1 1/2% per month or the maximum allowable by applicable state or federal laws if such laws limit interest to a lesser amount. In the event it is necessary to employ an agency and/or attorney to affect the collection of said account, Customer hereby agrees to pay all fees directly or indirectly incurred for such collection. In the event that Customer's account with HSI becomes delinquent, HSI has the right to revoke any and all discounts previously applied in arriving at net invoice price. Upon revocation, the full invoice price without discount will become immediately due and subject to collection. Prices quoted are estimates only and are good for 30 days from the date of issue. Pricing does not include federal, state, or local taxes, or royalties and stated price adjustments. Actual charges may vary depending upon time, equipment, and material ultimately required to perform these services. Discount rate is based on 30 days net payment terms or cash.

#### DISCLAIMER NOTICE:

This technical data is presented in good faith, but no warranty is given by and H.S.I assumes no liability for advice or recommendations made concerning results to be obtained from the use of any product or service. The information presented is HSI best estimate of the actual results that may be achieved and should be used for comparison purposes and make no guarantee of future production performance. Customer warrants that well and all associated equipment in acceptable condition to receive services by H.S.I. Likewise, the customer will guarantee proper operational care of all customer owned production and associated equipment, while H.S.I. is on location performing services which could adversely affect the performance of such services. Authorization below acknowledges receipt and acceptance of all terms and conditions stated X

CUSTOMER AUTHORIZED AGENT

## TREATMENT REPORT



HURRICANE SERVICES INC

Customer: DK O	perating			Dat	te: 5/13/2017		Ticket No.:	100	735
Field Rep: Mike I	Kern								
Address:									
City, State:									
County, Zip:									
Field Ord	er No.:	100	735	Open Ho	le:	_	Perf De	nthe (ft)	Perfs
	Name:	Tull #		Casing Dept		-	Feirbe	pens (re)	rens
	cation:	Jetmo		Casing Siz					
	nation:			Tubing Dept					
Type of S	ervice:	Surf	ace	Tubing Siz		-			
	I Type:	0		Liner Dept		-			
	of Well:	Ne	w	Liner Siz		-			
	r Type:			Liner To	op:	_			
Packer				Liner Botto	m:				
Treatme	ent Via:	Cas	ing	Total Dept	th: 223'	_			
	L							Total Perfs	0
	INJECTION R	ATE	PRES	SURE			PROP	HCL	FLUID
TIME FL		N2/CO2	STP	ANNULUS	REMARKS		(lbs)	(gls)	(bbls)
12:15 PM				Called Out					
3:15 PM					Rig circulating				
3:30 PM					Meeting Spot & Set Up Trucks				
				TD= 223' TP=	=222' SJ=20'				
4:10 PM				Start Casing					
5:05 PM				Casing On b					
5:15 PM					Casing Break Circulation W/Rig				
5:20 PM	3.5		150.0	Start Pumpir					10.
5:27 PM	3.5		150.0		ump 165 Sk Common 2% Gel 3%	6 C.C. 1/4 PS			
				15 Lb/Gal Yie					40.
	3.5		150.0	Start Displac	emnet H20				
5:45 PM				Shut Down					12.
			200.0	Close Vavle			_		
					ation Thru Job				
				Circulate Ce			_		
6:15 PM					Off Location				
					Thank You Please Call Again				
					Tony Cody Sheldon Todd	TOTAL:			63.0
									00.0
		SUMM	MARY		PRODUCTS USED				
	I. Rate Av	g Fl. Rate	Max PSI	Avg PSI					

165 Sacks Common 2% Gel 3% C.C. 1/4 Lb Phenoseal

Treater:

Todd Seba

Customer: Mike Kern

TIN TOU OD		DRILL STI	DRILL STEM TEST REPORT							
RILOB		DK Operating, Inc.			18-21S-22W Hodgeman, KS					
TESTING , INC		OZ I Donton Ot.			Tu	II #1-18				
		Jetmore, KS 67854	1		Job	Ticket: 63	3191	DST	#:1	
		ATTN: Jason T. A	Alm		Tes	t Start: 20	017.05.20 @	0 15:08:5	0	
GENERAL INFORMAT	10N:									
Formation: Miss Deviated: No	Whipstock:	ft (KB)			Tes	t Type:	Convention	al Bottom	Hole (Initial)	
Time Tool Opened: 16:57:11 Time Test Ended: 21:54:26	ool Opened: 16:57:11				Tes	ter:	Brannan Lo 73		. ,	
		571.00 ft (KB) (TVD)				erence Ele		2279	.00 ft (KB)	
Fotal Depth: 4371.0					2272.	.00 ft (CF)				
Hole Diameter: 7.8	8 inchesHole	Condition: Fair				KB t	to GR/CF:	7.	.00 ft	
	outside 169.43 psig	@ 4336.00 ft (Ki	B)		Capacity			8000	.00 psig	
	2017.05.20	End Date:	5)	2017.05.20	Last Cali			2017.05.		
Start Time:	15:08:51	End Time:		21:54:26	Time On Time Off		2017.05.20 2017.05.20			
30-	ISI- No blow FF- BOB 23 FSI- No blow									
30- 45-	FF-BOB 23	mins					RESUMM	and an open		
30-	FF- BOB 23 FSI- No blow	mins		Time (Min.)	Pressure (psig)	Temp (deg F)	Annotati	ion		
30- 45-	FF- BOB 23 FSI- No blow	mins		(Min.) 0	Pressure (psig) 2180.34	Temp (deg F) 107.27	Annotati	ion ro-static		
30- 45-	FF- BOB 23 FSI- No blow	mins		(Min.)	Pressure (psig)	Temp (deg F) 107.27 106.41 114.49	Annotati Initial Hydr Open To I Shut-In(1)	ion ro-static Flow (1)		
30- 45-	FF- BOB 23 FSI- No blow	mins		(Min.) 0 1 29 77	Pressure (psig) 2180.34 30.53 134.15 1223.41	Temp (deg F) 107.27 106.41 114.49 115.79	Annotati Initial Hydr Open To I Shut-In(1) End Shut-	ion ro-static Flow (1) ) In(1)		
30- 45-	FF- BOB 23 FSI- No blow	mins		(Min.) 0 1 29	Pressure (psig) 2180.34 30.53 134.15	Temp (deg F) 107.27 106.41 114.49 115.79 115.50	Annotati Initial Hydr Open To I Shut-In(1)	ion ro-static Flow (1) ) In(1) Flow (2)		
30- 45-	FF- BOB 23 FSI- No blow	mins	- 10 - 10 - 50 - 50 - 50	(Min.) 0 1 29 77 77 109 152	Pressure (psig) 2180.34 30.53 134.15 1223.41 108.08 169.43 1156.01	Temp (deg F) 107.27 106.41 114.49 115.79 115.50 121.34 120.55	Annotati Initial Hydr Open To I Shut-In(1) End Shut- Open To I Shut-In(2) End Shut-	ion ro-static Flow (1) ) In(1) Flow (2) ) In(2)		
30- 45-	FF- BOB 23 FSI- No blow	mins		(Min.) 0 1 29 77 77 109	Pressure (psig) 2180.34 30.53 134.15 1223.41 108.08 169.43	Temp (deg F) 107.27 106.41 114.49 115.79 115.50 121.34 120.55	Annotati Initial Hydr Open To F Shut-In(1) End Shut- Open To F Shut-In(2)	ion ro-static Flow (1) ) In(1) Flow (2) ) In(2)		
30- 45-	FF- BOB 23 FSI- No blow	mins		(Min.) 0 1 29 77 77 109 152	Pressure (psig) 2180.34 30.53 134.15 1223.41 108.08 169.43 1156.01	Temp (deg F) 107.27 106.41 114.49 115.79 115.50 121.34 120.55	Annotati Initial Hydr Open To I Shut-In(1) End Shut- Open To I Shut-In(2) End Shut-	ion ro-static Flow (1) ) In(1) Flow (2) ) In(2)		
	FF- BOB 23 FSI- No blow	mins		(Min.) 0 1 29 77 77 109 152	Pressure (psig) 2180.34 30.53 134.15 1223.41 108.08 169.43 1156.01	Temp (deg F) 107.27 106.41 114.49 115.79 115.50 121.34 120.55	Annotati Initial Hydr Open To I Shut-In(1) End Shut- Open To I Shut-In(2) End Shut-	ion ro-static Flow (1) ) In(1) Flow (2) ) In(2)		
	FF- BOB 23 FSI- No blow	mins		(Min.) 0 1 29 77 77 109 152	Pressure (psig) 2180.34 30.53 134.15 1223.41 108.08 169.43 1156.01	Temp (deg F) 107.27 106.41 114.49 115.79 115.50 121.34 120.55	Annotati Initial Hydr Open To I Shut-In(1) End Shut- Open To I Shut-In(2) End Shut-	ion ro-static Flow (1) ) In(1) Flow (2) ) In(2)		
	FF- BOB 23 FSI- No blow	mins		(Min.) 0 1 29 77 77 109 152	Pressure (psig) 2180.34 30.53 134.15 1223.41 108.08 169.43 1156.01	Temp (deg F) 107.27 106.41 114.49 115.79 115.50 121.34 120.55 120.85	Annotati Initial Hydr Open To I Shut-In(1) End Shut- Open To I Shut-In(2) End Shut-	ion ro-static Flow (1) ) In(1) Flow (2) ) In(2)		
30- 45-	FF- BOB 23 FSI- No blow Pressure vs. 1	mins	- 19 - 19 - 19 - 19 - 19 - 19 - 19 - 19	(Min.) 0 1 29 77 77 109 152	Pressure (psig) 2180.34 30.53 134.15 1223.41 108.08 169.43 1156.01	Temp (deg F) 107.27 106.41 114.49 115.79 115.50 121.34 120.55 120.85	Annotati Initial Hydr Open To I Shut-In(1) End Shut- Open To I Shut-In(2) End Shut- Final Hydr	ion ro-static Flow (1) ) In(1) Flow (2) ) In(2)	Gas Rate (Mct/d)	
30- 45-	FF- BOB 23 FSI- No blow Pressure vs. 1	mins	- 120 - 120	(Min.) 0 1 29 77 77 109 152	Pressure (psig) 2180.34 30.53 134.15 1223.41 108.08 169.43 1156.01	Temp (deg F) 107.27 106.41 114.49 115.79 115.50 121.34 120.55 120.85	Annotati Initial Hydr Open To I Shut-In(1) End Shut- Open To I Shut-In(2) End Shut- Final Hydr	ion ro-static Flow (1) ) In(1) Flow (2) ) In(2) ro-static	Gas Rate (McI/d)	
30- 45-	FF- BOB 23 FSI- No blow Pressure vs. 1	mins	- 120 - 120	(Min.) 0 1 29 77 77 109 152	Pressure (psig) 2180.34 30.53 134.15 1223.41 108.08 169.43 1156.01	Temp (deg F) 107.27 106.41 114.49 115.79 115.50 121.34 120.55 120.85	Annotati Initial Hydr Open To I Shut-In(1) End Shut- Open To I Shut-In(2) End Shut- Final Hydr	ion ro-static Flow (1) ) In(1) Flow (2) ) In(2) ro-static	Gas Rate (Mct/d)	

	DRILL STEM TE	ST REPU		10 control
and a second sec	DK Operating, Inc.		18-21S-22W Hodge	eman, KS
	621 Benton St.		Tull #1-18	
	Jetmore, KS 67854		Job Ticket: 63191	DST#:1
	ATTN: Jason T. Alm		Test Start: 2017.05.20	@ 15:08:50
ERAL INFORMATION:				
Miss	ft (KB)			
No Whipstock: Too Opened: 16:57:11		Test Type: Conventio Tester: Brannan L		
Test Ended: 21:54:26			Unit No: 73	
4311.00 ft (KB) To 4371	.00 ft (KB) (TVD)		Reference Elevations:	2279.00 ft (KB)
2=cm 4371.00 ft (KB) (TVD	)			2272.00 ft (CF)
Ziameter: 7.88 inchesHole C	ondition: Fair		KB to GR/CF:	7.00 ft
al≢: 6838 Inside				
Care: 2017.05.20	4336.00 ft (KB) End Date:	2017.05.20	Capacity: Last Calib.:	8000.00 psig 2017.05.20
The 15:08:06	End Time:	2017:05:20	Time On Btm:	2017.03.20
			Time Off Btm:	
COMMENT: 30- IF- BOB 16 min	5			
45- ISH No blow				
30- FF- BOB 23 mir 45- FSI- No blow	IS			
Pressure vs. Tina				
Pressure vs. 100	CCCS Temperature	Time	PRESSURE SUM Pressure Temp Annota	
# _ ~		and the second se	(psig) (deg F)	
1				
		Tempera		
		raturo		
	1 7			
		1 1	1 1	
BW Temptunj				
			Gas Rates	
Recovery Description	Volume (bbl)			sure (psig) Gas Rate (Mc//d
Recovery Description	Volume (bbl) A 0.91			sure (psig) Gas Rate (Mc//d
Recovery           Description           00         0CMVV, 10%0 60%W 30%M           00         0CMVV, 10%0 15%W 75%M	Volume (bbi) A 0.91 A 1.80			sure (psig) Gas Rate (Mc//d
Recovery Description	Volume (bbl) A 0.91			sure (psig) Gas Rate (Mct/d
Recovery           Description           00         OCM/V, 10%O 60%W 30%M           30         WOCM, 10%O 15%W 75%M	Volume (bbi) A 0.91 A 1.80			sure (psig) Gas Rate (Mc/ld

2.

	BITE		erating, Inc.		REPOR	18-21S-22W Hodger	TOOL DIAGRAM
TEST	ING , INC					-	iiuii, ito
	mu, wo		nton St. e, KS 67854			Tull #1-18	
		Jeunore	, NO 07004			Job Ticket: 63191	DST#:1
		ATTN:	Jason T. Alr	n		Test Start: 2017.05.20 @	0 15:08:50
Tool Information							
Drill Pipe: Length:	4310.00 ft	Diameter:	3.82 in	ches Volume:	61.10 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe: Length:	ft	Diameter:	in	ches Volume:	- bbl	Weight set on Packer:	25000.00 lb
Drill Collar: Length:	0.00 ft	Diameter:	2.25 in	ches Volume:		Weight to Pull Loose:	
Drill Pipe Above KB:	26.00 ft			Total Volume:	- bbl	Tool Chased	0.00 ft
Depth to Top Packer:	4311.00 ft					String Weight: Initial	57000.00 lb
Depth to Bottom Packer:	ft					Final	58000.00 lb
Interval between Packers:	60.00 ft						
Tool Length:	87.00 ft						
Number of Packers:	2	Diameter:	6.75 in	ches			
Tool Comments:							
Tool Description	Ler	ngth (ft)	Serial No.	Position	Depth (ft) Ac	ccum, Lengths	
Change Over Sub		1.00			4285.00		
Shut In Tool		5.00			4290.00		
Hydraulic tool		5.00			4295.00		
Jars		5.00			4300.00		
Safety Joint		2.00			4302.00		
Packer		5.00			4307.00	27.00	Bottom Of Top Packer
Packer		4.00			4311.00		
		1.00			4312.00		
Stubb		23.00			4335.00		
Perforations		1.00			4336.00		
Perforations Change Over Sub		1.00 0.00	6838	Inside	4336.00 4336.00		
Perforations Change Over Sub Recorder			6838 8524	Inside Outside			
Stubb Perforations Change Over Sub Recorder Recorder Drill Pipe		0.00			4336.00		
Perforations Change Over Sub Recorder Recorder		0.00 0.00			4336.00 4336.00		
Perforations Change Over Sub Recorder Recorder Drill Pipe		0.00 0.00 31.00			4336.00 4336.00 4367.00	60.00 Bot	ttom Packers & Anchor

and Town	[	DRILL STEM TEST REPORT	FLUID SUMMARY		
RILOBITE TESTING, INC.		DK Operating, Inc.	18-21S-22W Hodgeman, KS		
		621 Benton St.	Tull #1-18		
		Letmore, KS 67854	Job Ticket: 63191	DST#:1	
-		ATTN: Jason T. Alm	Test Start: 2017.05.	20 @ 15:08:50	
Mud and Cushion Info	ormation				
Mud Type: Gel Chem		Cushion Type:	Oil API:	27 deg API	
Mud Weight: 9.00 lb	/gal	Cushion Length:	ft Water Sa	alinity: 28000 ppm	
Viscosity: 53.00 se	ec/qt	Cushion Volume:	bbl		
Water Loss: 9.38 in	3	Gas Cushion Type:			
Resistivity: of	nm.m	Gas Cushion Pressure:	psig		
Salinity: 4000.00 pp	m				
Filter Cake: in	ches				
Recovery Information					

			Recovery Table		
Lengt ft	h		Description		Volume bbl
	64.00	OCMW	, 10%O 60%W 30%M		0.907
	127.00	WOCM	, 10%O 15%W 75%M		1.800
	143.00	SOCM,	10%O 90%M		2.027
Total Length:	334	.00 ft	Total Volume:	4.734 bbl	
Num Fluid Samp	0.00		Num Cas Bomba	0	Contald

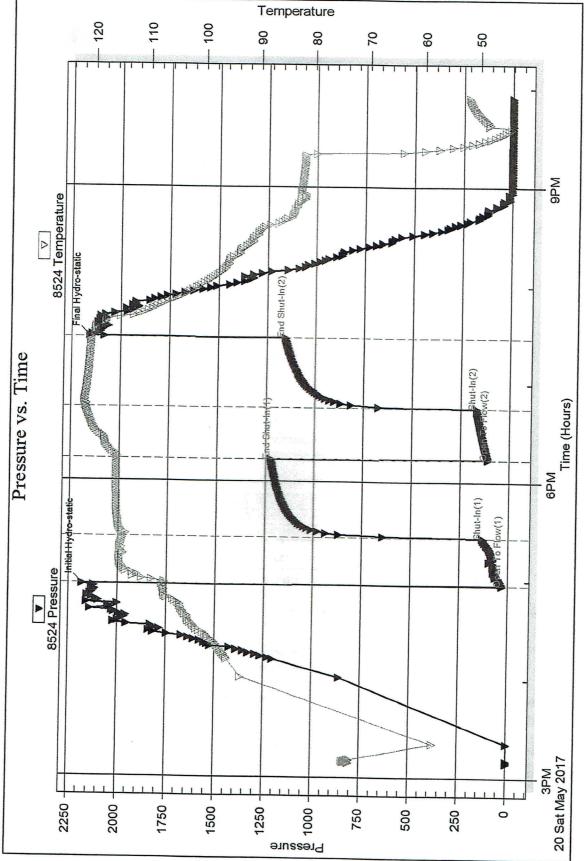
 Num Fluid Samples: 0
 Num Gas Bombs: 0
 Serial #:

 Laboratory Name:
 Laboratory Location:

Recovery Comments: RW: .28@58deg

Tricbite Testing, Inc

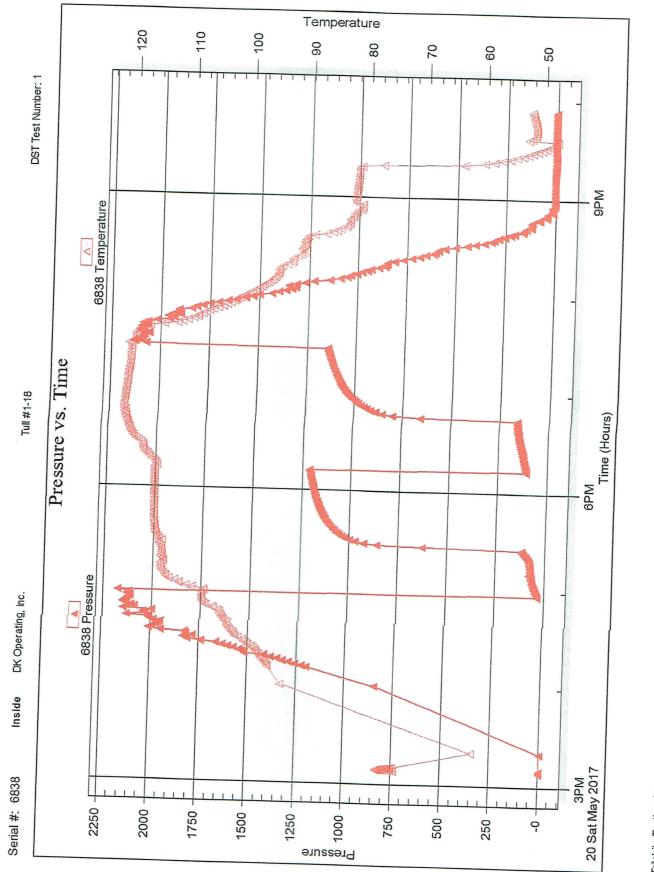




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Ref. No: 63191

Trilobite Testing, Inc



Printed: 2017.05.22 @ 08:37:04

Ref. No: 63191

Trilobite Testing, Inc

RILOBITE			ORT				
TESTING, INC.	DK Operating, Inc.		18-	215-220	V Hodgen	nan, KS	
	621 Benton St. Jetmore, KS 67854			II #1-18 Ticket: 63	3192	DST#:2	
	ATTN: Jason T. Alm		Tes	t Start: 20	017.05.20 @	22:35:24	
GENERAL INFORMATION:							
Formation: Ft. Scott Deviated: No Whipstock: Time Tool Opened: 01:17:45 Time Test Ended: 05:45:30	ft (KB)		Tes	ter: I	Conventiona Brannan Lor 73	l Straddle (R nsdale	eset)
Atternal:         4245.00 ft (KB) To         4245           Total Depth:         4371.00 ft (KB) (TV           Hole Diameter:         7.88 inchesHole	D)		Ref	erence Ele KB t	evations:	2279.00 2272.00 7.00	ft (CF)
Serial #: 8524       Outside         tress@RunDepth:       49.19 psig (         start Date:       2017.05.20         start Time:       22:35:25         EST COMMENT:       30- IF- Weak blow         30- ISH No blow       30- FF- Weak blow         30- FF- Weak blow       30- FF- Weak blow	End Date: End Time:	2017.05.21 05:45:30	Capacity Last Calil Time On Time Off	b.: Btm: 2	2017.05.21 ( 2017.05.21 (		psig
Pressure vs. Ti	me V		Pf	RESSUF	RESUMM	ARY	
		Time (Min.) 0 1 28	Pressure (psig) 2184.15 41.08 46.46	116.20	Annotatio Initial Hydro Open To Fl Shut-In(1)	o-static low (1)	
		700 61 62 90 121 122	131.80 41.65 49.19 118.82 2140.97	117.43 117.87 118.33	End Shut-Ir Open To Fl Shut-In(2) End Shut-Ir Final Hydro	low (2) n(2)	
20 ZI Dan Temptang		61 62 90 121	41.65 49.19 118.82	117.43 117.87 118.33 118.92 Gaa	Open To Fl Shut-In(2) End Shut-Ir Final Hydro	ow (2) n(2) ≻static	
20 23 Dan Temptang		61 62 90 121	41.65 49.19 118.82	117.43 117.87 118.33 118.92	Open To Fl Shut-In(2) End Shut-Ir Final Hydro	ow (2) n(2) ≻static	Rate (McI/d
20 20 20 20 20 20 20 20 20 20 20 20 20 2	Volume (bbl)	61 62 90 121	41.65 49.19 118.82	117.43 117.87 118.33 118.92 Gaa	Open To Fl Shut-In(2) End Shut-Ir Final Hydro	ow (2) n(2) ≻static	Rate (McIld

l

	DRILL STEM TES	ST REPO	ORT		
RILOBITE	DK Operating, Inc.		18-21S-22	W Hodger	man, KS
ESTING , INC.	621 Benton St. Jetmore, KS 67854		Tull #1-18 Job Ticket: 6		DST#:2
	ATTN: Jason T. Alm		Test Start: 2	017.05.20 @	0 22:35:24
GENERAL INFORMATION: Formation: Ft. Scott Deviated: No Whipstock: Time Tool Opened: 01:17:45 Time Test Ended: 05:45:30	ft (KB)		Test Type: Tester: Unit No:	Conventiona Brannan Lo 73	al Straddle (Reset) nsdale
Interval:         4245.00 ft (KB) To         42           Total Depth:         4371.00 ft (KB) (TN)			Reference E		2279.00 ft (KB) 2272.00 ft (CF) 7.00 ft
Serial #: 6753Below (StradPress@RunDepth:psigStart Date:2017.05.20Start Time:22:35:05		2017.05.21 05:44:59	Capacity: Last Calib.: Time On Btm: Time Off Btm:		8000.00 psig 2017.05.21
TEST COMMENT: 30- IF- Weak blov 30- ISI- No blow 30- FF- Weak blo 30- FSI- No blow	w built slowly to 3"				
Pressure vs. T	ime ES Verpenkre			RE SUMM	197 - 2004 - 70 - 20
0000 Luneque 200 0000 Luneque 200 0000 Luneque 200 0000 Luneque 200 0000 Luneque 200 0000 Luneque 200 0000 Luneque 200 0000 Luneque 200 0000 Luneque 200 000			Pressure Temp (psig) (deg F)	Annotati	on
Recovery			Ga	s Rates	
Length (ft)         Description           30.00         SOCM, 5%O 95%M	Valume (bbi) 0.43		Choke (	(inches) Pressu	re (psig) Gas Rate (Mct/d)
*Recovery from multiple tests Trilobite Testing, Inc	Ref. No: 63192		Printed	2017.05.22	@ 08:36:15

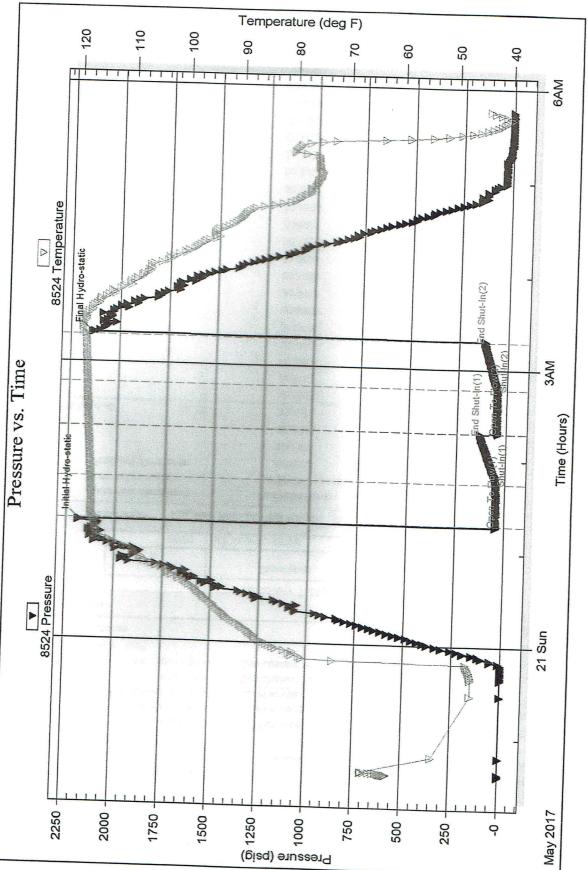
RILOBITE	DRILL STEM TE	STREP	JRI			
	DK Operating, Inc.		18-21S-2	2W Hodgeman, KS		
ESTING , IN	621 Benton St. Jetmore, KS 67854		Tull #1-18 Job Ticket: 63192 DST#: 2			
	ATTN: Jason T. Alm			2017.05.20 @ 22:35:24		
GENERAL INFORMATION:	+					
Formation: Ft. Scott Deviated: No Whipstock: Time Tool Opened: 01:17:45 Time Test Ended: 05:45:30	ft (KB)		Test Type: Tester: Unit No:	Conventional Straddle (Reset) Brannan Lonsdale 73		
Interval:4245.00 ft (KB) ToTotal Depth:4371.00 ft (KB) (Hole Diameter:7.88 inchesH				Elevations:         2279.00 ft (KB)           2272.00 ft (CF)           B to GR/CF:		
Start Date:         2017.05.20           Start Time:         22:35:50           TEST COMMENT:         30- IF- Weak b           30- IS- No blog	End Time: low built slow ly to 3" v plow built slow ly to 3"	2017.05.21 05:45:55	Capacity: Last Calib.: Time On Btm: Time Off Btm:	8000.00 psig 2017.05.21		
Pressure va	Time		PRESS	JRE SUMMARY		
		Time (Min.)	Pressure Temp (psig) (deg f			
Recovery	,			eas Rates		
Length (ft) Description	Volume (bbl)		Chok	e (inches) Pressure (psig) Gas Rate (Mcf/d)		
30.00 SOCM, 5%O 95%M	0.43					

RILOBI	IE -	DK Ope	rating, Inc.			18-21S-22W Hodg	eman, KS
EST EST	NG, INC.						ne en e
		UZ I DEI	nton St. e, KS 67854			Tull #1-18 Job Ticket: 63192	DST#:2
		ATTN:	Jason T. Alm	ı		Test Start: 2017.05.20	@ 22:35:24
Tool Information							
Drill Pipe: Length:	4248.00 ft	Diameter:	3.82 ind	ches Volume:	60.22 bb	I Tool Weight:	2500.00 lb
Heavy Wt. Pipe: Length:	ft	Diameter:	ind	ches Volume:	- bb	Weight set on Pack	er: 25000.00 lb
Drill Collar: Length:	0.00 ft	Diameter:	-	ches Volume:	0.00 bb		
Drill Pipe Above KB:	30.00 ft			Total Volume:	- bb		0.00 ft
	4245.00 ft					String Weight: Initia	
	4290.00 ft					Fina	1 59000.00 lb
nterval between Packers:	45.00 ft						
Fool Length:	153.00 ft		14 Mar 14				
Number of Packers:	3	Diameter:	6.75 inc	ches			
Fool Comments:							
Tool Description	Lei		Serial No.	Position		Accum. Lengths	
Change Over Sub		1.00			4219.00		
Shut In Tool		5.00			4224.00		
lydraulic tool		5.00			4229.00		
lars		5.00			4234.00		÷
Safety Joint		2.00			4236.00	07.00	
Packer		5.00			4241.00	27.00	Bottom Of Top Packe
Packer		4.00			4245.00		
Stubb		1.00			4246.00		
Perforations		2.00			4248.00		
Change Over Sub		1.00	6000		4249.00		
Recorder		0.00	6838	Inside	4249.00		
Recorder		0.00	8524	Outside			
Drill Pipe		31.00			4280.00		
Change Over Sub		1.00			4281.00		
Perforations		5.00			4286.00		
Blank Off Sub		1.00			4287.00	45.00	<b>T</b>
Blank Spacing		3.00			4290.00	45.00	Tool Interva
Packer		1.00			4291.00		
Stubb		1.00	6750	Delaw	4292.00		
Recorder		0.00	6753	Below	4292.00		
Perforations		11.00			4303.00		
Change Over Sub		1.00			4304.00		
Drill Pipe		63.00			4367.00		
Change Over Sub Bullnose		1.00 3.00			4368.00 4371.00	81.00	Bottom Packers & Anchor
	ongth:	153.00			4571.00	01.00	
Total Toal							
Total Tool	Lengui.	100.00					

ATTA -	RILOBITE	DRI	LL STEM TEST REF	PORT		F	LUID SUMMAR	
	and the second	DK Ope	rating, Inc.	1	8-21S-22V	V Hodgeman	n, KS	
	ESTING , INC.		621 Benton St. Jetmore, KS 67854			Tull #1-18 Job Ticket: 63192 DST#: 2		
		ATTN:	Jason T. Alm			)17.05.20 @ 22		
Mud and Cu	shion Information	1						
Mud Type: Ge	Chem		Cushion Type:			Oil API:	26 deg API	
Mud Weight:	9.00 lb/gal		Cushion Length:	ft	t 1	Water Salinity:	ppm	
Viscosity:	53.00 sec/qt		Cushion Volume:	b	bl			
Water Loss:	9.38 in <sup>3</sup>		Gas Cushion Type:					
Resistivity:	ohm.m		Gas Cushion Pressure:	р	sig			
Salinity:	4000.00 ppm							
Filter Cake:	inches							
Recovery Inf	formation							
			Recovery Table			I		
		ngth ft	Description		Volume bbl			
		30.00	SOCM, 5%O 95%M		0.425			
	Total Length	30.	00 ft Total Volume: 0.	425 bbl				
	Num Fluid Sa	mples:0	Num Gas Bombs: 0		Serial #:			
	Laboratory N		Laboratory Location:					
	Recovery Co	mments:						
					ä			

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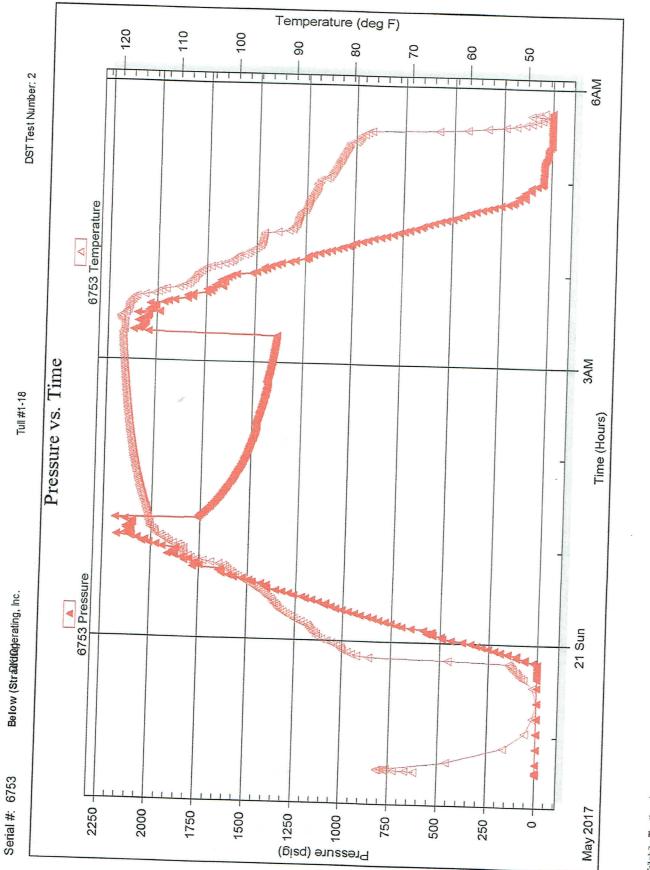


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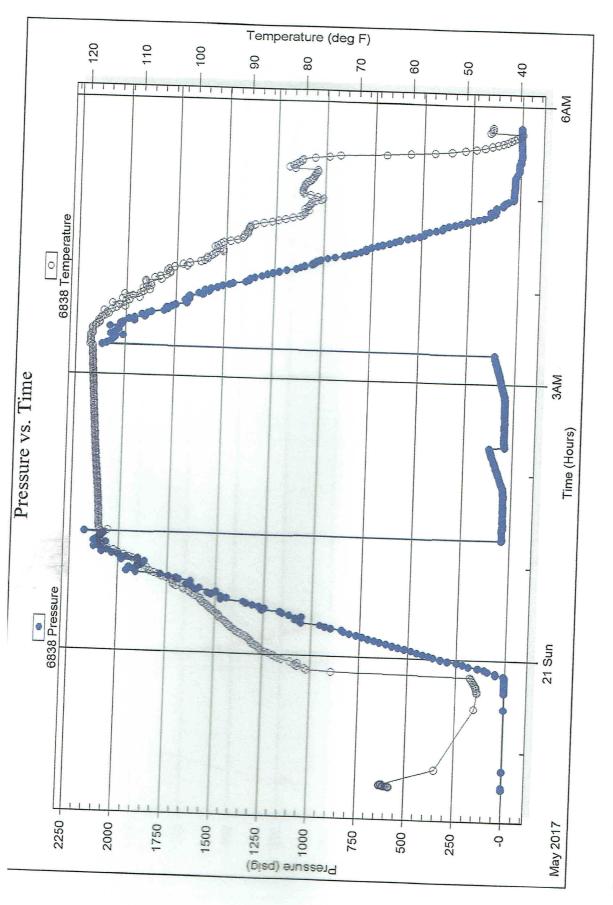
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Ref. No: 63192

Trilobite Testing, Inc

410 RILOBITE ESTING INC. 1515 Commerce Parkway	• Hays, Kansas 67601	<b>Test Ticket</b> <b>NO.</b> 63191
Well Name & No. Tull # 1-18 Company DK Operating, Inc. Address 621 Benton, St. Jetm Co. Rep / Geo. Juson T. Alm Location: Sec. 18 Twp. 21 J	ong KS 67854 Rig Dicks	22)9 KB 2272GL
Interval Tested <u>4311-4371</u> Anchor Length <u>60'</u>	_ Drill Pipe Run (	
Top Packer Depth4306		
Bottom Packer Depth 4311	Wt. Pipe Run	- WL 9.4
Total Depth4371	_ Chlorides Chlorides	n System LCM 27
Blow Description IF- BOB 16 mp		-
ISI- No How		
FF-BOB 23m	ine	
FST-No How		
Rec 64 Feet of OCNW	%gas	10%oil 60 %water 30%mud
Rec 127 Feet of WOCN	%gas	10% oil 15% water 2.5% mud
Rec 143 Feet of SOCM	%gas	10 %oil %water 90 %mud
Rec Feet of		%oil %water %mud
	%gas	%oil %water %mud
Rec         Feet of           Rec Total         334'         BHT		
0.90	2 Test 1150	
21		8871
124	A Jars 250	- T-Open 1657
(1)	Safety Joint 75	- T-Pulled 1927
(D) Initial Shut-In 1223	Circ Sub	- T-Out 2154
(E) Second Initial Flow 168	Hourly Standby	Comments
(F) Second Final Flow	Mileage 52 RT 114	<u> </u>
(G) Final Shut-In 1156	G Sampler	-
(H) Final Hydrostatic2158	Straddle	- Ruined Shale Packer
	Shale Packer	- Ruined Packer
Initial Open 30	Extra Packer	– Extra Copies
Initial Shut-In45	Extra Recorder	
Final Flow 30	Day Standby	Total 1589
Final Shut-In 45	Accessibility	
	Sub Total 1589	- ) ~ (

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11.2.21

4/10 ESTING INC.			NO.	63192	2	
Well Name & No. Jul #1-18 Company DK Operating, Inc. Address 621 Benton St. Jet. Co. Rep/Geo. Ja. Son T. Alm	nore, <u>K5 £785</u>	<b>A</b>	2 22.79	Date <u>5/2</u> _КВ <u>2</u>	1/17 279 GL	
Location: Sec. 18 Twp. 21 5	Rge. 22 Wc		10	State	KS	
Interval Tested 4245-4290	Zone Tested _ F-	Scott				
Anchor Length 45' Tail 81'	Drill Pipe Run	4	248 M	ud Wt.	9,2	
Top Packer Depth	Drill Collars Run		Vi	s	53	
Bottom Packer Depth 4290	Wt. Pipe Run		W	L	9.4	
Total Depth4371	Chlorides	4,000 pp	m System LC	CM	21	
Blow Description IF - Weak How J	swift slouby to	23"				
FF- Weak How I	milt slowly	to 3"				
FSI-No bon	/					
Rec 30 Feet of SOCAA		%gas	5%0il	%water	95 %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 BHT BHT	Gravity 26 API	RW	@°F C	hlorides	ppm	
(A) Initial Hydrostatic 2184	X Test 1150				2154	
(B) First Initial Flow	<b>Jars</b> 250					
(C) First Final Flow 46	Safety Joint 75	Safety Joint 75 T-Open 70 Hold				
(D) Initial Shut-In132	Circ Sub					
(E) Second Initial Flow 42	Hourly Standby			T-Out		
(F) Second Final Flow 49	Mileage			·		
(G) Final Shut-In	Sampler					
(H) Final Hydrostatic 214	Straddle 600		- O Ruined	d Shale Packer_		
	Shale Packer	Shale Packer		Ruined Packer		
Initial Open 30	Extra Packer			Extra Copies		
Initial Shut-In30	Extra Recorder			Sub Total0		
Final Flow 30	Day Standby		Total	Total2075		
Final Shut-In 30	Accessibility		MP/DST	Disc't		
	Sub Total 2075				1	
Approved By	Our Re	presentative s made, or for any lo	Brannan ss suffered or sustained	directly or Indirectly, th	hrough the use of its	

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