KOLAR Document ID: 1482142

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 #	API No.:
Name:	Spot Description:
Address 1:	SecTwpS. R
Address 2:	Feet from North / South Line of Section
City:	Feet from
Contact Person:	Footages Calculated from Nearest Outside Section Corner:
Phone: ()	□NE □NW □SE □SW
CONTRACTOR: License #	GPS Location: Lat:, Long:
Name:	(e.g. xx.xxxxxx) (e.gxxx.xxxxxx)
Wellsite Geologist:	Datum: NAD27 NAD83 WGS84
Purchaser:	County:
Designate Type of Completion:	Lease Name: Well #:
New Well Re-Entry Workover	Field Name:
☐ Oil ☐ WSW ☐ SWD	Producing Formation:
Gas DH EOR	Elevation: Ground: Kelly Bushing:
□ og □ GSW	Total Vertical Depth: Plug Back Total Depth:
CM (Coal Bed Methane)	Amount of Surface Pipe Set and Cemented at: Feet
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 EOR ☐ Conv. to SWD	Drilling Fluid Management Plan
☐ Plug Back ☐ Liner ☐ Conv. to GSW ☐ Conv. to Producer	(Data must be collected from the Reserve Pit)
	Chloride content: ppm Fluid volume: bbls
Commingled Permit #:	Dewatering method used:
☐ Dual Completion Permit #: ☐ SWD Permit #:	Leading of third discount Wheeled official
	Location of fluid disposal if hauled offsite:
☐ EOR Permit #:	Operator Name:
	Lease Name: License #:
Could Date or Date Decembed TD Commission Date or	Quarter Sec TwpS. R
Recompletion Date Date Reached ID Completion Date or Recompletion Date	Countv: Permit #:
Spud Date or Date Reached TD Completion Date or Recompletion Date Recompletion Date	QuarterSecTwpS. R East W

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 Approved by: Date:						

KOLAR Document ID: 1482142

Page Two

Operator Name: _				Lease Name:			Well #:	
Sec Twp.	S. R.	E	ast 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 files must be subm						iled to kcc-well-lo	gs@kcc.ks.gov	v. Digital electronic log
Drill Stem Tests Ta			Yes No			on (Top), Depth ar		Sample
Samples Sent to 0	Geological Surv	/ey	Yes No	Na	me		Тор	Datum
Cores Taken Electric Log Run Geologist Report / List All E. Logs Ru	_		Yes No Yes No Yes No					
		B	CASING eport all strings set-c		New Used	ion, etc.		
Purpose of Strir		Hole illed	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
			ADDITIONAL	CEMENTING / SO	UEEZE RECORD			
Purpose:		epth T Bottom	ype of Cement	# Sacks Used	# Sacks Used Type and Percent Additives			
Perforate Protect Casi Plug Back T								
Plug Off Zor								
Did you perform a Does the volume Was the hydraulic	of the total base f	fluid of the hydrauli		_	=	No (If No, sk	ip questions 2 an ip question 3) out Page Three	,
Date of first Product Injection:	tion/Injection or R	esumed Production	Producing Meth	nod:	Gas Lift 0	Other (Explain)		
Estimated Production Per 24 Hours	on	Oil Bbls.						Gravity
DISPOS	SITION OF GAS:		N	METHOD OF COMP	LETION:			DN INTERVAL: Bottom
	Sold Used	I on Lease	Open Hole			mmingled mit ACO-4)	Тор	BOROTT
,	,			B.11 B1				
Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid,	Fracture, Shot, Cer (Amount and Kind	menting Squeeze I of Material Used)	Record
TUBING RECORD:	: Size:	Set	Δ+-	Packer At:				
TODING RECORD:	. 3126.	Set	n.	i donei Al.				

Form	ACO1 - Well Completion			
Operator	Steffen Resource Development, LLC			
Well Name	STEFFEN FAMILY 1-19			
Doc ID	1482142			

All Electric Logs Run

ROP & Gas Data
Gamma Ray
Open Hole
Closed Hole

Form	ACO1 - Well Completion			
Operator	Steffen Resource Development, LLC			
Well Name	STEFFEN FAMILY 1-19			
Doc ID	1482142			

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement		Type and Percent Additives
Conductor	17.5	13.375	48	75	common	100	0
Surface	12.258	8.625	23	263	60/40 poz	165	3%сс
Production	7.875	5.5	17	4275	80/20&Q- pro	650	to surface

QUALITY OILWELL CEMENTING, INC. Federal Tax I.D.# 20-2886107

Phone 785-483-1071 Cell 785-324-1041

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

No. 1705

						
Date 9 - 8 - 19 Sec. 18	Twp. Range ろo T	Vo :	ounty MAA	K ^{State}	On Location	5 ISAM
Λ. 0		Location	150%	RW-145	F 150 475	Areal AF
Lease Steffen fair	7; M Well No. 1 - 7	9 F	Owner N	THE SALE	13 Ria	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Contractor Duke 3	7	7 / 7	To Quality Oil	well Cementing, Inc.	cementing equipmen	and furnish
Type Job Large Sting		c	cementer and	helper to assist own	er or contractor to do	work as listed.
Hole Size	T.D. 4283'		1942 of	fen Kegs	ucce Deve	looment
Csg. 5%" 174	Depth 4275'		Street 35	00 N. Ma	nutield K	X '
Tbg. Size	Depth		city Hutch	<u>ทักร</u> ьท	State KS 6	7502
Tool	Depth	_, 1	The above was		nd supervision of owner	agent or contractor.
Cement Left in Csg. 43,50	Shoe Joint 43.50)'	Cement Amou	unt Ordereu 425	3000 OMDC	147 F/0-2801
Meas Line	Displace 98 BC	.5 [[]	225	Q-P10-C	10% Salt 5%	39/20-11-16
EQUIPM	IENT .	10	Common			
Pumptrk / / No. Cementer 70 Helper	m Kit	F	Poz. Mix			
Bulktrk 19, No. Driver Driver	ව ිත	c	Gel.			
Bulktrk No. Driver / O/14	<u> </u>	c	Calcium			
JOB SERVICES	& REMARKS	4	Herits 10	BUS KCL		
Remarks:		6	Salt			
Rat Hole 50.51		F	Flowseal			
Mouse Hole		k	Kol-Seal			
Centralizers 1,3,5,79,11	13,15	N	Mud CLR 48	500 gal		
Baskets 32, 36, 66	<u> </u>		CFL-117 or Cl	D110 CAF 38		
D/V or Port Collar Dine on	bottom by	ear s	Sand	497		
Crowlation (Dump	Do dol who	(Clear F	Handling		a see a see	
48, Plug Bathole's	w/ 305x plucy	* , In	Vileage		en e	
	Hook tol	561		FLOAT EQUIPME	ENT	*
Casing + mix 39	S 5x OMIX, 7,	2005/6	Guide Shoe			
QProVC Coment	Shut down	labosho	Centralizer	. 8		
Dump + lines Di	splaced Plug	۱,, "E	Baskets	4		-
W 98 BUS HZU.	-L Keleasell + L	HRIA. A	AFU Inserts			
10 DUS 1	KLE	F	loat Shoe	1		
Lift pressur	(e = 11	L	atch Down	<u>/</u>		
Land Plug to				SES - SES		
	77 THE STATE OF TH					
Cement honer	1 Cours W	1884 F	oumptrk Char	ge		
out a 300 B		N	Vileage -			
Coment Did B	M Circulate				Tax	
95t- 5 1661					Discount	
Signature リング・レクング	M,				Total Charge	12

Conservation Division 266 N. Main St., Ste. 220 Wichita, KS 67202-1513



Phone: 316-337-6200 Fax: 346-337-6211 http://kcc.ks.gov/

Laura Kelly, Governor

Dwight D. Keen, Chair Shari Feist Albrecht, Commissioner Susan K. Duffy, Commissioner

January 13, 2020

Mark Steffen Steffen Resource Development, LLC 3500 N MAYFIELD RD HUTCHINSON, KS 67502-9461

Re: ACO-1 API 15-095-22331-00-00 STEFFEN FAMILY 1-19 NE/4 Sec.18-30S-07W Kingman County, Kansas

Dear Mark Steffen:

K.A.R. 82-3-107 provides for all completion information to be filed within 120 days of the spud date. Subsection(e)(2) of that regulation states "All rights to confidentiality shall be lost if the filings are not timely."

The above referenced well was spudded on 08/29/2019 and the ACO-1 was received on January 13, 2020 (not within the 120 days timely requirement).

Therefore, your request for confidential treatment of data contained within the ACO-1 filing cannot be granted at this time.

If you should have any questions, please do not hesitate to contact me at (316)337-6200.

Sincerely,

Production Department



Steffen Resources Development

18-30s-7w Kingman Co., Ks.

3500 N Mayfield Rd Hutchinson, Ks. 67502 Steffen Family 1-19

Job Ticket: 64940

DST#: 1

ATTN: Keith Reavis

Test Start: 2019.09.06 @ 20:08:31

GENERAL INFORMATION:

Formation: Mississippi

Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)

Time Tool Opened: 22:59:46
Tester: Matt Smith
Time Test Ended: 04:41:16
Unit No: 68

Interval: 4129.00 ft (KB) To 4137.00 ft (KB) (TVD)

Total Depth: 4137.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1472.00 ft (KB)

1465.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8931 Inside

Press@RunDepth: 20.57 psig @ 4130.00 ft (KB) Capacity: 8000.00 psig

 Start Date:
 2019.09.06
 End Date:
 2019.09.07
 Last Calib.:
 2019.09.07

 Start Time:
 20:08:36
 End Time:
 04:41:16
 Time On Btm:
 2019.09.06 @ 22:53:46

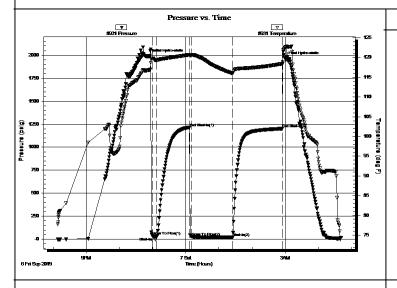
 Time Off Btm:
 2019.09.07 @ 02:59:46

TEST COMMENT: IF: Strong Blow . B.O.B. in 1 min. Built to 52.52".

ISI: No Blow.

FF: Strong Blow . B.O.B., immediate. Built to 200.65". G.T.S. in 44 mins. Gauged Gas.

FSI: No Blow.



PRESSURE SUMMARY

Time	Pressure	Temp	Annotation
(Min.)	(psig)	(deg F)	
0	1987.12	116.83	Initial Hydro-static
6	37.59	119.76	Open To Flow (1)
15	24.40	119.31	Shut-In(1)
74	1216.45	120.73	End Shut-In(1)
77	30.30	120.70	Open To Flow (2)
152	20.57	115.94	Shut-In(2)
242	1201.69	118.43	End Shut-In(2)
246	1960.01	122.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Drlg Mud 100%m	0.03
0.00	G.I.P. 100%g	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	6.31	7.75
Last Gas Rate	0.13	9.07	8.78
Max. Gas Rate	0.13	9.07	8.78

Trilobite Testing, Inc Ref. No: 64940 Printed: 2019.09.07 @ 07:29:21



Steffen Resources Development

18-30s-7w Kingman Co., Ks.

Matt Smith

3500 N Mayfield Rd Hutchinson, Ks. 67502 Steffen Family 1-19

Job Ticket: 64940

DST#: 1

ATTN: Keith Reavis Test Start: 2019.09.06 @ 20:08:31

GENERAL INFORMATION:

Mississippi Formation:

Deviated: Whipstock: Test Type: Conventional Bottom Hole (Initial) No ft (KB)

Time Tool Opened: 22:59:46 Time Test Ended: 04:41:16

Unit No: 68

Tester:

4129.00 ft (KB) To 4137.00 ft (KB) (TVD)

Reference Elevations: 1472.00 ft (KB)

Total Depth: 4137.00 ft (KB) (TVD)

1465.00 ft (CF) KB to GR/CF: 7.00 ft

7.88 inches Hole Condition: Fair Hole Diameter:

Outside

Serial #: 8788

Interval:

4130.00 ft (KB) Press@RunDepth: psig @

Capacity: Last Calib.:

8000.00 psig

Start Date: 2019.09.06 20:08:18

End Date: 2019.09.07

Time On Btm:

2019.09.07

Start Time:

End Time: 04:40:58

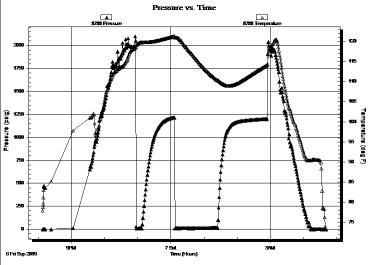
Time Off Btm:

TEST COMMENT: IF: Strong Blow . B.O.B. in 1 min. Built to 52.52".

ISI: No Blow.

FF: Strong Blow . B.O.B., immediate. Built to 200.65". G.T.S. in 44 mins. Gauged Gas.

FSI: No Blow.



PRESSURE SUMMARY

	Time	Pressure	Temp	Annotation
	(Min.)	(psig)	(deg F)	
,				
Tamparetine (des E)				
,				
,				

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Drlg Mud 100%m	0.03
0.00	G.I.P. 100%g	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	6.31	7.75
Last Gas Rate	0.13	9.07	8.78
Max. Gas Rate	0.13	9.07	8.78

Trilobite Testing, Inc. Ref. No: 64940 Printed: 2019.09.07 @ 07:29:21



FLUID SUMMARY

Steffen Resources Development

18-30s-7w Kingman Co., Ks.

3500 N Mayfield Rd Hutchinson, Ks. 67502 Steffen Family 1-19

Job Ticket: 64940

DST#: 1

ATTN: Keith Reavis

Test Start: 2019.09.06 @ 20:08:31

Mud and Cushion Information

Mud Type:Gel ChemCushion Type:Oil API:deg APIMud Weight:9.00 lb/galCushion Length:ftWater Salinity:4000 ppm

Mud Weight:9.00 lb/galCushion Length:ftViscosity:45.00 sec/qtCushion Volume:bbl

Water Loss: 9.58 in³ Gas Cushion Type:

Resistivity: 4000.00 ohm.m Gas Cushion Pressure: psig

Salinity: ppm Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Drlg Mud 100%m	0.028
0.00	G.I.P. 100%g	0.000

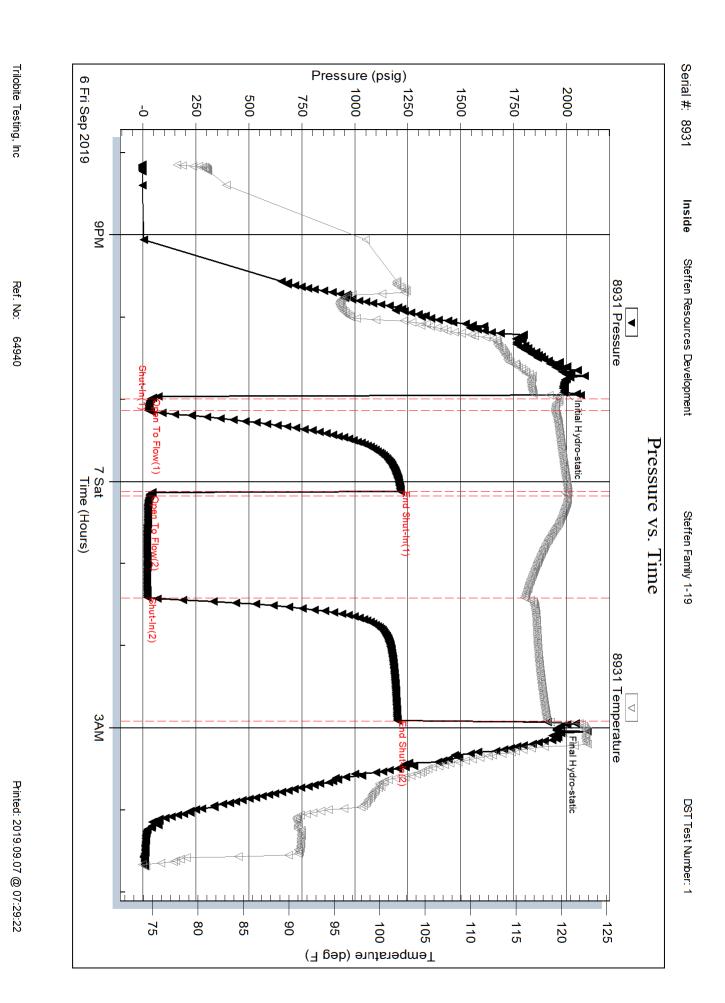
Total Length: 2.00 ft Total Volume: 0.028 bbl

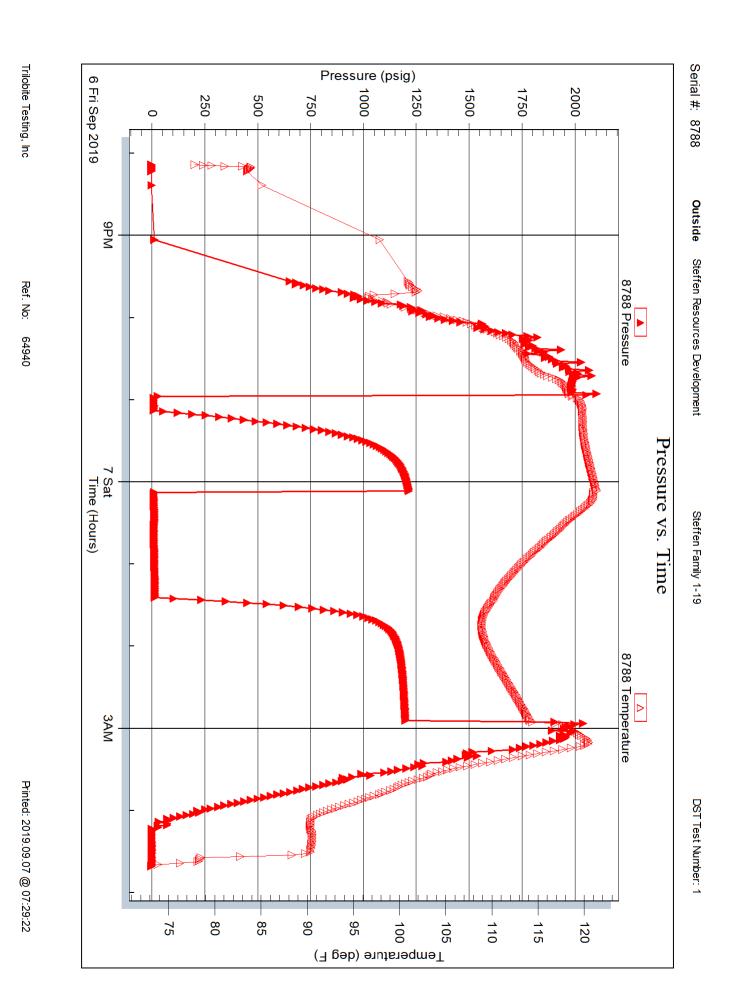
Num Fluid Samples: 1 Num Gas Bombs: 1 Serial #: MAS PRATT

Laboratory Name: Laboratory Location:

Recovery Comments: 4,127 Ft G.I.P.

Trilobite Testing, Inc Ref. No: 64940 Printed: 2019.09.07 @ 07:29:21







Steffen Resources Development

18-30s-7w Kingman Co., Ks.

3500 N Mayfield Rd Hutchinson, Ks. 67502 Steffen Family 1-19

Job Ticket: 64941

DST#: 2

1472.00 ft (KB)

ATTN: Keith Reavis

Test Start: 2019.09.07 @ 14:13:46

GENERAL INFORMATION:

Formation: Mississippi

Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 16:50:01 Tester: Matt Smith
Time Test Ended: 23:39:31 Unit No: 68

Interval: 4139.00 ft (KB) To 4183.00 ft (KB) (TVD) Reference Elevations:

Total Depth: 4183.00 ft (KB) (TVD) 1465.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 7.00 ft

Serial #: 8931 Inside

Press@RunDepth: 266.85 psig @ 4140.00 ft (KB) Capacity: 8000.00 psig

 Start Date:
 2019.09.07
 End Date:
 2019.09.07
 Last Calib.:
 2019.09.07

 Start Time:
 14:13:51
 End Time:
 23:39:31
 Time On Btm:
 2019.09.07 @ 16:43:01

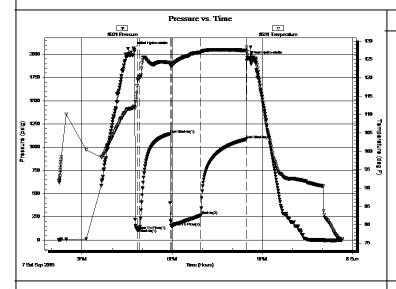
 Time Off Btm:
 2019.09.07 @ 20:33:01

TEST COMMENT: IF: Strong Blow . B.O.B. in 30 sec. Built to 405.42".

ISI: No Blow.

FF: Strong Blow . B.O.B. immediate. Built to 383". G.T.S. in 3 mins. Gauged Gas.

FSI: Strong Blow . Built to 20.36".



THE GOOKE GOWN, AKT					
Time	Pressure	Temp	Annotation		
(Min.)	(psig)	(deg F)			
0	2062.48	112.06	Initial Hydro-static		
7	108.23	117.75	Open To Flow (1)		
13	122.11	120.47	Shut-In(1)		
73	1144.07	124.14	End Shut-In(1)		
76	142.99	123.23	Open To Flow (2)		
135	266.85	126.88	Shut-In(2)		
226	1085.70	127.48	End Shut-In(2)		
230	1958.14	125.21	Final Hydro-static		

Recovery

-				
Length (ft)	Description	Volume (bbl)		
124.00	SOMCW 5%o 3%m 92%w	1.74		
62.00	GOWCM 55%g 9%o 41%w 45%m	0.87		
310.00	GOCM 40%g 30%o 15%w 15%m	4.35		
50.00	GOSM 5%g 95%m	0.70		
* Recovery from multiple tests				

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	8.85	8.70
Last Gas Rate	0.25	39.14	84.94
Max. Gas Rate	0.25	39.34	85.25

Trilobite Testing, Inc Ref. No: 64941 Printed: 2019.09.08 @ 07:40:26



Steffen Resources Development

18-30s-7w Kingman Co., Ks.

3500 N Mayfield Rd Hutchinson, Ks. 67502 Steffen Family 1-19

Job Ticket: 64941

DST#: 2

ATTN: Keith Reavis Test Start: 2019.09.07 @ 14:13:46

GENERAL INFORMATION:

Formation: Mississippi

Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 16:50:01 Tester: Matt Smith
Time Test Ended: 23:39:31 Unit No: 68

Interval: 4139.00 ft (KB) To 4183.00 ft (KB) (TVD)

Total Depth: 4183.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1472.00 ft (KB)

1465.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8788 Outside

 Press@RunDepth:
 psig
 @
 4140.00 ft (KB)
 Capacity:
 8000.00 psig

Start Date: 2019.09.07 End Date: 2019.09.07 Last Calib.: 2019.09.07

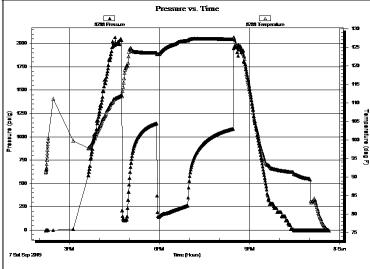
Start Time: 14:13:09 End Time: 23:38:49 Time On Btm: Time Off Btm:

TEST COMMENT: IF: Strong Blow . B.O.B. in 30 sec. Built to 405.42".

ISI: No Blow.

FF: Strong Blow . B.O.B. immediate. Built to 383". G.T.S. in 3 mins. Gauged Gas.

FSI: Strong Blow . Built to 20.36".



PRESSURE SUMMARY

	I THE GOOT TO COMMINITE TO				
	Time	Pressure	Temp	Annotation	
	(Min.)	(psig)	(deg F)		
•					
	ı	1 1			

Recovery

Length (ft)	Description	Volume (bbl)		
124.00	SOMCW 5%o 3%m 92%w	1.74		
62.00	GOWCM 55%g 9%o 41%w 45%m	0.87		
310.00	GOCM 40%g 30%o 15%w 15%m	4.35		
50.00	GOSM 5%g 95%m	0.70		
* Recovery from multiple tests				

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	8.85	8.70
Last Gas Rate	0.25	39.14	84.94
Max. Gas Rate	0.25	39.34	85.25

Trilobite Testing, Inc Ref. No: 64941 Printed: 2019.09.08 @ 07:40:26



FLUID SUMMARY

Steffen Resources Development 18-30s-7w Kingman Co., Ks.

3500 N Mayfield Rd Hutchinson, Ks. 67502

Steffen Family 1-19

Job Ticket: 64941

DST#: 2

ATTN: Keith Reavis

Test Start: 2019.09.07 @ 14:13:46

Mud and Cushion Information

Mud Type:Gel ChemCushion Type:Oil API:deg APIMud Weight:9.00 lb/galCushion Length:ftWater Salinity:90000 ppm

Mud Weight:9.00 lb/galCushion Length:ftViscosity:51.00 sec/qtCushion Volume:bbl

Water Loss: 9.59 in³ Gas Cushion Type:

Resistivity: 6000.00 ohm.m Gas Cushion Pressure: psig

Salinity: ppm Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	SOMCW 5%o 3%m 92%w	1.739
62.00	GOWCM 55%g 9%o 41%w 45%m	0.870
310.00	GOCM 40%g 30%o 15%w 15%m	4.348
50.00	GOSM 5%g 95%m	0.701

Total Length: 546.00 ft Total Volume: 7.658 bbl

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

Laboratory Name: Laboratory Location:
Recovery Comments: RW .036 @ 75 Degrees = 90,000 Chlorides

Trilobite Testing, Inc Ref. No: 64941 Printed: 2019.09.08 @ 07:40:26



GAS RATES

Steffen Resources Development

18-30s-7w Kingman Co., Ks.

Steffen Family 1-19

Job Ticket: 64941

DST#: 2

Test Start: 2019.09.07 @ 14:13:46

Gas Rates Information

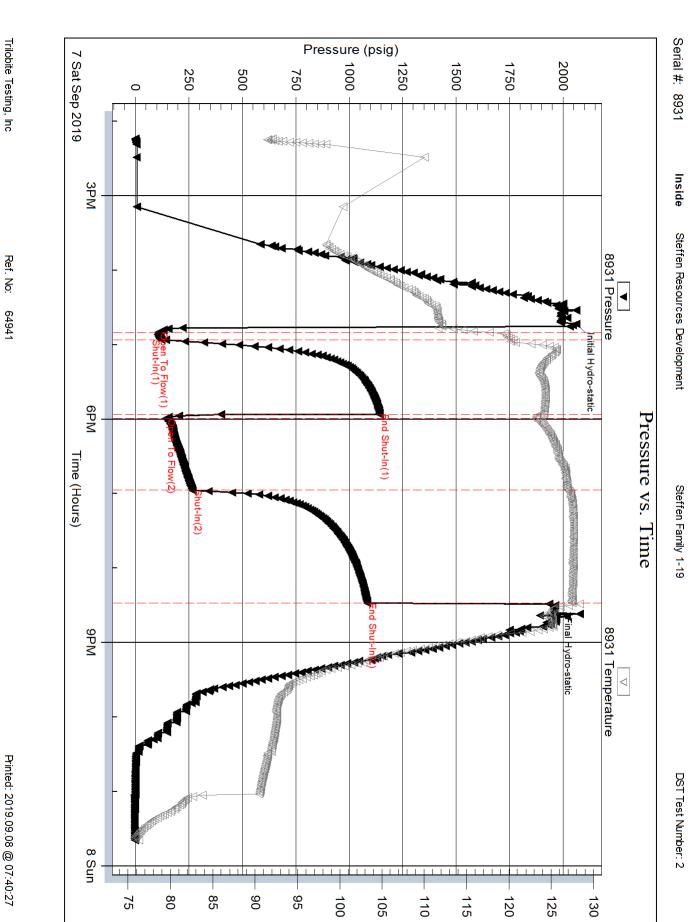
Temperature: 59 (deg F)

Relative Density: 0.65 Z Factor: 8.0

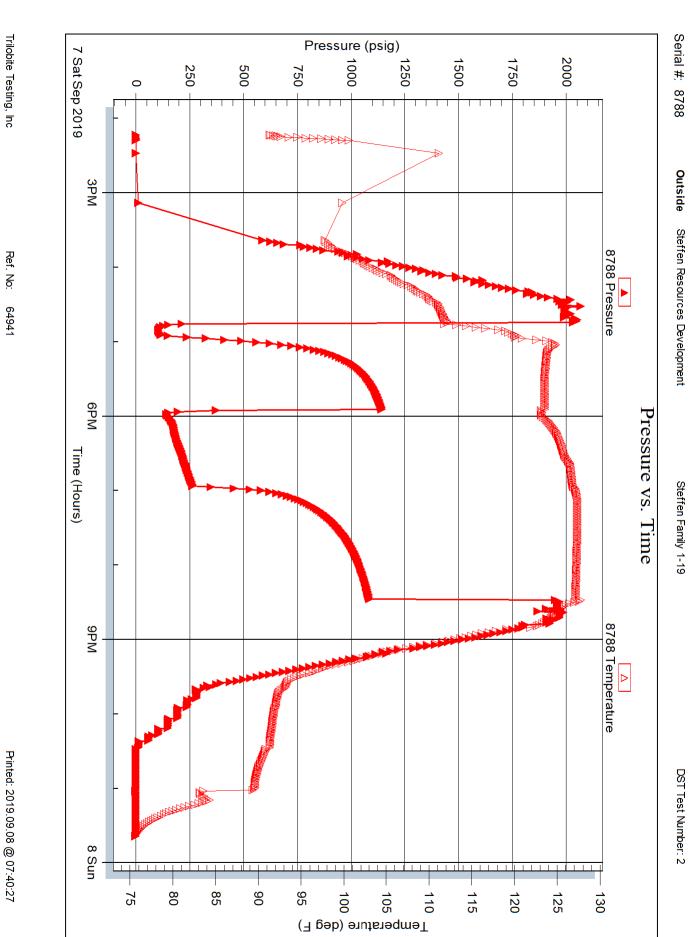
Gas Rates Table

Flow Period	⊟apsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	5	0.13	8.85	8.70
2	5	0.13	8.85	8.70
2	10	0.25	39.34	85.25
2	25	0.25	25.58	63.42
2	30	0.25	27.73	66.83
2	35	0.25	29.62	69.84
2	40	0.25	34.10	76.94
2	45	0.25	36.04	80.02
2	50	0.25	38.01	83.14
2	55	0.25	39.14	84.94

Trilobite Testing, Inc Ref. No: 64941 Printed: 2019.09.08 @ 07:40:26



Temperature (deg F)



OPERATOR

Company: Steffen Resource Development, LLC

Address: 3500 N. Mayfield Road Hutchinson, KS 67502

Contact Geologist:

Contact Phone Nbr: 620-802-1188

Well Name: Steffen Family #1-19
Location: Sec. 18 - T30S - R7W
API: 15-095-22331-0000

Pool:

State: Kansas Country: USA

Field:

Spivey-Grabs-Basil

Scale 1:240 Imperial

Well Name: Steffen Family #1-19
Surface Location: Sec. 18 - T30S - R7W

Bottom Location:

API: 15-095-22331-0000

License Number: 35666

Spud Date: 8/30/2019 Time: 4:45 PM

Region: Kingman County

Drilling Completed: 9/8/2019 Time: 7:55 AM

Surface Coordinates: 851' FNL & 2054' FEL

Bottom Hole Coordinates:

Ground Elevation: 1464.00ft K.B. Elevation: 1472.00ft

Logged Interval: 2900.00ft To: 4283.00ft

Total Depth: 4283.00ft
Formation: Mississippian

Drilling Fluid Type: Chemical/Fresh Water Gel

SURFACE CO-ORDINATES

Well Type: Vertical

Longitude: -98.125046974 Latitude: 37.440449585 N/S Co-ord: 851' FNL E/W Co-ord: 2054' FEL

LOGGED BY

Keith Reavis

Consulting Geologist

Company: Keith Reavis, Inc. Address: 3420 22nd Street

Great Bend, KS 67530

Phone Nbr: 620-617-4091

Logged By: KLG #136 Name: Keith Reavis

CONTRACTOR

Contractor: Duke Drilling Company

Rig #: 2

Rig Type: mud rotary

 Spud Date:
 8/30/2019
 Time:
 4:45 PM

 TD Date:
 9/8/2019
 Time:
 7:55 AM

Rig Release: Time:

ELEVATIONS

K.B. Elevation: 1472.00ft Ground Elevation: 1464.00ft

K.B. to Ground: 8.00ft

NOTES

Due to positive results of DST #2, favorable structural position and electrical log analysis, it was decided to run 5 1/2" production casing and further test the Mississippian chert through perforations and stimulation.

A Bloodhound gas detection system operated by Bluestem Labs was employed during the drilling of this well. ROP and gas data were recorded and along with gamma ray and caliper curves from the electrical log suite, were imported into this geological log.

Respectfully submitted, Keith Reavis

daily drilling report

DATE	7:00 AM DEPTH	REMARKS
08/31/2019		Geologist Keith Reavis on location @1450 hrs, 1130 ft, drilling ahead salt section, Chase group
09/01/2019	1596	drilling ahead
09/02/2019	2194	drilling ahead
09/03/2019	2782	drilling ahead, displace mud system, drilling Topeka, section, Heebner
09/04/2019	3380	drilling ahead, Toronto, Douglas, Lansing
09/05/2019	3743	drilling ahead LKC, Muncie Creek, Stark, BKC, Marmaton section
09/06/2019	4044	drilling ahead, Pawnee, Ft. Scott, Cherokee, Mississippian, show and gas kick in Miss warrants test, short trip, CTCH, TOH for DST #1, TIH with tools, conducting DST #1
09/07/2019	4137	complete DST #1, successful test, TIH with bit, resume drilling to base of Miss, gas kick and shows warrant test, TOH w/bit, in w/tools, conduct and complete DST #2, successful test
09/08/2019	4273	TIH w/bit, ctch, rathole ahead to TD, 4283 @ 0755 hrs, TOH w/bit, conduct logging operations, off loc @ 1600 hrs

well comparison sheet

		DRILLING W				COMPARIS	ON WELL	1	COMPARISON WELL Sierra - Towner #1 C NE NE Sec 18-T30S-R7W					
	Stef	fen Family	Farms	#1-19		Mull - Tj	aden C#2	8						
		851' FNL 8 Sec 18-T30		FEL		693' FNL Sec 18-T	& 712'	FWL						
	1472	кв		1100 000	148	0 KB	Struct Relation	7.6 7.7 45.0	1461	L KOB	Struct Relation			
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log		
Krider	1350	122	1335	137	1357	123	-1	14	1320	141	-19	-4		
Indian Cave	2138	-666	2133	-661	2156	-676	10	15	2127	-666	0	5		
Heebner	3111	-1639	3109	-1637	3128	-1648	9	11	3095	-1634	-5	-3		
Toronto	3130	-1658	3130	-1658	3144	-1664	6	6	3110	-1649	-9	-9		
Douglas	3142	-1670	3141	-1669	3157	-1677	7	8	3127	-1666	-4	-3		
Lansing	3329	-1857	3334	-1862	3348	-1868	11	6	3318	-1857	0	-5		
Muncie Creek	3646	-2174	3645	-2173	3660	-2180	6	7	3633	-2172	-2	-1		
Stark	3761	-2289	3760	-2288	3775	-2295	6	7	3750	-2289	0	1		
BKC	3862	-2390	3865	-2393	3877	-2397	7	4	3854	-2393	3	0		
Cherokee	4009	-2537	4007	-2535	4020	-2540	3	5	3998	-2537	0	2		
Mississippian	4128	-2656	4128	-2656	4147	-2667	11	11	4124	-2663	7	7		
Total Depth	4283	-2811	4285	-2813	4602	-3122	311	309	4176	-2715	-96	-98		

Drill Stem Test #1



DRILL STEM TEST REPORT

Steffen Resources Development

18-30s-7w Kingman Co., Ks.

3500 N Mayfield Rd

Steffen Family 1-19

Hutchinson, Ks. 67502

ft (KB)

Job Ticket: 64940

ATTN: Keith Reavis

Test Start 2019.09.06 @ 20:06:31

DST#:1

GENERAL INFORMATION:

Formation: Mississippi

Time Tool Opened: 22:59:46 Time Test Ended: 04:41:16

Deviated: No Whipstock Test Type: Conventional Bottom Hole (Inital)

Tester. Matt Smith Unit No:

Interval: 4129.00 ft (KB) To 4137.00 ft (KB) (TVD)

Total Depth: 4137.00 ft (KB) (TVD)

7.88 inches Hole Condition: Fair

Reference Elevations: 1472.00 ft (KB)

1465.00 ft (CF)

KB to GR/CF: 7.00 ft

8000.00 psig

Serial #: 8931 Ins ide

Hole Dameter:

Press@Run Depth: 20.57 psig @ 4130,00 ft (KB)

Start Date: 2019.09.06 End Date: 2019.09.07 Last Calib.: 2019.09.07 Start Time: 20:08:36 End Time: 04:41:16 Time On Btm: 2019.09.06 @ 22:53:46

Time Off Btm: 2019.09.07 @ 02:59:46

Capacity:

246 1960.01

TEST COMMENT: IF: Strong Blow . B.O.B. in 1 min. Built to 52.52".

ISI: No Blow

FF: Strong Blow . B.O.B., immediate. Built to 200.65", G.T.S. in 44 mins . Gauged Gas .

FSI: No Blow .

_		T See Proper		are vs. Time		· ·		-
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P700				-		1		1
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-			79	e implant		New		4

Time (Mn.)	Pressure (psig)	Temp (deg F)	A nnotation	
0	1987.12	1 16.83	Initial Hydro-static	
6	37.59	1 19.76	Open To Flow (1)	
15	24.40	119.31	Shut-In(1)	
74	1216.45	120.73	End Shut-In(1)	
77	30,30	1.20.70	Open To Flow (2)	
152	20.57	115.94	Shut-In(2)	
242	1201.69	118.43	End Shut-In(2)	

122.55 Final Hydro-static

PRESSURE SUMMARY

Recovery

Length (ft)	Description	Volume (bb)
2.00	Drlg Mud 100%m	0.03
0.00	G.I.P. 100%g	0.00
		340

Gas Rates

	Chole (inches)	Pressure (psig)	Gas Rate (Mot/d)
First Gas Rate	0.13	6.31	7.75
Last Gas Rate	0.13	9.07	8.78
Max. Gas Rate	0.13	9.07	8.78

Drill Stem Test #2



DRILL STEM TEST REPORT

Steffen Resources Development

18-30s-7w Kingman Co., Ks.

3500 N Mayfield Rd

Steffen Family 1-19

Hutchinson, Ks. 67502

Job Ticket: 64941 DST#:2

ATTN: Keith Reavis

Test Start 2019.09.07 @ 14:13:46

GENERAL INFORMATION:

Formation: Mississippi

Deviated: Whipstock Test Type: Conventional Bottom Hole (Reset) No ft(KB)

Time Tool Opened: 16:50:01 Tester: Matt Smith Time Test Ended: 23:39:31 Unit No: 68

Interval: 4139.00 ft (KB) To 4183.00 ft (KB) (TVD) Reference Elevations: 1472.00 ft (KB)

1465.00 ft (CF)

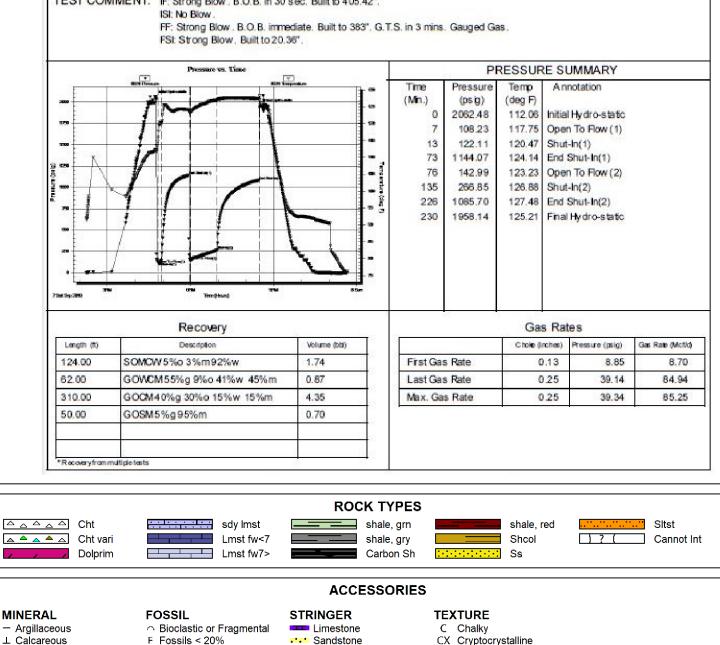
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 7.00 ft

Serial #: 8931 ins ide

Total Depth:

Press@Run Depth: 266.85 psig @ 4140.00 ft (KB) Capacity: 8000,00 psig Start Date: 2019.09.07 End Date: 2019.09.07 Last Calib.: 2019.09.07 Start Time: 14:13:51 End Time: 23:39:31 Time On Btm: 2019.09.07 @ 16:43:01 Time Off Btm: 2019.09.07 @ 20:33:01

4183.00 ft (KB) (TVD)



- F Fossils < 20%
- → Oolite

DST

BST Int DST alt

Core II tail pipe

- ◆ Oomoldic

--- Sandstone ·· ·· Siltstone

- Shale

red shale carb shale

CX Cryptocrystalline L Lithogr

OTHER SYMBOLS

Oil Show

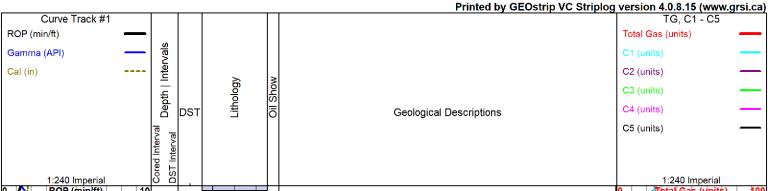
Good Show

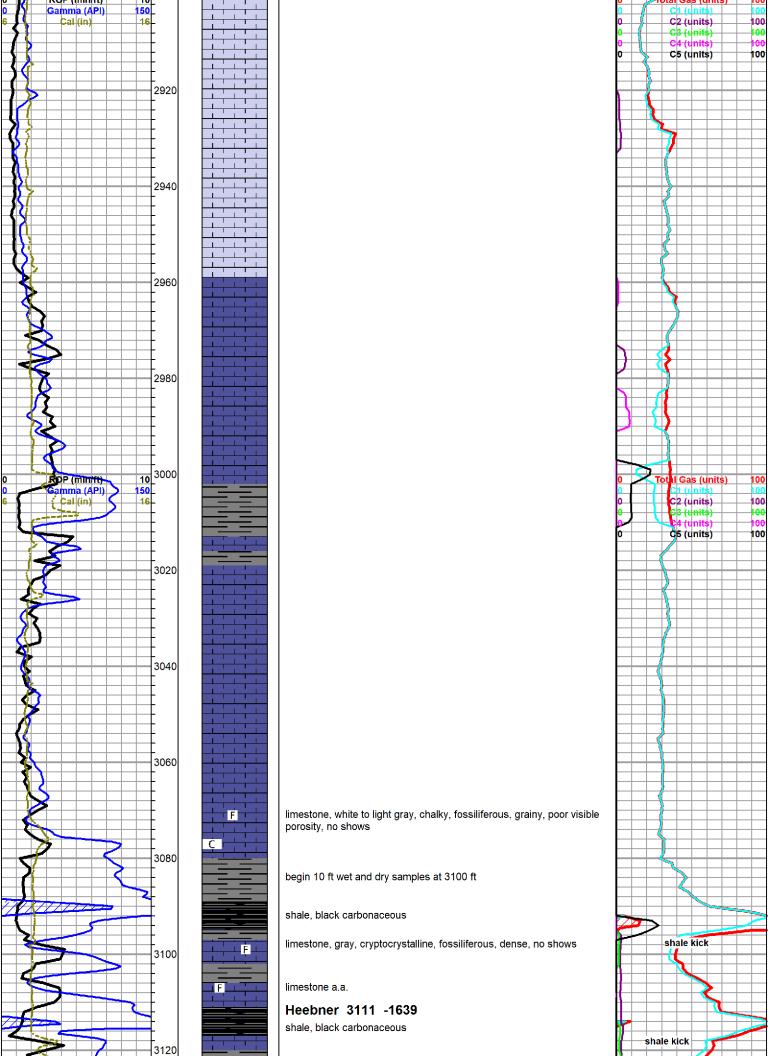
▲ Chert, dark

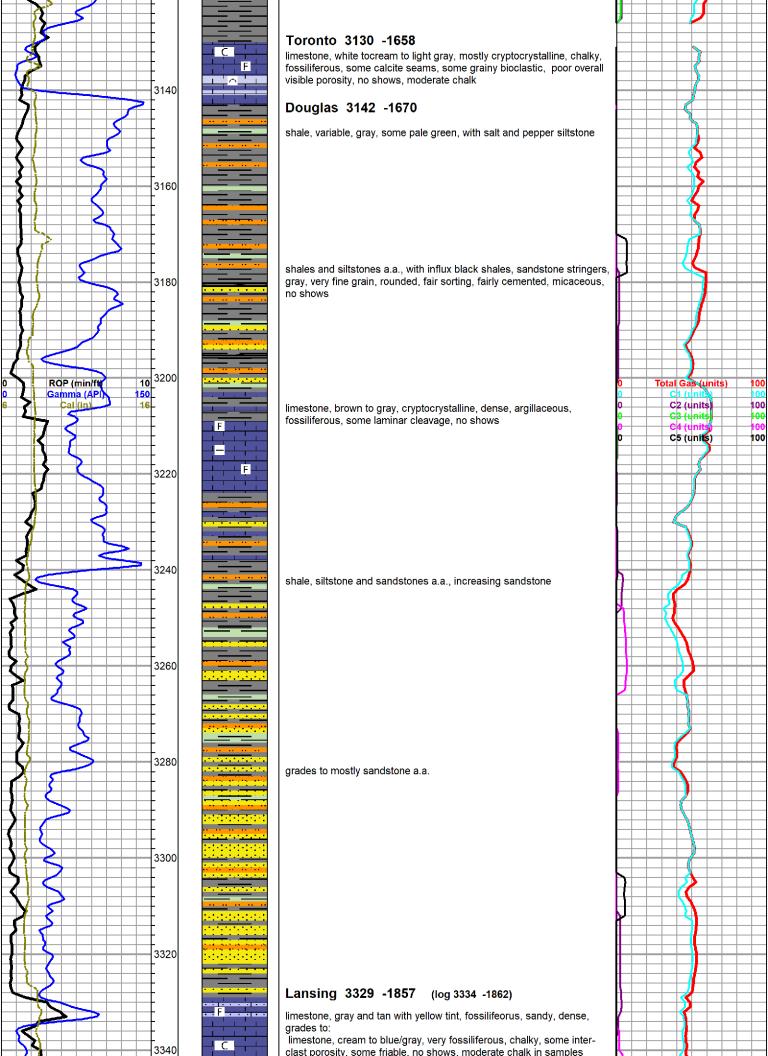
△ Chert White

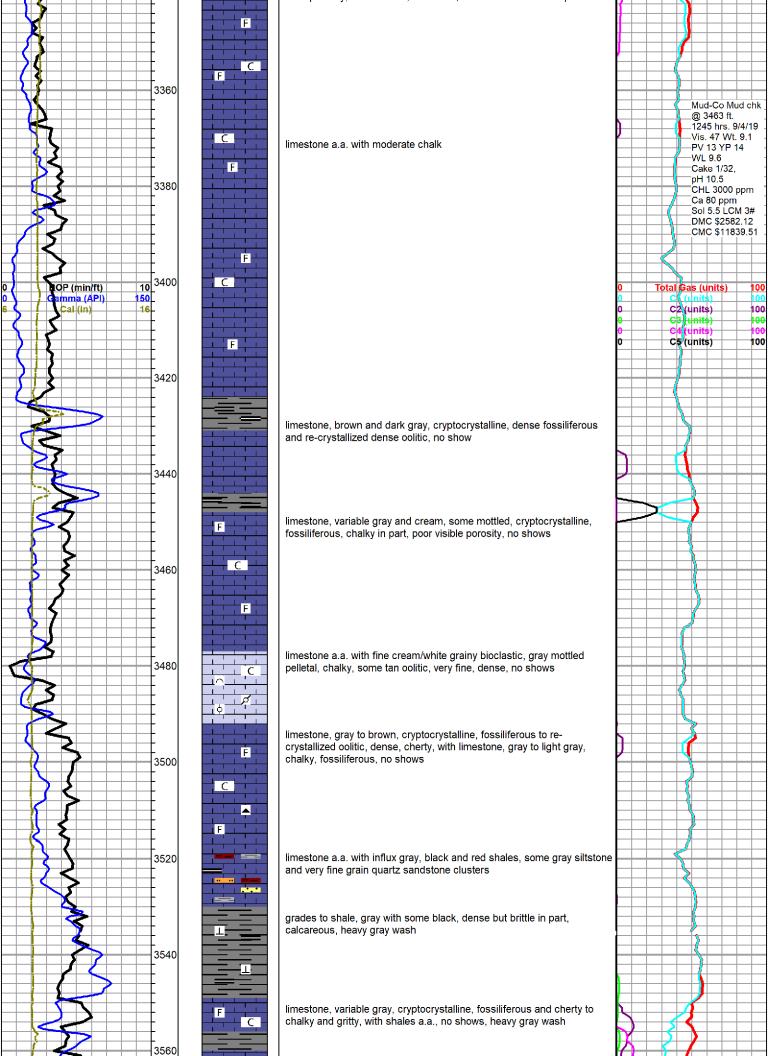
- Fair Show
- Poor Show
- O Spotted or Trace
- O Questionable Stn D Dead Oil Stn
- Fluorescence
- ★ Gas

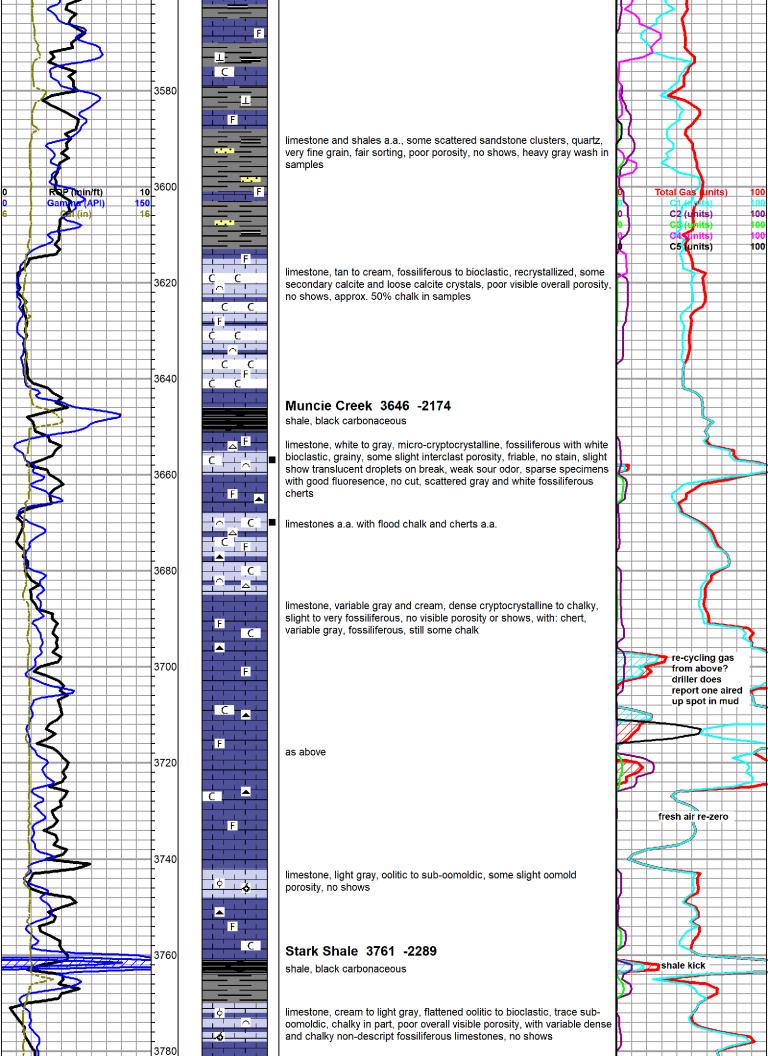


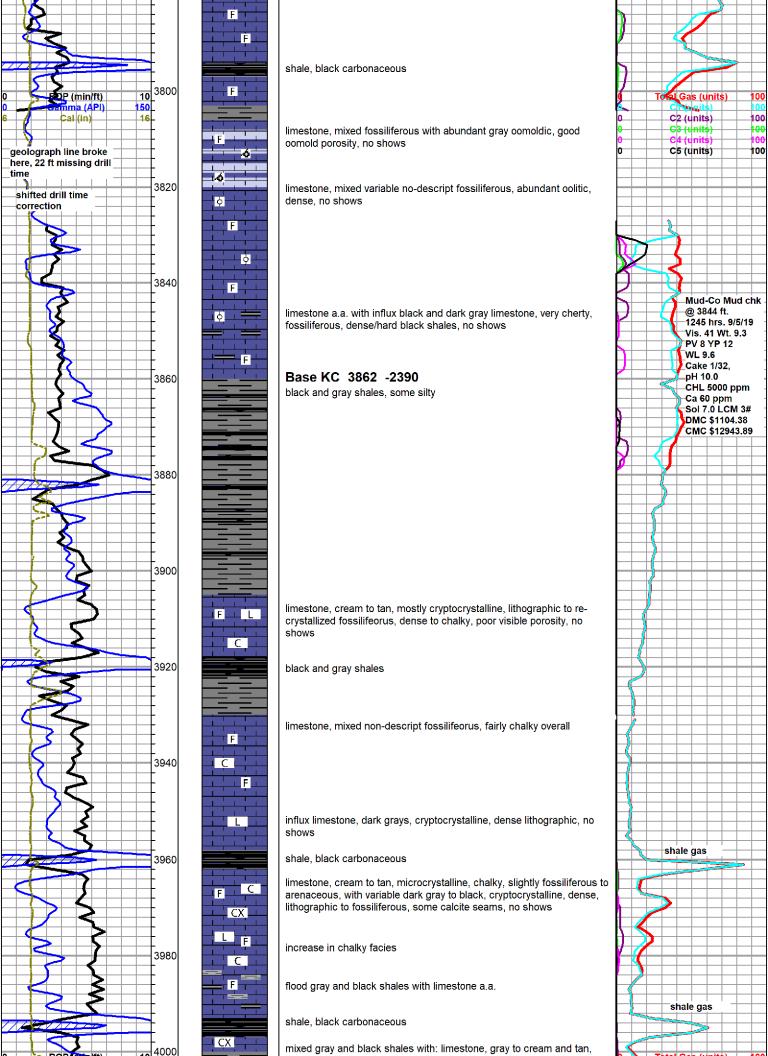


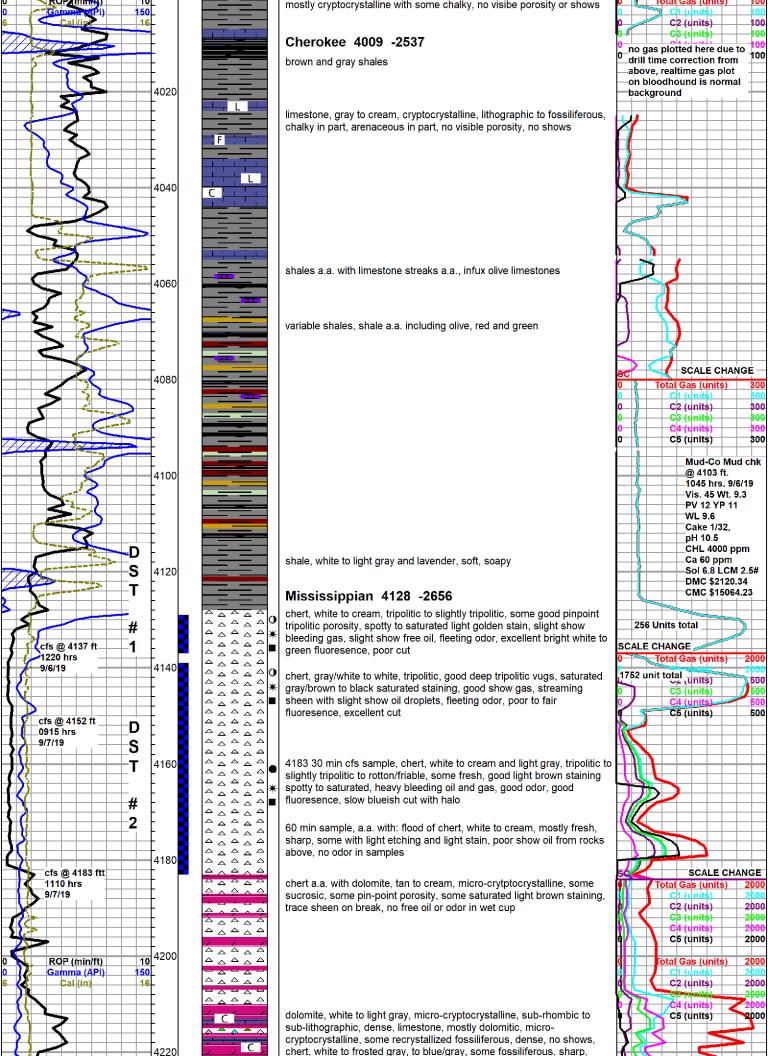


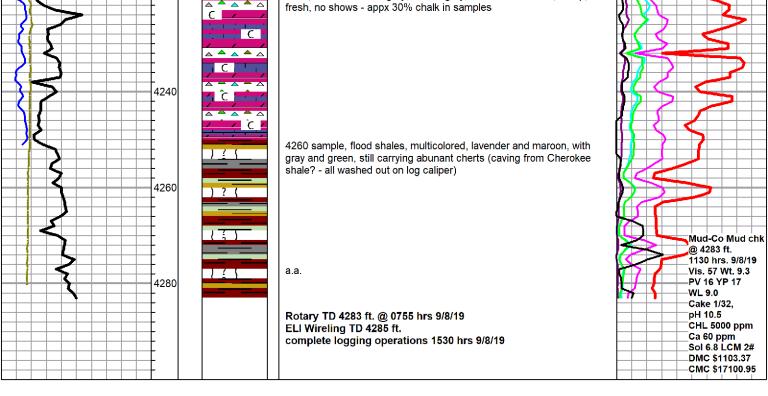














PAGE	CUST NO	YARD #	INVOICE DATE
1 of 1	1012616	1718	09/09/2019
L	INVOIC	E NUMBER	
	930)44613	

Pratt

(620) 672-1201

B STEFFEN RESOURCES DEVELOPMENT LLC

3500 N MAYFIELD RD

L HUTCHINSON

KS US

67502

O ATTN:

LEASE NAME

STEFFAN FAMILY #1-19

LOCATION COUNTY

KINGMAN

STATE

KS

JOB DESCRIPTION Cement-New Well Casing/Pi

JOB CONTACT

Original voice

јов #	EQUIPMENT #	PURCHASE C	RDER NO.		TERMS	DUE DATE
41189432					Cash Sale	09/09/2019
or Service Det	es: 08/30/2019 to	08/20/2010	QTY	U of M	UNIT PRICE	INVOICE AMOUN
	es. 00/3.0/2019 to	08/30/2019				
041189432						
171818020A Ce SURFACE CASIN	ment-New Well Casing/ G	Pi 08/30/2019				
60/40 Poz			165.00	sĸ	11,88	N # TO POUR 230 400
Celloflake			42.00	LB	1.76	
Calcium Chloride			426.00		0.44	
Light Vehicle Mile Heavy Equipment			50.00		2.20	
Depth Charge, O'			50.00 1.00	1	3.52 528.00	
Blending & Mixin		*	1.00	1	101.64	
Service Superviso			1.00		75.00	
Driver Charge			3.00	EA	35.00	

BASIC ENERGY SERVICES, LP
PO BOX 841903
BALLAS, TX 75284-1903
BASIC ENERGY SERVICES, LP
801 CHERRY ST, STE 2100
FORT WORTH, TX 76102

SUB TOTAL TAX 3,317.20 177.72

INVOICE TOTAL

3,494.92



FIELD SERVICE ORDER NO.

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

FIELD SERVICE TICKET 1718 18019 A

10

		DISTRICT Pr913	100		NEW X	JLU D	ROD INJ	☐ WDW	100		
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CITY		STATE	2				grin, B	rear, D	192		
AUTHORIZED BY					JOB TYPE:	0.00		21	1200	ton	
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TTMH:25 10244 NE Hwy. 61 P.O. Box 8613 Pratt, Kansas 67124 Phone 620-672-1201

FIELD SERVICE TICKET 1718 18020 A

18-305-7U PRESSURE PUMPING & WIRELINE

DATE TICKET NO.

						THE REAL PROPERTY OF THE PARTY					AND DESCRIPTION OF PERSONS					
DATE OF 8/3	0/2019	DISTRICT P	es .		NEW MELL PROD □ INJ □ WDW □ CUSTOMER ORDER NO.:											
CUSTOMER 5	teffsn	Resource	Deve	lopme	nz	LEASE S	effe	n Fsm	1.		WELL NO.	1-19				
ADDRESS							Cinst		STA	TE 12	8					
CITY	4	STATE				SERVICE CF	5		sett, l	7:53	/					
AUTHORIZED B	BY					JOB TYPE:		2/85/8								
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SERVICE REPRESENTATIV	VE LEZ	SERVICE REPRESENTATIVE Des Fulcalo					THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY:									

FIELD SERVICE ORDER NO.

(WELL OWNER OPERATOR CONTRACTOR OR AGENT)



TREATMENT REPORT

Customer	n Res		L	ease No.			Date 3														
Lease P	Steffer	F	Sm,		V	Vell #	-19			-			8,	127	201	9					
Field Order #	Statio	n I	7	- d 1 1C 5				Casing	133/8	Depth	85	Count	y K	'nsma		State	e KS				
Type Job	2421	13	3/8	Cor		tor			For	mation		96.	7-1		escription		30s - 76				
PIPE	DATA			FORA				FLUID	USED				TREAT	MENT	RESUME						
Casing Size	Tubing Si	ize	Shots/F	=t			Acid					RATE	PRES		ISIP		*				
Depth 85	Depth /	1	From		То		Pre F	Pad			Max										
Volume 13, 3	Volume	3/4	From		То		Pad				Min			7	10 Min.						
Max Press	Max Pres		From		То		Frac				Avg				15 Min.						
Well Connection			From		То						HHP Used	d			Annulus I	⊃ressur	е				
Plug Depth	From To				Flush	W78	er		Gas Volun	ne			Total Loa	d							
Customer Representative Kur +					Station	Manag	ner -		We	Stermen	Trea	iter Z)grin	Fran	clin						
Service Units	Privar				43	1996	0 2	2/010	*												
Names	Casing	Br	ubing	Bre	'dナ	D.9	192 Di92								F		Total Control				
Time	Pressure		essure	Bbls	. Pum	ped	R	ate			Service Log										
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10244	10244 NE Hiway 61 • P.O. Bo					013	rrall	i, NS 6	7124-	861	• (620)	6/2	-1201	• Fax	(620) 6	72-5 3	383				



TREATMENT REPORT

Customer	n 2,50	ReSource Davelopmen								Date 8/30/2019											
10000 -		-m,	*			Vell #	-1	5			8/30/2019										
Field Order #)	+ 1 FS				Casing	81	1	Depth	263	C	ounty	K	nsm	Gn		Stat	e ICS	_
Type Job	242/	8	~/	5011						For	mation	JD-	26	3		Legal [ption / 8	3	305-7	74
PIPI	E DATA		PERF	ORAT	ΓING	DATA		FLUII	o us	ED				Т	REA	TMENT	RES	SUME		29	
Casing Size	Tubing Si	ze	Shots/F	t			Ac	id					RA	TE	PRE	SS	S ISIP				_
Depth 26	Depth		From	3 =	То		Pre	e Pad				Max					5 Min.				
Volume / 5	Volume	****	From		То		Pa	ıd				Min				10 Min.					
Max Press	Max Pres		From		То		Fra	ac				Avg					15	Min.			
Well Connection	on Annulus \	Vol.	From		То							HHP Used					Ar	nnulus P	ressu	re	
Plug Depth	Packer D	epth	From		То		Flush WSler					Gas Vo	lume		7.840000		То	tal Load			
Customer Rep	oresentative	KU	11			Station Manager JUS					ves,	leimen		Treat	erD	Sin	Fr	5n)cl	in	1 12	
Service Units	92911	78	582	210	10	1996	60	21010	>		,						1				
Driver Names	Derin		ett	Breo	++	Stev	en	Steve	2												
Time	Casing Pressure		ubing essure	Bbls	. Pum	ped		Rate				Service Log									
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