KOLAR Document ID: 1328861

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:	
Address 2:	Feet from North / South Line of Section
City: State: Zip: +	Feet from _ East / _ West Line of Section
Contact Person:	Footages Calculated from Nearest Outside Section Corner:
Phone: ()	□NE □NW □SE □SW
CONTRACTOR: License #	GPS Location: Lat:, Long:
Name:	(e.g. xx.xxxxx) (e.gxxx.xxxxx)
Wellsite Geologist:	Datum: NAD27 NAD83 WGS84
Purchaser:	County:
Designate Type of Completion:	Lease Name: Well #:
New Well Re-Entry Workover	Field Name:
	Producing Formation:
☐ Oil ☐ WSW ☐ SWD	Elevation: Ground: Kelly Bushing:
☐ Gas ☐ DH ☐ EOR	Total Vertical Depth: Plug Back Total Depth:
☐ OG ☐ GSW	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 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)
Described	Chloride content: ppm Fluid volume: bbls
☐ Commingled Permit #:	Dewatering method used:
SWD Permit #:	Location of fluid disposal if hauled offsite:
EOR Permit #:	Location of fluid disposal if flauled offsite.
GSW Permit #:	Operator Name:
	Lease Name: License #:
Spud Date or Date Reached TD Completion Date or	Quarter Sec TwpS. R
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 Drill Stem Tests Received						
Geologist Report / Mud Logs Received						
UIC Distribution						
ALT I II III Approved by: Date:						

KOLAR Document ID: 1328861

Page Two

Operator Name: _				Lease Name:			Well #:	
Sec Twp.	S. R.	E	ast West	County:				
	flowing and shu	ut-in pressures, v	vhether shut-in pre	ssure reached st	atic level, hydrosta	tic pressures, bot		val tested, time tool erature, fluid recovery,
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	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.					Gas-Oil Ratio	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.		n.	i donei Al.				

Form	ACO1 - Well Completion			
Operator	Royal Energy, Inc.			
Well Name	YOUNG 1			
Doc ID	1328861			

Tops

Name	Тор	Datum
Anhydrite	844	+1126
B/Anhydrite	864	+1106
Howard	3168	-1198
Topeka	3256	-1286
Heebner	3615	-1645
Brown Lime	3772	-1802
Lansing	3801	-1831
Base/KC	4103	-2133
Mississippian	4243	-2273
Kinderhook Sh.	4293	-2323
Viola	4328	-2358
RTD/LTD	4400	-2430

Form	ACO1 - Well Completion			
Operator	Royal Energy, Inc.			
Well Name	YOUNG 1			
Doc ID	1328861			

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Type and Percent Additives
Surface	12.25	8.625	23	310	80/20 Pozmix	3% cc; 2%gel

QUALITY OILWELL CEMENTING, INC. Right

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Cell 785-324-1041

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

No.

On Location Finish Twp. State County Sec. Range Date Location Well No. Owner Lease To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish Contractor cementer and helper to assist owner or contractor to do work as listed. Type Job T.D Hole Size To Depth Street Csg. Depth Tbg. Size City The above was done to satisfaction and supervision of owner agent or contractor. Tool Depth Cement Amount Ordered Cement Left in Csg Shoe Joint Displace Meas Line **EQUIPMENT** Common Cementer / No. Poz. Mix Pumptrk Helper Driver No. Gel. Bulktrk Driver Driver No Calcium Bulktrk Driver **JOB SERVICES & REMARKS** Hulls Salt Remarks: Flowseal Rat Hole Kol-Seal Mouse Hole Mud CLR 48 Centralizers CFL-117 or CD110 CAF 38 Baskets D/V or Port Collar Sand Handling Mileage FLOAT EQUIPMENT **Guide Shoe** Centralizer Baskets **AFU Inserts** Float Shoe Latch Down Pumptrk Charge Mileage Tax Discount X Signature **Total Charge**

QUALITY WELL SERVICE, INC. Federal Tax I.D. # 481187368

6595

Home Office 324 Simpson St., Pratt, KS 67124

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

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

					,			
	Sec. Twp		-	County	State	On Location	Finish	
Date (0 13 17	07 26	\$ 13W	Pro	_	KS	300Am	530An	
Lease young	Well No.		Location	on Prot	-115, N,	w, Sint	0	
Contractor South wi	nd			Owner K	Oyal Energy	,		
Type Job Rotary Plug				To Quality W You are here	Vell Service, Inc.	cementing equipmen	t and furnish	
Hole Size 7/8	T.D.			cementer ar	nd helper to assist ow	ner or contractor to d	o work as listed.	
Csg.	Depth			Charge To				
Tbg. Size 4/2 16.6 5	Depth	900'		Street				
Tool	Depth			City		State		
Cement Left in Csg.	Shoe	Joint		The above wa	as done to satisfaction ar	nd supervision of owner	agent or contractor.	
Meas Line	Displa	ice		Cement Am	ount Ordered /) (DSX 60:40.	4% gel	
	EQUIPMENT							
Pumptrk 0	ceb			Common				
Bulktrk / O No. Dav	14 1			Poz. Mix				
Bulktrk No.	-12			Gel.				
Pickup No.	1019			Calcium				
JOB SER	RVICES & REM	ARKS		Hulls				
Rat Hole				Salt				
Mouse Hole				Flowseal				
Centralizers				Kol-Seal				
Baskets				Mud CLR 48				
D/V or Port Collar	p.v.			CFL-117 or	CD110 CAF 38			
Drillpipe at 91	DO; hole	full, Pump	4ALe	Sand				
Mix SDSX, Disp	· w/96	Bls Fresh		Handling				
	1			Mileage				
In Proper at 31	60, 100.	I Hole Pump	3AL	ed	FLOAT EQUIPMI	ENT		
Mix SUSX DISP.	w/2 Fru	sh '		Guide Shoe				
				Centralizer				
DPat 60'mix	i 20 sy	cement D), dCin	Baskets				
				AFU Inserts				
Plug Rest & Mo	suse Holes	w/ 50 sx	/	Float Shoe				
		/		Latch Down				
*								
				4				
				Pumptrk Cha	arge			
		1		Mileage				
1	//	1				Tax		
1-11	1	//				Discount		
Signature / Mary	Ler	Lance	of the state of th			Total Charge		



Prepared For: ROYAL ENERGY INC.

402 CEDAR STREET MEADE, KANSAS 67864

ATTN: JEFF BURK

YOUNG 31

7-26S-13W PRATT

Start Date: 2017.01.09 @ 12:56:00 End Date: 2017.01.09 @ 19:46:00 Job Ticket #: 01141 DST #: 1

Eagle Testers

1309 Patton Road Great Bend, Kansas 67530 620-791-7394

Printed: 2017.01.09 @ 20:20:32



ROYAL ENERGY INC.

7-26S-13W PRATT

402 CEDAR STREET MEADE, KANSAS 67864 YOUNG 31

Job Ticket: 01141

DST#:1

ATTN: JEFF BURK

Test Start: 2017.01.09 @ 12:56:00

GENERAL INFORMATION:

Formation: LANSING 'A-B'

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

Time Tool Opened: 15:31:00 Time Test Ended: 19:46:00 Tester: GENE BUDIG-90

Unit No: 1

3878.00 ft (KB) To 3835.00 ft (KB) (TVD)

Reference Elevations:

1970.00 ft (KB)

Total Depth: 3835.00 ft (KB) (TVD)

1960.00 ft (CF)

Hole Diameter: 7.86 inches Hole Condition: Fair

KB to GR/CF:

F: 10.00 ft

Serial #: 9139 Press@RunDepth: Outside

522.63 psia @

3830.07 ft (KB)

Capacity: '.01.09 Last Calib.: psia 2017.01.09

Start Date: Start Time:

Interval:

2017.01.09 12:56:00

End Date: End Time: 2017.01.09 19:46:30

Time On Btm: 2017.01.09 @ 15:29:30

Time Off Btm:

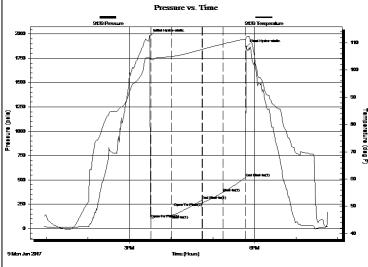
2017.01.09 @ 17:48:30

TEST COMMENT: 1ST OPOENING 30 MINUTES FAIR BLOW BUILT TO THE BOTTOM OF A 5 GALLION BUCKET IN 6 MINUTES

1ST SHUT-IN 45 MINUTES NO BLOW BACK

2ND OPPENING 30 MINUTES-WEAK BLOW BUILT TO 1 1/2 INCH DECRTEASED DIED IN 27 MINUTES2ND 2ND SHUT-IN

45 MINUTES NO BLOW BACK



_				
	Time	Pressure	Temp	Annotation
	(Min.)	(psia)	(deg F)	
	0	1976.38	104.45	Initial Hydro-static
	1	102.27	103.91	Open To Flow (1)
	31	136.28	104.91	Shut-In(1)
,	75	292.67	107.56	End Shut-In(1)
3	76	265.43	107.58	Open To Flow (2)
	105	370.79	109.55	Shut-In(2)
ì	138	522.63	111.35	End Shut-In(2)
9	139	1869.29	112.16	Final Hydro-static

PRESSURE SUMMARY

Recovery

Length (ft)	Description	Volume (bbl)
0.00	200 feet of gas in the pipe	0.00
20.00	mud	0.28
60.00	very slightly oil cut mud	0.84
0.00	5 gas 5 oil 80 mud 10 w ater	0.00
60.00	very slightly oil cut mud	0.84
0.00	7 gas 8 oil 70 mud 15 w ater	0.00

Gas Rat	es	
Choke (inches)	Pressure (neia)	Gas Rate (Mcf/d)

Eagle Testers Ref. No: 01141 Printed: 2017.01.09 @ 20:20:32



TOOL DIAGRAM

ROYAL ENERGY INC.

7-26S-13W PRATT

402 CEDAR STREET MEADE, KANSAS 67864 YOUNG 31

Job Ticket: 01141

DST#:1

ATTN: JEFF BURK

Test Start: 2017.01.09 @ 12:56:00

Tool Information

Drill Pipe: Length: 3771.00 ft Diameter: Heavy Wt. Pipe: Length: 0.00 ft Diameter: Drill Collar: Length: 0.00 ft Diameter:

3.80 inches Volume: 52.90 bbl 0.00 inches Volume: 0.00 bbl 0.00 inches Volume: 0.00 bbl

52.90 bbl

Total Volume:

Tool Weight: 2000.00 lb
Weight set on Packer: 20000.00 lb
Weight to Pull Loose: 58000.00 lb

Drill Pipe Above KB: 22.00 ft
Depth to Top Packer: 3778.00 ft

Tool Chased 0.00 ft
String Weight: Initial 40000.00 lb

Depth to Top Packer: 3778.00 ft
Depth to Bottom Packer: ft

Final 40000.00 lb

Interval between Packers: 57.07 ft
Tool Length: 86.07 ft

Number of Packers: 2

2 Diameter: 6.75 inches

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			3754.00		
Hydraulic tool	5.00			3759.00		
Jars	7.00			3766.00		
Safety Joint	2.00		Fluid	3768.00		
Top Packer	5.00			3773.00		
Packer	5.00			3778.00	29.00	Bottom Of Top Packer
Anchor	5.00			3783.00		
Change Over Sub	0.75			3783.75		
Drill Pipe	31.57			3815.32		
Change Over Sub	0.75			3816.07		
Anchor	14.00			3830.07		
Recorder	0.00	9119	Inside	3830.07		
Recorder	0.00	9139	Outside	3830.07		
Bullnose	5.00			3835.07	57.07	Anchor Tool

Total Tool Length: 86.07

Eagle Testers Ref. No: 01141 Printed: 2017.01.09 @ 20:20:33



FLUID SUMMARY

ROYAL ENERGY INC.

7-26S-13W PRATT

402 CEDAR STREET MEADE, KANSAS 67864

ATTN: JEFF BURK

YOUNG 31

Serial #:

Job Ticket: 01141 **DST#:1**

Test Start: 2017.01.09 @ 12:56:00

Mud and Cushion Information

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

Viscosity: 48.00 sec/qt Cushion Volume: bbl

Water Loss: 7.20 in³ Gas Cushion Type:

Resistivity: ohm.m Gas Cushion Pressure: psia

Salinity: 7000.00 ppm Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	200 feet of gas in the pipe	0.000
20.00	mud	0.281
60.00	very slightly oil cut mud	0.842
0.00	5 gas 5 oil 80 mud 10 w ater	0.000
60.00	very slightly oil cut mud	0.842
0.00	7 gas 8 oil 70 mud 15 w ater	0.000

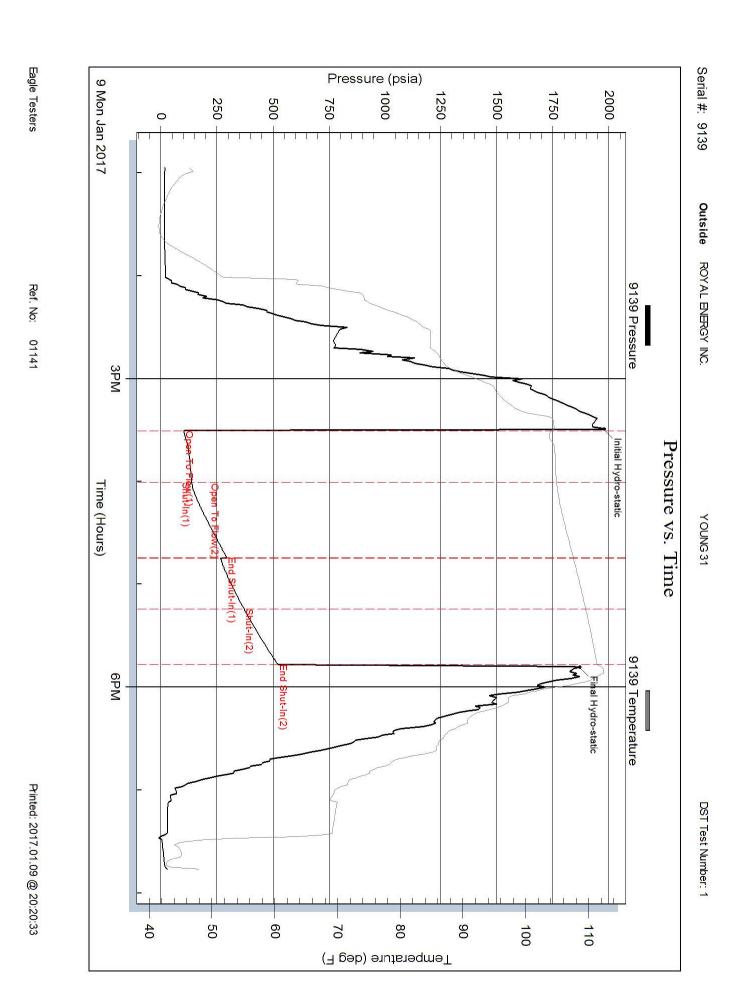
Total Length: 140.00 ft Total Volume: 1.965 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0

Laboratory Name: Laboratory Location:

Recovery Comments:

Eagle Testers Ref. No: 01141 Printed: 2017.01.09 @ 20:20:33





Prepared For: ROYAL ENERGY INC.

402 CEDAR STREET MEADE, KANSAS 67864

ATTN: JEFF BURK

YOUNG 31

7-26S-13W PRATT

Start Date: 2017.01.10 @ 11:30:00 End Date: 2017.01.10 @ 00:00:00 Job Ticket #: 01142 DST #: 2

Eagle Testers

1309 Patton Road Great Bend, Kansas 67530 620-791-7394

Printed: 2017.01.10 @ 18:13:37



ROYAL ENERGY INC.

7-26S-13W PRATT

402 CEDAR STREET MEADE, KANSAS 67864

Job Ticket: 01142

YOUNG 31

DST#: 2

ATTN: JEFF BURK

Test Start: 2017.01.10 @ 11:30:00

GENERAL INFORMATION:

Formation: LANSING 'H-I'

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

Time Tool Opened: 13:23:00 Time Test Ended: 00:00:00

GENE BUDIG

Unit No:

Tester:

3939.00 ft (KB) To 3970.00 ft (KB) (TVD)

Reference Elevations:

1970.00 ft (KB)

Total Depth: 3970.00 ft (KB) (TVD)

1960.00 ft (CF)

7.86 inches Hole Condition: Fair Hole Diameter:

KB to GR/CF: 10.00 ft

Serial #: 9139 Press@RunDepth:

Interval:

Outside

318.77 psia @ 3965.00 ft (KB)

Capacity:

5000.00 psia

2017.01.10

Start Date: 2017.01.10 Start Time: 11:30:00

End Date: 2017.01.10 End Time: 17:48:00 Last Calib.: Time On Btm:

2017.01.10 @ 13:27:30

Time Off Btm:

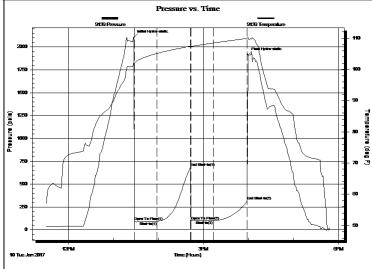
2017.01.10 @ 15:59:00

TEST COMMENT: 1st OPENING 30 MINUTES WEAK BLOW BUILT TO 1 1/2 INCHES

1ST SHUT-IN 45 MINUTES NO BLOW BACK

2ND OPENING 30 MINUTESWEAK BLOW BUILT TO 2 INCHES DECREASED AND DIED IN 15 MINUTES

2ND SHUIT-IN 45 MINUTES NO BLOW BACK



Р	RESS	JRE	SUN	ИMAR	Y

	Time	Pressure	Temp	Annotation
	(Min.)	(psia)	(deg F)	
	0	2104.71	102.13	Initial Hydro-static
	1	94.18	101.86	Open To Flow (1)
	31	90.82	105.08	Shut-In(1)
	76	685.25	107.43	End Shut-In(1)
	76	101.55	107.31	Open To Flow (2)
	106	98.83	108.43	Shut-In(2)
,	151	318.77	109.90	End Shut-In(2)
,	152	1916.41	110.29	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	MUD WITH A TRACE OF OIL	0.98
0.00	TRACE OIL 70 MUD 30 WATER	0.00
0.00	CHLORIUDES 64,000	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
--	----------------	-----------------	------------------

Eagle Testers Ref. No: 01142 Printed: 2017.01.10 @ 18:13:37



ROYAL ENERGY INC.

7-26S-13W PRATT

402 CEDAR STREET MEADE, KANSAS 67864 **YOUNG 31**

Job Ticket: 01142

DST#: 2

ATTN: JEFF BURK

Test Start: 2017.01.10 @ 11:30:00

GENERAL INFORMATION:

Formation: LANSING 'H-I'

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

Time Tool Opened: 13:23:00 Time Test Ended: 00:00:00

Tester:

GENE BUDIG

Unit No:

1970.00 ft (KB)

3939.00 ft (KB) To 3970.00 ft (KB) (TVD)

Reference Elevations:

1960.00 ft (CF) 10.00 ft

psia

Total Depth: 3970.00 ft (KB) (TVD) Hole Diameter:

KB to GR/CF:

7.86 inches Hole Condition: Fair

Serial #: 91716 Inside

Press@RunDepth:

323.40 psia @

3965.00 ft (KB)

2017.01.10

Capacity: Last Calib.:

1899.12.30

Start Date: Start Time:

Interval:

2017.01.10 11:30:00

End Date: End Time:

17:58:00

Time On Btm:

2017.01.10 @ 13:25:30

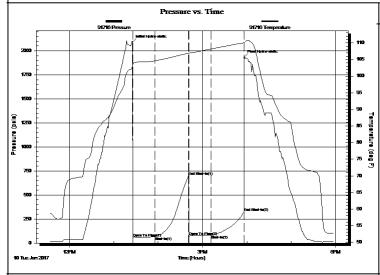
Time Off Btm: 2017.01.10 @ 15:56:30

TEST COMMENT: 1st OPENING 30 MINUTES WEAK BLOW BUILT TO 1 1/2 INCHES

1ST SHUT-IN 45 MINUTES NO BLOW BACK

2ND OPENING 30 MINUTESWEAK BLOW BUILT TO 2 INCHES DECREASED AND DIED IN 15 MINUTES

2ND SHUIT-IN 45 MINUTES NO BLOW BACK



Р	RESSUR	RE SUMMARY
sure	Temp	Annotation

Time	Pressure	Temp	Annotation	
(Min.)	(psia)	(deg F)		
0	2089.39	103.17	Initial Hydro-static	
1	57.04	103.56	Open To Flow (1)	
31	66.80	104.61	Shut-ln(1)	
76	695.82	106.92	End Shut-In(1)	
76	70.01	106.94	Open To Flow (2)	
106	80.98	108.15	Shut-ln(2)	
151	323.40	110.01	End Shut-In(2)	
151	1931.33	110.04	Final Hydro-static	

Recovery

Length (ft)	Description	Volume (bbl)
70.00	MUD WITH A TRACE OF OIL	0.98
0.00	TRACE OIL 70 MUD 30 WATER	0.00
0.00	CHLORIUDES 64,000	0.00

Gas Rates

Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
----------------	-----------------	------------------

Eagle Testers Ref. No: 01142 Printed: 2017.01.10 @ 18:13:38



TOOL DIAGRAM

ROYAL ENERGY INC.

7-26S-13W PRATT

402 CEDAR STREET MEADE, KANSAS 67864 YOUNG 31

Job Ticket: 01142

DST#: 2

ATTN: JEFF BURK

Test Start: 2017.01.10 @ 11:30:00

Tool Information

Drill Pipe: Length: 3929.00 ft Diameter:
Heavy Wt. Pipe: Length: 0.00 ft Diameter:
Drill Collar: Length: 0.00 ft Diameter:

3.80 inches Volume: 55.11 bbl 0.00 inches Volume: 0.00 bbl 0.00 inches Volume: 0.00 bbl

Total Volume:

55.11 bbl

Tool Weight: 2000.00 lb
Weight set on Packer: 20000.00 lb
Weight to Pull Loose: 54000.00 lb

Drill Pipe Above KB: 19.00 ft
Depth to Top Packer: 3939.00 ft

Tool Chased 0.00 ft
String Weight: Initial 40000.00 lb

Depth to Bottom Packer: ft

Final 40000.00 lb

Interval between Packers: 31.00 ft Tool Length: 60.00 ft

60.00 ft 2 Diameter: 6.75 inches

Tool Comments:

Number of Packers:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			3915.00		
Hydraulic tool	5.00			3920.00		
Jars	7.00			3927.00		
Safety Joint	2.00		Fluid	3929.00		
Top Packer	5.00			3934.00		
Packer	5.00			3939.00	29.00	Bottom Of Top Packer
Anchor	26.00			3965.00		
Recorder	0.00	91716	Inside	3965.00		
Recorder	0.00	9139	Outside	3965.00		
Bullnose	5.00			3970.00	31.00	Anchor Tool

Total Tool Length: 60.00

Eagle Testers Ref. No: 01142 Printed: 2017.01.10 @ 18:13:38



FLUID SUMMARY

ROYAL ENERGY INC. 7-26S-13W PRATT

402 CEDAR STREET MEADE, KANSAS 67864 YOUNG 31

Job Ticket: 01142

DST#: 2

ATTN: JEFF BURK

Test Start: 2017.01.10 @ 11:30:00

Mud and Cushion Information

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

Viscosity: 67.00 sec/qt Cushion Volume: bbl

Water Loss: 8.00 in³ Gas Cushion Type:

Resistivity: ohm.m Gas Cushion Pressure: psia

Salinity: 14000.00 ppm Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	MUD WITH A TRACE OF OIL	0.982
0.00	TRACE OIL 70 MUD 30 WATER	0.000
0.00	CHLORIUDES 64,000	0.000

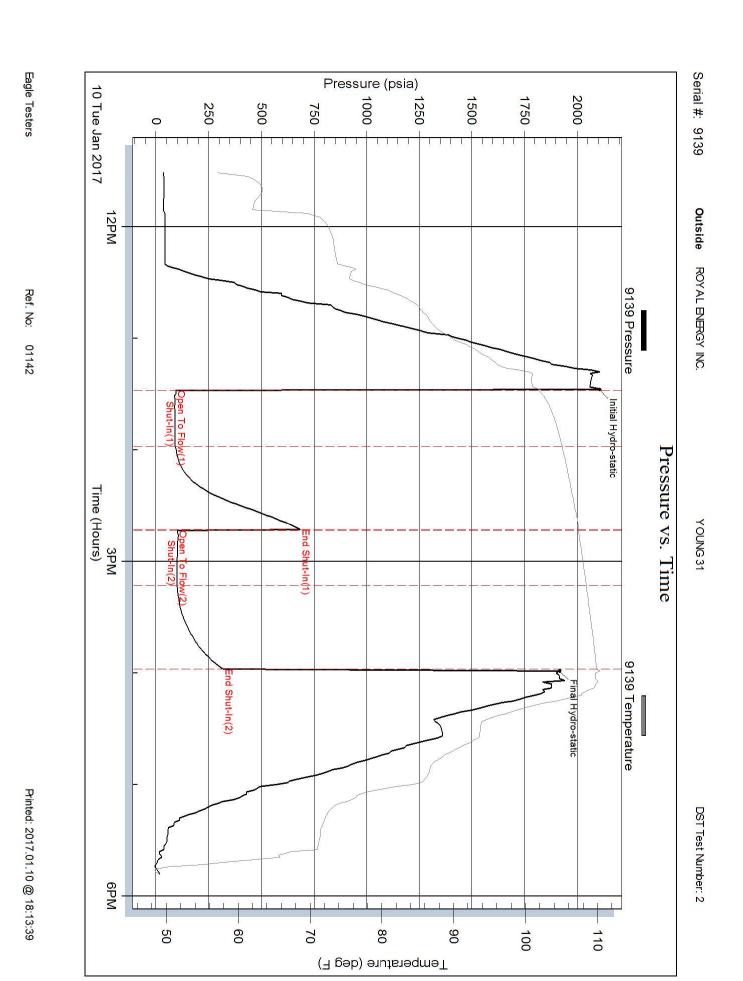
Total Length: 70.00 ft Total Volume: 0.982 bbl

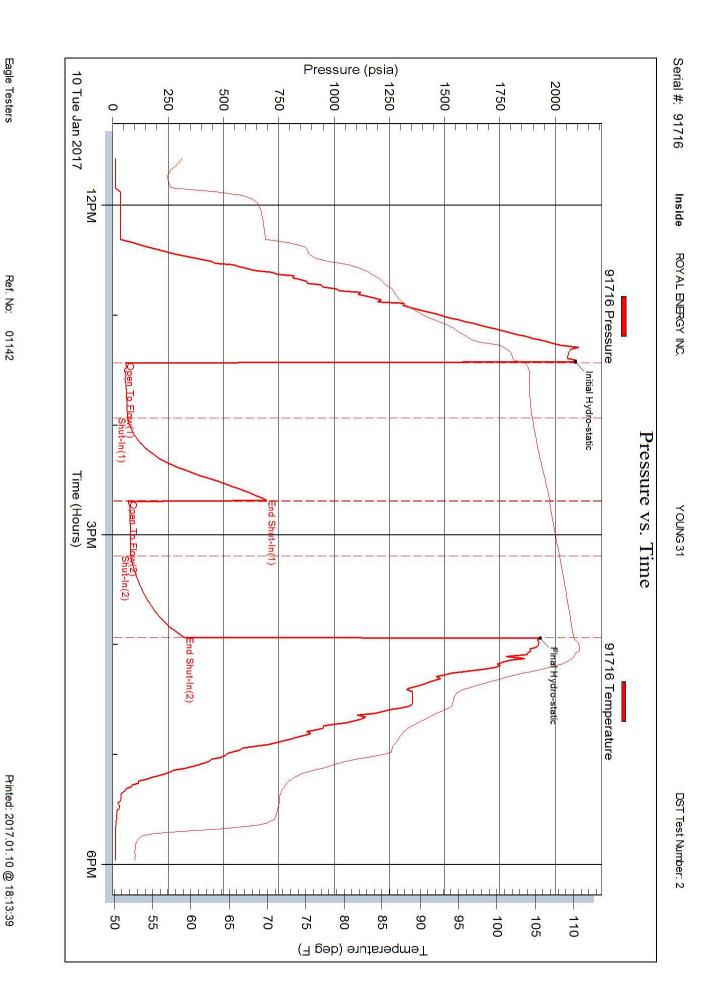
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Eagle Testers Ref. No: 01142 Printed: 2017.01.10 @ 18:13:39





Eagle Testers

Ref. No:

01142



Prepared For: ROYAL ENERGY INC.

402 CEDAR STREET MEADE, KANSAS 67864

ATTN: JEFF BURK

YOUNG 31

7-26S-13W PRATT

Start Date: 2017.01.12 @ 22:15:00 End Date: 2017.01.12 @ 00:00:00 Job Ticket #: 01143 DST #: 3

Eagle Testers

1309 Patton Road Great Bend, Kansas 67530 620-791-7394

Printed: 2017.01.12 @ 04:54:28



ROYAL ENERGY INC.

402 CEDAR STREET

MEADE, KANSAS 67864

ATTN: JEFF BURK

7-26S-13W PRATT

YOUNG 31

Job Ticket: 01143 DST#: 3

Test Start: 2017.01.12 @ 22:15:00

GENERAL INFORMATION:

Formation: KINDERHOOK-MISSISSIP

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

Time Tool Opened: 12:09:00 Tester: GENE BUDIG

Time Test Ended: 00:00:00 Unit No:

Interval: 4250.00 ft (KB) To 4320.00 ft (KB) (TVD) Reference Elevations: 1970.00 ft (KB)

Total Depth: 4320.00 ft (KB) (TVD) 1960.00 ft (CF)

Hole Diameter: 7.86 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 91716 Inside

 Press@RunDepth:
 894.13 psia
 @ 4314.35 ft (KB)
 Capacity:
 5000.00 psia

 Start Date:
 2017.01.11
 End Date:
 2017.01.12
 Last Calib.:
 2017.01.12

 Start Time:
 20:15:00
 End Time:
 02:15:00
 Time On Btm:
 2017.01.11 @ 21:50:30

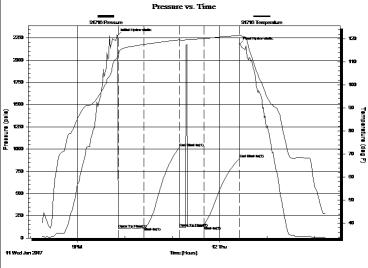
rt Time: 20:15:00 End Time: 02:15:00 Time On Btm: 2017.01.11 @ 21:50:30 Time Off Btm: 2017.01.12 @ 00:25:30

TEST COMMENT: 1ST OPENING 30 MINUTES WEAKK BLOW FOR 18 MINUTES AND DIED

1ST SHUT-IN 45 MINUTES NO BLOW BACK

2ND OPENING 30 MINUTES-WEAK BLOW 3 MINUTES DIED FLUSHED TOOL WEAK BLOW 4 MINUTES DIED

2ND SHUT-ION 45 MINUTES NO BLOW BACK



PRESSURE SUMMARY							
Time	Pressure	Temp	Annotation				
(Min.)	(psia)	(deg F)					
0	2274.18	112.02	Initial Hydro-static				
1	103.42	112.86	Open To Flow (1)				
34	125.01	117.47	Shut-In(1)				
79	1018.77	119.46	End Shut-In(1)				
79	116.49	119.46	Open To Flow (2)				
110	131.17	120.06	Shut-In(2)				
155	894.13	121.42	End Shut-In(2)				
155	2178.48	121.48	Final Hydro-static				
	(Min.) 0 1 34 79 79 110 155	Time (Min.) Pressure (psia) 0 2274.18 1 103.42 34 125.01 79 1018.77 79 116.49 110 131.17 155 894.13	Time (Min.) Pressure (cleg F) 0 2274.18 112.02 1 103.42 112.86 34 125.01 117.47 79 1018.77 119.46 79 116.49 119.46 110 131.17 120.06 155 894.13 121.42				

Recovery

Description	Volume (bbl)
DRILLING MUD THERE WERE SPOTS 0F	E1.40
OIL BETWEEN THE SHUT-IN AND HYDR	A 0.00
TOOLS	0.00
	DRILLING MUD THERE WERE SPOTS OF OIL BETWEEN THE SHUT-IN AND HYDR

Gas Rat	Gas Rates			
Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)		

Eagle Testers Ref. No: 01143 Printed: 2017.01.12 @ 04:54:29



ROYAL ENERGY INC.

ATTN: JEFF BURK

7-26S-13W PRATT

402 CEDAR STREET MEADE, KANSAS 67864

Job Ticket: 01143 DST#: 3

YOUNG 31

Test Start: 2017.01.12 @ 22:15:00

GENERAL INFORMATION:

Formation: KINDERHOOK-MISSISSIP

Deviated: Test Type: Conventional Bottom Hole (Initial) Whipstock: ft (KB)

Time Tool Opened: 12:09:00 Tester: GENE BUDIG

Time Test Ended: 00:00:00 Unit No:

4250.00 ft (KB) To 4320.00 ft (KB) (TVD) Reference Elevations: Interval: 1970.00 ft (KB) Total Depth: 4320.00 ft (KB) (TVD)

1960.00 ft (CF)

7.86 inches Hole Condition: Fair Hole Diameter: KB to GR/CF: 10.00 ft

Serial #: 9139 Outside

Press@RunDepth: 890.15 psia @ 4314.35 ft (KB) Capacity: 5000.00 psia Start Date: 2017.01.11 End Date: Last Calib.: 2017.01.12 2017.01.12 Start Time: 20:15:00 End Time: 02:14:00 Time On Btm: 2017.01.11 @ 21:52:30

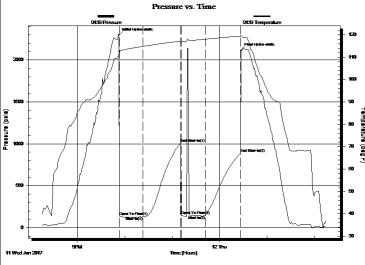
Time Off Btm: 2017.01.12 @ 00:27:00

TEST COMMENT: 1ST OPENING 30 MINUTES WEAKK BLOW FOR 18 MINUTES AND DIED

1ST SHUT-IN 45 MINUTES NO BLOW BACK

2ND OPENING 30 MINUTES-WEAK BLOW 3 MINUTES DIED FLUSHED TOOL WEAK BLOW 4 MINUTES DIED

2ND SHUT-ION 45 MINUTES NO BLOW BACK



	PRESSURE SUMMARY					
Ī	Time	Pressure	Temp	Annotation		
	(Min.)	(psia)	(deg F)			
	0	2294.64	110.92	Initial Hydro-static		
	1	139.84	111.62	Open To Flow (1)		
	31	128.98	114.81	Shut-In(1)		
-	78	1011.47	117.12	End Shut-In(1)		
Ē	79	148.74	116.95	Open To Flow (2)		
	110	142.54	118.02	Shut-In(2)		
Temperature (deg F)	154	890.15	119.42	End Shut-In(2)		
J	155	2114.84	119.81	Final Hydro-static		

Recovery

Length (ft)	Description	Volume (bbl)
100.00	DRILLING MUD THERE WERE SPOTS 0F	C1.40
0.00	OIL BETWEEN THE SHUT-IN AND HYDR	A 0.00
0.00	TOOLS	0.00

Gas Rat	Gas Rates				
Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)			

Eagle Testers Ref. No: 01143 Printed: 2017.01.12 @ 04:54:29



TOOL DIAGRAM

ROYAL ENERGY INC.

7-26S-13W PRATT

402 CEDAR STREET MEADE, KANSAS 67864 YOUNG 31

Job Ticket: 01143

DST#: 3

ATTN: JEFF BURK

Test Start: 2017.01.12 @ 22:15:00

Tool Information

Drill Pipe: Length: 4241.00 ft Diameter: Heavy Wt. Pipe: Length: 0.00 ft Diameter: Drill Collar: Length: 0.00 ft Diameter:

3.80 inches Volume: 59.49 bbl 0.00 inches Volume: 0.00 bbl 0.00 inches Volume: 0.00 bbl

Total Volume:

59.49 bbl

Tool Weight: 2000.00 lb
Weight set on Packer: 20000.00 lb
Weight to Pull Loose: 85000.00 lb

Drill Pipe Above KB: 20.00 ft
Depth to Top Packer: 4250.00 ft

Tool Chased 3.00 ft
String Weight: Initial 40000.00 lb

Depth to Top Packer: 4250.00 ft
Depth to Bottom Packer: ft

Final 40000.00 lb

Interval between Packers: 69.35 ft Tool Length: 98.35 ft

Number of Packers: 2 Diameter: 6.75 inches

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4226.00		
Hydraulic tool	5.00			4231.00		
Jars	7.00			4238.00		
Safety Joint	2.00		Fluid	4240.00		
Top Packer	5.00			4245.00		
Packer	5.00			4250.00	29.00	Bottom Of Top Packer
Anchor	5.00			4255.00		
Change Over Sub	0.75			4255.75		
Drill Pipe	30.85			4286.60		
Change Over Sub	0.75			4287.35		
Anchor	27.00			4314.35		
Recorder	0.00	91716	Inside	4314.35		
Recorder	0.00	9139	Outside	4314.35		
Bullnose	5.00			4319.35	69.35	Anchor Tool

Total Tool Length: 98.35

Eagle Testers Ref. No: 01143 Printed: 2017.01.12 @ 04:54:30



FLUID SUMMARY

ROYAL ENERGY INC.

7-26S-13W PRATT

402 CEDAR STREET MEADE, KANSAS 67864 YOUNG 31

Job Ticket: 01143

DST#: 3

ATTN: JEFF BURK

Test Start: 2017.01.12 @ 22:15:00

Mud and Cushion Information

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

Viscosity: 48.00 sec/qt Cushion Volume: bbl

Water Loss: 12.80 in³ Gas Cushion Type:

Resistivity: ohm.m Gas Cushion Pressure: psia

Salinity: 22000.00 ppm Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
100.00	DRILLING MUD THERE WERE SPOTS OF DEA	L 1.403
0.00	OIL BETWEEN THE SHUT-IN AND HYDRAUL	ic 0.000
0.00	TOOLS	0.000

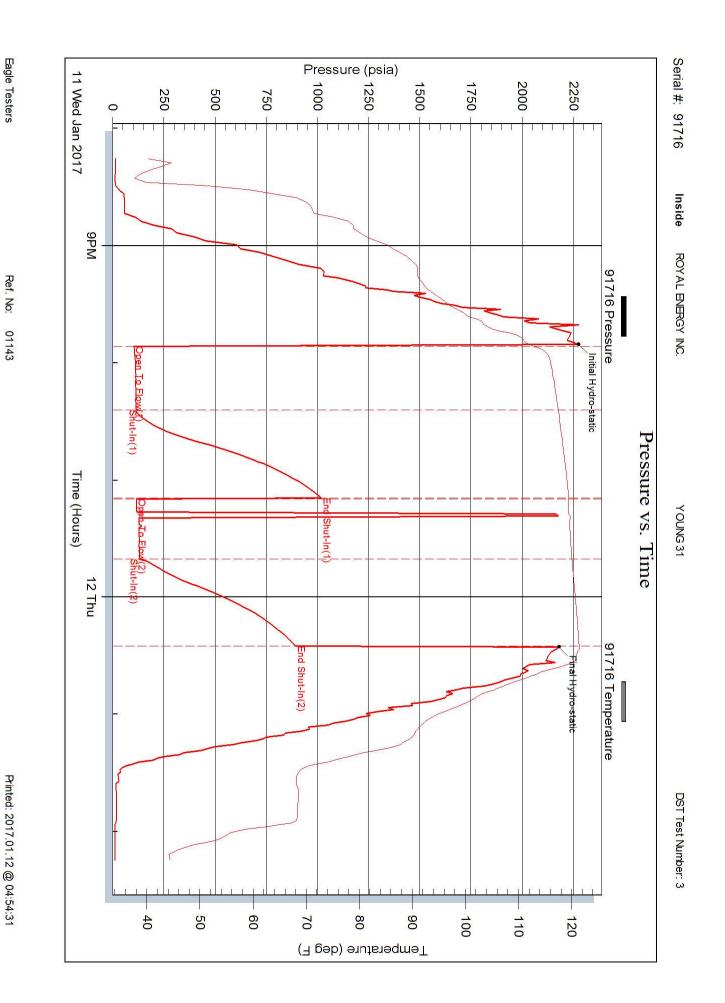
Total Length: 100.00 ft Total Volume: 1.403 bbl

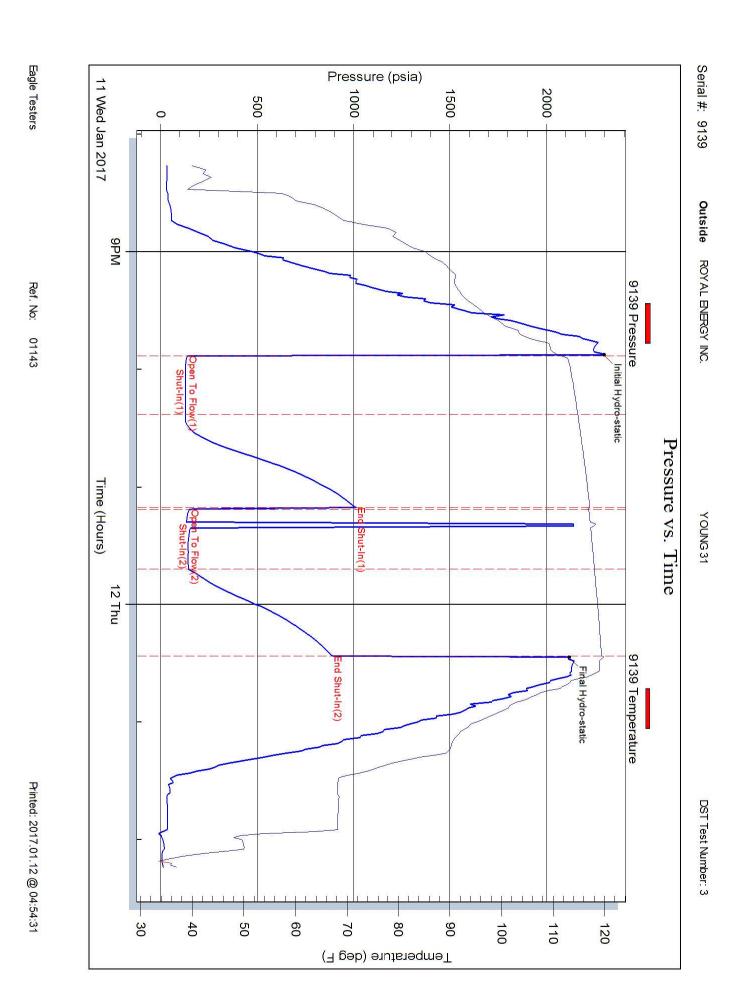
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

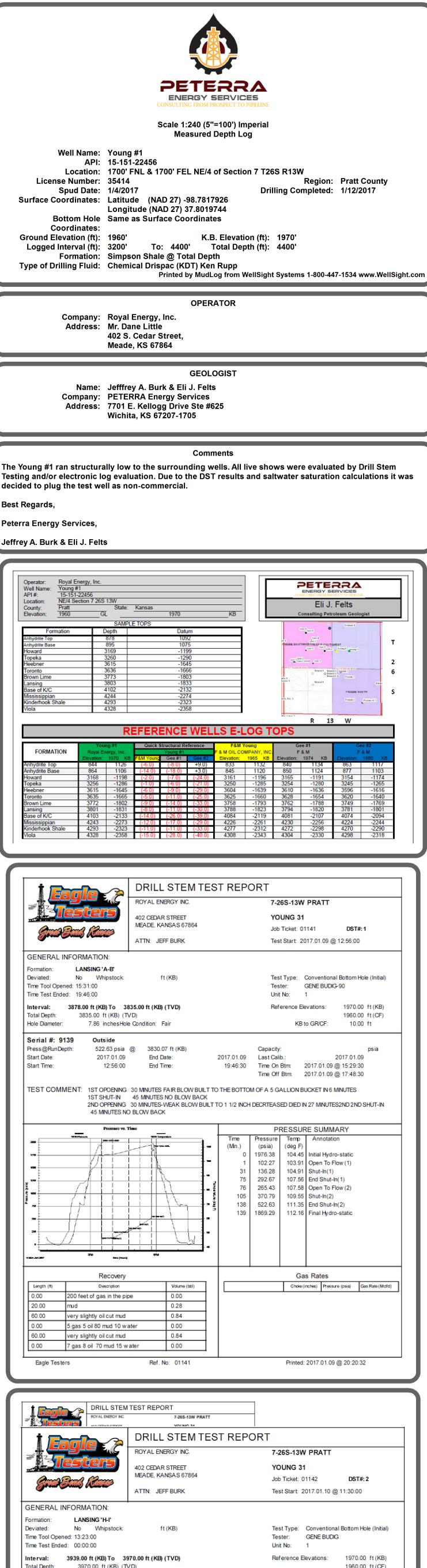
Laboratory Name: Laboratory Location:

Recovery Comments:

Eagle Testers Ref. No: 01143 Printed: 2017.01.12 @ 04:54:30







Coordinates: Ground Elevation (ft): 1960'

Logged Interval (ft): 3200'

Company:

Address:

Company:

Best Regards,

Peterra Energy Services,

Operator: Well Name:

API#: Location:

County:

Elevation:

Inhydrite Top

Anhydrite Base

Howard

Topeka

Heebner Toronto

Lansing

Viola

ase of Mississippian Kinderhook Shale

Brown Lime

FORMATION

Anhydrite Base

Howard

Topeka

Toronto

ansing Base of K/C

Viola

Brown Lime

Mississippiar

Kinderhook Shale

GENERAL INFORMATION:

Time Tool Opened: 15:31:00

Time Test Ended: 19:46:00

LANSING 'A-B' No Whipstock:

Outside

2017.01.09

12:56:00

Formation:

Deviated:

Interval: Total Depth:

Hole Diameter:

Serial #: 9139

Press@RunDepth:

Start Date:

Start Time:

Jeffrey A. Burk & Eli J. Felts

Royal Energy, Inc.

NE/4 Section 7 26S 13W

GL

895

3169

3260

3636

3773

3803

4293

4328

1106

-1198

-1645

-1665

-1802

-1831

-2273 -2323

864

3168

3615

3635

3772

4103

4293

4328

Young #1 15-151-22456

1960

Formation

Region: Pratt County

PETERRA

Eli J. Felts

Consulting Petroleum Geologist

13

1124

-1191

-1636

-1654

-1788

-1820

-2107

-2256 -2298

-2330

GENE BUDIG-90

KB to GR/CF:

1970.00 ft (KB)

1960.00 ft (CF)

10.00 ft

2017.01.09

2017.01.09 @ 15:29:30

2017.01.09 @ 17:48:30

Annotation

104.45 Initial Hydro-static

Temp

(deg F)

850

3165

3610

3628

3794

4081

4230 4272

4304

W

877

3596

3620

3749

3781

4074

4224 4270

4298

1103

-1174

-1616

-1640

-1769

-1801

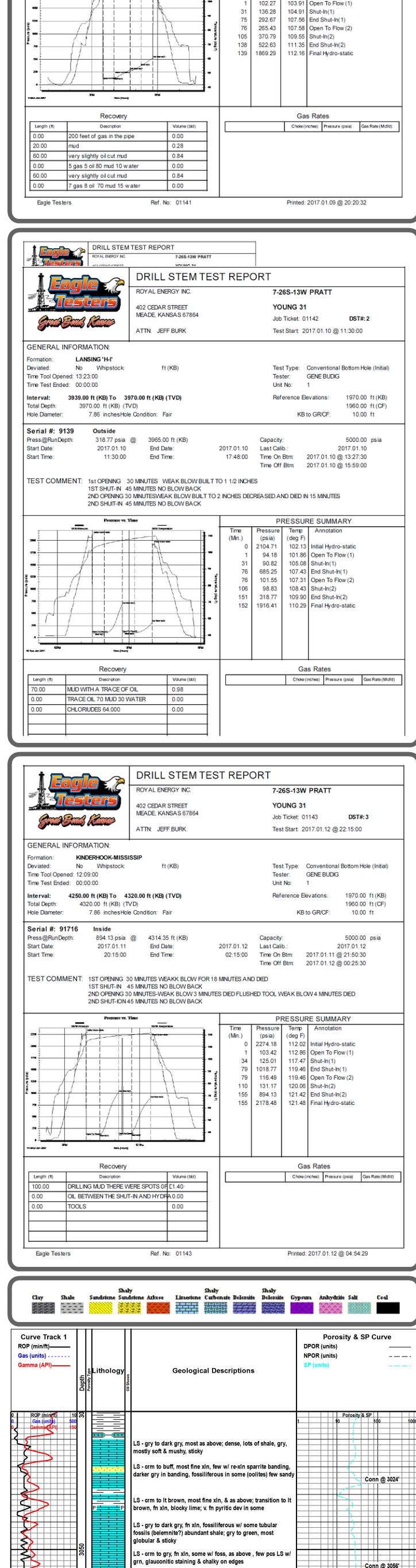
-2094

-2244 -2290

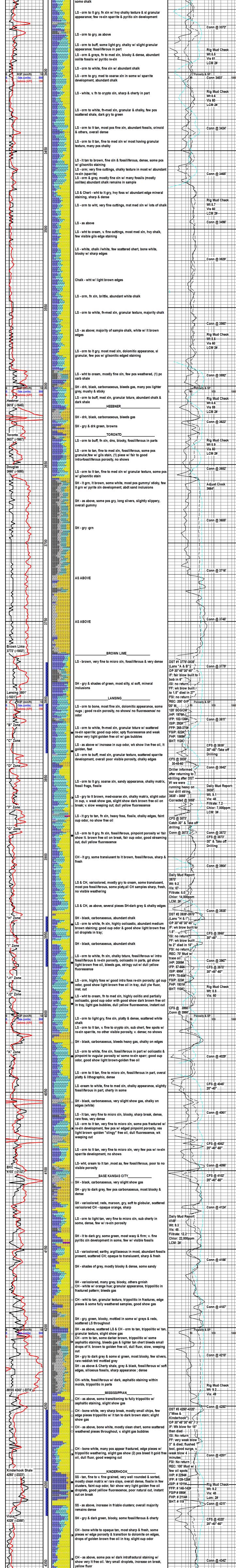
-2318

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Clay She	ale	Shai Sandstone San	그 귀심	Sypsum Anhydrite Salt Coal
Curve Track 1 ROP (min/ft) Gas (units) Gamma (API)	-	Lithology	Geological Descriptions	Porosity & SP Curve DPOR (units) NPOR (units) SP (units)
I lpop (hide				Datastisle dp
ROP (min(ft) Gas (units) Gamma (API)	10 00 500 150			Porosity & SP 1 10 100 1
			LS - gry to dark gry, most as above; dense, lots of shale, gry, mostly soft & mushy, sticky	
			LS - crm to buff, most fine xln, few w/ re-xln sparrite banding, darker gry in banding, fossiliferous in some (oolites) few sandy	Conn @ 3024
			LS - crm to It brown, most fine xIn, & as above; transition to It	
		P	brown, fn xln, blocky lime; v. fn pyritic dev in some LS - gry to dark gry, fn xln, fossiliferous w/ some tubular	
			fossils (belemnite?) abundant shale; gry to green, most globular & sticky	
	3050		LS - crm to gry, fn xin, some w/ foss, as above , few pcs LS w/ grn, glauconitic staining & chalky on edges	Conn @ 3056'
			LS - crm to It gry, fn to med xIn, granular in part, abundant fossils; drk grey shale abundant	
			LS - drk gry to brown, fine xln in most, foss, dense. Shale contact	
			LS - crm, v. fn to micro xln, sharp, flat, cherty appearance	
		P	LS - crm to gry, mst fn xln, scattered fossils, chalky in some; few w/ pyritic development	Conn @ 3087'
8			LS - crm to It gry, fn to med xIn, granular in part, few fossiliferous w/ small oolites some sandy, abundant chalk; drk	
	3100		gry shale abundant LS - crm to gry, fn to med xln, some dolomitic appearance	
			LS - It to med gry, fn to med xin, most pcs blocky, some sandy	Daily Mud Report:
			in part LS - It gry to green , v. fine xln , v. fn grn sandy texture, dense	Wt: 8.4 Conn @ 3118'
			LS - crm to lt gry & brown, mst fn xln, fossiliferous throughout, chalky	Chlor: 6,000ppm LCM: 4#
			LS - crm to shades of grey, fn to med xln, abundant foss, chalky throughout	
			SH - most gry to grn, some varicolored; soft	
	3150			-Conn @ 3150'-
oward Lime				
168' (-1198)			HOWARD LS - crm to buff, v. fn xln, slight re-xln sparrite in part, overall	
			dense, sharp edges LS - crm to buff, v. fn xln, slight re-xln sparrite in part, overall dense, sharp edges, some pcs w/ chalky edges	
			LS - crm to buff & It tan to gry, fn to med xln, abundant fossils,	Conn @ 3181'
			scattered gry shale throughout LS - buff to tan, med xln, granular texture, abundant oolites,	
ROP (min/ft)	3200	######################################	multicolored, It to dark	Porosity & SP 1 100 100
Gas (lunits) Gamma (API)	150	\$\$\$\$\$\$\$\$! \$\$\$\$\$\$\$!	LS - gry, med xin, blocky & rough txture, dense	
		\$3555±±±================================	LS - crm to gry, fn to med xln, abundant oolites & fossil fragments	Conn @ 3214'
}		3333555 3333555 2-	LS - crms to drk brown, fn xln, fossiliferous w/ glossy appearance, sharp edges, sub cherty	
		2222222 <u>2555</u> 2 <u>2</u> 22255555555	LS - gry to it brown, fin to med xin, some sparrite development, slight brown staining within sparrite porosity, no odor, no fluorescence	
			I S. orm area 9 lá brown west west	
ppeka	3250		LS - crm, grys & It brown, most med xln, some w/ sparrite development, as above	Conn @ 3245'
ppeka 260 (-1290)		\$\$\$\frac{1}{2}\$\frac{1}{2}1	LS - gry to dark gry, fn xln, abundant fossils, fairly dense TOPEKA	
		第25年555年 第25年55年	LS - crm to gry, fn to med xln, & abundant Shale, gry to dark	
\$\$		3277744 33345555		
3			LS - crm to peach, fin xln, abundant fossils	Conn @ 3277'
			LS - crm to any for yin & fossiliforous exercil lithe annul.	
	3300	######################################	LS - crm to gry, fn xln & fossiliferous, overall lithographic	
	H ^K	第37774 第383章	LS - crm to It. gry, fn xln, lithographic, chalky in part	Conn @ 3309'
		33777 33777 337777	LS - crm to buff, some light gry, fn xln w/ granular texture, some w/ re-xln sparrite, no shows	
3		557777 555777 5577		
		多 点并开开 多多多多数异异异 多多多色产品	LS - crm to It gry, fn xln w/ hvy chalky texture	
\$		225-5-4 225-5-2 225-5-2	C orms to it was and the	Conn @ 3340'
	3350	2221	LS - crm to It gry, med xln w/ granular texture, few foss; abundant chalk	
	33		LS - crm, fn xln, some platty, overall smooth & lithographic, some chalk	
		222555 222555	LS - crm to It gry, fn xln w/ hvy chalky texture & sl granular appearance; few re-xln sparrite & pyritic xln development	
		22222222222222222222222222222222222222		Conn @ 3372'
8			LS - crm to gry, as above LS - crm to buff, some light gry, chalky w/ slight granular	
			appearance; fossiliferous in part LS - crm & greys, fn to med xln, blocky & dense, abundant	Rig Mud Check Wt 8.5 Vis 61
	او	225555 225555	oolite fossils w/ pyritic re-xln LS - crm to white, fine xln w/ abundant chalk	Vis 61 LCM 2#
ROP (min/ft) Gas (units) Gamma (API)	10 3400 150	22555 2255555	LS - crm to gry, med to coarse xin in some w/ sparrite development, abundant chalk	Porosity & SP 1 10 Conn 3403'
		225555 223555	LS - white, v. fn to crypto xln, sharp & cherty in part	Rig Mud Check Wt 8.6
		33555 335555 3355555	I S - orm to white the weed who	Vis 60 Vis 60 LCM 2#
		3325555 3325555	LS - crm to white, fn-med xln, granular & chalky, few pcs scattered shale, dark gry to green	
			LS - crm to It tan, most pcs fine xln, abundant fossils, crinoid & others, overall dense	Conn @ 3434'
		3355555 <u>5</u>	LS - crm to It tan, fine to med xln w/ most having granular texture, many pcs chalky	
	3450	333555555 333555555	LS - It tan to brown, fine xln & fossiliferous, dense, some pos	
			w/ gilsonitic staining LS - crm; very fine cuttings, chalky texture in most w/ abundant	
			re-xIn (sparrite) LS - crm & grey, mostly fine xIn w/ many fossils (mostly oolites) abundant chalk remains in sample	Conn @ 3465'
		245 245 2255	LS & Chert - wht to It gry, hvy foss w/ abundant edge mineral staining, sharp & dense	
		33352 335555 335555	LS - crm to wht, very fine cuttings, mst med xln w/ lots of chalk) Vis 60
		83977 8335777 8377	LS - as above	Conn @ 3496'
	3500	55555 55555 55555 55555	LS - wht to cream, v. fine cuttings, most med xln, hvy chalk, few visible gils edge staining	
		555 555 535 535 535 535 535 535	LS - white, chalk //white, few scattered chert, bone white,	
		22	blocky w/ sharp edges	Conn @ 3528'
		22255 22255 22255 22255		
		257777 257777 257777	Chalk - wht w/ light brown edges	
		2224	LS - crm, fn xln, brittle, abundant white chalk	
	3550	222777 22777 22777	LS - crm to white, fn-med xln, granular texture, majority chalk	
		2225 2225 22255	,,	Conn @ 3560'
		23555 22555	LS - as above; majority of sample chalk, white w/ It brown edges	Rig Mud Check
		2225 2225	LS - crm to It gry, most med xIn, dolomitic appearance, sI	Vis 60 LCM 2#
		225 22555 225655	granular, few pcs w/ gilsonitic edged staining	
		ラット・ナー・ タックランファー・ 第一一二字 マママ ママ = = 第二一二字 古古 字 = =	LS - wht to cream, mostly fine xln, few pcs weathered, (1) pc	Conn @ 3592'
BOP (min/ft)	3600	77777777 7777777777	SH - drk, black, carbonaceous, bleeds gas, many pcs lighter	Portosity & SP
BOP (min/ft) Gas (units) Gamma (API) eebner	500 150	27777777 2777777 2777555	grey, mushy & sticky LS - crm to buff, med xln, granular txture, abundant chalk & dark shale	Rig Mud Check
615' (-1645)			HEEBNER	Wt 8.6 Vis 59 LCM 2#



CH- bone wht, re-xln fractures w/ dark staining along fracture, It brown free oil on break, trapped within xln space in fracture

Daily Mud Report:

CFS @ 4370'

30"-60"-90"

CFS @ 4400'

30"-60"-90"

4400'

Wt: 9.3

Vis: 55 Filtrate: 12.8 Chlor: 18,000ppm

LCM: 1.5#_

SIMPSON SHALE_

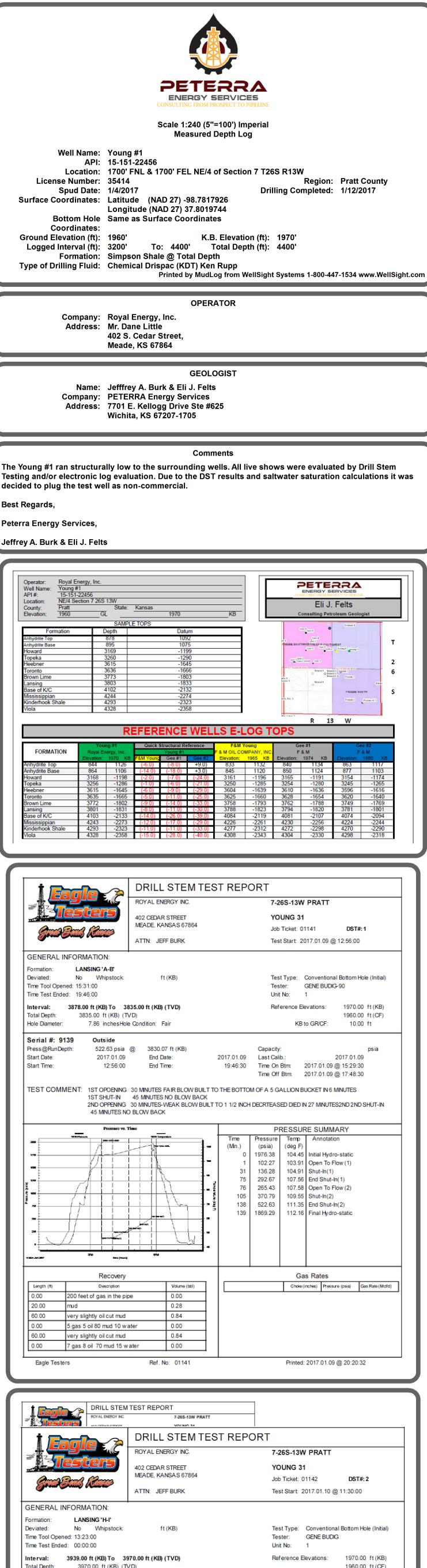
SH - dark gry to shades of green, slippery in most, some pcs

SH - varicolored, most dark grey & green, blocky

very sandy, clear qtz grains, fairly well sorted

Simpson Shale 4370' (-2400')

RTD @ 4400') LTD @ 4400.5' 4400



Coordinates: Ground Elevation (ft): 1960'

Logged Interval (ft): 3200'

Company:

Address:

Company:

Best Regards,

Peterra Energy Services,

Operator: Well Name:

API#: Location:

County:

Elevation:

Inhydrite Top

Anhydrite Base

Howard

Topeka

Heebner Toronto

Lansing

Viola

ase of Mississippian Kinderhook Shale

Brown Lime

FORMATION

Anhydrite Base

Howard

Topeka

Toronto

ansing Base of K/C

Viola

Brown Lime

Mississippiar

Kinderhook Shale

GENERAL INFORMATION:

Time Tool Opened: 15:31:00

Time Test Ended: 19:46:00

LANSING 'A-B' No Whipstock:

Outside

2017.01.09

12:56:00

Formation:

Deviated:

Interval: Total Depth:

Hole Diameter:

Serial #: 9139

Press@RunDepth:

Start Date:

Start Time:

Jeffrey A. Burk & Eli J. Felts

Royal Energy, Inc.

NE/4 Section 7 26S 13W

GL

895

3169

3260

3636

3773

3803

4293

4328

1106

-1198

-1645

-1665

-1802

-1831

-2273 -2323

864

3168

3615

3635

3772

4103

4293

4328

Young #1 15-151-22456

1960

Formation

Region: Pratt County

PETERRA

Eli J. Felts

Consulting Petroleum Geologist

13

1124

-1191

-1636

-1654

-1788

-1820

-2107

-2256 -2298

-2330

GENE BUDIG-90

KB to GR/CF:

1970.00 ft (KB)

1960.00 ft (CF)

10.00 ft

2017.01.09

2017.01.09 @ 15:29:30

2017.01.09 @ 17:48:30

Annotation

104.45 Initial Hydro-static

Temp

(deg F)

850

3165

3610

3628

3794

4081

4230 4272

4304

W

877

3596

3620

3749

3781

4074

4224 4270

4298

1103

-1174

-1616

-1640

-1769

-1801

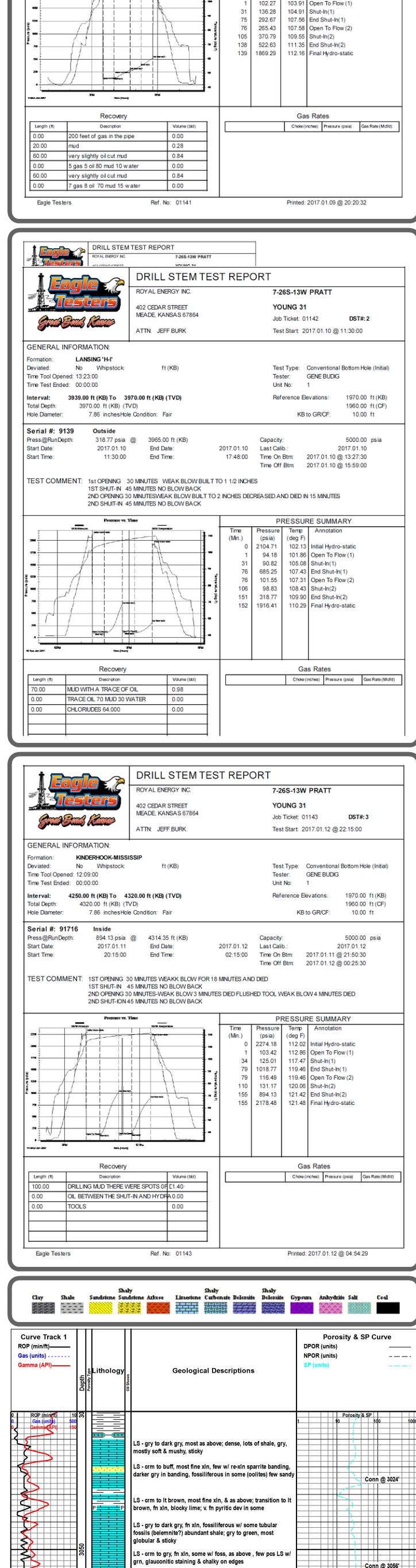
-2094

-2244 -2290

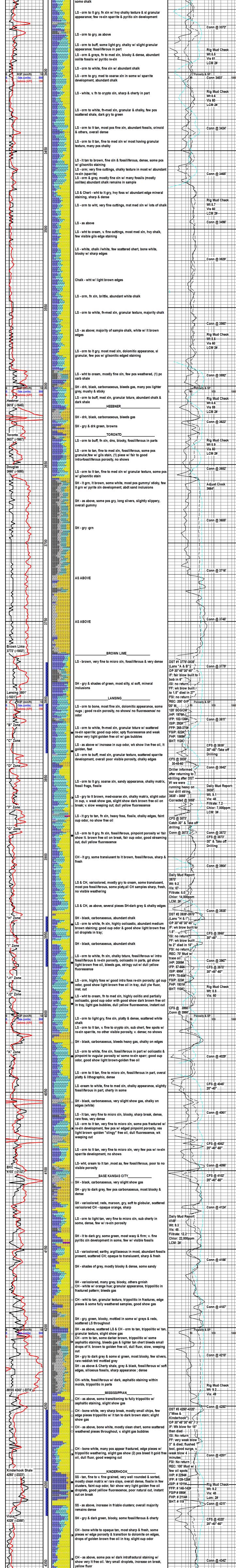
-2318

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2



Clay She	ale	Shai Sandstone San	그 귀심	Sypsum Anhydrite Salt Coal
Curve Track 1 ROP (min/ft) Gas (units) Gamma (API)	-	Lithology	Geological Descriptions	Porosity & SP Curve DPOR (units) NPOR (units) SP (units)
I lpop (hide				Datastisle dp
ROP (min(ft) Gas (units) Gamma (API)	10 00 500 150			Porosity & SP 1 10 100 1
			LS - gry to dark gry, most as above; dense, lots of shale, gry, mostly soft & mushy, sticky	
			LS - crm to buff, most fine xln, few w/ re-xln sparrite banding, darker gry in banding, fossiliferous in some (oolites) few sandy	Conn @ 3024
			LS - crm to It brown, most fine xIn, & as above; transition to It	
		P	brown, fn xln, blocky lime; v. fn pyritic dev in some LS - gry to dark gry, fn xln, fossiliferous w/ some tubular	
			fossils (belemnite?) abundant shale; gry to green, most globular & sticky	
	3050		LS - crm to gry, fn xin, some w/ foss, as above , few pcs LS w/ grn, glauconitic staining & chalky on edges	Conn @ 3056'
			LS - crm to It gry, fn to med xIn, granular in part, abundant fossils; drk grey shale abundant	
			LS - drk gry to brown, fine xln in most, foss, dense. Shale contact	
			LS - crm, v. fn to micro xln, sharp, flat, cherty appearance	
		P	LS - crm to gry, mst fn xln, scattered fossils, chalky in some; few w/ pyritic development	Conn @ 3087'
8			LS - crm to It gry, fn to med xIn, granular in part, few fossiliferous w/ small oolites some sandy, abundant chalk; drk	
	3100		gry shale abundant LS - crm to gry, fn to med xln, some dolomitic appearance	
			LS - It to med gry, fn to med xin, most pcs blocky, some sandy	Daily Mud Report:
			in part LS - It gry to green , v. fine xln , v. fn grn sandy texture, dense	Wt: 8.4 Conn @ 3118'
			LS - crm to lt gry & brown, mst fn xln, fossiliferous throughout, chalky	Chlor: 6,000ppm LCM: 4#
			LS - crm to shades of grey, fn to med xln, abundant foss, chalky throughout	
			SH - most gry to grn, some varicolored; soft	
	3150			-Conn @ 3150'-
oward Lime				
168' (-1198)			HOWARD LS - crm to buff, v. fn xln, slight re-xln sparrite in part, overall	
			dense, sharp edges LS - crm to buff, v. fn xln, slight re-xln sparrite in part, overall dense, sharp edges, some pcs w/ chalky edges	
			LS - crm to buff & It tan to gry, fn to med xln, abundant fossils,	Conn @ 3181'
			scattered gry shale throughout LS - buff to tan, med xln, granular texture, abundant oolites,	
ROP (min/ft)	3200	######################################	multicolored, It to dark	Porosity & SP 1 100 100
Gas (lunits) Gamma (API)	150	\$\$\$\$\$\$\$\$! \$\$\$\$\$\$\$!	LS - gry, med xin, blocky & rough txture, dense	
		\$3555±±±================================	LS - crm to gry, fn to med xln, abundant oolites & fossil fragments	Conn @ 3214'
}		3333555 3333555 2-	LS - crms to drk brown, fn xln, fossiliferous w/ glossy appearance, sharp edges, sub cherty	
		2222222 <u>2555</u> 2 <u>2</u> 22255555555	LS - gry to it brown, fin to med xin, some sparrite development, slight brown staining within sparrite porosity, no odor, no fluorescence	
			I S. orm area 9 lá brown west west	
ppeka	3250		LS - crm, grys & It brown, most med xln, some w/ sparrite development, as above	Conn @ 3245'
ppeka 260 (-1290)		\$\$\$\frac{1}{2}\$\frac{1}{2}1	LS - gry to dark gry, fn xln, abundant fossils, fairly dense TOPEKA	
		第25年555年 第25年55年	LS - crm to gry, fn to med xln, & abundant Shale, gry to dark	
\$\$		3277744 33345555		
3			LS - crm to peach, fin xln, abundant fossils	Conn @ 3277'
			LS - crm to any for yin & fossiliforous exercil lithe annul.	
	3300	######################################	LS - crm to gry, fn xln & fossiliferous, overall lithographic	
	H ^K	第37774 第383章	LS - crm to It. gry, fn xln, lithographic, chalky in part	Conn @ 3309'
		33777 33777 337777	LS - crm to buff, some light gry, fn xln w/ granular texture, some w/ re-xln sparrite, no shows	
3		557777 555777 5577		
		多 点并开开 多多多多数异异异 多多多色产品	LS - crm to It gry, fn xln w/ hvy chalky texture	
\$		225-5-4 225-5-2 225-5-2	C orms to it was and the	Conn @ 3340'
	3350	2221	LS - crm to It gry, med xln w/ granular texture, few foss; abundant chalk	
	33		LS - crm, fn xln, some platty, overall smooth & lithographic, some chalk	
		222555 222555	LS - crm to It gry, fn xln w/ hvy chalky texture & sl granular appearance; few re-xln sparrite & pyritic xln development	
		22222222222222222222222222222222222222		Conn @ 3372'
8			LS - crm to gry, as above LS - crm to buff, some light gry, chalky w/ slight granular	
			appearance; fossiliferous in part LS - crm & greys, fn to med xln, blocky & dense, abundant	Rig Mud Check Wt 8.5 Vis 61
	او	225555 225555	oolite fossils w/ pyritic re-xln LS - crm to white, fine xln w/ abundant chalk	Vis 61 LCM 2#
ROP (min/ft) Gas (units) Gamma (API)	10 3400 150	22555 2255555	LS - crm to gry, med to coarse xin in some w/ sparrite development, abundant chalk	Porosity & SP 1 10 Conn 3403'
		225555 223555	LS - white, v. fn to crypto xln, sharp & cherty in part	Rig Mud Check Wt 8.6
		33555 335555 3355555	I S - orm to white the weed who	Vis 60 Vis 60 LCM 2#
		3325555 3325555	LS - crm to white, fn-med xln, granular & chalky, few pcs scattered shale, dark gry to green	
			LS - crm to It tan, most pcs fine xln, abundant fossils, crinoid & others, overall dense	Conn @ 3434'
		3355555 <u>5</u>	LS - crm to It tan, fine to med xln w/ most having granular texture, many pcs chalky	
	3450	333555555 333555555	LS - It tan to brown, fine xln & fossiliferous, dense, some pos	
			w/ gilsonitic staining LS - crm; very fine cuttings, chalky texture in most w/ abundant	
			re-xIn (sparrite) LS - crm & grey, mostly fine xIn w/ many fossils (mostly oolites) abundant chalk remains in sample	Conn @ 3465'
		2525 245 2255	LS & Chert - wht to It gry, hvy foss w/ abundant edge mineral staining, sharp & dense	
		33352 335555 335555	LS - crm to wht, very fine cuttings, mst med xln w/ lots of chalk) Vis 60
		83977 8335777 8377	LS - as above	Conn @ 3496'
	3500	55555 55555 55555 55555	LS - wht to cream, v. fine cuttings, most med xln, hvy chalk, few visible gils edge staining	
		555 555 535¢	LS - white, chalk //white, few scattered chert, bone white,	
		22	blocky w/ sharp edges	Conn @ 3528'
		22255 22255 22255 22255		
		257777 257777 257777	Chalk - wht w/ light brown edges	
		2224	LS - crm, fn xln, brittle, abundant white chalk	
	3550	222777 22777 22777	LS - crm to white, fn-med xln, granular texture, majority chalk	
		2225 2225 22255	,,	Conn @ 3560'
		23355 22355	LS - as above; majority of sample chalk, white w/ It brown edges	Rig Mud Check
		2225 2225	LS - crm to It gry, most med xIn, dolomitic appearance, sI	Vis 60 LCM 2#
		225 22555 22565 225666	granular, few pcs w/ gilsonitic edged staining	
		ラット・ナー・ タックランファー・ 第一一二字 マママ ママ = = 第二一二字 古古 字 = =	LS - wht to cream, mostly fine xln, few pcs weathered, (1) pc	Conn @ 3592'
BOP (min/ft)	3600	77777777 7777777777	SH - drk, black, carbonaceous, bleeds gas, many pcs lighter	Portosity & SP
BOP (min/ft) Gas (units) Gamma (API) eebner	500 150	27777777 2777777 2777555	grey, mushy & sticky LS - crm to buff, med xln, granular txture, abundant chalk & dark shale	Rig Mud Check
615' (-1645)	$\sharp I$		HEEBNER	Wt 8.6 Vis 59 LCM 2#



CH- bone wht, re-xln fractures w/ dark staining along fracture, It brown free oil on break, trapped within xln space in fracture

Daily Mud Report:

CFS @ 4370'

30"-60"-90"

CFS @ 4400'

30"-60"-90"

4400'

Wt: 9.3

Vis: 55 Filtrate: 12.8 Chlor: 18,000ppm

LCM: 1.5#_

SIMPSON SHALE_

SH - dark gry to shades of green, slippery in most, some pcs

SH - varicolored, most dark grey & green, blocky

very sandy, clear qtz grains, fairly well sorted

Simpson Shale 4370' (-2400')

RTD @ 4400') LTD @ 4400.5' 4400