

Confidentiality Requested:

Yes No

**KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

November 2016

Form must be Typed

Form must be Signed

All blanks must be Filled

**WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

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

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

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

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

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

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

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
---	--	------------------------------------

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
----------------	-------	---------	------------	--

Form	ACO1 - Well Completion
Operator	Vincent Oil Corporation
Well Name	Weddle 1-20
Doc ID	1277629

All Electric Logs Run

Dual Induction
Density - Neutron
Micro-log
Sonic

Form	ACO1 - Well Completion
Operator	Vincent Oil Corporation
Well Name	Weddle 1-20
Doc ID	1277629

Tops

Name	Top	Datum
Heebner Shale	4351	(-1780)
Brown Limestone	4485	(-1914)
Lansing	4494	(-1923)
Stark Shale	4828	(-2257)
Base Kansas City	4964	(-2393)
Pawnee	5061	(-2490)
Cherokee Shale	5106	(-2535)
Base Penn Limestone	5216	(-2645)
Morrow Sand	5228	(-2657)
Mississippian	5238	(-2667)
RTD	5360	(-2789)

QUALITY WELL SERVICE, INC.

Federal Tax I.D. # 481187368

6374

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

Date	09-23-15	Sec.	20	Twp.	29s	Range	24w	County	Ford	State	KS	On Location	2:00 AM	Finish	3:30 AM
Lease	Waddle	Well No.	1-20		Location		Bloom KS, 4w, 2w, 4w, N/A								
Contractor	Duke #9				Owner		Vincent								
Type Job	Surface				To Quality Well Service, Inc.		You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.								
Hole Size	12 1/4		T.D.		650		Charge To Vincent								
Csg.	8 5/8		24 #		Depth		648								
Tbg. Size			Depth		Street										
Tool			Depth		City State										
Cement Left in Csg.	20'		Shoe Joint		N/A		The above was done to satisfaction and supervision of owner agent or contractor.								
Meas Line			Displace		39 1/2 Bbls		Cement Amount Ordered		125sx MDC + 3% pcc + 1/4 # Flashed						
EQUIPMENT										125sx Class A + 2% gel + 3% pcc + 1/4 # Flashed					
Pumptrk	No.	Bret B		Common		125									
Bulktrk	No.	David B		Rez-Mix		MDC 125									
Bulktrk	No.	David F		Gel.		11									
Pickup	No.			Calcium		10									
JOB SERVICES & REMARKS										Hulls					
Rat Hole										Salt					
Mouse Hole										Flowseal 6625					
Centralizers										Kol-Seal					
Baskets										Mud CLR 48					
D/V or Port Collar										CFL-117 or CD110 CAF 38					
Pipe on BHM, Break Circ, Pump Space										Sand					
Mix 125sx MDC cement, Mix 125sx A29 cement, Stop Pump Release Plug, Start Displacement with Fresh H ₂ O, Wash in Plug, See Steady Increase in PSI, Stop Rate at 30 Bbls, Stop Pump at 39 1/2 Bbls total Disp, Shut in, Cement Did Circ.										Handling 271					
										Mileage 50					
FLOAT EQUIPMENT															
										Guide Shoe					
										Centralizer					
										Baskets					
										AFU Inserts					
										Float Shoe LMV 50					
										Latch Down 1- Wooden Cup Plug 1 8 5/8 Baffle Plate					
										Service supervisor					
										Pumptrk Charge Surface					
										Mileage 50 x 2					
										Tax					
										Discount					
										Total Charge					
X Signature	Gardner Propp														

QUALITY WELL SERVICE, INC.

6436

Federal Tax I.D. # 481187368

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

Date	10 02 15	Sec.	20	Twp.	29s	Range	24w	County	Ford	State	KS	On Location	7:00 Am	Finish	9:30 Am	
Lease	Weddle		Well No.	1-20		Location										
Contractor	Duke #9					Owner	Vincent									
Type Job	Rotary Plug					To Quality Well Service, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.										
Hole Size	7 7/8		T.D.		Charge To Vincent											
Csg.	8 3/8		Depth		Street											
Tbg. Size	Drill Pipe		Depth		1530'											
Tool			Depth		City State											
Cement Left in Csg.			Shoe Joint		The above was done to satisfaction and supervision of owner agent or contractor.											
Meas Line			Displace		Fresh H ₂ O & Mud		Cement Amount Ordered 200sx 60:40:4% gel + 1/4 #									
EQUIPMENT										CF						
Pumptrk	8	No.	David F				Common 120									
Bulktrk	10	No.	David B				Poz. Mix 80									
Bulktrk		No.					Gel. 7									
Pickup		No.					Calcium									
JOB SERVICES & REMARKS										Hulls						
Rat Hole										Salt						
Mouse Hole										Flowseal 50						
Centralizers										Kol-Seal						
Baskets										Mud CLR 48						
D/V or Port Collar										CFL-117 or CD110 CAF 38						
Drill Pipe at 1530' hole Full, Pump										Sand						
8 1/2 BBLs Spacer, Mix 50sx, Disp w/										Handling 207						
3 Fresh & 15 mud										Mileage 50						
Drill Pipe at 690' Lead Hole, Pump										FLOAT EQUIPMENT						
8 1/2 BBLs Fresh, Mix 50sx, Disp w/ 3 Fresh &										Guide Shoe						
3 mud										Centralizer						
Drill Pipe at 450', mix 30sx Disp.										Baskets						
w/ 2 1/2 Fresh										AFU Inserts						
Drill pipe at 60', Mix 20sx										Float Shoe						
Cement Did Calc.										Latch Down						
Plug at & Mouse Holes w/ 50sx										LMV 50						
										Service Supervisor						
										Pumptrk Charge PTA						
										Mileage 50x2						
										Tax						
										Discount						
										Total Charge						
X Signature <i>Ernesto Rojas</i>																



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Vincent Oil Corporation

20-29S-24W Ford

155 N Market Ste 700
Wichita, KS 67202

Weddle 1-20

Job Ticket: 57910

DST#: 1

ATTN: Tom Dudgeon

Test Start: 2015.09.30 @ 02:30:01

GENERAL INFORMATION:

Formation: **Penn/Morrow**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:44:01

Time Test Ended: 09:36:16

Test Type: Conventional Bottom Hole (Initial)

Tester: Leal Cason

Unit No: 74

Interval: 5202.00 ft (KB) To 5240.00 ft (KB) (TVD)

Reference Elevations: 2571.00 ft (KB)

Total Depth: 5240.00 ft (KB) (TVD)

2557.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 14.00 ft

Serial #: 8525 Inside

Press@RunDepth: 26.66 psig @ 5203.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.09.30

End Date:

2015.09.30

Last Calib.:

2015.09.30

Start Time: 02:30:02

End Time:

09:36:16

Time On Btm:

2015.09.30 @ 04:32:16

Time Off Btm:

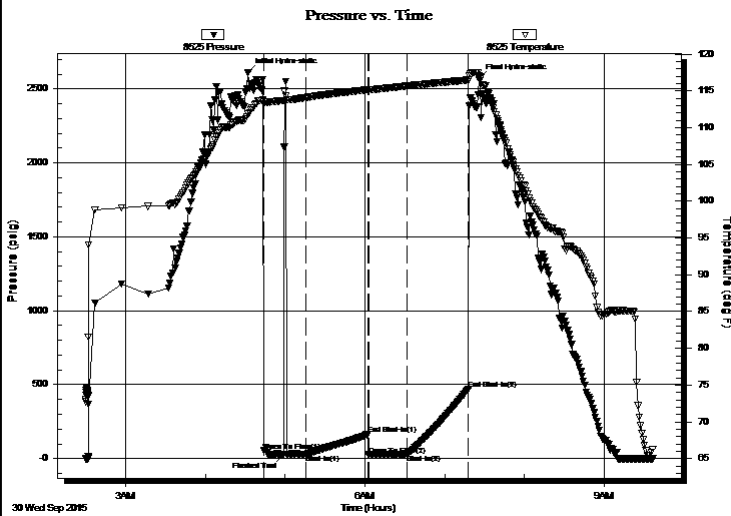
2015.09.30 @ 07:25:46

TEST COMMENT: IF: Weak 1 1/2 inch Blow, Dead @ 15 minutes, Flushed Tool, No Blow

IS: No Blow Back

FF: Weak 1 1/2 inch Blow

FS: No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2611.54	111.84	Initial Hydro-static
12	51.95	113.19	Open To Flow (1)
27	28.41	113.70	Flushed Tool
44	27.99	114.10	Shut-In(1)
90	164.10	115.14	End Shut-In(1)
91	22.67	115.10	Open To Flow (2)
120	26.66	115.65	Shut-In(2)
166	470.25	116.47	End Shut-In(2)
174	2569.92	117.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Vincent Oil Corporation

20-29S-24W Ford

155 N Market Ste 700
Wichita, KS 67202

Weddle 1-20

Job Ticket: 57910

DST#: 1

ATTN: Tom Dudgeon

Test Start: 2015.09.30 @ 02:30:01

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4900.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8525

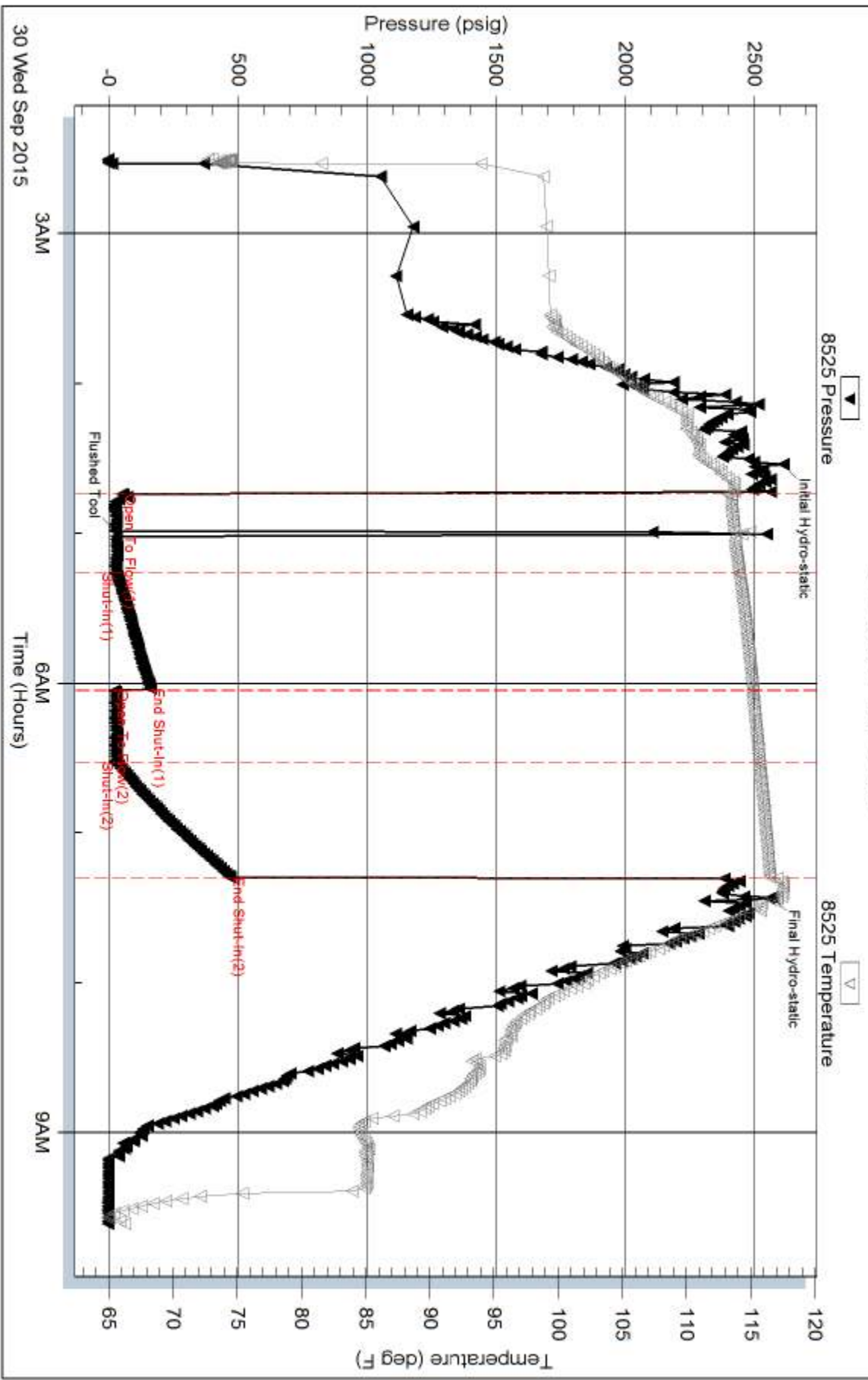
Inside

Vincent Oil Corporation

Weddle 1-20

DST Test Number: 1

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 57910

Printed: 2015.09.30 @ 10:06:59



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Vincent Oil Corporation

20-29S-24W Ford

155 N Market Ste 700
Wichita, KS 67202

Weddle 1-20

Job Ticket: 57911

DST#: 2

ATTN: Tom Dudgeon

Test Start: 2015.10.01 @ 00:45:28

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:52:28

Time Test Ended: 09:04:13

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 74

Interval: 5202.00 ft (KB) To 5311.00 ft (KB) (TVD)

Reference Elevations: 2571.00 ft (KB)

Total Depth: 5311.00 ft (KB) (TVD)

2557.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 14.00 ft

Serial #: 8525 Inside

Press@RunDepth: 46.97 psig @ 5203.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.10.01

End Date:

2015.10.01

Last Calib.: 2015.10.01

Start Time: 00:45:29

End Time:

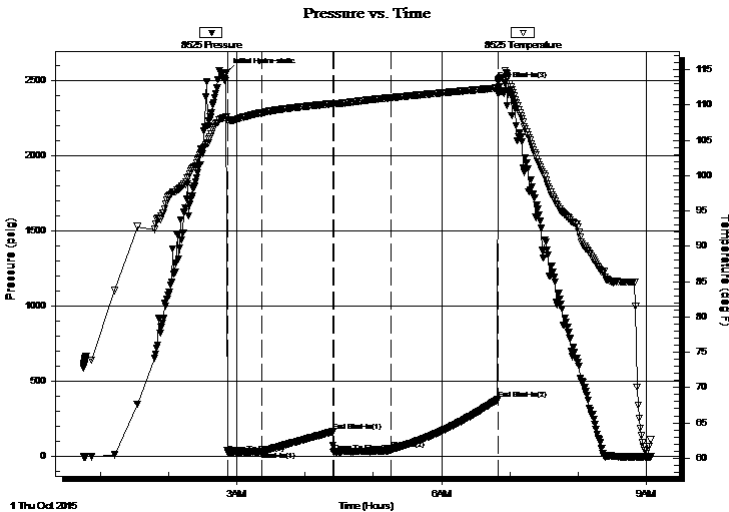
09:04:13

Time On Btm: 2015.10.01 @ 02:50:43

Time Off Btm:

TEST COMMENT: IF: Weak 1 1/2 inch Blow
IS: No Blow Back
FF: Weak Blow 2 1/2 inches
FS: No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2550.95	108.30	Initial Hydro-static
2	25.48	107.86	Open To Flow (1)
32	32.48	108.92	Shut-In(1)
94	165.76	110.20	End Shut-In(1)
95	26.88	110.15	Open To Flow (2)
145	46.97	111.05	Shut-In(2)
239	379.45	112.41	End Shut-In(2)
239	2504.14	113.40	End Shut-In(3)

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud	0.10

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Vincent Oil Corporation

20-29S-24W Ford

155 N Market Ste 700
Wichita, KS 67202

Weddle 1-20

Job Ticket: 57911

DST#: 2

ATTN: Tom Dudgeon

Test Start: 2015.10.01 @ 00:45:28

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4900.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Mud	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

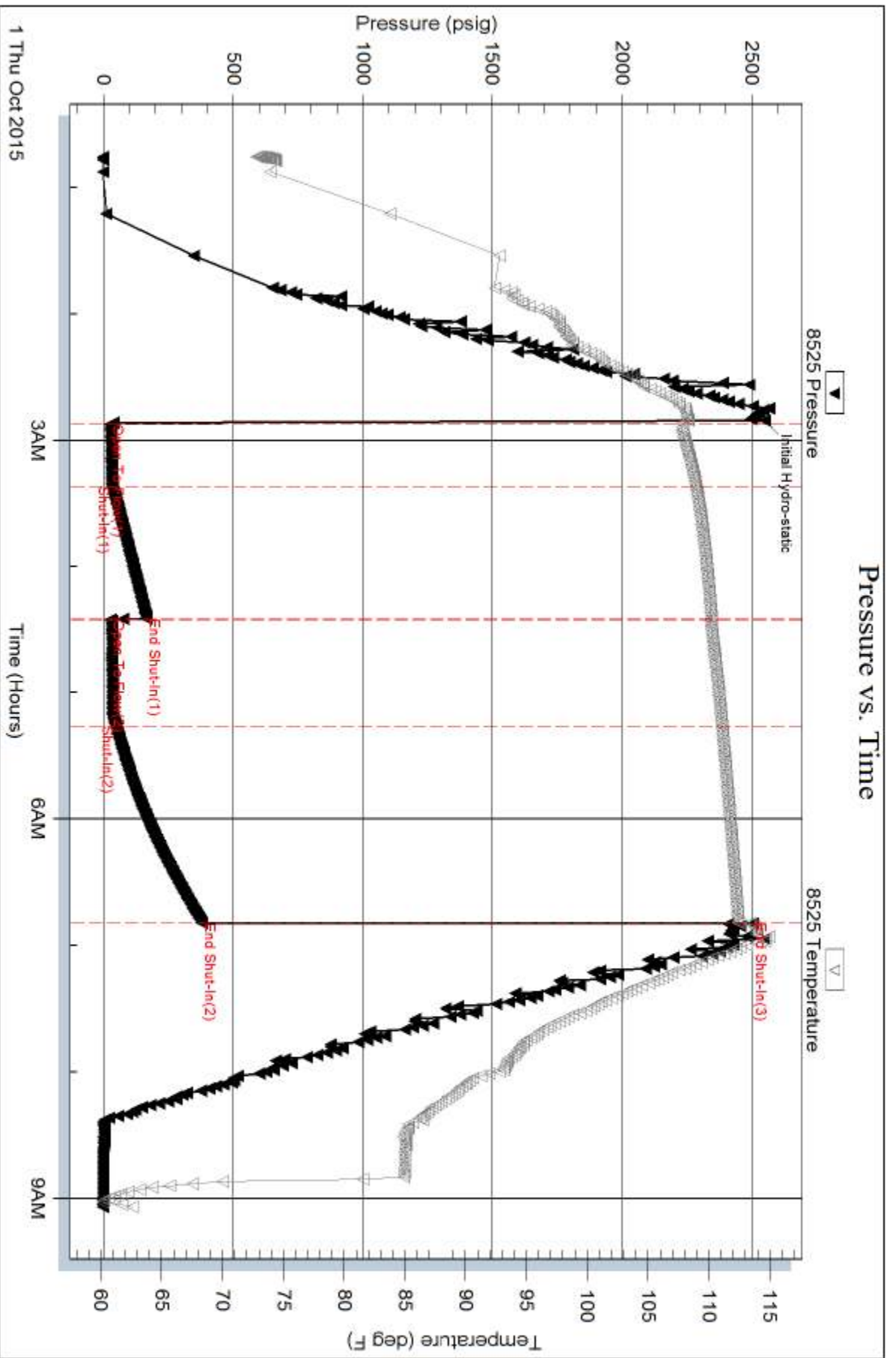
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





Scale 1:240 Imperial

Well Name: Weddle 1-20
 Surface Location: SE NE SW SE
 Bottom Location:
 API: 15-057-20965-0000
 License Number: 5004
 Spud Date: 9/22/2015 Time: 5:30 PM
 Region: SW KS
 Drilling Completed: 10/1/2015 Time: 3:53 PM
 Surface Coordinates: 804 FSL & 1418 FEL
 Bottom Hole Coordinates:
 Ground Elevation: 2558.00ft
 K.B. Elevation: 2571.00ft
 Logged Interval: 4250.00ft To: 5360.00ft
 Total Depth: 5360.00ft
 Formation: MISS
 Drilling Fluid Type: Chemical Mud

OPERATOR

Company: Vincent Oil Corporation
 Address: 155 N Market
 Ste. 700
 Wichita KS 67202
 Contact Geologist: Dick Jordan
 Contact Phone Nbr: 316.262.3573
 Well Name: Weddle 1-20
 Location: SE NE SW SE
 Pool:
 State: KS
 API: 15-057-20965-0000
 Field: Minneola East
 Country: USA

CONTRACTOR

Contractor: Duke Drilling Co., Inc.
 Rig #: 1
 Rig Type: Rotary
 Spud Date: 9/22/2015 Time: 5:30 PM
 TD Date: 10/1/2015 Time: 3:53 PM
 Rig Release: 10/2/2015 Time: 12:00 PM

ELEVATIONS

K.B. Elevation: 2571.00ft Ground Elevation: 2558.00ft
 K.B. to Ground: 13.00ft

TOTAL DEPTH

Measurement Type:	Measurement Depth:	TVD:
RTD	5360.00	5366.00
LTD	5366.00	5366.00

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -99.9656544
 N/S Co-ord: 804 FSL
 E/W Co-ord: 1418 FEL

Latitude: 37.5036385

DRILLING FLUID SUMMARY

Type	Date	From Depth	To Depth
Chemical Mud	10/5/2015	3760.00ft	5360.00ft

CASING SUMMARY

	Surface	Intermediate	Main		
Bit Size	12.25 in				
Hole Size			7.88 in		
	Size	Set At	Type	# of Joints	Drilled Out At
Surf Casing	8.625 in	645 ft	#23	15	9/23/2015 8:00 AM
Int Casing					
Prod Casing					

CASING SEQUENCE

Type	Hole Size	Casing Size	At
Surface	12.25 in	8.63	645.00 ft

OPEN HOLE LOGS

Logging Company: CJ Casedhole Solutions
 Logging Engineer: Jeff Luebbers
 Truck #: 22339
 Logging Date: 10/1/2015
 # Logs Run: 4

Time Spent: 6
 # Logs Run Successful: 4

LOGS RUN

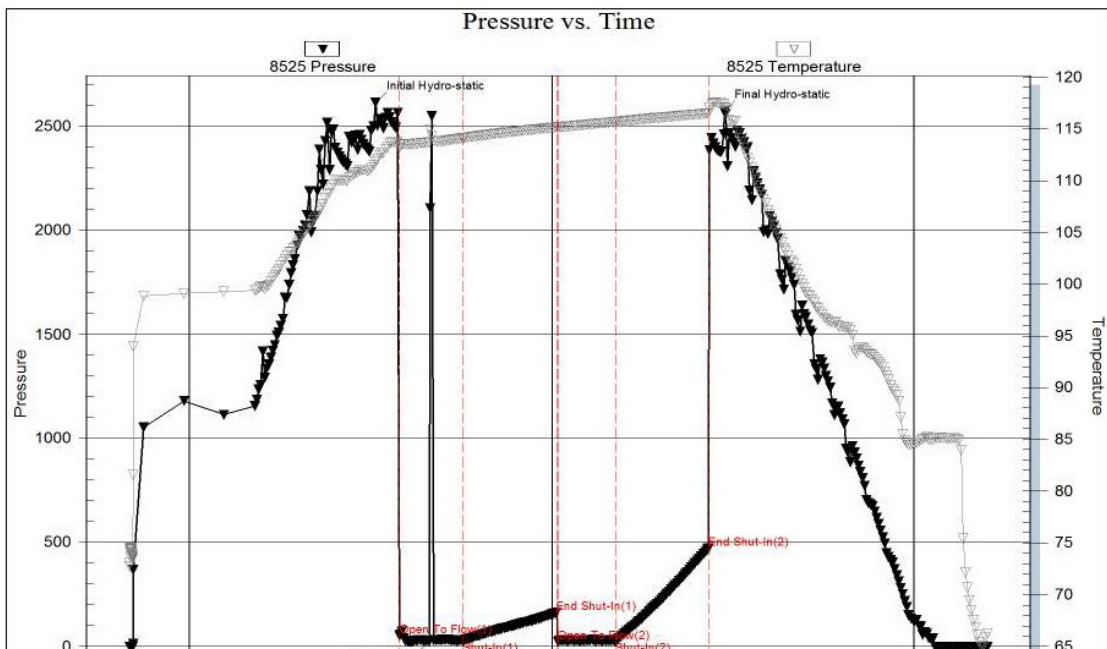
Tool	Logged Interval	Logged Interval	Hours	Remarks	Run #
Dual Induction	645.00ft	5366.00ft	2.00		1
DEN/NEU/PE	4200.00ft	5366.00ft	2.00		1
Micro	4200.00ft	5366.00ft	2.00		2
Sonic	0.00ft	5366.00ft	2.00		2

LOGGING OPERATION SUMMARY

Date	From	To	Description Of Operation
10/5/2015	0.00ft	5366.00ft	Logs Ran Successfully

DST #1

Serial #: 8525 Inside Vincent Oil Corporation Weddle #1-20 DST Test Number: 1





Trilobite Testing, Inc

Ref. No: 57910

Printed: 2015.10.01 @ 14:52:04

DST #2

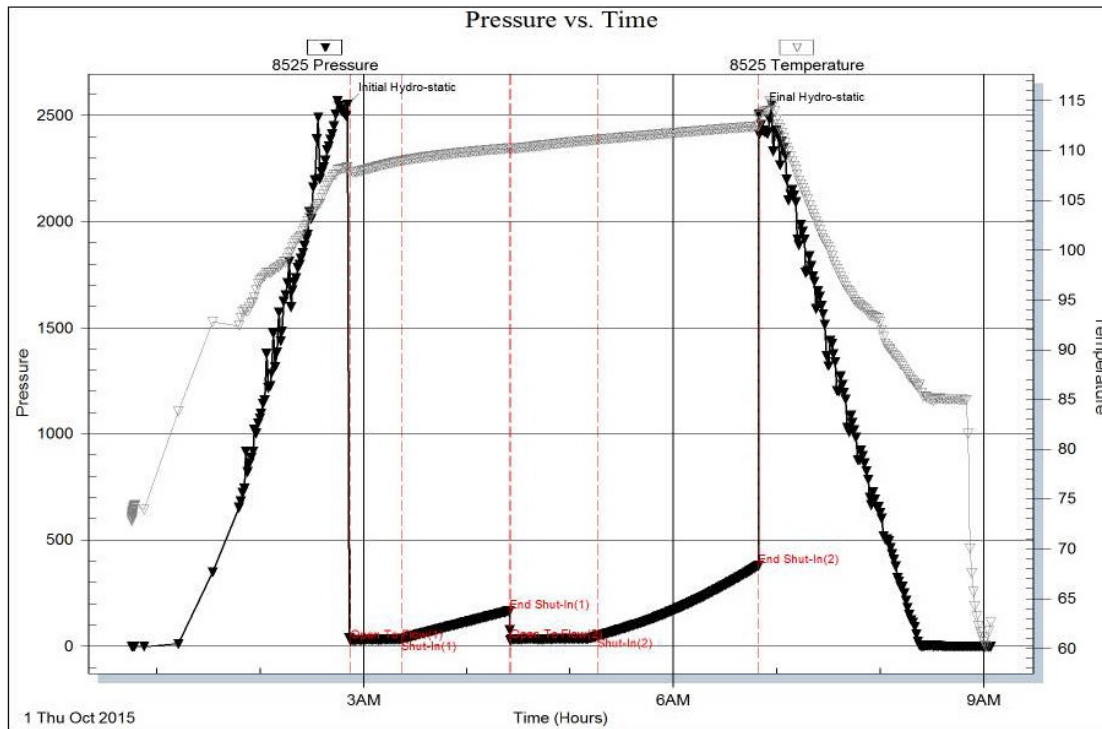
Serial #: 8525

Inside

Vincent Oil Corporation

Weddle #1-20

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 57911

Printed: 2015.10.01 @ 14:50:55

ROCK TYPES

- Coal
- Lmst fw>7
- Shgy
- Shcol
- Lmst fw<7
- Ss
- Shblk

ACCESSORIES

MINERAL

- ⊥ Calcareous
- Carbonaceous Flakes
- ▲ Chert, dark
- ∩ Glauconite
- Heavy, dark minerals
- P Pyrite
- ∕ Euhed rhombs of dol or c
- △ Chert White

FOSSIL

- ∩ Bioclastic or Fragmental
- ∩ Brachiopod
- Crinoids
- ∩ Echinoid
- F Fossils < 20%
- φ Oolite

STRINGER

- Limestone
- Shale

TEXTURE

- C Chalky
- FX Finexln
- MX Microxln

DUNHAM

- MS Mudst
- PS Packst
- WS Wackstone

MISC

- Fractures
- Veins

OTHER SYMBOLS

POROSITY TYPE

- x Intercrystalline
- φ Interoolitic
- V Vuggy
- P Pinpoint
- ∕ Moldic
- O Organic
- F Fracture
- e Earthy
- Fenestral

OIL SHOWS

- Even Stn
- Spotted Stn 50 - 75 %
- Spotted Stn 25 - 50 %
- Spotted Stn 1 - 25 %
- Questionable Stn
- D Dead Oil Stn
- Fluorescence

INTERVALS

- Core
- DST

ROP (min/ft)	Depth Intervals Cored Interval DST Interval	Porosity Types	Interpreted Litho	Oil Shows	Geological Descriptions	Comment
1:240 Imperial	4150					
Total Gas (units)	100					
ROP (min/ft)	10					
0	4160					
0	4170					
0	4180					
0	4190					
0	4200	con				
0	4210					
0	4220					
0	4230	con				
0	4240		MS WS C			
0	4250	100	FX WS F			
0	4260	10				
0	4270	con				
0	4280		MS			
0	4290		C			
0	4300	con	FX MS			
0	4310		MX			
0	4320		MS			
0	4330	con				
53	4340					
9.2	4350					Shale Gas

GEO on location @ 11:30 AM 9/27/2015
Bloodhound Gas Unit # 5259 provided by Bluestem Labs

KEY
con = connection point
50 Mud Viscosity
9.1 Mud Weight
2# Mud LCM content

MS-WS, crm to lt. tan, m-xln in part, some pcs oolitic, granular txt, chalky matrix, pcs vitreous, co. gr. calcite inclusions, oomoldic por., no fluor, NS, scatt Chert, blk, tan
Rare blk, green SH

MS-WS, A.A., inc amount of tan pcs, f-xln, fossilif
Chert, white
SH, gray

MS, crm to tan, t-xln, micro oolitic, glauc specs, scatt dark minerals, barren, NS
SH, gray

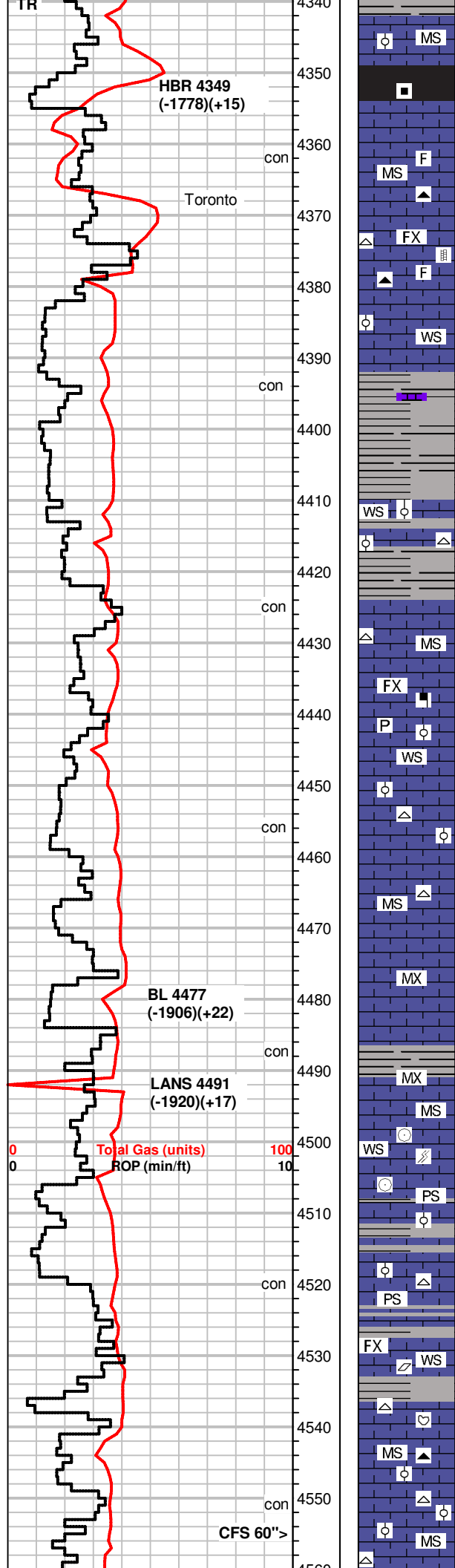
MS, crm, A.A., chalky in part, scatt fossils, NS
rare green SH

MS, crm to tan, f-xln, micro oolitic, glauc specs, dark minerals.
Scatt gray SH

MS, crm to lt. gray, mic xln, dense, some hard, scatt oolitic pcs, shaly in part

MS-WS, crm to brn, f-xln, some chalky, firm to hard, NS
SH, gray, dk. gray

SH, gray, blk, rare green



MS, tan to crm, f-xln, cahlky, hard to firm, some oolitic, fossilif, NS

SH, blk, carbonaceous, some gray, silty in part

MS, crm, f-xln to mic-xln, dense, hard, NS

MS, gray to crm, f-xln, hard, scatt fossils, calcite veins
Chert, blk, white, mottled colors

MS-WS, crm to lt. gray, f-xln, to mic-xln, sub oolitic, fossils
SH, blk, gray

SH, dk. gray, blk

MS-WS, crm to off white, some tan, f-xln, firm to hard, micro oolitic,
scatt chalky pcs,
Chert, white

MS-WS, off white to gray, f-xln, silty in part, firm, NS
Chert, white
SH, gray

MS-WS, gray to lt. brn, some crm, micro to f-xln, dense, some silty,
pyrite, dark minerals, scatt ooids, rare fossils
scatt SH, gray to red, some blk

MS-WS, A.A, rare Chert, white
SH, gray, brn, green, silty

MS, gray to crm, chalky, f-xln, firm, rare oolitic pcs, f-gr.,
SH, blk, gray, green

MS, crm to brn, mic-xln, dense, firm, NS

SH, gray, green

MS, crm to lt. gray, f to mic-xln, chalky in part, dense, hard, NS

WS-PS, ray to crm, mic-xln, dense, scatt fossils, some pcs brittle,
fractured, gritty txt in part, fossilif(crinoids)
SH, gray, silty, green

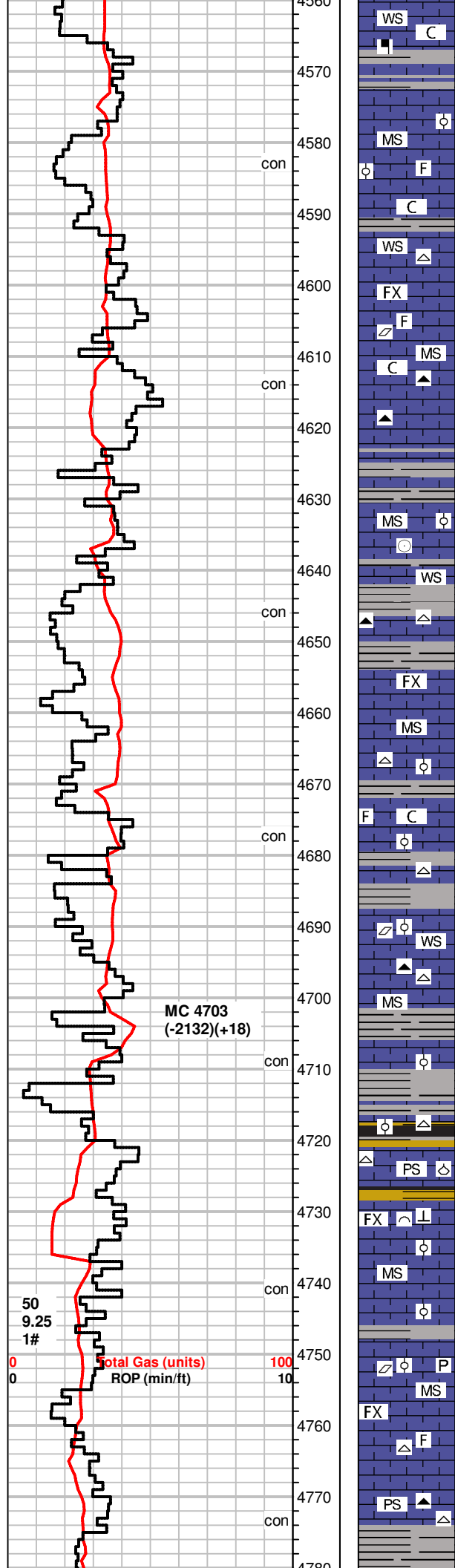
WS-PS, crm to off white, some lt. gray, mic-xln, hard, some pcs
chalky, oolitic, Chert, white

MS-WS, crm to gray, scatt brn pcs, mic to f-xln, dense, oolitic,
fossilif pcs throughout, rare calcite crystals on edge
Chert, tan

MS, crm to lt. gray, f-xln, chalky, firm, fossilif,
Scatt SH, grays
Chert, white, brn, opaque, spicules, oolitic

MS-WS, crm to lt. gray, scatt brn, f-xln oolitic, micro to co gr.,
fossilif, hard, 60 min-dull fluor, no odor, no gas inc. NS
Chert, white, opaque, fossilif.

Shale Gas



WS C
MS, crm to gray, mic-xln, some chalky, scatt heavy minerals, fossilif.
Chert, tan, fossilif.
some SH, gray

MS F
MS-WS, crm to tan, f-xln, chalky matrix in part, oolitic, fossilif., dense, NS

WS C
WS, gray to crm, f-xln, partially chalky, firm to hard, friable/fractured
Chert, white
Scatt SH, gray, brn

FX F MS
MS-WS, tan to brn, scatt brn, f-xln, chalky matrix, most pcs tite, dense, fossilif, calcite on edge, dull fluor, NS
Chert, blk

MS-WS, crm to gray, f- to m-xln, granular txt, dense, fossilif.
SH, gray

MS
MS, gray to crm, f-xln, sub oolitic, hard, dense, some pcs silty, fossilif (crinoids)

WS
MS-WS, crm to lt. gray, mic-xln, massive txt, dense, some pcs shaly, rare fossils, Chert, gray translucent,
SH, brn, gray, fossils, rare dk. gray

FX
MS, gray, f-xln, dense, hard, NS
Chert, tan

MS
SH, blk, gray
MS, crm to gray, f-xln, chalky txt, some gritty/silty, fossilif, micro oolitic pcs rare, rare dead stn
Chert, white, fossilif.

WS
SH, blk, gray
MS-WS, brn to crm, f to m-xln, firm, calcite inclusions, fossilif., silty in part, some chalky matrix.
Chert, bluish-white, micro oolitic

MS
SH, blk, dk. gray, carb.

+14 UGK Shale Gas

WS
SH, A.A, gray, some pyrite
MS, crm to off white, f-xln, oolitic, m-gr ooids, fossilif, friable, Chert, white, opaque, fossilif.

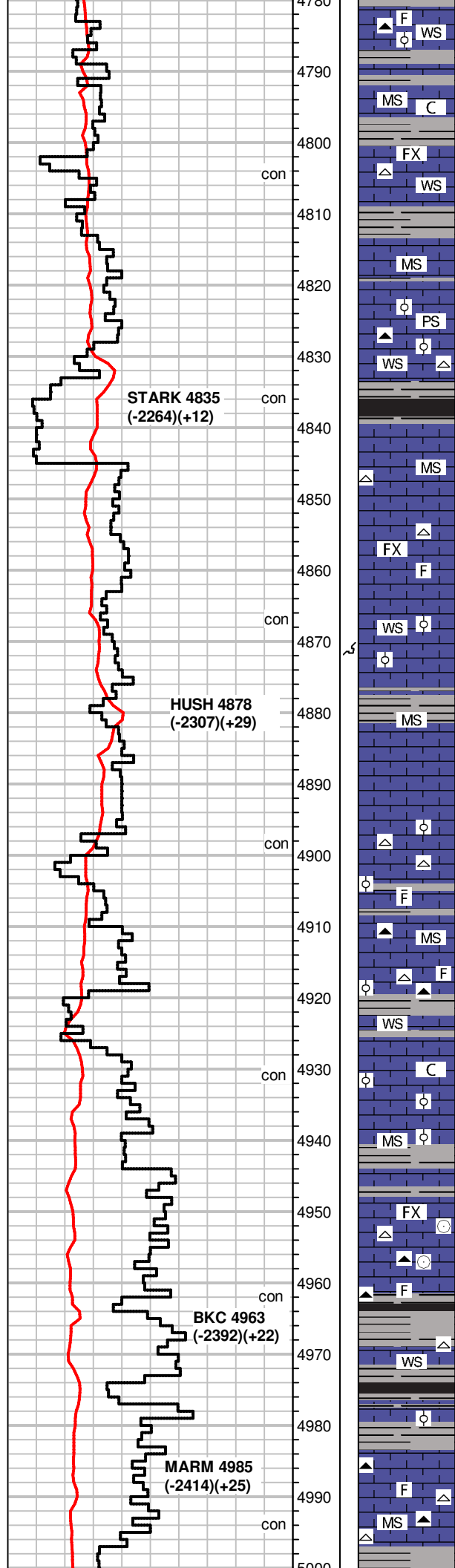
PS
PS-WS, crm to brn, mic to f-xln, hard to firm, fossilif (brachs, crinoids, fusulinids), tite calcite cement
Scatt SH, blk gray, green, waxy

MS
MS, gray to crm, chalky txt, some mic-xln, dense, most pcs hard, rare crip-xln, dense, micro oolitic, dull fluor, NS

P MS
MS-WS, crm to gray, f-xln, firm to hard, fossilif, m-gr oolitic, some w/ dark rings, scatt pyrite, calcite
SH gray, green

FX F
WS, crm to lt. tan, f-xln to chalky txt, fossilif. A.A., Chert, gray
Scatt SH, gray

PS
WS-PS, A.A., Chert, gray, white, fossils
Scatt SH, gray green, blk



MS-WS, crm, vf to mic-xln, firm, chalky, some fossilif pcs, NS
 Chert, brn, fossilif.
 SH, green-gray, sli. silty

MS-WS, crm to tan, gray, mostly chalky, scatt oolitic pcs, soft to firm, rare mottled pcs, NS
 Scatt SH, brn, gray, red

MS-WS, crm, chalky to f-xln, soft to firm, Chert, tan
 some SH, red, green, waxy to silty

MS, crm to lt. gray, f-xln, some massive to crip-xln, soft, fossilif
 Chert, gray, fossilif
 SH, gray, green

WS-PS, crm to tan, f to mic-xln, firm to soft, oolitic, shaly

WS-PS, AA, some glauc, moldic por., Chert, white, gray, fossilif

SH, blk, gray, waxy green, gas bubbles, carbonaceous

MS-WS, crm to off white, chalky, soft, NS
 Chert, white tan, fossilif

MS, off white to crm, f-xln, chalky in part, soft, scatt fossilif, NS

MS-WS, crm to gray, f-xln, chalky in part, A.A., m-gr oolitic, moldic por.
 some SH, gray green

SH, blk, gray, green, silty

MS-WS, crm, chalky matrix, soft, oolitic in part, m-gr., NS

MS, crm to brn, mic-xln, hard to firm, dense, NS
 scatt SH A.A

MS, crm to lt. gray(rare), f-xln, silty txt, some pcs oolitic/fossilif,
 scatt chalky pcs(caving?), Chert, milky white, fossilif
 SH, gray, green

WS-PS, gray to scatt crm, mic-xln, firm, oolitic, fossilif in part,
 Abundance of Chert, white, blk, fossilif.
 scatt SH, grays

WS, A.A., increase in crm pcs, sli. chalky matrix. NS

MS, crm to gray, mic-xln, some pcs chalky, scatt f-gr oolitic, friable,
 firm, NS
 Chert, blk, gray
 scatt SH, gray, rare blk

MS, gray to crm, f-xln, firm, friable, scatt fossilif(crinoids), Chert,
 tan, white, gray, scatt SH, blk, gray, limy in part

SH, gray to crm, brn, MS, gray, f-xln, silty in part, scatt fossilif,
 Chert, blk, white

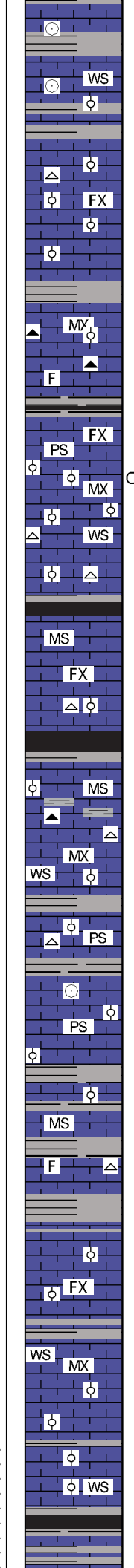
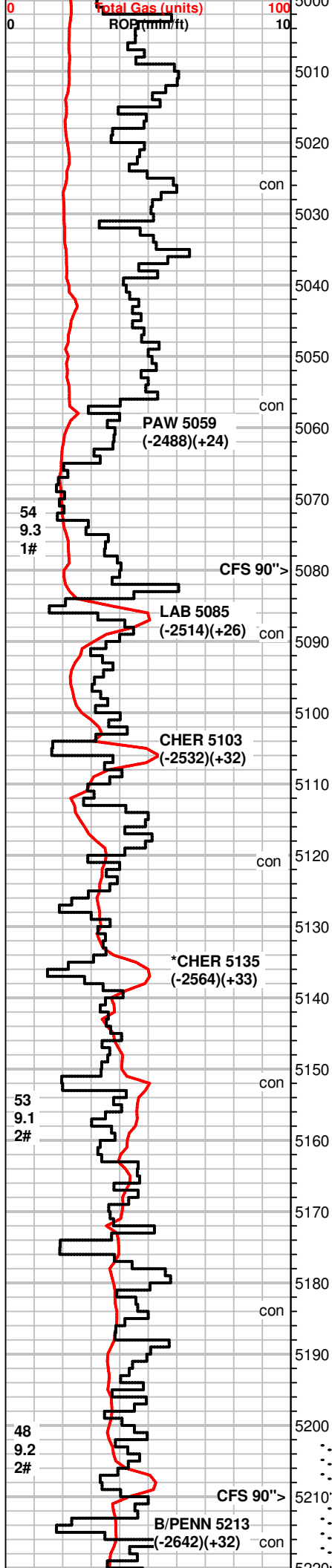
MS-WS, crm to gray, f-xln, sub oolitic/fossilif, gritty txt
 SH, dk. gray, gray, Chert, white, blk

MS, crm to gray, f-xln, A.A., Chert, white, blk
 Scatt SH, gray, green

MS-WS, gray, brn, crm, f-xln, hard to firm, fossilif, some silty in part,
 Chert, white, brn, blk, fossilif
 SH, dk. gray, red

+8 UGK Shale Gas

+10 UGK Shale Gas



MS, crm to brn, rare gray, crip-xln to chalky txt, soft, rare crinoids, rare mottled pcs, SH, gray, blk, green, decreasing amt.

WS, crm to gray, some brn, mic to crip-xln, firm to hard, sub oolitic, dull fluor, NS
scatt SH, gray/green striated, brn

MS-WS, crm to tan, rare lt. gray, mic-xln, firm to hard, chalky in part, sub oolitic, some glauc, some pcs dense, NS
Chert, white, rare

MS-WS, A.A., rare oolitic PS,

MS-WS, inc in lt. gray pcs, f-xln firm, most A.A.
scatt SH, gray

MS, WS-PS, crm to tan, scatt lt. gray, mic to f-xln, fossilif, suboolitic, waxy, some pcs weathered looking Chert, tan, blk,

SH, blk, gray green, silty, gas bubbles in blk pcs

WS-PS, crm to tan, f to mic-xln, oolitic, fossilif, ringed ooids, co-gr. **mineral fluor, light edge stn-dead, no odor, no cut, no show**

MS-WS, crm to brn, mic-xln, some chalky, suboolitic, hard to firm, NS
Chert, white

SH, blk, gray, carb., pyrite

MS-WS, crm to off white, some brn, f-xln to chalky, firm to soft, suboolitic,

MS, crm to brn, f-xln, hard, dense, some chalky, scatt suboolitic pcs, Chert, white

SH, blk, gray, rare gas bubbles

MS, crm to tan, mic to f-xln, firm to hard, scatt dense pcs, fossilif, sub oolitic, dull fluor, NS
Chert, white, gray, Scatt SH, gray, blk

WS-PS, crm to tan, some gray, mic-xln, m to co-gr oolitic, some ringed, firm, chalky matrix, Chert, brn
SH, blk gray

WS-PS, crm to tan, inc in gray pcs, A.A. fossilif, crinoids
Chert, white, tan, oolitic, fossilif.

Scatt SH, gray, blk

WS-PS, crm to brn, scatt lt. gray, mic-xln, oolitic, fossils, hard to firm, dull fluor, NS

SH, blk, dk .grays, WS-PS, A.A., silky/waxy looking, Chert, white

MS-WS, crm to gray, some brn, f-xln to mic-xln, scatt oolites, m-gr, some ringed, Chert, white, fossils
Scatt SH, gray, blk

SH, dk. gray to brn
MS, crm to brn, mic-xln, firm, some dense, scatt oolitic pcs, fossils

MS-WS, rare PS, crm to gray, f-xln, silty, soft, friable, fossilif, rare oolitic pcs
Scatt SH, gray, blk

MS-WS, crm to tan, gray A.A., f-xln, tite calcite cement in rare PS, some pcs chalky,

MS, crm to brn, mic-xln, dense, hard, suboolitic, dull fluor, NS
Scatt SH, dk. gray, gray

PS-WS, brn to crm, some gray, mic-xln, scatt chalky, hard to firm, dense pcs, oolitic, m-gr ooids fossils, lt. edge stn in 30" dry sample, dull fluor, NS
Scatt SH, blk, gray, silty

Scatt MS-WS, crm to gray, hard to firm, mic-xln, NS

+5 UGK Shale Gas

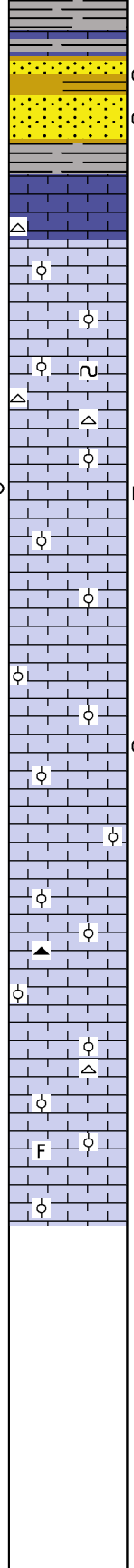
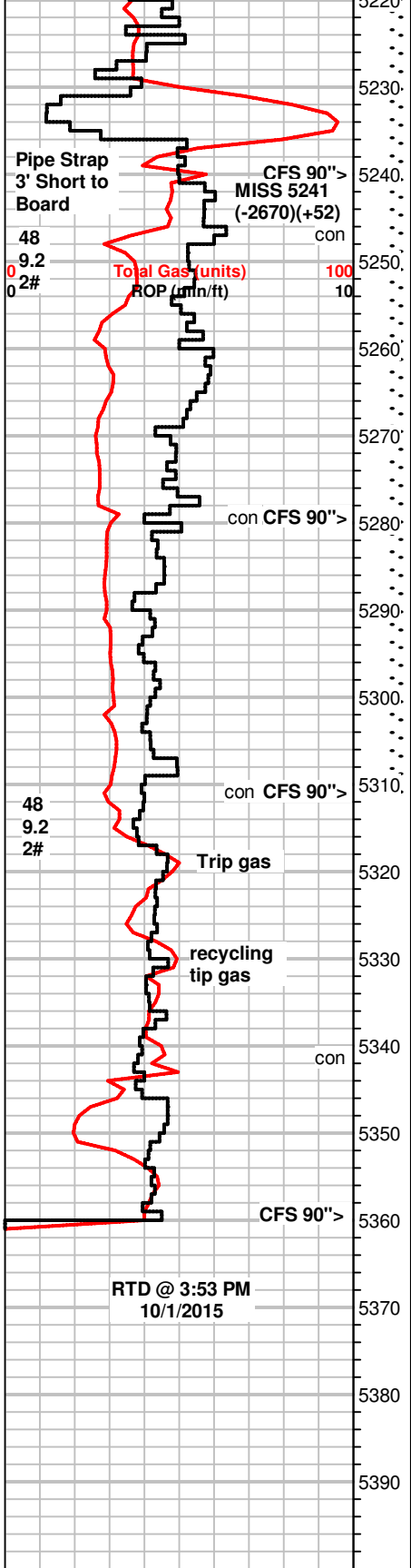
+30 UGK Shale Gas

+28 UGK Shale Gas

+18 UGK Shale Gas

**DST #1 5202-5240
30-45-30-45
WB 1.5inch, dead @ 15",
flushed tool, NB
WB 1.5inch
Rec: 5' Mud
IH 2612#
IF 52-28#
ISIP 164#
FF 23-27#
FSIP 470#
FH 2570#
Temp 117°F**

+17 UGK, +5 Unit recycle



SH blk, gray, green, red

Scatt SS clusters, green, well sorted, friable,, NS

SS clusters, brn, grn, f-gr, well sorted, friable, rare co Qtz gr. loose in tray, faint odor, partial stain, scatt bright flour, inst cut some select pcs,

SH, gray, green, blk, some scatt red, arenaceous, SS clusters A.A., tight, some w/ calcite cement
MS-WS, crm to brn, mic-xln, dense, sub oolitic pcs
rare PS, off white, firm, crip-xln, oolitic, glauc specs

SH, A.A., SS clusters, A.A., some red
PS-WS, crm to off white, f-xln, firm, oolitic, f to m-gr ooids, scatt glauc, friable, some pcs w/ chalky matrix,
some brn WS-MS, f-xln, dense, scatt.fossils
Chert, orange-opaque, fossils(echnoid spikes?)

WS-PS, off white to crm, f-xln, firm to friable, oolitic, some pcs sandy in apperance, scatt pcs moldic, dull fluor, NS, lt. edge strn in very few dry pcs.

WS-PS, off white to crm, some pcs brn, m-gr oolitic throughout, chalky matrix in some pcs, hard to firm, dull fluor, NS

WS-PS, off white to crm scatt brn, f-xln, oolitic, firm, some pcs dense/hard, NS

PS, off white to crm, f-xln, oolitic, m-gr, firm, rare bright fluor(4pcs), residual cut(1 pc), no odor
diminishing shows in 60 & 90min samples

WS-PS, crm to off white, mic-xln to chalky, suboolitic to oolitic, f to m-gr ooids, tite calcite cement, no vis por., some pcs with weathered looking edges(sli dolomitized?), NS

PS-WS, crm to off white, scatt brn pcs, mic-xln, hard, f to m-gr concentric ooids, dull fluor, NS
rare Chert, gray

PS, brn, to crm, f-xln to mic-xln, dense, sub oolitic, scatt fossils, rare Chert, white

PS, crm to brn, off white, crip-xln, dense, hard, oolitic, A.A., dull fluor, NS

WS-PS, off white to crm, crip-xln, dense, scatt oolitic pcs, some w/ chalky matrix, fossilif., NS, carrying lots of shales

+60 UGK,
+18 unit recycle

DST #2 5202-5311
30-60-45-90
WB 1.5 inch
WB 2.5 inch
Rec: 20' Mud
IH 2551#
IF 25-32#
ISIP 166#
FF 27-47#
FSIP 379#
FH 2504#
Temp 113°F