Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1252942

Form ACO-1
August 2013
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 3882
Name: Samuel Gary Jr. & Associates, Inc.
Address 1: 1515 WYNKOOP, STE 700
Address 2:
City: DENVER State: CO Zip: 80202 + _ _ _ _
Contact Person: CHRISTOPHER MITCHELL
Phone: (303) 831-4673
CONTRACTOR: License # 31548
Name: Discovery Drilling
Wellsite Geologist: JEFF KAMPS
Purchaser:

Designate Type of Completion:

☑ New Well ☐ Re-Entry ☐ Workover

☐ Oil ☐ WSW ☐ SWD ☐ SIOW
☐ Gas ☑ D&A ☐ ENHR ☐ SIGW
☐ OG ☐ GSW ☐ Temp. Abd.
☐ 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 ENHR ☐ Conv. to SWD
☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
☐ GSW Permit #:

2/2/2015	2/10/2015	2/10/2015
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-179-21394-00-00
Spot Description:
SE - SW - SE - NW Sec. 19 Twp. 9 S. R. 29 ☐ East ☑ West
2500 Feet from ☑ North / ☐ South Line of Section
1700 Feet from ☐ East / ☑ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☑ NW ☐ SE ☐ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Sheridan
Lease Name: WIGGINTON ET AL Well #: 1-19
Field Name:
Producing Formation: N/A
Elevation: Ground: 2839 Kelly Bushing: 2847
Total Vertical Depth: 4479 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 343 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: 12000 ppm Fluid volume: 240 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: RITCHIE EXPLORATION, INC.
Lease Name: RODIE 2 License #: 4767
Quarter SW Sec. 15 Twp. 11 S. R. 31 ☐ East ☑ West
County: GOVE Permit #: D25155

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: 05/22/2015
☑ **Confidential Release Date:** 05/21/2017
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☐ I ☑ II ☐ III **Approved by:** NAOMI JAMES **Date:** 05/22/2015

[redacted]

1252942

Operator Name: Samuel Gary Jr. & Associates, Inc. Lease Name: WIGGINTON ET AL Well #: 1-19

Sec. 19 Twp. 9 S. R. 29 ☐ East ☑ West County: Sheridan

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 ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

DEN-NEUT
INDUCTION
MICRO

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
TOPEKA	3675	-828
HEEBNER	3892	-1045
LANSING	3934	-1087
MARMATON	4293	-1446

CASING RECORD ☑ New ☐ 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
Surface	12.25	8.625	23	343	COMMON CLASS A	225	2% GEL, 3% CC

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
___ Perforate ___ Protect Casing ___ Plug Back TD ___ Plug Off Zone	-			
	-			

Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☑ No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 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)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth

TUBING RECORD: Size: Set At: Packer At: Liner Run: ☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. Producing Method: ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)* _____

PRODUCTION INTERVAL:
_____
_____

Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	WIGGINTON ET AL 1-19
Doc ID	1252942

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	343	COMMON CLASS A	225	2% GEL, 3% CC

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 916

Date	Sec.	Twp.	Range	County	State	On Location	Finish
2-2-15	19	9	29	Sheridan	KS		6:15 PM

Location Grinnell 10½ N 1¼ E S into

Lease Wigginton Well No. 1-19

Contractor Discovery #4

Type Job Surface

Hole Size 12¼ T.D. 344'

Csg. 8 5/8 Depth 344'

Tbg. Size Depth

Tool Depth

Cement Left in Csg. 20' Shoe Joint

Meas Line Displace 20½ bbl

EQUIPMENT

Pumptrk 5 No. Cementer Helper David

Bulktrk 19 No. Driver Driver Ryan

Bulktrk PU No. Driver Driver Brett

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

Cement Circulated!!

Owner

To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To Sam Gary Jr

Street

City State

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Amount Ordered ~~225~~ Com 3% Gel 2% Gel ¼#

took 300 sk used ~~225~~ 300

Common	300
Poz. Mix	
Gel.	6
Calcium	11
Hulls	
Salt	
Flowseal	150#
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	317
Mileage	

8 5/8 **FLOAT EQUIPMENT**

Guide Shoe	
Centralizer	1
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

Pumptrk Charge	Surface
Mileage	27
Tax	
Discount	
Total Charge	

X Signature Mike Russell

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 6325

Date	Sec.	Twp.	Range	County	State	On Location	Finish
2-10-15	19	9	29	Sheridan	KS		5:30pm

Location Grinnel N10 1 1/2 E Sinto

Lease Wigginton ETAL Well No. 1-9

Contractor Discovery 4

Type Job Plug

Hole Size 7 7/8 T.D. 4480

Csg. Depth

Tbg. Size D.P. 4 1/2 Depth 2475

Tool Depth

Cement Left in Csg. Shoe Joint

Meas Line Displace Mud/water

EQUIPMENT

	No.		
Pumptrk 20		Cementer / Helper	Nick
Bulktrk 14		Driver	David
Bulktrk 21		Driver	Billy

JOB SERVICES & REMARKS

Remarks:

Rat Hole 30 sx

Mouse Hole 15 sx

Centralizers

Baskets

D/V or Port Collar

1st 2475' 50 sx

2nd 1590' 100 sx

3rd 400' 50 sx

4th 40' 10 sx

x Signature

Owner

To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To Sam Gary Jr. & Associates

Street

City State

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Amount Ordered 255 60/40 4% gel 1/4# flow

Common	153
Poz. Mix	102
Gel.	9
Calcium	
Hulls	
Salt	
Flowseal	56#
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	264
Mileage	

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	plug
Mileage 27	
Tax	
Discount	
Total Charge	

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates, Inc.

1515 Wynkoop, Ste 700
Denver, CO 80202

ATTN: Chris Mitchell

19-9S-29W Sheridan,KS

Wigginton et al 1-19

Job Ticket: 61156 **DST#: 1**

Test Start: 2015.02.08 @ 09:35:13

GENERAL INFORMATION:

Formation: **KC "I&J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:19:13
Time Test Ended: 18:04:13

Test Type: Conventional Bottom Hole (Initial)
Tester: Brannan Lonsdale
Unit No: 62

Interval: 4086.00 ft (KB) To 4132.00 ft (KB) (TVD)
Total Depth: 4132.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

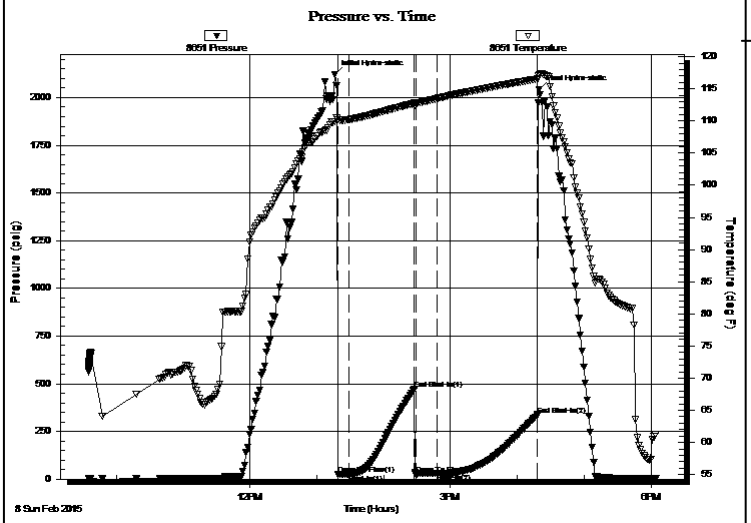
Reference Elevations: 2847.00 ft (KB)
2839.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8651 **Inside**

Press@RunDepth: 29.17 psig @ 4087.00 ft (KB)
Start Date: 2015.02.08 End Date: 2015.02.08
Start Time: 09:35:14 End Time: 18:04:13

Capacity: 8000.00 psig
Last Calib.: 2015.02.08
Time On Btm: 2015.02.08 @ 13:16:13
Time Off Btm: 2015.02.08 @ 16:19:43

TEST COMMENT: 10- IF- Built very slow ly to .25"
60- ISI- No blow
20- FF- No blow
90- FSI- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2121.77	109.85	Initial Hydro-static
3	26.23	110.16	Open To Flow (1)
13	26.24	110.22	Shut-In(1)
72	471.62	112.76	End Shut-In(1)
73	25.65	112.72	Open To Flow (2)
92	29.17	113.49	Shut-In(2)
182	337.42	116.54	End Shut-In(2)
184	2040.47	117.19	Final Hydro-static

Recovery

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

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates, Inc.

1515 Wynkoop, Ste 700
Denver, CO 80202

ATTN: Chris Mitchell

19-9S-29W Sheridan,KS

Wigginton et al 1-19

Job Ticket: 61156 **DST#: 1**

Test Start: 2015.02.08 @ 09:35:13

GENERAL INFORMATION:

Formation: **KC "I&J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:19:13
Time Test Ended: 18:04:13

Test Type: Conventional Bottom Hole (Initial)
Tester: Brannan Lonsdale
Unit No: 62

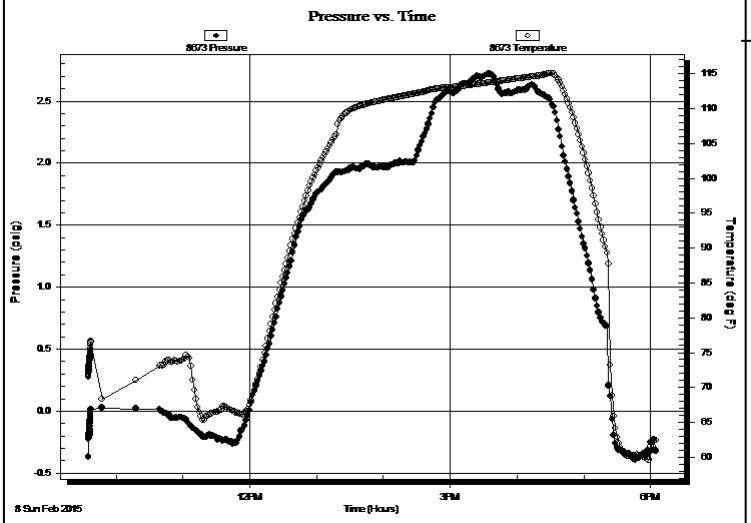
Interval: 4086.00 ft (KB) To 4132.00 ft (KB) (TVD)
Total Depth: 4132.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2847.00 ft (KB)
2839.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8673 **Fluid**
Press@RunDepth: psig @ 4058.00 ft (KB)
Start Date: 2015.02.08 End Date: 2015.02.08
Start Time: 09:35:22 End Time: 18:04:21

Capacity: 8000.00 psig
Last Calib.: 2015.02.08
Time On Btm:
Time Off Btm:

TEST COMMENT: 10- IF- Built very slow ly to .25"
60- ISI- No blow
20- FF- No blow
90- FSI- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

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

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates, Inc.

1515 Wynkoop, Ste 700
Denver, CO 80202

ATTN: Chris Mitchell

19-9S-29W Sheridan,KS

Wigginton et al 1-19

Job Ticket: 61156 **DST#: 1**

Test Start: 2015.02.08 @ 09:35:13

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:	70.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.79 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1000.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	M	0.025

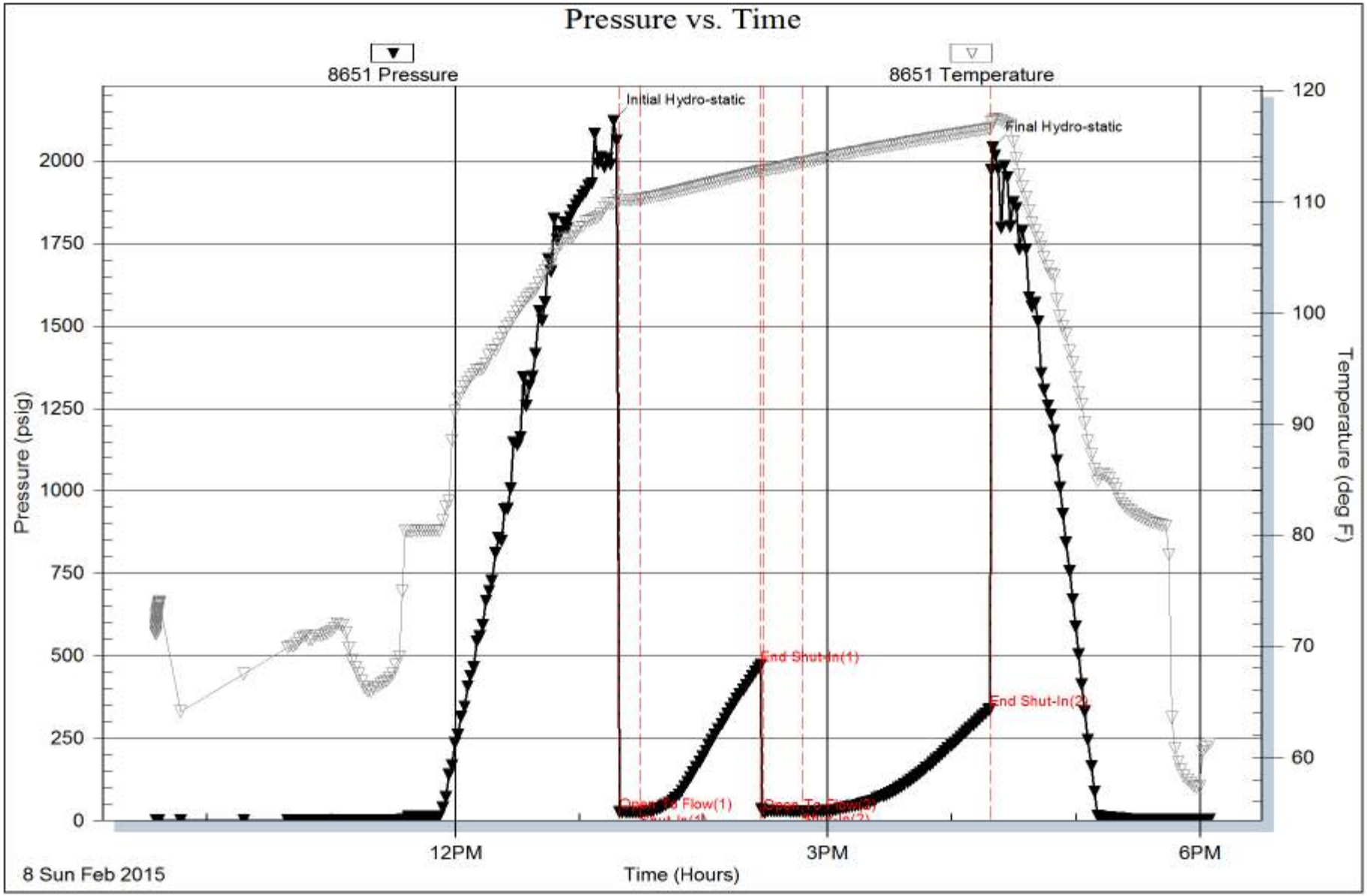
Total Length: 5.00 ft Total Volume: 0.025 bbl

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

Laboratory Name: Laboratory Location:

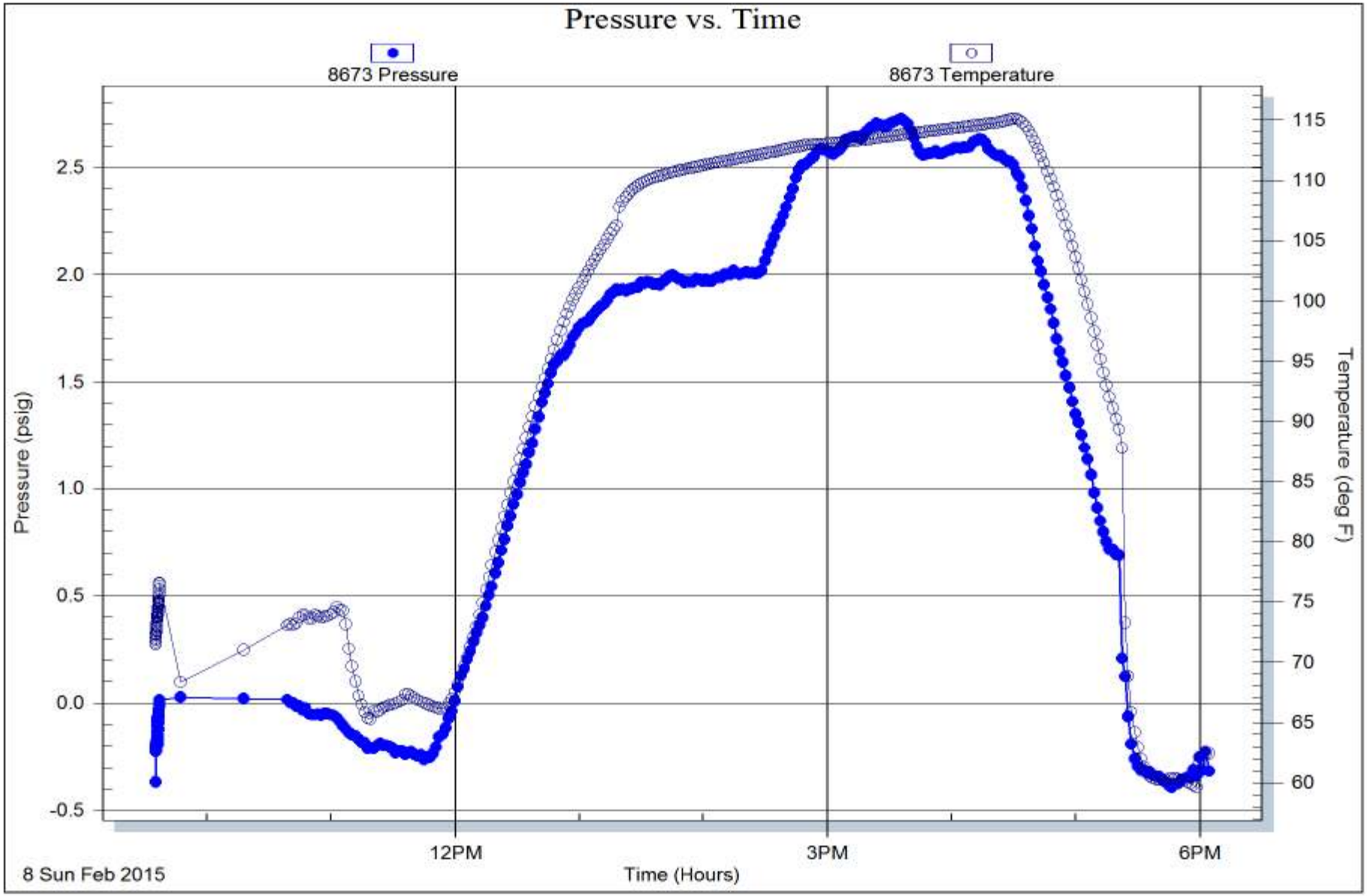
Recovery Comments: Sampler: 2000mL M @ 55PSI

Serial #: 8651 **Inside** Samuel Gary Jr. & Associates, Inc. Wigginton et al 1-19 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 61156 Printed: 2015.02.09 @ 08:26:22

Serial #: 8673 **Fluid** Samuel Gary Jr. & Associates, Inc. Wigginton et al 1-19 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 61156 Printed: 2015.02.09 @ 08:26:23

Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name:	**SGA Wigginton et al 1-19**		
Well Id:			
Location:	**Sec. 19 T9S R29W**		
License Number:	**15-179-21394**	**Region:**	**Wildcat**
Spud Date:	**Feb 2, 2015**	**Drilling Completed:**	**Feb. 10, 2015**
Surface Coordinates:	**2500' FNL 1700' FWL**		
Bottom Hole Coordinates:			
Ground Elevation (ft):	**2839'**	**K.B. Elevation (ft):**	**2847'**
Logged Interval (ft):	**3850' To: 4480'**	**Total Depth (ft):**	**4480'**
Formation:	**Lansing / Kansas City**		
Type of Drilling Fluid:	**Natural Chemical**		

Printed by WellSight Log Manager from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Samuel Gary Jr. & Assoc.
Address: 1515 Winkoop Street, Suite 700
Denver CO, 80202
Geo: Chris Mitchell

GEOLOGIST

Name: Jeff Kamps
Company: EARTH TECH OGL,Inc.
Address: PO Box 683
Hooker, Okla 73945
1-580-652-3924

8918 5Th St
Great Bend,Ks. 67530
1-888-543-8378

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Samuel Gary Jr. & Associates, Inc.

1515 Wynkoop, Ste 700
Denver, CO 80202

ATTN: Chris Mitchell

19-9S-29W Sheridan, KS

Wigginton et al 1-19

Job Ticket: 61156 **DST#: 1**

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Press@RunDepth: 29.17 psig @ 4087.00 ft (KB)
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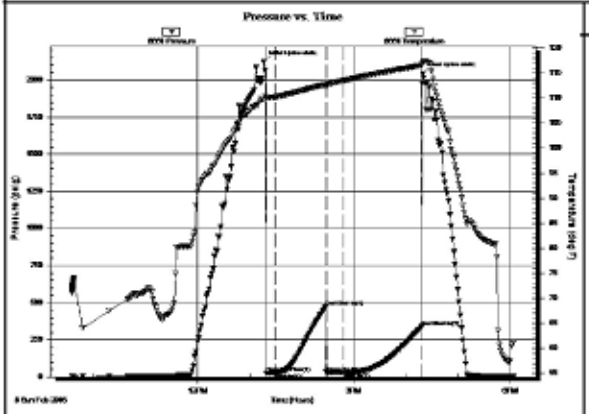
Capacity: 8000.00 psig
Last Calib.: 2015.02.08
Time On Btm: 2015.02.08 @ 13:16:13
Time Off Btm: 2015.02.08 @ 16:19:43

TEST COMMENT: 10- IF- Built very slowly to .25"
60- ISI- No blow
20- FF- No blow
90- FSI- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2121.77	109.85	Initial Hydro-static
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13	26.24	110.22	Shut-In(1)
72	471.62	112.76	End Shut-In(1)
73	25.65	112.72	Open To Flow (2)
92	29.17	113.49	Shut-In(2)
182	337.42	116.54	End Shut-In(2)
184	2040.47	117.19	Final Hydro-static

Recovery

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

Gas Rates

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

ROCK TYPES

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal
- Congl
- Dol
- Gyp
- Igne
- Lmst
- Meta
- Mrlst
- Salt
- Shale
- Shcol
- Shgy
- Sltst
- Ss
- Till
- Carb sh
- Dol
- Dtd
- Gry sh
- Sandylms
- Shale
- Sltstn
- Shlyslts
- Sltysh
- Lms

ACCESSORIES

MINERAL
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Slty

FOSSIL
- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomold

STRINGER
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

TEXTURE
- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

POROSITY TYPE
- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

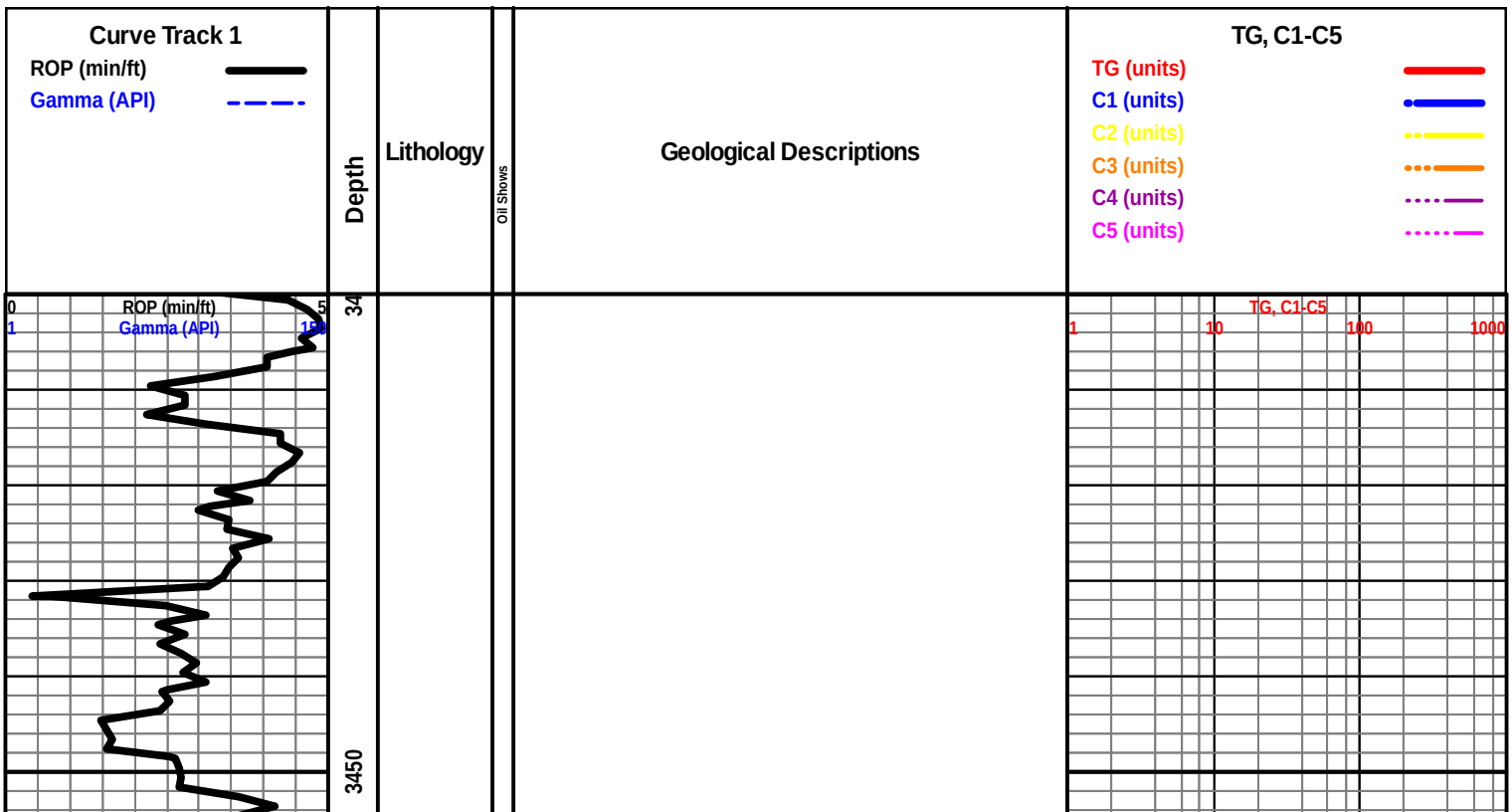
SORTING
- Well
- Moderate
- Poor

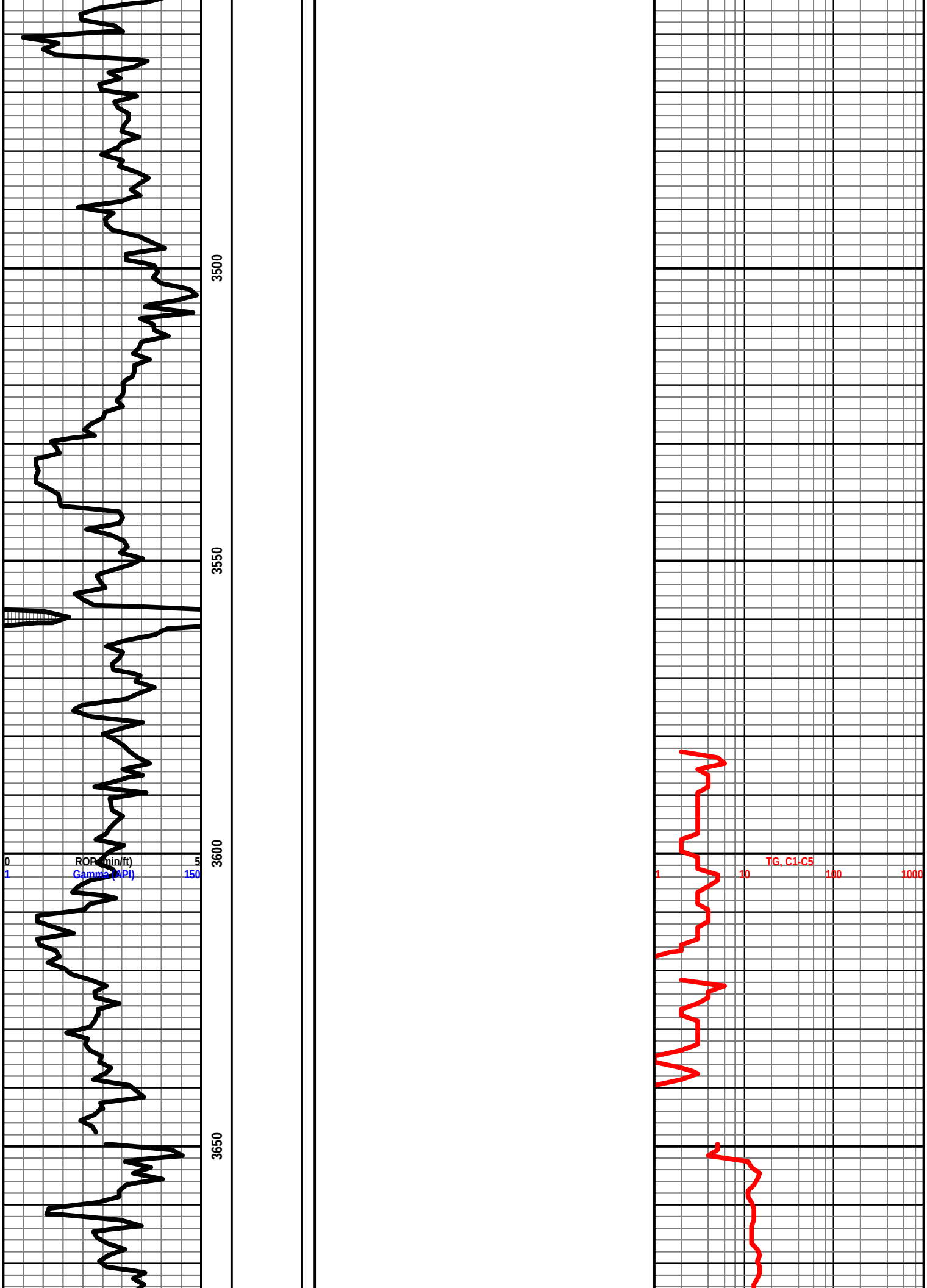
ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

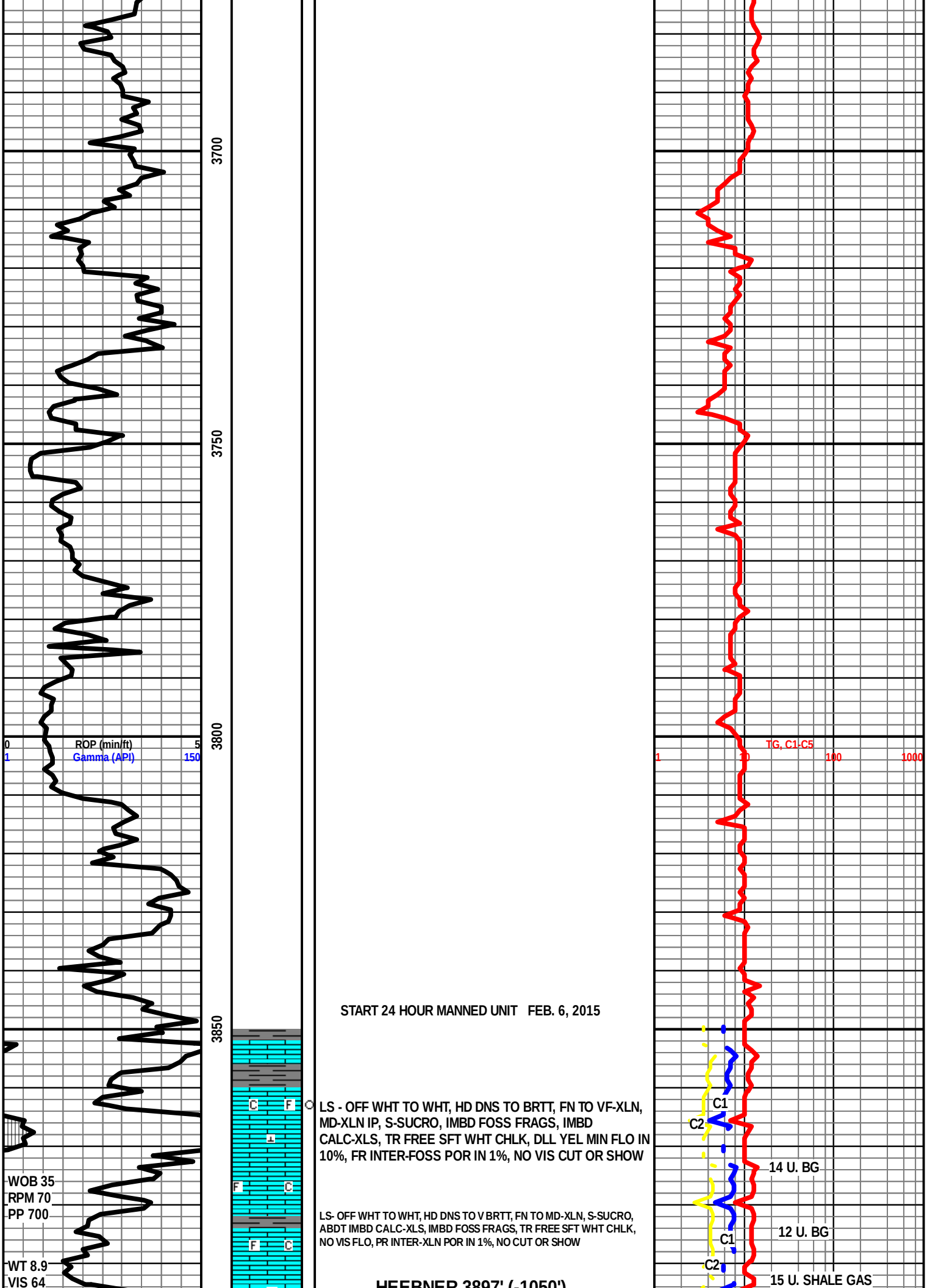
OIL SHOWS
- Even
- Spotted
- Ques
- Dead
- Gas show

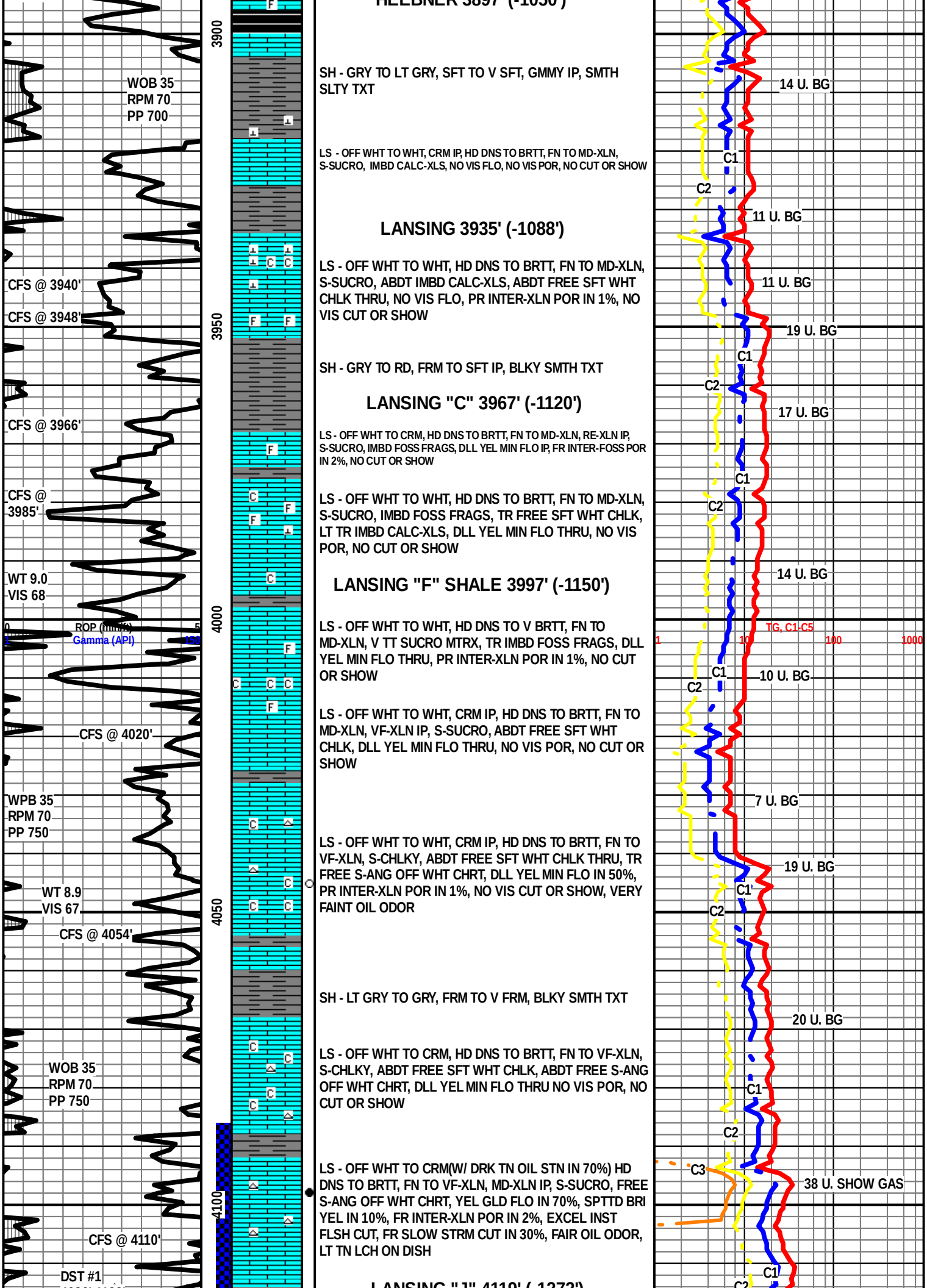
INTERVALS
- Core
- Dst
- Dst

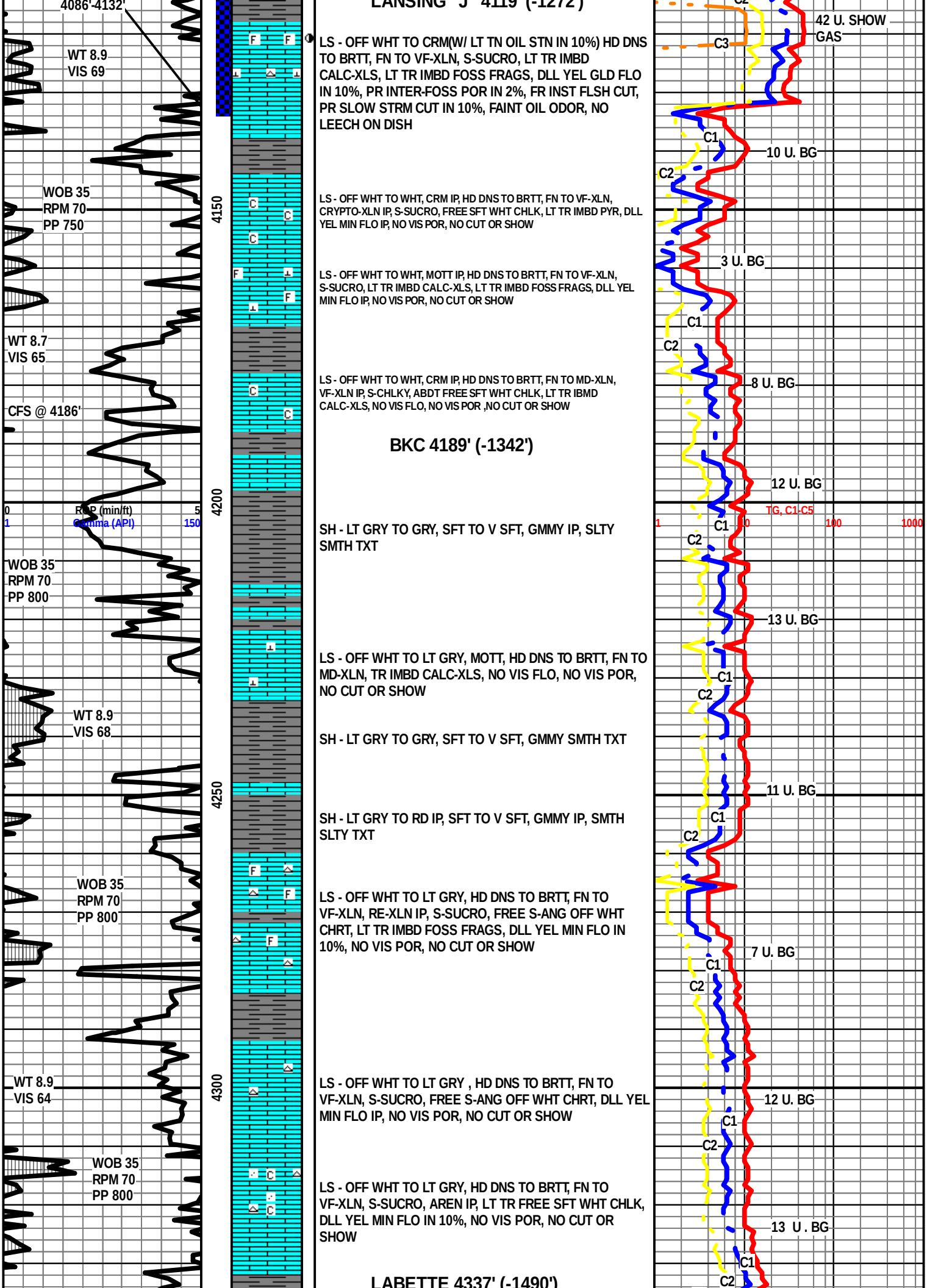
EVENTS
- Rft
- Sidewall

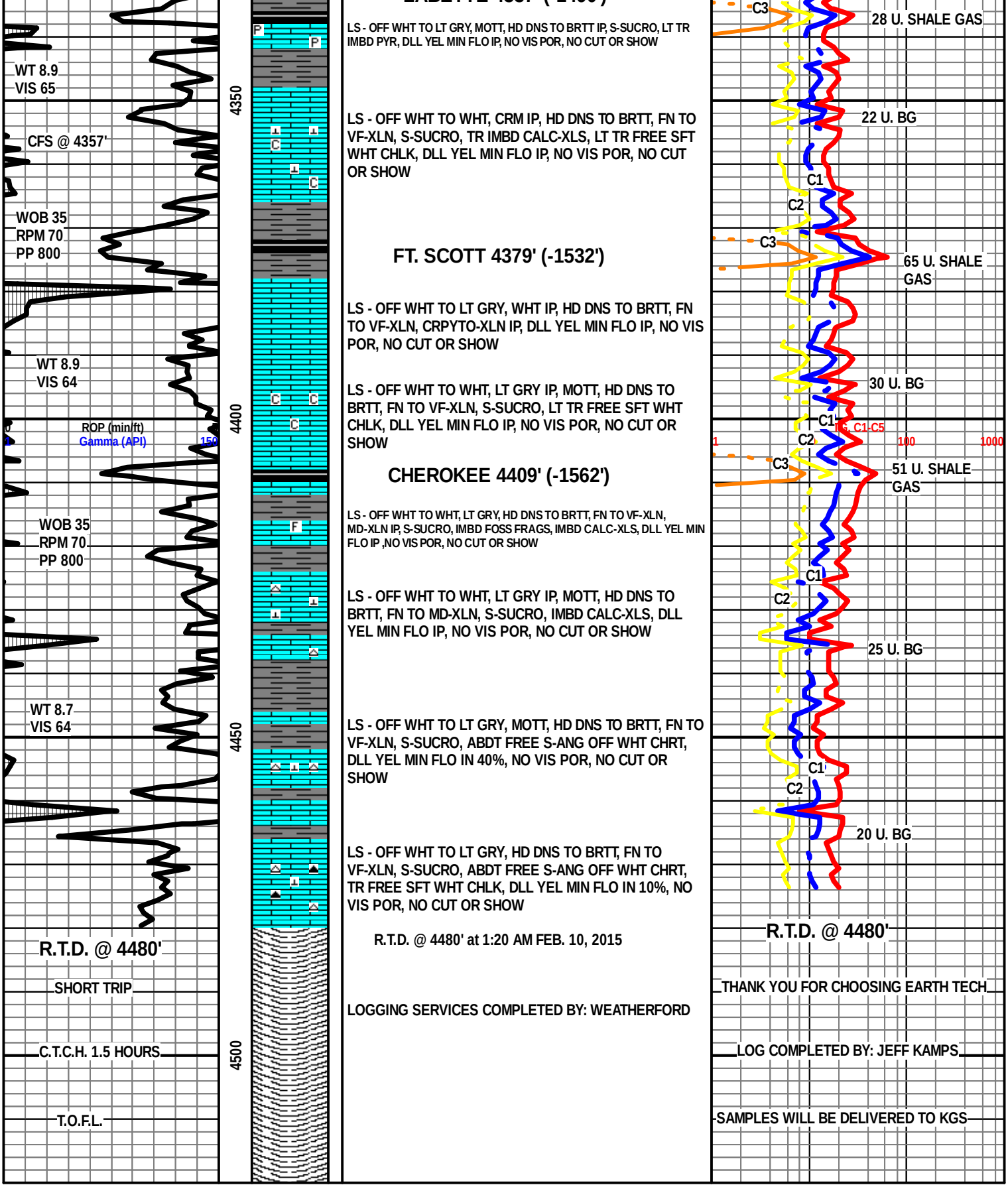



3500
3550
3600
3650
0
ROP (min/ft)
5
1
Gamma (API)
150
TG, C1-C5
1
10
100
1000


3700
3750
3800
3850
0
ROP (min/ft)
5
1
Gamma (API)
150
TG, C1-C5
1
10
100
1000
START 24 HOUR MANNED UNIT FEB. 6, 2015
C
F
LS - OFF WHT TO WHT, HD DNS TO BRTT, FN TO VF-XLN, MD-XLN IP, S-SUCRO, IMBD FOSS FRAGS, IMBD CALC-XLS, TR FREE SFT WHT CHLK, DLL YEL MIN FLO IN 10%, FR INTER-FOSS POR IN 1%, NO VIS CUT OR SHOW
C1
C2
14 U. BG
LS- OFF WHT TO WHT, HD DNS TO V BRTT, FN TO MD-XLN, S-SUCRO, ABDT IMBD CALC-XLS, IMBD FOSS FRAGS, TR FREE SFT WHT CHLK, NO VIS FLO, PR INTER-XLN POR IN 1%, NO CUT OR SHOW
12 U. BG
C1
C2
15 U. SHALE GAS
WOB 35
RPM 70
PP 700
WT 8.9
VIS 64
HEERNER 3897' (-1050')


HEEBNER 3897' (-1050')
SH - GRY TO LT GRY, SFT TO V SFT, GMMY IP, SMTH SLTY TXT
LS - OFF WHT TO WHT, CRM IP, HD DNS TO BRTT, FN TO MD-XLN, S-SUCRO, IMBD CALC-XLS, NO VIS FLO, NO VIS POR, NO CUT OR SHOW
LANSING 3935' (-1088')
LS - OFF WHT TO WHT, HD DNS TO BRTT, FN TO MD-XLN, S-SUCRO, ABDT IMBD CALC-XLS, ABDT FREE SFT WHT CHLK THRU, NO VIS FLO, PR INTER-XLN POR IN 1%, NO VIS CUT OR SHOW
SH - GRY TO RD, FRM TO SFT IP, BLKY SMTH TXT
LANSING "C" 3967' (-1120')
LS - OFF WHT TO CRM, HD DNS TO BRTT, FN TO MD-XLN, RE-XLN IP, S-SUCRO, IMBD FOSS FRAGS, DLL YEL MIN FLO IP, FR INTER-FOSS POR IN 2%, NO CUT OR SHOW
LS - OFF WHT TO WHT, HD DNS TO BRTT, FN TO MD-XLN, S-SUCRO, IMBD FOSS FRAGS, TR FREE SFT WHT CHLK, LT TR IMBD CALC-XLS, DLL YEL MIN FLO THRU, NO VIS POR, NO CUT OR SHOW
LANSING "F" SHALE 3997' (-1150')
LS - OFF WHT TO WHT, HD DNS TO V BRTT, FN TO MD-XLN, V TT SUCRO MTRX, TR IMBD FOSS FRAGS, DLL YEL MIN FLO THRU, PR INTER-XLN POR IN 1%, NO CUT OR SHOW
LS - OFF WHT TO WHT, CRM IP, HD DNS TO BRTT, FN TO MD-XLN, VF-XLN IP, S-SUCRO, ABDT FREE SFT WHT CHLK, DLL YEL MIN FLO THRU, NO VIS POR, NO CUT OR SHOW
LS - OFF WHT TO WHT, CRM IP, HD DNS TO BRTT, FN TO VF-XLN, S-CHLKY, ABDT FREE SFT WHT CHLK THRU, TR FREE S-ANG OFF WHT CHRT, DLL YEL MIN FLO IN 50%, PR INTER-XLN POR IN 1%, NO VIS CUT OR SHOW, VERY FAINT OIL ODOR
SH - LT GRY TO GRY, FRM TO V FRM, BLKY SMTH TXT
LS - OFF WHT TO CRM, HD DNS TO BRTT, FN TO VF-XLN, S-CHLKY, ABDT FREE SFT WHT CHLK, ABDT FREE S-ANG OFF WHT CHRT, DLL YEL MIN FLO THRU NO VIS POR, NO CUT OR SHOW
LS - OFF WHT TO CRM(W/ DRK TN OIL STN IN 70%) HD DNS TO BRTT, FN TO VF-XLN, MD-XLN IP, S-SUCRO, FREE S-ANG OFF WHT CHRT, YEL GLD FLO IN 70%, SPTTD BRI YEL IN 10%, FR INTER-XLN POR IN 2%, EXCEL INST FLSH CUT, FR SLOW STRM CUT IN 30%, FAIR OIL ODOR, LT TN LCH ON DISH
LANSING "J" 4119' (-1272')
WOB 35
RPM 70
PP 700
CFS @ 3940'
CFS @ 3948'
CFS @ 3966'
CFS @ 3985'
WT 9.0
VIS 68
ROP (min/ft)
Gamma (API)
CFS @ 4020'
WPB 35
RPM 70
PP 750
WT 8.9
VIS 67
CFS @ 4054'
WOB 35
RPM 70
PP 750
CFS @ 4110'
DST #1
3900
3950
4000
4050
4100
14 U. BG
11 U. BG
11 U. BG
19 U. BG
17 U. BG
14 U. BG
TG, C1-C5
10 U. BG
7 U. BG
19 U. BG
20 U. BG
38 U. SHOW GAS
C1
C2
C3


4086'-4132'
WT 8.9
VIS 69
WOB 35
RPM 70
PP 750
WT 8.7
VIS 65
CFS @ 4186'
ROP (min/ft)
Gamma (API)
WOB 35
RPM 70
PP 800
WT 8.9
VIS 68
WOB 35
RPM 70
PP 800
WT 8.9
VIS 64
WOB 35
RPM 70
PP 800
4150
4200
4250
4300
LANSING "J" 4119' (-1272')
LS - OFF WHT TO CRM(W/ LT TN OIL STN IN 10%) HD DNS TO BRTT, FN TO VF-XLN, S-SUCRO, LT TR IMBD CALC-XLS, LT TR IMBD FOSS FRAGS, DLL YEL GLD FLO IN 10%, PR INTER-FOSS POR IN 2%, FR INST FLSH CUT, PR SLOW STRM CUT IN 10%, FAINT OIL ODOR, NO LEECH ON DISH
LS - OFF WHT TO WHT, CRM IP, HD DNS TO BRTT, FN TO VF-XLN, CRYPTO-XLN IP, S-SUCRO, FREE SFT WHT CHLK, LT TR IMBD PYR, DLL YEL MIN FLO IP, NO VIS POR, NO CUT OR SHOW
LS - OFF WHT TO WHT, MOTT IP, HD DNS TO BRTT, FN TO VF-XLN, S-SUCRO, LT TR IMBD CALC-XLS, LT TR IMBD FOSS FRAGS, DLL YEL MIN FLO IP, NO VIS POR, NO CUT OR SHOW
LS - OFF WHT TO WHT, CRM IP, HD DNS TO BRTT, FN TO MD-XLN, VF-XLN IP, S-CHLKY, ABDT FREE SFT WHT CHLK, LT TR IBMD CALC-XLS, NO VIS FLO, NO VIS POR ,NO CUT OR SHOW
BKC 4189' (-1342')
SH - LT GRY TO GRY, SFT TO V SFT, GMMY IP, SLTY SMTH TXT
LS - OFF WHT TO LT GRY, MOTT, HD DNS TO BRTT, FN TO MD-XLN, TR IMBD CALC-XLS, NO VIS FLO, NO VIS POR, NO CUT OR SHOW
SH - LT GRY TO GRY, SFT TO V SFT, GMMY SMTH TXT
SH - LT GRY TO RD IP, SFT TO V SFT, GMMY IP, SMTH SLTY TXT
LS - OFF WHT TO LT GRY, HD DNS TO BRTT, FN TO VF-XLN, RE-XLN IP, S-SUCRO, FREE S-ANG OFF WHT CHRT, LT TR IMBD FOSS FRAGS, DLL YEL MIN FLO IN 10%, NO VIS POR, NO CUT OR SHOW
LS - OFF WHT TO LT GRY , HD DNS TO BRTT, FN TO VF-XLN, S-SUCRO, FREE S-ANG OFF WHT CHRT, DLL YEL MIN FLO IP, NO VIS POR, NO CUT OR SHOW
LS - OFF WHT TO LT GRY, HD DNS TO BRTT, FN TO VF-XLN, S-SUCRO, AREN IP, LT TR FREE SFT WHT CHLK, DLL YEL MIN FLO IN 10%, NO VIS POR, NO CUT OR SHOW
LABETTE 4337' (-1490')
42 U. SHOW GAS
10 U. BG
3 U. BG
8 U. BG
12 U. BG
13 U. BG
11 U. BG
7 U. BG
12 U. BG
13 U . BG
TG, C1-C5
C1
C2
C3


WT 8.9
VIS 65
CFS @ 4357'
WOB 35
RPM 70
PP 800
WT 8.9
VIS 64
ROP (min/ft)
Gamma (API)
150
WOB 35
RPM 70
PP 800
WT 8.7
VIS 64
R.T.D. @ 4480'
SHORT TRIP
C.T.C.H. 1.5 HOURS
T.O.F.L.
4350
4400
4450
4500
LS - OFF WHT TO LT GRY, MOTT, HD DNS TO BRTT IP, S-SUCRO, LT TR IMBD PYR, DLL YEL MIN FLO IP, NO VIS POR, NO CUT OR SHOW
LS - OFF WHT TO WHT, CRM IP, HD DNS TO BRTT, FN TO VF-XLN, S-SUCRO, TR IMBD CALC-XLS, LT TR FREE SFT WHT CHLK, DLL YEL MIN FLO IP, NO VIS POR, NO CUT OR SHOW
FT. SCOTT 4379' (-1532')
LS - OFF WHT TO LT GRY, WHT IP, HD DNS TO BRTT, FN TO VF-XLN, CRPYTO-XLN IP, DLL YEL MIN FLO IP, NO VIS POR, NO CUT OR SHOW
LS - OFF WHT TO WHT, LT GRY IP, MOTT, HD DNS TO BRTT, FN TO VF-XLN, S-SUCRO, LT TR FREE SFT WHT CHLK, DLL YEL MIN FLO IP, NO VIS POR, NO CUT OR SHOW
CHEROKEE 4409' (-1562')
LS - OFF WHT TO WHT, LT GRY, HD DNS TO BRTT, FN TO VF-XLN, MD-XLN IP, S-SUCRO, IMBD FOSS FRAGS, IMBD CALC-XLS, DLL YEL MIN FLO IP ,NO VIS POR, NO CUT OR SHOW
LS - OFF WHT TO WHT, LT GRY IP, MOTT, HD DNS TO BRTT, FN TO MD-XLN, S-SUCRO, IMBD CALC-XLS, DLL YEL MIN FLO IP, NO VIS POR, NO CUT OR SHOW
LS - OFF WHT TO LT GRY, MOTT, HD DNS TO BRTT, FN TO VF-XLN, S-SUCRO, ABDT FREE S-ANG OFF WHT CHRT, DLL YEL MIN FLO IN 40%, NO VIS POR, NO CUT OR SHOW
LS - OFF WHT TO LT GRY, HD DNS TO BRTT, FN TO VF-XLN, S-SUCRO, ABDT FREE S-ANG OFF WHT CHRT, TR FREE SFT WHT CHLK, DLL YEL MIN FLO IN 10%, NO VIS POR, NO CUT OR SHOW
R.T.D. @ 4480' at 1:20 AM FEB. 10, 2015
LOGGING SERVICES COMPLETED BY: WEATHERFORD
C3
28 U. SHALE GAS
22 U. BG
C1
C2
C3
65 U. SHALE GAS
30 U. BG
C1
C2
C3
51 U. SHALE GAS
C1
C2
25 U. BG
C1
C2
20 U. BG
R.T.D. @ 4480'
THANK YOU FOR CHOOSING EARTH TECH
LOG COMPLETED BY: JEFF KAMPS
SAMPLES WILL BE DELIVERED TO KGS