Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1084533

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 # 34110
Name: Caerus Kansas LLC
Address 1: 600 17TH ST, STE 1600 N
Address 2:
City: DENVER State: CO Zip: 80202 + _ _ _ _
Contact Person: Amy Lay
Phone: (303) 565-4600
CONTRACTOR: License # 34541
Name: Ninnescah Drilling LLC
Wellsite Geologist: Jeff Lawler
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 #:

05/23/2012	06/05/2012	06/06/2012
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-185-23752-00-00
Spot Description:
E2 - SE - SW - NE Sec. 31 Twp. 24 S. R. 12 ☐ East ☑ West
2310 Feet from ☑ North / ☐ South Line of Section
1425 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: Stafford
Lease Name: Fritzemeier Well #: 31-32
Field Name: Cline Southeast
Producing Formation: N/A
Elevation: Ground: 1901 Kelly Bushing: 1910
Total Vertical Depth: 4225 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 312 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: 11000 ppm Fluid volume: 320 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: Caerus Kansas LLC
Lease Name: McNaughten B 4 License #: 34110
Quarter NW Sec. 27 Twp. 24 S. R. 13 ☐ East ☑ West
County: Stafford Permit #: E-12286

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: 06/20/2012
☑ **Confidential Release Date:** 06/20/2014
☑ **Wireline Log Received**
☐ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 06/21/2012

1084533

Operator Name: Caerus Kansas LLC Lease Name: Fritzemeier Well #: 31-32

Sec. 31 Twp. 24 S. R. 12 ☐ East ☑ West County: Stafford

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:

Microlog
Dual Induction
Porosity

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

Name	Top	Datum
Attached	Attached	Attached

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	321	Class A	225	3% CC 2% Gel

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:	METHOD OF COMPLETION:	PRODUCTION INTERVAL:
☐ Vented ☐ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)*	☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)* ☐ Other *(Specify)* _____	_____ _____

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Caerus Kansas LLC
Well Name	Fritzemeier 31-32
Doc ID	1084533

Tops

Name	Top	Datum
Stone Corral	727	
Stotler	2762	
Topeka	3106	
Heebner Shale	3379	
Lansing	3564	
Base Kansas City	3840	
Viola	3958	
Arbuckle	4155	

SUPERIOR WELL SERVICES
SUPERIOR Hays, Kansas

DUAL INDUCTION LOG

Company	CAERUS KANSAS, LLC.
Well	FRITZEMEIER #31-32
Field	CLINE SOUTHEAST
County	STAFFORD
State	KANSAS

Company CAERUS KANSAS, LLC.
Well FRITZEMEIER #31-32
Field CLINE SOUTHEAST
County STAFFORD State KANSAS
Location: API # : 15-185-23752-0000
2310' FNL & 1425' FEL
E/2 - SE - SW - NE
SEC 31 TWP 24S RGE 12W

Other Services: CDL/CNL, MEL/SONIC

Permanent Datum	GROUND LEVEL	Elevation 1900	Elevation K.B. 1913, D.F. 1911, G.L. 1900
Log Measured From	KELLY BUSHING 13' A.G.L.		
Drilling Measured From	KELLY BUSHING		

Date	6/5/12
Run Number	ONE
Depth Driller	4225
Depth Logger	4212
Bottom Logged Interval	4210
Top Log Interval	00
Casing Driller	8 5/8"@321'
Casing Logger	322
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.0/58
pH / Fluid Loss	11.0/9.6
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.950@92F
Rmf @ Meas. Temp	.713@92F
Rmc @ Meas. Temp	1.14@92F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	.741@118F
Time Circulation Stopped	2.5 HOURS
Time Logger on Bottom	10:00 A.M.
Maximum Recorded Temperature	118F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	JEFF LAWLER / BRIAN KARLIN

CHLORIDES 11,000 PPM

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

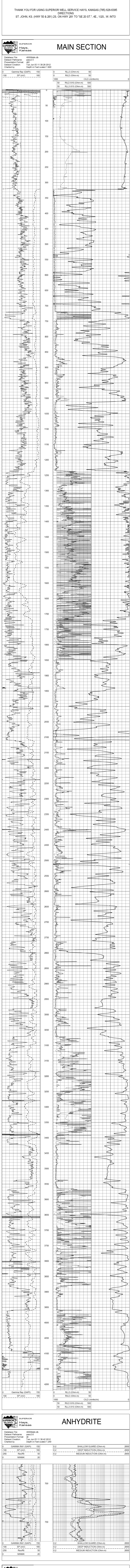
THANK YOU FOR USING SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395
DIRECTIONS
ST. JOHN, KS. (HWY 50 & 281) 2S. ON HWY 281 TO "SE 20 ST.", 4E., 1/2S., W. INTO

SUPERIOR Hays, Kansas

MAIN SECTION

Database File: 40936ddn.db
Dataset Pathname: pass3.5
Presentation Format: dil2
Dataset Creation: Tue Jun 05 11:38:28 2012
Charted by: Depth in Feet scaled 1:600

0 Gamma Ray (GAPI) 150
-100 SP (mV) 100
0 RLL3 (Ohm-m) 50
0 RILD (Ohm-m) 50
1000 CILD (mmho/m) 0
50 RILD X10 (Ohm-m) 500
50 RLL3 X10 (Ohm-m) 500



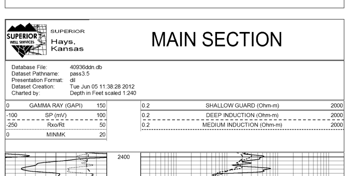
0 Gamma Ray (GAPI) 150
-100 SP (mV) 100
0 RLL3 (Ohm-m) 50
0 RILD (Ohm-m) 50
1000 CILD (mmho/m) 0
50 RILD X10 (Ohm-m) 500
50 RLL3 X10 (Ohm-m) 500

SUPERIOR Hays, Kansas

ANHYDRITE

Database File: 40936ddn.db
Dataset Pathname: pass3.6
Presentation Format: dil
Dataset Creation: Tue Jun 05 11:38:42 2012
Charted by: Depth in Feet scaled 1:240

0 GAMMA RAY (GAPI) 150
-100 SP (mV) 100
-250 Rxo/Rt 50
0 MINMK 20
0.2 SHALLOW GUARD (Ohm-m) 2000
0.2 DEEP INDUCTION (Ohm-m) 2000
0.2 MEDIUM INDUCTION (Ohm-m) 2000



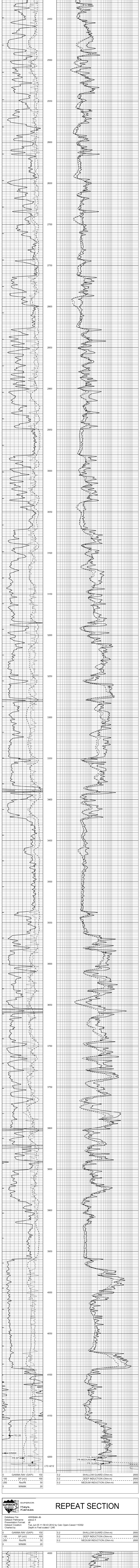
0 GAMMA RAY (GAPI) 150
-100 SP (mV) 100
-250 Rxo/Rt 50
0 MINMK 20
0.2 SHALLOW GUARD (Ohm-m) 2000
0.2 DEEP INDUCTION (Ohm-m) 2000
0.2 MEDIUM INDUCTION (Ohm-m) 2000

SUPERIOR Hays, Kansas

MAIN SECTION

Database File: 40936ddn.db
Dataset Pathname: pass3.5
Presentation Format: dil
Dataset Creation: Tue Jun 05 11:38:28 2012
Charted by: Depth in Feet scaled 1:240

0 GAMMA RAY (GAPI) 150
-100 SP (mV) 100
-250 Rxo/Rt 50
0 MINMK 20
0.2 SHALLOW GUARD (Ohm-m) 2000
0.2 DEEP INDUCTION (Ohm-m) 2000
0.2 MEDIUM INDUCTION (Ohm-m) 2000



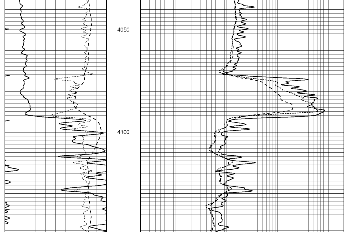
0 GAMMA RAY (GAPI) 150
-100 SP (mV) 100
-250 Rxo/Rt 50
0 MINMK 20
0.2 SHALLOW GUARD (Ohm-m) 2000
0.2 DEEP INDUCTION (Ohm-m) 2000
0.2 MEDIUM INDUCTION (Ohm-m) 2000

SUPERIOR Hays, Kansas

REPEAT SECTION

Database File: 40936ddn.db
Dataset Pathname: pass2.4
Presentation Format: dil
Dataset Creation: Tue Jun 05 11:58:43 2012 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

0 GAMMA RAY (GAPI) 150
-100 SP (mV) 100
-250 Rxo/Rt 50
0 MINMK 20
0.2 SHALLOW GUARD (Ohm-m) 2000
0.2 DEEP INDUCTION (Ohm-m) 2000
0.2 MEDIUM INDUCTION (Ohm-m) 2000



0 GAMMA RAY (GAPI) 150
-100 SP (mV) 100
-250 Rxo/Rt 50
0 MINMK 20
0.2 SHALLOW GUARD (Ohm-m) 2000
0.2 DEEP INDUCTION (Ohm-m) 2000
0.2 MEDIUM INDUCTION (Ohm-m) 2000

Calibration Report

Database File: 40936ddn.db
Dataset Pathname: pass3.5
Dataset Creation: Tue Jun 05 11:38:28 2012

Dual Induction Calibration Report

Serial-Model: DIL4-GEAR
Performed: Mon Jun 04 21:27:04 2012

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.008	0.666	V	0.000	400.000	mmho/m	570.000	-3.000
Medium	-0.003	0.769	V	0.000	462.500	mmho/m	560.000	-4.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.013	0.651	V	0.000	400.000	mmho/m	627.541	-8.365
Medium	0.020	0.754	V	0.000	462.500	mmho/m	630.311	-12.549

Litho Density Calibration Report

Serial: 003N Model: PRB
Performed Tue Sep 08 14:14:44 2009

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	2042.6	12312.8	4225.8	13758.4	cps
Window 2	1855.8	10134.7	3624.2	11113.1	cps
Window 3	1639.4	6760.2	2716.3	7260.3	cps
Window 4	466.4	469.2	466.1	476.5	cps
Long Space	0.0	8278.9	1768.4	9257.4	cps
Short Space	2.2	2377.3	1544.1	2574.2	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	

Rib Angle	: 44.4	Rib Slope	: 0.979	Density/Spine Ratio	: 0.549
Spine Angle	: 74.4	Spine Slope	: 3.577	Spine Intercept	: -18.8

Caliper

	Readings	Reference
Low Ref	3.4	7.9
High Ref	5.5	15.0
	Gain: 3.4	Offset: -3.5

Compensated Neutron Calibration Report

Serial Number: 070808
Tool Model: Probe

PRE-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

POST-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	070559	
Tool Model:	OPEN_GR	
Performed:	Mon Jun 04 21:26:51 2012	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.3000	GAPI/cps

Company	CHESAPEAKE OPERATING, LLC
Well	SCHMIDT 1-34H
Field	CLAB SOUTHEAST
County	STANTON
State	KANSAS
API #	15-187-21127-00-00
Location	330' FSL & 330' FEL
Sec	34
Twp	29S
Rge	41W
Elevation	KB 3319 GL 3304
Spud Date	10/24/2012
Date	10/31/2012
Time	08:00
Depth	5800
Max Recorded Temp	124
Equipment	7875
Operator	BRIAN, BRANDON

Weatherford Laboratories

WDSD
CDL
DSI
DSN
Gamma Ray
Temperature

Comments

Thank you for using Superior Well Service!

Customer Service: 1-800-299-0474

Disclaimer

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made or any conclusion or recommendation founded thereon. All measurements are approximate. Measurements are taken from measuring devices and are not to be construed as absolute measurements.

Comments

THANK YOU FOR USING SUPERIOR WELL SERVICE HAYS, KANSAS (785) 625-5305
SCHMIDT 1-34H
ST. JOHN, KS. (HWY 50 & 281) EL. ON HWY 281 TO 160 (8.5ST.), 4E., 1(S)., W. INTO

MAIN SECTION

Superior Well Services
Hays, Kansas

Database File: 40X80db.db
Dataset Name: main
Created: Tue Jan 08 15:25:50 2013
Digitized by: Crew 2 on Tue Oct 30 07:00 2012

Logging Run	Bit	From	To
CALIPER (in)	7875	0	5800

Scale	Type	Color	Width
50.0 (in/in)	Linear	Black	1

Scale	Type	Color	Width
50.0 (in/in)	Linear	Black	1

REPEAT SECTION

Superior Well Services
Hays, Kansas

Database File: 40X80db.db
Dataset Name: repeat
Created: Tue Jan 08 15:25:50 2013
Digitized by: Crew 2 on Tue Oct 30 07:00 2012

Logging Run	Bit	From	To
CALIPER (in)	7875	4800	5800

Scale	Type	Color	Width
50.0 (in/in)	Linear	Black	1

Scale	Type	Color	Width
50.0 (in/in)	Linear	Black	1

Calibration Report

Database File	40X80db.db
Calibration Date	10/30/2012
Calibration Time	07:00:00

BHCRC Calibration Report

Serial Number	3412BHC	
Calibration Date	10/30/2012	
Performed	Tue Jan 08 15:17:20 2013	
Caliper Calibration	Open in Dirt	Offset in Gate
	0.00 in	0.00 in
Reference	7.875 in	7.875 in
Measured	7.875 in	7.875 in
1-D Calibration	Offset in Gate	Offset in Mill
Reference	Low 0.00	High 24.00
Measured	0.000	24.000
2-D Calibration	Open 0.00	Offset 0.000
Reference	Low 0.00	High 0.00
Measured	0.000	0.000

Gamma Ray Calibration Report

Serial Number	1446	
Calibration Date	10/30/2012	
Performed	Tue Jan 08 15:17:18 2013	
Calibrator Value	48.0	API
Background Reading	0.0	API
Calibrator Reading	48.0	API
Sensitivity	0.0000	API/Count

SUPERIOR WELL SERVICES

SUPERIOR Hays, Kansas

COMPENSATED DENSITY / NEUTRON LOG

Company	CAERUS KANSAS, LLC.
Well	FRITZEMEIER #31-32
Field	CLINE SOUTHEAST
County	STAFFORD
State	KANSAS

Company CAERUS KANSAS, LLC.
Well FRITZEMEIER #31-32
Field CLINE SOUTHEAST
County STAFFORD State KANSAS

Location: API #: 15-185-23752-0000
2310' FNL & 1425' FEL
E/2 - SE - SW - NE
SEC 31 TWP 24S RGE 12W

Other Services: DIL/MEL, SONIC

Permanent Datum: GROUND LEVEL — Elevation 1900
Log Measured From: KELLY BUSHING 13' A.G.L.
Drilling Measured From: KELLY BUSHING

Elevation: K.B. 1913, D.F. 1911, G.L. 1900

Date	6/5/12	
Run Number	ONE	
Depth Driller	4225	
Depth Logger	4212	
Bottom Logged Interval	4188	
Top Log Interval	2400	
Casing Driller	8 5/8"@321'	
Casing Logger	322	
Bit Size	7 7/8"	
Type Fluid in Hole	CHEMICAL MUD	CHLOROIDES 11,000 PPM
Density / Viscosity	9.0/58	
pH / Fluid Loss	11.0/9.6	
Source of Sample	FLOWLINE	
Rm @ Meas. Temp	.950@92F	
Rmf @ Meas. Temp	.713@92F	
Rmc @ Meas. Temp	1.14@92F	
Source of Rmf / Rmc	MEASUREMENT	
Rm @ BHT	.741@118F	
Time Circulation Stopped	2.5 HOURS	
Time Logger on Bottom	10:00 A.M.	
Maximum Recorded Temperature	118F	
Equipment Number	4010	
Location	HAYS, KANSAS	
Recorded By	JEFF LUEBBERS	
Witnessed By	JEFF LAWLER	BRIAN KARLIN

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

THANK YOU FOR USING SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395
DIRECTIONS
ST. JOHN, KS. (HWY 50 & 281) 2S. ON HWY 281 TO "SE 20 ST.", 4E., 1/2S., W. INTO

SUPERIOR WELL SERVICES — SUPERIOR Hays, Kansas

MAIN SECTION

Database File: 40936ddn.db
Dataset Pathname: pass3.5
Presentation Format: den_neu
Dataset Creation: Tue Jun 05 11:38:28 2012
Charted by: Depth in Feet scaled 1:240

0 GAMMA RAY (GAPI) 150	ABHV	30 COMPENSATED DENSITY (pu) -10
6 CALIPER (in) 16	10 (ft3) 0	30 COMPENSATED NEUTRON (pu) -10
0 MINMK 20	TBHV	-0.25 CORRECTION (g/cc) 0.25
	0 (ft3) 10	

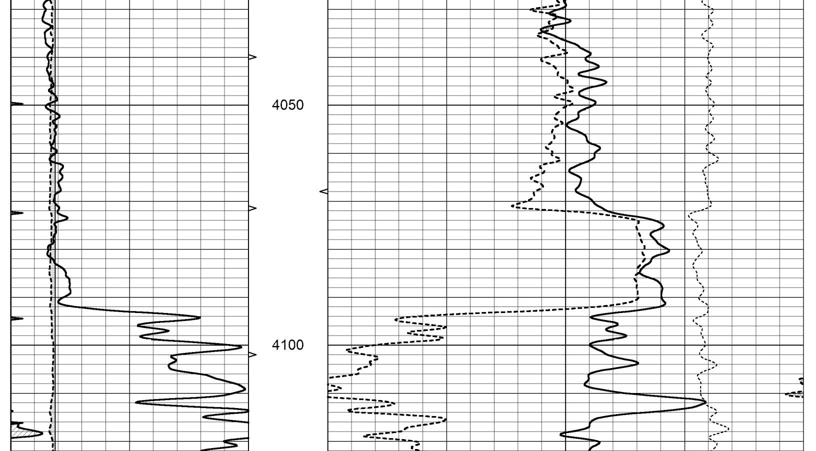
0 GAMMA RAY (GAPI) 150	ABHV	30 COMPENSATED DENSITY (pu) -10
6 CALIPER (in) 16	10 (ft3) 0	30 COMPENSATED NEUTRON (pu) -10
0 MINMK 20	TBHV	-0.25 CORRECTION (g/cc) 0.25
	0 (ft3) 10	

SUPERIOR WELL SERVICES — SUPERIOR Hays, Kansas

REPEAT SECTION

Database File: 40936ddn.db
Dataset Pathname: pass2.4
Presentation Format: den_neu
Dataset Creation: Tue Jun 05 11:58:43 2012 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

0 GAMMA RAY (GAPI) 150	ABHV	30 COMPENSATED DENSITY (pu) -10
6 CALIPER (in) 16	10 (ft3) 0	30 COMPENSATED NEUTRON (pu) -10
0 MINMK 20	TBHV	-0.25 CORRECTION (g/cc) 0.25
	0 (ft3) 10	



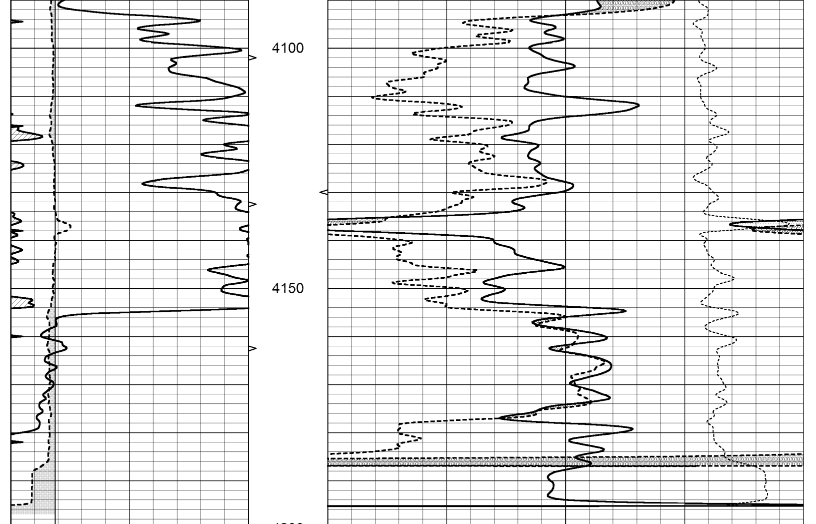
0 GAMMA RAY (GAPI) 150	ABHV	30 COMPENSATED DENSITY (pu) -10
6 CALIPER (in) 16	10 (ft3) 0	30 COMPENSATED NEUTRON (pu) -10
0 MINMK 20	TBHV	-0.25 CORRECTION (g/cc) 0.25
	0 (ft3) 10	

SUPERIOR WELL SERVICES — SUPERIOR Hays, Kansas

DOLOMITE MATRIX

Database File: 40936ddn.db
Dataset Pathname: pass2.3
Presentation Format: den_neu
Dataset Creation: Tue Jun 05 10:14:12 2012
Charted by: Depth in Feet scaled 1:240

0 GAMMA RAY (GAPI) 150	ABHV	30 COMPENSATED DENSITY (pu) -10
6 CALIPER (in) 16	10 (ft3) 0	30 COMPENSATED NEUTRON (pu) -10
0 MINMK 20	TBHV	-0.25 CORRECTION (g/cc) 0.25
	0 (ft3) 10	



0 GAMMA RAY (GAPI) 150	ABHV	30 COMPENSATED DENSITY (pu) -10
6 CALIPER (in) 16	10 (ft3) 0	30 COMPENSATED NEUTRON (pu) -10
0 MINMK 20	TBHV	-0.25 CORRECTION (g/cc) 0.25
	0 (ft3) 10	

Calibration Report

Database File: 40936ddn.db
Dataset Pathname: pass3.5
Dataset Creation: Tue Jun 05 11:38:28 2012

Dual Induction Calibration Report

Serial-Model: DIL4-GEAR
Performed: Mon Jun 04 21:27:04 2012

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.008	0.666	V	0.000	400.000	mmho/m	570.000	-3.000
Medium	-0.003	0.769	V	0.000	462.500	mmho/m	560.000	-4.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.013	0.651	V	0.000	400.000	mmho/m	627.541	-8.365
Medium	0.020	0.754	V	0.000	462.500	mmho/m	630.311	-12.549

Litho Density Calibration Report

Serial: 003N Model: PRB
Performed Tue Sep 08 14:14:44 2009

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	2042.6	12312.8	4225.8	13758.4	cps
Window 2	1855.8	10134.7	3624.2	11113.1	cps
Window 3	1639.4	6760.2	2716.3	7260.3	cps
Window 4	466.4	469.2	466.1	476.5	cps
Long Space	0.0	8278.9	1768.4	9257.4	cps
Short Space	2.2	2377.3	1544.1	2574.2	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	

Rib Angle : 44.4 Rib Slope : 0.979 Density/Spine Ratio : 0.549
Spine Angle : 74.4 Spine Slope : 3.577 Spine Intercept : -18.8

Caliper

	Readings	Reference
Low Ref	3.4	7.9
High Ref	5.5	15.0

Gain: 3.4 Offset: -3.5

Compensated Neutron Calibration Report

Serial Number: 070808
Tool Model: Probe

PRE-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

POST-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number: 070559
Tool Model: OPEN_GR
Performed: Mon Jun 04 21:26:51 2012

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.3000 GAPI/cps

Scale 1:240 Imperial

Well Name:	FRITZEMEIER #31-32		
Surface Location:	E2 SE SW NE 31-24S-12W		
Bottom Location:			
API:	15-185-23752-0000		
License Number:	34110		
Spud Date:	5/17/2012	Time:	3:34 PM
Region:	STAFFORD		
Drilling Completed:	2/2/2011	Time:	5:50 PM
Surface Coordinates:	2310' FNL & 1425' FEL		
Bottom Hole Coordinates:			
Ground Elevation:	1900.00ft		
K.B. Elevation:	1913.00ft		
Logged Interval:	0.00ft	To:	0.00ft
Total Depth:	0.00ft		
Formation:			
Drilling Fluid Type:	FRESH WATER/CHEMICAL GEL		

OPERATOR

Company:	CAERUS KANSAS, LLC		
Address:	P.O. BOX 1378 HAYS, KS 67601		
Contact Geologist:	BRIAN KARLIN		
Contact Phone Nbr:	(785) 623-3290		
Well Name:	FRITZEMEIER #31-32		
Location:	E2 SE SW NE 31-24S-12W	API:	15-185-23752-0000
Pool:		Field:	CLINE SOUTHEAST
State:	KANSAS	Country:	USA

SURFACE CO-ORDINATES

Well Type:	Vertical		
Longitude:	-98.6778154	Latitude:	37.9199663
N/S Co-ord:	2310' FNL		
E/W Co-ord:	1425' FEL		

LOGGED BY

Company:	SOLUTIONS CONSULTING		
Address:	108 W 35TH HAYS, KS 67601		
Phone Nbr:	(785) 259-3737		
Logged By:	Geologist	Name:	JEFF LAWLER

CONTRACTOR

Contractor:	NINNESCAH DRILLING, LLC		
Rig #:	101		
Rig Type:	MUD ROTARY		
Spud Date:	5/17/2012	Time:	3:34 PM
TD Date:	2/2/2011	Time:	5:50 PM
Rig Release:		Time:	

ELEVATIONS

K.B. Elevation:	1913.00ft	Ground Elevation:	1900.00ft
K.B. to Ground:	13.00ft		

NOTES

WELL COMPARISON SHEET

	FRITZEMEIER #31-32						¤						¤						•						¤					
							F & M OIL						TRANS PACIFIC OIL CO.						MCCOY PETROLEUM CORP.						AM. DISCOVERY ENERGY					
							JENKINS #1						JENKINS #1						KIRKPATRICK A #1						ADE #1					
							NW SE NE 31-24-12						SW SW NE 31-24-12						SE SE NW 31-24-12						NW SW NE 31-24-12					
	KB		1913				KB		1906				KB		1910				KB		1914				KB		1910			
	LOG TOPS		SAMPLE TOPS		PROG. TOPS		COMPL. CARD		LOG		SMPL.		DATA SOURCE		LOG		SMPL.		DATA SOURCE		LOG		SMPL.		DATA SOURCE		LOG		SMPL.	
FORMATION	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.		CORR.		DEPTH	DATUM	CORR.		CORR.		DEPTH	DATUM	CORR.		CORR.		DEPTH	DATUM	CORR.		CORR.	
ANHYDRITE TOP			732	1181	733	1180	725	1181			+	0	719	1191			-	10							727	1183			-	2
BASE							742	1164					711	1199											740	1170				
HOWARD			2985	-1072	2973	-1060							2980	-1070			-	2							2980	-1070			-	2
TOPEKA			3080	-1167									3068	-1158			-	9							3069	-1159			-	8
OREAD																														
HEEBNER SHALE			3395	-1482	3379	-1466	3380	-1474			-	8	3382	-1472			-	10	3380	-1466			-	16	3382	-1472			-	10
TORONTO			3411	-1498									3395	-1485			-	13							3398	-1488			-	10
DOUGLAS			3435	-1522			3417	-1511			-	11	3421	-1511			-	11	3418	-1504			-	18	3421	-1511			-	11
BROWN LIME			3543	-1630			3532	-1626			-	4	3534	-1624			-	6	3530	-1616			-	14	3533	-1623			-	7
LKC			3570	-1657	3561	-1648	3562	-1656			-	1	3564	-1654			-	3	3560	-1646			-	11	3562	-1652			-	5
BKC			3850	-1937	3837	-1924	3835	-1929			-	8	3838	-1928			-	9	3836	-1922			-	15	3840	-1930			-	7
MARMATON			3856	-1943									3850	-1940			-	3	3848	-1934			-	9	3849	-1939			-	4
MISSISSIPIAN																														
VIOLA					3958	-2045	3960	-2054					3962	-2052					3958	-2044					3961	-2051				
SIMPSON SHALE					4091	-2178	4091	-2185					4092	-2182					4087	-2173					4095	-2185				
ARBUCKLE					4144	-2231	4156	-2250					4150	-2240					4146	-2232					4160	-2250				
RTD					4194	-2281	4180	-2274					4160	-2250					4210	-2296					4225	-2315				
LTD							4180	-2274											4210	-2296					4225	-2315				

DST #1 LKC "A-B"

SUPERIOR ENTERPRISES LLC TESTERS

DRILL STEM TEST REPORT

Caerus Kansas LLC

P.O.Box 1378 Hays,Kansas
67601+3974

ATTN: Jeff Lawler

31/24S/12W Stafford Co.

Fritzemeier #31-32

Job Ticket: 17350 **DST#: 1**

Test Start: 2012.06.01 @ 09:45:00

GENERAL INFORMATION:

Formation: **Lansing A -D**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:11:23
Time Test Ended: 19:26:23

Interval: 3546.00 ft (KB) To 3614.00 ft (KB) (TVD)
Total Depth: 3614.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

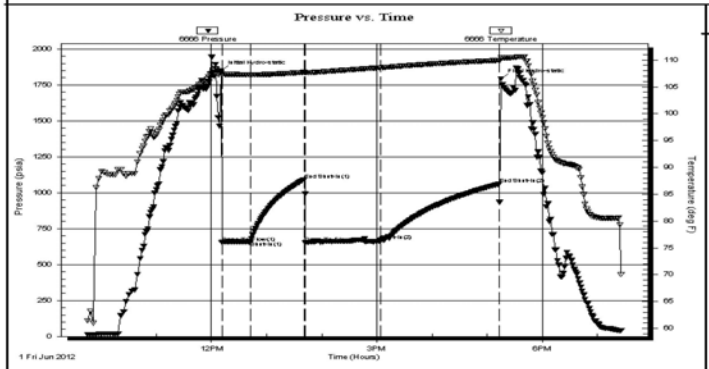
Test Type: Conventional Bottom Hole (Initial)
Tester: Dylan E Ellis
Unit No: 3345/Great Bend/86

Reference Elevations: 1913.00 ft (KB)
1900.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 6666 **Outside**
Press@RunDepth: 666.11 psia @ 3610.50 ft (KB)
Start Date: 2012.06.01 End Date: 2012.06.01
Start Time: 09:45:00 End Time: 19:26:23

Capacity: 5000.00 psia
Last Calib.: 2012.06.01
Time On Btm: 2012.06.01 @ 12:10:23
Time Off Btm: 2012.06.01 @ 17:14:53

TEST COMMENT:
1ST Opening 30 Minutes blow blew to 5 inches into the bucket/didnt w eaken or get stronger
1ST Shut-In 60 Minutes no blow back
2ND Opening 90 Minutes opened tool/blow dead/flushed tool/ good surge/no help/dead
2ND Shut-In 120 Minutes no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1850.75	107.65	Initial Hydro-static
1	654.27	107.38	Open To Flow (1)
32	663.02	107.24	Shut-In(1)
91	1092.17	107.69	End Shut-In(1)
92	653.11	107.61	Open To Flow (2)
174	666.11	108.56	Shut-In(2)
303	1060.24	109.93	End Shut-In(2)
305	1792.84	110.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1000.00	Very Light Oil spotted Mud	14.03

Gas Rates

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

DST #2 LKC "A-B"

DRILL STEM TEST REPORT

Caerus Kansas LLC
P.O.Box 1378 Hays,Kansas
67601+3974
ATTN: Jeff Lawler

31/24S/12W Stafford Co.
Fritzemeier #31-32
Job Ticket: 17726 **DST#: 2**
Test Start: 2012.06.01 @ 09:20:00

GENERAL INFORMATION:

Formation: **Lansing A-D**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:18:00
Time Test Ended: 18:28:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Dylan E Ellis
Unit No: 3345/Great Bend/86

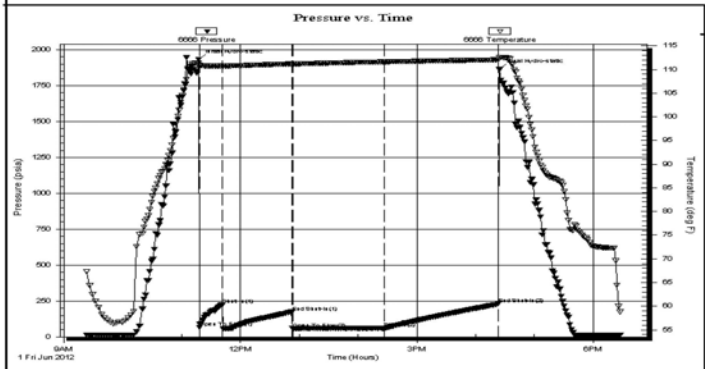
Interval: 3552.00 ft (KB) To 3614.00 ft (KB) (TVD)
Total Depth: 3614.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1913.00 ft (KB)
1900.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 6666 **Outside**
Press@RunDepth: 60.50 psia @ 3610.50 ft (KB)
Start Date: 2012.06.01 End Date: 2012.06.01
Start Time: 09:20:00 End Time: 18:28:00

Capacity: 5000.00 psia
Last Calib.: 2012.06.02
Time On Btm: 2012.06.01 @ 11:17:00
Time Off Btm: 2012.06.01 @ 16:24:30

TEST COMMENT:
1ST Opening 30 Minutes weak blow /blow blew 1 inch into bucket of water
1ST Shut-In 60 Minutes no blow back
2ND Opening 90 Minutes steady building blow /blow blew 10 inches into bucket
2ND Shut-In 120 Minutes no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1932.78	111.42	Initial Hydro-static
1	64.78	110.56	Open To Flow (1)
25	225.85	110.77	Shut-In(1)
95	174.55	111.20	End Shut-In(1)
97	57.76	111.18	Open To Flow (2)
190	60.50	111.62	Shut-In(2)
306	228.50	112.05	End Shut-In(2)
308	1863.37	112.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud 100%	0.21

Gas Rates

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

DST #3 LKC "H-I"

DRILL STEM TEST REPORT

Caerus Kansas LLC
P.O.Box 1378 Hays,Kansas
67601+3974
ATTN: Jeff Lawler

31/24S/12W Stafford Co.
Fritzemeier #31-32
Job Ticket: 17727 **DST#: 3**
Test Start: 2012.06.02 @ 23:07:00

GENERAL INFORMATION:

Formation: **Lansing/Kansas City**

Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:04:00
Time Test Ended: 08:19:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 3345 Great Bend/86

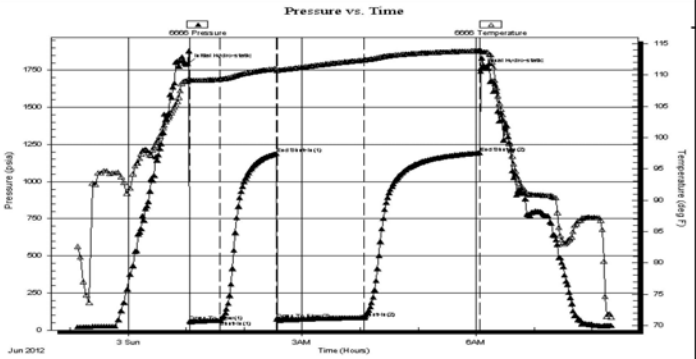
Interval: 3729.00 ft (KB) To 3776.00 ft (KB) (TVD)
Total Depth: 3776.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1913.00 ft (KB)
1900.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 6666 **Outside**

Press@RunDepth:	84.65 psia @	3772.00 ft (KB)		Capacity:	5000.00 psia
Start Date:	2012.06.02	End Date:	2012.06.03	Last Calib.:	2012.06.03
Start Time:	23:07:00	End Time:	08:19:30	Time On Btm:	2012.06.03 @ 01:01:30
				Time Off Btm:	2012.06.03 @ 06:05:00

TEST COMMENT:
1ST Open 30 Minutes/Fair blow /Blow built to 6 inches in bucket of water
1ST Shut In 60 Minutes/No blow back
2ND Open 90 Minutes/Good blow /Blow built to bottom of bucket in 49 minutes
2ND Shut In 120 Minutes/No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1794.16	108.90	Initial Hydro-static
3	58.49	109.21	Open To Flow (1)
34	65.61	109.32	Shut-In(1)
92	1188.55	111.01	End Shut-In(1)
93	74.48	110.73	Open To Flow (2)
182	84.65	112.38	Shut-In(2)
302	1193.58	113.87	End Shut-In(2)
304	1761.38	113.78	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
25.00	Slightly oil cut mud	0.37
0.00	Oil 10% Mud 90%	0.00
60.00	Slightly oil cut watery mud	0.88
0.00	Oil 5% Water 35% Mud 60%	0.00
0.00	240 feet of gas in pipe	0.00
0.00	Recovery Chlorides 35.000 ppm	0.00

Gas Rates

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

Superior Testers Enterprises LLC Ref. No: 17727 Printed: 2012.06.03 @ 06:42:38

DST #4 LKC "J-K"

SUPERIOR ENTERPRISES LLC TESTERS

DRILL STEM TEST REPORT

Caerus Kansas LLC
P.O.Box 1378 Hays,Kansas
67601+3974
ATTN: Jeff Lawler

31/24S/12W Stafford Co.
Fritzemeier #31-32
Job Ticket: 17728 **DST#: 4**
Test Start: 2012.06.03 @ 17:21:00

GENERAL INFORMATION:

Formation: **Lansing/Kansas City**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:55:30
Time Test Ended: 22:55:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 3345 Great Bend/86

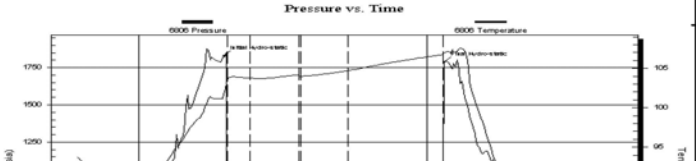
Interval: 3766.00 ft (KB) To 3826.00 ft (KB) (TVD)
Total Depth: 3826.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1913.00 ft (KB)
1900.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 6806 **Inside**

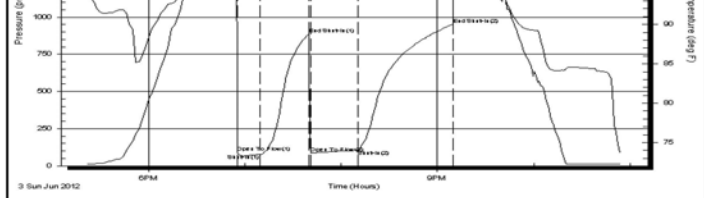
Press@RunDepth:	104.84 psia @	3821.90 ft (KB)		Capacity:	5000.00 psia
Start Date:	2012.06.03	End Date:	2012.06.03	Last Calib.:	2012.06.03
Start Time:	17:21:00	End Time:	22:55:00	Time On Btm:	2012.06.03 @ 18:53:00
				Time Off Btm:	2012.06.03 @ 21:10:30

TEST COMMENT:
1ST Open 15 Minutes/Good blow /Blow built to 12 inches in bucket of water
1ST Shut In 30 Minutes/No blow back
2ND Open 30 Minutes/Good blow /Blow built to bottom of bucket in 22 minutes
2ND Shut In 60 Minutes/No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1829.54	101.76	Initial Hydro-static
3	89.86	103.54	Open To Flow (1)
17	77.67	103.77	Shut-In(1)
47	888.42	104.19	End Shut-In(1)
48	89.95	104.01	Open To Flow (2)



48	89.05	104.61	Open To Flow(2)
78	104.84	104.70	Shut-In(2)
137	952.74	106.75	End Shut-In(2)
138	1785.57	106.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	240 feet gas in pipe	0.00
60.00	Oil spotted Watery Mud	0.88
0.00	Oil 1% Water 39% Mud 60%	0.00
60.00	Oil spotted Mud	0.88
0.00	Oil 1% Mud 99%	0.00
0.00	Recovery Chlorides 30,000 ppm	0.00

Gas Rates

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

Superior Testers Enterprises LLC Ref. No: 17728 Printed: 2012.06.03 @ 21:21:06

ROCK TYPES

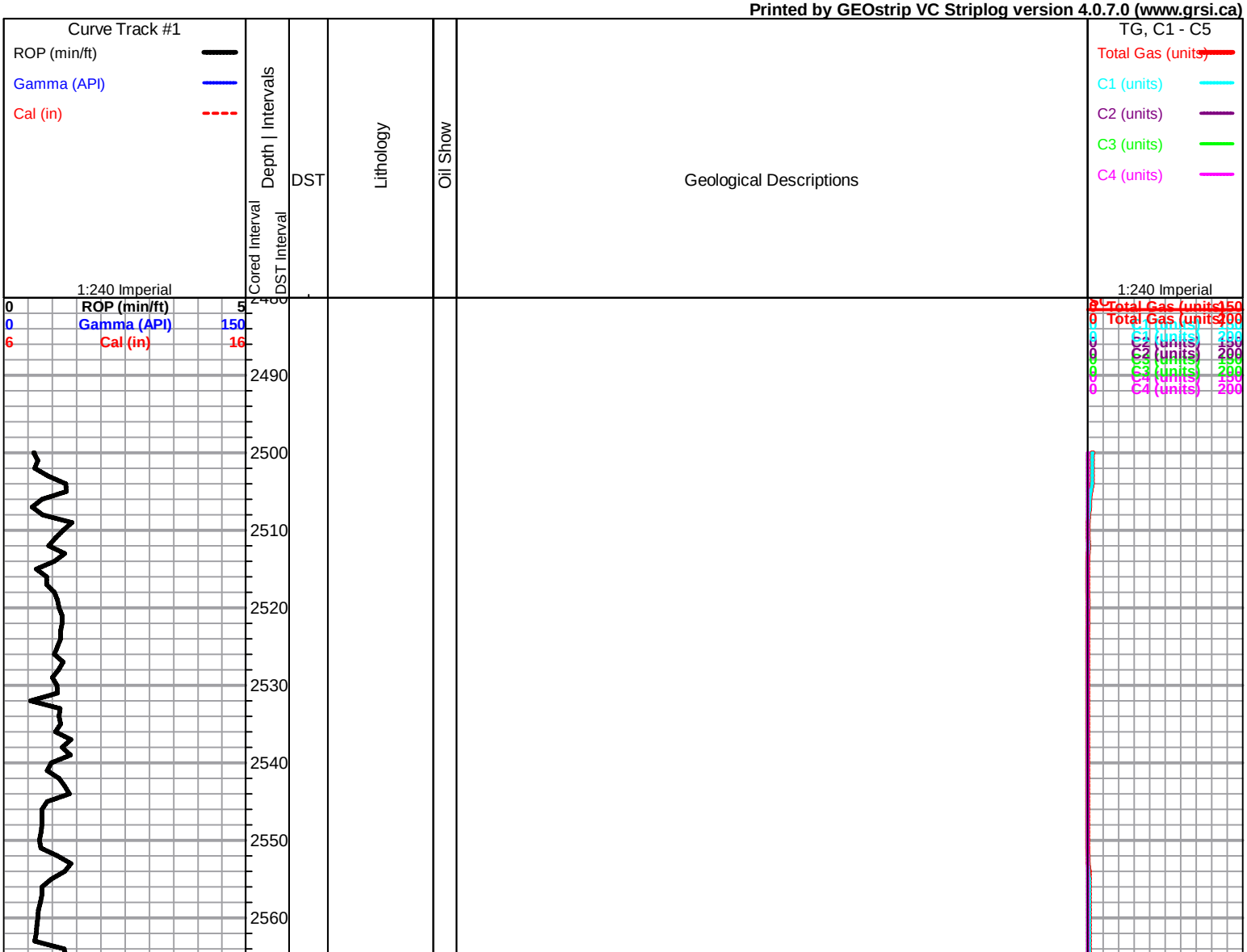
Lmst fw7> shale, gry Shblck Carbon Sh

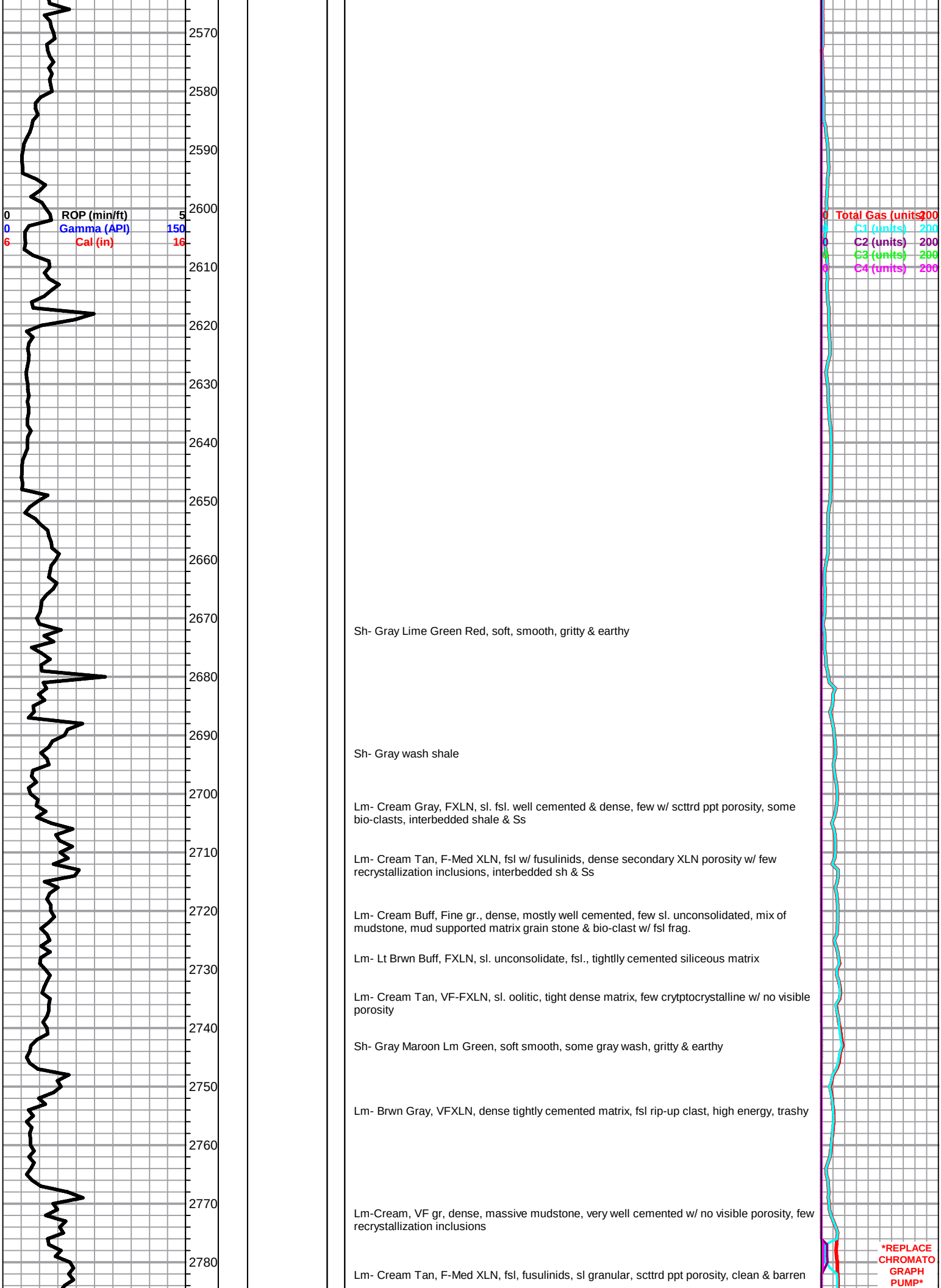
OTHER SYMBOLS

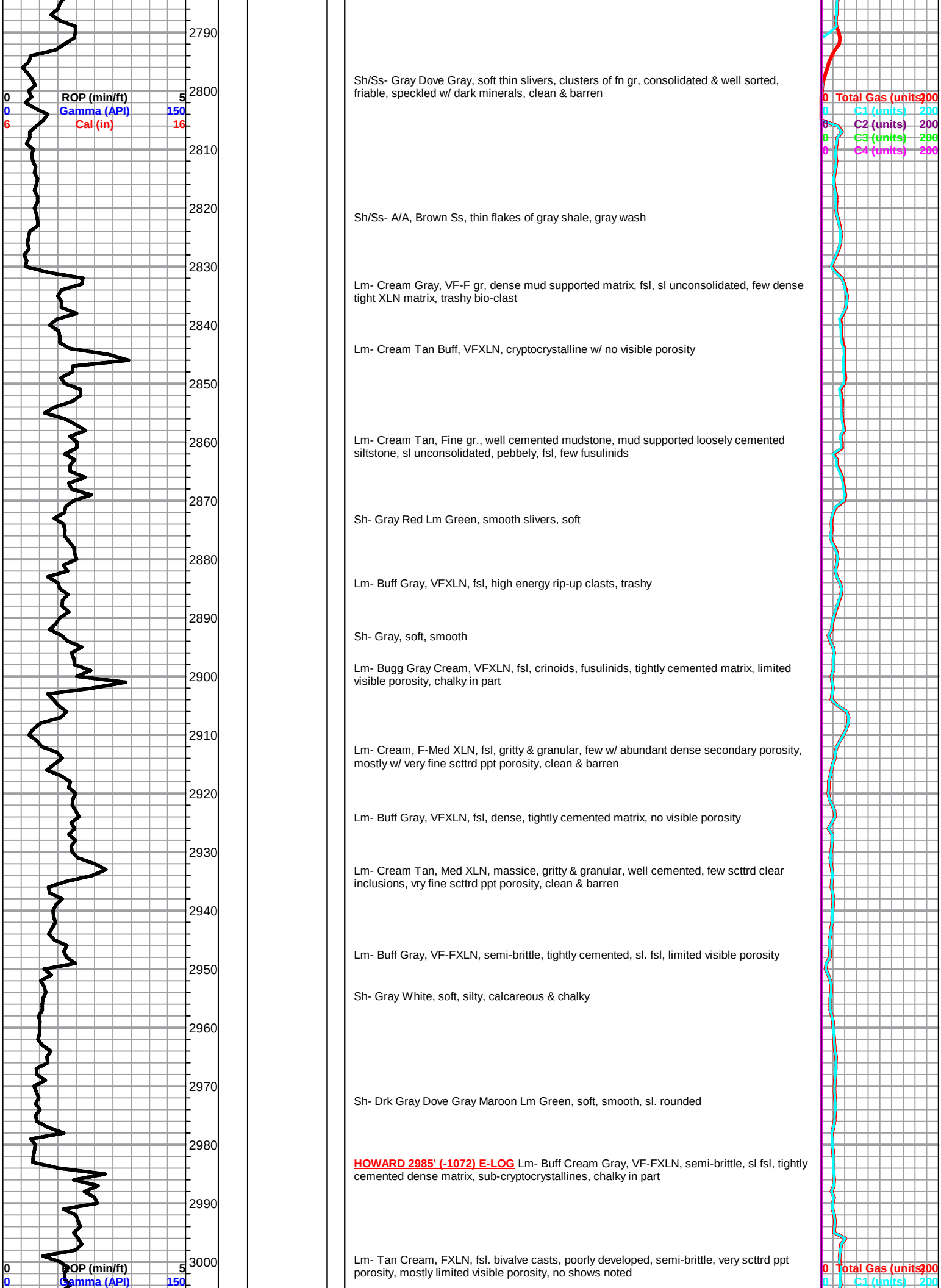
DST

- DST Int
- DST alt
- Core

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)




0 ROP (min/ft) 5
0 Gamma (API) 150
6 Cal (in) 16
0 Total Gas (units) 200
0 C1 (units) 200
0 C2 (units) 200
0 C3 (units) 200
0 C4 (units) 200
2570
2580
2590
2600
2610
2620
2630
2640
2650
2660
2670
2680
2690
2700
2710
2720
2730
2740
2750
2760
2770
2780
Sh- Gray Lime Green Red, soft, smooth, gritty & earthy
Sh- Gray wash shale
Lm- Cream Gray, FXLN, sl. fsl. well cemented & dense, few w/ scttrd ppt porosity, some bio-clasts, interbedded shale & Ss
Lm- Cream Tan, F-Med XLN, fsl w/ fusulinids, dense secondary XLN porosity w/ few recrystallization inclusions, interbedded sh & Ss
Lm- Cream Buff, Fine gr., dense, mostly well cemented, few sl. unconsolidated, mix of mudstone, mud supported matrix grain stone & bio-clast w/ fsl frag.
Lm- Lt Brwn Buff, FXLN, sl. unconsolidate, fsl., tightlly cemented siliceous matrix
Lm- Cream Tan, VF-FXLN, sl. oolitic, tight dense matrix, few crytptocrystalline w/ no visible porosity
Sh- Gray Maroon Lm Green, soft smooth, some gray wash, gritty & earthy
Lm- Brwn Gray, VFXLN, dense tightly cemented matrix, fsl rip-up clast, high energy, trashy
Lm-Cream, VF gr, dense, massive mudstone, very well cemented w/ no visible porosity, few recrystallization inclusions
Lm- Cream Tan, F-Med XLN, fsl, fusulinids, sl granular, scttrd ppt porosity, clean & barren
REPLACE CHROMATO GRAPH PUMP



Sh/Ss- Gray Dove Gray, soft thin slivers, clusters of fn gr, consolidated & well sorted, friable, speckled w/ dark minerals, clean & barren

Sh/Ss- A/A, Brown Ss, thin flakes of gray shale, gray wash

Lm- Cream Gray, VF-F gr, dense mud supported matrix, fsl, sl unconsolidated, few dense tight XLN matrix, trashy bio-clast

Lm- Cream Tan Buff, VFXLN, cryptocrystalline w/ no visible porosity

Lm- Cream Tan, Fine gr., well cemented mudstone, mud supported loosely cemented siltstone, sl unconsolidated, pebbely, fsl, few fusulinids

Sh- Gray Red Lm Green, smooth slivers, soft

Lm- Buff Gray, VFXLN, fsl, high energy rip-up clasts, trashy

Sh- Gray, soft, smooth

Lm- Bugg Gray Cream, VFXLN, fsl, crinoids, fusulinids, tightly cemented matrix, limited visible porosity, chalky in part

Lm- Cream, F-Med XLN, fsl, gritty & granular, few w/ abundant dense secondary porosity, mostly w/ very fine scttrd ppt porosity, clean & barren

Lm- Buff Gray, VFXLN, fsl, dense, tightly cemented matrix, no visible porosity

Lm- Cream Tan, Med XLN, massice, gritty & granular, well cemented, few scttrd clear inclusions, vry fine scttrd ppt porosity, clean & barren

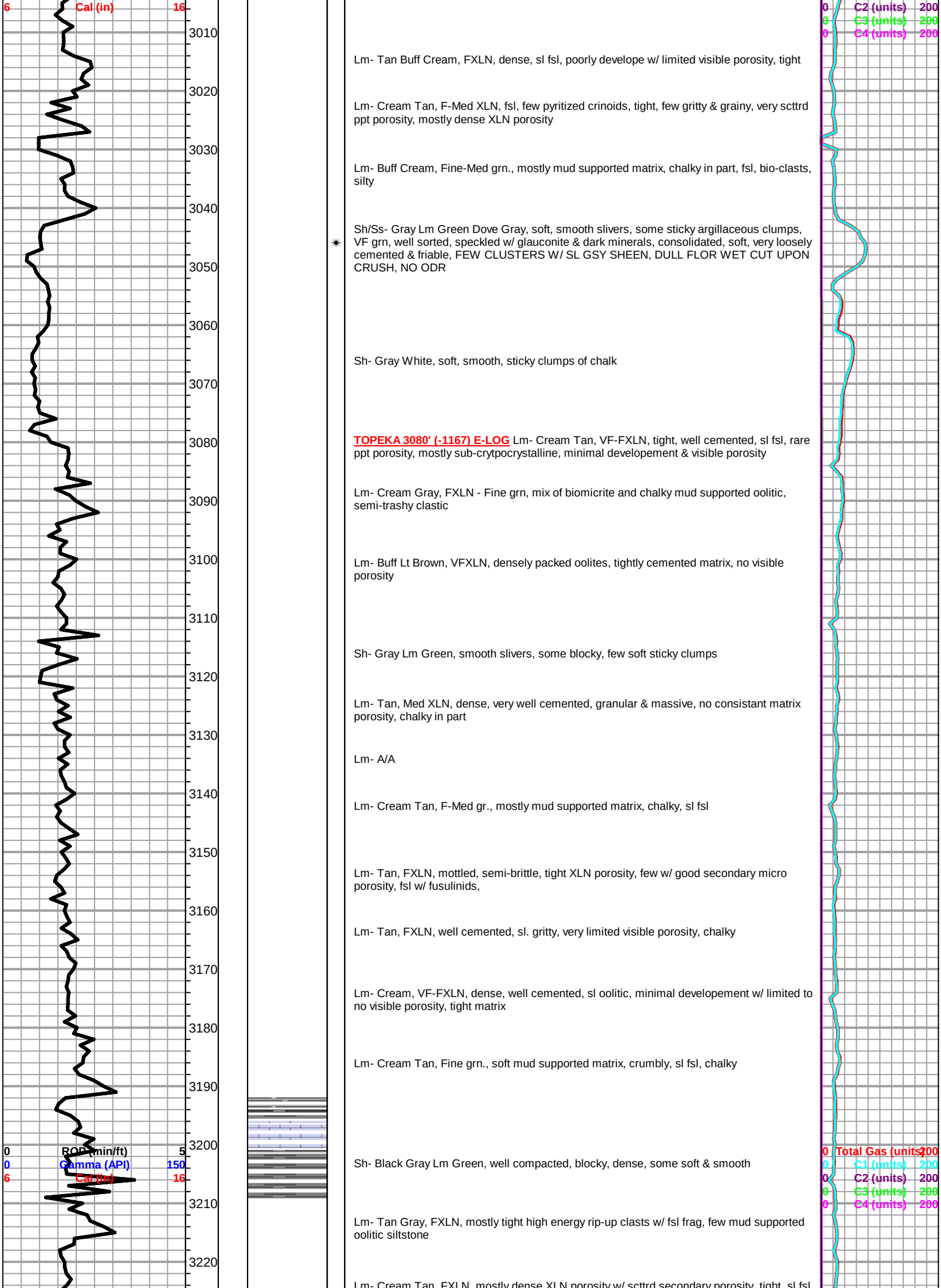
Lm- Buff Gray, VF-FXLN, semi-brittle, tightly cemented, sl. fsl, limited visible porosity

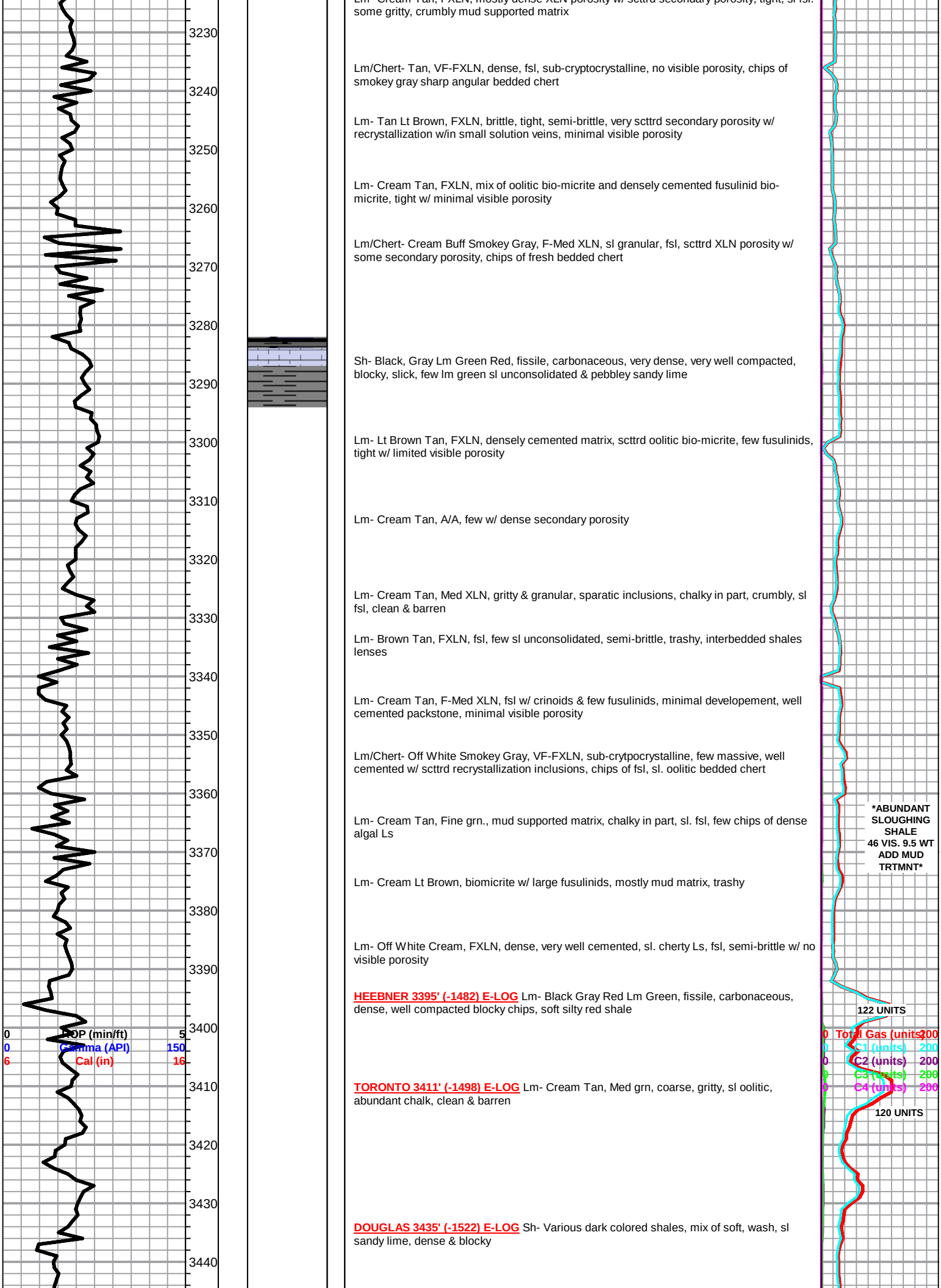
Sh- Gray White, soft, silty, calcareous & chalky

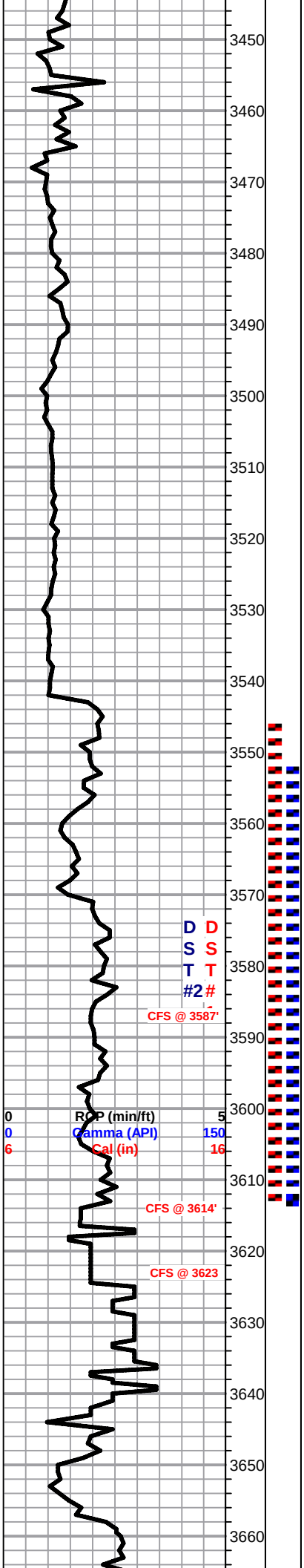
Sh- Drk Gray Dove Gray Maroon Lm Green, soft, smooth, sl. rounded

HOWARD 2985' (-1072) E-LOG Lm- Buff Cream Gray, VF-FXLN, semi-brittle, sl fsl, tightly cemented dense matrix, sub-cryptocrystallines, chalky in part

Lm- Tan Cream, FXLN, fsl. bivalve casts, poorly developed, semi-brittle, very scttrd ppt porosity, mostly limited visible porosity, no shows noted


6 Cal (in) 16
0 ROP (min/ft) 5
0 Gamma (API) 150
6 Cal (in) 16
0 C2 (units) 200
0 C3 (units) 200
0 C4 (units) 200
0 Total Gas (units) 200
0 C1 (units) 200
0 C2 (units) 200
0 C3 (units) 200
0 C4 (units) 200
3010
3020
3030
3040
3050
3060
3070
3080
3090
3100
3110
3120
3130
3140
3150
3160
3170
3180
3190
3200
3210
3220
Lm- Tan Buff Cream, FXLN, dense, sl fsl, poorly develope w/ limited visible porosity, tight
Lm- Cream Tan, F-Med XLN, fsl, few pyritized crinoids, tight, few gritty & grainy, very scttrd ppt porosity, mostly dense XLN porosity
Lm- Buff Cream, Fine-Med grn., mostly mud supported matrix, chalky in part, fsl, bio-clasts, silty
Sh/Ss- Gray Lm Green Dove Gray, soft, smooth slivers, some sticky argillaceous clumps, VF grn, well sorted, speckled w/ glauconite & dark minerals, consolidated, soft, very loosely cemented & friable, FEW CLUSTERS W/ SL GSY SHEEN, DULL FLOR WET CUT UPON CRUSH, NO ODR
Sh- Gray White, soft, smooth, sticky clumps of chalk
TOPEKA 3080' (-1167) E-LOG Lm- Cream Tan, VF-FXLN, tight, well cemented, sl fsl, rare ppt porosity, mostly sub-crytpocrystalline, minimal developement & visible porosity
Lm- Cream Gray, FXLN - Fine grn, mix of biomicrite and chalky mud supported oolitic, semi-trashy clastic
Lm- Buff Lt Brown, VFXLN, densely packed oolites, tightly cemented matrix, no visible porosity
Sh- Gray Lm Green, smooth slivers, some blocky, few soft sticky clumps
Lm- Tan, Med XLN, dense, very well cemented, granular & massive, no consistant matrix porosity, chalky in part
Lm- A/A
Lm- Cream Tan, F-Med gr., mostly mud supported matrix, chalky, sl fsl
Lm- Tan, FXLN, mottled, semi-brittle, tight XLN porosity, few w/ good secondary micro porosity, fsl w/ fusulinids,
Lm- Tan, FXLN, well cemented, sl. gritty, very limited visible porosity, chalky
Lm- Cream, VF-FXLN, dense, well cemented, sl oolitic, minimal developement w/ limited to no visible porosity, tight matrix
Lm- Cream Tan, Fine grn., soft mud supported matrix, crumbly, sl fsl, chalky
Sh- Black Gray Lm Green, well compacted, blocky, dense, some soft & smooth
Lm- Tan Gray, FXLN, mostly tight high energy rip-up clasts w/ fsl frag, few mud supported oolitic siltstone
Lm- Cream Tan, FXLN, mostly dense XLN porosity w/ scttrd secondary porosity, tight, sl fsl


3230
3240
3250
3260
3270
3280
3290
3300
3310
3320
3330
3340
3350
3360
3370
3380
3390
3400
3410
3420
3430
3440
0 ROP (min/ft) 5
0 Gamma (API) 150
6 Cal (in) 16
some gritty, crumbly mud supported matrix
Lm/Chert- Tan, VF-FXLN, dense, fsl, sub-cryptocrystalline, no visible porosity, chips of smokey gray sharp angular bedded chert
Lm- Tan Lt Brown, FXLN, brittle, tight, semi-brittle, very scttrd secondary porosity w/ recrystallization w/in small solution veins, minimal visible porosity
Lm- Cream Tan, FXLN, mix of oolitic bio-micrite and densely cemented fusulinid bio-micrite, tight w/ minimal visible porosity
Lm/Chert- Cream Buff Smokey Gray, F-Med XLN, sl granular, fsl, scttrd XLN porosity w/ some secondary porosity, chips of fresh bedded chert
Sh- Black, Gray Lm Green Red, fissile, carbonaceous, very dense, very well compacted, blocky, slick, few lm green sl unconsolidated & pebbley sandy lime
Lm- Lt Brown Tan, FXLN, densely cemented matrix, scttrd oolitic bio-micrite, few fusulinids, tight w/ limited visible porosity
Lm- Cream Tan, A/A, few w/ dense secondary porosity
Lm- Cream Tan, Med XLN, gritty & granular, sparatic inclusions, chalky in part, crumbly, sl fsl, clean & barren
Lm- Brown Tan, FXLN, fsl, few sl unconsolidated, semi-brittle, trashy, interbedded shales lenses
Lm- Cream Tan, F-Med XLN, fsl w/ crinoids & few fusulinids, minimal developement, well cemented packstone, minimal visible porosity
Lm/Chert- Off White Smokey Gray, VF-FXLN, sub-crytpocrystalline, few massive, well cemented w/ scttrd recrystallization inclusions, chips of fsl, sl. oolitic bedded chert
Lm- Cream Tan, Fine grn., mud supported matrix, chalky in part, sl. fsl, few chips of dense algal Ls
ABUNDANT SLOUGHING SHALE 46 VIS. 9.5 WT ADD MUD TRTMNT
Lm- Cream Lt Brown, biomicrite w/ large fusulinids, mostly mud matrix, trashy
Lm- Off White Cream, FXLN, dense, very well cemented, sl. cherty Ls, fsl, semi-brittle w/ no visible porosity
HEEBNER 3395' (-1482) E-LOG Lm- Black Gray Red Lm Green, fissile, carbonaceous, dense, well compacted blocky chips, soft silty red shale
122 UNITS
0 Total Gas (units) 200
0 C1 (units) 200
0 C2 (units) 200
0 C3 (units) 200
0 C4 (units) 200
TORONTO 3411' (-1498) E-LOG Lm- Cream Tan, Med grn, coarse, gritty, sl oolitic, abundant chalk, clean & barren
120 UNITS
DOUGLAS 3435' (-1522) E-LOG Sh- Various dark colored shales, mix of soft, wash, sl sandy lime, dense & blocky



Sh- A/A, more gray wash, Ss clusters, VF grn., well sorted & consolidated, speckled w/ glauconite & dark minerals, sl friable

Ss- A/A, VF-F grn. clusters

Sh- Gray, soft, grainy, smooth, sticky gray wash

Sh- Gray, becoming more silty & soft

Sh- Gray, more compacted & waxy

Sh- A/A

Sh- Gray, A/A, some fissile like

BROWN LIME 3543' (-1630) E-LOG Lm- Brown Buff, Med XLN, fsl, oolitic, some w/ sparse siliceous cementation and abundant secondary porosity, trashy, few chips of dense fsl algal Ls

Sh- Gray Brown Red Maroon Lm Green, soft smooth, earthy & grainy

LKC 3570' (-1657) E-LOG Lm- Cream Tan, FXLN, chalky in part, fsl, few chips w/ dense fractured secondary porosity, scttrd developement, mix of dense siliceous cementation, tight w/ limited visible porosity and sub-crptocrystalline w/ rare scttrd XLN porosity, no shows noted

Lm- Cream Tan Brown, FXLN, fsl, mostly densely cemented w/ silica, semi-brittle w/ limited visible porosity, few chips w/ scttrd XLN porosity, RARE LT GSY STN, 1 CHIP W/ FNT ODR UPON CRUSH, NO SFO, WK FLOR

Lm- Cream Tan, FXLN, well cemented, no visible grains, mostly w/ dense secondary porosity, possibly fractured, sl translucent, no visible solution veins or recrystallization, NO VISIBLE STN, FNT GSY ODR UPON CRUSH, WK FLOR

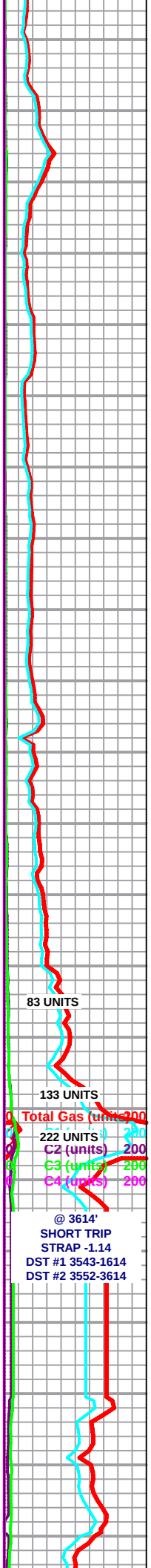
Lm- Tan Brown, Med XLN, fsl, some biomicrite, sl trashy, scttrd recrytallization, densely cemented matrix w/ scttrd visible grains, scttred secondary porosity, no shows noted

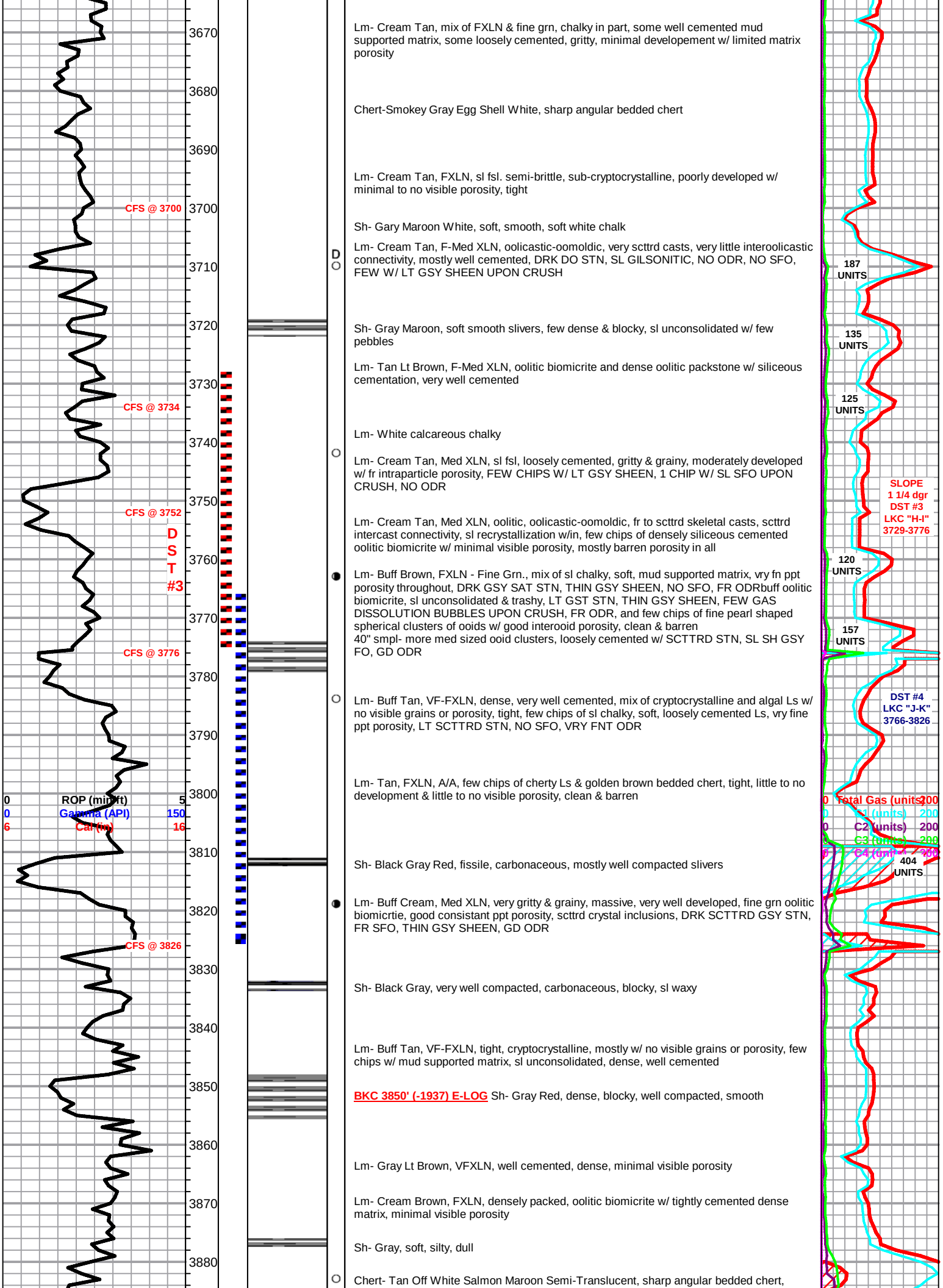
Lm- Brown Buff Smokey Gray, FXLN- Fine grn., dense very well cemented matrix, some algal Ls, mostly dense XLN w/ no visible porosity, chips of smokey gray conchoidal, sharp bedded chert

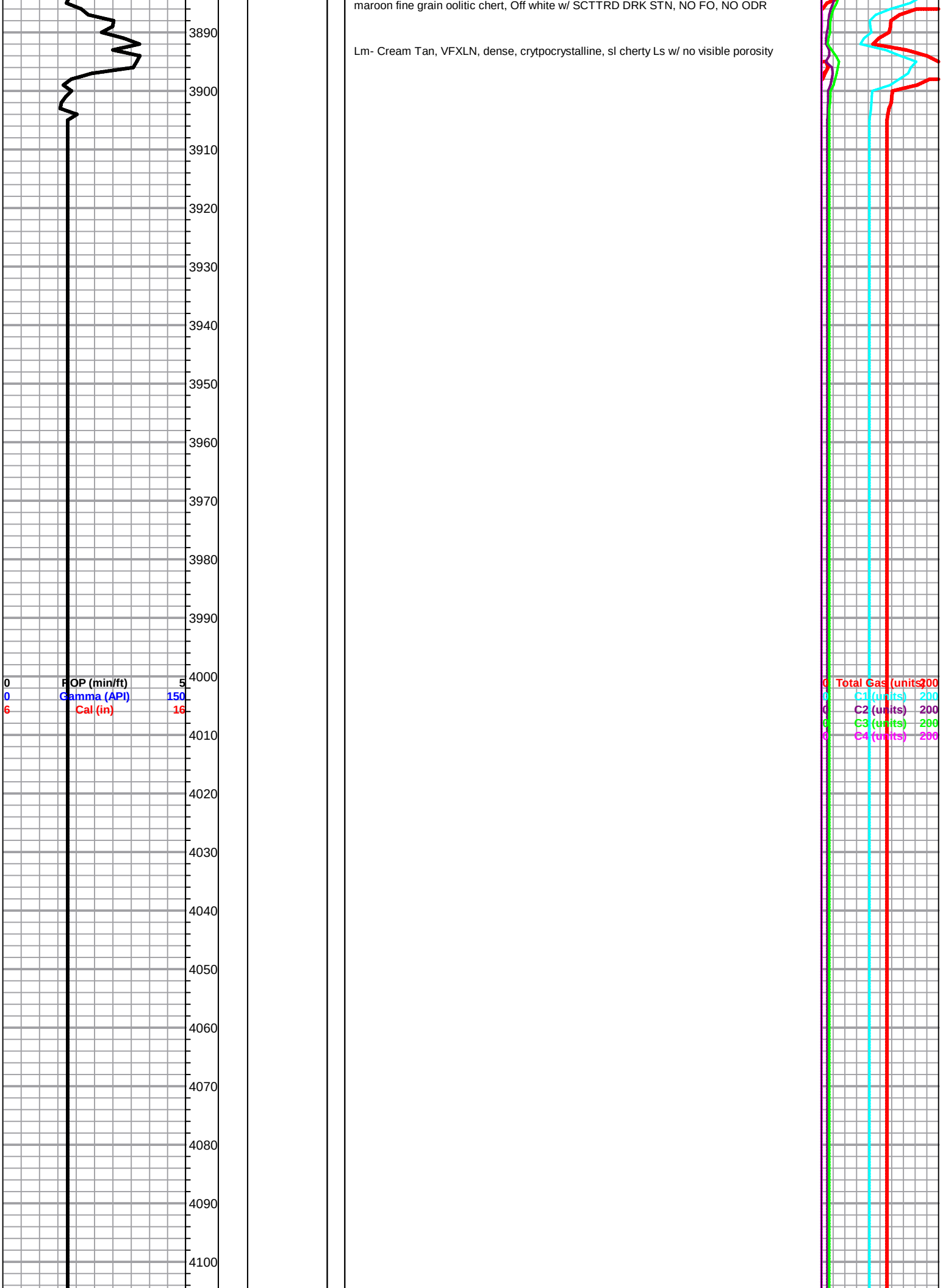
Lm- Tan Brown, VF-Med XLN, densely packed oolites w/ siliceous cementation, no visibile grains or porosity, grades into oolicastic-oomoldic w/ mostly consitant ppt porosity, good skelatal dissolution, DRK SAT STN, WATERY IN PART, GSY SHEN, FR ODR, SL SH GSY WTRY FO

Lm/Chert- Cream Tan, FXLN, tight, semi-brittle, cryptocrystalline, few visible grains and limited porosity, chips of sl fsl bedded chert

Lm- Cream Buff, Med-Coarse XLN, gritty & grainy, scttrd halite inclusions, moderately well developed, scttrd ppt porosity, SCTTRD GSY STN, SHEEN, NO SFO, FR ODR

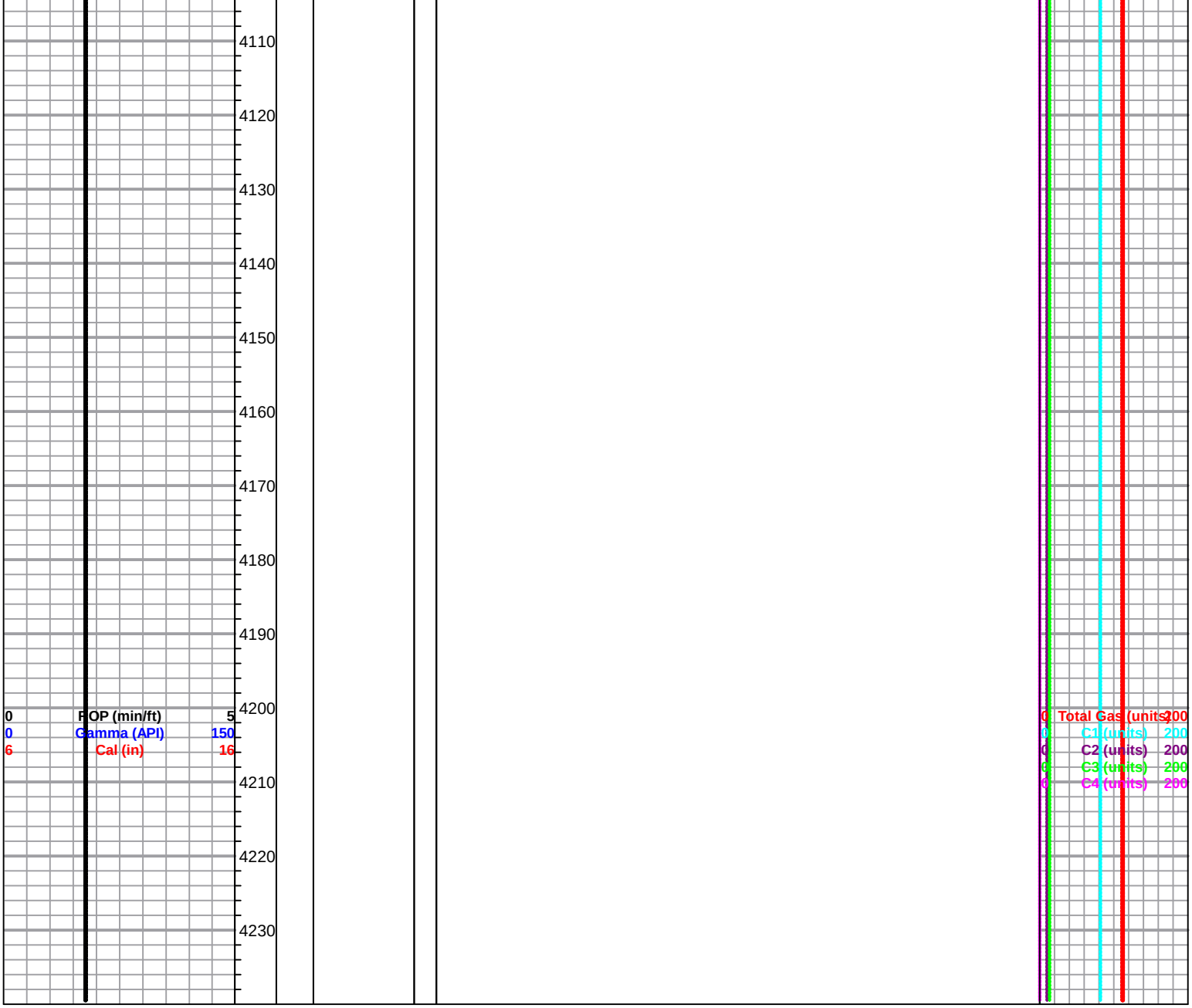



3670
3680
3690
3700
3710
3720
3730
3740
3750
3760
3770
3780
3790
3800
3810
3820
3830
3840
3850
3860
3870
3880
CFS @ 3700
CFS @ 3734
CFS @ 3752
CFS @ 3776
CFS @ 3826
DST #3
0 ROP (min/ft) 5
0 Gamma (API) 150
6 Caliper (in) 16
D
Lm- Cream Tan, mix of FXLN & fine grn, chalky in part, some well cemented mud supported matrix, some loosely cemented, gritty, minimal developement w/ limited matrix porosity
Chert-Smokey Gray Egg Shell White, sharp angular bedded chert
Lm- Cream Tan, FXLN, sl fsl. semi-brittle, sub-cryptocrystalline, poorly developed w/ minimal to no visible porosity, tight
Sh- Gary Maroon White, soft, smooth, soft white chalk
Lm- Cream Tan, F-Med XLN, oolicastic-oomoldic, very scttrd casts, very little interoolicastic connectivity, mostly well cemented, DRK DO STN, SL GILSONITIC, NO ODR, NO SFO, FEW W/ LT GSY SHEEN UPON CRUSH
Sh- Gray Maroon, soft smooth slivers, few dense & blocky, sl unconsolidated w/ few pebbles
Lm- Tan Lt Brown, F-Med XLN, oolitic biomicrite and dense oolitic packstone w/ siliceous cementation, very well cemented
Lm- White calcareous chalky
Lm- Cream Tan, Med XLN, sl fsl, loosely cemented, gritty & grainy, moderately developed w/ fr intraparticle porosity, FEW CHIPS W/ LT GSY SHEEN, 1 CHIP W/ SL SFO UPON CRUSH, NO ODR
Lm- Cream Tan, Med XLN, oolitic, oolicastic-oomoldic, fr to scttrd skeletal casts, scttrd intercast connectivity, sl recrystallization w/in, few chips of densely siliceous cemented oolitic biomicrite w/ minimal visible porosity, mostly barren porosity in all
Lm- Buff Brown, FXLN - Fine Grn., mix of sl chalky, soft, mud supported matrix, vry fn ppt porosity throughout, DRK GSY SAT STN, THIN GSY SHEEN, NO SFO, FR ODRbuff oolitic biomicrite, sl unconsolidated & trashy, LT GST STN, THIN GSY SHEEN, FEW GAS DISSOLUTION BUBBLES UPON CRUSH, FR ODR, and few chips of fine pearl shaped spherical clusters of ooids w/ good interooid porosity, clean & barren
40" smpl- more med sized ooid clusters, loosely cemented w/ SCTTRD STN, SL SH GSY FO, GD ODR
Lm- Buff Tan, VF-FXLN, dense, very well cemented, mix of cryptocrystalline and algal Ls w/ no visible grains or porosity, tight, few chips of sl chalky, soft, loosely cemented Ls, vry fine ppt porosity, LT SCTTRD STN, NO SFO, VRY FNT ODR
Lm- Tan, FXLN, A/A, few chips of cherty Ls & golden brown bedded chert, tight, little to no development & little to no visible porosity, clean & barren
Sh- Black Gray Red, fissile, carbonaceous, mostly well compacted slivers
Lm- Buff Cream, Med XLN, very gritty & grainy, massive, very well developed, fine grn oolitic biomicrtie, good consistant ppt porosity, scttrd crystal inclusions, DRK SCTTRD GSY STN, FR SFO, THIN GSY SHEEN, GD ODR
Sh- Black Gray, very well compacted, carbonaceous, blocky, sl waxy
Lm- Buff Tan, VF-FXLN, tight, cryptocrystalline, mostly w/ no visible grains or porosity, few chips w/ mud supported matrix, sl unconsolidated, dense, well cemented
BKC 3850' (-1937) E-LOG Sh- Gray Red, dense, blocky, well compacted, smooth
Lm- Gray Lt Brown, VFXLN, well cemented, dense, minimal visible porosity
Lm- Cream Brown, FXLN, densely packed, oolitic biomicrite w/ tightly cemented dense matrix, minimal visible porosity
Sh- Gray, soft, silty, dull
Chert- Tan Off White Salmon Maroon Semi-Translucent, sharp angular bedded chert,
187 UNITS
135 UNITS
125 UNITS
SLOPE
1 1/4 dgr
DST #3
LKC "H-I"
3729-3776
120 UNITS
157 UNITS
DST #4
LKC "J-K"
3766-3826
0 Total Gas (units) 200
0 C1 (units) 200
0 C2 (units) 200
C3 (units) 200
C4 (units) 200
404 UNITS



maroon fine grain oolitic chert, Off white w/ SCTTRD DRK STN, NO FO, NO ODR

Lm- Cream Tan, VFXLN, dense, crytpocrystalline, sl cherty Ls w/ no visible porosity


4110
4120
4130
4140
4150
4160
4170
4180
4190
4200
4210
4220
4230
0 ROP (min/ft) 5
0 Gamma (API) 150
6 Cal (in) 16
0 Total Gas (units) 200
0 C1 (units) 200
0 C2 (units) 200
0 C3 (units) 200
0 C4 (units) 200

ALLIED CEMENTING CO., LLC. 042514

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: Great Bend

DATE 5-23-12	SEC. 31	TWP. 24	RANGE 12	CALLED OUT	ON LOCATION	JOB START 1230pm	JOB FINISH 100 pm
LEASE Fritzemeier	WELL # 31-32		LOCATION Saint John 5 South 4 East ½ South westinto			COUNTY Stafford	STATE KS
OLD OR NEW (Circle one)							

CONTRACTOR Ninnescah Drilling OWNER Caerus Kansas

TYPE OF JOB Surface

HOLE SIZE 12¼ T.D. 325

CASING SIZE 8⅝ DEPTH 324

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX 200 MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 15

PERFS.

DISPLACEMENT 19.50 BBLS

EQUIPMENT

PUMP TRUCK # 366 CEMENTER Wayne
HELPER Henry

BULK TRUCK # 344-170 DRIVER Joel

BULK TRUCK # DRIVER

REMARKS:

Pipe on Bottom Break Circulation with Rig mud
Run 5 BBLS water Ahead
Mix 225 SX class A +3%cc +2% Gel
Shut Down Release Plug
Displace 19.5 BBLS fresh water
Shut in Cement did Circulate

CHARGE TO: Caerus Kansas

STREET

CITY STATE ZIP

CEMENT

AMOUNT ORDERED 225 SX Class A +3%cc +2% Gel

COMMON	225	@ 16.25	3.656.25
POZMIX		@	
GEL	4	@ 21.25	85.00
CHLORIDE	8	@ 58.20	465.60
ASC		@	
HANDLING	242	@ 2.10	508.20
MILEAGE	11.09 x 20 x 2.35		521.23

TOTAL 5.236.28

SERVICE

DEPTH OF JOB	324		
PUMP TRUCK CHARGE			1125.00
EXTRA FOOTAGE	125	@ .95	118.75
MILEAGE	Hum 20	@ 7.00	140.00
MANIFOLD		@	
	Hum 20	@ 4.00	80.00

TOTAL 1463.75

PLUG & FLOAT EQUIPMENT

Wooden Plug	@ 92.00	92.00

TOTAL 92.00

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)

TOTAL CHARGES 6.792.03

DISCOUNT 25% 1.698.00 IF PAID IN 30 DAYS

5.094.03

PRINTED NAME

SIGNATURE Brian Kepler

QUALITY WELL SERVICE, INC.

Federal Tax I.D. # 481187368

5482

Home Office 324 Simpson St., Pratt, KS 67124

Todd's Cell 620-388-5422
Office / Fax 620-672-3663

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

Date 6-5-12	Sec. 31	Twp. 24	Range 12	County Stafford	State Ks	On Location	Finish 11:15

Lease Fritzemeier Well No. 31-32 Location 281 & 50 Hwy. 4E 2½ S West into

Contractor Ninnescah 101

Type Job Rotary Plug

Hole Size T.D.

Csg. Depth

Tbg. Size Depth

Tool Depth

Cement Left in Csg. Shoe Joint

Meas Line Displace

Owner

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.

Charge To Caerus Ks LLC

Street

City State

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

Cement Amount Ordered 220 sx 60/40 4% Gel ¼ C.F.

EQUIPMENT

Pumptrk 8	No.	Dave
Bulktrk 5	No.	Mike
Bulktrk	No.	
Pickup	No.	

JOB SERVICES & REMARKS

Rat Hole 30sx 60/40 4% Gel

Mouse Hole 20sx 60/40 4% Gel

Centralizers

Baskets

D/V or Port Collar

1st pumped 50sx 60/40 4% Gel @ 4155'

2nd pumped 50sx 60/40 4% Gel @ 780'

3rd pumped 50sx 60/40 4% Gel @ 360'

4th pumped 20sx 60/40 4% Gel @ 60' to surface.

Common	135
Poz. Mix	85
Gel.	8
Calcium	
Hulls	
Salt	
Flowseal	55
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	228
Mileage	20

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

Pumptrk Charge Rotarty Plug

Mileage 20

Tax

Discount

Total Charge

X Signature Richard A. Barry

Taylor Printing, Inc.

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802

Kansas
Corporation Commission

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

Mark Sievers, Chairman
Ward Loyd, Commissioner
Thomas E. Wright, Commissioner

Sam Brownback, Governor

June 20, 2012

Amy Lay
Caerus Kansas LLC
600 17TH ST, STE 1600 N
DENVER, CO 80202

Re: ACO1
API 15-185-23752-00-00
Fritzemeier 31-32
NE/4 Sec.31-24S-12W
Stafford County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Amy Lay