Scale 1:240 Imperial

Well Name:	EVANS #9-1		
Surface Location:	NW SE Sec. 9 - 17S - 32		
Bottom Location:			
API:	15-113-21376		
License Number:	34622		
Spud Date:	4/22/2015	Time:	12:00 PM
Region:	MCPHERSON COUNTY KANSAS		
Drilling Completed:	5/6/2015	Time:	1:35 AM
Surface Coordinates:	1980' FSL & 1980' FEL		
Bottom Hole Coordinates:			
Ground Elevation:	1316.00ft		
K.B. Elevation:	1325.00ft		
Logged Interval:	1900.00ft	To:	3510.00ft
Total Depth:	3540.00ft		
Formation:	MAQUOKETA DOLOMITE, VIOLA, SIMPSON SAND		
Drilling Fluid Type:	CHEMICAL / FRESH WATER GEL		

OPERATOR

Company:	CHISHOLM PARTNERS II, LLC		
Address:	300 N. CEDAR ST SUITE 101 ABILENE, KS 67410		
Contact Geologist:	RICHARD MCKEE		
Contact Phone Nbr:	(620) 968-7741		
Well Name:	EVANS #9-1		
Location:	NW SE Sec. 9 - 17S - 32		
API:	15-113-21376		
Pool:		Field:	UNNAMMED
State:	KANSAS	Country:	USA

SURFACE CO-ORDINATES

Well Type:	Vertical
Longitude:	-97.6550027
Latitude:	38.5853122
N/S Co-ord:	1980' FSL
E/W Co-ord:	1980' FEL

LOGGED BY

Company:	BIG CREEK CONSULTING, INC		
Address:	1909 MAPLE ELLIS, KS 67637		
Phone Nbr:	(785) 259-3737		
Logged By:	Geologist	Name:	JEFF LAWLER

CONTRACTOR

Contractor:	SOUTHWIND DRILLING, INC.		
Rig #:	8		
Rig Type:	MUD ROTARY		
Spud Date:	4/22/2015	Time:	12:00 PM
TD Date:	5/6/2015	Time:	1:35 AM
Rig Release:	5/6/2015	Time:	5:00 PM

ELEVATIONS

K.B. Elevation:	1325.00ft	Ground Elevation:	1316.00ft
K.B. to Ground:	9.00ft		

NOTES

****AFTER LOGGING IT WAS DECIDED TO DEEPEN THE HOLE 30' ****

AFTER LOG ANALYSIS IT WAS DECIDED TO RUN 5 1/2" PRODUCTION CASING AND FURTHER EVALUATE THE SIMPSON SAND INTERVALS WITH PERFORATION.

DUE TO HISTORICAL INFORMATION AND AGE OF THE LINDSBORG FIELD SOME RESEARCH INFORMATION WAS LIMITED. WITH AGE OF DEVELOPMENT OF THE FIELD SOME DISCREPANCIES THERE IS A VARIANCE WHERE THE VIOLA WAS CALLED. WITH A LACK OF ELECTRICAL LOGS RAN, SOME INFORAMTION IS FROM COMPLETION CARDS ONLY.

RESPECTFULLY SUBMITTED,
JEFF LAWLER

DST #1 MAQUOKETA 3301' - 3316' (SEVERE PLUGGING _INCONCLUSIVE DST)

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Chisholm Partners II .L.L.C
300 N Cedar St Suite 101 Abilene KS 67410
ATTN: Jeff Lawler

9-17s-3w Mcpherson
Evans #9-1
Job Ticket: 62920 **DST#:1**
Test Start: 2015.05.03 @ 19:15:00

GENERAL INFORMATION:

Formation: **Maquoketa+Dolomite**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:48:30
Time Test Ended: 01:30:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Jared Scheck
Unit No: 55-125 RT Hosington

Interval: 3302.00 ft (KB) To 3316.00 ft (KB) (TVD)
Total Depth: 3316.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Poor

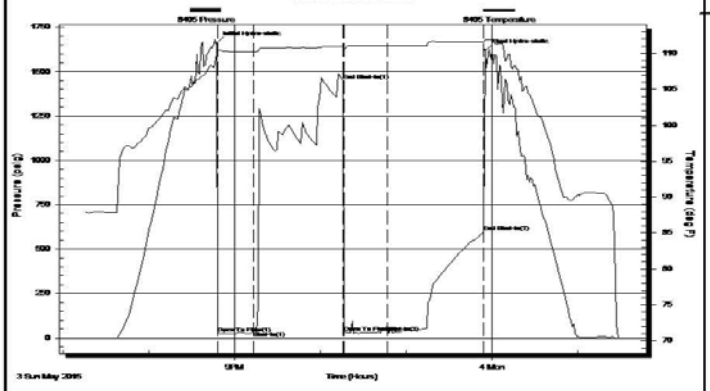
Reference Elevations: 1325.00 ft (KB)
1316.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8405
Press@RunDepth: 67.11 psig @ ft (KB)
Start Date: 2015.05.03 End Date: 2015.05.04

Capacity: 5000.00 psig
Last Calib.: 2015.05.04

Start Time:	19:15:00	End Time:	01:30:00
Time On Btm:	2015.05.03 @ 20:47:30		
Time Off Btm:	2015.05.03 @ 23:55:30		

TEST COMMENT: IFP-30 Minutes-Weak surface blow died off tool chased 8 feet to bottom
ISIP-60 Minutes-No blow back
FFP-30 Minutes-No blow flushed tool good surge built 1/2 inch died off
FSIP-No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1663.83	109.96	Initial Hydro-static
1	26.27	110.41	Open To Flow (1)
26	37.45	110.19	Shut-In(1)
89	1448.72	110.98	End Shut-In(1)
90	28.99	110.64	Open To Flow (2)
120	67.11	111.05	Shut-In(2)
187	595.33	111.58	End Shut-In(2)
188	1621.39	111.92	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud	0.14

Gas Rates

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

Trilobite Testing, Inc Ref. No: 62920 Printed: 2015.05.04 @ 01:55:23

WELL COMPARISON SHEET

	GAS WELL				•								SWD				¤			
	WALTER J NELSON				M&L DRILLING COMPANY								AUTO ORDNANCE CORP.				R.J. WALKER OIL COMPANY, INC.			
	MELANDER (OWWO)				HOGLUND #4								ANDERSON #2 OWWO				CHARLES GOLDER #1-16			
	EVANS #9-1				SW NW 9-17-3								SE SE NW 8-17-13				W2 SE SE 8-17-3				E2 SE SW NE 16-17-3			
	KB	1325	GL	1316	KB	1332							KB	1335			KB	1335			KB	1330		
	LOG TOPS		SAMPLE TOPS		COMP. CARD		LOG		SMPL.				GEOREPORT		LOG		SMPL.		COMP. CARD		LOG		SMPL.	
FORMATION	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.		CORR.				DEPTH	DATUM	CORR.		CORR.		DEPTH	DATUM	CORR.		CORR.	
ANHYDRITE TOP			371	954									410	925			+	29	308	1027			-	73
BASE			394	931																				
LANSING	2235	-910	2213	-888																				
KANSAS CITY																								
MISSISSIPPI	2903	-1578	2884	-1559	2920	-1588	+	10	+	29			2912	-1577	-	1	+	18	2905	-1570	-	8	+	11
MAQUOKETA	3313	-1988	3300	-1975									3322	-1987	-	1	+	12						
VIOLA	3365	-2040	3342	-2017									3392	-2057	+	17	+	40	3339	-2004	-	36	-	13
SIMPSON SH	3430	-2105	3421	-2096	3451	-2119	+	14	+	23									3461	-2126	+	21	+	30
SIMPSON DOLO	3439	-2114			3459	-2127	+	13					3437	-2102	-	12								
SIMPSON SND	3445	-2120			3464	-2132	+	12											3480	-2145	+	25		
ARBUCKLE			3519	-2194	3529	-2197			+	3									3527	-2192			-	2
TOTAL DEPTH	3508	-2183	3540	-2215	4092	-2760	+	577	+	545			3465	-2130	-	53	-	85	3560	-2225	+	42	+	10

ROCK TYPES

Cht	Dolsec	shale, grn	Shcol
Congl	Lmst fw<7	shale, gry	Arg/Shale
Dolprim	Lmst fw7>	Carbon Sh	Ss

ACCESSORIES

FOSSIL
ϕ Oolite

STRINGER
Chert
Sandstone

OTHER SYMBOLS

MISC

DST
DST Int

Daily Report
Digital Photo
Document
Folder
Link
Vertical Log File
Horizontal Log File
Core Log File
Drill Cuttings Rpt

DST int
DST alt
Core

Curve Track #1
ROP (min/ft)
Gamma (API)
Cal (in)
1:240 Imperial

Depth | Intervals
Cored Interval
DST Interval
DST
Lithology
Oil Show

Geological Descriptions

TG, C1 - C5
Total Gas (units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)
1:240 Imperial

0 ROP (min/ft) 5
0 Gamma (API) 150
6 Cal (in) 16

0 Total Gas (units) 100
0 C1 (units) 100
0 C2 (units) 100
0 C3 (units) 100
0 C4 (units) 100

2010
2020
2030
2040
2050
2060
2070
2080
2090
2100
2110
2120
2130
2140

1' DRILL TIME THROUGH ANHYDRITE FROM 350' - 420'
1' DRILL TIME FROM 2050' - RTD
10' WET/DRY SAMPLES FROM 2100' - RTD

GEOLOGICAL SUPERVISION BY JEFF LAWLER FROM 2100' - RTD

13 3/8" CONDUCTOR PIPE SET @ 199'
8 5/8" SURFACE PIPE SET @ 513'

ANHYDRITE 371' (+954)
BASE 394' (+931)

A BLOODHOUND GAS DETECTOR SYSTEM WAS EMPLOYED ON THIS WELL AND DRILL TIME AND GAS CURVES WERE UPLOADED FROM IT

Ss- Dove Grayn, Vf Grn, consolidated & well sorted, sub angular, loosely cemented, micaceous, consistent intergranular porosity, barren

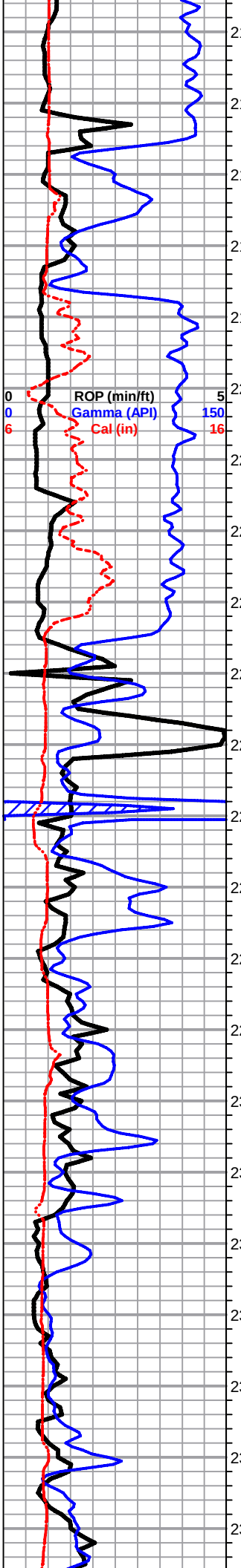
Sh- White Gray, gummy argillaceous clumps, some arenaceous

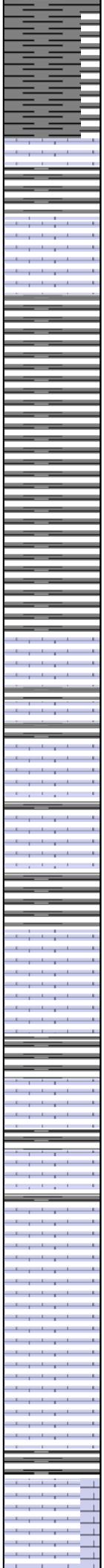
Ss- Cream Frosted, Fn Grn, consolidated & well sorted, clean, sub angular, well dev. & barren

Sh- Lt Gray, dense, arenaceous, some gummy clumps

Sh- A/A, increasing amount w/ silty & calcareous

Sh- A/A

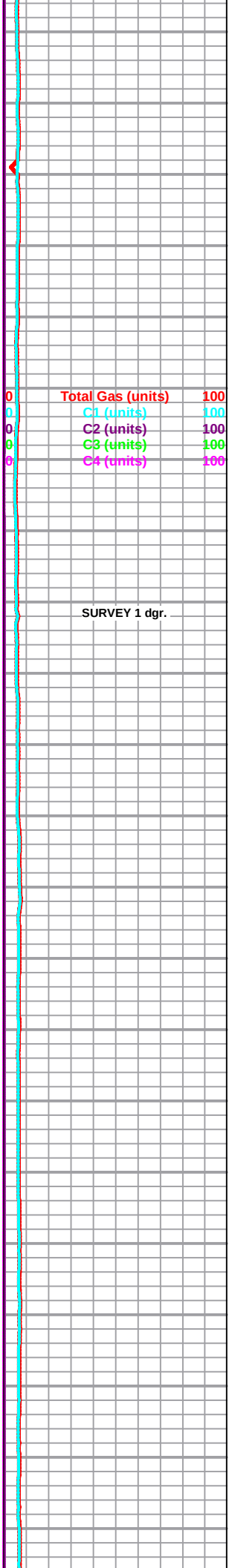




Sh- A/A

Lm- Brown, VFXLN, dense, well cemented, bioclastic w/ fsl fragments, no-min. vis. porosity

Sh- Maroon Gray, Gritty & earthy, gummy argillaceous clumps



Sh- A/A

SURVEY 1 dgr.

LANSING 2213' (-888) E-LOG 2235' (-910) Lm- Cream Off White, VF-FXLN, dense, well cemented, sl oolitic, poorly dev. w/ sctrd micro XLN & XLN porosity, barren

Lm- Cream Tan, FXLN, fsl w/ fusulinids, poorly dev., sctrd XLN porosity, sl trashy, several frosted fn grn Ss clusters, consolidated & well sorted, sub-rounded, spkld w/ chlorite/glauconite, barren

Lm- Cream Off White, FXLN, dense, most well cemented, sl fsl, poorly dev. w/ sctrd XLN porosity, some sl chalky in part

Lm- A/A w/ cream & buff, cryptoXLN, some porcelain like cherty Ls w/o vis. porosity, some sl unconsolidated & trasy, chalky, loosely cemented & crumbly

Lm- Cream Off White, VFXLN , dense, well cemented sl dolomitic Ls, some sctrd reXLN, poorly dev. w/ dense micro XLN porosity, clean & barren

Sh- Drk & Lt Gray, dense & waxy, slick, silty & calcareous

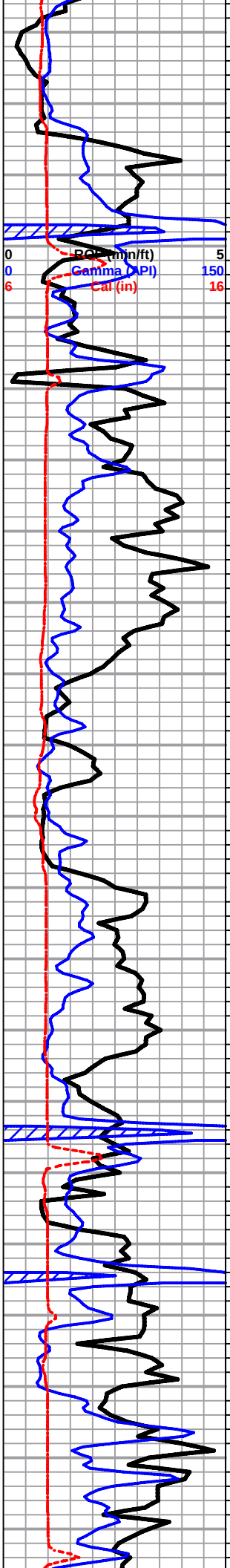
Lm- Cream Off White, FXLN, dense, well cemented, fsl & sl oolitic, poorly dev., mostly tight w/ dense micro XLN porosity

Lm- Tan Cream, VF-FXLN, oolitic, well cemented, sctrd vry fn ppt interoolite porosity, barren, sctrd to dense reXLN

Lm- Gray Buff, VFXLN, dense, vry well cemented, tight w/ min. vis. porosity, sl cherty Ls, sl fsl w/ fusulinids

Lm- Cream Off White, VF-FXLN, dense, well cemented, sctrd reXLN & XLN porosity, few w/ sctrd fn ppt porosity, vry clean & barren

Lm- Cream, FXLN, fsl, poorly dev. w/ sctrd XLN porosity, barren



Lm- Cream Off White, FXLN, dense, well cemented, oolitic, densly packed, sctrd oomoldic w/ partial skeletal dissolution, no intervugular connectivity, barren

Lm- Tan, VFXLN, dense, vry well cemented, cherty like Ls, min. vis. porosity, some sctrd reXLN w/ replacement cementation, barren

Sh- Black Gray Green, fissile & carbonaceous, silty & calcareous, dense & silty

Lm- Drk Gray, VFXLN, dense, vry well cemented, tight w/o vis. porosity

Lm- Cream Off White, VFXLN, dense, well cemented, mostly tight, few w/ sctrd micro XLN porosity, vry clean & barren

Lm- Cream Off White, FXLN, dense, well cemented, some sl chalky, sl fsl, tight w/ poor vis. porosity, vry clean

Lm- Tan Brown, CryptoXLN, vry well cemented w/o vis. porosity

Lm- Cream Off White, FXLN, sl fsl w/ fusulinids, dense XLN porosity, poorly dev., some chalky in part w/ poor vis. porosity

Lm- Cream, FXLN, well cemented & tight w/ dense XLN porosity, mottled, sctrd Crs reXLN & some sctrd replacement cementation, sctrd XLN porosity, barren

Lm- Buff Lt Gray, FXLN, massive, loosely cemented & crumbly, dense reXLN & XLN porosity

Lm- Buff Gray, A/A, better cemenation, mottled & spkld, poor vis. porosity

Lm- A/A

Lm- Tan Gray, VFXLN, dense, vry well cemented, sl cherty Ls, no vis. porosity, trashy

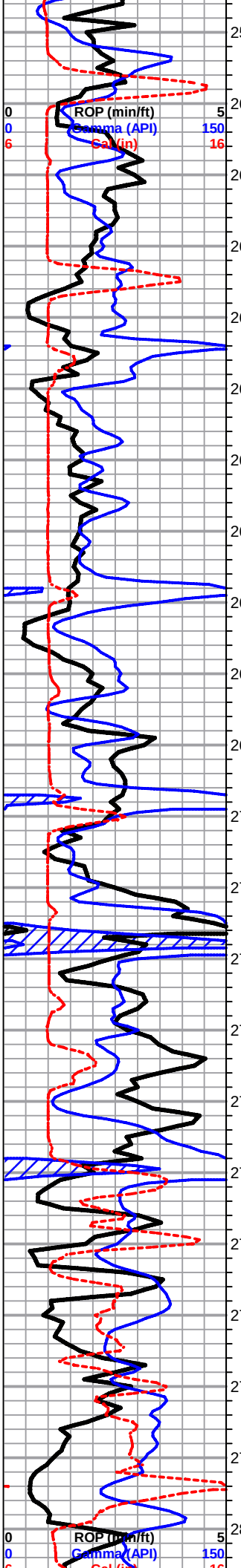
Sh- Black Gray Maroon, fissile & carbonaceous, silty, calcareous & soft

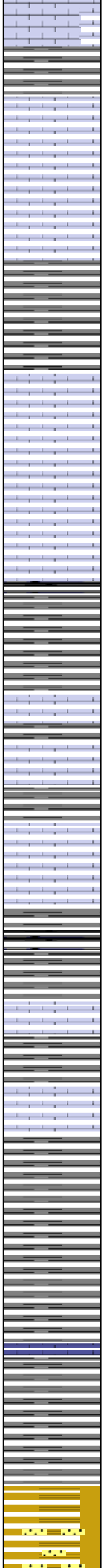
Lm- Tan, FXLN, oomoldic w/ partial to complete skeletal dissolution, no intervugular connectivity, barren

Lm- Cream Off White, VF-FXLN, dense, some chalky in part, loosely to well cemented, mostly tight w/ poor vis. porosity, vry clean

Lm- Cream Off White, FXLN, densely packed small oolites, vry dense XLN porosity, some w/ clear replacement cementation, barren

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100





Lm- Tan Brown, VFXLN, dense, vry well cemented, high-energy & trashy w/ fsl fragments, dense XLN porosity

Sh- Black Gray, soft & carbonaceous, dense & calcareous, some gummy argillaceous clumps

Lm- A/A

****TOOH FOR HOLE IN PIPE****

Lm- Tan, VFXLN, dense, fsl, poorly dev., mostly tight w/ sctrd micro XLN porosity

Lm- Tan, FXLN, dense, well cemented, sl trashy, bioclastic w/ fsl fragments, dense XLN porosity, sctrd reXLN

Lm- A/A w/ buff VF-FXLN, dense, well cemented, mostly tight w/ sctrd micro XLN porosity

Lm- Vf Grn, dense, chalky in part, loosely cemented mud supported matrix, poor vis. porosity

Sh- Black Gray, fissile & carbonaceous, soft & calcareous, few gummy argillaceous clumps

Lm- Gray, VFXLN, dense, vry well cemented, sl unconsolidated high-energy mix, poor vis. porosity

Lm- Tan Buff, unconsolidated mix of XLN & mud supported, clastic, high-energy w/ fsl fragments, poor vis. porosity

Lm- Buff, FXLN, dense, well cemented, grainy, w/ consistent vis. poroity, barren

Sh- Black Gray, fissile & carbonaceous, gummy argillaceous clumps

Lm- Tan, VF-FXLN, dense, well cemented, sl fsl, mostly tight w/ sctrd to dense XLN porosity

Sh- Gray Lm Green, soft & calcareous, few sl pebbly, dense & waxy

Lm- Cream Off White, FXLN, dense, well cemented, mostly tight, sl fsl, sctrd XLN porosity, few sl chalky in part

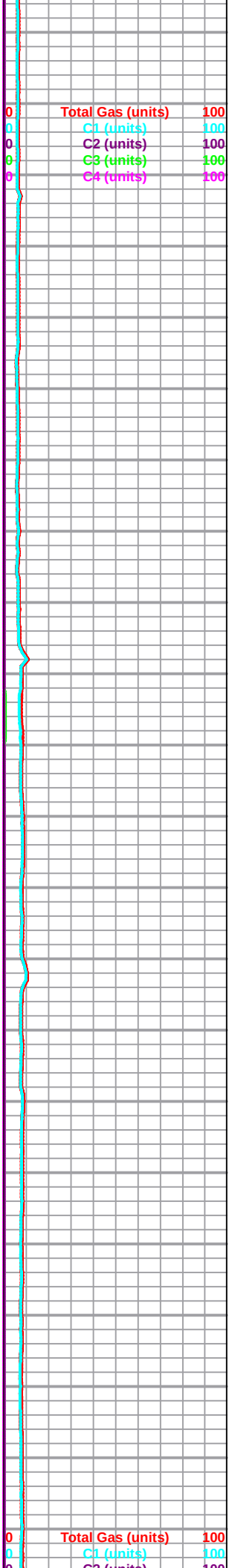
Sh- Gray, unconsolidated & fsl, trashy rip up clasts, some soft white chalk

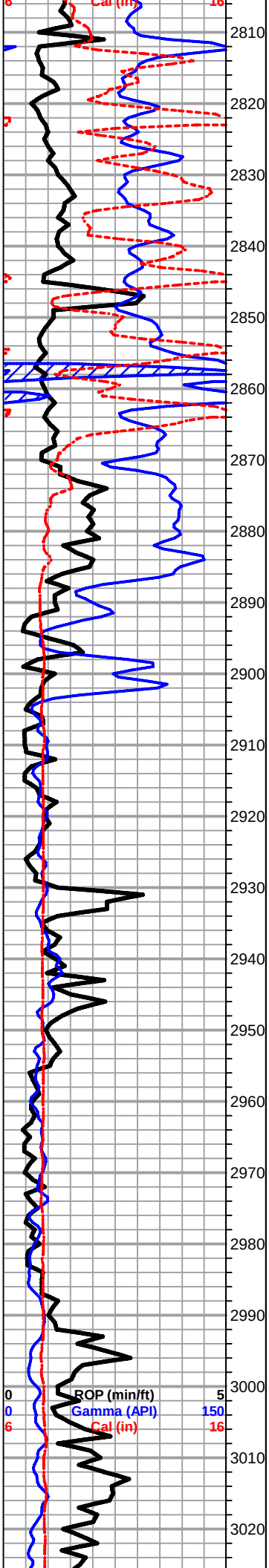
Sh- Lt & Drk Gray, thin silty slivers, calcareous & soft

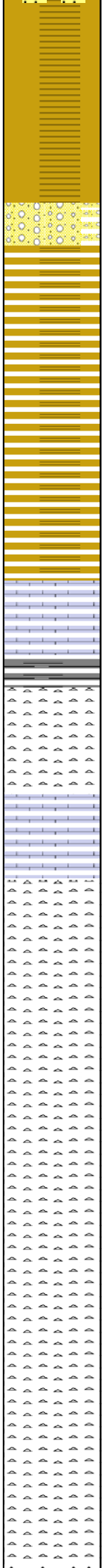
Lm- Gray, Vfn Grn, soft chalky mud supported matrix w/ min. vis. porosity

Sh- Gray Mustard Yellow, soft silty & calcareous

Sh- Mustard Yellow Gray, soft & calcareous, many arenaceous pcs & shaley Ss, unconsolidated & poorly dev.







Sh- A/A w/ incflux of mustard yellow

Conglomerate- unconsolidated clastic Ls/cherty Ls/calcareous shales

Sh- A/A w/ black fissile carbonaceous shale

Sh- Mustard Yellow Purple Maroon, gritty & earthy, soft & calcareous

Lm- Cream Off White, FXLN, loosely cemented & crumbly, unconsolidated, few w/ small qtz. inclusions,, barren

MISSISSIPPIAN 2884' (-1559) E-LOG 2903' (-1578) Cher- Gray White Tan, CryptoXLN, most porcelian like vitreous w/o vis. porosity, few pcs of sl dolomitic chert w/ dense XLN porosity, vry clean

Lm- A/A

Chert- White Bone White, fresh bedded sucroisic dolomitic chert, several pcs of vitreous white porcelain like, all vry clean & barren

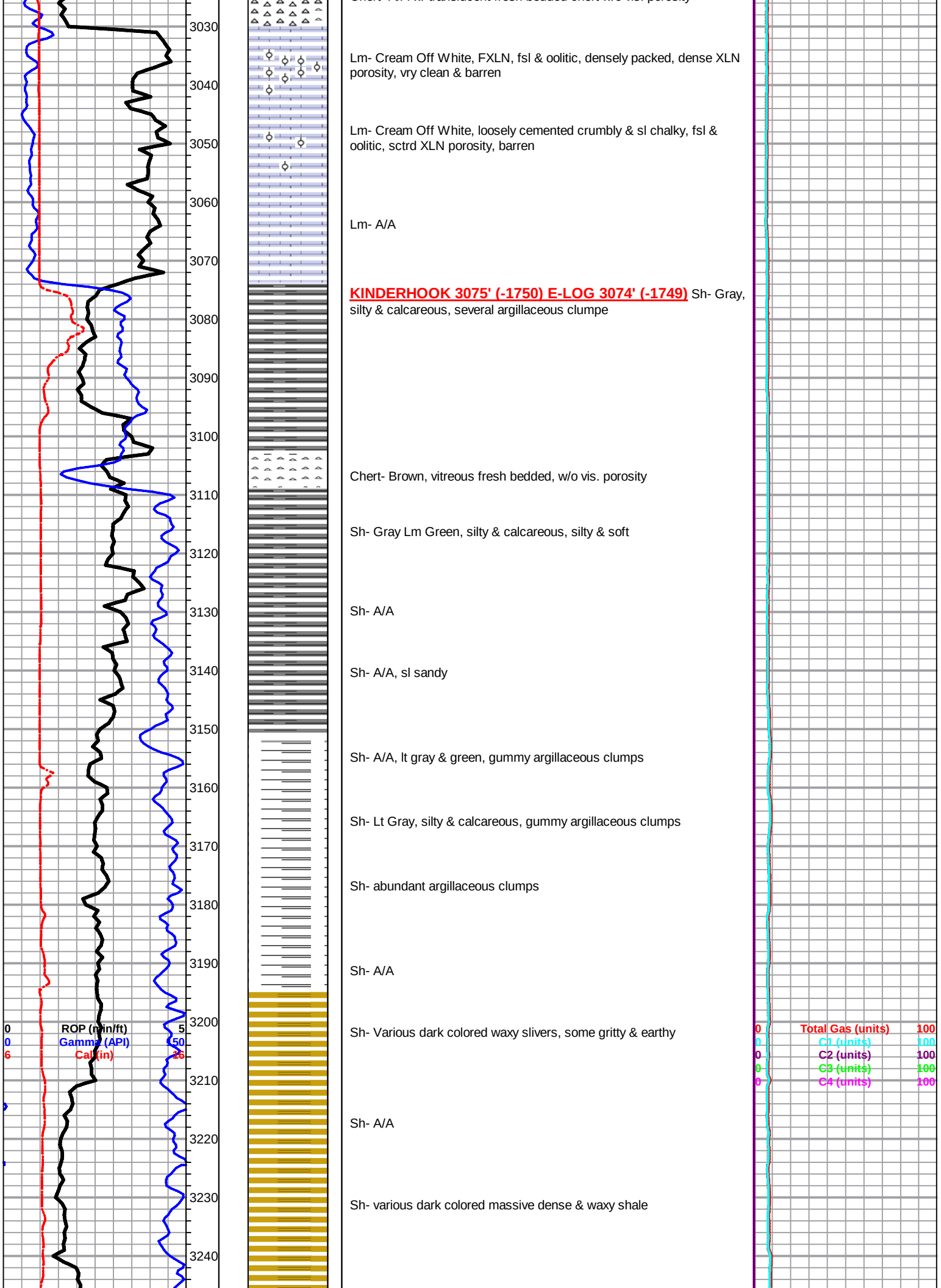
Chert- Gray Cream, reworked, unconsolidated & sl fsl, massive, some sucrosic, sctrd XLN porosity, several pcs of FXLN, sucrosic dolomite, few pcs loosely cemented & friable, all vry clean & barren

Chert- A/A

Chert- A/A w/ decreasing amount of dolomite & dolomitic chert

Chert- Lt Gray Off White, fresh bedded vitreous chert, porcelain like w/o vis. porosity, opaque

Chert- A/A w/ translucent fresh bedded chert w/o vis. porosity



Lm- Cream Off White, FXLN, fsl & oolitic, densely packed, dense XLN porosity, vry clean & barren

Lm- Cream Off White, loosely cemented crumbly & sl chalky, fsl & oolitic, sctrd XLN porosity, barren

Lm- A/A

KINDERHOOK 3075' (-1750) E-LOG 3074' (-1749) Sh- Gray, silty & calcareous, several argillaceous clumpe

Chert- Brown, vitreous fresh bedded, w/o vis. porosity

Sh- Gray Lm Green, silty & calcareous, silty & soft

Sh- A/A

Sh- A/A, sl sandy

Sh- A/A, lt gray & green, gummy argillaceous clumps

Sh- Lt Gray, silty & calcareous, gummy argillaceous clumps

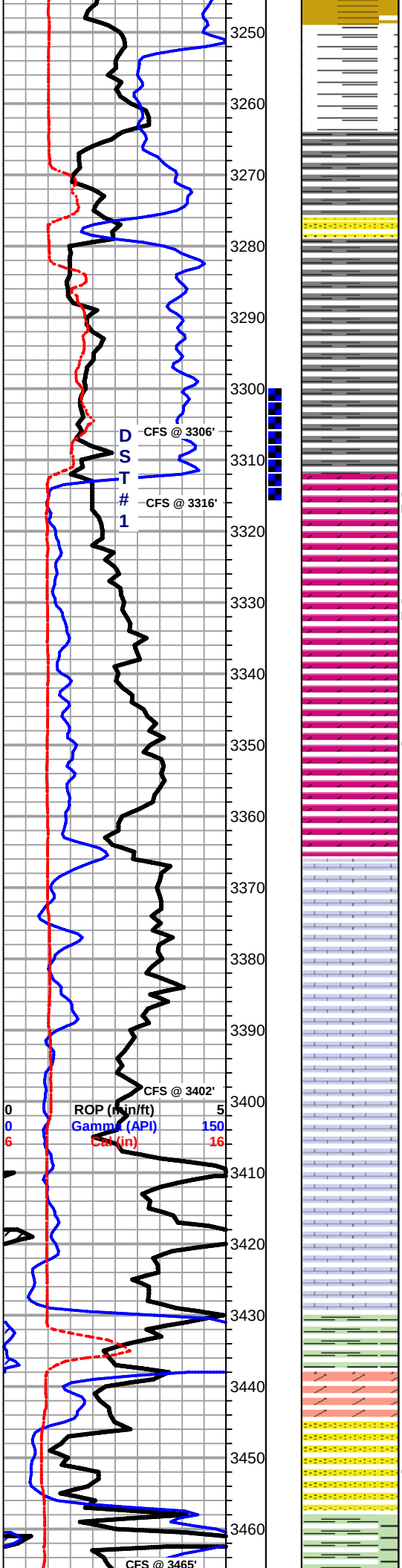
Sh- abundant argillaceous clumps

Sh- A/A

Sh- Various dark colored waxy slivers, some gritty & earthy

Sh- A/A

Sh- various dark colored massive dense & waxy shale



Sh- Lt Gray, silty & calcareous, several argillaceous clumps

Sh- A/A

SHORT TRIP
CTCH 1.5 HRS
SURVEY 1 DGR
STRAP -1.79'

DST #1
MAQUOKETA
3301' - 3316'
30-60-30-60
SEVERE PLUGGING
10' MUD

IFP: 26-37#
FFP: 28-67#
SIP: 1448-595#

3616_1.jpg

3616_2.jpg

MAQUOKETA 3300' (-1975) E-LOG 3313' (-1988) Dolomite- Cream Brown, FXLN, dense, well cemented, dense consistent XLN porosity, few pcs sl unconsolidated & spkld., LT TR STN, LT OILY SHEEN, NO SFO, WK HALO TO SLW STRM WET FLOR., SL TR ODR, 1 pc of Crs Ss, angular & immature, mod. cemented, clear w/ vis. euhedral crystals, TR FO UP CRUSH, TR GSY BUBBLES

Dolomite- Cream Gray A/A, dense & well cemented, granular, XLN porosity w/ rare sctrd ppt porosity, TR STN & LT OILY SHEEN, DULL YLW FLOR W/ LT STRM FLOR UPON CRUSH, few pcs of limey dolomite, well cemented & poorly dev. w/ sctrd XLN porosity, few pcs of lt gray sl dolomitic chert, min. vis. porosity

3334.jpg

Dolomite- Gray, FXLN, granular, loosely cemented, semi-friable, sl chalky, consistent porosity throughout, TR STN, TR OILY SHEEN, NSFO, TR ODR, WK HALO FLOR.

VIOLA 3342' (-2017) E-LOG 3365' (-2040) Dolomite/Lm- Mix of Med XLN, sl unconsolidated & trashy, loosely cemented & semi-friable w/ sctrd Crs XLN recrystallization, dense interXLN porosity, barren, several pcs of brown FXLN, well cemented, consolidated dolomite w/ some lt Ca cementation, consistent interXLN porosity, barren

Lm- Tan Brown, Med XLN, loosely cemented & friable, granular, some sl chalky, consistent inter XLN porosity, sl unconsolidated & trashy, NO SHOW/STN

****LOST RETURNS @ 3402', REGAINED & RESUMED DRILLING OPERATIONS****

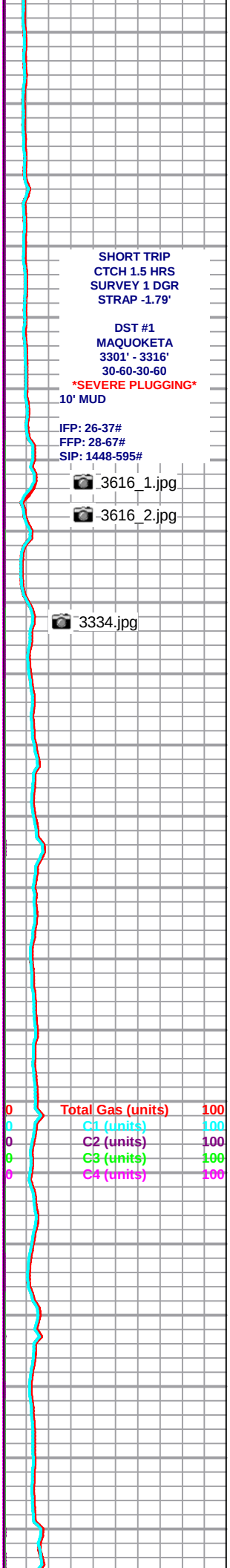
POOR SAMPLE QUALITY DUE TO TRIPPING OUT WHILE REGAINING RETURNS

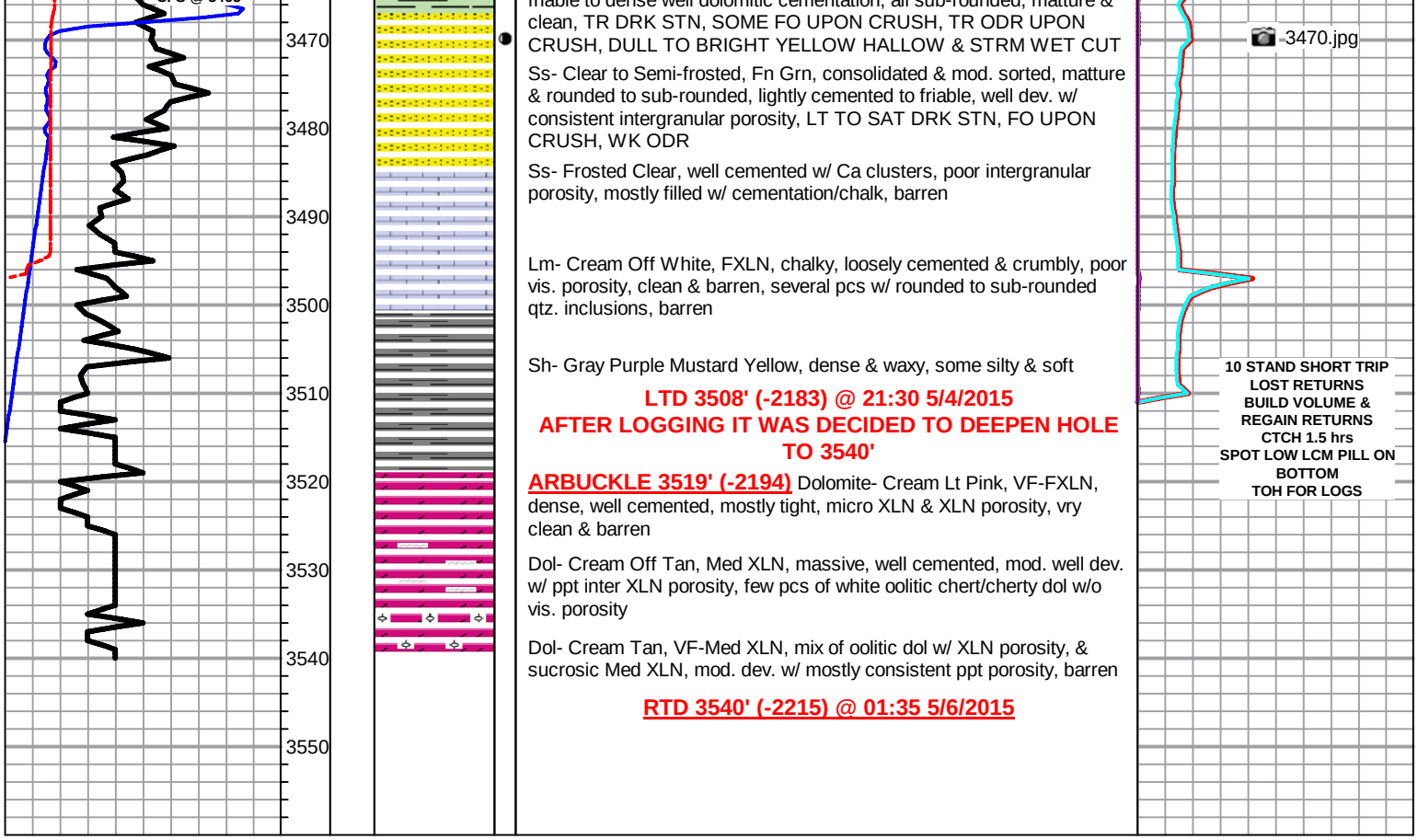
****HIGHLY CONTAMINATED SAMPLES W/ MISS. CHERT, MAQ. DOLOMITE & VARIOUS SHALES (~90% OF SAMPLE IS CARRYOVER)****

SIMPSON SHALE 3421' (-2096) E-LOG 3431' (-2106) Sh- Mint Green, dense & waxy, pebbly, silty & calcareous

Carryover Dolomite- Brown Tan, Med-Crs XLN, well cemented, poorly dev. w/ sctrd XLN porosity, some mostly translucent w/ vis. rhombs w/in matrix & micro XLN porosity, 2-3 Gray Fn Grn Ss clusters, immature, angular to sub-angular, heavily micaceous & unconsolidated, well cemented, dense gray shale w/in porosity, barren, several pcs of FXLN sucrosic brown dolomite w/ consistent interXLN porosity, loosely cemented, barren (probably Maquoketa carryover)

3465' 40"- Considerable carryover A/A, 4-6 Clear to sl frosted Ss clusters, Fn Grn, mostly consolidated, varrying cementation from min. & friable to dense well dolomitic cementation, all sub-rounded, matture &




3470
3480
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Imable to dense well dolomitic cementation, all sub-rounded, matture & clean, TR DRK STN, SOME FO UPON CRUSH, TR ODR UPON CRUSH, DULL TO BRIGHT YELLOW HALLOW & STRM WET CUT
Ss- Clear to Semi-frosted, Fn Grn, consolidated & mod. sorted, matture & rounded to sub-rounded, lightly cemented to friable, well dev. w/ consistent intergranular porosity, LT TO SAT DRK STN, FO UPON CRUSH, WK ODR
Ss- Frosted Clear, well cemented w/ Ca clusters, poor intergranular porosity, mostly filled w/ cementation/chalk, barren
Lm- Cream Off White, FXLN, chalky, loosely cemented & crumbly, poor vis. porosity, clean & barren, several pcs w/ rounded to sub-rounded qtz. inclusions, barren
Sh- Gray Purple Mustard Yellow, dense & waxy, some silty & soft
LTD 3508' (-2183) @ 21:30 5/4/2015
AFTER LOGGING IT WAS DECIDED TO DEEPEN HOLE TO 3540'
ARBUCKLE 3519' (-2194) Dolomite- Cream Lt Pink, VF-FXLN, dense, well cemented, mostly tight, micro XLN & XLN porosity, vry clean & barren
Dol- Cream Off Tan, Med XLN, massive, well cemented, mod. well dev. w/ ppt inter XLN porosity, few pcs of white oolitic chert/cherty dol w/o vis. porosity
Dol- Cream Tan, VF-Med XLN, mix of oolitic dol w/ XLN porosity, & sucrosic Med XLN, mod. dev. w/ mostly consistent ppt porosity, barren
RTD 3540' (-2215) @ 01:35 5/6/2015
3470.jpg
10 STAND SHORT TRIP
LOST RETURNS
BUILD VOLUME & REGAIN RETURNS
CTCH 1.5 hrs
SPOT LOW LCM PILL ON BOTTOM
TOH FOR LOGS

3616_1.jpg


A001 1280x1024 2015/05/03 13:31:21 Unit: mm Magnification: 96.9 x 1
0.5 mm
3616' 20" X 25

3616_2.jpg

3616' 40" X 25

3334.jpg

3334' X 27.5

3470.jpg

3570' x 25