

Covey

The Well Watchers

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

Well Name: HIBBARD #1 SWD
Location: Section 23 - Township 34 South - Range 9 West
License Number: 15-077-21,719 - 00-00 Region: Harper County, KS.
Spud Date: 5 December 2010 Drilling Completed: 22 December 2010
Surface Coordinates: 250' FNL & 200' FEL
(Approx NE NE NE NE)

Bottom Hole Coordinates:

Ground Elevation (ft): 1,289' K.B. Elevation (ft): 1,300'
Logged Interval (ft): 5,000' To: 6,262' Total Depth (ft): 6,262'
Formation: Kinderhook Shale -----> Arbuckle
Type of Drilling Fluid: Chemical; Low Solids (non-dispersed)

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

OPERATOR

Company: WOOLSEY OPERATING COMPANY, LLC
Address: 125 North Water, Suite 1000 Geologist:
Wichita, Kansas 67202 Dean Patisson
(316) 267-4379

GEOLOGIST

Name: Curtis Covey
Company: COVEY - The Well Watchers
Address: 6548 Bedford Circle wellsitegeo1@gmail.com
Derby, Kansas 67037
Office: (316) 776 - 0367 Cell: (316) 217-4679

KB: 1,300'

FORMATION TOPS

GL: 1,289'

Formation	Rotary Sample Depth (Datum)	E-log Depth (Datum)
Wilcox Sand	5,038' (-3,738')	5,040' (-3,740')
McLish Sand	5,186' (-3,886')	5,188' (-3,888')
Arbuckle	5,228' (-3,928')	5,228' (-3,928')

iRTD: 5,302' LTD: 5,304' iATD: 5,304'

Rotary sample depth is 2' lower than E-logger's depth.

FINAL RTD: 6,262'

E-Loggers: Weatherford
Liberal, Kansas

DST #1 - ARBUCKLE

Rotary Depth: 5,786' - 5,827'
 Logger's Depth: NA

Rec: 283' Water cut Mud (40%W,60%M)
 95' Mud cut Water (30%W,70%M)
 189' Mud cut Water (20%M,80%W)
 378' Mud cut Water (10%M,90%W)
 4,055' Muc cut Water (5%M,95%W)

Recovery Water: (35M - top)
 (80M - rest)
 System Water: (4,000 ppm)
 Reported Rw =
 0.23 ohms @ 63 deg F - top
 0.11 ohms @ 63 deg F - rest

IFP: 728# - 2,070# / 30"
 ISIP: 2,502# / 60"
 FFP: 2,066# - 2,494# / 60"
 FSIP: 2,502# / 90"
 151 deg F
 MH: 2,971# - 2,332#

Total Fluid: 5,000'

IF: BOB in 1 minute, Strong Blow.
 ISI: Weak Blow - slow build to 3 inches.
 FF: BOB in 1 minute, Strong Blow.
 FSI: Weak Surface Blow, no more than 1/4 inch.

Trilobite Testing, Inc.
 Pratt, KS.

2010

DAILY DRILLING STATUS -- DECEMBER

2010

	9-7/8" Hole Tri-Cone: 280' → RTD.	7-7/8" Hole Tri-Cone: 5,302' → RTD.
<p style="text-align: center;">30" Hole</p> <p>3 Nov -- 20" conductor set @ 43' with 5 yds grout. 5'x5' cellar.</p> <p style="text-align: center;">17-1/4" Hole</p> <p>5 Nov -- Spud @ 10:30am. Drill to 280'. Run 13-3/8" casing. Set casing @ 245'. Cemented w/ 230 sx Class A (2% gel+3%CC). [Allied] Cement did circulate. Plug down @ 11:15pm. WOC.</p> <p style="text-align: center;">9-7/8" Hole Tri-Cone: 280' → RTD.</p> <p>6 Nov -- WOC. 6am @ 280'. Under surface casing @ 1:45pm.</p>	<p>7 Dec -- 6am @ 776'. Work on Pump & clutches.</p> <p>8 -- 6am @ 1,710'. 9 -- 6am @ 2,221'. 10 -- 6am @ 2,800'. 11 -- 6am @ 3,374'. 12 -- 6am @ 4,013'. 13 -- Bit Trip @ 4,314'. Resumed Drilling. 6am @ 4,324'. 14 -- 6am @ 4,675'. 15 -- 6am @ 5,050'. Bit Trip @ 5,057'. 16 -- Resumed Drilling. 6am @ 5,123'. Drill to 5,302' @ 8:50pm. Prep hole for E-log.</p>	<p>17 Dec -- 6am @ 5,302'. E-log.</p> <p>18 -- Resumed Drilling @ 5am. 6am @ 5,312'. 19 -- 6am @ 5,680'. Drill to 5,827'. Prep Hole. Start & 20 -- 6am @ 5,827'. Finish DST #1: Arbutckle (5,786' - 5,827'). T/I after test, repeated circ.</p> <p>21 -- 6am @ 5,827'. Resumed Drilling @ 6:20am. 22 -- 6am @ 6,120'. RTD @ 6,262' @ 1:30pm.</p>

HOLE DEVIATION (280' - 5,777 ') & STRAP

DEPTH / TVD	-- INCLINATION	AZIMUTH	NORTH	SOUTH	EAST	WEST	DOGLEG deg/100'
280' /	-- 1.00						(Surface)
996' /	-- 0.50						
1,490' /	-- 0.75						
2,000' /	-- 1.25						
2,251' /	-- 1.25						
2,598' /	-- 1.00						
3,037' /	-- 1.00						
4,013' /	-- 0.75						
4,324' /	-- 0.75						(Bit Trip)
4,706' /	-- 0.25						
5,057' /	-- 1.00						
5,302' /	-- 1.00						(E-log)
5,777' /	-- 0.75						

E-LOG STRAP -
 Board: 5,302.84'
 Strap: 5,307.91'
 Diff: 5.07'

TOMCAT DRILLING, LLC.

100 South Main, # 508
Wichita, Kansas 67202

(316) 262-8554

Drilling Rig #2 - (620) 282-0370

Toolpusher: Carlos Ayala (620) 282-8667

On main hole (tri-cone), 80 RPM.

Mud Pump:

Main: 3ND 1000

6" x 12" @ 100 SPM.

Pump Pressure: 1,400 psi @ standpipe.

280' -> 5,302':

Dry Wt of Collars: 73,025#
[117.2' x 140.5#/ft = 16,467#]
[616.44' x 91.75#/ft = 56,558#]
Drill Collars: 7-7/8" OD x 3" ID &
6-1/4" x 2-3/16" ID
Buoyancy Wt of Collars: 62,655#
[73,025# x .858 (9.3ppg) = 62,655#]
Available WOB: 53,291#
[62,695# x .85 = 53,257#]

Contractor reports running
48M on bit
[At & See Conc @ 4,894' for details]
Tension on drill string - 9,398#
[15% Design Factor]
to keep drill string straight.

Weight Indicator light by 15%; therefore,
48M showing has true WOB 55,200M.

5,303' -> RTD

Dry Wt of Collars: 59,445#
[647.91' x 91.75#/ft = 59,445#]
Drill Collars: 6-1/4" x 2-3/16" ID
Buoyancy Wt of Collars: 51,123#
[59,445# x .860 (9.2ppg) = 51,123#]
Available WOB: 43,454#
[51,123# x .85 = 43,454#]
Weight Indicator weighs
light by 15%, therefore
WI of 37,786# = true WOB 43,454#.

Contractor report running
28M on bit in Arbuckle @ 5,303'.
Contractor report running
36M on bit in Arbuckle @ 5,338'.

BIT RECORD

DATE	SIZE	TYPE	JET SIZE	DEPTH IN / OUT	CUM. FT.	HOURS	ROP
5 Dec	17-1/4"	REED	14 - 16 - 16 - 16	0' / 280'	280'	6.00	35.0
6 Dec	9-7/8"	REED TD52X *	16 - 16 - 16	280' / 4,324'	4,044'	133.25	30.4
13 Dec	9-7/8"	REED ETD 35	16 - 16 - 16	4,324' / 5,057'	732'	43.25	18.3
16 Dec	9-7/8"	REED TD52X *	16 - 16 - 16	5,057' / 5,302'	247'	19.50	12.7
			* Same Bit				
18 Dec	7-7/8"	REED TD53AM	16 - 16 - 16	5,302' / 5,827'	525'	30.25	17.4
20 Dec	7-7/8"	REED R30AP	15 - 15 - 15	5,827' / 6,262'	435'	31.00	14.0

ROCK TYPES

POROSITY

	Earthy
	Fenest
	Fracture
	Inter
	Moldic
	Organic
	Pinpoint
	Vuggy

LITHOLOGY

	Anhy
	Bent
	Brec
	Cht
	Clyst
	Coal
	Granite wash
	Congl
	Dol lmst
	Silty dol
	Calc dol
	Dol 2
	Dol
	Gyp
	Igne
	Lmst 2

	Lmst
	Meta
	Mrlst
	Salt
	Shale 3
	Shale 3
	Shale
	Shcol
	Shgy
	Sltst
	Ss
	Till
	Ss 2

MINERAL

	Mica
	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
	Copper
	Ooliticastic
	Oolite
	Sucrosic
	Dark specks

	Silty dol
	Anhy
	Arg
	Bent
	Chert
	Coal
	Dol
	Dol ls
	Gyp
	Ls
	Mrst
	Calc dol
	Sltstrg
	Ssstrg
	Chalk

SHOW

	Oil
	Spotted
	Ques
	Dead
	Gas
	Oil/gas
	Bed contact

STRINGER

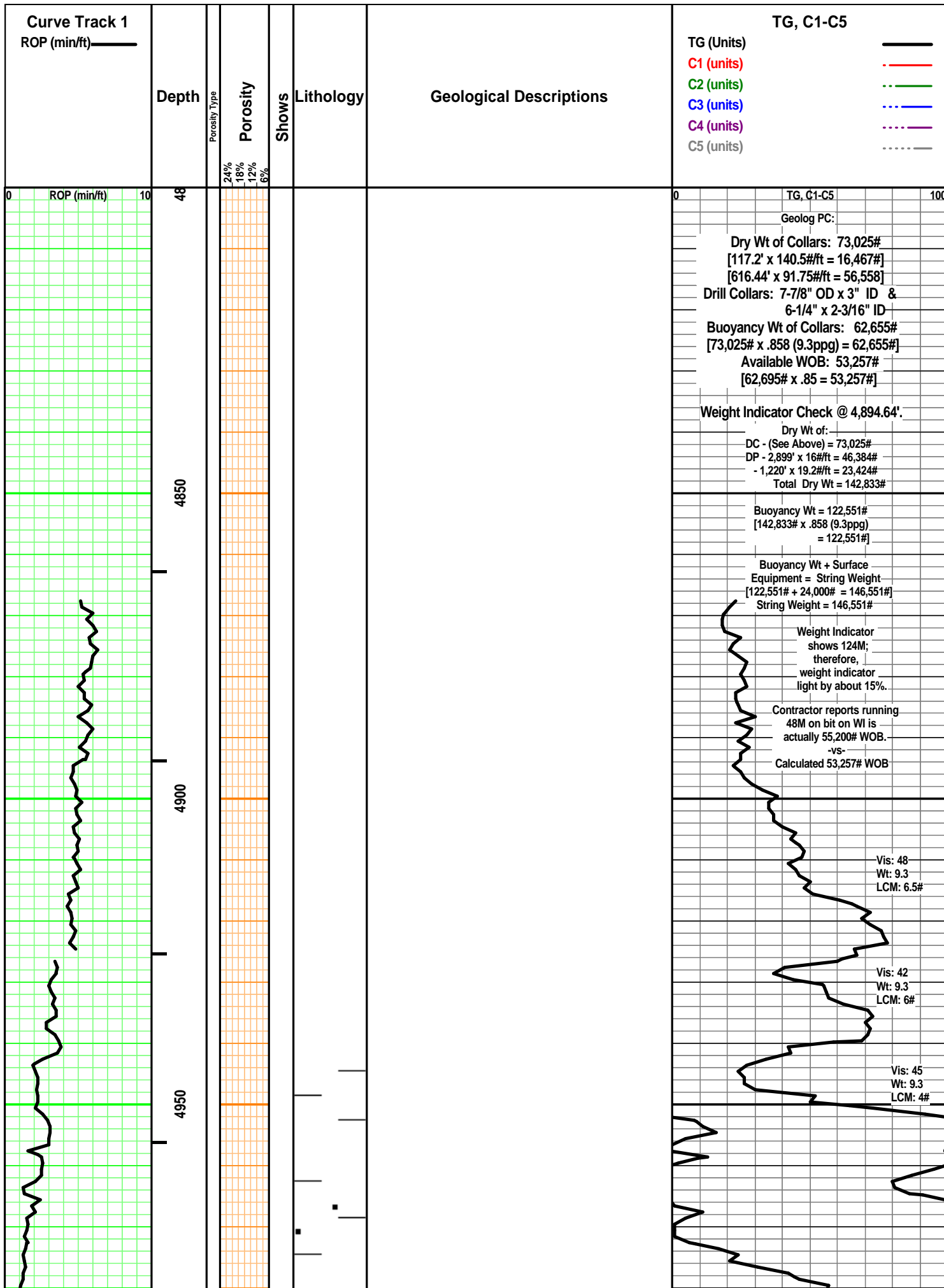
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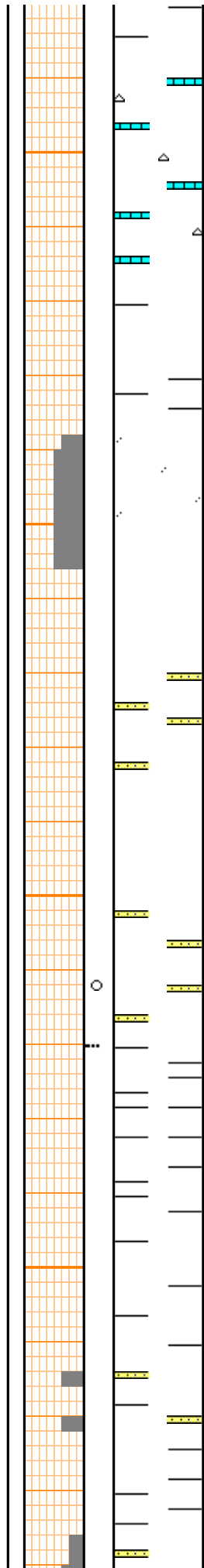
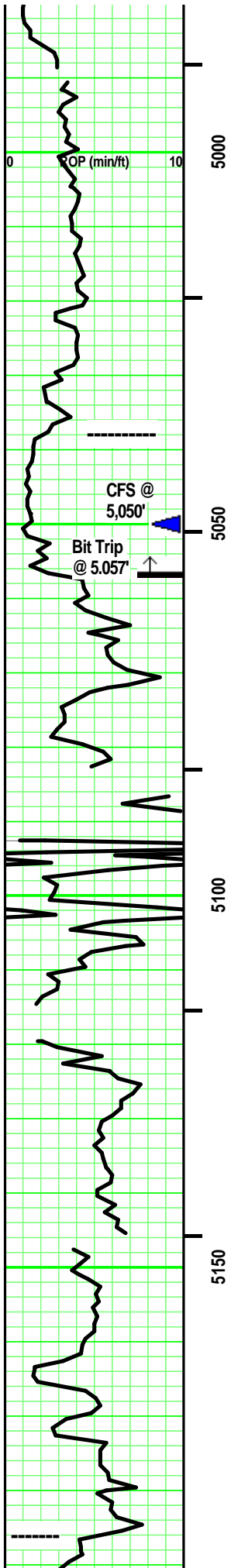
ACCESSORIES

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

OTHER SYMBOLS

	Lost circluation		Bit trip		Jammed core		Sidewall
	Circulate for sample 2	INTERVAL		EVENT			
	Circulate for samples		Core		Connection		
	Rtd		Dst		Rft		





few pcs: LS (dolo in part) - Off White/ Tans. Sing/ Mot. mixture of Crypto-/ Micro-xln. adding F-xln with depth. xln por. some Re-xln. (some CHERT - Clear/ White, Mottled -or- Tan, Grays, White, Clear - Mottled. Opaque to mixed Transparent. misc Inclusions: sponge, fossil hash/ fragments. No tripolitic.) Firm. No/ tr vis por.

WILCOX SAND 5,038 (-3,738')

No sand in drilling and circulations samples.

SS - Clear/ Off White/ Lt Gray. Mot/ Mixed. Mixture of some Silt/ mostly VF qtz grains. SA/SR. Mod sort. Mod sph. tr Vitreous/ mostly Frosted luster. tr Point/ mostly Sutured grain contact. argil in part. Dol/ Si cement. Dolomitic infill in part. Partly Friable to Firm. Tr/ Fair vis por.

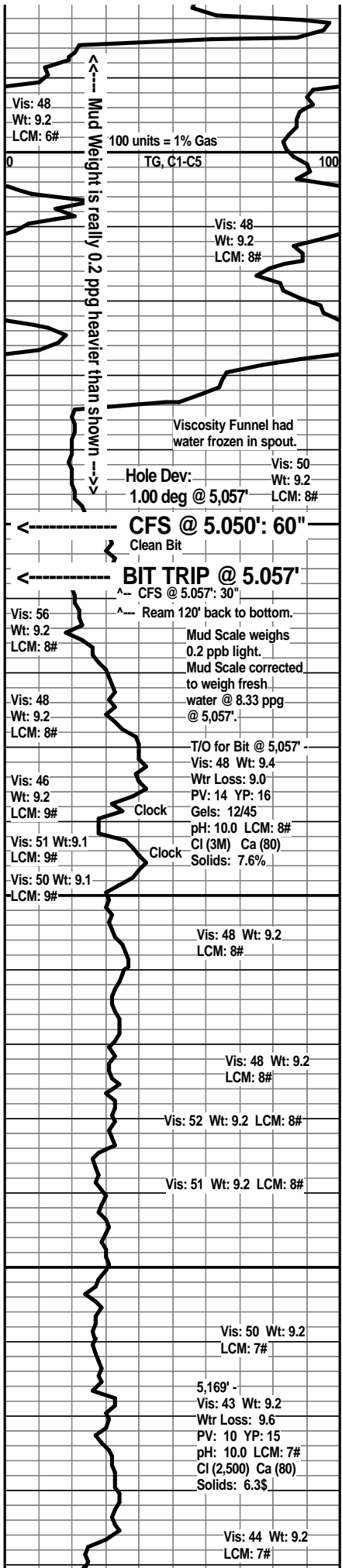
SS - Clear/ Off White. Mot/ Mixed. Mixture of some Silt/ mostly VF/ rare F qtz grain. Silt/ VF argil/shale grains. SA/SR. Mod sort. Mod sph. tr Vitreous/ mostly Frosted luster. tr Point/ mostly Sutured grain contact. argil in part. Si cement. argil/shaly in part. Partly Friable to Firm. Tr/ Fair/ tr Good vis por. few pcs: SS similar to above... adding irregular Med Tan stain, nothing else.

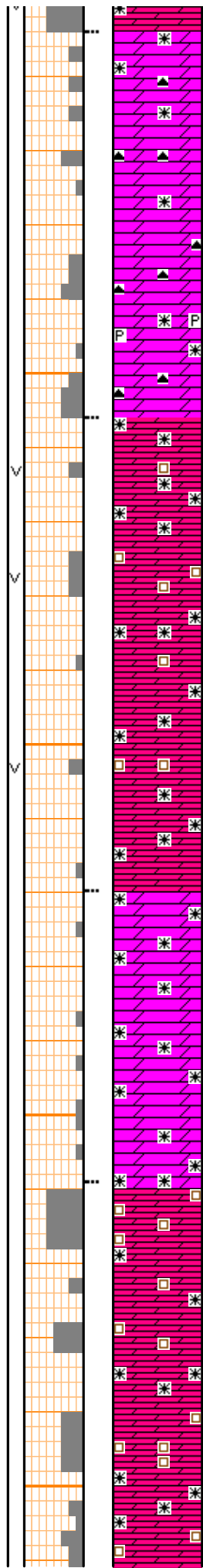
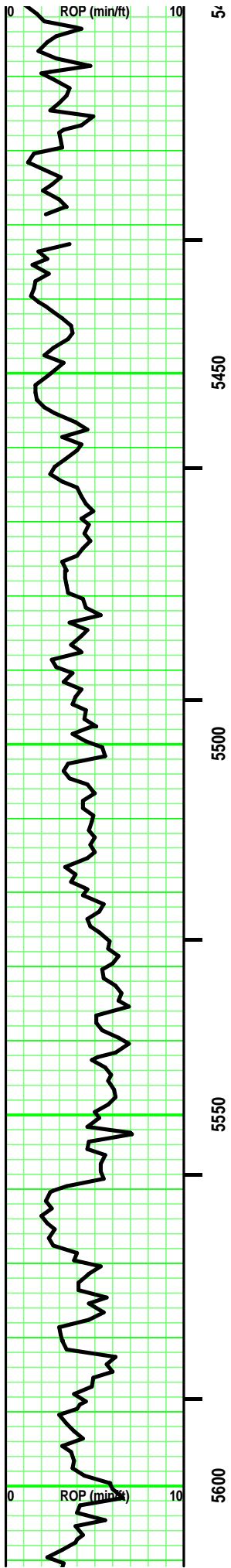
SH - Med/ Dark Gray, some Greenish-Gray. rare Tannish-Grays. some sandy lensing in part (similar to above). Ductile. Blocky to splintery. mostly Massive with depth. rare Micro-lam's.

SH - Med/ Dark Gray, some Greenish-Gray. rare Tannish-Grays. some sandy lensing in part (similar to above). Ductile. Blocky to splintery. mostly Massive with depth. rare Micro-lam's.

McLISH SD 5,186' (-3,886')

numerous pcs: SS (1) - Clear/ Lt Gray/ some White. Mot/ Mixed. tr Silt/ mostly VF & F qtz grain. SA/SR. Mod sort. Mod





DOL - Tans/ Off White/ some Pale Lt Gray. Sing/ tr Mot. rare Crypto-/ mostly Micro- & VF Re-xln. xln and rare sucrosic por. tr Micro-/ mostly VF & F subeuhedral xtals. rare, minute pyrite. (Chert in part: Clear/ Grays. Mot. Opaque to semitransparent. misc SR Ooloidal inclusions. No tripolitic.) Interbedded Friable/ Firm. tr/ mostly Fair & Good vis por.

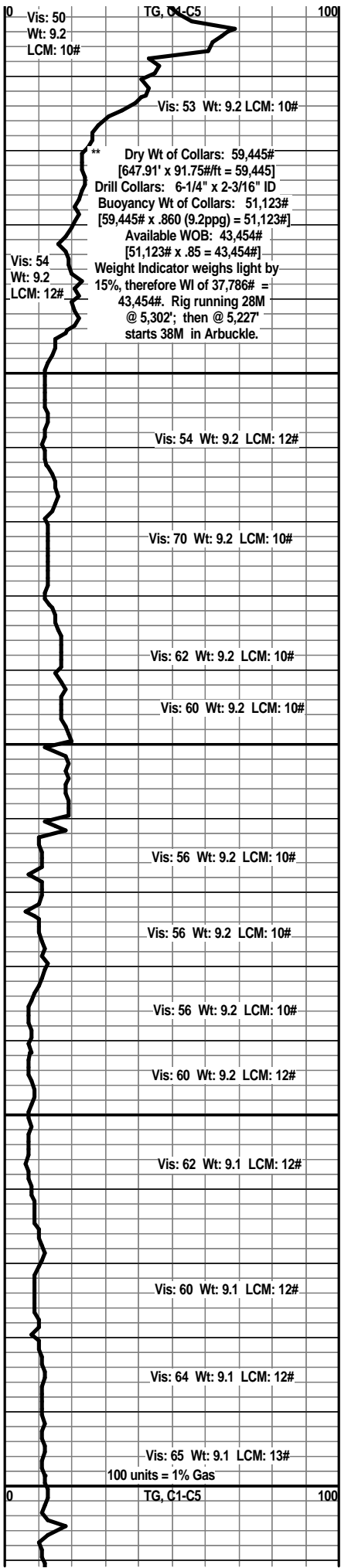
DOL - Tans/ Pale Lt Gray/ tr Brown. Sing/ tr Mot. some Crypto-/ mostly Micro- & VF Re-xln. xln and rare sucrosic por. tr Micro-/ mostly VF & F subeuhedral xtals. rare, minute pyrite. Interbedded Friable/ mostly Firm. some No/ mostly tr/ rare Fair vis por.

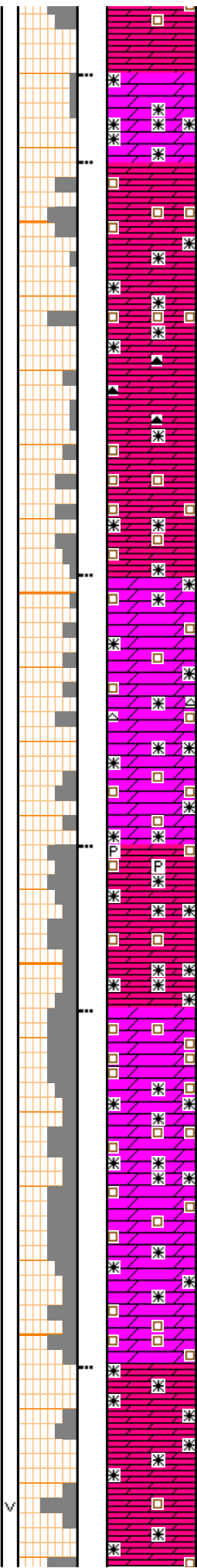
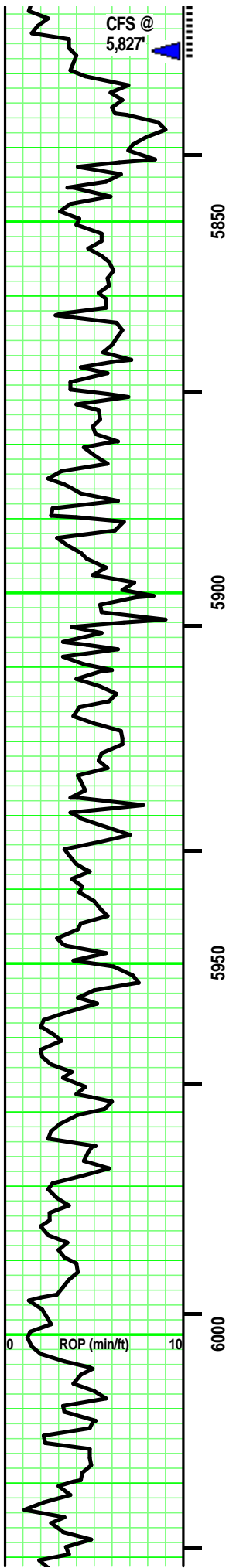
DOL - Tans/ Pale Lt Gray/ tr Brown. Sing/ tr Mot. some Crypto-/ mostly Micro- & VF Re-xln. xln and rare sucrosic por. tr Micro-/ mostly VF & F subeuhedral xtals. rare, minute pyrite. Interbedded Friable/ mostly Firm. some No/ mostly tr/ rare Fair vis por.

DOL - Tans/ Pale Lt Gray. Sing/ tr Mot. mostly Crypto-/ some Micro- & rare VF Re-xln. xln and rare sucrosic por. Firm. mostly No/ some tr vis por.

Interbedded & Intermixed DOL's
 Dol / Dol (rare Calc) - Tans/ some Off White, Lt Gray. Sing. mixture of: Crypto-/ Micro-/ some VF Re-xln. No/ some subeuhedral xtals. rare minute. Dense. some No/ some Tr vis por.

DOL - Tans/ some Off White, Lt Gray. Sing. Micro-/ VF/ F Re-xln. Subeuhedral xtals. sucrosic & some xln por. Friable to partly Firm. tr/ Fair & Good vis por.





min. some tr mostly Fair vis por.

DOL - Lt Gray/ Tan. Sing. Micro-/ VF Re-xln. xln por. minute subeuhedral xtals. rare minute pyrite xtals. Firm/Dense. No/ tr vis por.

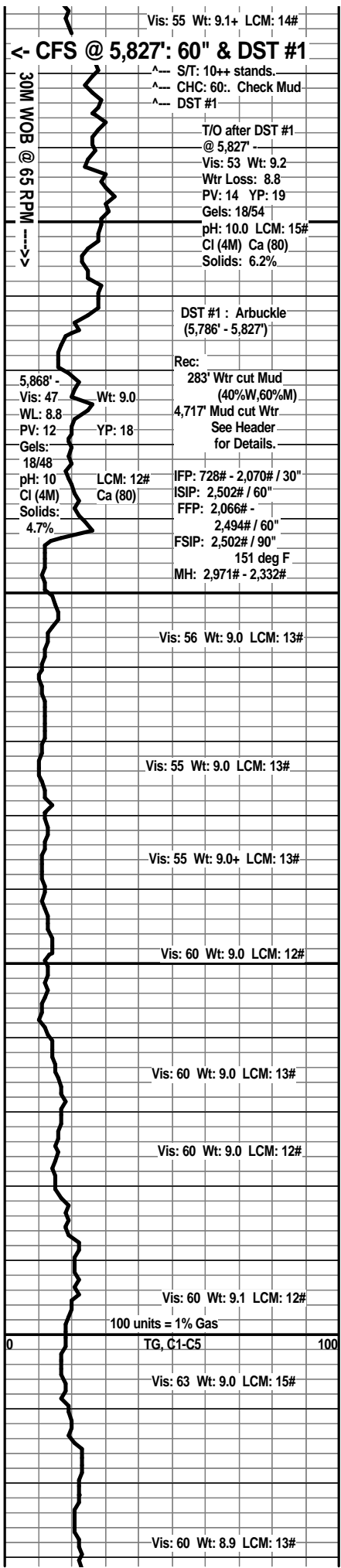
DOL - Tans/ Off White/ some Lt Gray. Sing/ tr Mot. rare Crypto-/ mostly Micro- & VF Re-xln. xln and sucrosic por. tr Micro-/ VF subeuhedral xtals. (rare Chert in part: Clear/ White/ Gray. mostly Sing/ tr Mot. Opaque to semitransparent. No/ tr VFOoloidal inclusions. No tripolitic.) Interbedded Friable/ Firm. some No/ tr & some Fair vis por.

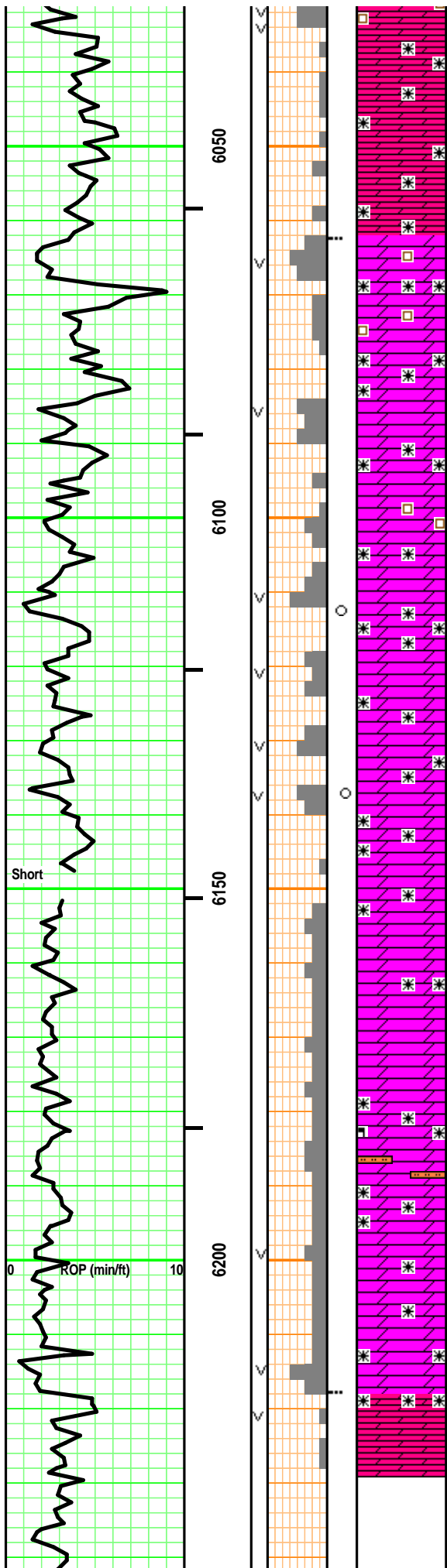
DOL - Tans/some Off White/ some Lt Gray. Sing/ tr Mot. rare Crypto-/ mostly Micro- & VF Re-xln. xln and tr sucrosic por. tr Micro-/ VF subeuhedral xtals. (rare Chert in part: Clear/ White/ Brown. mostly Sing/ tr Mot. Opaque to semitransparent. No/ tr VFOoloidal inclusions. No tripolitic.) Interbedded Friable/ Firm. some No/ tr & some Fair vis por.

DOL - Similiar to above. Lt Gray has minute, pyritic xtals.

DOL - Tans/ Off White/ rare Lt Brown. Sing/ tr Mot. rare Crypto-/ mostly Micro- & VF Re-xln. xln and sucrosic por. tr Micro-/ VF subeuhedral xtals. Interbedded Friable/ Firm. some No/ tr & some Fair/ Good vis por.

DOL - mostly Tans & Off White. some Lt Gray, Lt Greenish Gray. Sing/ tr Mot. rare Crypto-/ mostly Micro- & tr VF Re-xln. xln, some vuggy and rare sucrosic por. mostly Micro-/ tr VF subeuhedral xtals. Interbedded Friable/ mostly Firm. No/ tr and some Fair vis por.





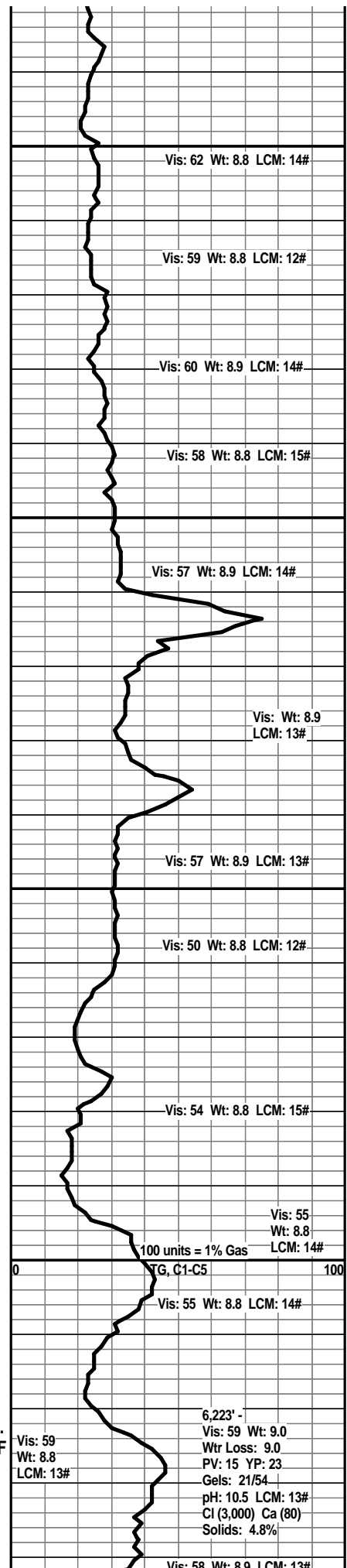
DOL - mostly Tans & Off White. some Lt Gray. Sing/ tr Mot. rare Crypto-/ some Micro- & mostly VF/F Re-xln. xln/ vuggy and rare sucrosic por. some Micro-/ mostly VF & F subeuhedral to rare euhedral xtals. Interbedded Friable & Firm. No/ tr and mostly Fair to Good vis por.

DOL - mostly Tans & Off White. some Lt Gray. Sing/ tr Mot. rare Crypto-/ some Micro- & mostly VF/F Re-xln. xln/ vuggy and rare sucrosic por. some Micro-/ mostly VF & F subeuhedral to rare euhedral xtals. Interbedded Friable & Firm. No/ tr and mostly Fair to Good vis por. rare pcs: Med Brown, spotted to uniform stian. No odor. No free oil or gas. No cut/ residual. No acid/ residual.

DOL - mostly Off White/ some Tan. tr Lt Gray. Sing/ tr Mot. rare Crypto-/ some Micro- & mostly VF/F Re-xln. xln/ vuggy and rare sucrosic por. some Micro-/ mostly VF & F subeuhedral to rare euhedral xtals. Interbedded Friable & Firm. No/ tr and mostly Fair to Good vis por. rare pcs: Med Brown, spotted to uniform stian. No odor. No free oil or gas. No cut/ residual. No acid/ residual.

Add: DOL - Off White mottled with Pale Lt Green. rare Crypto-/ some Micro- Re-xln. xln por. Firm. No vis por.
 Add few pcs: Siltstone - Pale Lt Green. Sing.
 Add: CHERT - rare Clear/ mostly White & Off White. Semitransparent. tr, minutes dark specks. No tripolitic.

DOL - Pale Lt Gray/ Lt Gray. some Off White. Sing/ tr Mot. rare Crypto-/ some Micro- & some VF Re-xln. tr xln/ some vuggy por. some Micro-/ mostly VF & F subeuhedral to rare euhedral xtals. Interbedded Friable & Firm. No/ tr and mostly Fair to Good vis por.



Vis: 62 Wt: 8.8 LCM: 14#

Vis: 59 Wt: 8.8 LCM: 12#

Vis: 60 Wt: 8.9 LCM: 14#

Vis: 58 Wt: 8.8 LCM: 15#

Vis: 57 Wt: 8.9 LCM: 14#

Vis: Wt: 8.9 LCM: 13#

Vis: 57 Wt: 8.9 LCM: 13#

Vis: 50 Wt: 8.8 LCM: 12#

Vis: 54 Wt: 8.8 LCM: 15#

Vis: 55 Wt: 8.8 LCM: 14#

100 units = 1% Gas FG, C1-C5

Vis: 55 Wt: 8.8 LCM: 14#

Vis: 59 Wt: 8.8 LCM: 13#

6,223' -
 Vis: 59 Wt: 9.0
 Wtr Loss: 9.0
 PV: 15 YP: 23
 Gels: 21/54
 pH: 10.5 LCM: 13#
 Cl (3,000) Ca (80)
 Solids: 4.8%

Vis: 58 Wt: 8.9 LCM: 13#

