

Confidentiality Requested:

Yes  No

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

Form ACO-1

January 2018

**Form must be Typed**

**Form must be Signed**

**All blanks must be Filled**

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

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

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

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

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

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or \_\_\_\_\_ Date Reached TD \_\_\_\_\_ Completion Date or  
Recompletion Date \_\_\_\_\_ Recompletion Date \_\_\_\_\_

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

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

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

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

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

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

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

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

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

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

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

Form	ACO1 - Well Completion
Operator	Palomino Petroleum, Inc.
Well Name	DEINES UNIT 1
Doc ID	1408092

Tops

Name	Top	Datum
Anhy.	1905	(+ 553)
Base Anhy.	1951	(+ 507)
Heebner	3753	(-1295)
Lansing	3794	(-1336)
BKC	4076	(-1618)
Marmaton	4132	(-1674)
Pawnee	4215	(-1757)
Ft. Scott	4281	(-1823)
Cherokee Sh.	4306	(-1848)
Miss.	4385	(-1927)



# SWIFT



P. O. Box 466  
Ness City, KS 67560  
Off: 785-798-2300



## Invoice

DATE	INVOICE #
3/25/2018	31341

BILL TO
Palomino Petroleum Inc. 4924 S E 84th Street Newton, KS 67114-8827

RECEIVED  
APR 05 2018

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1	Deines Unit	Trego	WW Drilling Rig ...	Oil	Development	Set Production/B...	David K.
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				40	Miles	5.00	200.00
578D-D	Pump Charge - Deep Squeeze (> 1500 Ft.)				1	Job	1,300.00	1,300.00
	Subtotal							1,500.00
	Sales Tax Trego County						8.00%	0.00
<b>We Appreciate Your Business!</b>							<b>Total</b>	\$1,500.00



JOB LOG

SWIFT Services, Inc.

DATE 3-25-18 PAGE NO. 1

CUSTOMER Palomares Petroleum WELL NO. #1 LEASE Daines Unit JOB TYPE Set Packers TICKET NO. 31341

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1300							on location
								Rig running Drill Pipe
	1515	4	∅		✓	∅		circulate oil out of Hole w/ KCL water
		3 <sup>3</sup> / <sub>4</sub>	51		✓	850		Load
		∅	100		✓	∅		Kick out Pump
	1545							Drop Backer Ball for Packers
		4	3		✓	850		Pump Ball to Bottom
		3	60		✓	550		
	1625	1/2	120		✓	3000		Pressure to set Packers
	1635							Release Pressure Set Hanger
	1650	∅	∅		✓	1500		Pressure test 7" casing *Hold*
	1700	4 1/2	120		✓	500		circulate oil/mud out of 7"
								Rack up truck
	1745							Job Complete

Thank You  
Dave Preston

# SWIFT



P. O. Box 466  
Ness City, KS 67560  
Off: 785-798-2300



## Invoice

DATE	INVOICE #
3/27/2018	31263

BILL TO
Palomino Petroleum Inc. 4924 S E 84th Street Newton, KS 67114-8827

RECEIVED  
APR 05 2018

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1	Deines Unit	Trego		Oil	Development	Cement Rathole ...	Blaine
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				40	Miles	5.00	200.00
576D-P	Pump Charge - PTA				1	Job	875.00	875.00
328-4	60/40 Pozmix (4% Gel)				50	Sacks	10.60	530.00T
581D	Service Charge Cement				50	Sacks	1.75	87.50
582D	Minimum Drayage Charge				1	Each	250.00	250.00
	Subtotal							1,942.50
	Sales Tax Trego County						8.00%	42.40
<b>We Appreciate Your Business!</b>							<b>Total</b>	\$1,984.90





JOB LOG

SWIFT Services, Inc.

DATE	PAGE NO.
27 MAR 18	1
TICKET NO.	
31263	

CUSTOMER	WELL NO.	LEASE	JOB TYPE
Palomares Refinery	#1	Demo Unit	

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								50sk 60/40 20% mix (40% gel) Rat hole & Mouse hole
	1340							on loc TRK 114
	1345							mix 60/40 (40%) @ 13.1 ppg
								Fill Rat hole 30sk Fill Mouse hole 20sk
								- standing full of cement -
								Wash up
								Break up
	1415							job complete
								Thanks
								Bin, Flat & scratch

# SWIFT



P. O. Box 466  
Ness City, KS 67560  
Off: 785-798-2300



## Invoice

DATE	INVOICE #
3/9/2018	31331

BILL TO
Palomino Petroleum Inc. 4924 S E 84th Street Newton, KS 67114-8827

RECEIVED

MAR 15 2018

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1	Deines Unit	Trego	WW Drilling Rig ...	Oil	Development	Cement 7" Casing	David K.
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				40	Miles	5.00	200.00
579D	Pump Charge - Two-Stage & Top To Bottom LongString				1	Job	1,800.00	1,800.00
409-7	7" Turbolizer - Double Bow				4		120.00	480.00T
409-7T	7" Turbolizer				8		90.00	720.00T
403-7	Cement Basket 7"				3		300.00	900.00T
407-7	Insert Float Shoe 7"				1		600.00	600.00T
406-7	Latch Down Plug & Baffle 7"				1		400.00	400.00T
580	Additional Hours (If Circulate More Than 1 Hour)				10	Hours	250.00	2,500.00T
330	Swift Multi-Density Standard (MIDCON II)				625	Sacks	16.25	10,156.25T
276	Flocele				150	Lb(s)	2.50	375.00T
290	D-Air				6	Gallon(s)	42.00	252.00T
281	Mud Flush				500	Gallon(s)	1.50	750.00T
221	Liquid KCL (Clayfix)				2	Gallon(s)	25.00	50.00T
581D	Service Charge Cement				625	Sacks	1.75	1,093.75
583D	Drayage				1,245	Ton Miles	0.85	1,058.25
	Subtotal							21,335.25
	Sales Tax Trego County						8.00%	1,374.66

**We Appreciate Your Business!**

**Total**

\$22,709.91



Services, Inc.

TICKET 031331

CHARGE TO: Plomino Petroleum  
 ADDRESS  
 CITY, STATE, ZIP CODE

PAGE 1 OF 2

1. SERVICE LOCATIONS <u>Ness City KS</u>	WELL/PROJECT NO. <u>A 1</u>	LEASE <u>Denies Unit</u>	COUNTY/PARISH <u>Trego</u>	STATE <u>KS</u>	CITY <u>Utica</u>	DATE <u>3-9-18</u>	OWNER <u>Same</u>
2. TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR <u>WLD Drilling</u>	RIG NAME/NO. <u># 14</u>	SHIPPED VIA CT <u>Location</u>	DELIVERED TO <u>Location</u>	WELL PERMIT NO.	ORDER NO.	
3. WELL TYPE <u>Oil</u>	WELL CATEGORY <u>Development</u>	JOB PURPOSE <u>Cement 7" casing</u>	WELL LOCATION <u>Utica - 1/2g, 8y, 5inh</u>				
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
<u>575</u>					MILEAGE			<u>40</u>	<u>mi</u>	<u>5.00</u>	<u>200.00</u>
<u>579-578</u>					<u>Pump Charge - <del>Forging</del> 2-Stage</u>			<u>1</u>	<u>job</u>	<u>1800.00</u>	<u>1800.00</u>
					<u>Turbolizer - Double Bow</u>			<u>4</u>	<u>ea</u>	<u>120.00</u>	<u>480.00</u>
					<u>Turbolizer</u>			<u>8</u>	<u>ea</u>	<u>90.00</u>	<u>720.00</u>
					<u>Cement Basket</u>			<u>3</u>	<u>ea</u>	<u>300.00</u>	<u>900.00</u>
					<u>Insert Float Shoe</u>			<u>1</u>	<u>ea</u>	<u>600.00</u>	<u>600.00</u>
					<u>Latch Down Plug + Buffer</u>			<u>1</u>	<u>ea</u>	<u>400.00</u>	<u>400.00</u>
					<u>Additional Hours</u>			<u>10</u>	<u>hrs</u>	<u>250.00</u>	<u>2500.00</u>

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS.  
 DATE SIGNED 3-10-18 TIME SIGNED 1:00  A.M.  P.M.

REMIT PAYMENT TO:  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY	OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?	WE UNDERSTOOD AND MET YOUR NEEDS?	OUR SERVICE WAS PERFORMED WITHOUT DELAY?	WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?	ARE YOU SATISFIED WITH OUR SERVICE?	AGREE	UNDECIDED	DISAGREE	PAGE TOTAL #1	TOTAL
					<input type="checkbox"/> YES <input type="checkbox"/> NO				<u>7100.00</u>	<u>21335.25</u>
									<u>13735.25</u>	<u>1374.00</u>
									<u>80.00</u>	<u>22109.91</u>

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.  
 SWIFT OPERATOR David Huckin APPROVAL  
 Thank You!



JOB LOG

SWIFT Services, Inc.

DATE 3-9-18 PAGE NO. 1

CUSTOMER Palomino Petroleum WELL NO. #1 LEASE Deines Unit JOB TYPE 7" Longstring TICKET NO. #31331

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
3-9-18	1200							on location 7" 26"
								RTD - 4759' TP - 4756'
								SJ - #1 43.00 LTD - 4620'
								Turbos - "1" 3" 7" 11" 15" 19" 23" 28" 33" 49" 61" 73"
								Basket - "37" 86" 98" 100"
	1645							Start 7" 26" casing in well
	2130							Try to circulate Down / Loose circulation
	2345							call wireline truck / regain circulation
3-10-18	1130	6 1/2	12		✓	450		Pump 500 gal Mud Flush
		6 1/2	20		✓	450		Pump 20 bbl KCL Flush
	1140	5 1/2	118		✓	400		Mix 250 sks @ 11.8 ppg
		5 1/2	76		✓	400		Mix 200 sks @ 12.5 ppg
		5 1/2	31		✓	200		mix 100 sks @ 13.5 ppg
		5 1/2	20		✓	100		mix 75 sks @ 14.5 ppg
								Wash out Pump + Lines
								Release Top Plug
	1245	6 1/2	0		✓	100		Start Displacement
		6 1/2	76		✓	300		Lift Pressure
		4 1/2	117		✓	900		Circulate Cement to surface - *130 sks*
		3 1/2	179		✓	1700		max lift Pressure
	1325	3 1/2	180		✓	2000		Land Latch Down Plug
								Release Pressure *Plug Hold*
								wash up truck
	1400							Job Complete
								Thank You Dave Preston Kirby



**QUALITY OILWELL CEMENTING, INC.**  
 PO Box 32 - 740 WEST WICHITA AVE, RUSSELL KS 67665  
 PHONE:785-324-1041 FAX:785-483-1087  
 EMAIL: cementing@ruraltel.net

RECEIVED  
 MAR 05 2018

Date: 2/27/2018  
 Invoice # 713

P.O.#:  
 Due Date: 3/29/2018  
 Division: Russell

# Invoice

**Contact:**  
 Palomino Petroleum Inc  
**Address/Job Location:**

4924 SE 84th  
 Newton Ks 67114

**Reference:**  
 DEINES UNIT 1 SEC 18-15-25

**Description of Work:**  
 SURFACE JOB

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 609.31	No				
Common-Class A	112	\$ 1,575.65	Yes				
Calcium Chloride	5	\$ 191.22	Yes				
POZ Mix-Standard	28	\$ 133.85	Yes				
Pump Truck Mileage-Job to Nearest Camp	35	\$ 107.56	No				
Bulk Truck Matl-Material Service Charge	148	\$ 101.07	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	35	\$ 83.66	No				
Premium Gel (Bentonite)	3	\$ 59.41	Yes				

**Invoice Terms:**

Net 30

	SubTotal:	\$ 2,861.74
	Discount Available <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice:	\$ (71.54)
<hr/>		
	SubTotal for Taxable Items:	\$ 1,911.13
	SubTotal for Non-Taxable Items:	\$ 879.06
<hr/>		
	Total:	\$ 2,790.20
	Tax:	\$ 152.89
<hr/>		
	<b>Amount Due:</b>	<b>\$ 2,943.09</b>
	<b>Applied Payments:</b>	
	<b>Balance Due:</b>	<b>\$ 2,943.09</b>

8.00% Trego County Sales Tax

**Thank You For Your Business!**

Past Due Invoices are subject to a service charge (annual rate of 24%)  
 This does not include any applicable taxes unless it is listed.  
 ©2008-2013 Straker Investments, LLC. All rights reserved.

# 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. 713

Date	2-27-18	Sec.	18	Twp.	15	Range	25	County	Trego	State	KS	On Location		Finish	10:15 PM
Location								Office 7.8N Binto							

Lease	Drives Unit	Well No.	1	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.
Contractor	WU7 #14				
Type Job	Surface				
Hole Size	12 1/4	T.D.	216	Charge To	Kalamino Petroleum
Csg.	59 5/8	Depth	216	Street	
Tbg. Size		Depth		City	State
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.	10'	Shoe Joint		Cement Amount Ordered	140 8/20 3/11 2/1 GEL
Meas Line		Displace	16 BL.		

**EQUIPMENT**

Pumptrk	16	No.		Cementor	Big	Common	112
				Helper	Brett	Poz. Mix	28
Bulktrk		No.		Driver	Brett	Gel.	3
Bulktrk	9	No.		Driver	David	Calcium	5

**JOB SERVICES & REMARKS**

Remarks:		Hulls	
Rat Hole		Salt	
Mouse Hole		Flowseal	
Centralizers		Kol-Seal	
Baskets		Mud CLR 48	
D/V or Port Collar		CFL-117 or CD110 CAF 38	
	9 5/8 on bottom Est. Circulation	Sand	
	Mix 140 SK & Displace	Handling	148
	Cement Circulation	Mileage	

**FLOAT EQUIPMENT**

Guide Shoe	
Centralizer	
Baskets	7" Swage
AFU Inserts	
Float Shoe	
Latch Down	

Pumptrk Charge Surface  
Mileage 35

X  
Signature

Tax  
Discount  
Total Charge





Home  
17851798-3400

# Andrew Stenzel Geologist

Ness City, Kansas



Cell  
17851798-9977

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

Well Name: Deines Unit #1

Well Id:

Location: Sec 8, 17, 18-15S-25W (Trego Co)

License Number: 15-195-23042-01-00

Spud Date: 2/27/18

Surface Coordinates: 162' FSL & 868' FEL Sec 18

Region: KANSAS

Drilling Completed: 3/25/2018

Bottom Hole Approx. 60' FSL & 1610' FWL Sec. 8

Coordinates:

Ground Elevation (ft): 2443

K.B. Elevation (ft): 2458

Logged Interval (ft): 3660

To: TD

Total Depth (ft): 9871

Formation: MISSISSIPPIAN

Type of Drilling Fluid: Mud-Co Chemical

Printed by WellSight LogViewer from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

## OPERATOR

Company: Palomino Petroleum, Inc.

Address: 4924 SE 84th St.

Newton, KS 67114

## GEOLOGIST

Name: Andrew Stenzel

Company: Petroleum Geologist

Address: 501 S. Franklin

Ness City, KS 67560

## Misc. Info.

RIG: WW DRILLING, Rig #14

MUD: MUDCO

LOGS: Schlumberger MWD, LWD

DRILLER: Pathfinder, Schlumberger

## Drilling Report

2/27/18 MIRU, ran surface casing  
 2/28/18 Waiting on cement  
 3/1/18 Drilling @ 1904'  
 3/2/18 Drilling @ 3457'  
 3/3/18 Tripping in hole w directional tools @ 3774'  
 3/4/18 Tripping in hole w new MWD @ 3845'  
 3/5/18 Tripping out for washed pipe @ 3966'  
 3/6/18 Tripping out of hole to change mud motor @ 4094'  
 3/7/18 Drilling @ 4306'  
 3/8/18 Drilling @ 4506'  
 3/9/18 Conditioning hole for 7" casing @ 4759'  
 3/10/18 Logging @ 4759'  
 3/11/18 Tripping in hole with bit @ 4759'

2/14/18 Drilling @ 5007'



ROP (min/ft) 540  
Gamma (API) 15040

Neutron Por. (pu) -10.1  
Density por. (pu) -4.0

TG, C1-C5 100

Inclination 0

3400

3450

3500

3550

3600

3650

20' samples at 3500'

Mud @ 3525'  
Wt. 8.85  
Vis. 36  
Filtrate 10.4  
Chlor 7000  
LCM 0

Sh., gy, soft, Ls., crm, fnxin,  
soft, chky ip., nvp, ns

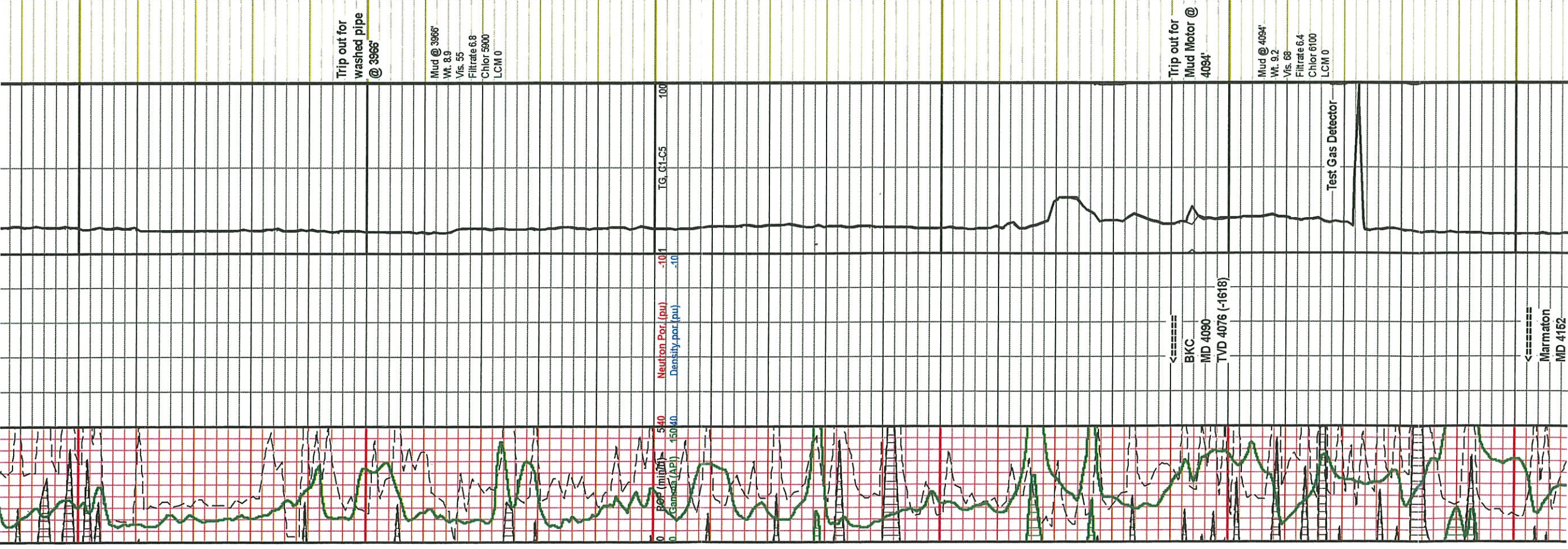
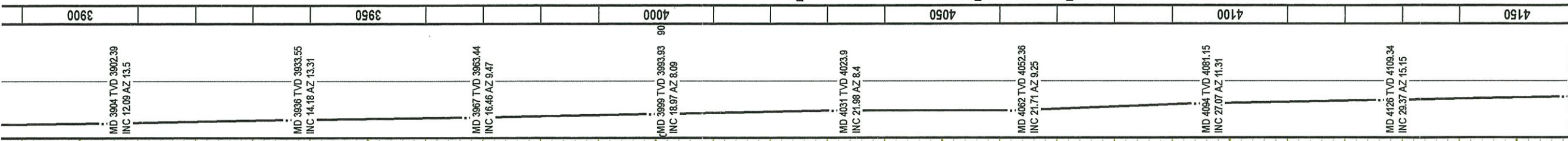
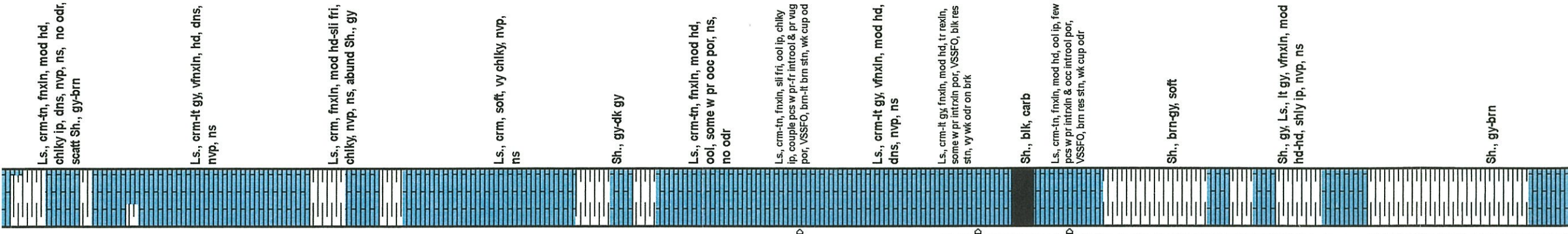
Ls., crm-ft gy, vfnxin, soft, ool  
ip, tr rexin around ool,  
chky-xy chky, nvp, ns

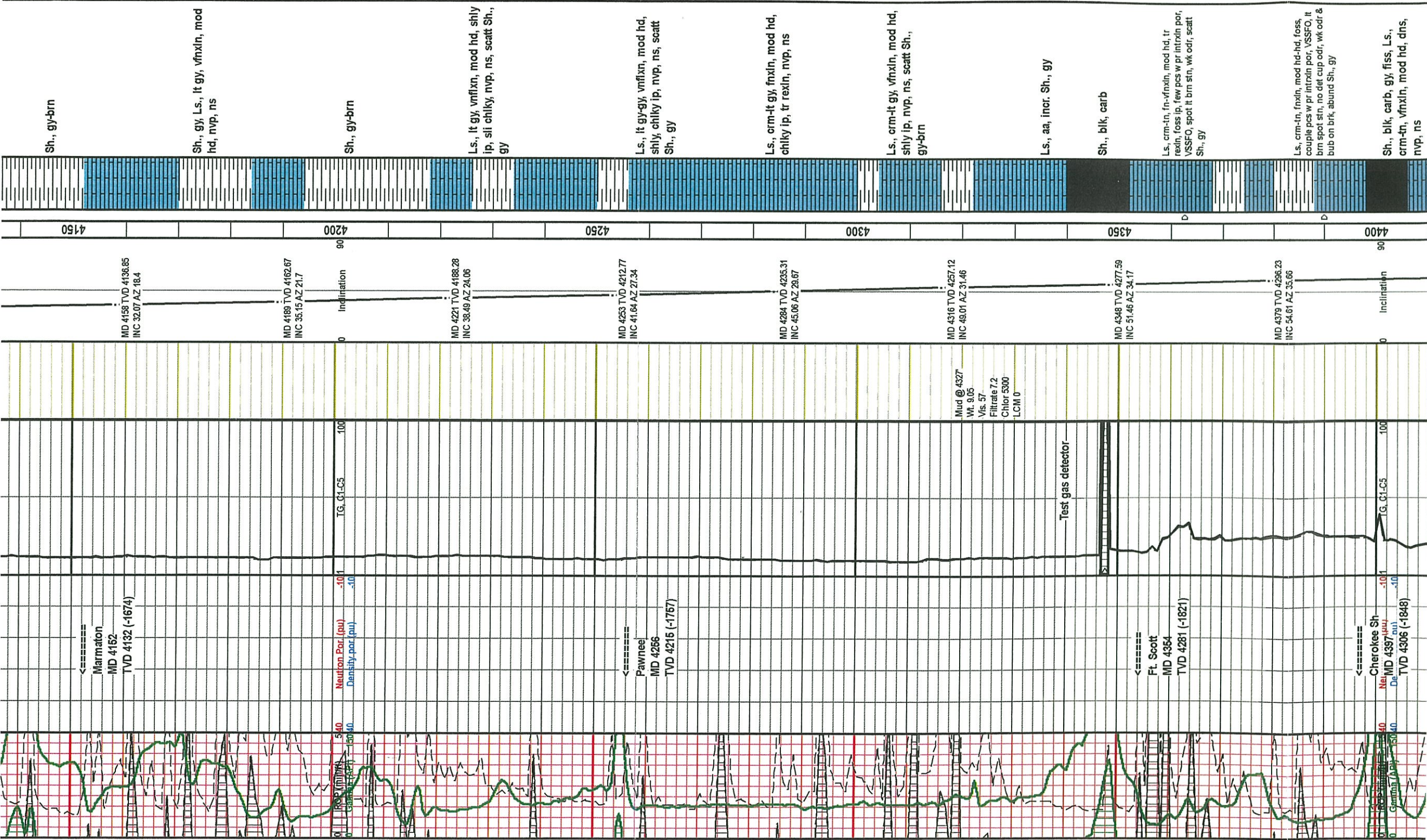
Ls., crm-ft-ht gy, fnxin, sli fri,  
ool, few pcs w pr introol por,  
ns, no odr, scatt Sh., gy-brn,  
silky ip

Ls., crm-ft-mottld brn, fnxin,  
ool, foss, pr-fr introol, foss &  
intrxin por, ns, no odr

Sh., blk, carb, Ls., aa

ROP ROP (min/ft) --- Gamma (API) —	porosity and guard Neutron Por. (pu) - - - - - Density por (pu) —	TG, C1-C5 TG (Units) — C1 (units) - C2 (units) . C3 (units) . C4 (units) . C5 (units) .	Misc Info	Survey Data	Depth	% Lithology	Geological Descriptions
0 ROP (min/ft) 540 0 Gamma (API) 15040	Neutron Por. (pu) -10.1 Density por (pu) -10	TG, C1-C5 100		0 Inclination	3350		
0 ROP (min/ft) 540 0 Gamma (API) 15040	Neutron Por. (pu) -10.1 Density por (pu) -10	TG, C1-C5 100		0 Inclination	3400		
			20 samples at 3500'		3500		
			Mud @ 3525' Wt. 8.85 Vis. 36				Sh., gy, soft, Ls., erm, fmxln, soft, chiky lp., nvp, ns
			Filtrate 10.4 Chlor 7000 LCM 0				
							Ls., erm-it gy, vfmxl, soft, ool





Sh., gy-brn

Sh., gy, Ls., lt gy, vfnxn, mod hd, nvp, ns

Sh., gy-brn

Ls., lt gy, vfnxn, mod hd, shly ip, sli chky, nvp, ns, scatt Sh., gy

Ls., lt gy-gy, vfnxn, mod hd, shly, chky ip, nvp, ns, scatt Sh., gy

Ls., crm-lt gy, fmxln, mod hd, chky ip, tr rexln, nvp, ns

Ls., crm-lt gy, vfnxn, mod hd, shly ip, nvp, ns, scatt Sh., gy-brn

Ls., aa, incr. Sh., gy

Sh., blk, carb

Ls., crm-tr, fn-vfnxn, mod hd, tr rexln, foss ip, few pcs w pr intrxn por, VSSFO, spot lt brn stn, wk odr, scatt Sh., gy

Ls., crm-tr, fmxln, mod hd-hd, foss, couple pcs w pr intrxn por, VSSFO, lt brn spot stn, no det cup odr, wk odr & bub on brk, abund Sh., gy

Sh., blk, carb, gy, fiss, Ls., crm-tr, vfnxn, mod hd, dns, nvp, ns

Mud @ 4327  
Wt. 9.05  
Vis. 57  
Filtrate 7.2  
Chlor 5300  
LCM 0

Test gas detector

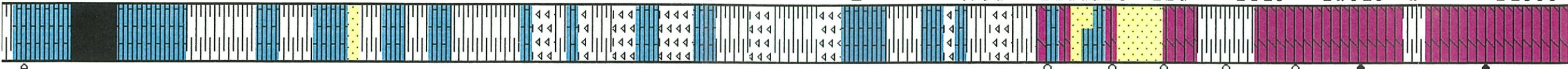
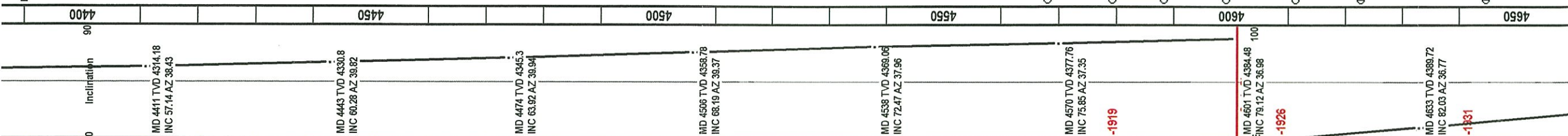
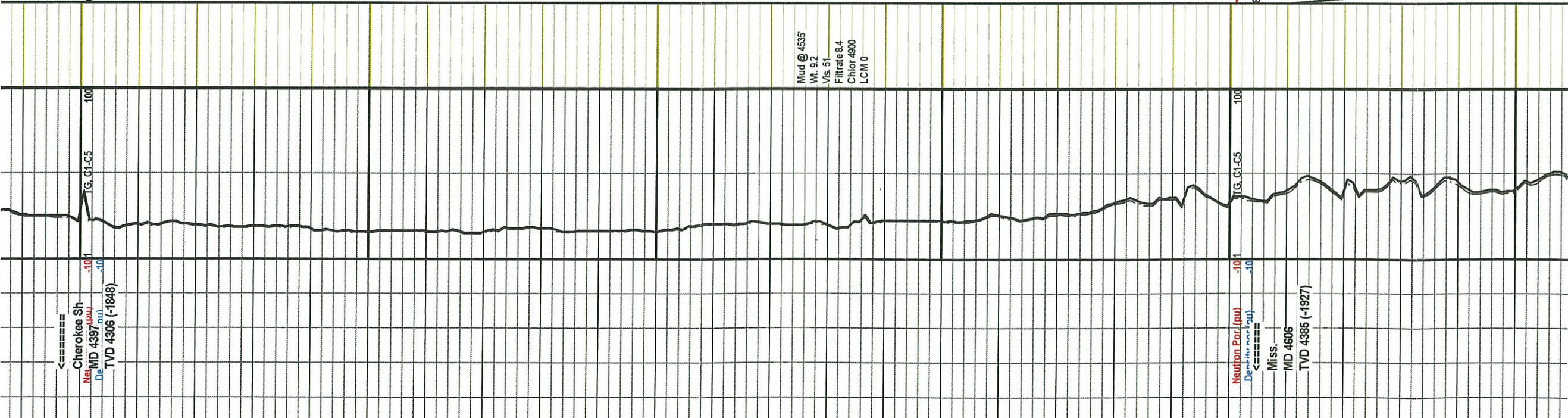
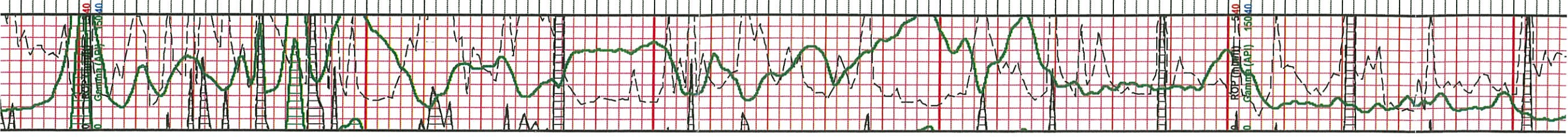
Marmaton  
MD 4152  
TVD 4132 (-1674)

Neutron Por. (pu)  
Density por. (pu)

Pawnee  
MD 4266  
TVD 4215 (-1767)

Ft. Scott  
MD 4364  
TVD 4281 (-1821)

Cherokee Sh  
MD 4397  
De  
TVD 4306 (-1848)



couple pcs w pr intrxn por, VSSFO, lt brn spot stn, no det cup odr, wk odr & bub on brk, abund Sh., gy

Sh., blk, carb, gy, fss, Ls., crm-tn, vfxln, mod hd, dns, nvp, ns

Sh., gy, fss, Ls., aa, ns

Ls., crm-tn, vfxln, mod hd, chky ip, dns, nvp, ns, abund Sh., aa, few SS clstrs, gy, fngm, silty, nvp, ns

Sh., gy-dk gy, couple pcs yel & purple

Chrt, cl-yel-crm, weath, pr vis por, blk res stn, Ls., crm, vfxln, mod hd, pr intrxn por, NSFO, blk res stn, few pcs SS, crm-gy silty, nvp, ns, scatt Sh., var col

Ls. & Chrt., aa, incr Sh., aa

Ls., Chrt., Sh., aa

AA., some chrt., cl, weath broken, pr vis por, blk stn, some Dol, crm, fmxln, weath, fri, pr intrxn por, SSFO, sub sat-spot stn, wk cup odr

Ls., crm, fmxln, fri, pr spic cast por, blk res stn, Dol, tn, fmxln, fri-vy fri, sucr, fr sucr & pr-fr vug, spic cast por, SSFO, sat-sub sat lt brn stn, some SS, cl, fr med grm, pr sort, sub ang, fr intrgrn por, brn stn, VSSFO, fr cup odr

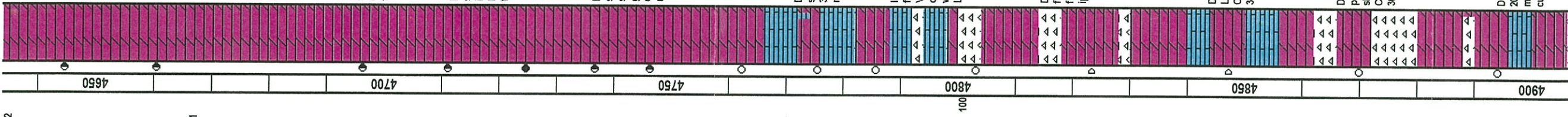
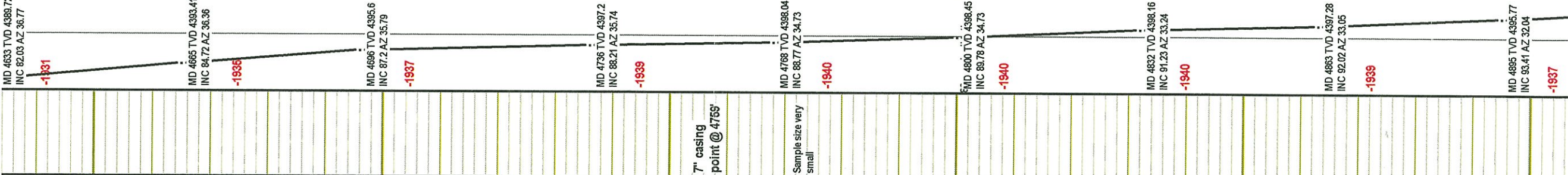
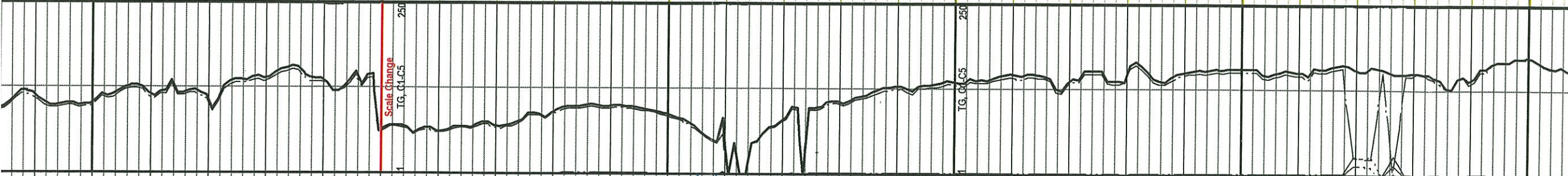
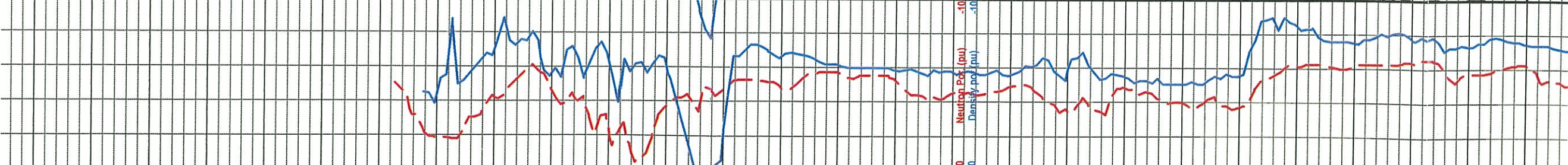
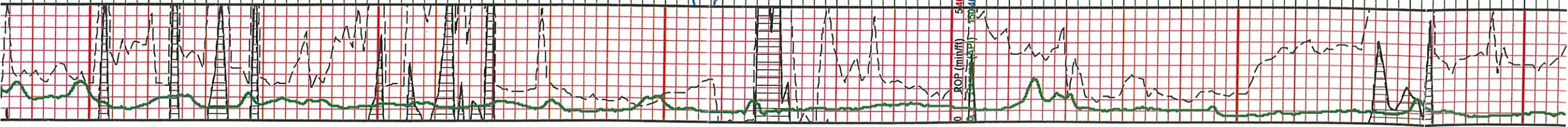
Dol., aa, incr SS, cl, fr med grm, chiry ip, sub ang, some unconcs grms, lt brn stn ip, VSSFO, fr strm cut, wk cup odr

Dol, tn, fmxln, fri-vy fri, some dns w no-vy pr sucr por, most w fr vis sucr por, SSFO, sub sat sat stn ip, fr strm cut, fr cup odr, Some Sh., aa,

Dol, aa, w incr amt pr-fr sucr por, S-FSFO, sub sat sat stn, some Dol, crm, fmxln, sil fri-fri, pr vug & spic cast por, FSFO, blk stn, fr cup odr, fr strm cut

Sh., most gy, some vari col

Dol, tn, fmxln, sil fri, sucr ip, fr sucr por, SSFO, sat-sub sat stn, some Dol, crm-tn, fmxln, sil fri, pr-fr vug & spic cast por, SSFO, sub sat-spot stn, wk cup odr, fr odr on brk



Dol., tn, fmxln, sli fri, sucr ip, fr sucr por, SSFO, sat-sub sat stn, some Dol., crm-tn, fmxln, sli fri, pr-fr, vug & spic cest por, SSFO, sub sat-spot stn, wk cup odr, fr odr on brk

**Sample quality poor, 90% shales 4670-90**

**Sample quality improved, samples very small 4690-4769**

Dol., tn, fmxln, fri-vy fri, sucr, fr vis sucr por, SSFO, sat stn, wk cup odr, fr odr on brk, gd yel fluoro, gd strm cut, fr pyr

Dol., tn, fmxln, fri-vy fri, sucr, fr-gd vis sucr por, rare vis vug por, FSFO, it brn ip, sat stn, gd cup odr, gd odr on brk brt yel fluoro, gd strm cut, some pyr flakes, some free pyr

Dol., tn-crm, fmxln, fri, most sucr, fr sucr por, occ fr vug por, FSFO, it brn sat stn, some spot stn, gd cup odr, vy gd odr on brk, brt yel even fluoro, gd cut, few pcs Dol vfxln, dns, glauc, nvp, ns

Dol., aa, sub sat-sat stn, fr fluoro, fr strm cut, sli deer shows overall, 30-40% Ls., crm, vfxln, sli fri-mod hd, nvp, ns, fr pyr

Incr. Ls., aa, glauc ip, some Dol., crm, fmxln, fri, pr-fr intrxn por, few pcs w VSSFO, spot-sun sat stn, fr fluoro & cut, no det odr, some cht, cl, couple w edge stn, some loose grms, 40-50% Ls., 20-30% Dol., 20-30% Cht

Dol., crm, fmxln, fri, pr-fr intrxn por, vy few pcs w VSSFO, it brn spot stn, dull fluoro, wk cut, abund Chrt., cl, weath ip, few w sli edge stn, no det cup odr

Dol., aa, w shows, aa, Chrt., aa, scatt Ls., crm, vfxln, mod hd, dns, nvp, ns, Chrt., aa, 40-50% Dol., 20-30% Ls., 30-40% Cht

Dol., crm-fn, fmxln, glauc ip, fr intrxn por, sli incr shows, few pcs w VSSFO, sli incr brn sat stn, fr fluoro, abund Chrt., cl, weath ip, few pcs w edge stn 30-40% Cht

Dol., aa, sli incr shows ip, Chrt., aa 20-30% Cht, some Ls., crm, vfxln, mod hd, nvp, ns, 20-30% Ls., no det cup odr



mod hd, nvp, ns, 20-30% Ls., no det cup odr

Dol., crm-tn, fmxln, sli fri-fri, fr intrxln por, VSSFO ip, incr amt w sub sat-sat stn, wk odr on brk, scatt Chrt., aa, scatt Ls., aa, 10-20% Ls., 20-30% Chrt

Dol., crm-tn, fmxln, fri, some dns w nvp, 30-40% fr intrxln por, VSSFO ip, some sub sat stn, incr chrt., aa

Dol., crm-tn, fmxln, fri, fr-gd intrxln por, SSSFO ip, 50-60% w sub sat-sat stn, wk cup odr

Dol., tn, fmxln, fri, fr-gd intrxln & occ vis vug por, SSSFO ip, 70-80% sat & sub sat stn, wk cup odr, scatt Ls., crm, vfxln, mod hd, dns, nvp, tr pyr

Dol., aa, w S-FSFO ip, 70-80% sat stn, wk cup odr, fr odr on brk, fr strim out

Dol., tn-crm, fri, some mod hd, dns w nvp, glauc ip, 60-70% w fr intrxln & vug por, SSSFO ip, sat-sub sat stn, wk cup odr, scatt Chrt., elf, weath ip, broken ip w pr intrgran por, blk-dk brn stn in por, some edge stn, 20-30% Chrt

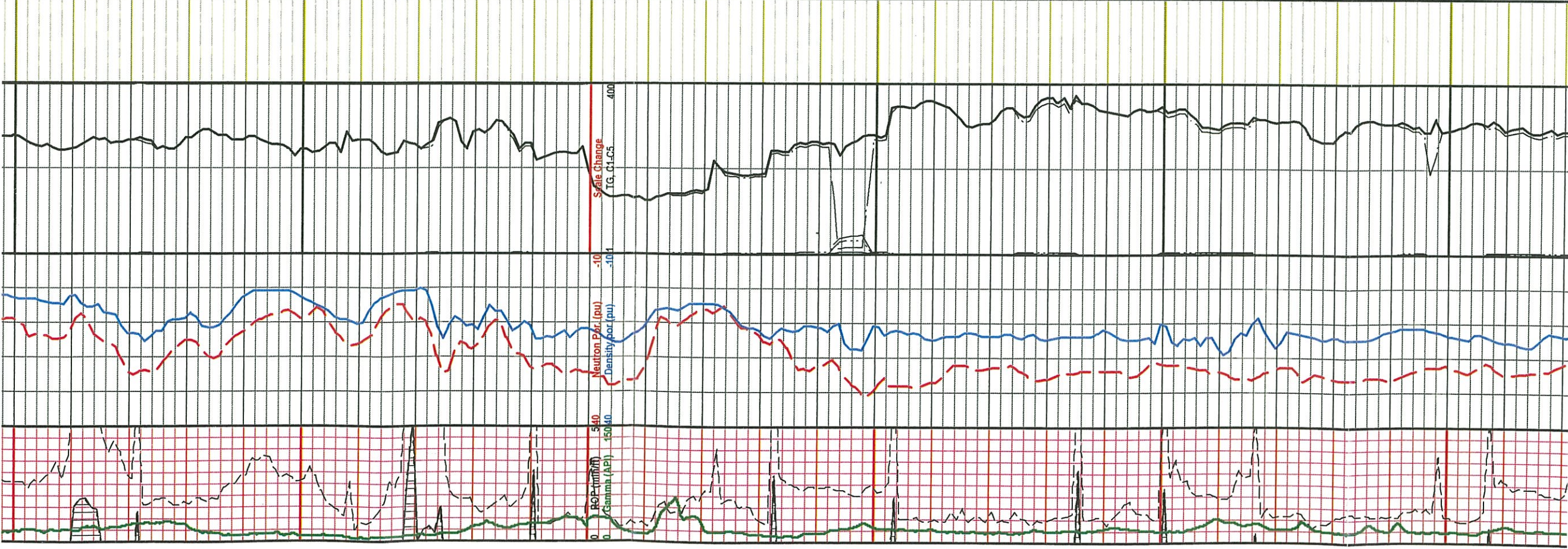
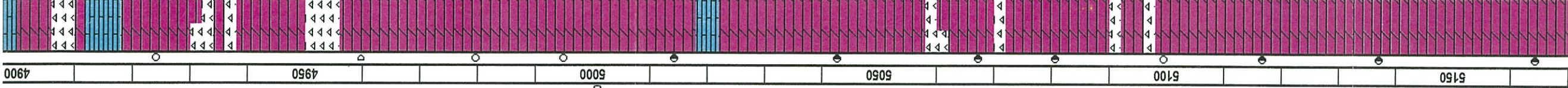
Dol., crm-tn, fmxln, fri-vy fri, sucr ip, 20-30% dns w nvp, fr-gd intrxln & vug por, SSSFO ip, some free oil in tray, 60-70% sat stn, some spot stn, fr cup odr, tr pyr

Dol., crm-tn, fmxln, sli fri, 20-30% w pr intrxln por, most w fr intrxln & occ vug por, SSSFO, sat-sub sat stn in most, fr odr on brk, wk cup odr, 10-20% chrt., aa

Dol., crm-tn, fmxln, fri-sli fri, sucr ip, some w nvp, most w pr-fr intrxln por, occ pr vug por, FSFO, sub sat-sat stn, fr cup odr, gd odr on brk

Dol., aa, w sli incr shows, most w fr sucr por, SSSFO ip, 60-70% w sat & sub sat stn, fr cup odr

Dol., crm-tn, fmxln, fri, sucr ip, fr-gd sucr por, occ fr vug por, SSSFO ip, 70-80% sub sat-sat stn, fr cup odr



Dol., crm-tn, fmxln, fri, sucr ip, fr-gd  
sucr por, occ fr vug por, SSFO ip,  
70-80% sub sat stn, fr cup odr

Dol., aa, 10-20% dns, w vy pr intrin por,  
VSSFO, wk odr on brk

Dol., tn-crm, fmxln, fri-vy fri, sucr,  
fr-gd sucr & occ fr vug por, SSFO ip,  
70-80% sat-sub sat stn, 10-20% cht.,  
clr, weath ip, broken, pr vis por,  
blk-brn stn, fr cup odr, tr pyr

Dol., aa, shows aa

Dol., tn-crm, fmxln, sil fri-fri, sucr,  
some w pr intrin por, most w fr  
intrin por, SSFO ip, 60-70% sub  
sat-stn stn, gd cut fluoro, no det odr,  
tr pyr

Dol., tn-crm, fmxln, fri-vy fri, sucr ip,  
fr-gd intrin & occ fr vug por, S-FSFO  
ip, 70-8% w sat stn, fr cup odr, gd strm  
cut, 10-20% Chrt., clr, weath ip, ns

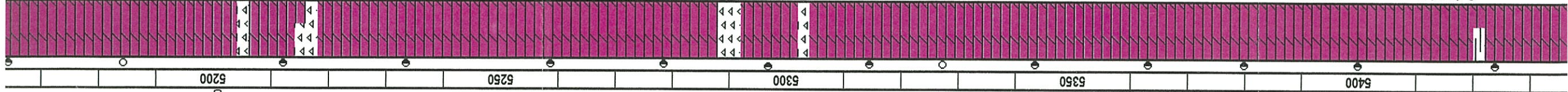
Dol., aa, sil decr shows, some crm,  
dns, glauc ip, vy pr intrin por, VSSFO  
ip, some spot stn, some w no shows,  
no det cup odr, fr strm cut

Dol., tn-crm, fmxln, sil fri-fri, fr-gd  
intrin & vug por, few pcs spic cast  
por, FSFO, 60-70% sat stn, fr cup odr,  
gd odr on brk

Dol., aa, w shows, aa

Dol., crm-tn, fmxln, sil fri-fri, 20-30%  
glauc ip, w no-vy pr intrin por, rest w  
fr-gd intrin & occ fr vug por, FSFO  
ip, 50-60% w sat stn, fr cup odr, gd  
strm cut, tr pyr

Incr amount, 30-40% Dol crm-it grn,  
vfxln, sil fri, glauc ip,nvp, ns, rest w fr  
intrin & fr-gd vug por, FSFO ip, most  
w sat stn, fr cup odr, gd odr on brk.  
Couple pcs Sh., gy-dk brn, dollimey ip



MD 5180 TVD 4390.23  
INC 88.66 AZ 25.56

-1922

MD 5212 TVD 4381.06  
INC 88.38 AZ 24.98

-1923

MD 5244 TVD 4381.73  
INC 88.22 AZ 25.01

-1923

MD 5275 TVD 4382.11  
INC 88.39 AZ 25.48

-1924

MD 5307 TVD 4382.3  
INC 88.94 AZ 26.29

-1924

MD 5339 TVD 4382.13  
INC 90.67 AZ 25.29

-1924

MD 5370 TVD 4381.6  
INC 91.29 AZ 26.31

-1923

MD 5402 TVD 4381.31  
INC 88.72 AZ 25.14

-1923

MD 5434 TVD 4381.44

Inclination

TG\_C1-C5

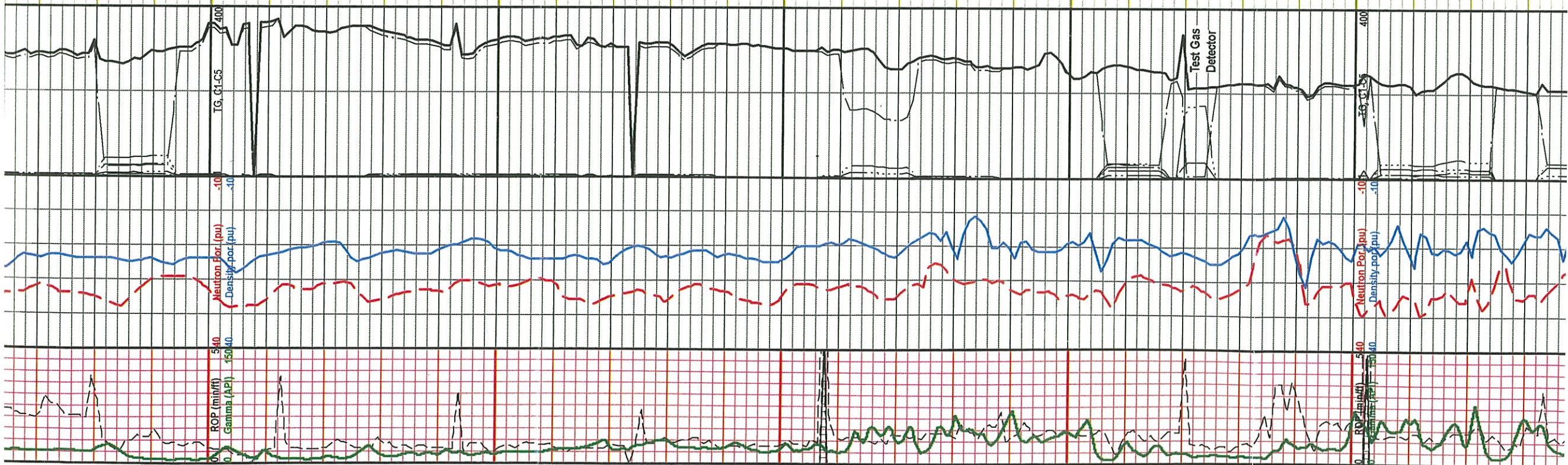
Test Gas  
Detector

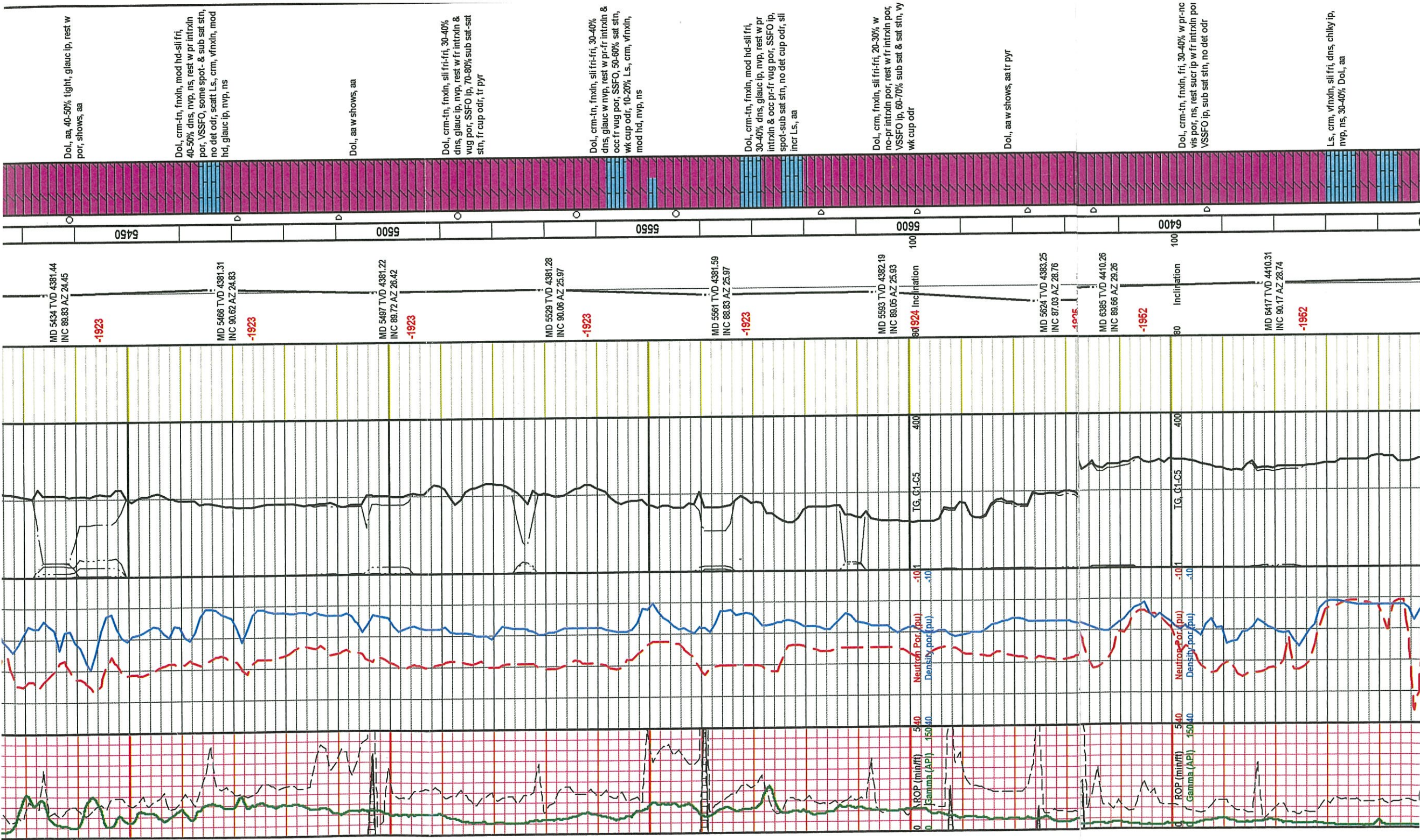
Neutron Por. (pu)  
Density por. (pu)

ROP (min/ft)  
Gamma (API)

Neutron Por. (pu)  
Density por. (pu)

ROP (min/ft)  
Gamma (API)





Dol., aa, 40-50% tight, glauc ip, rest w por, shows, aa

Dol., crm-tn, fnxln, mod hd-sil fri, 40-50% dns, nvp, ns, rest w pr intrxln por, VSSFO, some spot- & sub sat stn, no det odr, scatt Ls, crm, vfnxln, mod hd, glauc ip, nvp, ns

Dol., aa w shows, aa

Dol., crm-tn, fnxln, sil fri-fri, 30-40% dns, glauc ip, nvp, rest w fr intrxln & vug por, SSFO ip, 70-80% sub sat-stn, fr cup odr, tr pyr

Dol., crm-tn, fnxln, sil fri-fri, 30-40% dns, glauc w nvp, rest w pr-fr intrxln & occ fr vug por, SSFO, 50-60% sat stn, wk cup odr, 10-20% Ls, crm, vfnxln, mod hd, nvp, ns

Dol., crm-tn, fnxln, mod hd-sil fri, 30-40% dns, glauc ip, nvp, rest w pr intrxln & occ pr-fr vug por, SSFO ip, spot-sub sat stn, no det cup odr, sil incr Ls, aa

Dol., crm, fnxln, sil fri-fri, 20-30% w no-pr intrxln por, rest w fr intrxln por, VSSFO ip, 60-70% sub sat & sat stn, vy wk cup odr

Dol., aa w shows, aa tr pyr

Dol., crm-tn, fnxln, fri, 30-40% w pr-no vis por, ns, rest sucr ip w fr intrxln por VSSFO ip, sub sat stn, no det odr

Ls, crm, vfnxln, sil fri, dns, chiky ip, nvp, ns, 30-40% Dol., aa

MD 5434 TVD 4381.44  
INC 88.83 AZ 24.45

-1923

MD 5468 TVD 4381.31  
INC 90.62 AZ 24.83

-1923

MD 5497 TVD 4381.22  
INC 89.72 AZ 26.42

-1923

MD 5529 TVD 4381.28  
INC 90.06 AZ 25.97

-1923

MD 5561 TVD 4381.59  
INC 88.83 AZ 25.97

-1923

MD 5583 TVD 4382.19  
INC 88.05 AZ 25.93

80-924 Inclination

MD 5624 TVD 4383.25  
INC 87.03 AZ 28.76

-1962

MD 6385 TVD 4410.26  
INC 88.66 AZ 29.26

-1962

Inclination

MD 6417 TVD 4410.31  
INC 90.17 AZ 28.74

-1962

TG, G1-C5

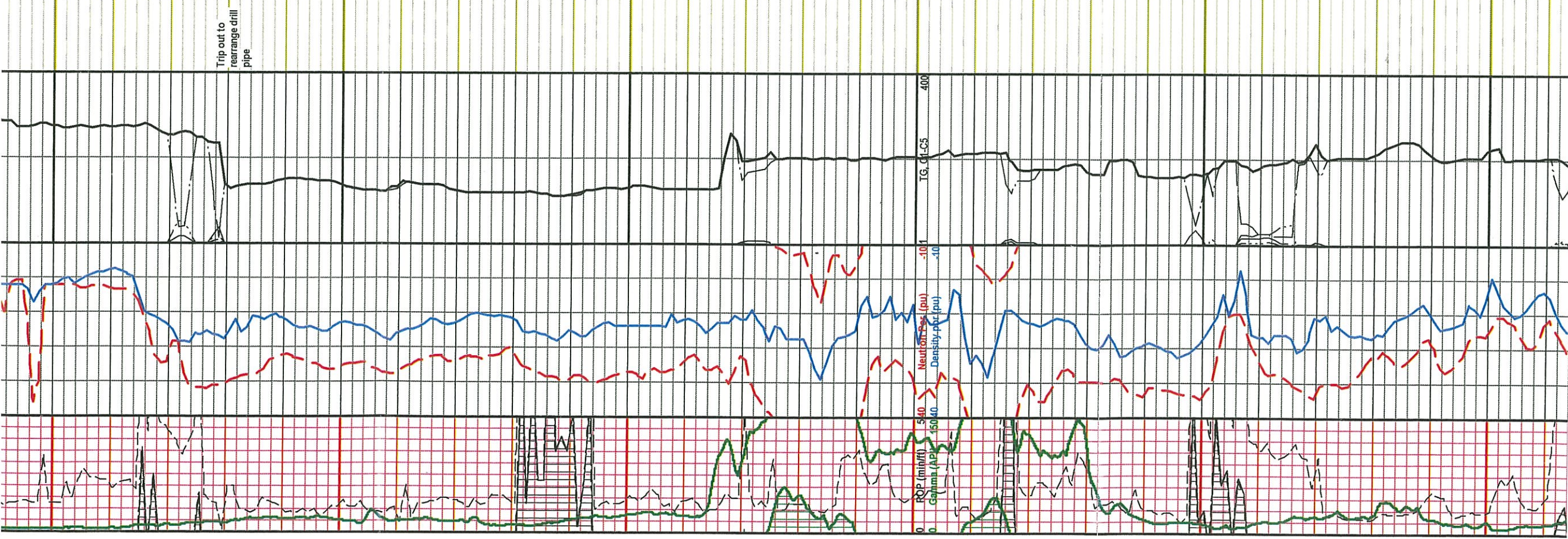
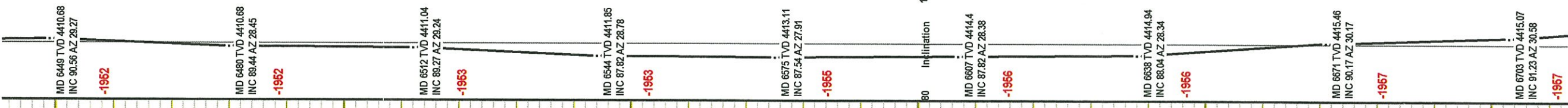
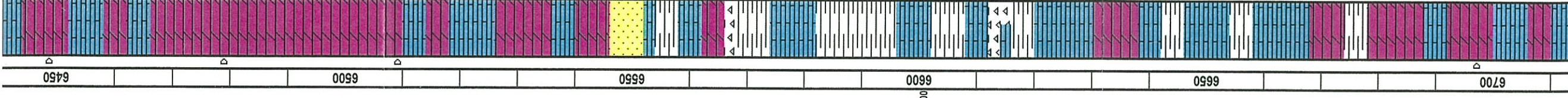
Neutron Por. (pu)  
Density Por. (pu)

ROP (min/ft)  
Gamma (API)

TG, G1-C5

Neutron Por. (pu)  
Density Por. (pu)

ROP (min/ft)  
Gamma (API)



Dol., crm, fmxln, sil fri, 30-40% w f intrxin & occ pr-fr vug por, SSFO sub sat str, wk odr on brk, 40-50' aa

Dol., crm, fmxln, most dns w vy pi vis por, glauc ip, 20-30% w pr-fr ir por, VSSFO ip, some barren por; -sub sat str, no det odr

Dol., aa w sli incr shows, 30-40% v VSSFO ip, sub sat-spot str, no di odr, 20-30% Ls., crm, vfmxn, mod dns, nvp, ns

SS, clr, sub rnd, fn grn, unconcs, l no det odr, 30-40% Ls., aa

Dol., crm, fmxln, sil fri, no-vy pr wi few pcs w spot str, 30-40% Ls., cr vfmxn, sil fri, dns, nvp, ns, scatt S aa, 10-20% Sh., gy few pcs Chrt., fn-org-pink, weath

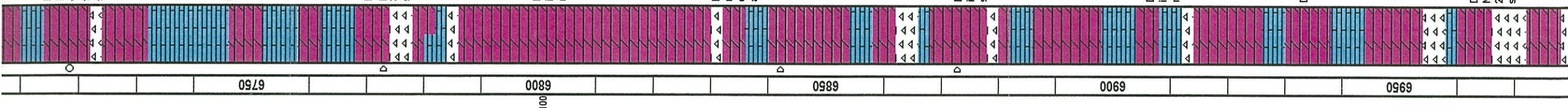
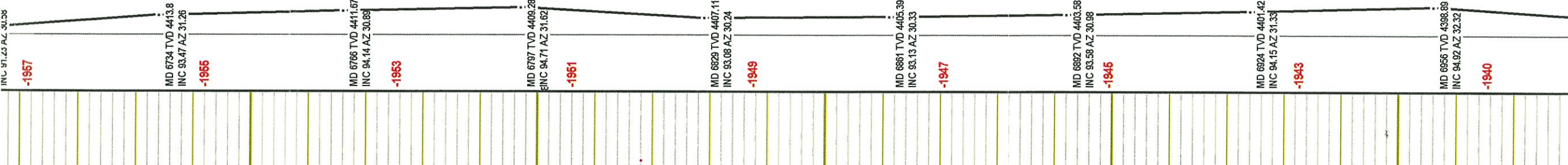
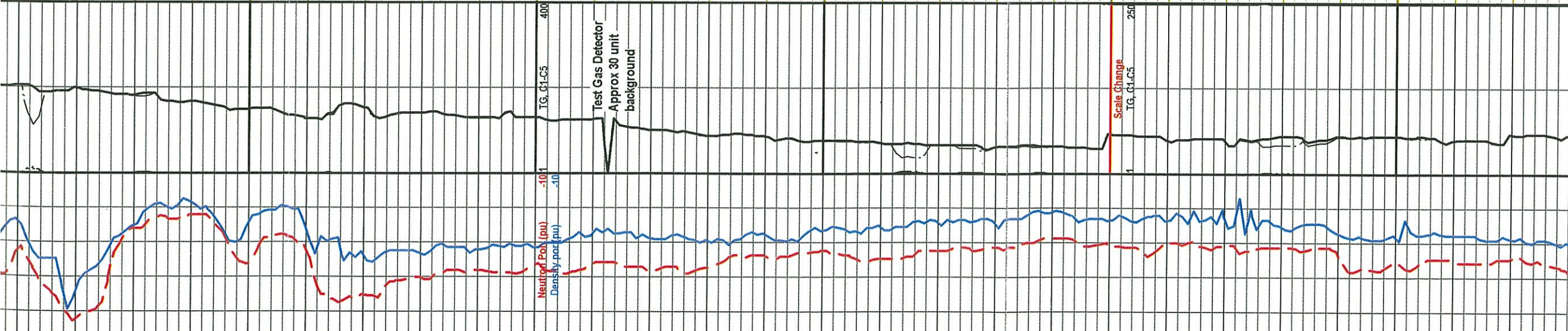
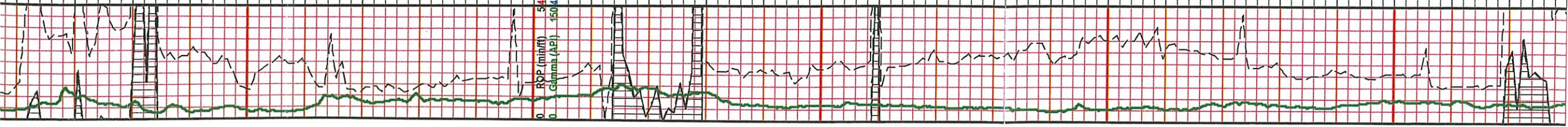
Ls., aa, incr Sh., 30-40% Sh., gy

Ls., crm, vfmxn, sil fri, chiky ip, shi nvp, ns, 20-30% Sh., gy 5% Chrt., fn-org, weath

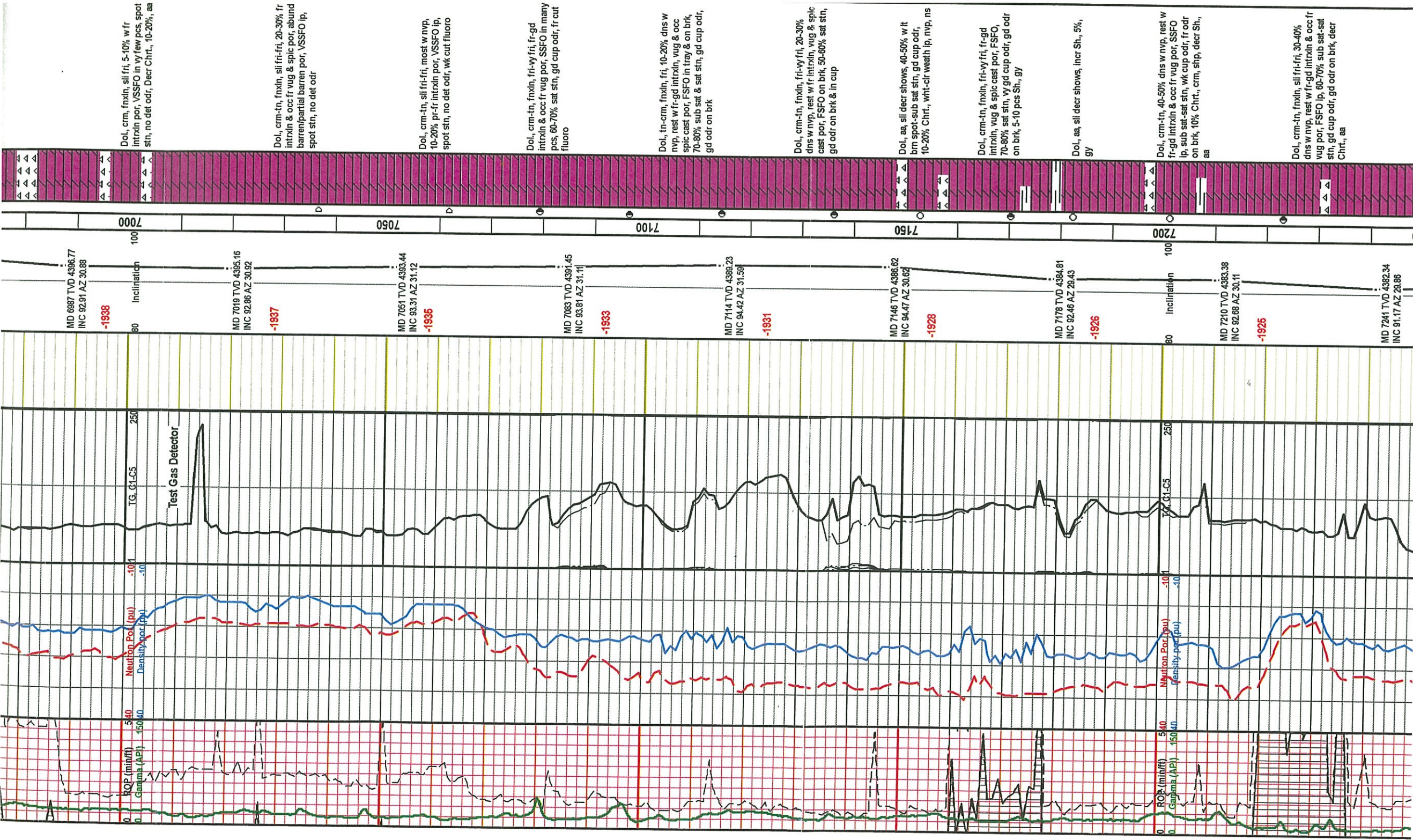
Ls., aa, 20-30% Dol, pr-fr intrxin pc NSFO, 20-30% w spot str, no det ( sli decr Sh., aa

Dol., crm, fmxln, sil fri, pr-fr intrxin NSFO, 20-30% w spot str, 30-40% crm, vfmxn, sil fri, chiky ip, nvp, n: decr amt Sh., gy

Dol., crm, fmxln, sil fri-mod hd ip, glauc ip, pr-fr intrxin por, vy few p VSSFO, spot str, vy wk odr on brk 20-30% Ls., aa, decr Sh., aa



Dol., crm, fmxln, sil fri, 30-40% wfr-gd  
 intrxn por, SSFO, lt brn sub sat stn,  
 wk cup odr, 40-50% Ls, crm, vfrxnln, sil  
 fri, chiky ip, nvp, ns, some Chrt., crm,  
 shp  
  
 Ls., aa, 20-30% Dol, aa, abund pyr  
  
 Dol., crm-tn, fmxln, fri, pr-fr intrxn  
 por, SSFO ip, 40-50% sub sat stn,  
 30-40% Chrt., opq wht-clr, weath ip,  
 some Ls., crm, vfrxnln, mod hd, nvp, ns  
  
 Dol., crm, fmxln, fri, 60-70% w pr-fr  
 intrxn por, NSFO, few pcs w spot stn,  
 no det odr  
  
 Dol., aa, 5-10% pcs w VSSFO, spot stn,  
 no det odr, 10% Ls, crm, vfrxnln, sil fri,  
 chiky nvp, ns, few pcs chrt., crm, shp,  
 abund pyr  
  
 Dol., crm, fmxln, fri, 50-60% w pr-fr  
 intrxn por, 5-10% w VSSFO, spot stn,  
 sil incr chrt., aa, incr Ls., 20-30% aa  
  
 Dol., crm, aa, NSFO, vy rare spot stn,  
 incr Ls. crm, vfrxnln, sil fri, dns, nvp,  
 ns, Chrt., aa  
  
 Dol & Ls., aa  
  
 Dol., crm, fmxln, sil fri, pr intrxn por,  
 NSFO, no det odr, abund Chrt.,  
 20-30%, crm-opq wht-clr, weath ip,  
 scatt Ls., aa



MD 6987 TVD 4366.77  
INC 92.91 AZ 30.88  
**-1938**

MD 7019 TVD 4395.16  
INC 92.86 AZ 30.92  
**-1937**

MD 7051 TVD 4393.44  
INC 93.31 AZ 31.12  
**-1936**

MD 7083 TVD 4391.45  
INC 93.81 AZ 31.11  
**-1933**

MD 7114 TVD 4388.23  
INC 94.42 AZ 31.59  
**-1931**

MD 7146 TVD 4386.82  
INC 94.47 AZ 30.62  
**-1928**

MD 7178 TVD 4384.81  
INC 92.49 AZ 28.43  
**-1926**

MD 7210 TVD 4383.38  
INC 92.68 AZ 30.11  
**-1925**

MD 7241 TVD 4382.34  
INC 91.17 AZ 28.88

Dol., crm, fmxln, sil fri, 5-10% w fr  
intrxn por, VSSFO in v few pcs, spot  
stn, no det odr, Decr Cht., 10-20%, aa

Dol., crm-tn, fmxln, sil fri-fri, 20-30% fr  
intrxn & occ fr vug & spic por, abund  
barren/partial barren por, VSSFO lp,  
spot stn, no det odr

Dol., crm-tn, sil fri-fri, most w nvp,  
10-20% pr-fr intrxn por, VSSFO lp,  
spot stn, no det odr, wk cut fluoro

Dol., crm-tn, fmxln, fri-wy fri, fr-gd  
intrxn & occ fr vug por, SSFO in many  
pcs, 60-70% sat stn, gd cup odr, fr cut  
fluoro

Dol., fr-crm, fmxln, fri, 10-20% dns w  
nvp, rest w fr-gd intrxn, vug & occ  
spic cast por, FSFO in tray & on brk,  
70-80% sub sat & sat stn, gd cup odr,  
gd odr on brk

Dol., crm-tn, fmxln, fri-wy fri, 20-30%  
dns w nvp, rest w fr intrxn, vug & spic  
cast por, FSFO on brk, 50-60% sat stn,  
gd odr on brk & in cup

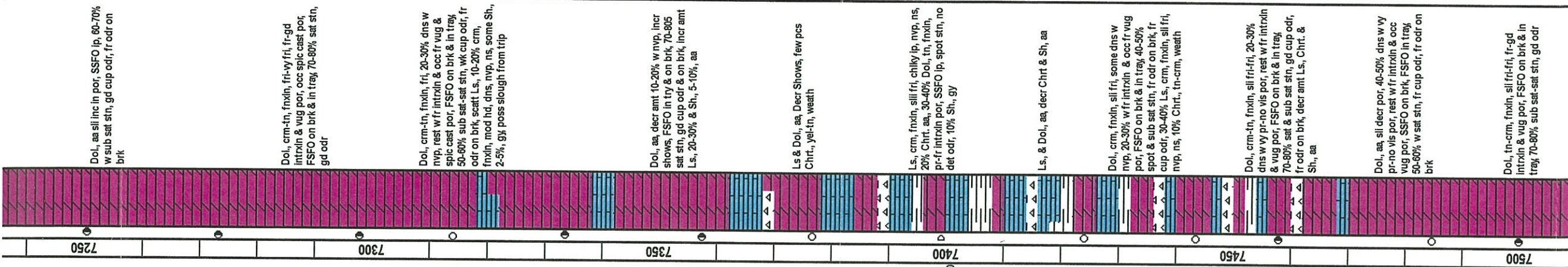
Dol., aa, sil deer shows, 40-50% w it  
brn spot-sub sat stn, gd cup odr,  
10-20% Cht., wnt-cir weath lp, nvp, ns

Dol., crm-tn, fmxln, fri-wy fri, fr-gd  
intrxn, vug & spic cast por, FSFO,  
70-80% sat stn, vug gd cup odr, gd odr  
on brk, 5-10 pcs Sh., gy

Dol., aa, sil deer shows, incr Sh., 5%,  
gy

Dol., crm-tn, 40-50% dns w nvp, rest w  
fr-gd intrxn & occ fr vug por, SSFO  
lp, sub sat-sat stn, wk cup odr, fr odr  
on brk, 10% Cht., crm, shp, decr Sh.,  
aa

Dol., crm-tn, fmxln, sil fri-fri, 30-40%  
dns w nvp, rest w fr-gd intrxn & occ fr  
vug por, FSFO lp, 60-70% sub sat-sat  
stn, gd cup odr, gd odr on brk, decr  
Cht., aa



Dol, aa sil inc in por, SSFO lp, 60-70% w sub sat stn, gd cup odr, fr odr on brk

Dol, crm-tn, fmxln, fri-vy fri, fr-gd intrxin & vug por, occ spic cast por, FSFO on brk & in tray, 70-80% sat stn, gd odr

Dol, crm-tn, fmxln, fri, 20-30% dns w nvp, rest w fr intrxin & occ fr vug & spic cast por, FSFO on brk & in tray, 50-60% sub sat stn, wk cup odr, fr odr on brk, scatt Ls., 10-20% crm, fmxln, mod hd, dns, nvp, ns, some Sh., 2-5%, gy, poss slough from trip

Dol, aa, decr amt 10-20% w nvp, incr shows, FSFO in tv, & on brk, 70-80% sat stn, gd cup odr & on brk, incr amt Ls., 20-30% & Sh., 5-10%, aa

Ls & Dol, aa, Decr Shows, few pcs Chrt., yel-tn, weath

Ls., crm, fmxln, sil fri, chiky lp, nvp, ns, 20% Chrt, aa, 30-40% Dol, tn, fmxln, pi-fr intrxin por, SSFO lp, spot stn, no det odr, 10% Sh., gy

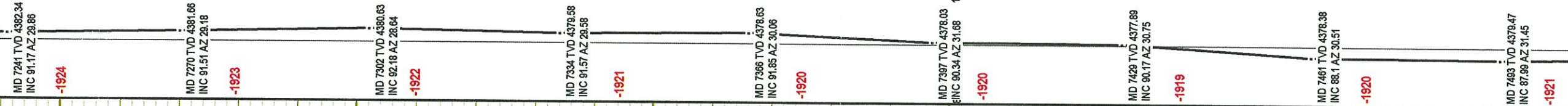
Ls., & Dol, aa, decr Chrt & Sh, aa

Dol, crm, fmxln, sil fri, some dns w nvp, 20-30% w fr intrxin & occ fr vug por, FSFO on brk & in tray, 40-50% spot & sub sat stn, fr odr on brk, fr cup odr, 30-40% Ls., crm, fmxln, sil fri, nvp, ns, 10% Chrt, tn, crm, weath

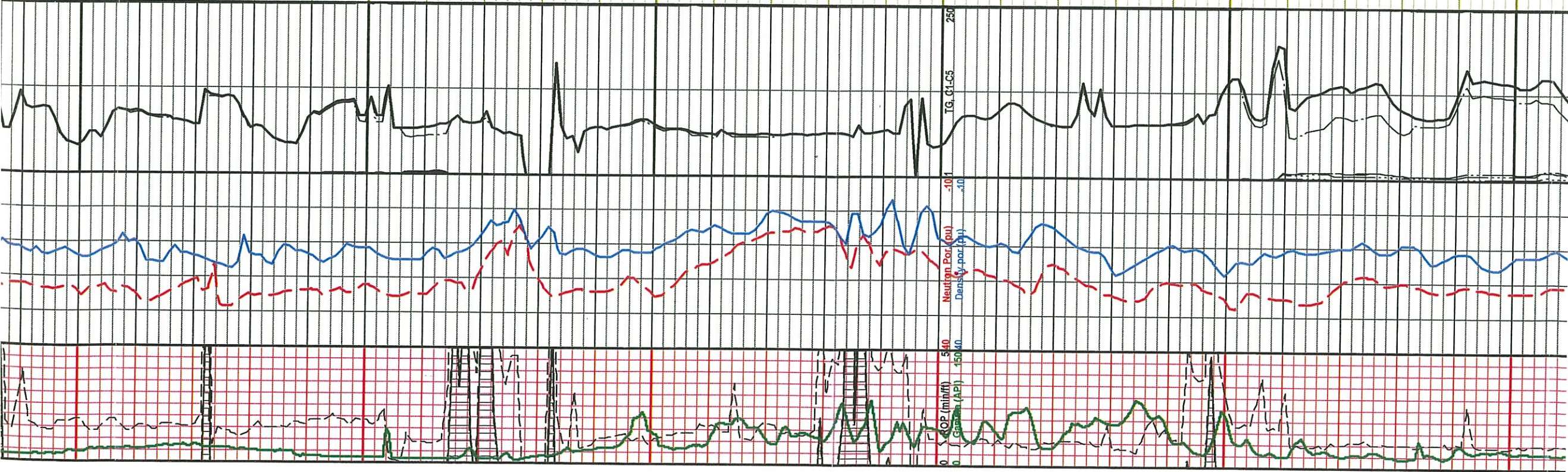
Dol, crm-tn, fmxln, sil fri fri, 20-30% dns w vy pr-no vis por, rest w fr intrxin & vug por, FSFO on brk & in tray, 70-80% sat & sub sat stn, gd cup odr, fr odr on brk, decr amt Ls., Chrt. & Sh., aa

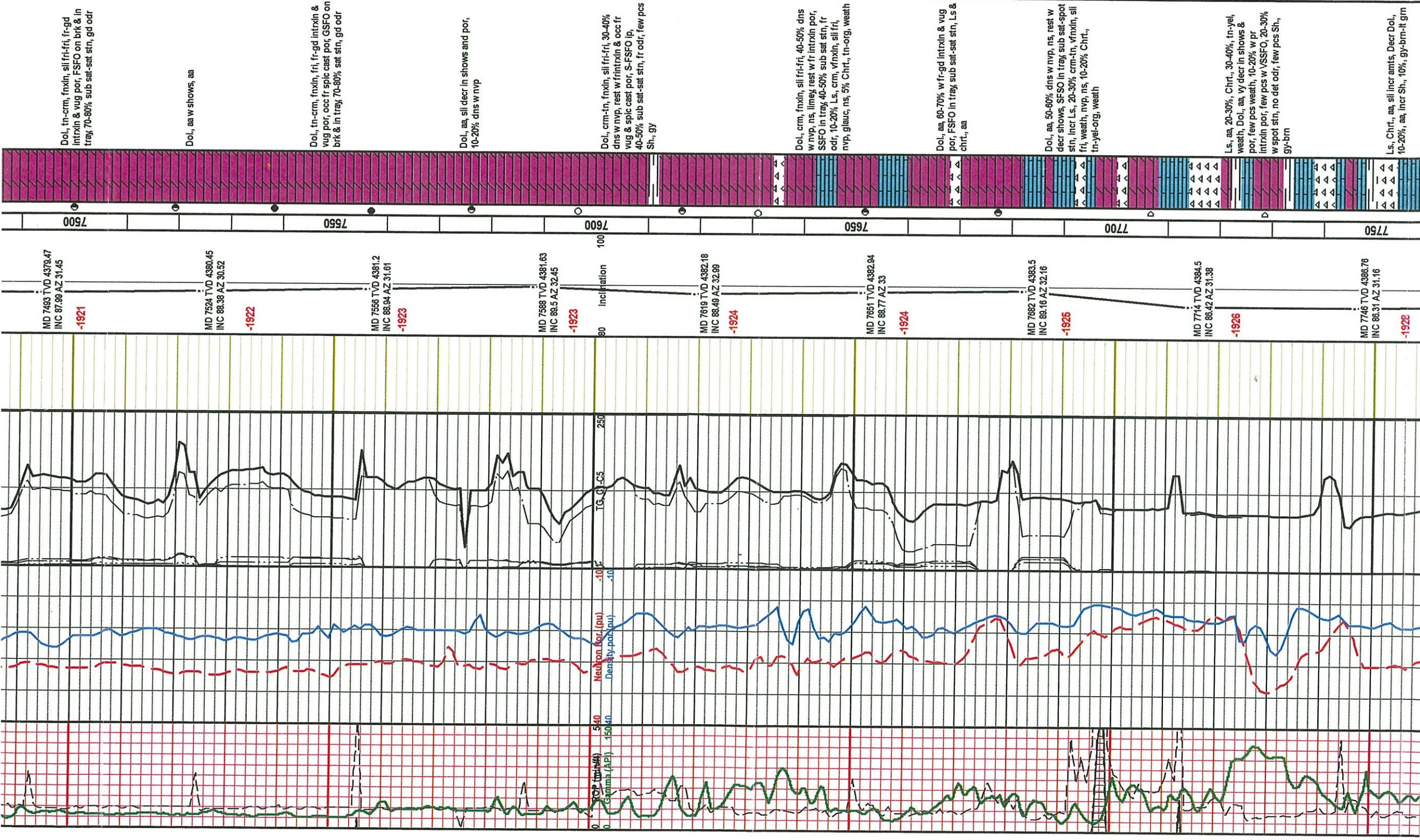
Dol, aa, sil decr por, 40-50% dns w vy pr-no vis por, rest w fr intrxin & occ vug por, SSFO on brk, FSFO in tray, 50-60% w sat stn, fr cup odr, fr odr on brk

Dol, tn, crm, fmxln, sil fri fri, fr-gd intrxin & vug por, FSFO on brk & in tray, 70-80% sub sat stn, gd odr

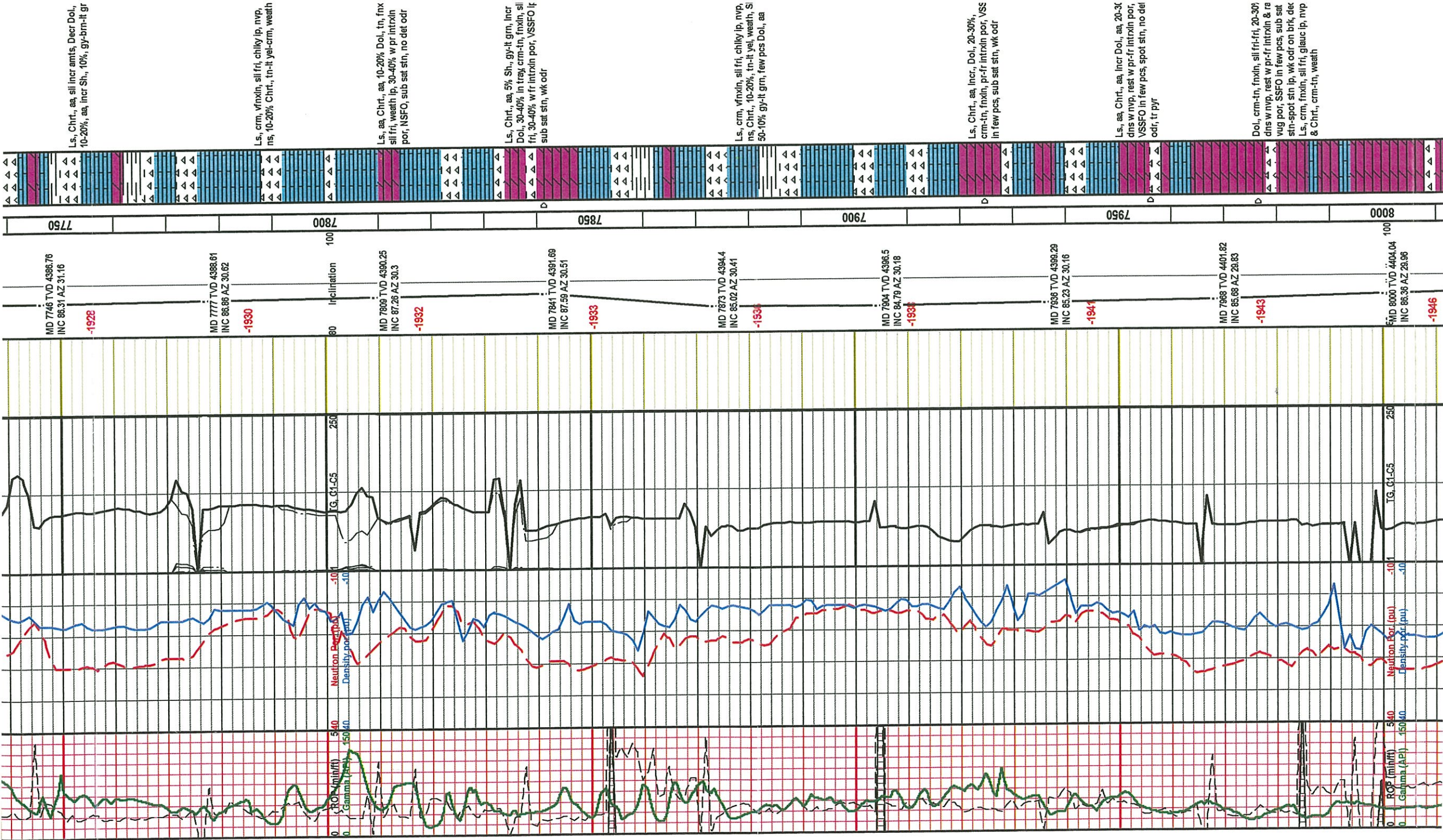


Trip out for bit @ 7308'









Ls., Chrt., aa, sli incr amts, Decr Dol., 10-20%, aa, incr Sh., 10%, gy-bm-lt gr

Ls., crm, vfrxin, sli fri, chiky ip, nvp, ns, 10-20% Chrt., tn-lt yel-crm, weath

Ls., aa, Chrt., aa, 10-20% Dol., tn, fnx sli fri, weath ip, 30-40% w pr intrxin por, NSFO, sub sat stn, no det odr

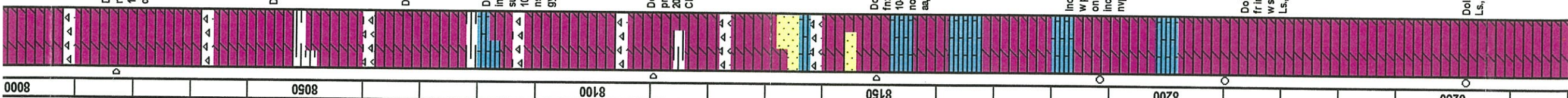
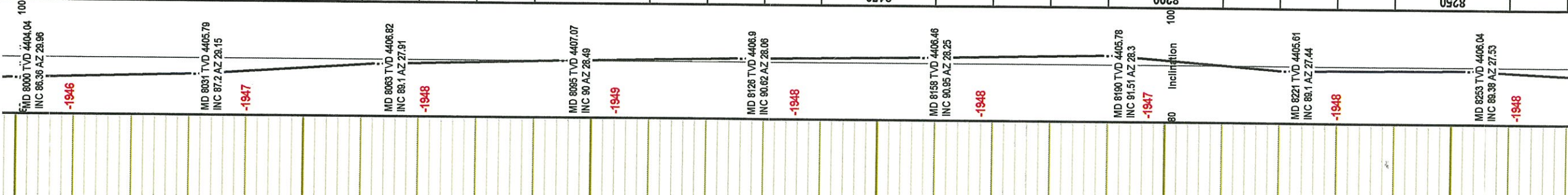
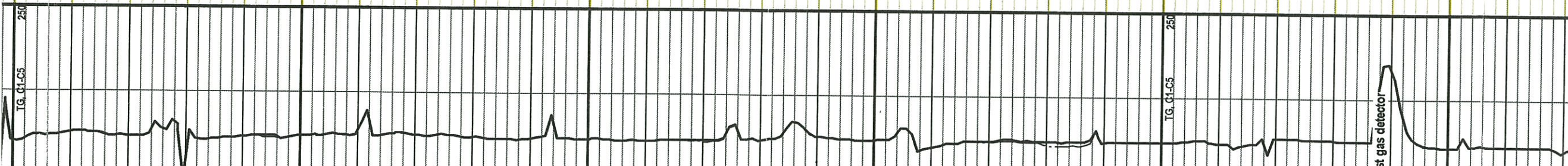
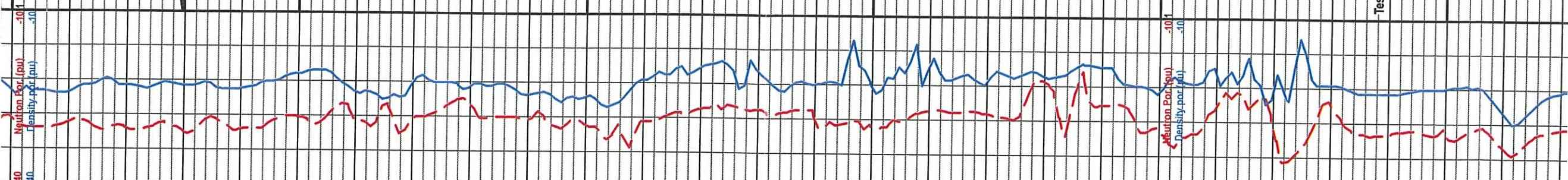
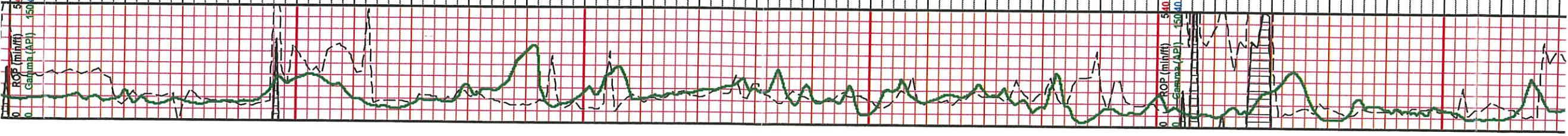
Ls., Chrt., aa, 5% Sh., gy-lt grm, incr Dol., 30-40% in tray, crm-tn, fnxh, sli fri, 30-40% w fr intrxin por, VSSFO lt sub sat stn, wk odr

Ls., crm, vfrxin, sli fri, chiky ip, nvp, ns, Chrt., 10-20%, tn-lt yel, weath, S 50-10% gy-lt grm, few pcs Dol., aa

Ls., Chrt., aa, incr, Dol., 20-30%, crm-tn, fnxin, pr-fr intrxin por, VSS in few pcs, sub sat stn, wk odr

Ls., aa, Chrt., aa, incr Dol., aa, 20-30% dns w nvp, rest w pr-fr intrxin & ra, VSSFO in few pcs, spot stn, no det odr, tr pyr

Dol., crm-tn, fnxin, sli fri, 20-30% dns w nvp, rest w pr-fr intrxin & ra, vug por, SFO in few pcs, sub sat stn-spot stn ip, wk odr on brk, dec Ls., crm, fnxin, sli fri, glauc ip, nvp & Chrt., crm-tn, weath



**8000** Dol., crm, fmxln, sil fri, 40-50% dns w nvp, rest w pr intrxin por, NSFO, 10-20% sub sat stn, some spot stn, no det odr, 5-10% Chrt., clr-opq wht

**8050** Dol & Chrt., aa, Sh, 5%, gy-brn

**8100** Dol, aa, deer chrt., aa

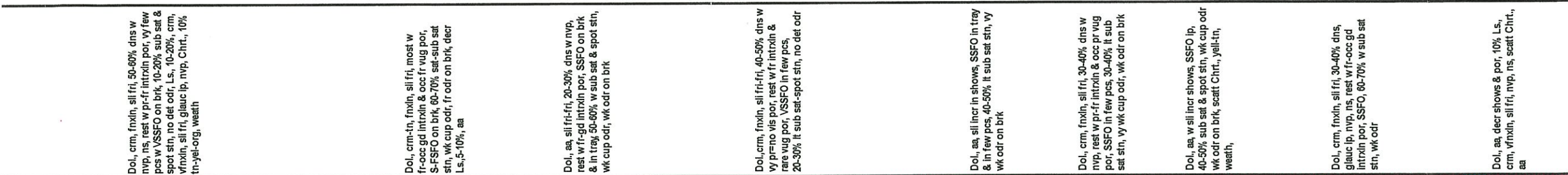
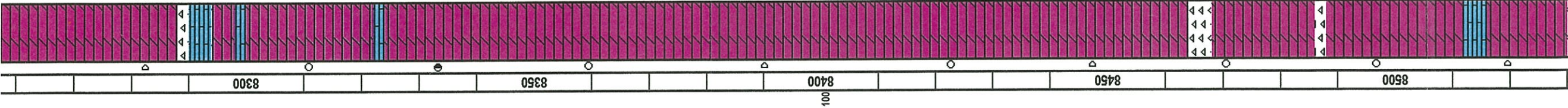
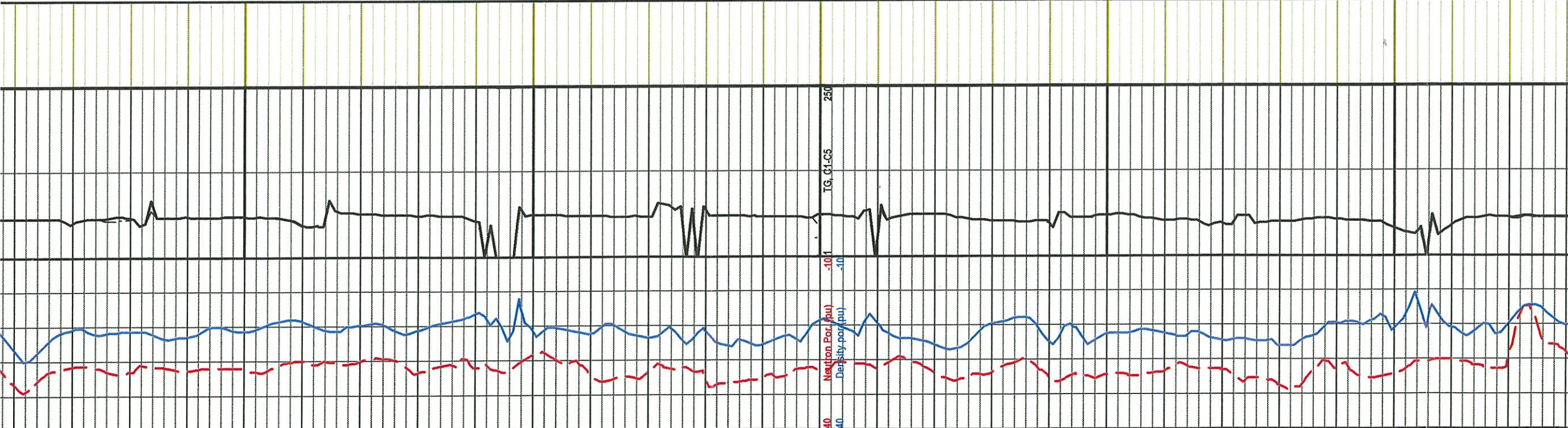
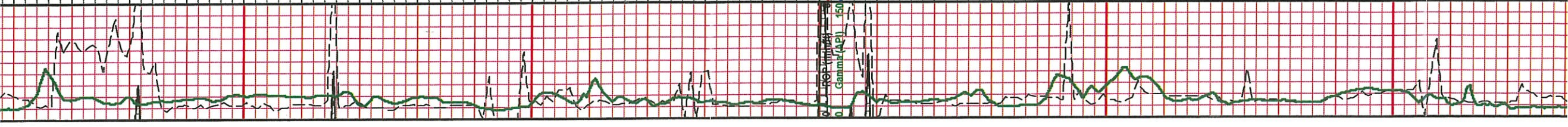
**8150** Dol, crm, fmxln, sil fri, 30-40% w pr-fr intrxin & rare vug por, NSFO, some lt sub sat-spot stn, no det odr, Ls., 10-20% crm, fmxln, sil fri, chiky lp, nvp, ns, Chrt., 10% tn-lt yel, weath, Sh., 5%, gy-lt grn, tr pyr

**8200** Dol, aa, w shows aa, Ls., 20-30% crm, fmxln, sil fri, clauc lp, nvp, ns, SS, 10-20% clr, unconsl, fn grn, sub rmd, no vis stn, no fluorolcut, Chrt., 10% aa, few pcs Sh, gy-brn

**8250** Incr amt Dol, crm, fmxln, sil fri, 50-80% w pr-fr intrxin por, SSFO in tray & occ on brk, lt sub sat lp, vy wk odr on brk, incr Ls., 30-40% crm, vrxln, sil fri, dns, nvp, ns, tr pyr

**8250** Dol, crm, fmxln, sil fri, 40-50% w pr-occ fr intrxin por, SSFO in few pcs, 30-40% w sub sat stn, vy wk odr on brk, Deer, Ls., aa

**8250** Dol, aa, sil incr in por & shows, some Ls., aa



Dol., crm, fnxlin, sil fri, 50-60% dns w nvp, ns, rest w pr-fr, intrxin por, w few pes w VSSFO on brk, 10-20% sub sat & vfxlin, sil fri, glauc lp, nvp, Chrt., 10% tr-yel-org, weath

Dol., crm-trn, fnxlin, sil fri, most w fr-occ gd intrxin & occ fr vug por, S-FSFO on brk, 60-70% sat-sub sat stn, wk cup odr, fr odr on brk, decr Ls., 5-10%, aa

Dol., aa, sil fri-fri, 20-30% dns w nvp, rest w fr-gd intrxin por, SSFO on brk & in tray, 50-60% w sub sat & spot stn, wk cup odr, wk odr on brk

Dol., crm, fnxlin, sil fri-fri, 40-50% dns w vpr=no vis por, rest w fr intrxin & rare vug por, VSSFO in few pcs, 20-30% ft sub sat-spot stn, no det odr

Dol., aa, sil incr in shows, SSFO in tray & in few pes, 40-50% ft sub sat stn, vy wk odr on brk

Dol., crm, fnxlin, sil fri, 30-40% dns w nvp, rest w pr-fr, intrxin & occ pr vug por, SSFO in few pes, 30-40% ft sub sat stn, vy wk cup odr, wk odr on brk

Dol., aa, w sil incr shows, SSFO lp, 40-50% sub sat & spot stn, wk cup odr wk odr on brk, scatt Chrt., yell-trn, weath,

Dol., crm, fnxlin, sil fri, 30-40% dns, glauc lp, nvp, ns, rest w fr-occ gd intrxin por, SSFO, 60-70% w sub sat stn, wk odr

Dol., aa, decr shows & por, 10% Ls., crm, vfxlin, sil fri, nvp, ns, scatt Chrt., aa

-1948

MD 8285 TVD 4408.83  
INC 87.77 AZ 27.44

-1948

MD 8317 TVD 4408.08  
INC 87.76 AZ 26.55

-1950

MD 8348 TVD 4409.12  
INC 88.38 AZ 26.73

-1951

MD 8380 TVD 4409.84  
INC 88.05 AZ 27.04

-1951

MD 8412 TVD 4410.03  
INC 90.28 AZ 26.1

-1952

MD 8444 TVD 4409.7  
INC 90.9 AZ 25.4

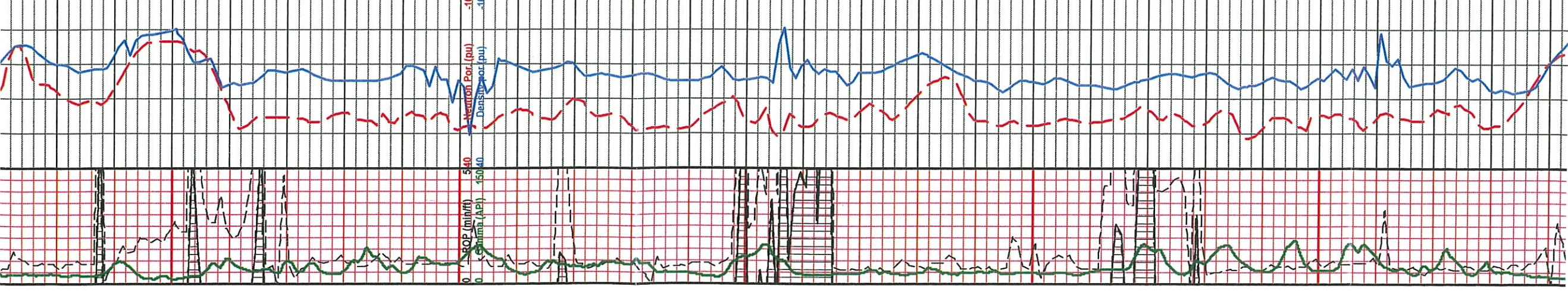
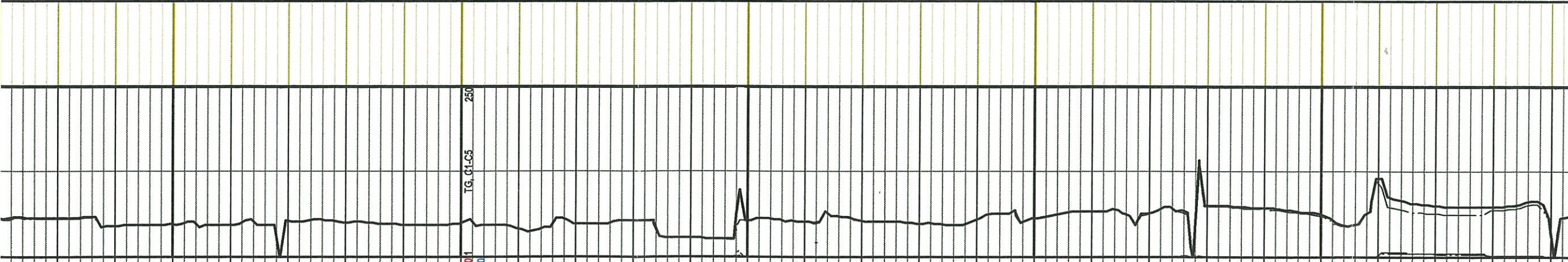
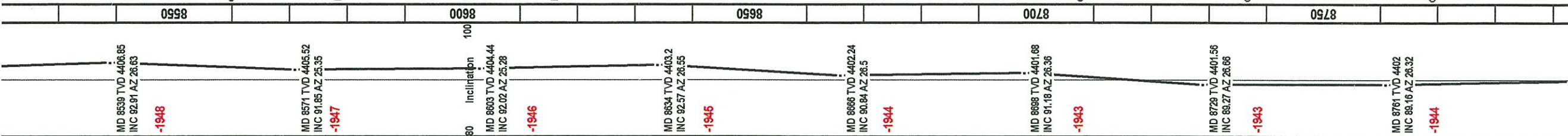
-1951

MD 8475 TVD 4409.09  
INC 91.34 AZ 25.79

-1951

MD 8507 TVD 4408.19  
INC 91.9 AZ 26.03

-1960



Dol., crm, tn, fnxln, sil fri, 30-40% dns w nvp, ns, rest w pr-occ fr intrxin por, S-SFO, 60-70% sub sat-sat stm lp, wk odr on brk, Ls, aa

Dol., aa, sil, decr shows, Ls, 10-15%, crm, vfnxln, sil fri, glauc ip, nvp, ns

Dol., crm, fnxln, sil fri, 40-50% dns w nvp, rest w pr-occ fr intrxin por, VSSFO in few pcs, 20-30% lt sub sat stm, no det odr, scatt Ls, crm, vfnxln, sil fri, nvp, ns

Dol., aa, decr shows, incr Ls, aa, glauc ip, nvp, ns, Scatt Chrt., tn-clr, weath, w few pcs w blk stm, no det odr

Dol., crm, fnxln, sil fri, 30-40% dns w nvp, rest w pr-fr intrxin por, NSFO, 20-30% w spot stm, no det odr, scatt Ls, crm, vfnxln, sil fri, glauc ip, nvp, ns

Dol., aa, incr shows, SSFO ip, 30-40% sub sat & spot stm, no det odr

Dol., crm, fnxln, sil fri, most w pr intrxin por, occ fr intrxin por, SSFO in few pcs, 40-50% spot stm, no det odr

MD 8539 TVD 4406.85  
INC 92.91 AZ 26.63  
-1948

MD 8571 TVD 4405.52  
INC 91.66 AZ 25.35  
-1947

MD 8603 TVD 4404.44  
INC 92.02 AZ 25.28  
-1946

MD 8634 TVD 4403.2  
INC 92.57 AZ 26.55  
-1945

MD 8666 TVD 4402.24  
INC 90.84 AZ 26.5  
-1944

MD 8688 TVD 4401.68  
INC 91.18 AZ 26.36  
-1943

MD 8729 TVD 4401.56  
INC 89.27 AZ 26.66  
-1943

MD 8761 TVD 4402  
INC 89.16 AZ 26.32  
-1944

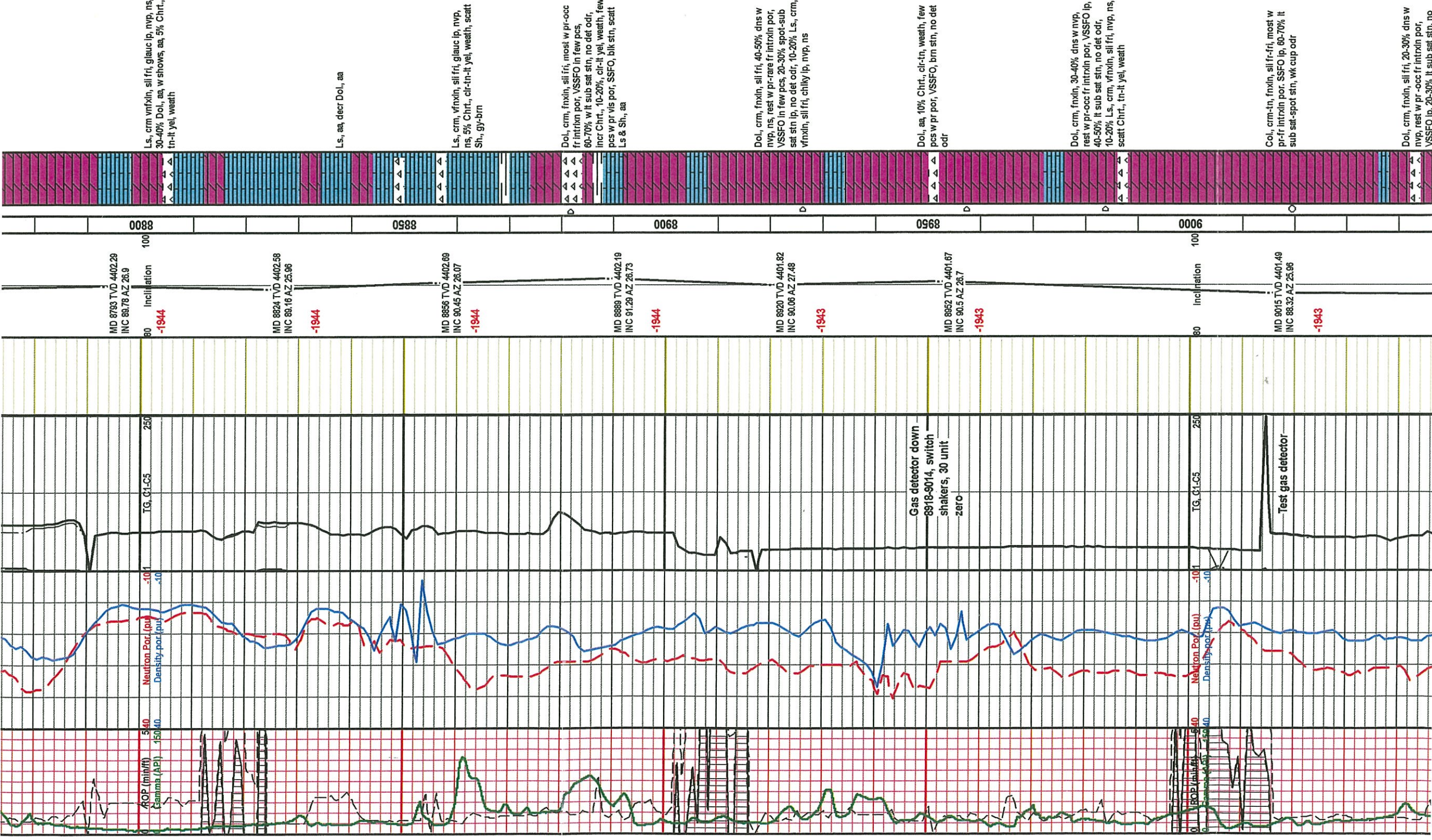
TG, G1-C5

-10.1

Density Por. (pu)

ROP (min/ft)

Gamma (API)



Ls, crm vfxin, sil fri, glauc lp, nvp, ns, 30-40% Dol, aa, w shows, aa, 5% Chrt., tn-it yel, weath

Ls, aa, decr Dol, aa

Ls, crm, vfxin, sil fri, glauc lp, nvp, ns, 5% Chrt., cl-trn-it yel, weath, scatt Sh, gy-brn

Dol, crm, fvxin, sil fri, most w pr-occ fr intrxn por, VSSFO in few pcs, 60-70% w it sub sat stn, no det odr, incr Chrt., 10-20%, cl-tr yel, weath, few pcs w pr vis por, SSFO, blk str, scatt Ls & Sh., aa

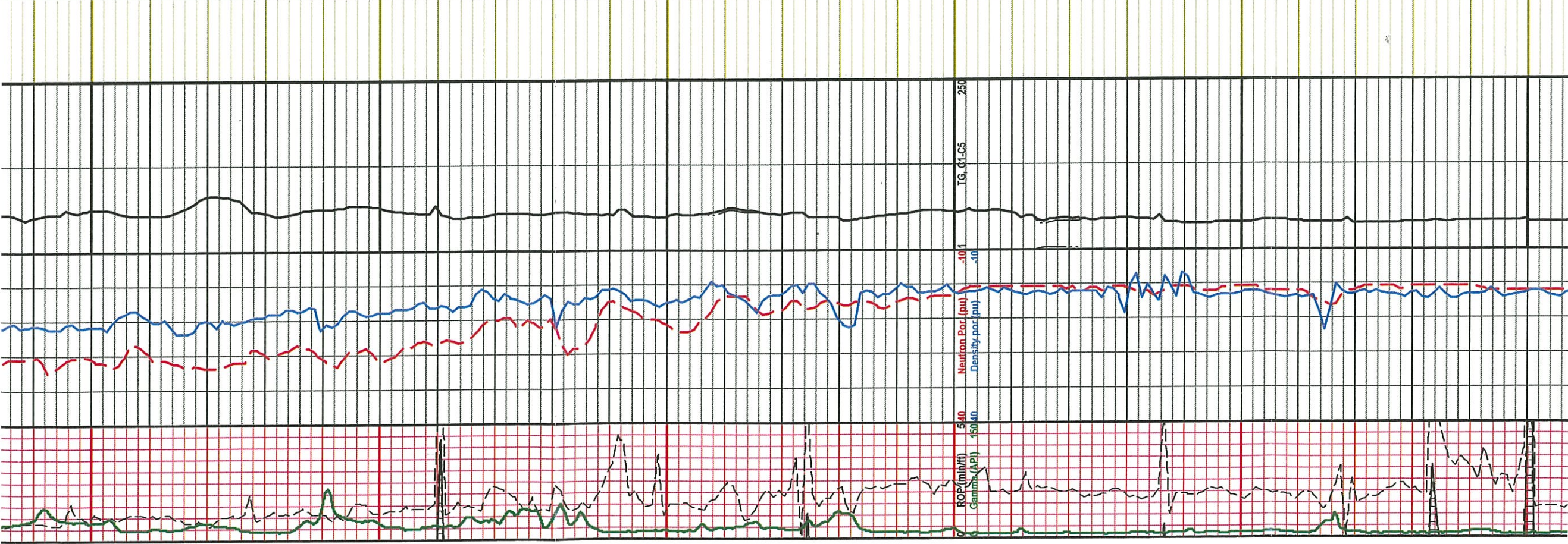
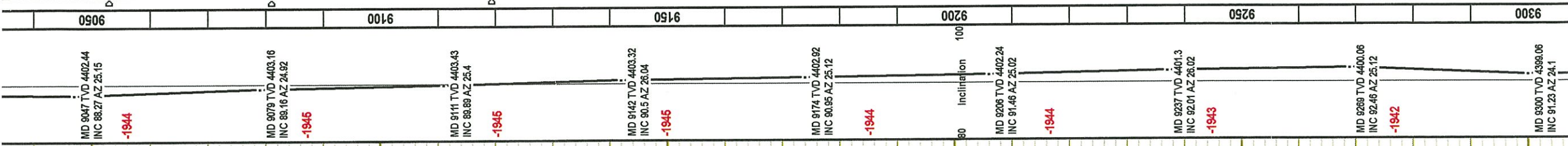
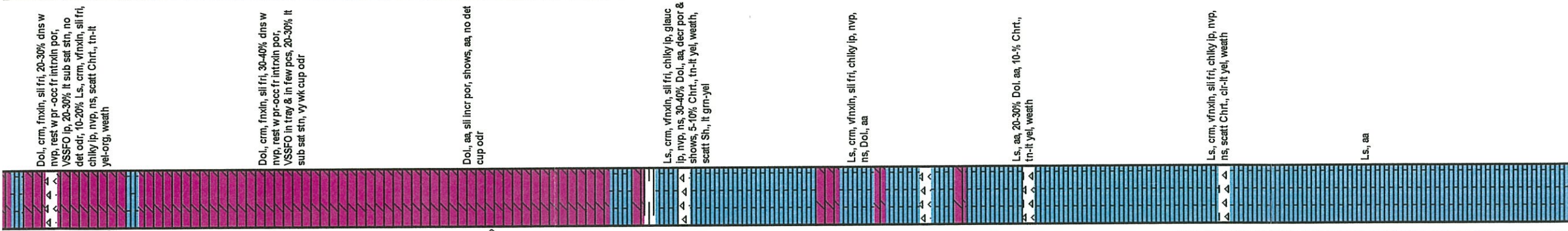
Dol, crm, fvxin, sil fri, 40-50% dns w nvp, ns, rest w pr-rare fr intrxn por, VSSFO in few pcs, 20-30% spot-sub sat stn lp, no det odr, 10-20% Ls, crm, vfxin, sil fri, chiky lp, nvp, ns

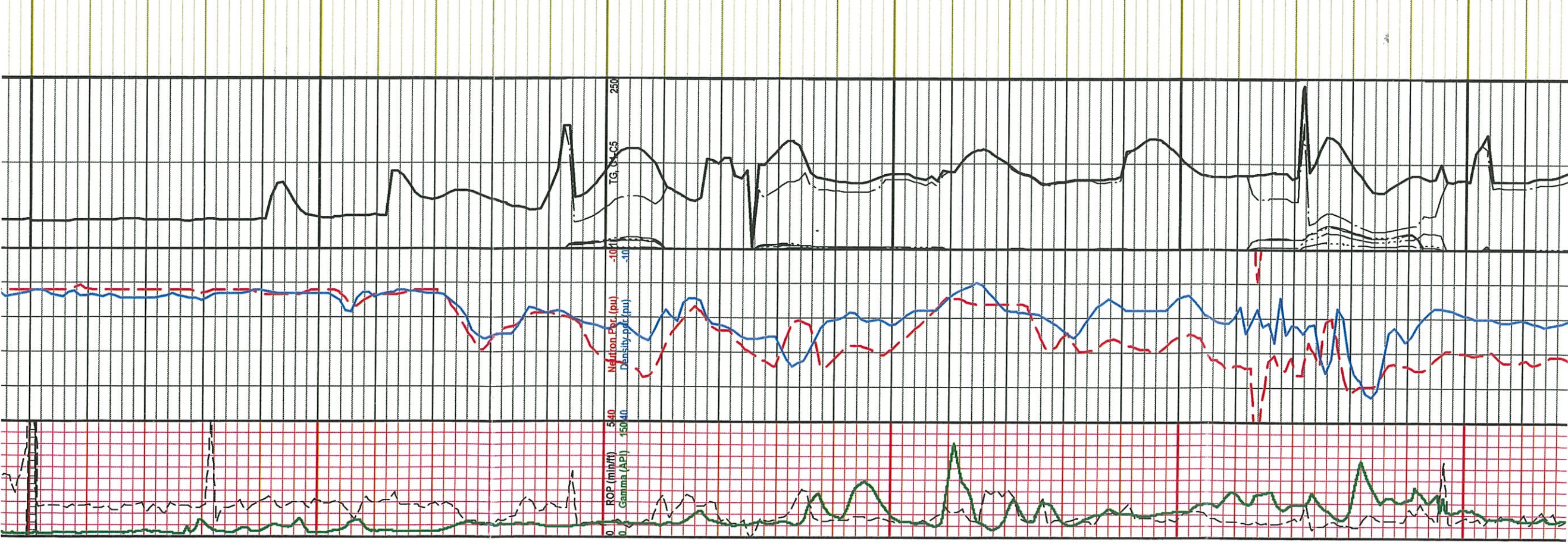
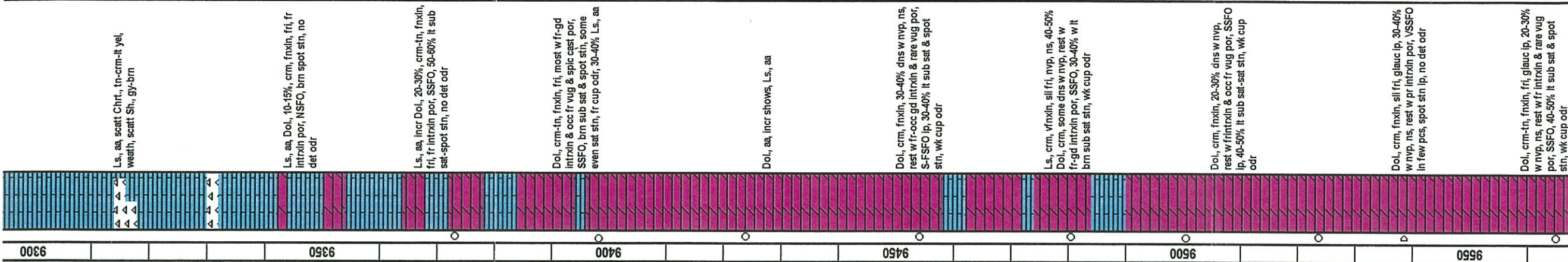
Dol, aa, 10% Chrt., cl-trn, weath, few pos w pr por, VSSFO, brn str, no det odr

Dol, crm, fvxin, 30-40% dns w nvp, rest w pr-occ fr intrxn por, VSSFO lp, 40-50% it sub sat stn, no det odr, 10-20% Ls, crm, vfxin, sil fri, nvp, ns, scatt Chrt., tn-it yel, weath

Col, crm-trn, fvxin, sil fr-fri, most w pr-fr intrxn por, SSFO lp, 60-70% it sub sat-spot stn, wk cup odr

Dol, crm, fvxin, sil fri, 20-30% dns w nvp, rest w pr-occ fr intrxn por, VSSFO lp, 20-30% it sub sat stn, no





Dol., crm-tn, fmxln, fri, glauc ip, 20-30% w nvp, ns, rest w fr intrxin & rare vug por, SSFO, 40-50% lt sub sat & spot stn, wk cup odr

Dol., aa, w shows, aa, scatt Ls., gy-brn-yl

Dol., crm-tn, fmxln, fri, fr-gd intrxin & occ fr vug por, SSFO, FSFO ip, 60-70% sat-stub sat stn, fr cup odr

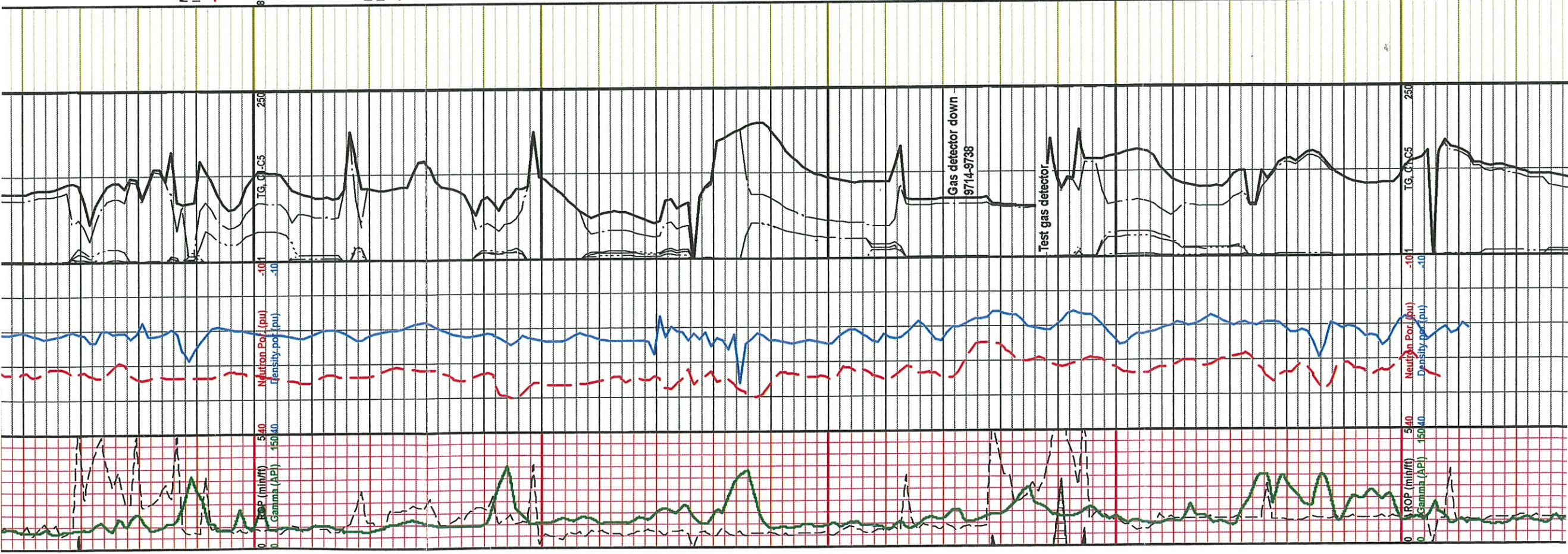
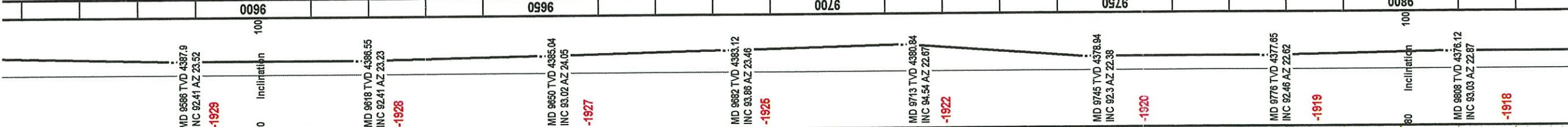
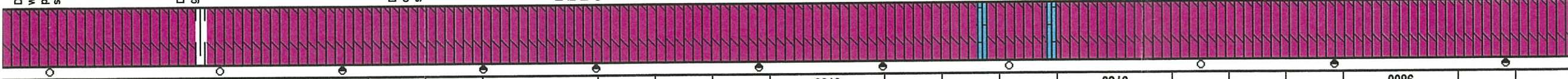
Dol., tn-crm, fmxln, fri-vy fri, fr-gd intrxin & occ fr vug & spic cast por, FSFO, 70-80% sat-sub sat stn, gd cup odr, gd odr on brk

Dol., crm-tn, fmxln, fri, fr-occ gd intrxin & occ fr vug por, FSFO, 60-70% lt brn-brn sat & occ sub sat stn, gd odr

Dol., aa, 20-3% dns w nvp, sil decr shows, 10-20% Ls., crm, yfmxln, sil fri, glauc ip, nvp, ns

Dol., tn-crm, fmxln, fri, 20-30% dns w nvp, rest w frintrxin & vug por, S-FSFO, brn sat-lt brn sub sat stn, fr cup odr

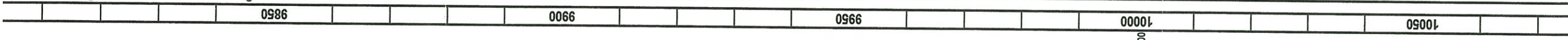
Dol., aa, sil incr por & shows





DoI, ea, sil incr por & shows

DoI, tn-crm, fnxin fri-vy fri, fr-gd  
intrxin & occ fr vug por, FSFO, lt  
brn-brn sat sth, gd cup odr



MD 9808 TVD 4376.12  
INC 93.03 AZ 22.87

-1918

MD 9871 TVD 4372.79  
INC 93.03 AZ 22.87

-1914

Inclination

80

TG\_C1-C5

-101

Neutron Por. (pu)

540

ROP (min/ft)

0

Density por (pu)

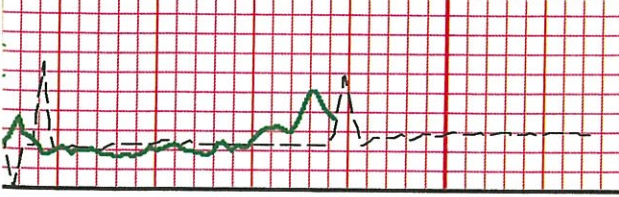
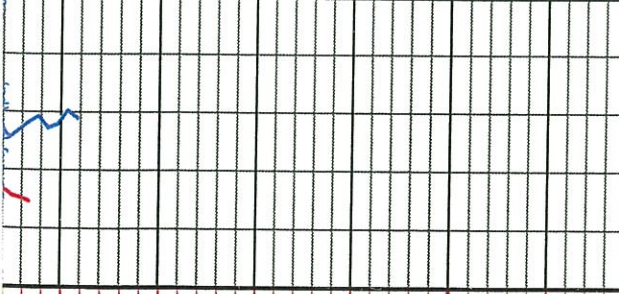
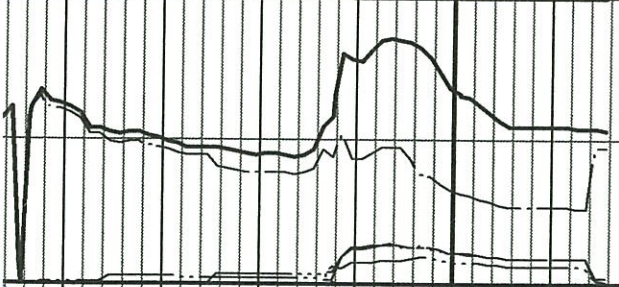
150

Gamma (API)

0

=====>  
Proj. to bit

<=====  
RTD 9871  
4372.79 (-1914)

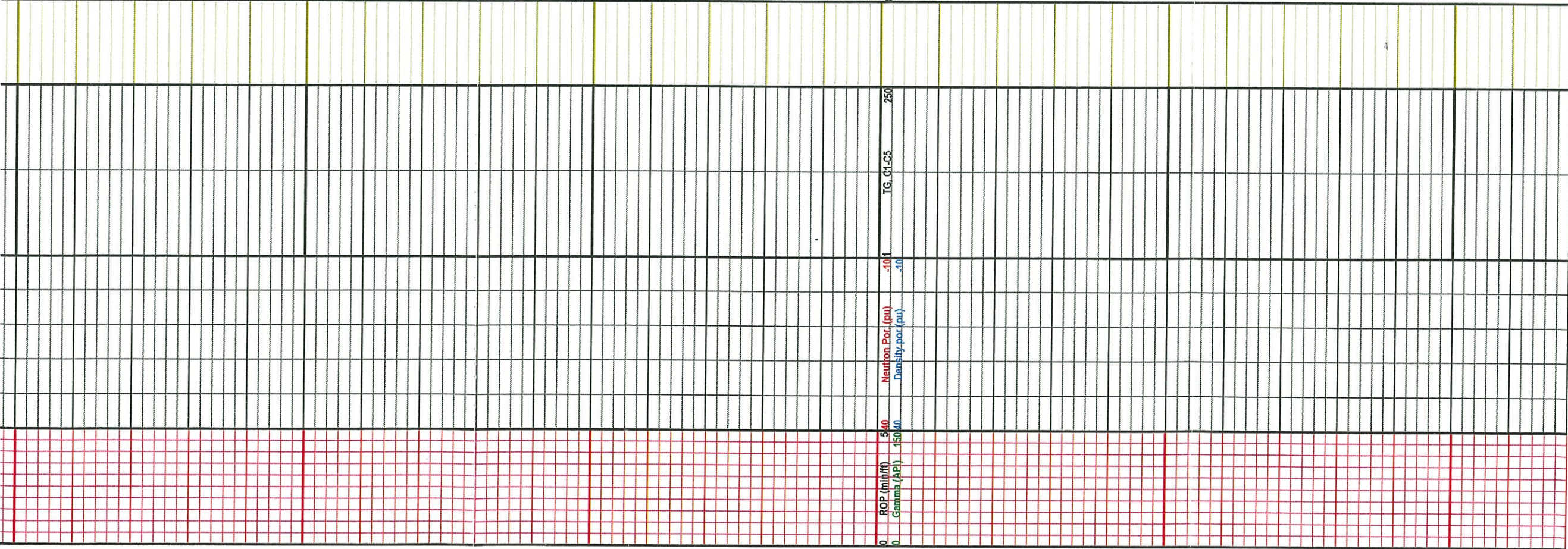


10050				10100				10150				10200				10250				10300
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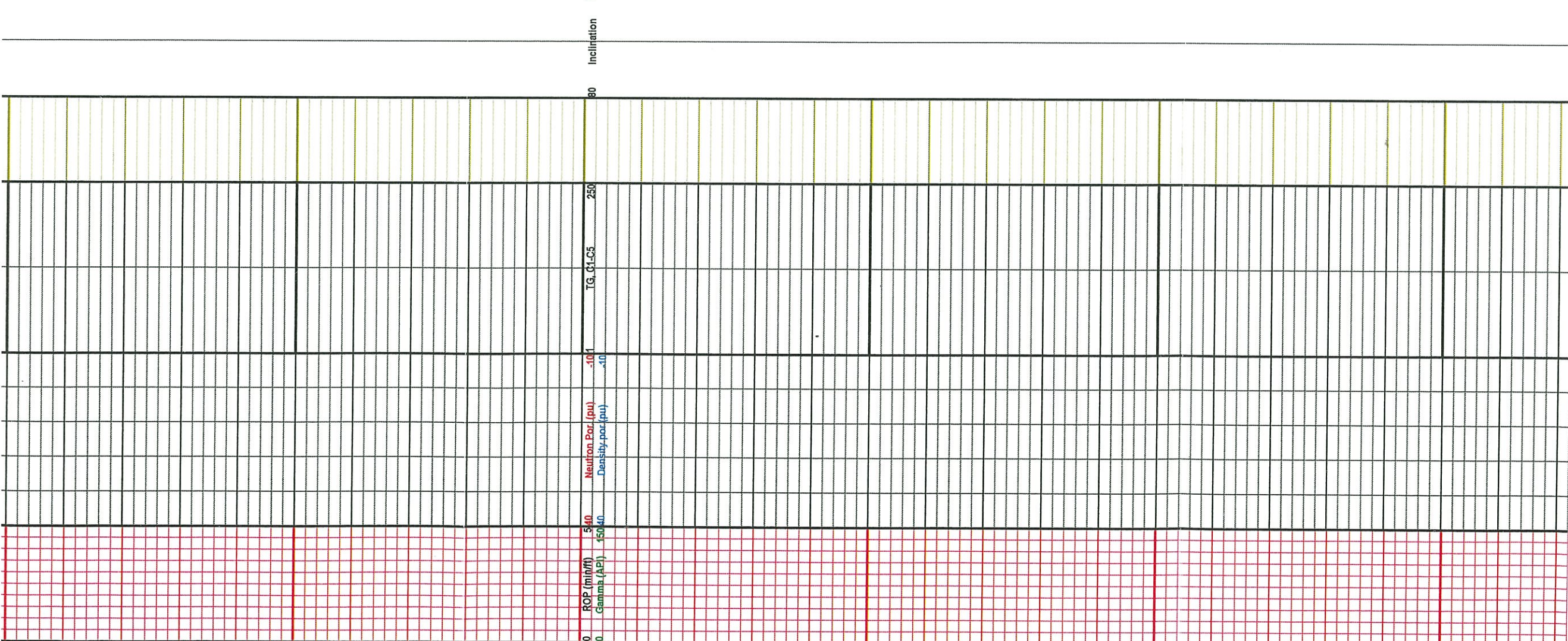
100

Inclination

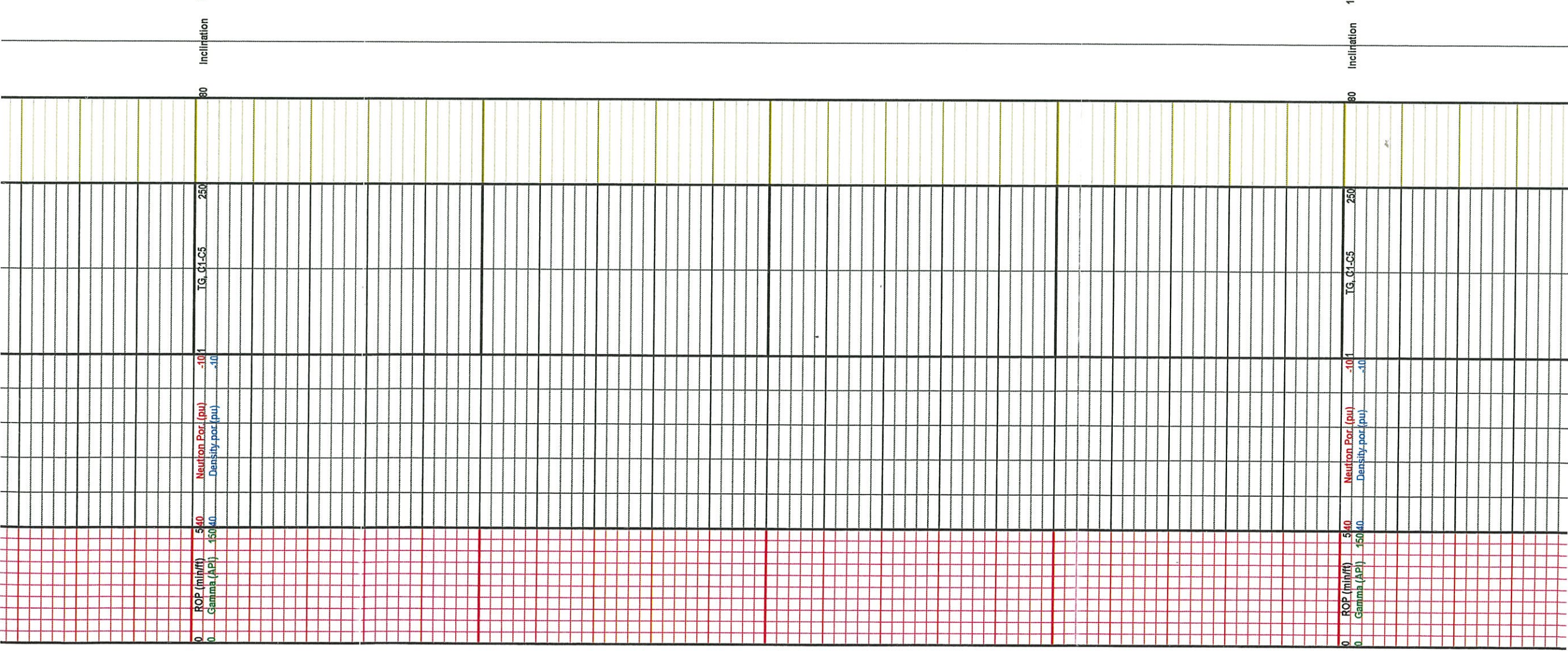
80



1030				10350				10400				10450				10500				10550
------	--	--	--	-------	--	--	--	-------	--	--	--	-------	--	--	--	-------	--	--	--	-------



10800	10750	10700	10650	10600
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Inclination  
100  
80

0 ROP (min/ft) 50  
0 Gamma (API) 150  
Neutron Por. (pu) -10  
Density Por. (pu) -10  
TG, C1-C5 250

Inclination  
100  
80

0 ROP (min/ft) 50  
0 Gamma (API) 150  
Neutron Por. (pu) -10  
Density Por. (pu) -10  
TG, C1-C5 250

