

03/21/13 DATE IN	SUSPENSE	WS ENGINEER PG	03/21/13 LOGGED IN	TYPE SWD	PPRG 1312730764 APP NO.
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Vla e-mail

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

AMEND SWD-1393

[D] Other: Specify _____

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners
 [B] ☐ Offset Operators, Leaseholders or Surface Owner
 [C] ☐ Application is One Which Requires Published Legal Notice
 [D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
 [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
 [F] ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Jason Goss	Nadel and Gussman Heyco, LLC	Engineer	03/21/2013
Print or Type Name	Signature	Title	Date
		jgoss@naguss.com	
		e-mail Address	

Nadel & Gussman HEYCO, LLC

LEASE: Regulator 29 SWD
 FIELD: Devonian; SWD
 LOCATION: 1650' FSL and 990' FEL
 SPUD DATE: 2/26/2013
 CONTRACTOR: Silver Oak #1

WELL NO.: 1
 COUNTY: Eddy
 LEGAL: Sec. 29, T18S, R26E
 DRAWN BY: Jason Goss
 DATE: 4/9/2013

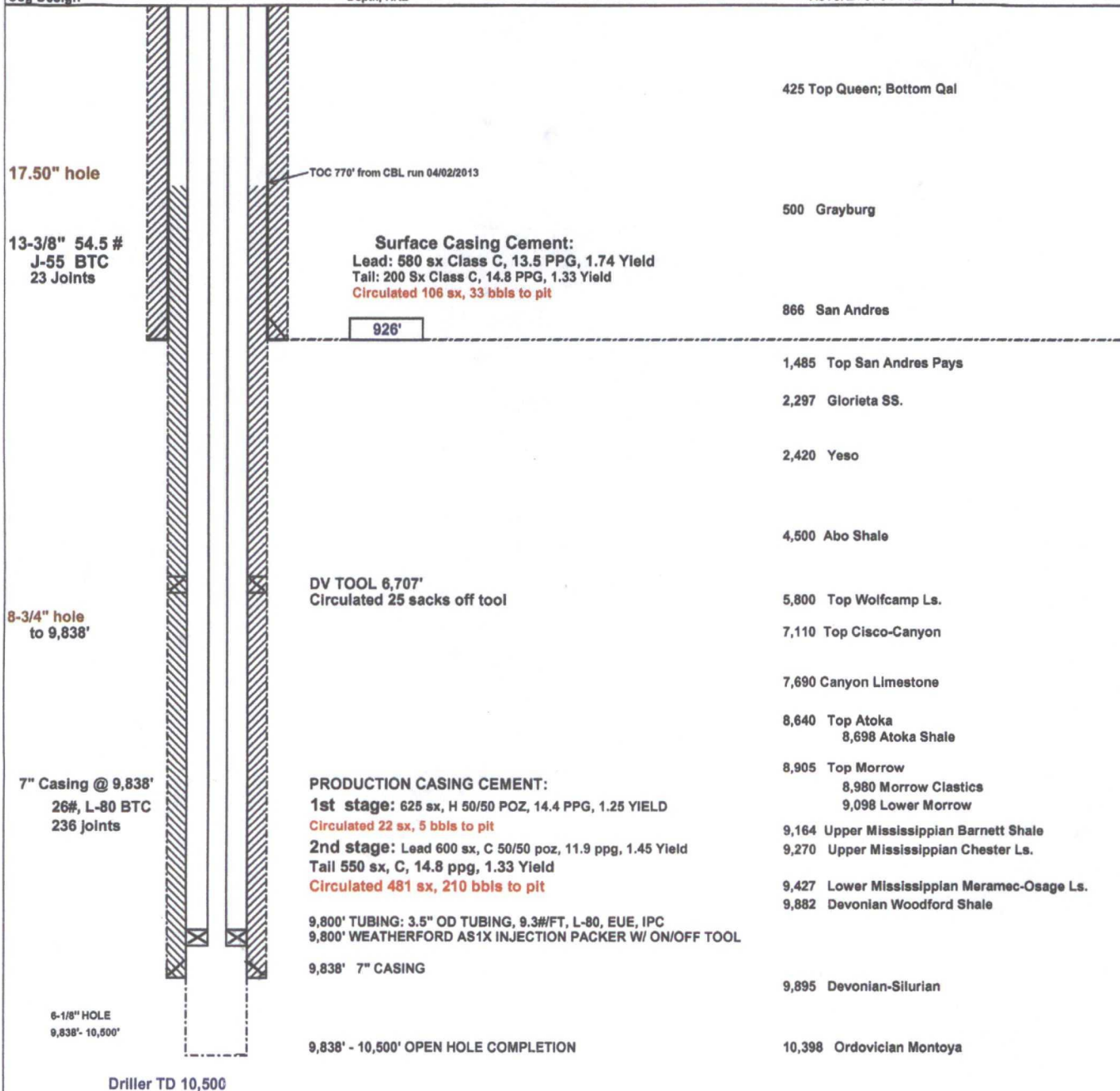
API #: 30-015-41034
 STATE: New Mexico
 GL: 3412'
 DF: 3430'
 KB: 18'

Regulator 29 SWD #1 - AS DRILLED

Hole Size
 Csg Design

Depth, RKB

ACTUAL TOPS FT MD



Ralph Nix #1 Compared to New Completion Regulator 29 SWD #1

Ralph Nix #1: within 1043 ft of SWD; Ralph Nix #1 proposed as SWD by Cimerax for disposal in Wolfcamp in 2011; protested by COG and Legacy; application suspended in 6/10/2011.

Formation Tops and Construction:

Well	Ralph Nix #1		Regulator 29 SWD #1	
Datum	Corrected/GL		Correct/GL-MD	
Formation Tops	Ft	P&A Plugs	Ft	Construction
San Andres	875	1998: 60 sx at 1557 across shoe	866	
Glorieta	2295	1998: 100' cmt plug tagged 2347	2297	
Abo	4478	1998: cut 7-inch at 4000'; 45 sx on casing stub	4500	
Wolfcamp – Prod/1986*	5840	1998: set CIBP at 6300'; 20 sx cmt (6300'	5800	
Cisco-Canyon	-		7110	
Strawn	8100		-	
2 nd Strawn	8300		-	
3 rd Strawn	8390		-	
Atoka – Prod/1959	8700	1998: set CIBP at 8453' (tagged); 20 sx cmt (8453'-8332')	8640	
Morrow – Prod/1959	-	1986: set CIBP at 8980' plus 4 sx; 1998: pump 35 sx on packer 8906'.	8905	
Upper Mississippian - Barnett	-	1959: bottom of casing 9218'; open hole to bottom; cmt plug 9320'-9600 (280': plugged back following DST)	9164	
Upper Mississippian - Chester	-	1959: open hole	9270	
Lower Mississippian- Meramec/Osage	9421	1959: open hole; top of cement plug at 9950	9427	
Upper Devonian - Woodford	9880	1959: open hole; cmt plug 9950-10190 (240'; plugged back following DST)	9882	Bottom of casing: 9838; open hole/injection interval: 9838 to 10500
Devonian - Silurian	9900	1959: open hole plugged with cmt	9985	
Fusselman	-	1959: open hole; plugged with cmt	-	
TD - Nix	10190			
Ordovician Montoya			10398	
TD - Regulator			10500	

*Ralph Nix: June, 1986: 7-inch casing perfed 6460' to 5920' and set retainer at 6420'; 300 sacks pumped into interval; GR-CBL-CCL rerun shows sight improvement in cement bond; Wolfcamp perfed 6349-6358, 6375-6377, and 6390-6399.

Based well construction information, the interval between the two bottom-hole plugs in Ralph Nix #1 provide sufficient confinement of any potential connection with the expanded SWD injection interval (Lower Mississippian shales below the bottom of casing). Additional well integrity for confining any vertical movement in the Ralph Nix from 1986 squeezing of 7-inch annulus cement and 1998 P&A program.

Nadel & Gussman HEYCO, LLC

LEASE: Ralph Nix
FIELD: Atoka Penn
LOCATION: 1980' FSL and 1980' FEL
SPUD DATE: 5/26/1959
CONTRACTOR: Delta Drilling

WELL NO.: 1
COUNTY: Eddy
LEGAL: Sec. 29, T18S, R26E
DRAWN BY: Jason Goss
DATE: 1/4/2013

API #: 30-015-00256
STATE: New Mexico
GL: 3416'
DF: 3433'
KB: 17'

Ralph Nix #1

1,043 ft from SWD/Regulator #1

Hole Size
Csg Design

Depth, RKB

CSG Cement

CMT Plugs

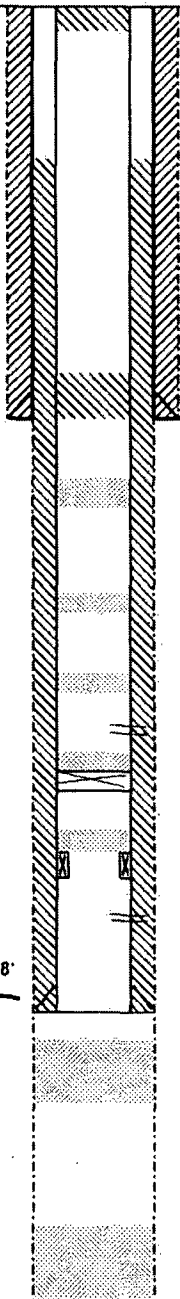
Surface Plug 14 Sx class C 0 - 40ft

12.25" hole

9-5/8", 32.3 #
34 jts
to 1501'

8-3/4" hole
to 10,190'

7" Casing @ 9,218'



TOC 510' CBL run in 1998

Surface Casing Cement
Pumped 850 sx, 1" w/ 200sx, circulated cmt

1,507'

25 Sacks Class C at 1,574' tagged at 1,445'

25 Sacks Class C at 2,393' - 2,243'

DV Tool at 2938'

25 sacks at 4,030' - 3,880'

squeeze 300 sacks into perfs
1986: 6460' - 5920'

20 sacks class C at 6,300' - 6,180'

Wolfcamp perfs 1986: 6349-58'

20 sacks on top of CIPB 8,453' - 8,332'

CIPB set at 8,453'

Stuck Packer @ 8,906'

30 sacks cement on top of packer

Morrow Perfs 1959: 9070' - 9115'

Production casing Cement
1st stage 470 Sacks, 2nd Stage 450 sacks

9,218' to 10,190'
open hole

Plug
75 sack plug 9,320'-9,600' 09-28-59

9905' Top of Devonian

Plug
75 sack plug 9,950'-10,190' 09-28-59

TD @ 10,190'

Goetze, Phillip, EMNRD

From: Goetze, Phillip, EMNRD
Sent: Friday, April 26, 2013 8:43 AM
To: 'Jason Goss'
Cc: Dade, Randy, EMNRD; Ezeanyim, Richard, EMNRD; Shapard, Craig, EMNRD
Subject: RE: Regulator 29 SWD #1 - 30-015-41034

Thank you for providing the information. Would you please forward a copy (via e-mail) of the following items: copies of the return receipts, a copy of one of the letters sent to the offset operators, and the e-logs (or lower portions) for the borehole? The administrative order, SWD-1393, will require an amendment to reflect the changes in completion depth, injection interval, and corresponding maximum pressure. The maximum wellhead injection pressure will be reduced from the 2020 psi to 1967 psi with the shallower production casing. Additionally, the single penetrating well within the AOR (Ralph Nix #1) is being reviewed in light of the new completion as part of the amendment. Contact me with any questions regarding the request of information. PRG

Phillip R. Goetze, P.G.
Engineering Bureau, Oil Conservation Division
1220 South St. Francis Dr., Santa Fe, NM 87505
O: 505.476.3466 F: 505.476.3462

From: Jason Goss [<mailto:jgoss@naguss.com>]
Sent: Thursday, April 25, 2013 1:50 PM
To: Goetze, Phillip, EMNRD
Cc: Joel Martin; tgreen@heycoenergy.com; Dade, Randy, EMNRD; Ezeanyim, Richard, EMNRD
Subject: Regulator 29 SWD #1 - 30-015-41034

Mr. Goetze,

Certified letters containing the as drilled wellbore diagram for the Regulator 29 SWD #1 were sent on April 9th. We have received all delivery receipts. Completion operations will begin on Monday the 29th.

Thanks! JSG

Jason S. Goss
Drilling Engineer
Nadel and Gussman Permian, L.L.C.
Nadel and Gussman HEYCO, L.L.C.
601 N. Marienfield Suite 508
Midland, TX 79701
Cell 512-784-2613
Office 432-682-4429
jgoss@naguss.com

Nadel and Gussman HEYCO, L.L.C.

Final Wellbore Diagram

Regulator 29 SWD

Well No: 1

County: Eddy

Legal: Sec. 29, T18S, R26E

Jason Goss

jgoss@naguss.com

432.682.4429

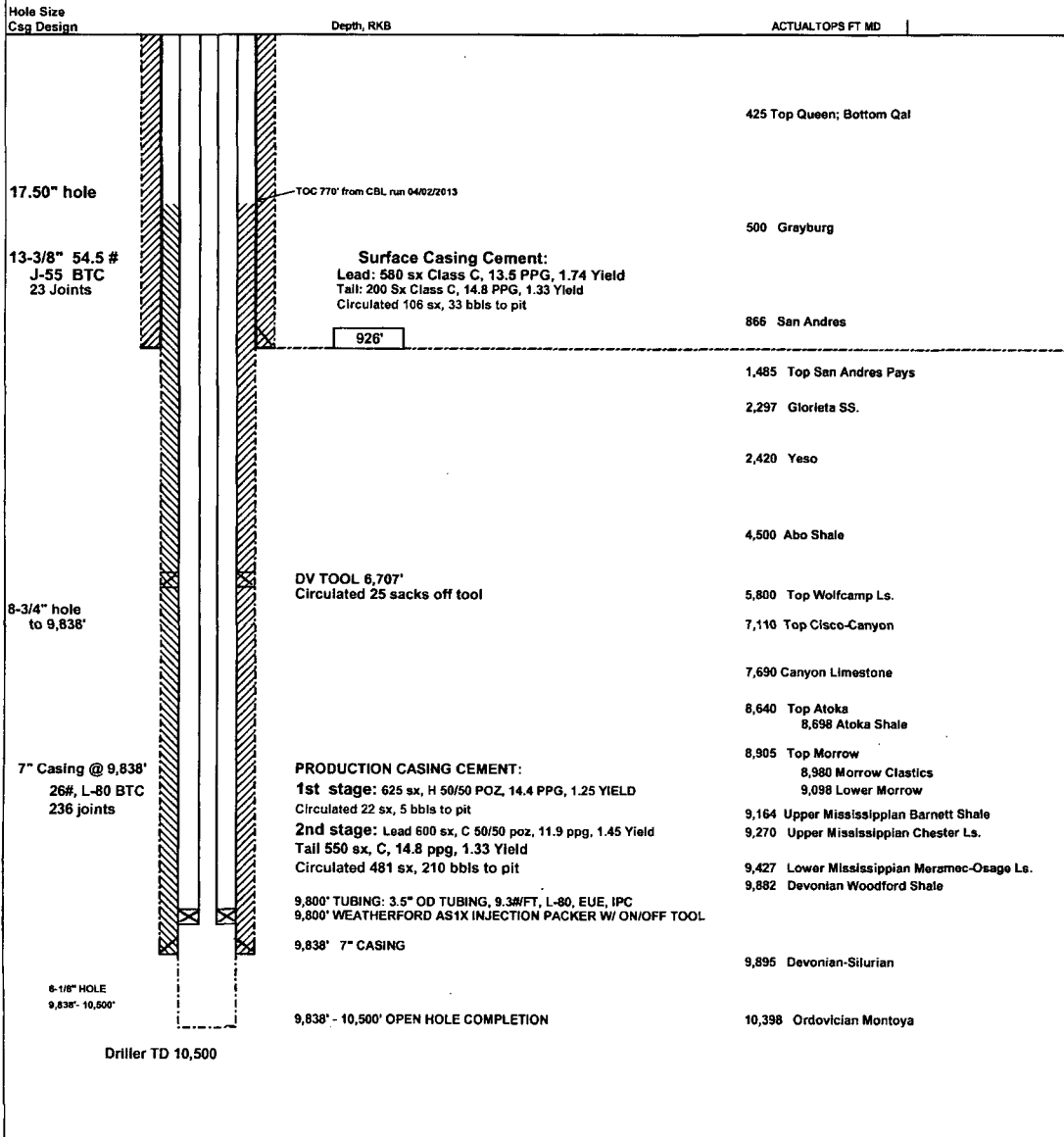
Nadel & Gussman HEYCO, LLC

LEASE: Regulator 29 SWD
 FIELD: Devonian; SWD
 LOCATION: 1650' FSL and 990' FEL
 SPUD DATE: 2/26/2013
 CONTRACTOR: Silver Oak #1

WELL NO.: 1
 COUNTY: Eddy
 LEGAL: Sec. 29, T18S, R26E
 DRAWN BY: Jason Goss
 DATE: 4/8/2013

API #: 30-015-41034
 STATE: New Mexico
 GL: 3412
 DF: 3430
 KB: 18"

Regulator 29 SWD #1 - AS DRILLED



CERTIFIED MAILTM RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com
OFFICIAL USE

Postage	\$.46
Certified Fee	3.10
Return Receipt Fee (Endorsement Required)	2.55
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 6.11

Postmark Here

Sent To
Pitch Energy
Street, Apt. No., or PO Box No.
P.O. Box 304
City, State, ZIP+4
Artesia, NM 88211
PS Form 3800, August 2006 See Reverse for Instructions

SECTION ON DELIVERY

Printed Name: J. V. Lurg Date of Delivery: 4-11-13
Address different from item 1? ☐ Yes ☒ No
Delivery address below: ☐ Yes ☒ No

☐ Express Mail
☒ Return Receipt for Merchandise
☐ C.O.D.
Delivery? (Extra Fee) ☐ Yes ☒ No

SECTION ON DELIVERY

Printed Name: J. V. Lurg Date of Delivery: 4-11-13
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☒ Return Receipt for Merchandise
☐ C.O.D.
Delivery? (Extra Fee) ☐ Yes ☒ No

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Sent To
Legacy Reserves Operating
Street, Apt. No., or PO Box No.
P.O. Box 10848
City, State, ZIP+4
Midland, TX 79702
PS Form 3800, August 2006 See Reverse for Instructions

SECTION ON DELIVERY

Printed Name: C. L. H. Date of Delivery: 4-16-13
Address different from item 1? ☐ Yes ☒ No
Delivery address below: ☐ Yes ☒ No

☐ Express Mail
☒ Return Receipt for Merchandise
☐ C.O.D.
Delivery? (Extra Fee) ☐ Yes ☒ No

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Sent To
Yates Petroleum Corp.
Street, Apt. No., or PO Box No.
105 South Fourth Street
City, State, ZIP+4
Artesia, NM 88210
PS Form 3800, August 2006 See Reverse for Instructions

SECTION ON DELIVERY

Printed Name: J. V. Lurg Date of Delivery: 4-11-13
Address different from item 1? ☐ Yes ☒ No
Delivery address below: ☐ Yes ☒ No

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☒ Return Receipt for Merchandise
☐ C.O.D.
Delivery? (Extra Fee) ☐ Yes ☒ No

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COG Operating
Street, Apt. No., or PO Box No.
600 W. Illinois Ave
City, State, ZIP+4
Midland, TX 79701
PS Form 3800, August 2006 See Reverse for Instructions

SECTION ON DELIVERY

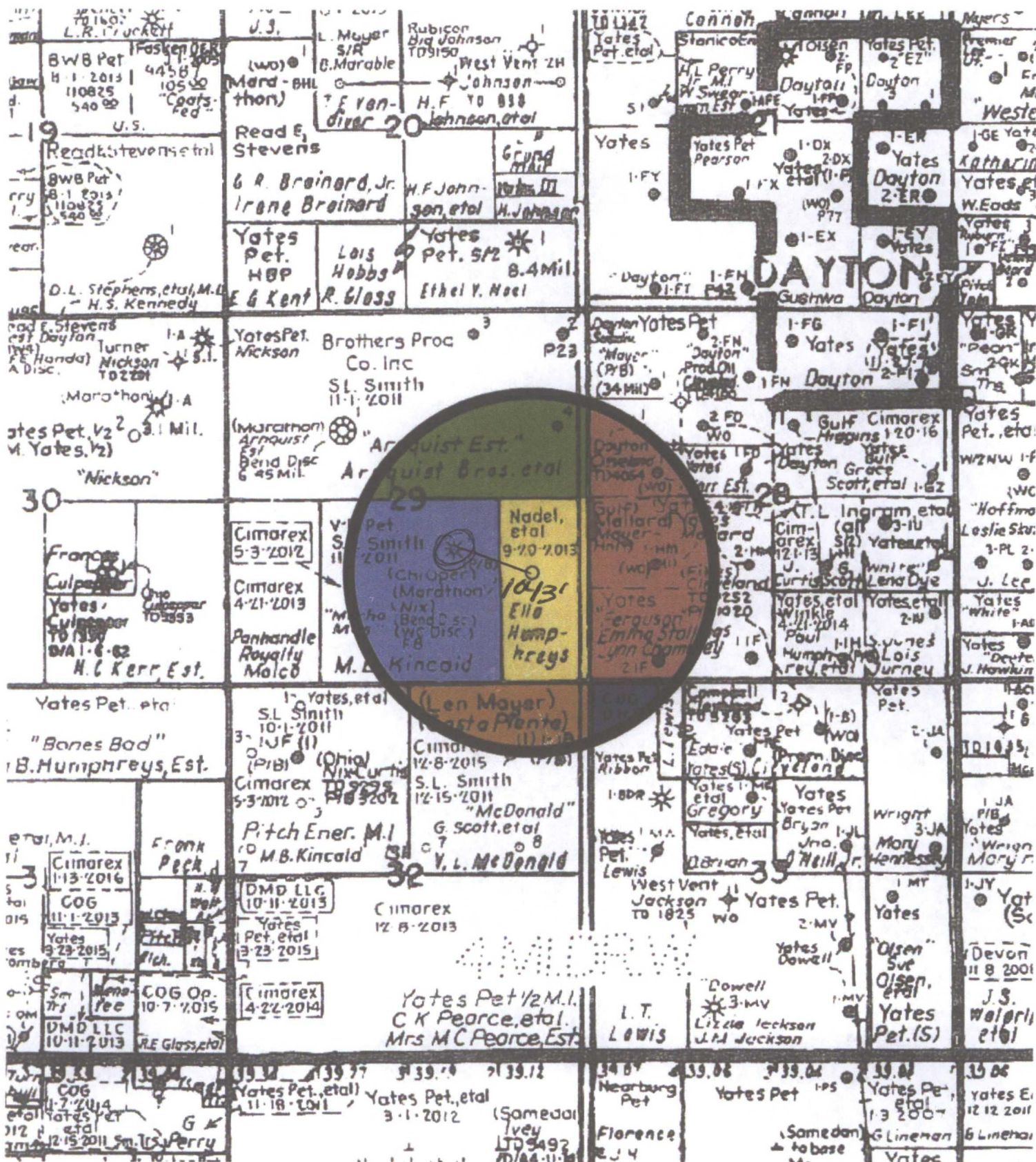
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Total Postage & Fees	\$ 6.11

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- Legacy Reserve Operating
- Nadel and Gussman Permian
- Yates Petroleum
- Cimarex, V-F Petroleum
- Cimarex
- COG, Yates Petroleum
- Yates Petroleum, Cimarex, Pitch Energy

Submit To Appropriate District Office
Two Copies
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-105
July 17, 2008

1. WELL API NO.30-015-41034

2. Type of Lease

☐ STATE ☒ FEE ☐ FED/INDIAN

3. State Oil & Gas Lease No.

4. Lease Name or Unit Agreement Name

Regulator 29 SWD

6. Well Number: #1

RECEIVED

MAY 03 2013

NMOCD ARTESIA

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

4. Reason for filing:

☒ COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only)

☐ C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC)

7. Type of Completion:

☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☒ OTHER SWD WELL

8. Name of Operator

Nadel and Gussman HEYCO, LLC

9. OGRID 258462

10. Address of Operator P.O. Box 1936,
Roswell, New Mexico 88202-1936

11. Pool name or Wildcat
SWD, Devonian (96101)

SWD-1393

12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:	1	29	18S	26E		1650'	S	990'	East	Eddy
BH:										

13. Date Spudded 2/26/13	14. Date T.D. Reached 3/24/13	15. Date Rig Released 3/27/13	16. Date Completed (Ready to Produce) 5/2/13	17. Elevations (DF and RKB, 3412'
18. Total Measured Depth of Well 10,500'		19. Plug Back Measured Depth 10476'	20. Was Directional Survey Made? yes	21. Type Electric and Other Logs Run CBL, Resistivity, DSN, Laterlog, Density

22. Producing Interval(s), of this completion - Top, Bottom, Name

23. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8"	36# J-55	926'	17 1/2"	780 sx	
7"	26# L-80	9,838'	8 3/4"	1775 sx	

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	25. TUBING RECORD	SIZE	DEPTH SET	PACKER SET
						3 1/2"	9636'	9785'

26. Perforation record (interval, size, and number)

Open Hole 9,838'-10,476'

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL AMOUNT AND KIND MATERIAL USED

9,838'-10,476' 27,000 gals 15% HCL

PRODUCTION

Date First Production		Production Method (Flowing, gas lift, pumping - Size and type pump)			Well Status (Prod. or Shut-in)		
Date of Test	Hours Tested	Choke Size	Prod'n For	Oil - Bbl	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
	24	n/a	Test Period				
Flow Tubing	Casing Pressure	Calculated 24-	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - (Corr.)	
Press n/a		Hour Rate					

29. Disposition of Gas (Sold, used for fuel, vented, etc.)

NA

30. Test Witnessed By:

Richard Inge W/OCD

31. List Attachments

Sent logs on 4/8/13

32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.

n/a

33. If an on-site burial was used at the well, report the exact location of the on-site burial:

n/a

I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

Signature

575-623-6601

E-mail Address: tlink@heycoenergy.com

Printed

Name Tammy R. Link

Title: Production Analyst

Date: 5/2/2013

non-well Prod for reporting sale of skim oil is 2837066

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico			Northwestern New Mexico	
T. Anhy	T. Canyon	7690	T. Ojo Alamo	T. Penn A"
T. Salt	T. Strawn	8190	T. Kirtland	T. Penn. "B"
B. Salt	T. Atoka	8900	T. Fruitland	T. Penn. "C"
T. Yates	T. Miss Ls	9425	T. Pictured Cliffs	T. Penn. "D"
T. 7 Rivers	T. Devonian Woodford	9880	T. Cliff House	T. Leadville
T. Queen	T. Silurian Fusselman	9895	T. Menefee	T. Madison
T. Grayburg 550	T. Montoya	10410	T. Point Lookout	T. Elbert
T. San Andres 865	T. Simpson		T. Mancos	T. McCracken
T. Glorieta 2300	T. McKee		T. Gallup	T. Ignacio Otzte
Yeso 2410	T. Ellenburger		Base Greenhorn	T. Granite
T. Blinbry	T. Gr. Wash		T. Dakota	T. M. Morrow
T. Tubb	T. Delaware Sand		T. Morrison	T. L. Morrow 9100
T. Drinkard	T. Bone Springs		T. Todilto	
T. Abo 4500	T. 1 st BS SD		T. Entrada	
T. Wolfcamp 5800	T. 2 nd BS SD		T. Wingate	
T. Penn 7110	T. 3 rd BS SD		T. Chinle	
T. Cisco (Bough C)	T. Morrow Sands	8980	T. Permian	

OIL OR GAS SANDS OR ZONES

No. 1, from...2410 .to...2720 Oil...

No. 2, from...9100...to...9126 Oil...

No. 3, from...6000 to ...6150 Oil...

No. 4, from...1400 to ...1450 Oil...

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....no returns porous sd & gravel.....

No. 2, from.....to.....feet.....

No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	TVD To	Thickness In Feet	Lithology	From	To	Thickness In Feet	Lithology
0	550	550	Qal+Eroded Artesia Gp Redbeds	7110	7690	580	Shale + Ls w/minor Sd
550	865	315	Dol + Sd	7690	8190	500	Limestone
865	2300	1435	Dolomite w/minor Anh	8190	8900	510	Limestone+Shale
2300	2410	110	Sandy Dolomite	8700	8980	280	Shale+Limestone
2410	3100	690	Dolomite	8980	9165	185	Sand+Shale
3100	3800	700	Dol + Sd	9165	9425	260	Shale+Limestone
3800	4500	700	Dolomite Calcareous	9425	9880	455	Limestone
4500	5800	1300	Dolomite	9880	9895	15	Shale, Black
5800	7110	1310	Ls + Shale W/minor Dol	9895	10365	470	Dolomite
				10365	10410	45	Arg., Dolomite
				10410	10500	90	Dolomite

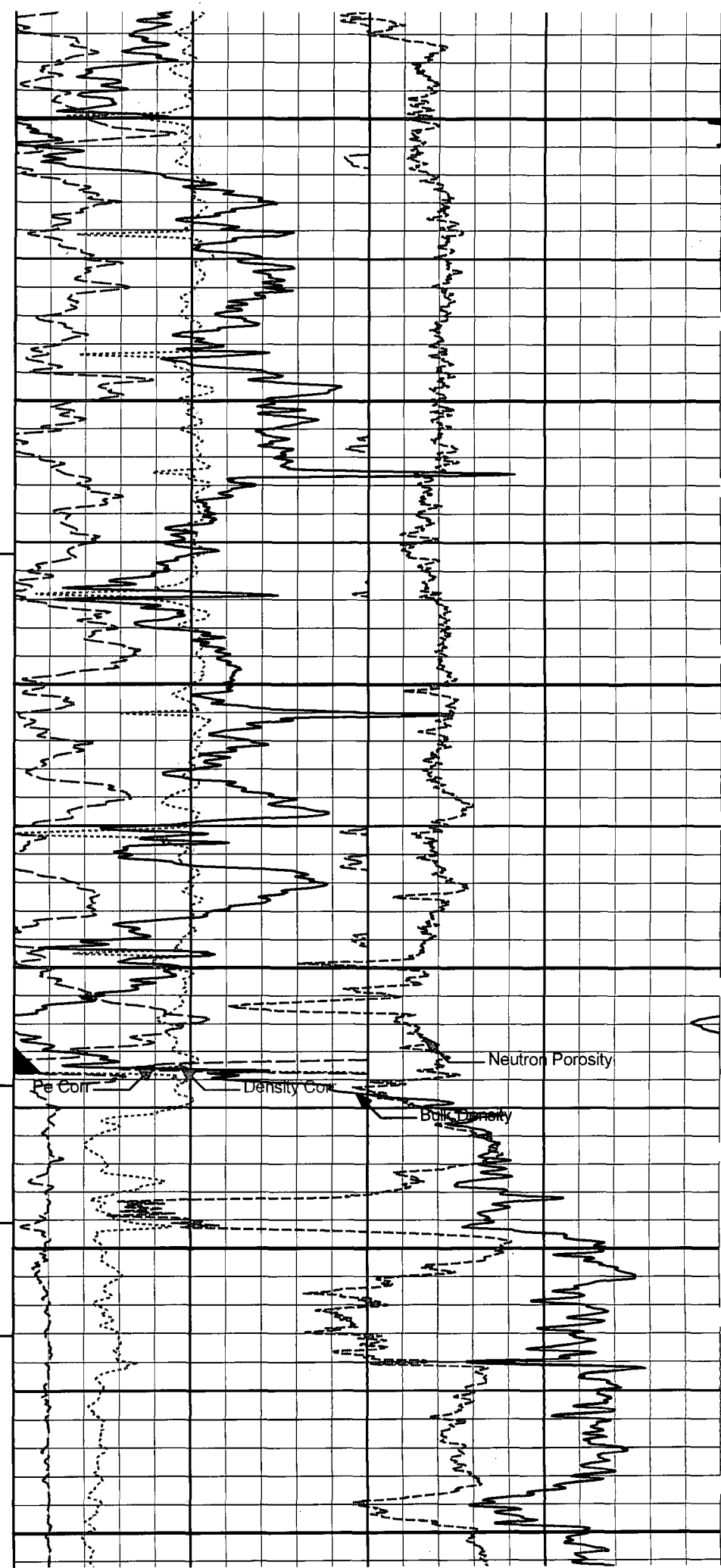
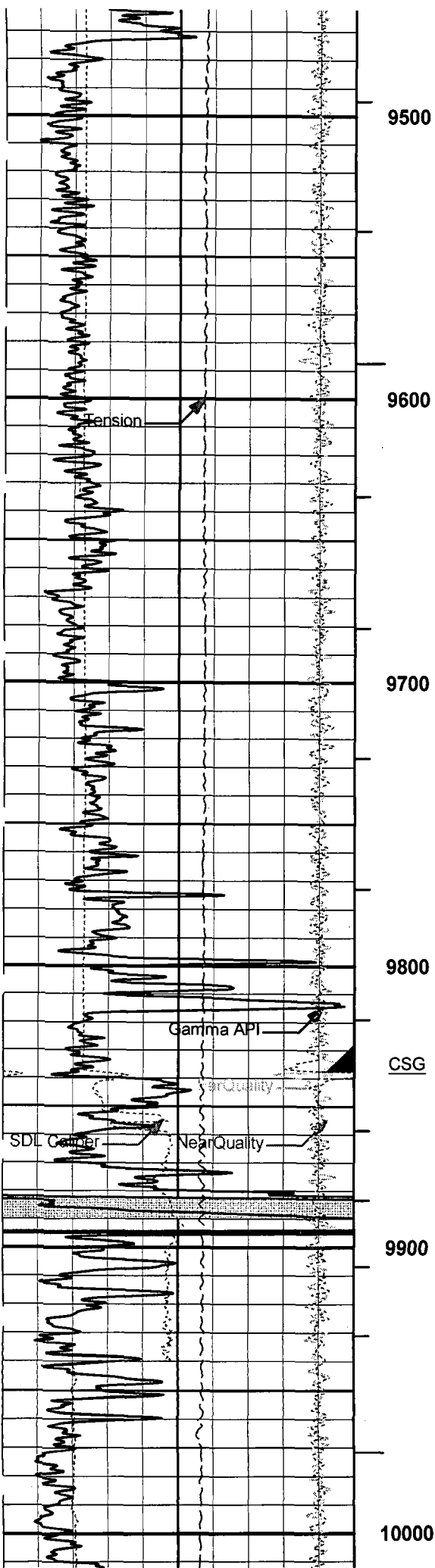
HALLIBURTON

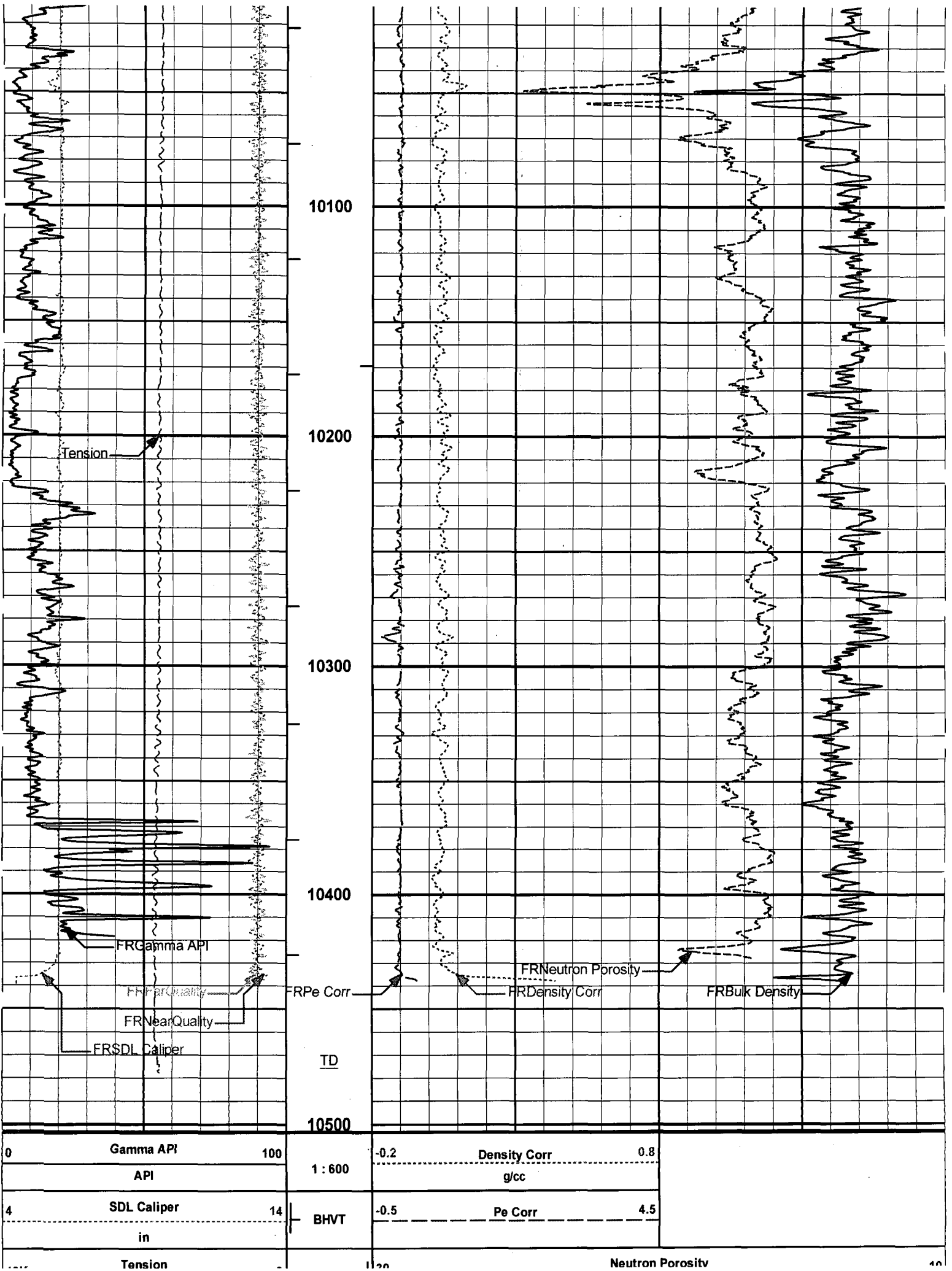
DUAL SPACED NEUTRON SPECTRAL DENSITY

COMPANY		NADEL AND GUSSMAN HEYCO, LLC.	
WELL		REGULATOR 29 SWD #1	
FIELD		SWD; DEVONIAN	
COUNTY		EDDY	
STATE		NEW MEXICO	
Permanent Datum		GL	Elev. 3411.8 ft
Log measured from		KB	Elev. 3428.8 ft
Drilling measured from		KB	Elev. 3411.8 ft
Date		01-Apr-13	
Run No.		TWO	
Depth - Driller		10500.00 ft	
Depth - Logger		10476.0 ft	
Bottom - Logged Interval		10436.0 ft	
Top - Logged Interval		9400.0 ft	
Casing - Driller		7.000 in @ 9960.0 ft	@
Casing - Logger		9838.0 ft	@
Bit Size		6.125 in	@
Type Fluid in Hole		FRESH WATER	@
Density		8.3 ppg	
PH		N/A	
Source of Sample		WELLHEAD	
Rm @ Meas. Temperature		0.050 ohmm @ 75.00 degF	@
Rmf @ Meas. Temperature		0.05 ohmm @ 75.00 degF	@
Rmc @ Meas. Temperature		0.050 ohmm @ 75.00 degF	@
Source Rmf		MEAS	
Rm @ BHT		0.02 ohmm @ 159.0 degF	@
Time Since Circulation		24.0 hr	
Time on Bottom		01-Apr-13 09:26	
Max. Rec. Temperature		159.0 degF @ 10476.0 ft	@
Equipment Location		10326331 HOBBS, NM	
Recorded By		YASIN ABULAIHA	
Witnessed By		JAY BILBERRY	

Fold here

Service Ticket No.: 900322185		API Serial No.: 30-015-41034		PGM Version: WL INSITE R3.6.0 (Build 3)	
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE				RESISTIVITY SCALE CHANGES	
Date	Sample No.	Type Log	Depth	Scale Up Hole	Scale Down Hole
Depth-Driller					
Type Fluid in Hole					
Density	Viscosity				
Ph	Fluid Loss				
Source of Sample		RESISTIVITY EQUIPMENT DATA			
Rm @ Meas. Temp	@	Run No.	Tool Type & No.	Pad Type	Tool Pos.
Rmf @ Meas. Temp.	@				
Rmc @ Meas. Temp.	@				
Source Rmf	Rmc				
Rm @ BHT	@				
Rmf @ BHT	@				
Rmc @ BHT	@				
EQUIPMENT DATA					
GAMMA		ACOUSTIC		DENSITY	
Run No.	TWO	Run No.		Run No.	TWO
Serial No.	11958946PR	Serial No.		Serial No.	11899221PR
Model No.	GTET	Model No.		Model No.	SDLT
Diameter	3.625"	No. of Cent.		Diameter	4.5"
Detector Model No.	T-102A	Spacing		Log Type	GAM-GAM
Type	SCINT.			Source Type	Cs137
Length	8"	LSA [Y/N]		Serial No.	5107GW
Distance to Source	10'	FWDA [Y/N]		Strength	1.5 Ci
LOGGING DATA					





10K		0	AHVT	30		-10
	lb-f				% Matrix: Limestone	
18	NearQuality	-2		2	Bulk Density	3
					g/cc	
-18	FarQuality	2				

HALLIBURTON

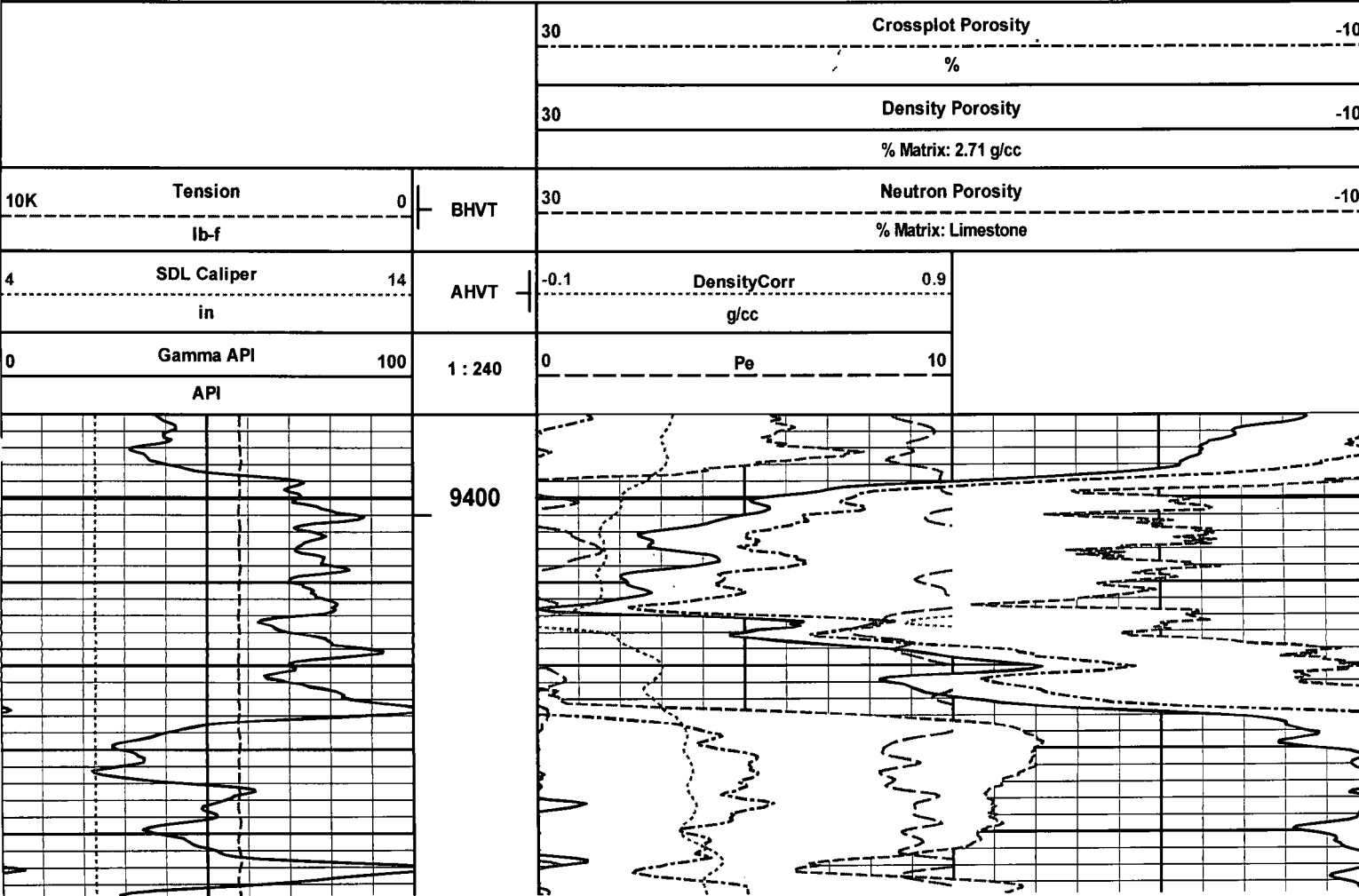
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 Plot Range: 9390 ft to 10503 ft
 Data: 0401_NADEL\Well Based\DAQ-0001-007.01\
 Plot File: \DSNT_SDLT\DSNT-SDLT 2in

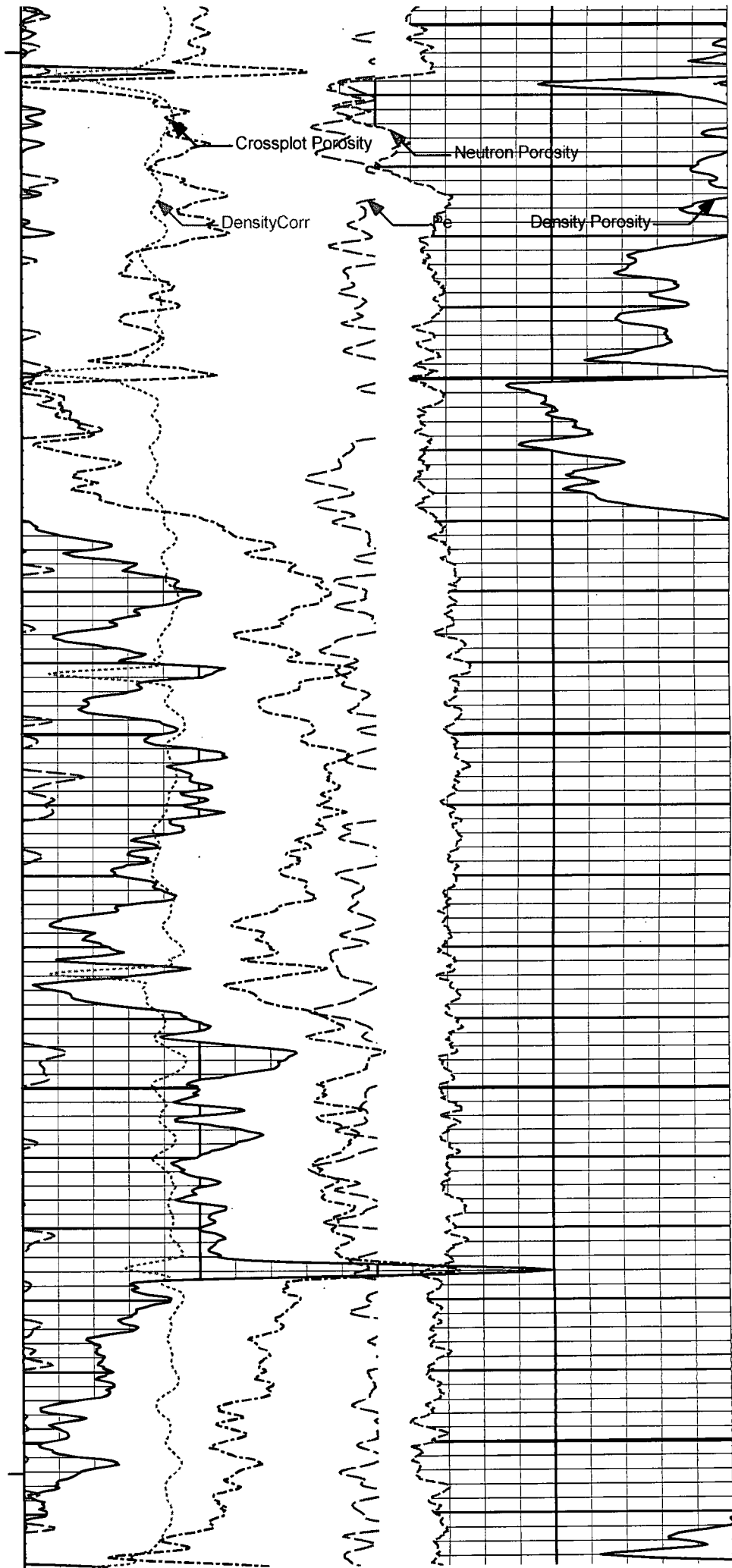
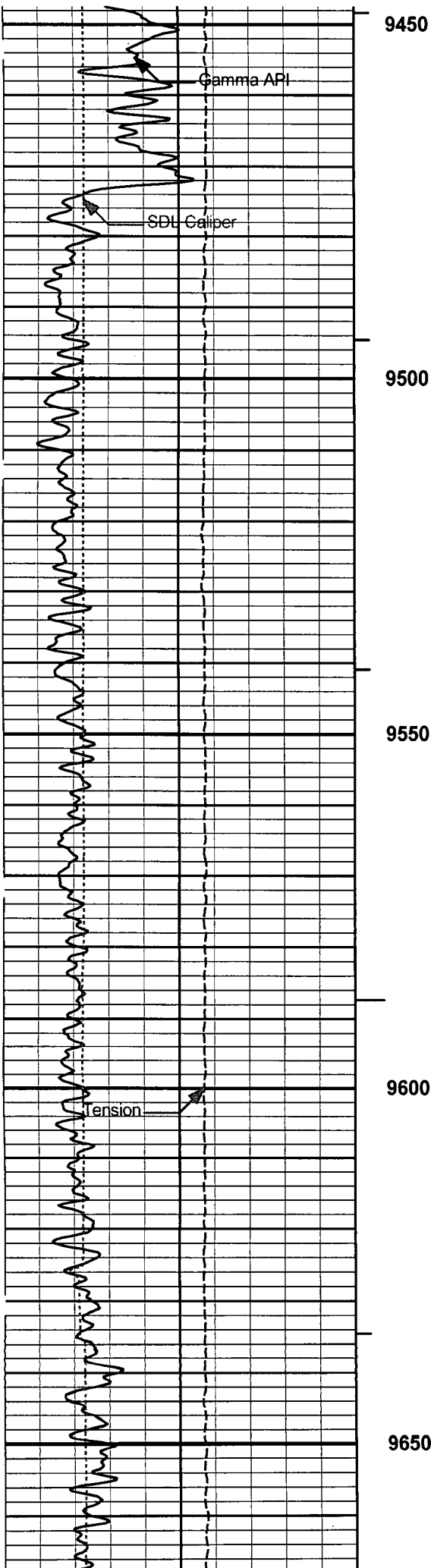
MAIN PASS 2" = 100' (LIMESTONE MATRIX)

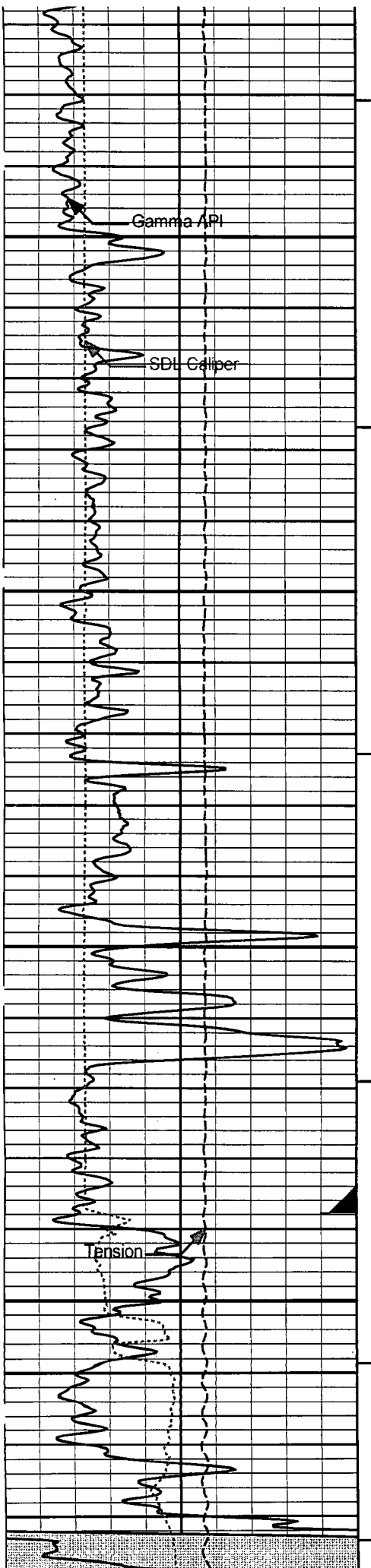
HALLIBURTON

Plot Time: 01-Apr-13 14:44:15
 Plot Range: 9390 ft to 10503 ft
 Data: 0401_NADEL\Well Based\DAQ-0001-007.01\
 Plot File: \DSNT_SDLT\CSNG-DSNT-SDLT 5in

MAIN PASS 5" = 100' (LIMESTONE MATRIX)







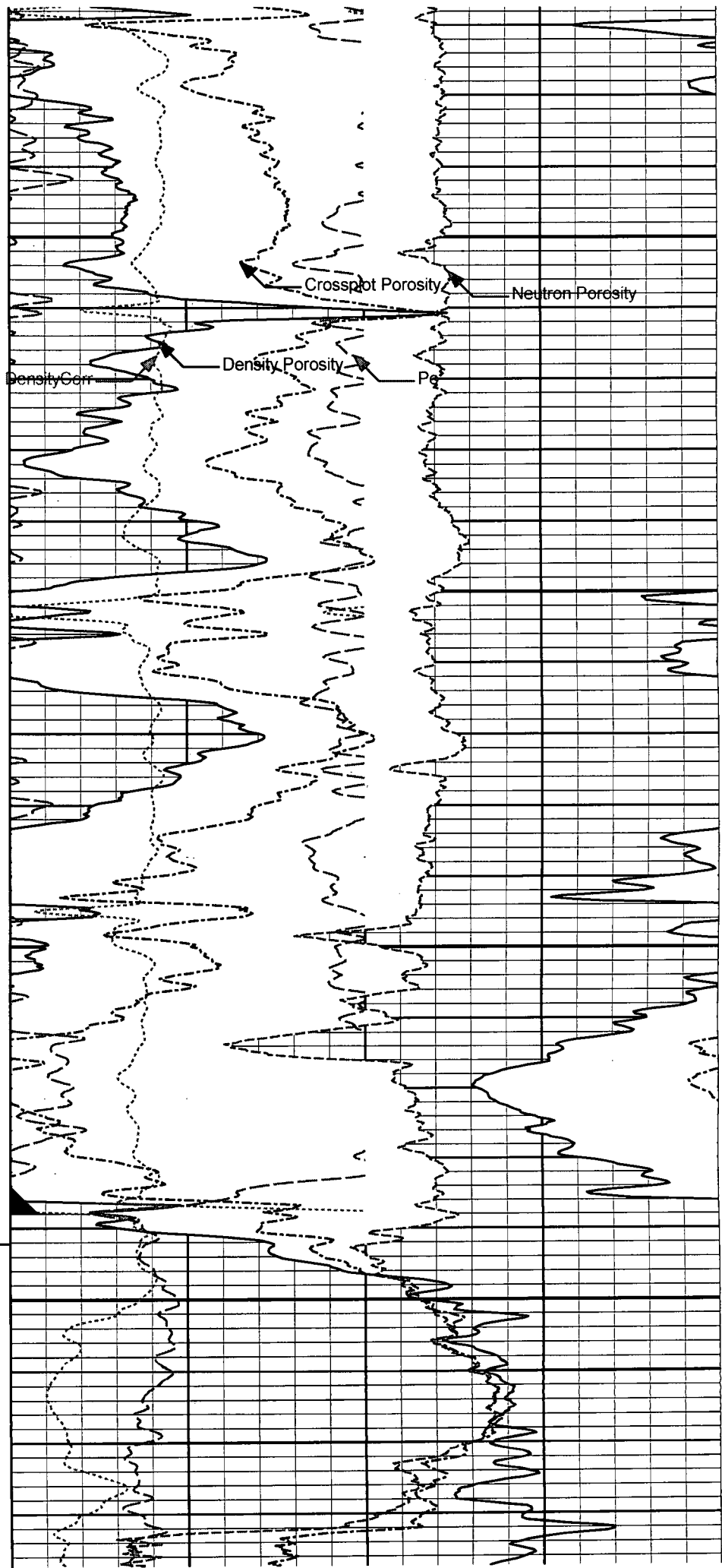
9700

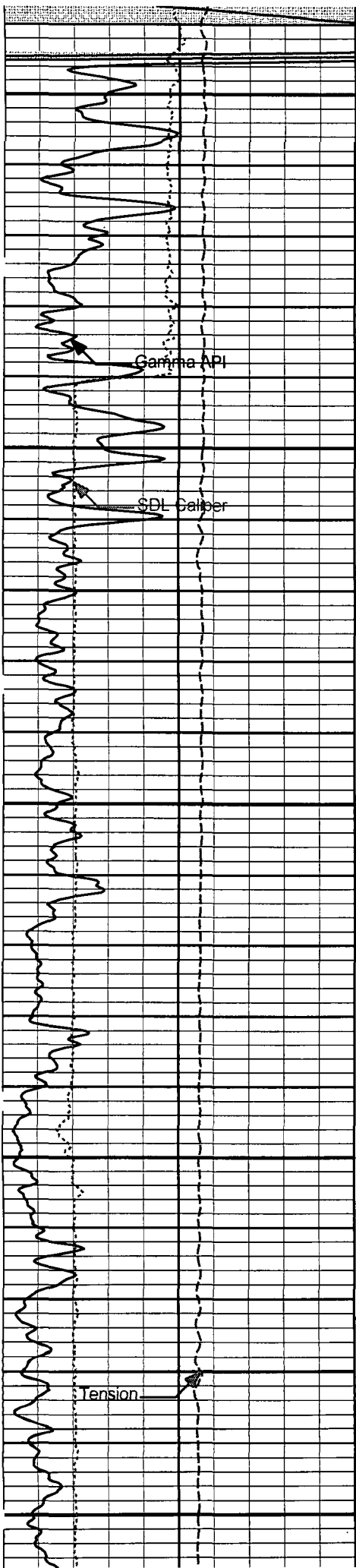
9750

9800

CSG

9850





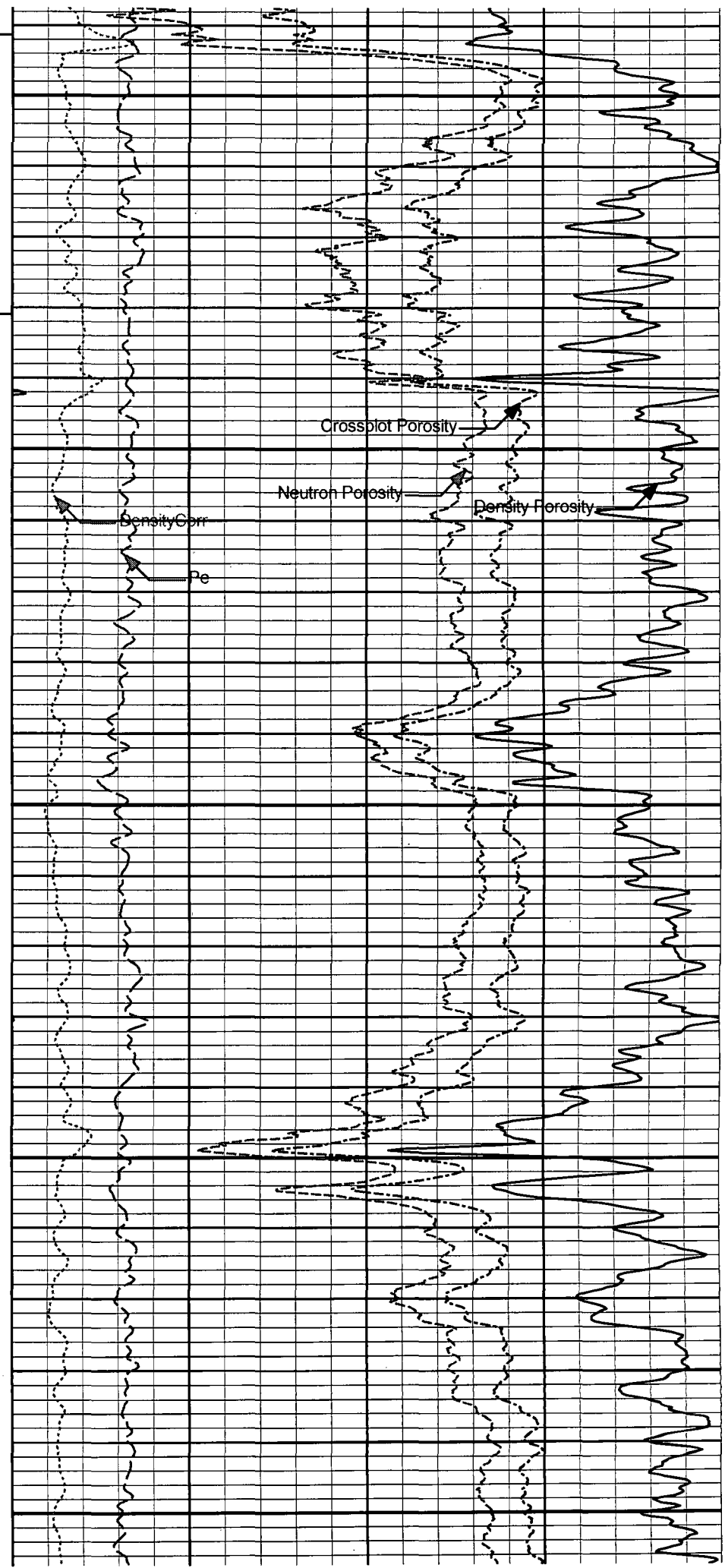
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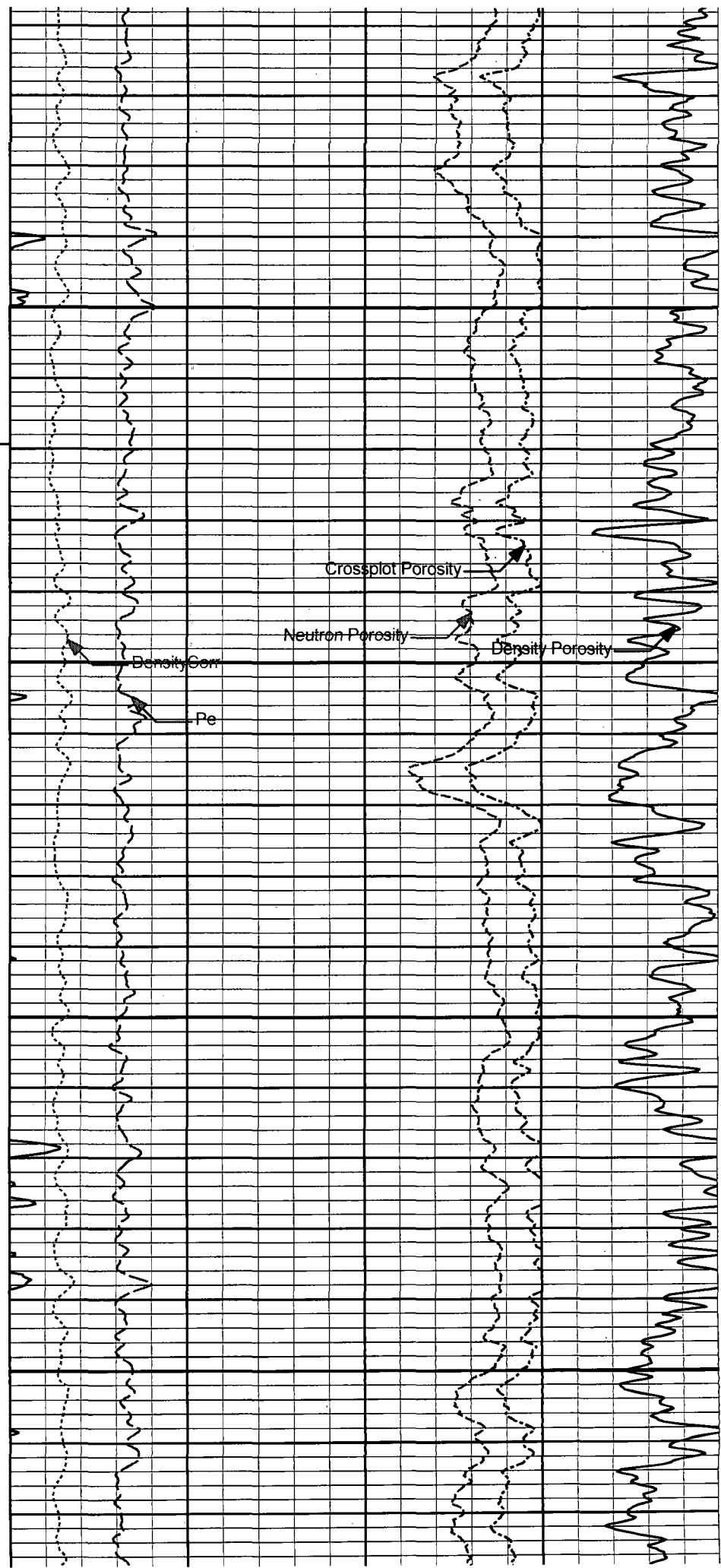
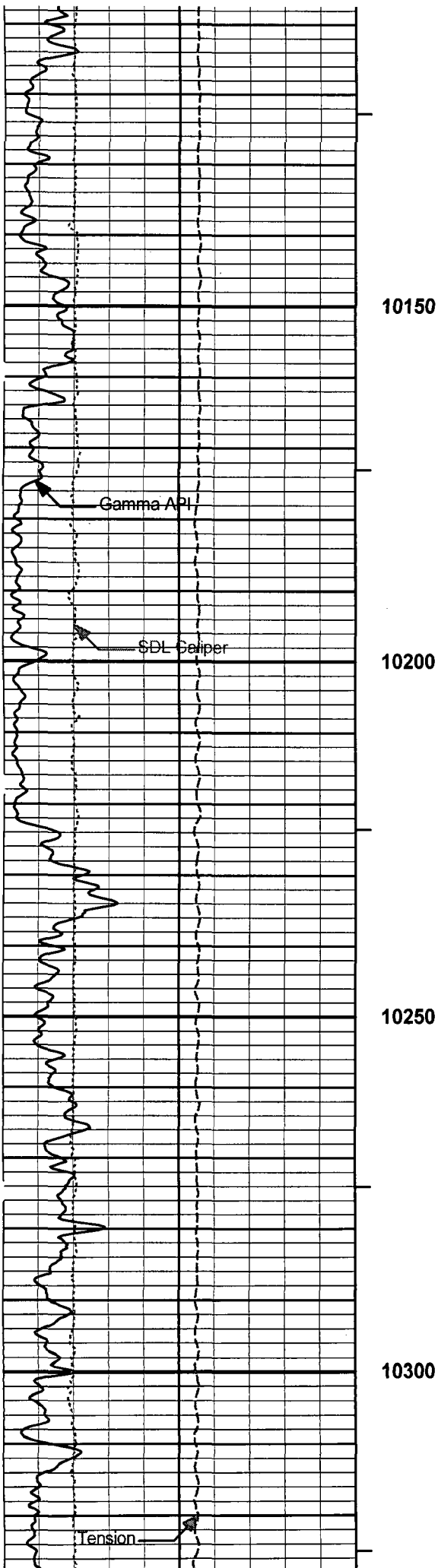
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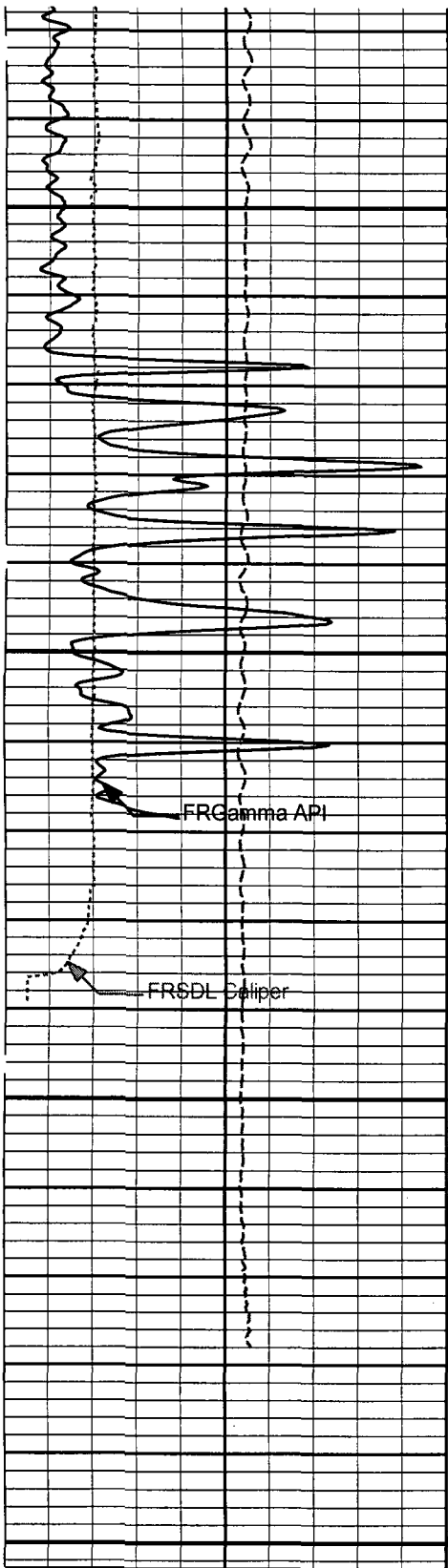
10000

10050

10100







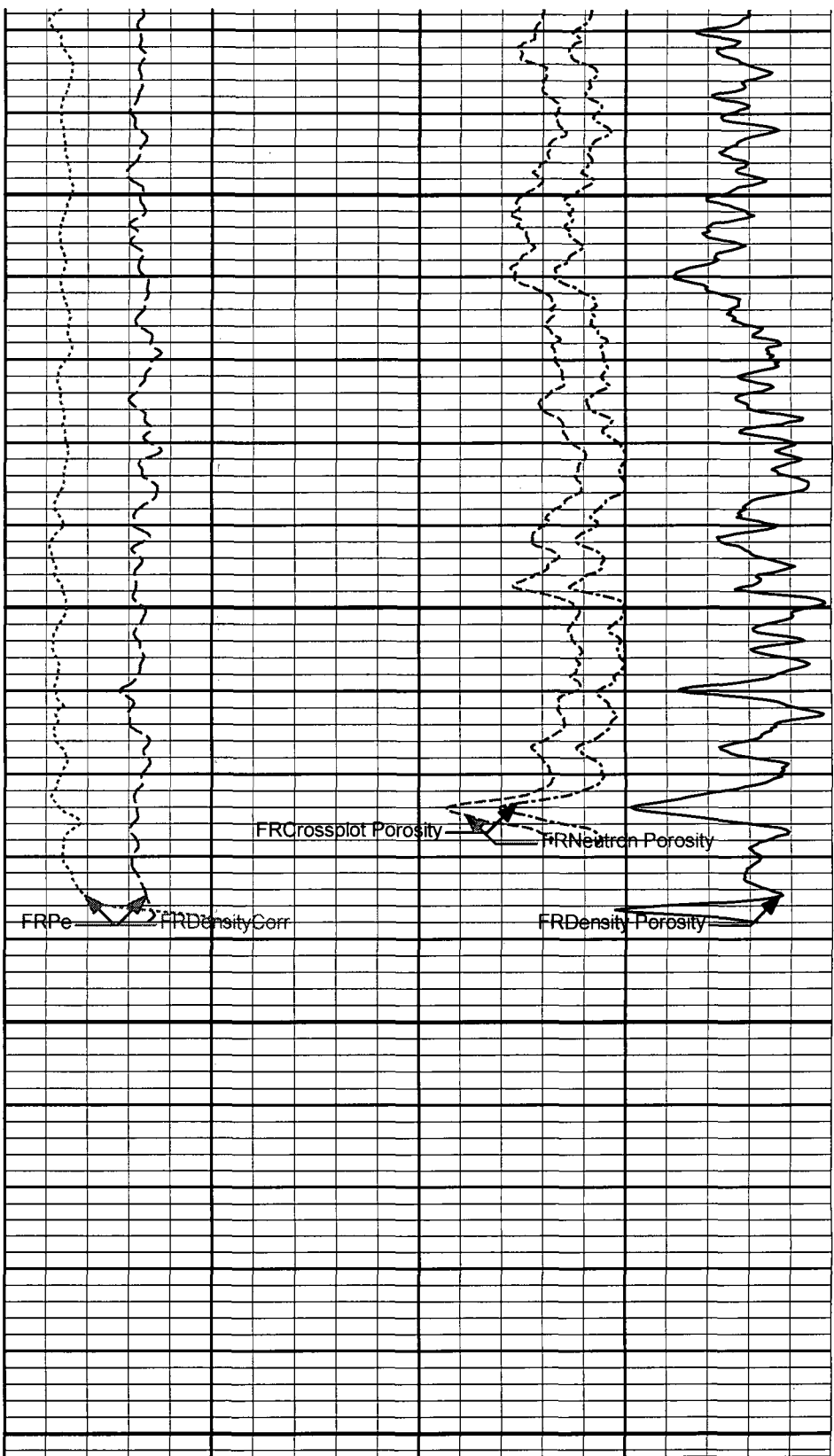
10350

10400

10450

TD

10500



0	Gamma API	100
	API	
4	SDL Caliper	14
	in	
10K	Tension	0
	lb-f	

1 : 240
AHVT
BHVT

0	Pe	10
-0.1	DensityCorr	0.9
	g/cc	

30	Neutron Porosity	-10
	% Matrix: Limestone	
30	Density Porosity	-10
	% Matrix: 2.71 g/cc	
30	Crossplot Porosity	-10

HALLIBURTON

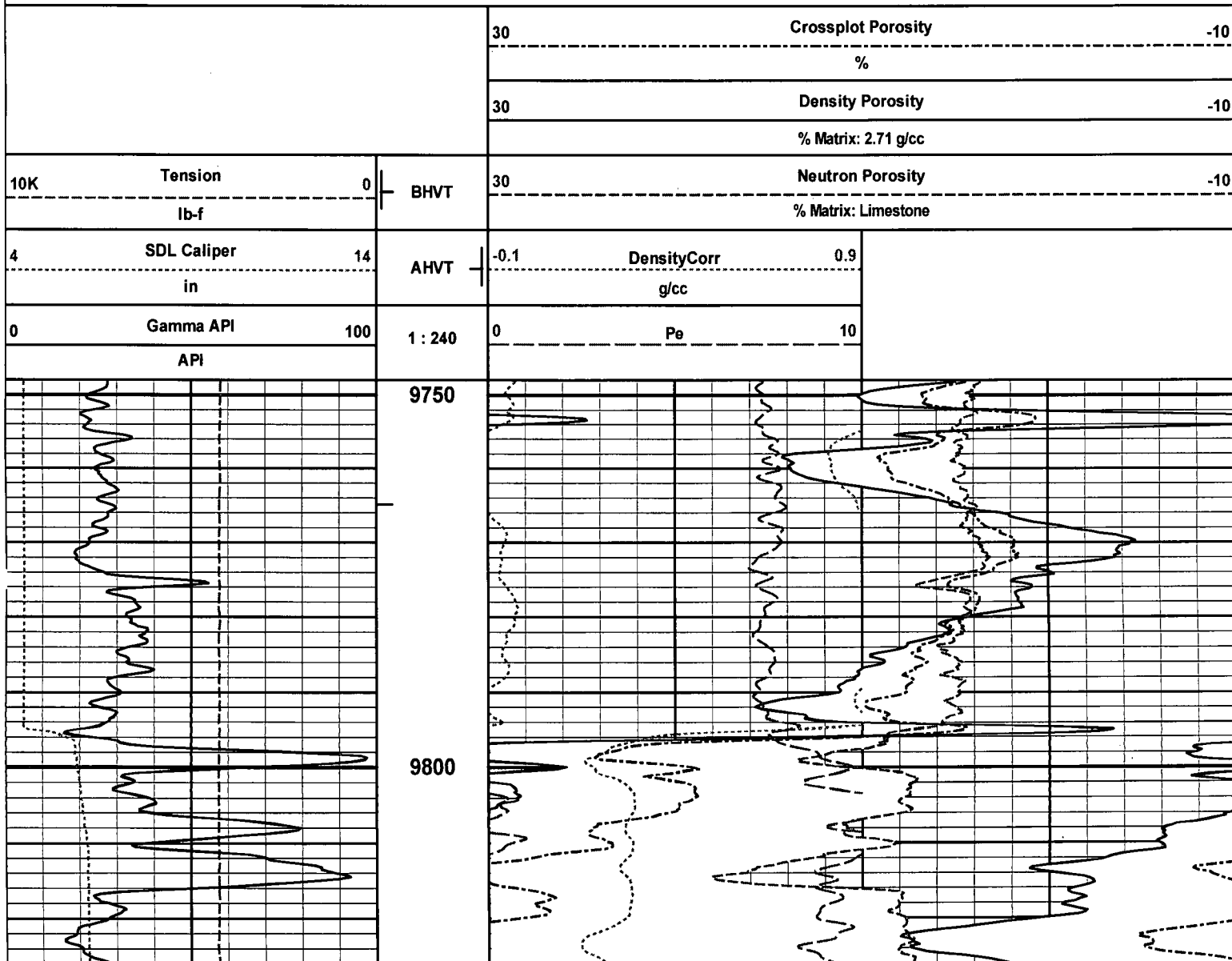
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Plot Range: 9390 ft to 10503 ft
Data: 0401_NADEL\Well Based\DAQ-0001-007.01\
Plot File: \\DSNT_SDLT\CSNG-DSNT-SDLT 5in

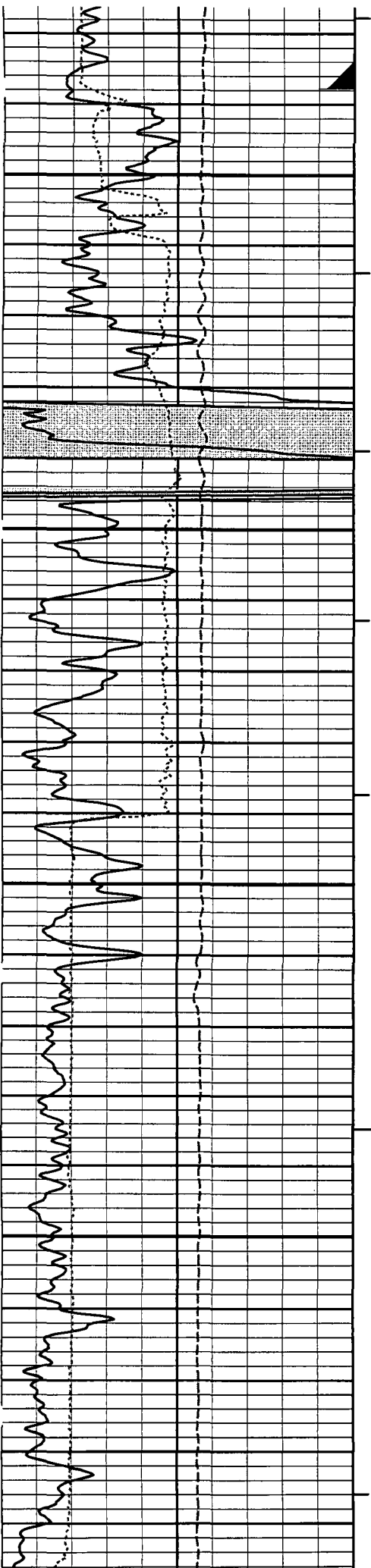
MAIN PASS 5" = 100' (LIMESTONE MATRIX)

HALLIBURTON

Plot Time: 01-Apr-13 14:44:19
Plot Range: 9748 ft to 10475 ft
Data: 0401_NADEL\Well Based\DAQ-0001-006\
Plot File: \\DSNT_SDLT\REPEAT

REPEAT SECTION 5" = 100' (LIMESTONE MATRIX)





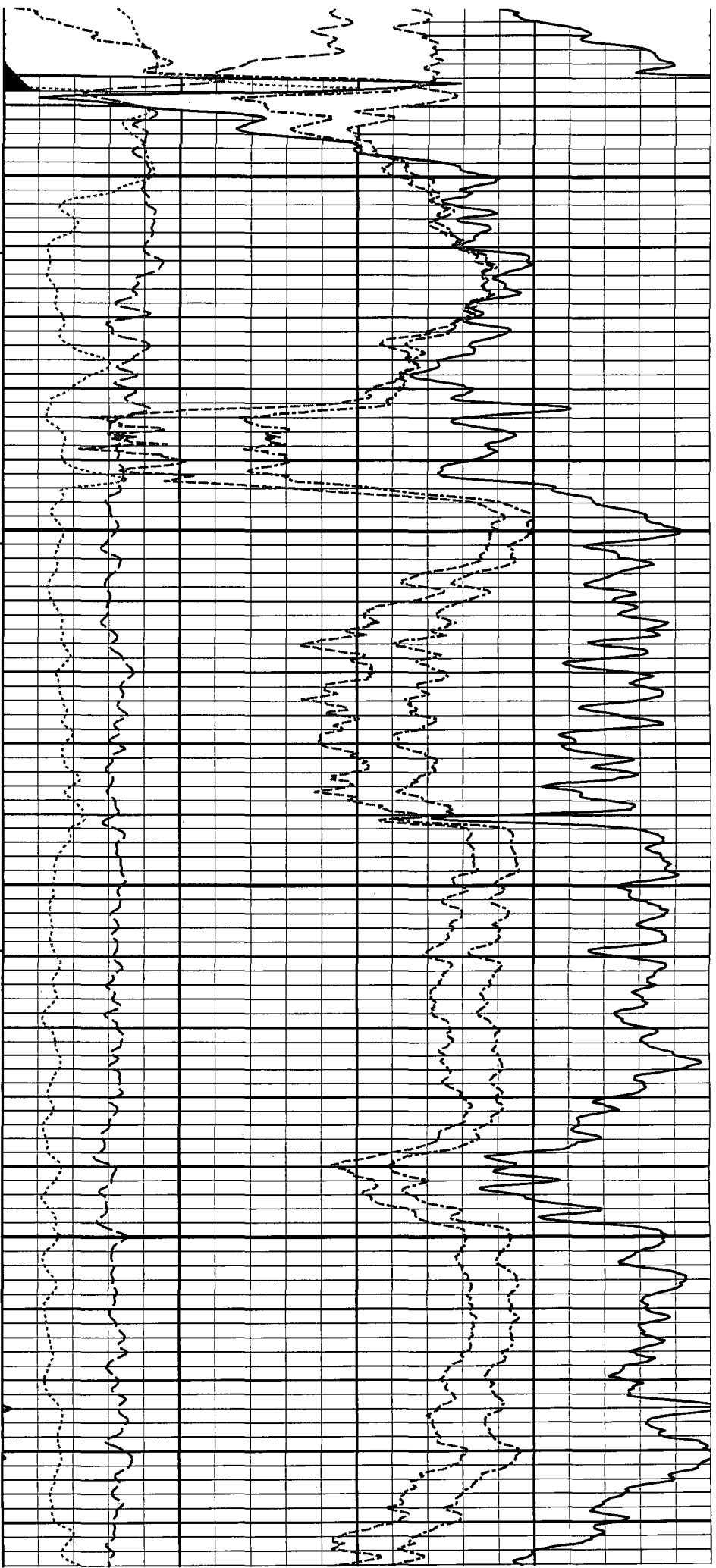
CSG

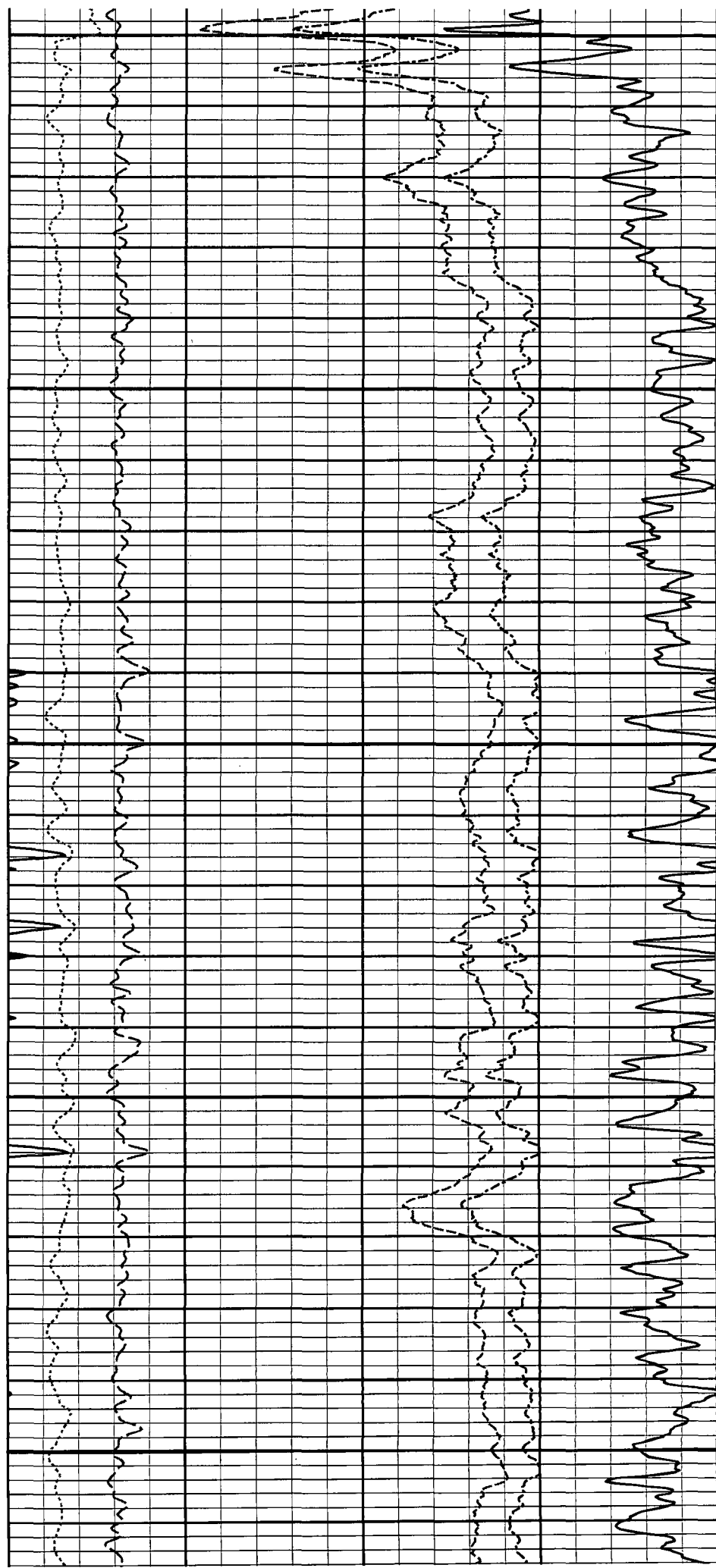
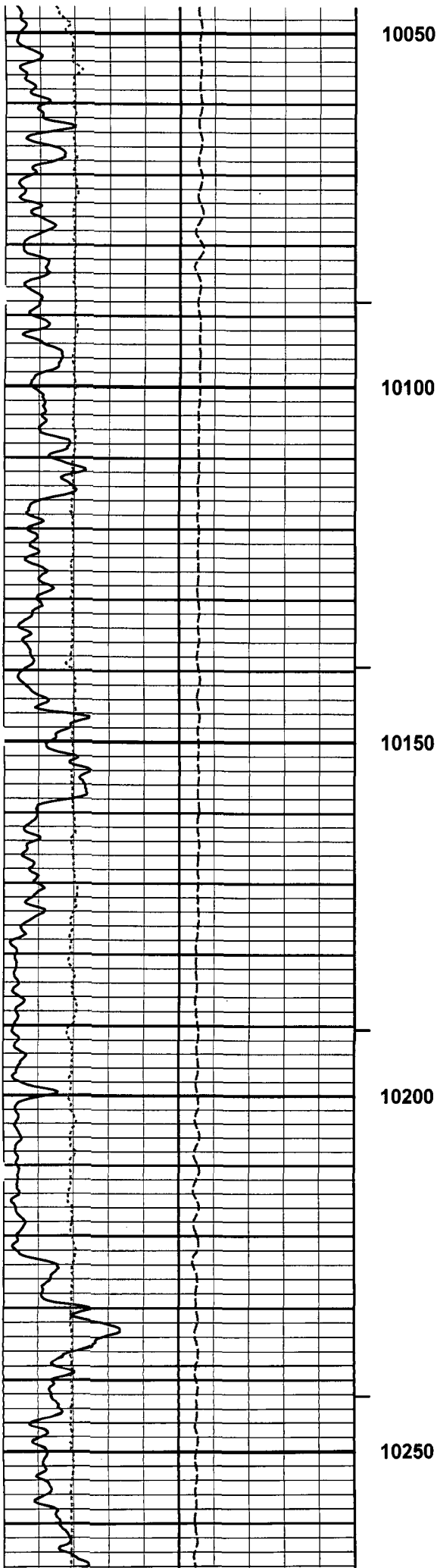
9850

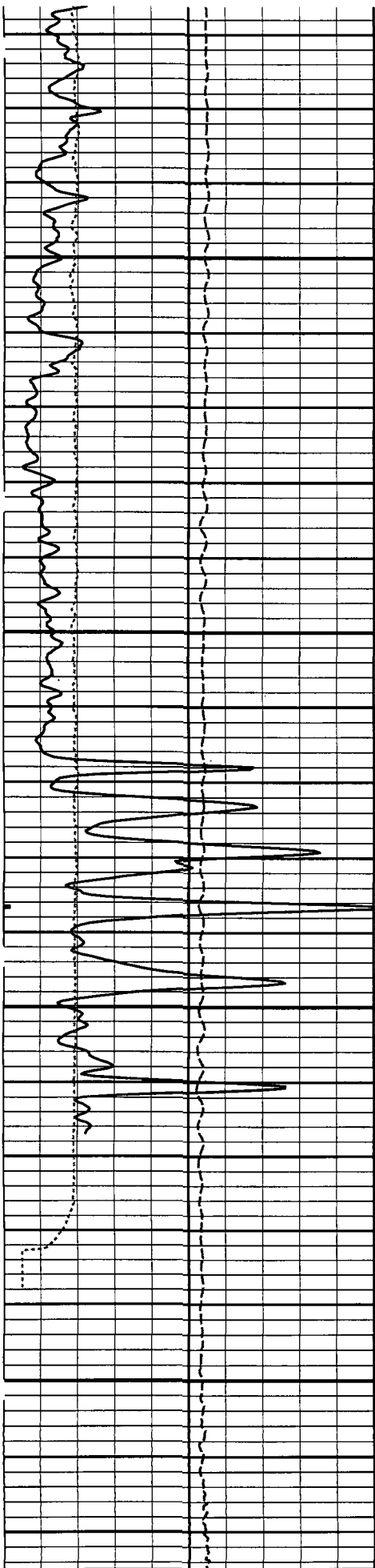
9900

9950

10000







0	Gamma API	100
API		

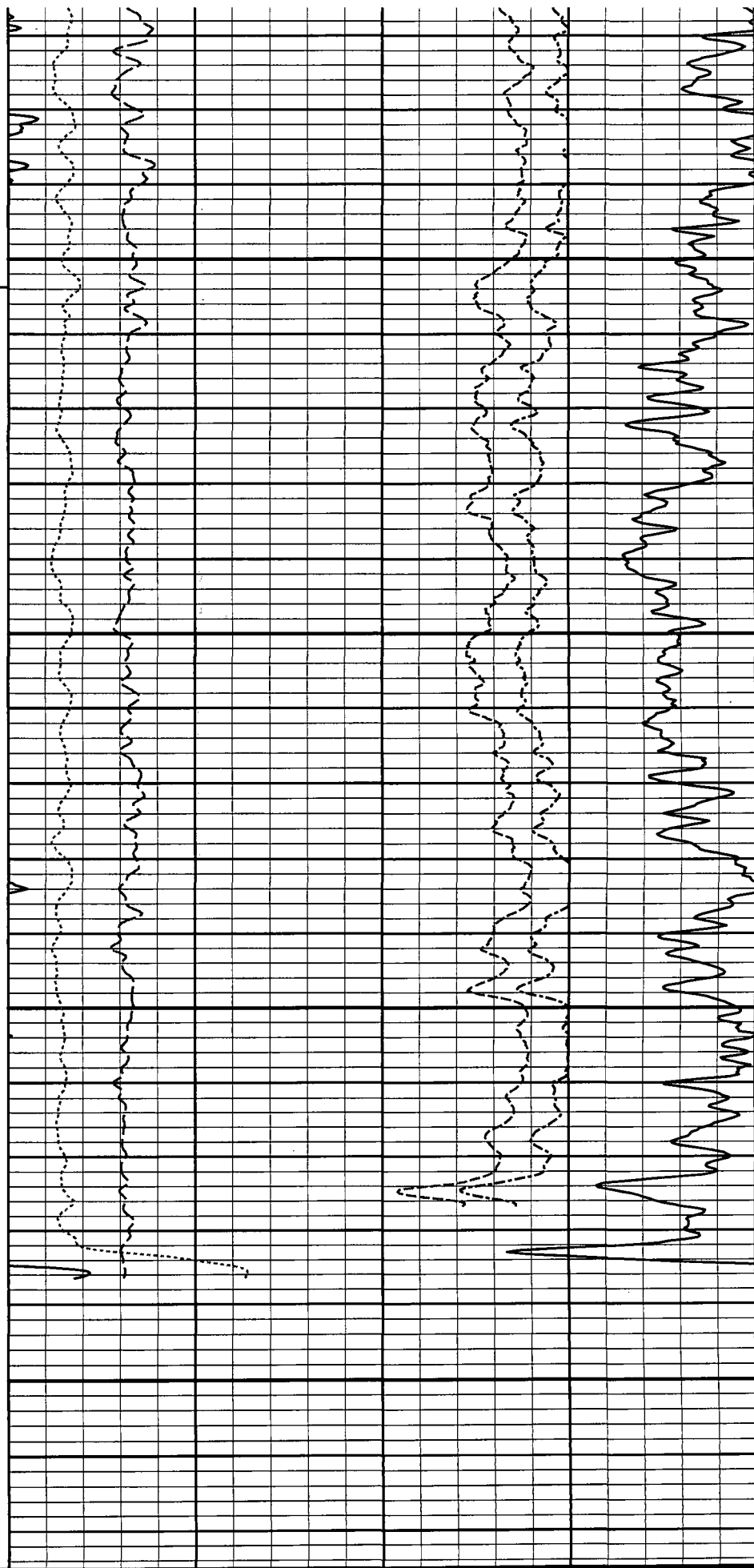
10300

10350

10400

10450

1 : 240



0	Pe	10
---	----	----

4	SDL Caliper	14	AHVT	-0.1	DensityCorr	0.9
	in				g/cc	
10K	Tension	0	BHVT	30	Neutron Porosity	-10
	lb-f				% Matrix: Limestone	
				30	Density Porosity	-10
					% Matrix: 2.71 g/cc	
				30	Crossplot Porosity	-10
					%	

HALLIBURTON

Plot Time: 01-Apr-13 14:44:26
Plot Range: 9748 ft to 10475 ft
Data: 0401_NADEL\Well Based\DAQ-0001-006\
Plot File: \DSNT_SDLT\REPEAT

REPEAT SECTION 5" = 100' (LIMESTONE MATRIX)

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11958946PR

Reference Calibration Date: 11-Feb-13 09:14:42

Engineer: YASIN ABULAIHA

Calibration Date: 24-Mar-13 09:16:27

Software Version: WL INSITE R3.6.0 (Build 3)

Calibration Version: 1

Calibrator Source S/N: 10770395

Calibrator API Reference: 251.00 api

Equivalent Calibrator API Reference: 255.4 api

Measurement	Measured	Calibrated	Units
Background	23.7	23.5	api
Background + Calibrator	282.0	278.9	api
Calibrator	258.3	255.4	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11958946PR

Reference Calibration Date: 24-Mar-13 09:16:27

Engineer: YASIN ABULAIHA

Calibration Date: 28-Mar-13 09:02:44

Software Version: WL INSITE R3.6.0 (Build 3)

Calibration Version: 1

Calibrator Source S/N: 10770395

Calibrator API Reference: 251.00 api

Equivalent Calibrator API Reference: 255.4 api

Field Verification	Shop	Field	Units
Background	23.5	21.6	api
Background + Calibrator	278.9	279.0	api
Calibrator	255.4	257.4	api

Shop	Field	Difference	Tolerance
255.4	257.4	-2.0	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 11899188_PUR

Reference Calibration Date: 18-Feb-13 09:30:47

Engineer: YASIN ABULAIHA

Calibration Date: 24-Mar-13 13:08:34

Software Version: WL INSITE R3.6.0 (Build 3)

Calibration Version: 1

Logging Source S/N: DSN-372

Tank Serial Number: 105033

Reference value assigned to Tank: 55.340

Snow Block S/N: TRUCK 831

Calibration Tank Water Temperature: 60 degF

Min. Tool Housing Outside Diameter: 3.620 in

CALIBRATION CONSTANTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	1.048	1.053	0.900 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)

Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decp):	0.2298	0.2311	0.0014	+/- 0.0020
Calibrated Ratio:	10.36	10.41	0.045	+/- 0.050

VERIFIER

Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0869	0.02000 - 0.09000

PASS/FAIL SUMMARY

Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

DUAL SPACED NEUTRON FIELD CALIBRATION

Tool Name: DSNT - 11899188_PUR

Reference Calibration Date: 24-Mar-13 13:08:34

Engineer: YASIN ABULAIHA

Calibration Date: 28-Mar-13 09:16:37

Software Version: WL INSITE R3.6.0 (Build 3)

Calibration Version: 1

Logging Source S/N: DSN-372

Snow Block S/N: TRUCK 831

NEUTRON FIELD-CHECK SUMMARY

	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0869	0.0734	-0.0135	+/- 0.0150

PASS/FAIL SUMMARY

Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - 188PR_M041PR

Reference Calibration Date: 19-Feb-13 13:45:13

Engineer: YASIN ABULAIHA

Calibration Date: 24-Mar-13 10:38:18

Software Version: WL INSITE R3.6.0 (Build 3)

Calibration Version: 1

Host Tool Name: DSNT - 11899188_PUR

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-2286.04	-2552.59	-7000.00 - -1000.00
Pad Gain	0.0003745	0.0003828	0.000200 - 0.000600
Arm Offset	-3068.02	-3228.92	-5000.00 - 3000.00
Arm Gain	0.0005098	0.0005447	0.000300 - 0.000700
Arm Power	-0.000001602	-0.000004056	-0.000010000 - 0.000010000

The ring diameter is computed from: $\text{DIAMETER} = \text{PAD EXTENSION} + \text{ARM EXTENSION} + \text{TOOL DIAMETER}$

Tool Diameter: 4.50 in

CALIBRATION RINGS				
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	2.06	2.00	-0.06	+/- 0.20
Medium Ring (in)	3.77	3.75	-0.02	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.56	6.50	-0.06	+/- 0.20
Medium Ring (in)	8.25	8.25	0.00	+/- 0.20
Large Ring (in)	15.08	15.00	-0.08	+/- 0.20

PASS/FAIL SUMMARY

Calibration-Coefficients Range Check: Passed
 Ring-Measurement Check: Passed

PASS/FAIL SUMMARY

Calibration-Coefficients Range Check: Passed

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - 11899221PR

Reference Calibration Date: 19-Feb-13 13:13:07

Engineer: YASIN ABULAIHA

Calibration Date: 24-Mar-13 10:16:43

Software Version: WL INSITE R3.6.0 (Build 3)

Calibration Version: 1

Logging Source S/N: 5107GW

Aluminum Block S/N: HOBBS

Density: 2.602g/cc

Pe: 3.200

Magnesium Block S/N: HOBBS

Density: 1.677g/cc

Pe: 2.540

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0052	1.0577	0.90 - 1.10
Near Dens Gain	0.9821	1.0076	0.90 - 1.10
Near Peak Gain	0.9754	1.0224	0.90 - 1.10
Near Lith Gain	1.0192	1.0661	0.90 - 1.10
Far Bar Gain	1.0050	1.0136	0.90 - 1.10
Far Dens Gain	0.9972	1.0080	0.90 - 1.10
Far Peak Gain	0.9941	1.0040	0.90 - 1.10
Far Lith Gain	0.9783	0.9922	0.90 - 1.10
Near Bar Offset	0.0927	-0.4026	NONE
Near Dens Offset	0.3728	0.1403	NONE
Near Peak Offset	0.4741	0.0773	NONE
Near Lith Offset	0.1615	-0.2285	NONE
Far Bar Offset	-0.0480	-0.1352	NONE
Far Dens Offset	0.0215	-0.0839	NONE
Far Peak Offset	0.0269	-0.0666	NONE
Far Lith Offset	0.1306	0.0220	NONE

Far Lith Coef	0.1000	0.0220	NONE
Near Bar Background	1009.99	1004.78	700 - 1450
Near Dens Background	332.24	335.32	230 - 480
Near Peak Background	146.35	146.37	100 - 210
Near Lith Background	181.00	180.79	125 - 260
Far Bar Background	635.73	635.38	450 - 900
Far Dens Background	250.27	250.04	175 - 345
Far Peak Background	98.10	98.12	70 - 140
Far Lith Background	102.39	102.64	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.678	1.677	-0.001	+/- 0.015
Pe	2.509	2.499	-0.010	+/- 0.150
ALUMINUM				
Density (g/cc)	2.597	2.602	0.005	+/- 0.01500
Pe	3.160	3.146	-0.014	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0011	+/- 0.0110	-0.0017	+/- 0.0140
Magnesium Block	0.0003	+/- 0.0110	-0.0011	+/- 0.0140
Aluminum Block	-0.0004	+/- 0.0110	-0.0001	+/- 0.0140
Resolution	8.56	6.00 - 11.50	8.94	6.00 - 11.50
Internal Verifier(B+D+P+L)	1667	1200 - 2700	1086	800 - 1700

PASS/FAIL SUMMARY	
Background Quality Check:	Passed
Background Range Check:	Passed
Background Resolution Check:	Passed
Background Verification Check:	Passed
Magnesium Quality Check:	Passed
Aluminum Quality Check:	Passed
Gains Check:	Passed
Changes in Calibration Blocks:	Passed

SPECTRAL DENSITY FIELD CHECK

Tool Name: SDLT Pad - 11899221PR

Reference Calibration Date: 24-Mar-13 10:16:43

Engineer: YASIN ABULAIHA

Calibration Date: 28-Mar-13 09:02:03

Software Version: WL INSITE R3.6.0 (Build 3)

Calibration Version: 1

Pad Temperature: 58.2 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1667.256	1669.597	2.341	16.399
Far (B+D+P+L) cps	1086.169	1084.144	-2.025	17.429
Near Resolution	8.56	8.57	0.010	0.50

Far Resolution

8.94

8.82

-0.120

1.00

PASS/FAIL SUMMARY

Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

SDLT CALIPER FIELD CALIBRATIONTool Name: **SDLT - 188PR_M041PR**Reference Calibration Date: **24-Mar-13 10:38:18**Engineer: **YASIN ABULAIHA**Calibration Date: **28-Mar-13 09:04:24**Software Version: **WL INSITE R3.6.0 (Build 3)**Calibration Version: **1****MEASURED CALIPER VALUES**

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.74	-0.01	+/- 0.10
Ring Diameter	8.25	8.28	0.03	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11958946PR						
Gamma Ray Calibrator	255.4	257.4	-----	-2.0	+/- 9.00	api
DSNT-11899188_PUR						
Snow-Block Porosity	0.0869	0.0734	-----	0.0135	+/- 0.0150	decg
SDLT-188PR_M041PR						
Pad Extension	3.75	3.74	-----	0.01	+/-0.10	in
Ring Diameter	8.25	8.28	-----	-0.03	+/-0.15	in
SDLT Pad-11899221PR						
Near(B+D+P+L)	1667.256	1669.597	-----	-2.341	+/-16.399	cps
Far(B+D+P+L)	1086.169	1084.144	-----	2.025	+/-17.429	cps

Data: **0401_NADEL0001 LCCH-CCLD-GTET-CSNG-DSN-SDL-CBL-BSAT-ACRT-BNIDLE**Date: **01-Apr-13 14:32:36****HALLIBURTON****CUSTOMER EVENT LOG**

Event Type	Time & Date	Depth (ft)	Event Description
	01-Apr-13 12:06:03	526.75	Logging 001 01-Apr-13 12:06 Dn @526.8f
	01-Apr-13 12:15:51	2026.05	Halting 001 01-Apr-13 12:06 Dn @526.8f
	01-Apr-13 12:20:02	1877.00	Logging 002 01-Apr-13 12:19 Dn @1877.0f
	01-Apr-13 12:32:26	4605.11	Halting 002 01-Apr-13 12:19 Dn @1877.0f
	01-Apr-13 12:32:39	4588.75	Logging 003 01-Apr-13 12:32 Dn @4588.8f
	01-Apr-13 12:36:31	5668.66	Halting 003 01-Apr-13 12:32 Dn @4588.8f
	01-Apr-13 12:37:06	5747.50	Logging 004 01-Apr-13 12:37 Dn @5747.5f
	01-Apr-13 12:55:10	10028.18	Halting 004 01-Apr-13 12:37 Dn @5747.5f
	01-Apr-13 12:55:24	10030.75	Logging 005 01-Apr-13 12:55 Up 10030.8f
	01-Apr-13 12:59:29	9812.30	Halting 005 01-Apr-13 12:55 Up 10030.8f
	01-Apr-13 13:09:32	10501.50	Logging 006 01-Apr-13 13:09 Up 10501.5f

01-Apr-13 13:22:02	9768.62	Halting 006 01-Apr-13 13:09 Up 10501.5f
01-Apr-13 13:31:21	10503.75	Logging 007 01-Apr-13 13:31 Up 10503.8f
01-Apr-13 13:55:24	10503.00	Relogging 007.01 01-Apr-13 13:54 Up
01-Apr-13 13:56:40	9200.67	Halting 007.01 01-Apr-13 13:54 Up

Data: 0401_NADEL\0001 LCCH-CCLD-GTET-CSNG-DSN-SDL-CBL-BSAT-ACRT-BN\HW11110

Date: 01-Apr-13 14:31:17

HALLIBURTON

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	DSNT	DNOK	Process DSN?	No	
	SDLT	CLOK	Process Caliper Outputs?	No	
	SDLT Pad	DNOK	Process Density?	No	
	ACRt Sonde	RTOK	Process ACRt?	No	
9200.00					
	SHARED	BS	Bit Size	6.125	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	8.400	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	0.050	ohmm
	SHARED	TRM	Temperature of Mud	75.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	10500.00	ft
	SHARED	BHT	Bottom Hole Temperature	149.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	Temperature Master Tool	NONE	
	SHARED	BHSM	Borehole Size Master Tool	NONE	
	Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
	Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
	Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
	Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
	Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
	Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
	Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
	Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
	CCL-D	CLOK	Process CCL?	Yes	
	CCL-D	CCLS	CCL Processing Selection	Raw	
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in
	GTET	GEOK	Process Gamma Ray EVR?	No	
	GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	

DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Limestone	
DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
DSNT	DNTP	Temperature Correction Type	None	
DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	DNOK	Process Density EVR?	No	
SDLT Pad	CB	Logging Calibration Blocks?	No	
SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	DTWN	Disable temperature warning	No	
SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
CBL-BSAT	TTLV	Travel Time threshold.	5.0	mV
CBL-BSAT	TTOF	CBL Travel Time Offset from Calibration.	0	us
CBL-BSAT	ISFM	Is foam cement type?	No	
CBL-BSAT	CSTR	Compressive Strength	1000.00	psia
CBL-BSAT	BIOK	Calculate Bond Index?	Yes	
CBL-BSAT	ISMD	Is borehole fluid Mud?	No	
ACRt Sonde	RTOK	Process ACRT?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm

BOTTOM

Data: 0401_NADEL0001 LCCH-CCLD-GTET-CSNG-DSN-SDL-CBL-BSAT-ACRT-BNIDLE

Date: 01-Apr-13 14:32:11

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
Cable Head Tension-831 30.00 lbs		Ø 3.625 in →		← Load Cell @ 67.38 ft	2.00 ft	68.38 ft
CCL-D-CCLD 60.00 lbs		Ø 3.625 in →		← CCL @ 65.67 ft	2.00 ft	66.38 ft
						64.38 ft
GTET-11958946PR 165.00 lbs		Ø 3.625 in →		← GammaRay @ 58.32 ft	8.52 ft	

DSNT-
11899188_PUR
174.00 lbs

Ø 3.625 in →

9.69 ft

55.86 ft

← DSN Far @ 48.92 ft
← DSN Near @ 48.17 ft

SDLT-
188PR_M041PR
360.00 lbs

Ø 4.500 in →

10.81 ft

46.17 ft

SDLT Pad-11899221PR
65.00 lbs

Ø 4.750 in* →

← SDL Caliper @ 38.17 ft
← SDL @ 38.16 ft

35.36 ft

CBL-BSAT-
10939049
300.00 lbs

Ø 3.625 in →

15.77 ft

← Tx1 Amp & TT @ 29.34 ft
← Tx1 MSG @ 28.34 ft

← Tx2 MSG @ 25.34 ft
← Tx2 Amp & TT @ 24.34 ft

19.58 ft

ACRt Instrument-
634
50.00 lbs

Ø 3.625 in →

5.03 ft

14.55 ft

← Mud Resistivity @ 13.19 ft

← ACRt @ 9.21 ft

ACRt Sonde-E634-
S182WH
200.00 lbs

Ø 3.625 in →

14.22 ft

HALLIBURTON

Plot Time: 01-Apr-13 14:44:27

Plot Range: 9390 ft to 10503 ft

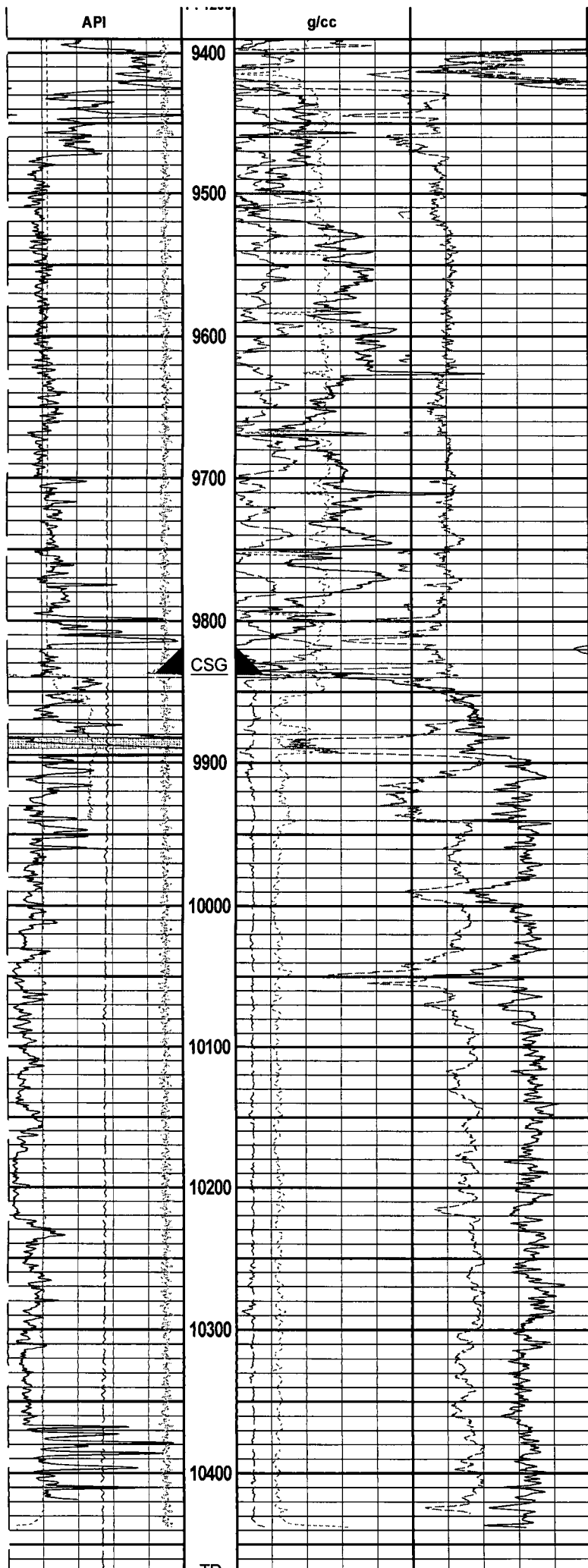
0401_NADELWell Based\...\

Plot File: \...\DSNT-SDLT 1in

MAIN PASS 1" = 100'

(LIMESTONE MATRIX)

-18	FarQuality	2			
18	NearQuality	-2			
10K	TENSION	0			
	lb-f				
4	SDL Caliper	14			
	in				
0	Gamma API	100			
4	1200		2	Bulk Density	3
				g/cc	
			30	Neutron Porosity	-10
				% Matrix: Limestone	
			-0.5	Pe Corr	4.5
			-0.2	Density Corr	0.8



			ID						
			10500						
0	Gamma API	100	1 : 1200	-0.2	Density Corr	0.8			
API				g/cc					
4	SDL Caliper	14		-0.5	Pe Corr	4.5			
in									
10K	TENSION	0		30	Neutron Porosity				
lb-f			% Matrix: Limestone						
18	NearQuality	-2		2	Bulk Density		3		
				g/cc					
-18	FarQuality	2							

HALLIBURTON

Plot Time: 01-Apr-13 14:44:29
Plot Range: 9390 ft to 10503 ft
0401_NADELWell Based\...\..
Plot File: \\...\DSNT-SDLT 1in

MAIN PASS 1" = 100'

(LIMESTONE MATRIX)

HALIBURTON

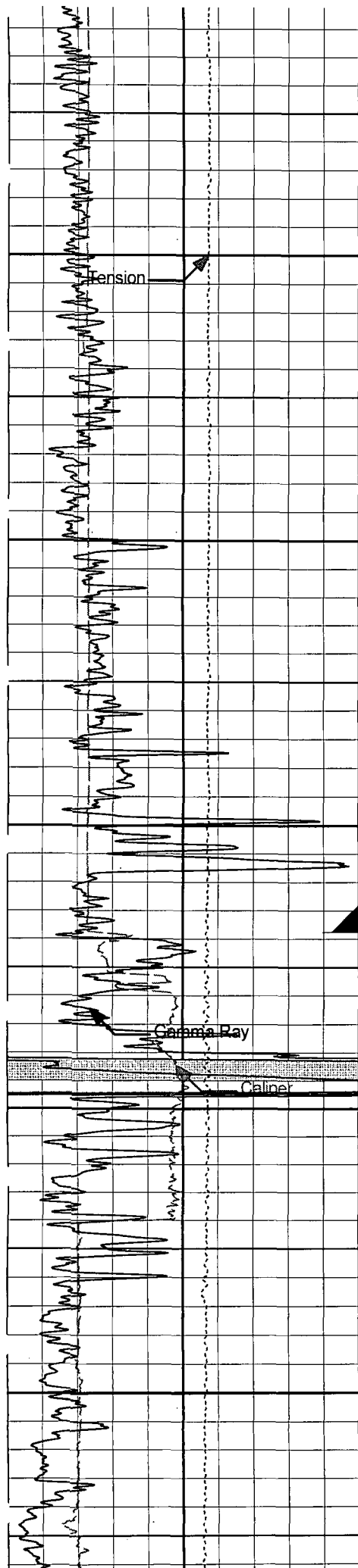
ARRAY COMPENSATED
TRUE RESISTIVITY

COMPANY		NADEL AND GUSSMAN HEYCO, LLC.		COMPANY		NADEL AND GUSSMAN HEYCO, LLC.	
WELL		REGULATOR 29 SWD #1		WELL		REGULATOR 29 SWD #1	
FIELD		SWD; DEVONIAN		FIELD		SWD; DEVONIAN	
COUNTY		EDDY		COUNTY		EDDY	
STATE		NEW MEXICO		STATE		NEW MEXICO	
Permanent Datum		GL		Sect. 29		Twp. 18S	
Log measured from		KB		Rge. 26E		Elev. 3411.8 ft	
Drilling measured from		KB				Elev. 3428.8 ft	
						D.F. 3428.8 ft	
						G.L. 3411.8 ft	
Date		01-Apr-13					
Run No.		TWO					
Depth - Driller		10500.00 ft					
Depth - Logger		10476.0 ft					
Bottom - Logged Interval		10462.0 ft					
Top - Logged Interval		9400.0 ft					
Casing - Driller		7.000 in @ 9960.0 ft					
Casing - Logger		9838.0 ft					
Bit Size		6.125 in					
Type Fluid in Hole		FRESH WATER					
Density		8.3 ppg					
Viscosity		N/A					
PH		N/A					
Source of Sample		WELLHEAD					
Rm @ Meas. Temperature		0.050 ohmm @ 75.00 degF					
Rmf @ Meas. Temperature		0.05 ohmm @ 75.00 degF					
Rmc @ Meas. Temperature		0.050 ohmm @ 75.00 degF					
Source Rmf		MEAS					
Rm @ BHT		0.02 ohmm @ 159.0 degF					
Time Since Circulation		24.0 hr					
Time on Bottom		01-Apr-13 09:26					
Max Rec. Temperature		159.0 degF @ 10476.0 ft					
Equipment		10326831 HOBBS, NM					
Recorded By		YASIN ABULAIHA					
Witnessed By		JAY BILBERRY					

Fold here

Service Ticket No.: 900322185				API Serial No.: 30-015-41034				PGM Version: WL INSITE R3.6.0 (Build 3)			
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE				RESISTIVITY SCALE CHANGES							
Date	Sample No.			Type Log	Depth	Scale Up Hole	Scale Down Hole				
Depth-Driller											
Type Fluid in Hole											
Density	Viscosity										
Ph	Fluid Loss										
Source of Sample				RESISTIVITY EQUIPMENT DATA							
Rm @ Meas. Temp	@	@		Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other			
Rmf @ Meas. Temp.	@	@		ONE	ACRT -	N/A	CENT.	N/A			
Rmc @ Meas. Temp.	@	@			E634-S182WH						
Source Rmf	Rmc										
Rm @ BHT	@	@									
Rmf @ BHT	@	@									
Rmc @ BHT	@	@									
EQUIPMENT DATA											
GAMMA				ACOUSTIC				DENSITY			
Run No.	TWO	Run No.		Run No.		Run No.		Run No.		Run No.	
Serial No.	11958946PR	Serial No.		Serial No.		Serial No.		Serial No.		Serial No.	
Model No.	GTET	Model No.		Model No.		Model No.		Model No.		Model No.	
Diameter	3.625"	No. of Cent.		Diameter		Diameter		Diameter		Diameter	
Detector Model No.	T-102A	Spacing		Log Type		Log Type		Log Type		Log Type	
Type	SCINT.			Source Type		Source Type		Source Type		Source Type	
Length	8"	LSA [Y/N]		Serial No.		Serial No.		Serial No.		Serial No.	
Distance to Source	10'	FWDA [Y/N]		Strength		Strength		Strength		Strength	
LOGGING DATA											

GENERAL			GAMMA		ACOUSTIC		DENSITY		NEUTRON		
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R	
TWO	10476'	9400'	REC	0	100						
DIRECTIONAL INFORMATION											
Maximum Deviation @						KOP @					
Remarks: WELLSITE COORDINATES: LAT. 32.42 N AND LONG. 104.23 W											
TOOLSTRING CONFIGURATION: CCLD/GTET/DSNT/SDLT/BSAT/ACRT/BN											
LOG INTERVALS AS PER CUSTOMER REQUEST											
LOG TIED IN TO HALLIBURTON LOG DATED 03-21-2013											
HES CREW: D. VALDEZ, D. PAHONA, D. FARMER											
ALL HALLIBURTON DEPTH PROCEDURES FOLLOWED											
THANK YOU FOR USING HALLIBURTON ENERGY SERVICES 1-800-416-6081 (HOBBS, NM)											
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.											
HALLIBURTON											



9600

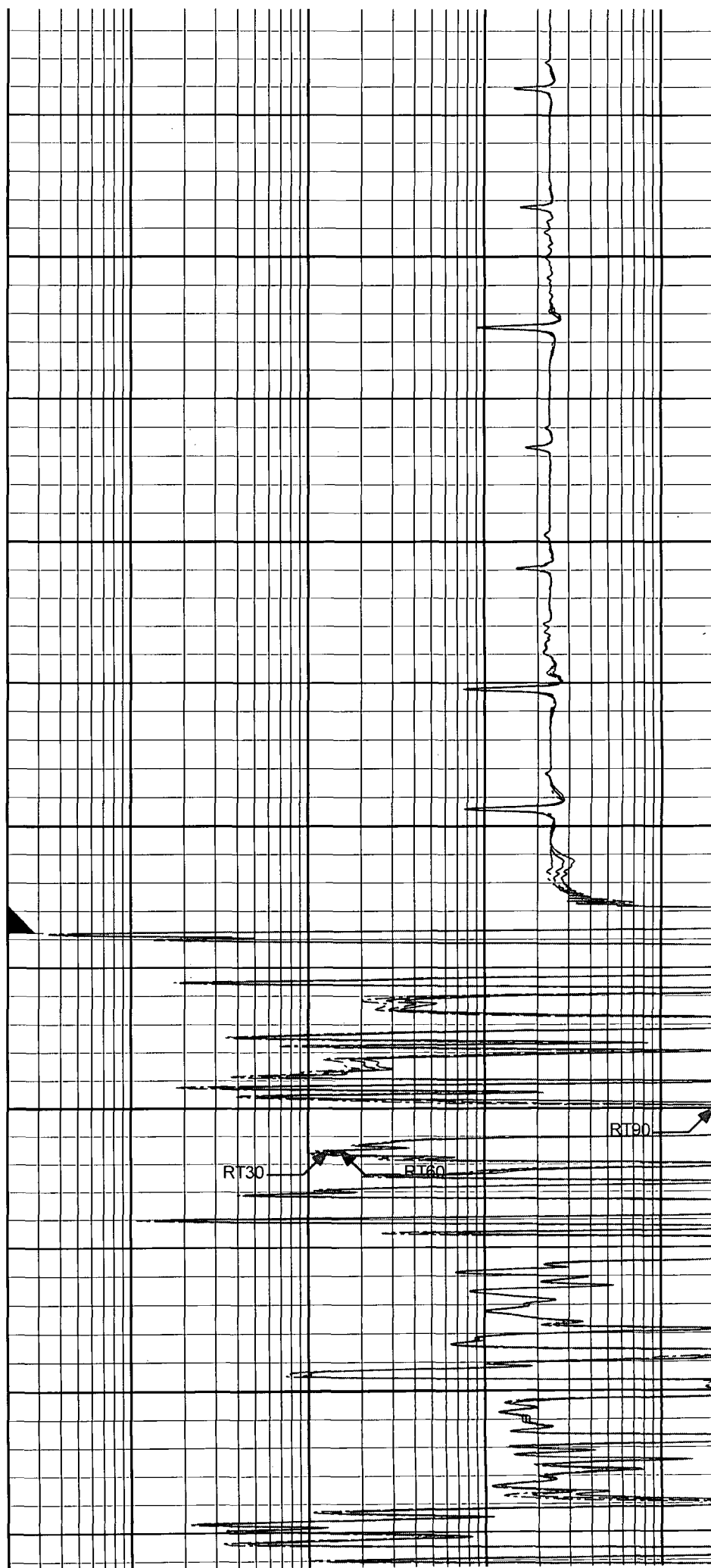
9700

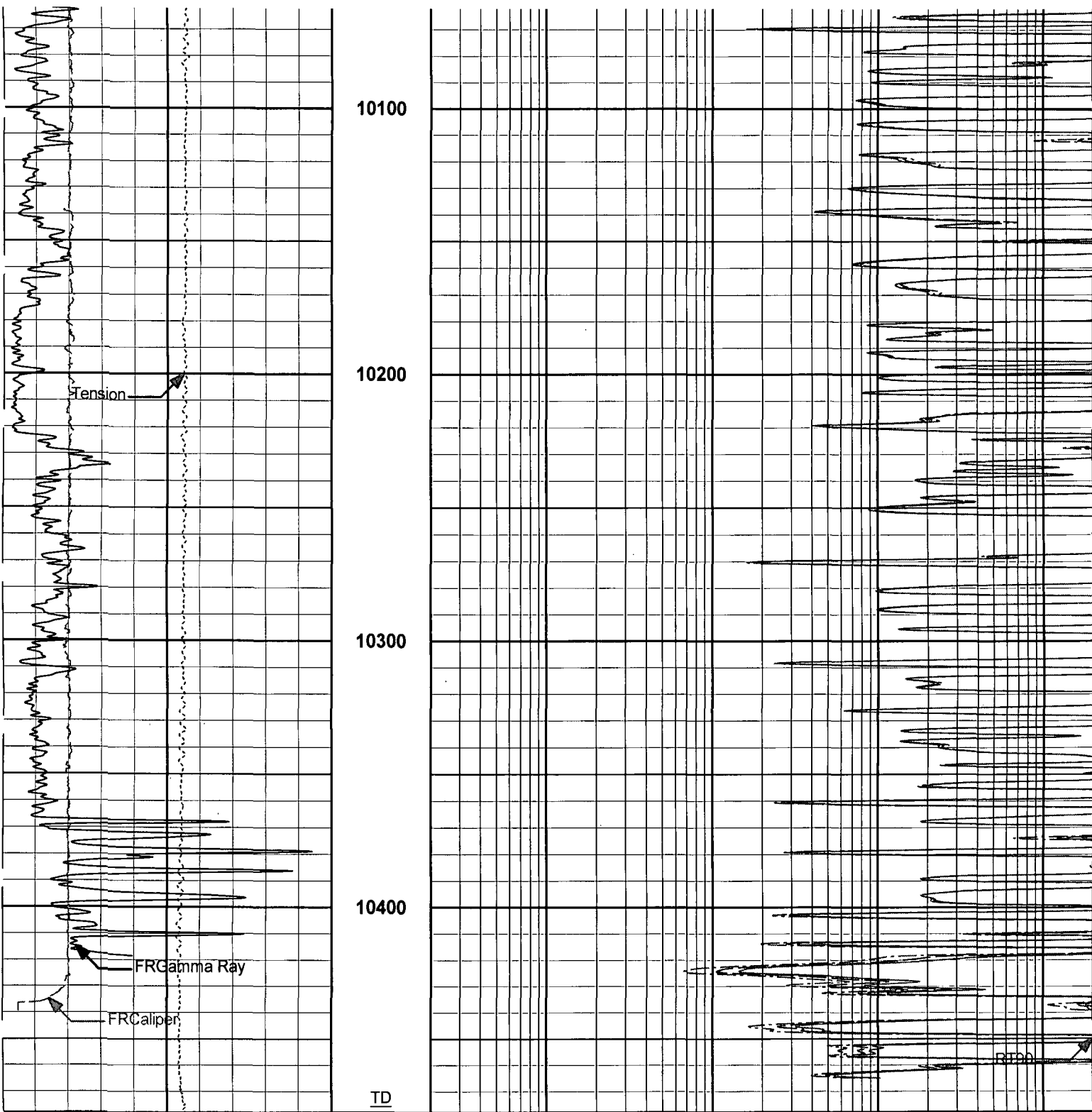
9800

CSG

9900

10000





0	Gamma Ray	100	MD	0.2	RT30	2000
	api		1 : 600		Ohm-m	
10000	Tension	0		0.2	RT60	2000
	pounds				Ohm-m	
4	Caliper	14		0.2	RT90	2000
	inches				Ohm-m	

HALLIBURTON

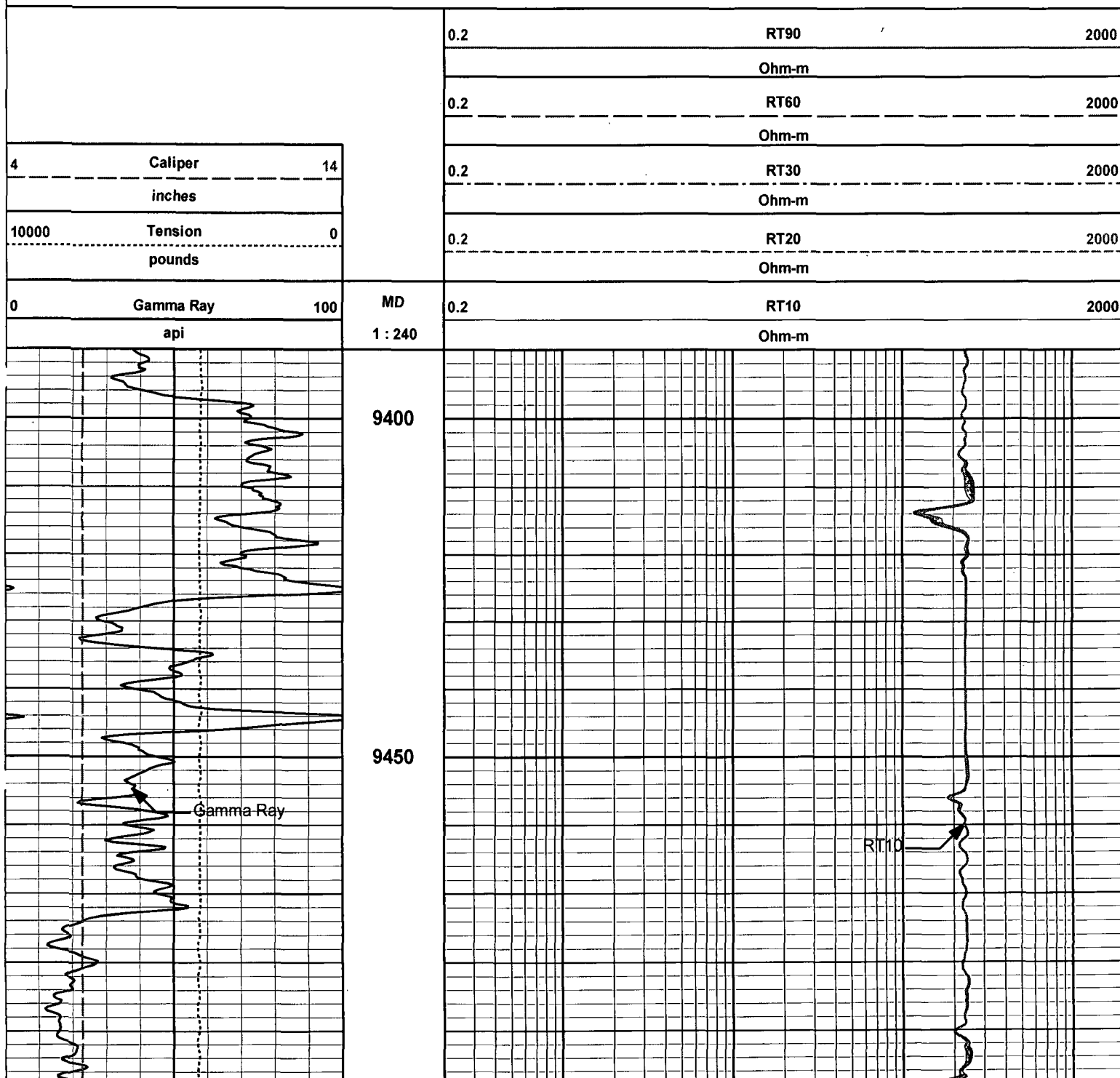
Plot Time: 01-Apr-13 15:15:17
 Plot Range: 9390 ft to 10477.9 ft
 Data: 0401_NADEL\Well Based\DAQ-0001-007.011"
 Plot File: \\ACRT\IQ-ACRT-2in

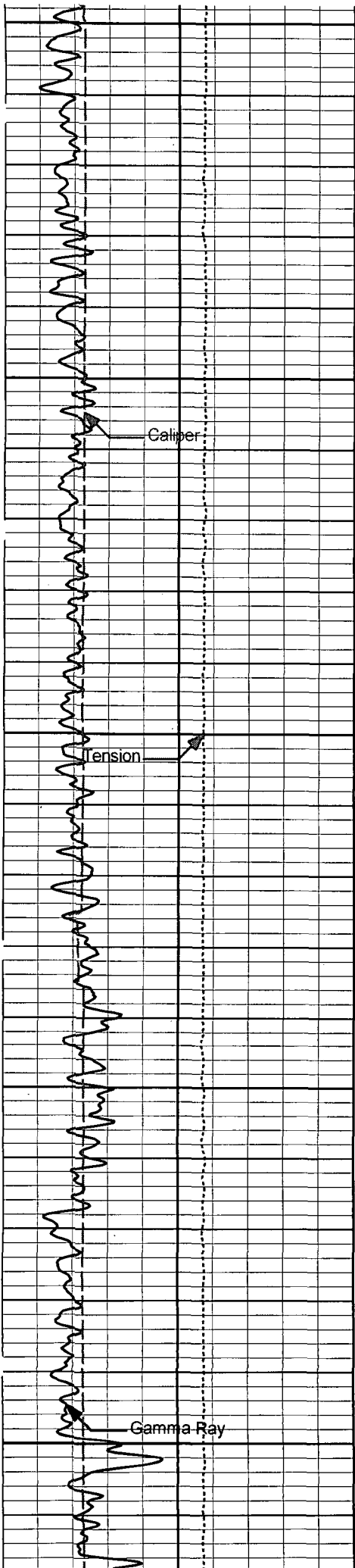
2" = 100' MAIN PASS

HALLIBURTON

Plot Time: 01-Apr-13 15:15:18
Plot Range: 9390 ft to 10477.9 ft
Data: 0401_NADEL\Well Based\DAQ-0001-007.01\
Plot File: \\ACRT\IQ-ACRT-5 in

5" = 100' MAIN PASS





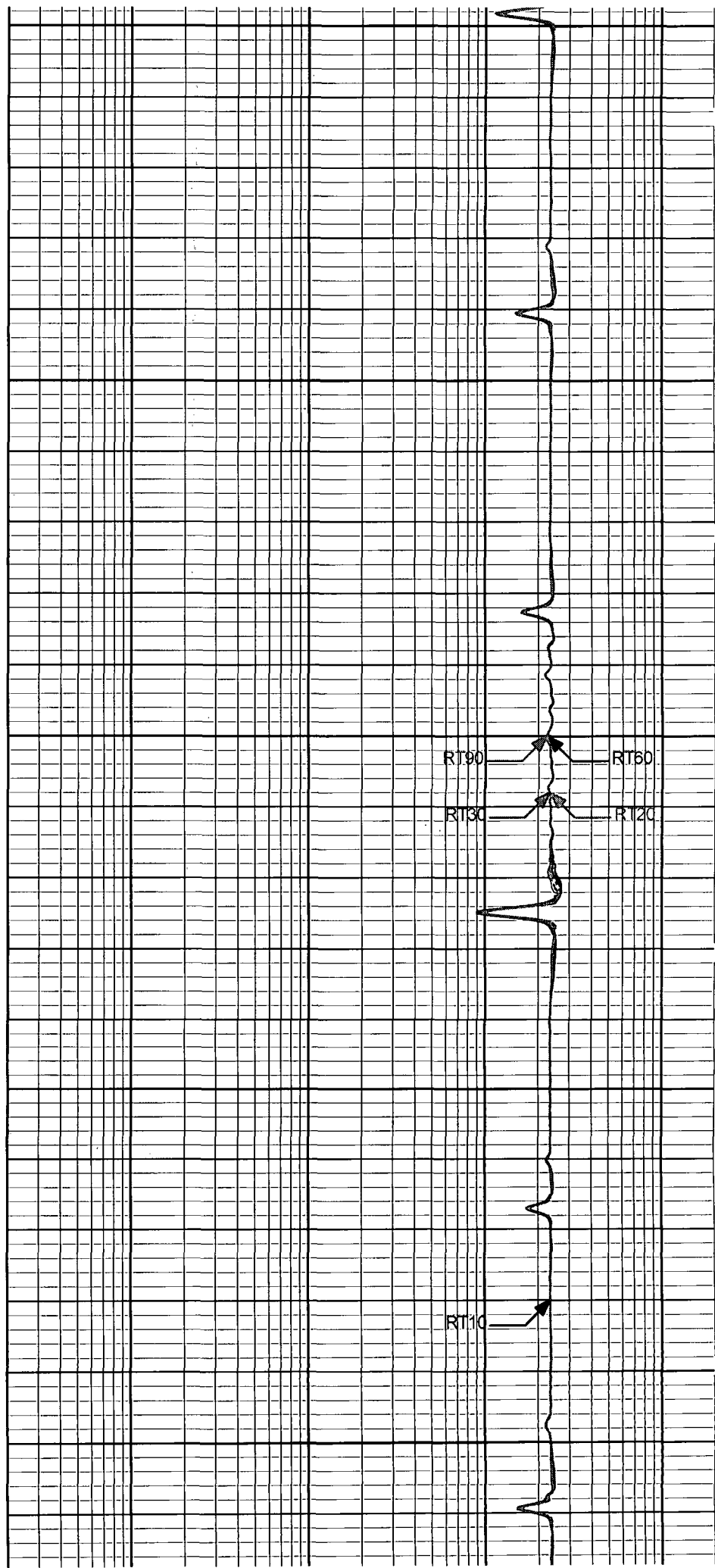
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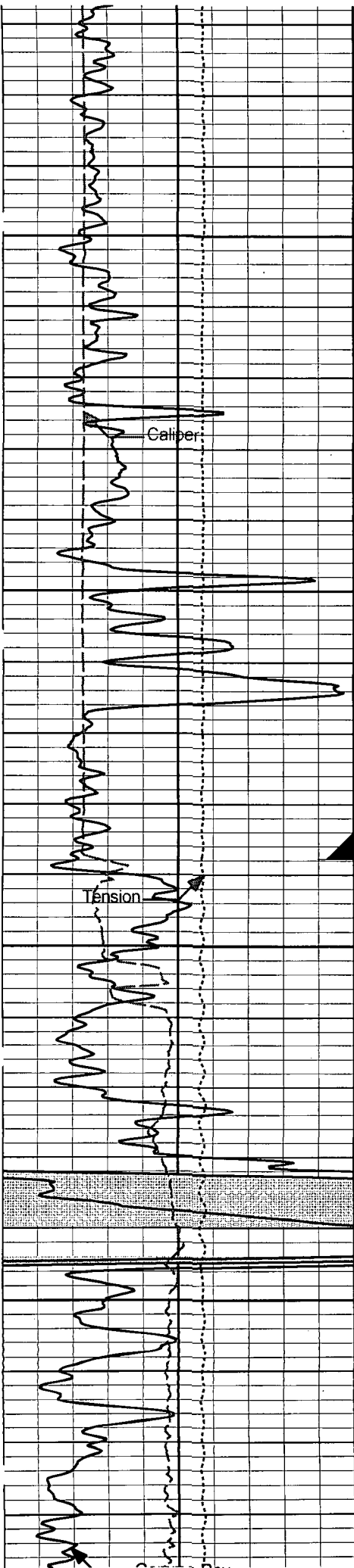
9550

9600

9650

9700





9750

9800

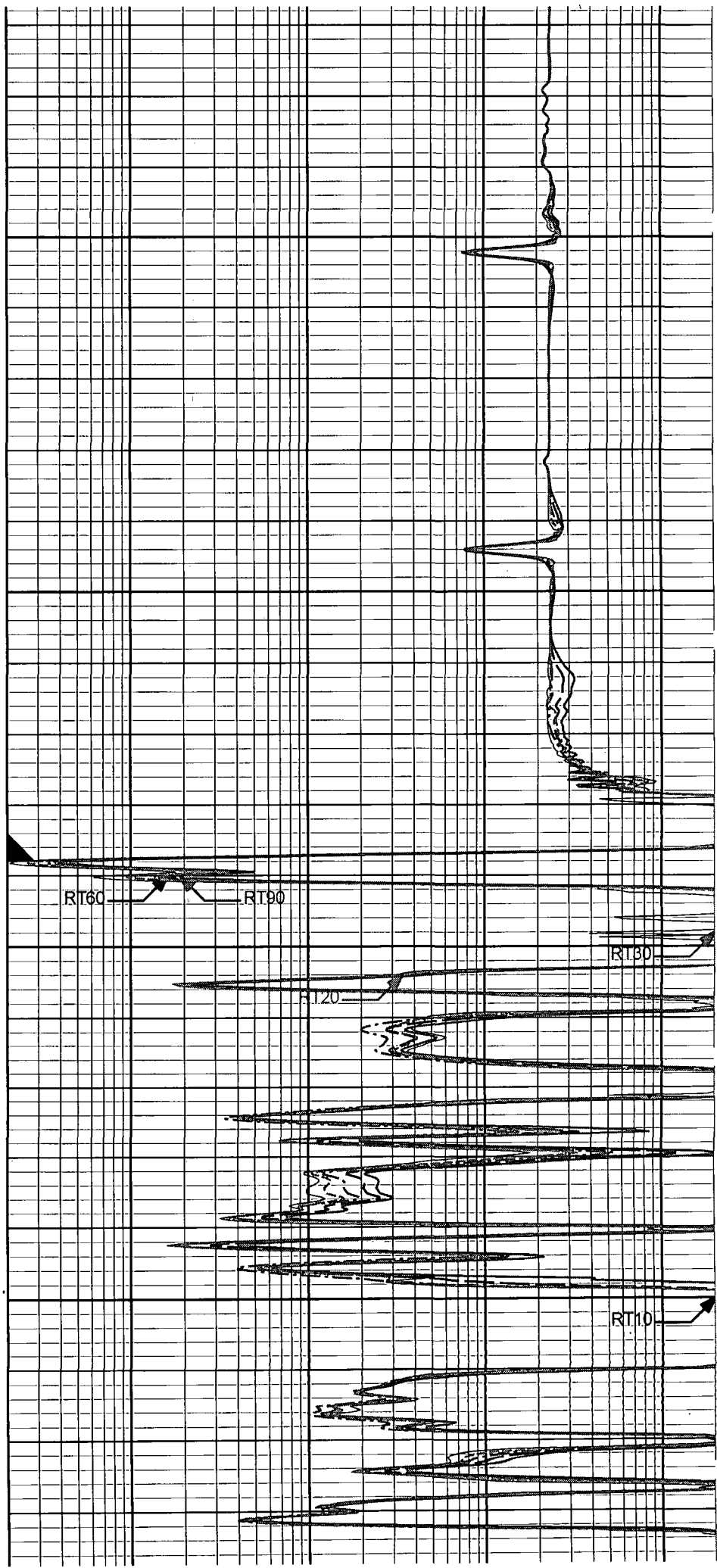
CSG

9850

9900

Caliper

Tension



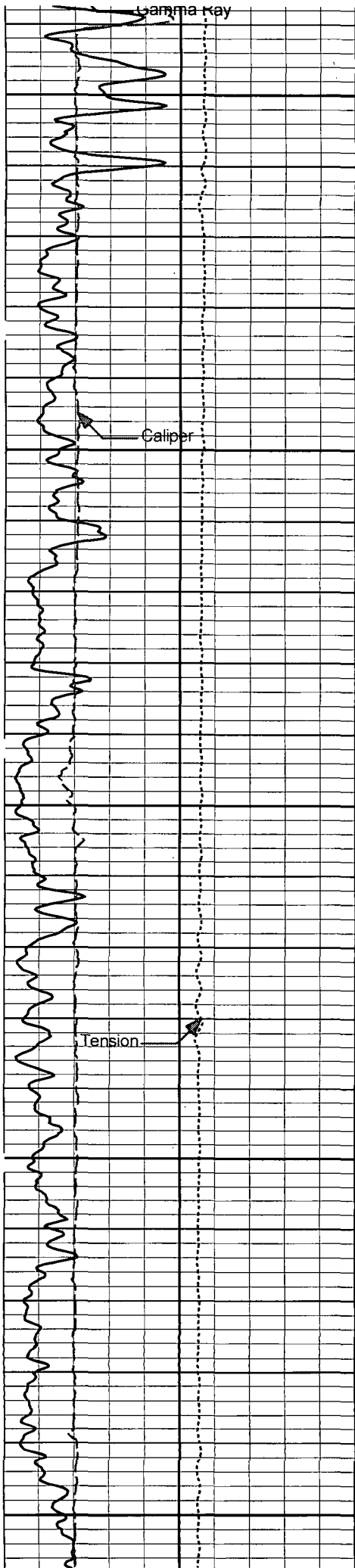
RT60

RT90

RT120

RT130

RT10



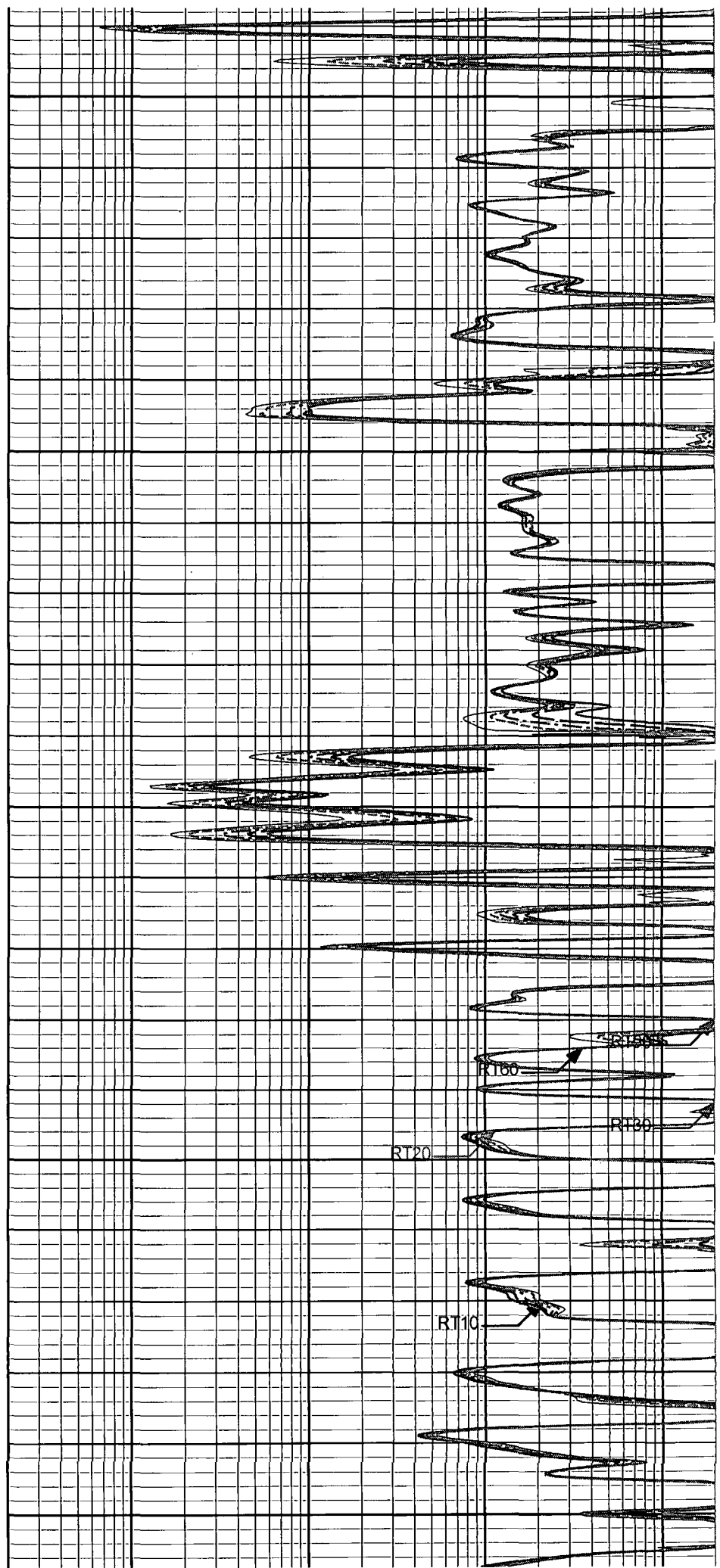
9950

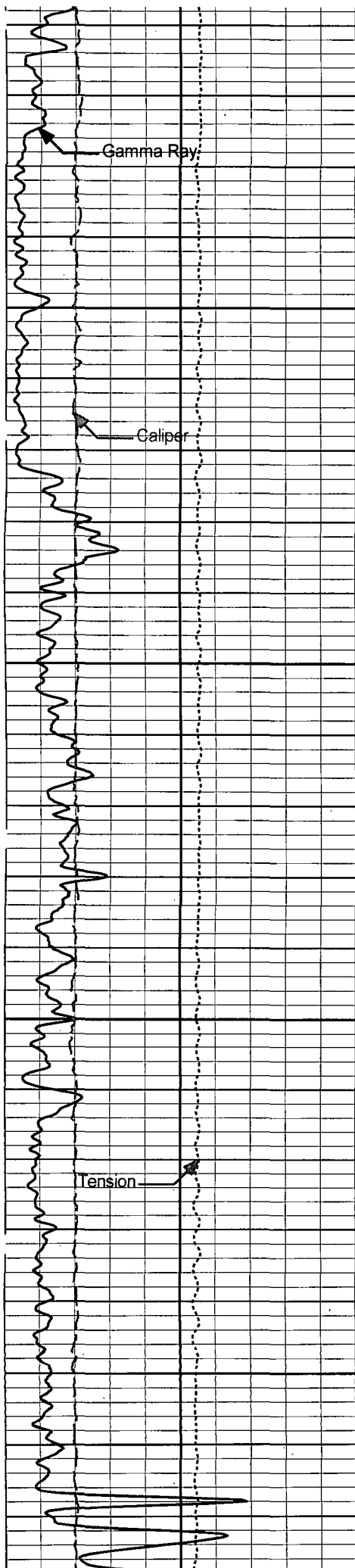
10000

10050

10100

10150



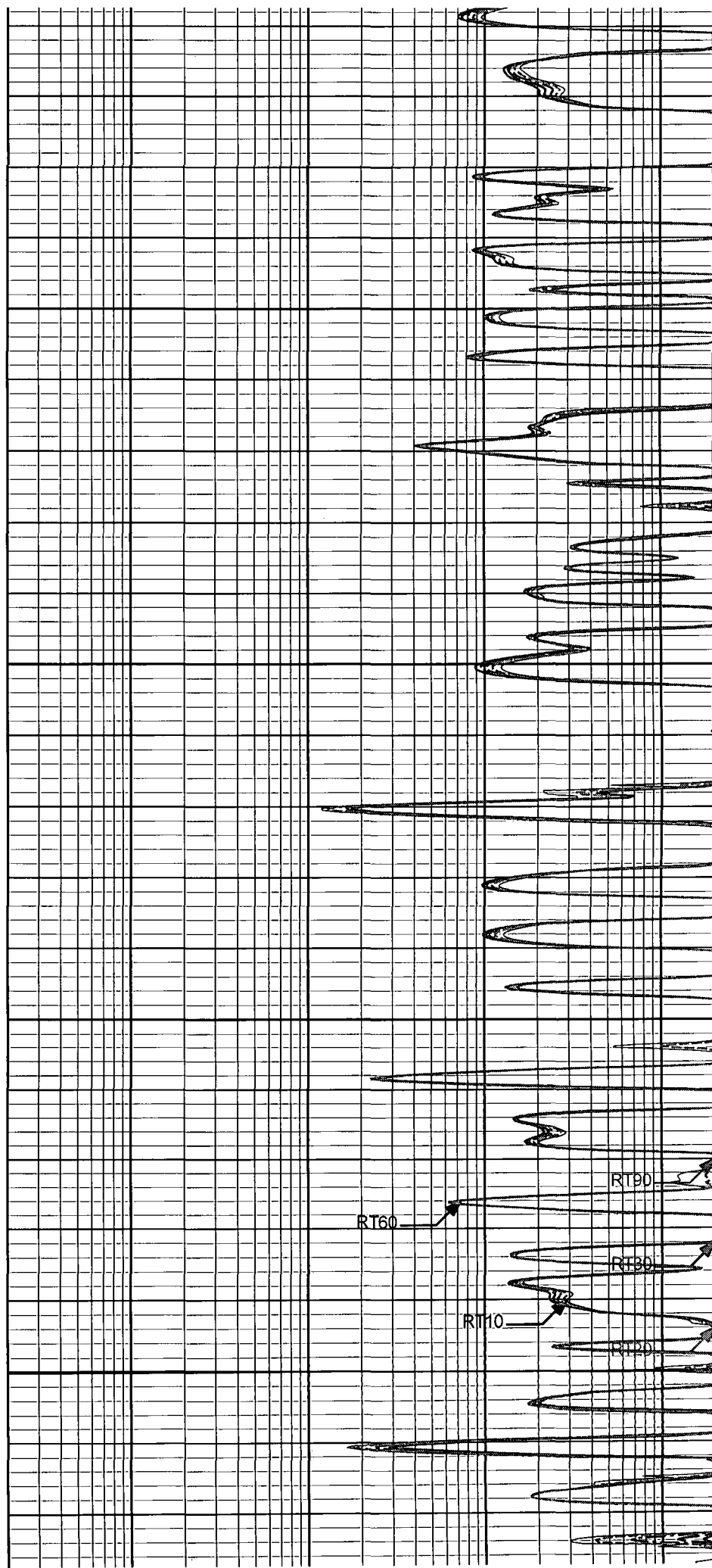


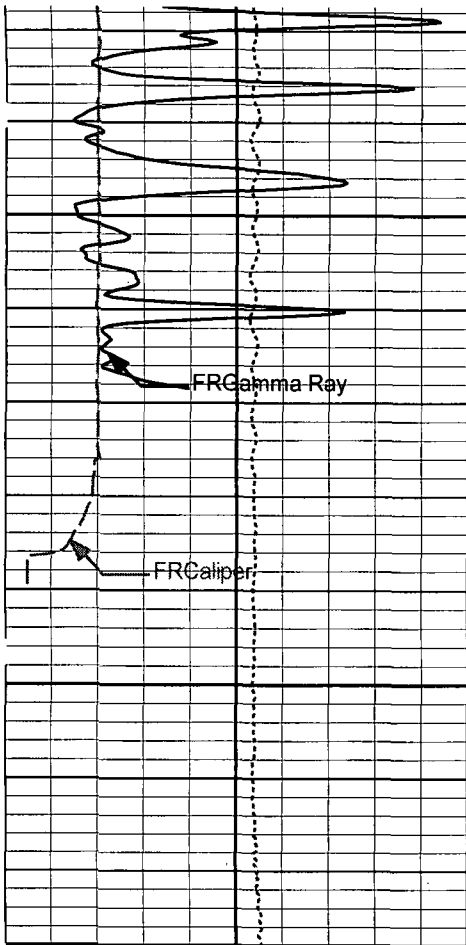
10200

10250

10300

10350





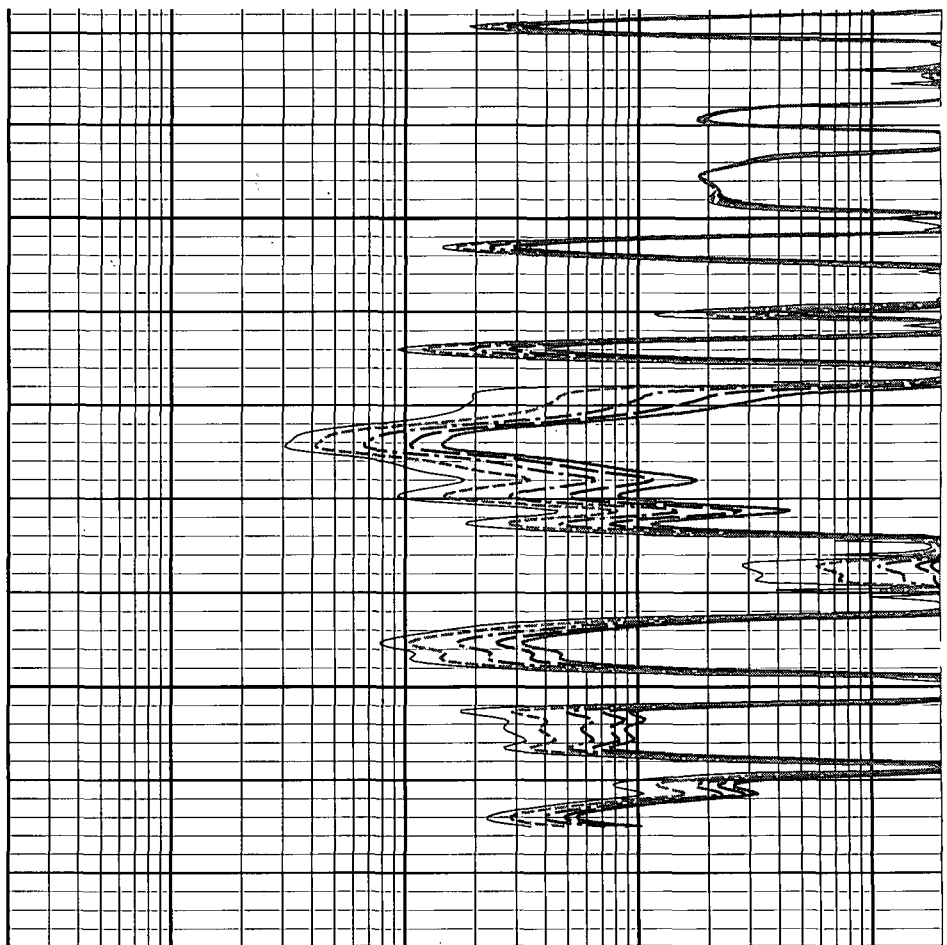
10400

10450

TD

0	Gamma Ray	100
	api	
10000	Tension	0
	pounds	
4	Caliper	14
	inches	

MD
1 : 240



0.2	RT10	2000
	Ohm-m	
0.2	RT20	2000
	Ohm-m	
0.2	RT30	2000
	Ohm-m	
0.2	RT60	2000
	Ohm-m	
0.2	RT90	2000
	Ohm-m	

HALLIBURTON

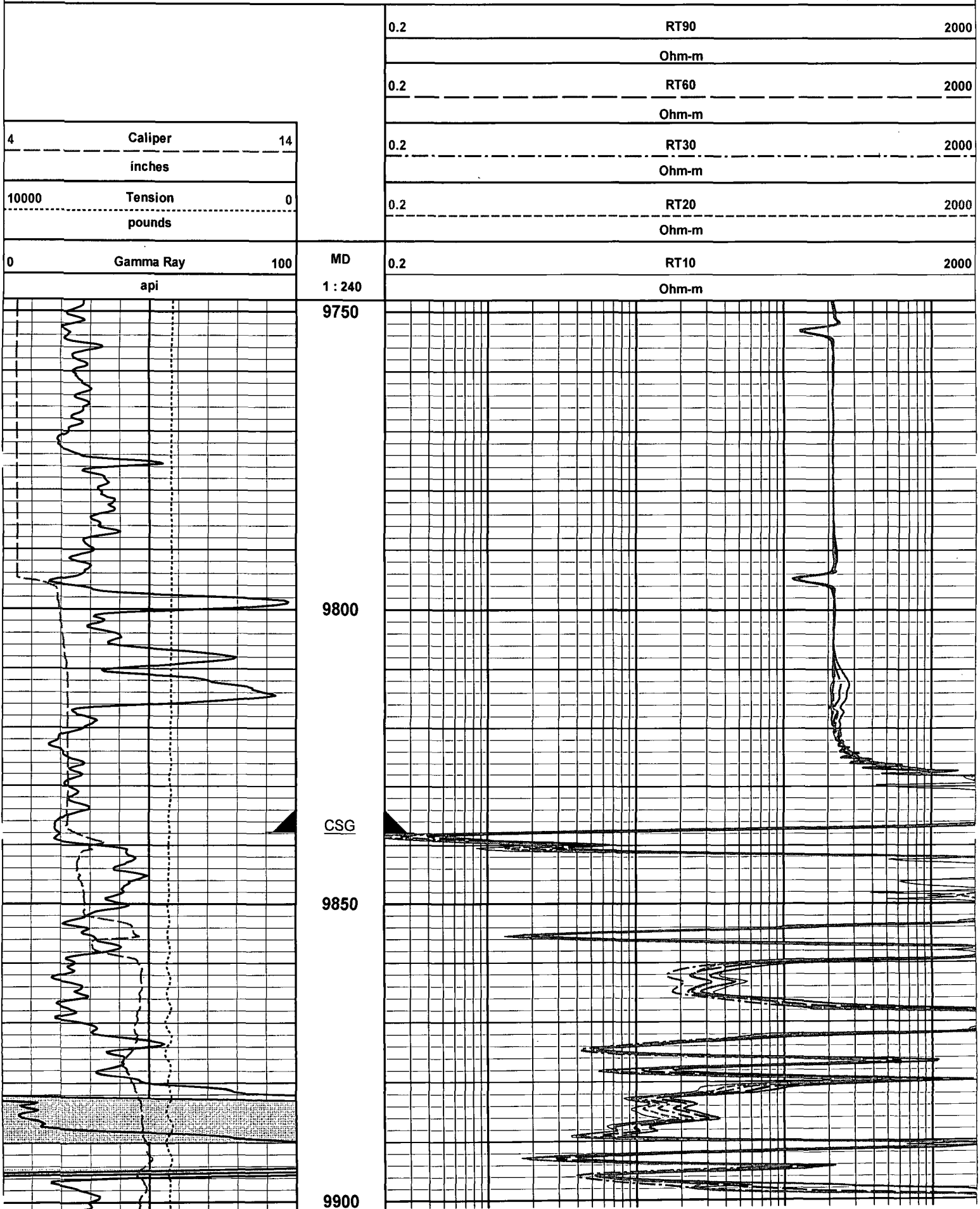
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Data: 0401_NADEL\Well Based\DAQ-0001-007.01*
Plot File: \\ACRT\IQ-ACRT-5 in

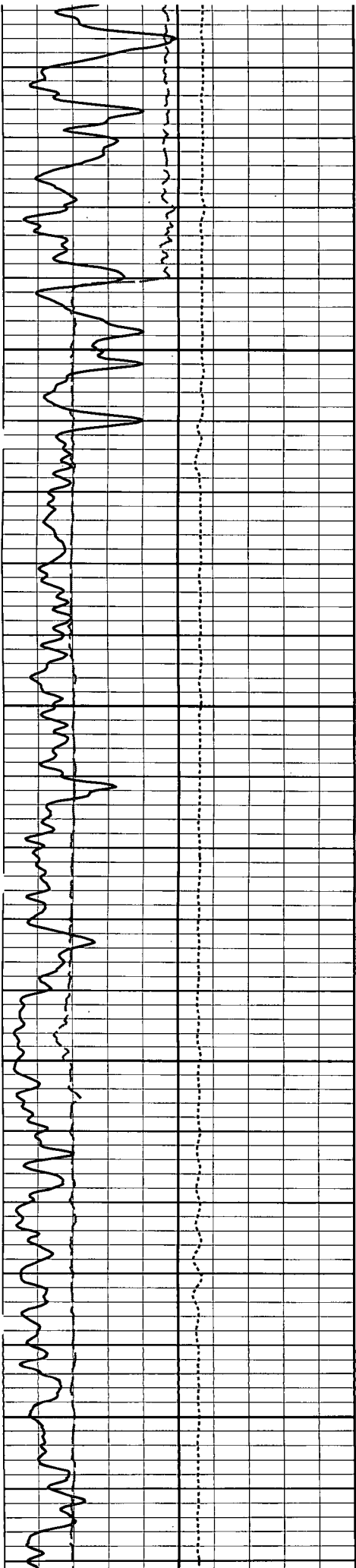
5" = 100' MAIN PASS

HALLIBURTON

Plot Time: 01-Apr-13 15:15:21
Plot Range: 9748 ft to 10475.1 ft
Data: 0401_NADEL\Well Based\DAQ-0001-006*
Plot File: \\ACRT\IQ-ACRT-5 in_REPEAT

5" = 100' REPEAT PASS



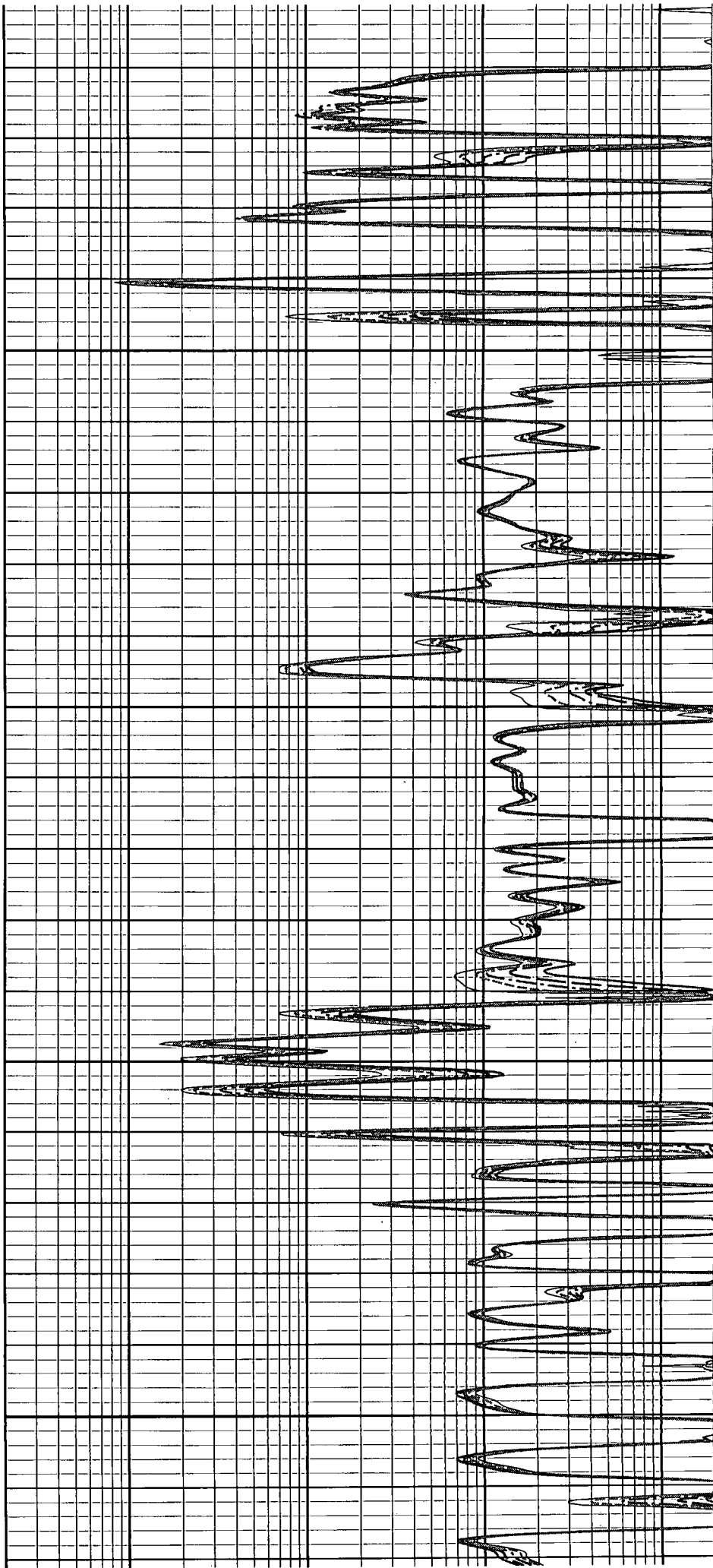


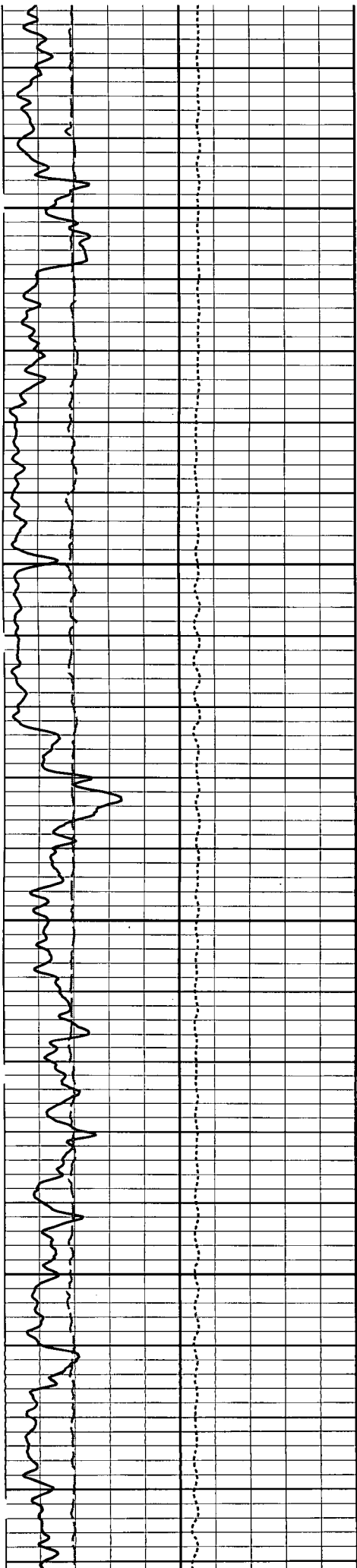
9950

10000

10050

10100



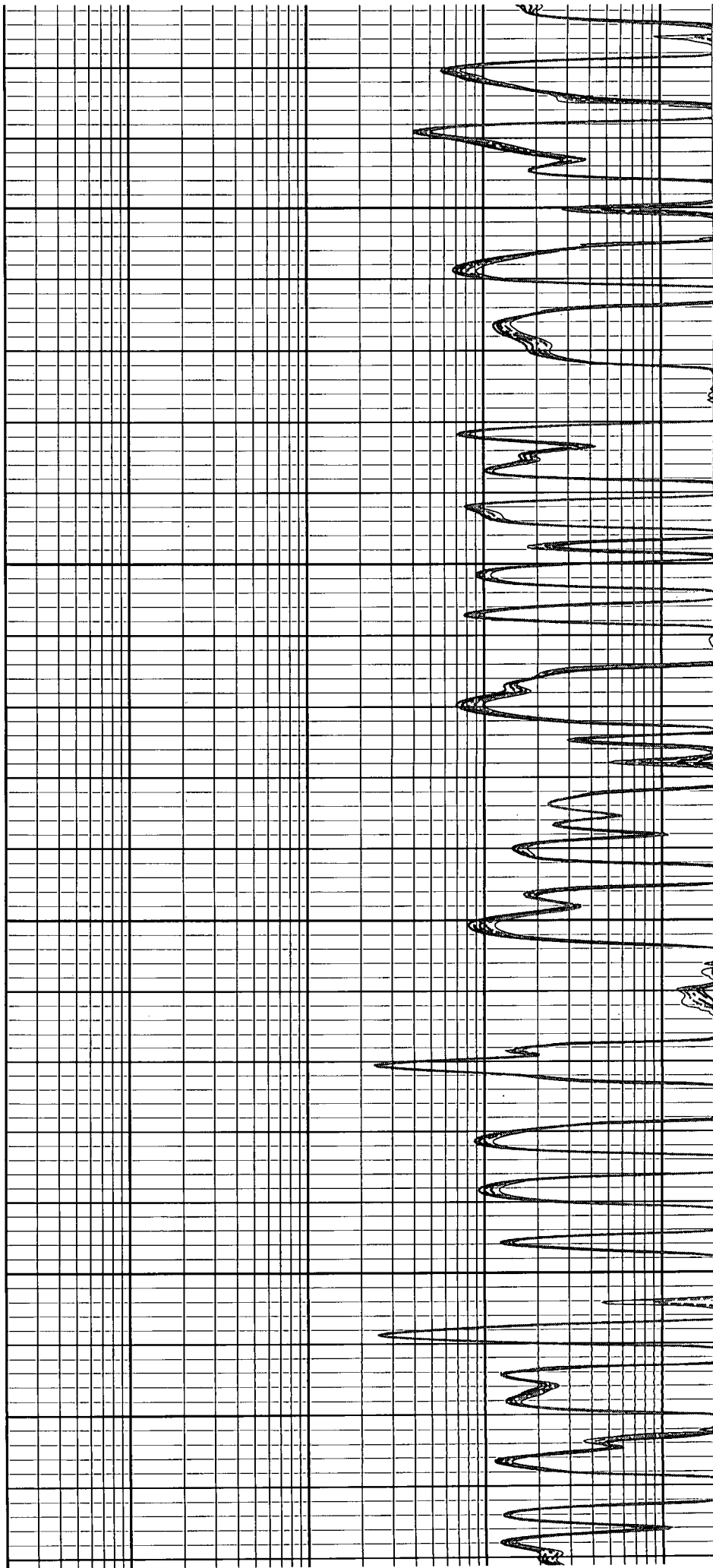


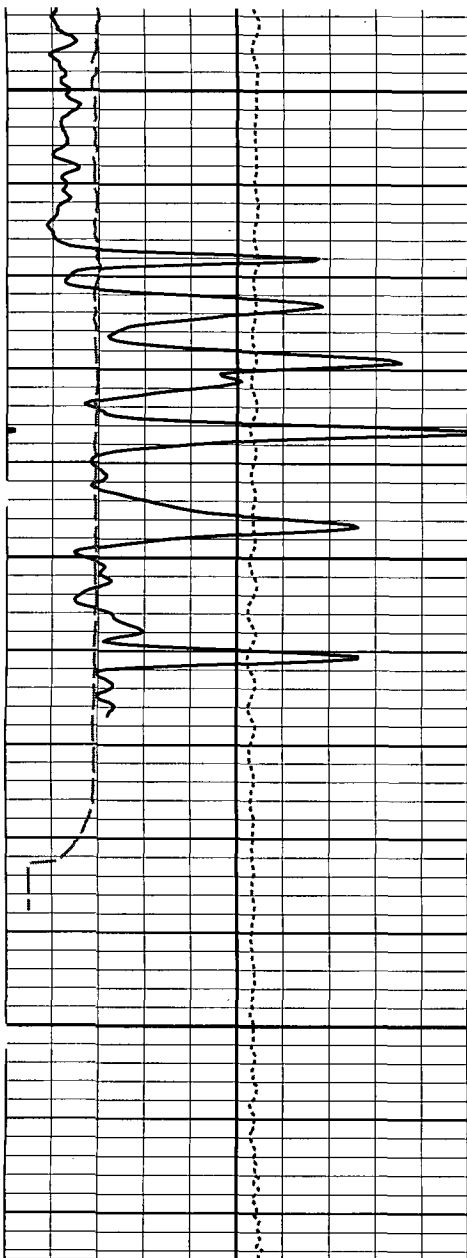
10150

10200

10250

10300

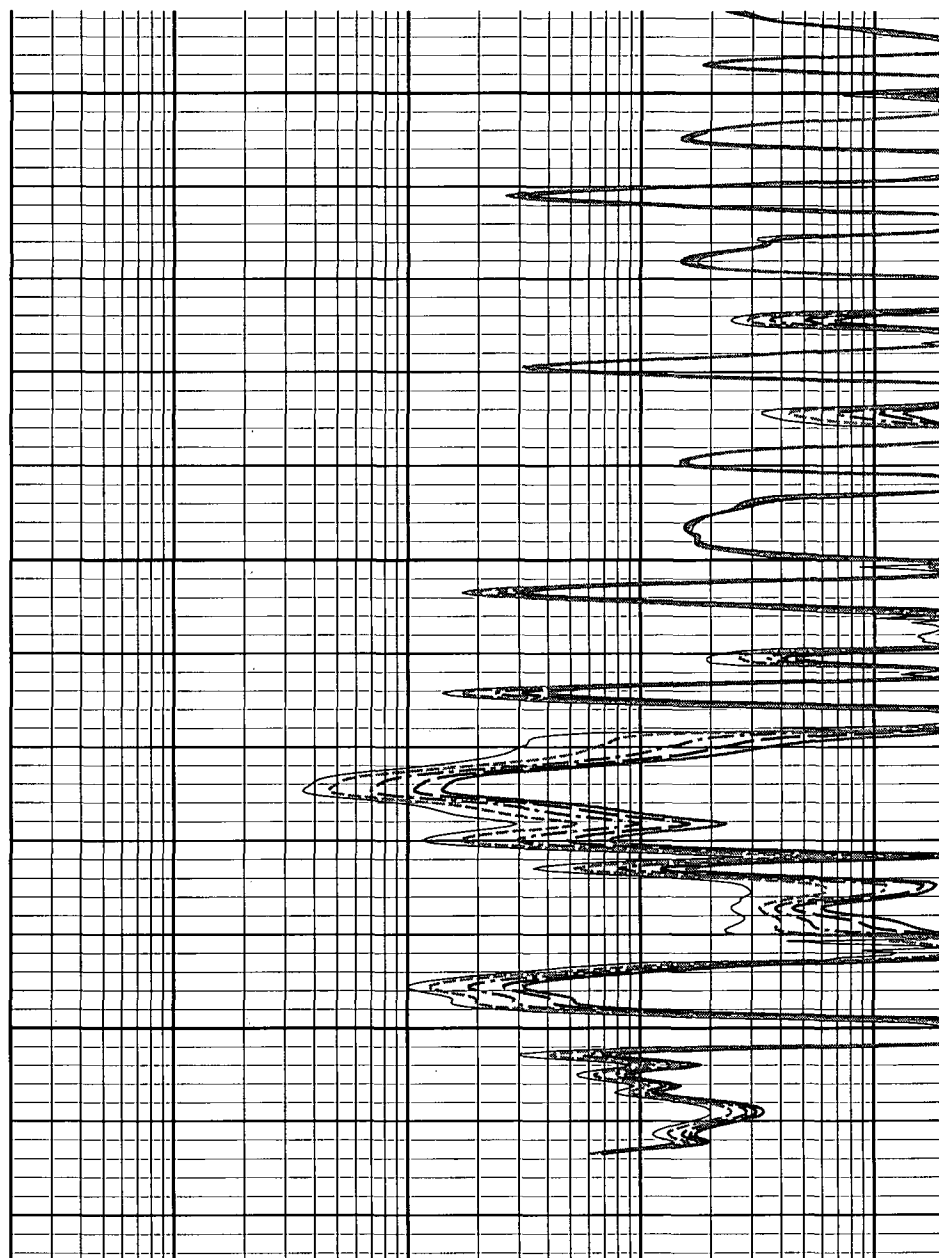




10350

10400

10450



0	Gamma Ray	100	MD	0.2	RT10	2000
	api		1 : 240		Ohm-m	
10000	Tension	0		0.2	RT20	2000
	pounds				Ohm-m	
4	Caliper	14		0.2	RT30	2000
	inches				Ohm-m	
				0.2	RT60	2000
					Ohm-m	
				0.2	RT90	2000
					Ohm-m	

HALLIBURTON

Plot Time: 01-Apr-13 15:15:28
 Plot Range: 9748 ft to 10475.1 ft
 Data: 0401_NADEL\Well Based\DAQ-0001-006*
 Plot File: \\ACRT\IQ-ACRT-5 in_REPEAT

5" = 100' REPEAT PASS

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11958946PR

Reference Calibration Date: 11-Feb-13 09:14:42

Engineer: YASIN ABULAIHA

Calibration Date: 24-Mar-13 09:16:27

Software Version: WL INSITE R3.6.0 (Build 3)

Calibration Version: 1

Calibrator Source S/N: 10770395

Calibrator API Reference:251.00 api

Equivalent Calibrator API Reference:255.4 api

Measurement	Measured	Calibrated	Units
Background	23.7	23.5	api
Background + Calibrator	282.0	278.9	api
Calibrator	258.3	255.4	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11958946PR

Reference Calibration Date: 24-Mar-13 09:16:27

Engineer: YASIN ABULAIHA

Calibration Date: 28-Mar-13 09:02:44

Software Version: WL INSITE R3.6.0 (Build 3)

Calibration Version: 1

Calibrator Source S/N: 10770395

Calibrator API Reference:251.00 api

Equivalent Calibrator API Reference:255.4 api

Field Verification	Shop	Field	Units
Background	23.5	21.6	api
Background + Calibrator	278.9	279.0	api
Calibrator	255.4	257.4	api

Shop	Field	Difference	Tolerance
255.4	257.4	-2.0	+/- 9.00

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt Sonde - E634-S182WH

Reference Calibration Date: 18-Apr-12 10:07:57

Engineer: REX COOK

Calibration Date: 18-Apr-12 10:24:46

Software Version: WL INSITE R3.4.4 (Build 2)

Calibration Version: 1

Host Tool Name: ACRt Instrument - 634

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.02	1.05	0.95	1.02	1.05	0.95	1.02	1.05
A2 (50")	0.95	1.03	1.05	0.95	1.02	1.05	0.95	1.02	1.05
A3 (29")	0.95	1.02	1.05	0.95	1.02	1.05	0.95	1.02	1.05
A4 (17")	0.95	1.02	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.01	1.05	0.95	1.01	1.05
A6 (6")	N/A	N/A	N/A	0.95	1.01	1.05	0.95	1.01	1.05

TYPICAL SONDE OFFSET RANGE

Subarray	R12KHz			R36KHz			R72KHz		
----------	--------	--	--	--------	--	--	--------	--	--

	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-5	-0.83	2	-6	-4.06	-2	-8	-6.23	-2
A2 (50")	-7	-2.68	0	-7	-4.23	0	-7	-5.45	0
A3 (29")	-27	-13.13	-9	-9	-4.16	-3	-7	-4.25	-1
A4 (17")	-180	-103.89	-60	-45	-32.88	-15	-39	-25.60	-13
A5 (10")	N/A	N/A	N/A	-150	-96.89	-50	-80	-46.62	-10
A6 (6")	N/A	N/A	N/A	175	294.80	525	90	152.69	270

TRANSMITTER CURRENT GAIN			
Signal	Lower	R	Upper
12K	0.6	0.85	1.3
36K	1.0	1.20	2.0
72K	1.0	1.53	2.0

R-MUD VERIFICATION			
Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	1.00	1.05

PASS/FAIL SUMMARY	
GAIN RANGE CHK	PASS
SONDE OFFSET RANGE CHK	PASS
Tx CURRENT GAIN	PASS
Rmud VERIFICATION	PASS

TOOL OK TO LOG

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11958946PR						
Gamma Ray Calibrator	255.4	257.4	-----	-2.0	+/- 9.00	api
ACRt Sonde-E634-S182WH						
Mud Cell	1.00	-----	-----	0.00	-----	ohm-m
Data: 0401_NADEL0001 LCCH-CCLD-GTET-CSNG-DSN-SDL-CBL-BSAT-ACRT-BNIDLE					Date: 01-Apr-13 14:33:46	

HALLIBURTON

CUSTOMER EVENT LOG

Event Type	Time & Date	Depth (ft)	Event Description
	01-Apr-13 12:06:03	526.75	Logging 001 01-Apr-13 12:06 Dn @526.8f
	01-Apr-13 12:15:51	2026.05	Halting 001 01-Apr-13 12:06 Dn @526.8f
	01-Apr-13 12:20:02	1877.00	Logging 002 01-Apr-13 12:19 Dn @1877.0f
	01-Apr-13 12:32:26	4605.11	Halting 002 01-Apr-13 12:19 Dn @1877.0f
	01-Apr-13 12:32:39	4588.75	Logging 003 01-Apr-13 12:32 Dn @4588.8f
	01-Apr-13 12:36:31	5668.66	Halting 003 01-Apr-13 12:32 Dn @4588.8f
	01-Apr-13 12:37:06	5747.50	Logging 004 01-Apr-13 12:37 Dn @5747.5f
	01-Apr-13 12:55:10	10028.18	Halting 004 01-Apr-13 12:37 Dn @5747.5f
	01-Apr-13 12:55:24	10030.75	Logging 005 01-Apr-13 12:55 Up 10030.8f
	01-Apr-13 12:59:29	9812.30	Halting 005 01-Apr-13 12:55 Up 10030.8f
	01-Apr-13 13:09:32	10501.50	Logging 006 01-Apr-13 13:09 Up 10501.5f
	01-Apr-13 13:22:02	9768.62	Halting 006 01-Apr-13 13:09 Up 10501.5f
	01-Apr-13 13:31:21	10503.75	Logging 007 01-Apr-13 13:31 Up 10503.8f
	01-Apr-13 13:55:24	10503.00	Relogging 007.01 01-Apr-13 13:54 Up
	01-Apr-13 13:56:40	9200.67	Halting 007.01 01-Apr-13 13:54 Up
Data: 0401_NADEL0001 LCCH-CCLD-GTET-CSNG-DSN-SDL-CBL-BSAT-ACRT-BNIHW11110			Date: 01-Apr-13 14:31:17

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	DSNT	DNOK	Process DSN?	No	
	SDLT	CLOK	Process Caliper Outputs?	No	
	SDLT Pad	DNOK	Process Density?	No	
	ACRt Sonde	RTOK	Process ACRt?	No	
9200.00					
	SHARED	BS	Bit Size	6.125	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	8.400	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	0.050	ohmm
	SHARED	TRM	Temperature of Mud	75.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	10500.00	ft
	SHARED	BHT	Bottom Hole Temperature	149.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	Temperature Master Tool	NONE	
	SHARED	BHSM	Borehole Size Master Tool	NONE	
	Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
	Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
	Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
	Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
	Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
	Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
	Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
	Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
	CCL-D	CLOK	Process CCL?	Yes	
	CCL-D	CCLS	CCL Processing Selection	Raw	
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in
	GTET	GEOK	Process Gamma Ray EVR?	No	
	GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
	DSNT	DNOK	Process DSN?	Yes	
	DSNT	DEOK	Process DSN EVR?	No	
	DSNT	NLIT	Neutron Lithology	Limestone	
	DSNT	DSNO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
	DSNT	DNTP	Temperature Correction Type	None	

DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	DNOK	Process Density EVR?	No	
SDLT Pad	CB	Logging Calibration Blocks?	No	
SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	DTWN	Disable temperature warning	No	
SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
CBL-BSAT	TTLV	Travel Time threshold.	5.0	mV
CBL-BSAT	TTOF	CBL Travel Time Offset from Calibration.	0	us
CBL-BSAT	ISFM	Is foam cement type?	No	
CBL-BSAT	CSTR	Compressive Strength	1000.00	psia
CBL-BSAT	BIOK	Calculate Bond Index?	Yes	
CBL-BSAT	ISMD	Is borehole fluid Mud?	No	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm

BOTTOM

Data: 0401_NADEL0001 LCCH-CCLD-GTET-CSNG-DSN-SDL-CBL-BSAT-ACRT-BNIDLE

Date: 01-Apr-13 14:32:11

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
Cable Head Tension-831 30.00 lbs		Ø 3.625 in →		← Load Cell @ 67.38 ft	2.00 ft	68.38 ft
CCL-D-CCLD 60.00 lbs		Ø 3.625 in →		← CCL @ 65.67 ft	2.00 ft	66.38 ft
						64.38 ft
GTET-11958946PR 165.00 lbs		Ø 3.625 in →		← GammaRay @ 58.32 ft	8.52 ft	55.86 ft

DSNT-

11899188_PUR
174.00 lbs

Ø 3.625 in →

9.69 ft

← DSN Far @ 48.92 ft
← DSN Near @ 48.17 ft

46.17 ft

SDLT-
188PR_M041PR
360.00 lbs

SDLT Pad-11899221PR
65.00 lbs

Ø 4.500 in →

10.81 ft

Ø 4.750 in* →

← SDL Caliper @ 38.17 ft
← SDL @ 38.16 ft

35.36 ft

CBL-BSAT-
10939049
300.00 lbs

Ø 3.625 in →

15.77 ft

← Tx1 Amp & TT @ 29.34 ft
← Tx1 MSG @ 28.34 ft

← Tx2 MSG @ 25.34 ft
← Tx2 Amp & TT @ 24.34 ft

19.58 ft

ACRt Instrument-
634
50.00 lbs

Ø 3.625 in →

5.03 ft

← Mud Resistivity @ 13.19 ft

14.55 ft

ACRt Sonde-E634-
S182WH
200.00 lbs

Ø 3.625 in →

14.22 ft

← ACRt @ 9.21 ft

0.33 ft

Bull Nose-01
5.00 lbs

Ø 2.750 in →

0.33 ft

0.00 ft

Mnemonic

Tool Name

Serial

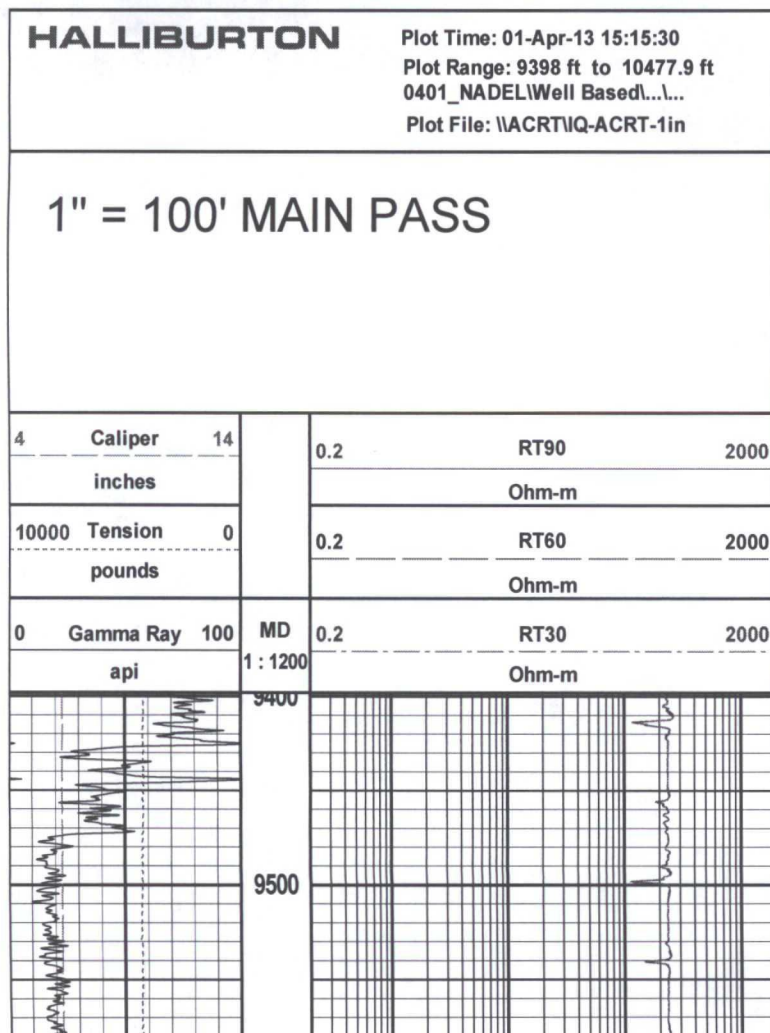
Weight Length

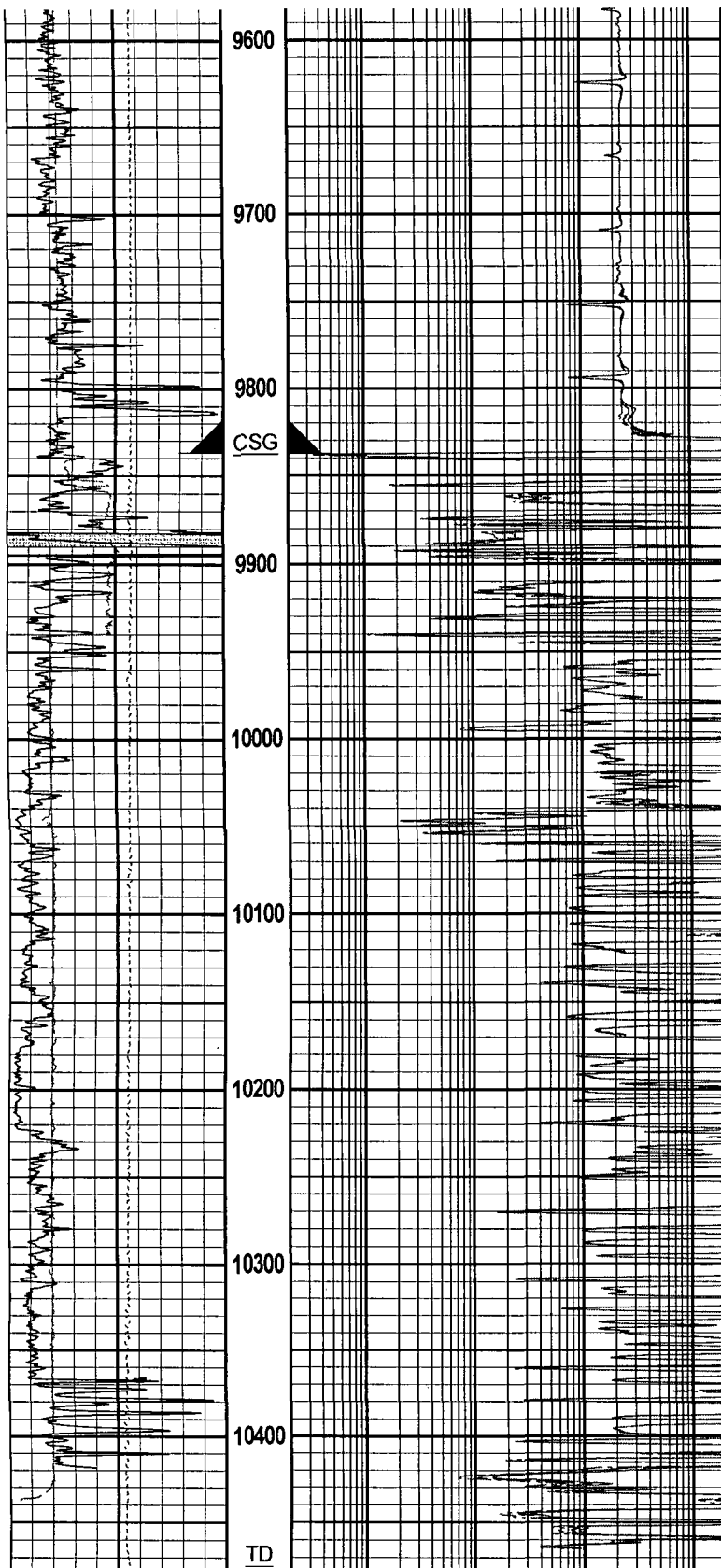
Accumulated
Length

Max.Log.
Speed

		Number	(lbs)	(ft)	(ft)	(fpm)
CHT	Cable Head with Load Cell	831	30.00	2.00	66.38	300.00
CCL	Casing Collar Locator - Digital Source	CCLD	60.00	2.00	64.38	300.00
GTET	Gamma Telemetry Tool	11958946PR	165.00	8.52	55.86	60.00
DSNT	Dual Spaced Neutron	11899188_PUR	174.00	9.69	46.17	60.00
SDLT	Spectral Density Tool	188PR_M041PR	360.00	10.81	35.36	60.00
SDLP	Density Insite Pad	11899221PR	65.00	2.55 *	37.57	60.00
CBL-BSAT	Borehole Sonic Array Tool - CBL	10939049	300.00	15.77	19.58	60.00
ACRt	Array Compensated True Resistivity Instrument Section	634	50.00	5.03	14.55	300.00
ACRt	Array Compensated True Resistivity Sonde Section	E634-S182WH	200.00	14.22	0.33	300.00
BLNS	Bull Nose	01	5.00	0.33	0.00	300.00
Total			1,409.00	68.38		
* Not included in Total Length and Length Accumulation.						
Data: 0401_NADEL\0001 LCCH-CCLD-GTET-CSNG-DSN-SDL-CBL-BSAT-ACRT-BN\IDLE					Date: 01-Apr-13 14:31:42	

COMPANY	NADEL AND GUSSMAN HEYCO, LLC.		
WELL	REGULATOR 29 SWD #1		
FIELD	SWD; DEVONIAN		
COUNTY	EDDY	STATE	NEW MEXICO
HALLIBURTON		ARRAY COMPENSATED TRUE RESISTIVITY	





0	Gamma Ray	100	MD	0.2	RT30	2000
	api		1:1200		Ohm-m	
10000	Tension	0		0.2	RT60	2000
	pounds				Ohm-m	
4	Caliper	14		0.2	RT90	2000
	inches				Ohm-m	

HALLIBURTON

Plot Time: 01-Apr-13 15:15:32
 Plot Range: 9398 ft to 10477.9 ft
 0401_NADEL\Well Based\....

1" = 100' MAIN PASS

Jones, William V., EMNRD

From: Jason Goss <jgoss@naguss.com>
Sent: Thursday, March 21, 2013 8:49 AM
To: Jones, William V., EMNRD
Subject: Regulator 29 SWD #1
Attachments: 20130321083228.pdf

Mr. Jones,

On the wellbore diagram completed for the SWD permit (attached) for the Regulator 29 SWD #1 I indicated we would set the 7" casing at 10,100' this estimate was a little deep for the Silurian Fusselman Dol. ("Devonian") porosity. We have decided to set at ~9,950; 50ft inside the top of Silurian Fusselman Dol. ("Devonian") at 9,905'.

I will send exact tops and final wellbore diagram when we finish drilling the well, thanks!!

Regulator 29 SWD #1

SWD -1393

API # 30-015-41034

Fee Lease

Thanks!! JSG

Jason S. Goss
Drilling Engineer
Nadel and Gussman Permian, L.L.C.
Nadel and Gussman HEYCO, L.L.C.
601 N. Marienfield Suite 508
Midland, TX 79701
Cell 512-784-2613
Office 432-682-4429
jgoss@naguss.com

AMEND SWD-1393
AFTER JASON SENDS
FINAL FORMATION TOPS, ETC
WVJ

NM OCD Santa Fe

Attn: Engineering Department

Closest
Mississippi Prod

Injection/Disposal Permit Application

Regulator 29 SWD #1

Illinois Camp
Sec 36 E 1/2 Pool (Monrow)
18S 27E

Section 29, T-18S, R-26E, Eddy County

Nadel and Gussman HEYCO, LLC

North Illinois
Camp

Jason Goss 432-682-4429

jgoss@naguss.com

1/10/13

9872

16100

~~9872~~

205

7 ft

Sec 1 & N 1/2 12
all

9895 feet

7 1/2 casing

Provide
Logs

Notification
of offset/owners