SUPERIOR WELL SERVICES

SUPERIOR
Hays, Kansas

COMPENSATED DENSITY / NEUTRON LOG

Company BLACK DIAMOND OIL COMPANY

Well ROY/GAGER #3

Field

County ROOKS State KANSAS

Location: API # : 15-163-24039

2130' FNL & 2280' FWL

SEC 9 TWP 7S RGE 20W

Other Services
DIL
MICRO

Elevation
K.B. 2162
D.F.
G.L. 2157

Permanent Datum GROUND LEVEL Elevation 2157
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING

Company BLACK DIAMOND OIL COMPANY
Well ROY/GAGER #3
Field
County ROOKS
State KANSAS

Date	5-21-12		
Run Number	ONE		
Depth Driller	3678		
Depth Logger	3680		
Bottom Logged Interval	3656		
Top Log Interval	3000		
Casing Driller	217		
Casing Logger	217		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.2 / 58		
pH / Fluid Loss	10.5 / 8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.90 @ 88F		
Rmf @ Meas. Temp	0.68 @ 88F		
Rmc @ Meas. Temp	1.08 @ 88F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	.710 @ 112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	10:30 P.M.		
Maximum Recorded Temperature	112F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	RUPP		
Witnessed By	JEFF LAWLER		

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

Comments

SUPERIOR WELL SERVICES
785-628-6395
THANK YOU FOR YOUR BUSINESS
DIRECTIONS: OLD HIGHWAY #24 & LOGAN RD., (RD. #3), 2N, 1/2E, S & E INTO.

MAIN SECTION

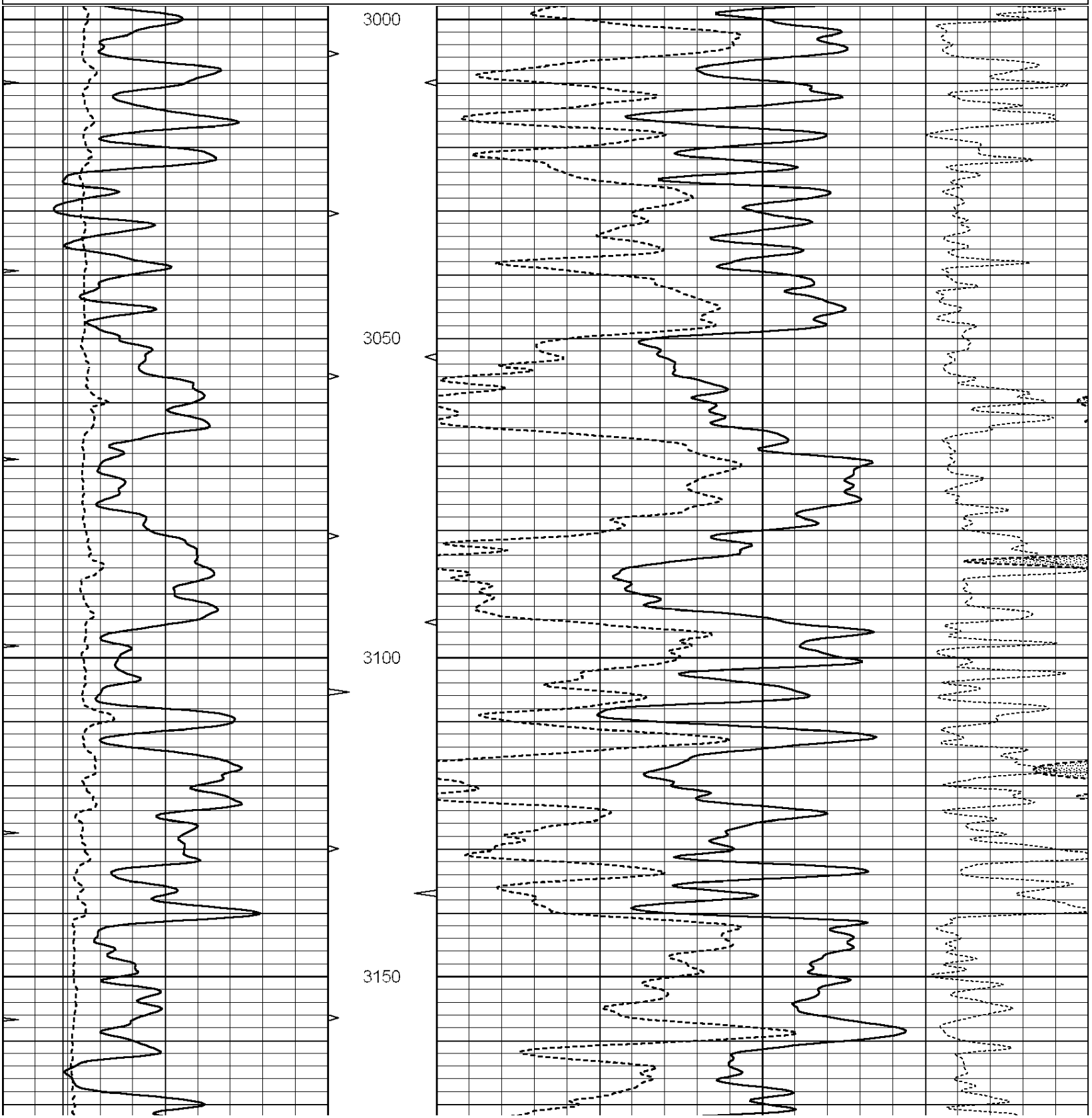
SUPERIOR WELL SERVICES

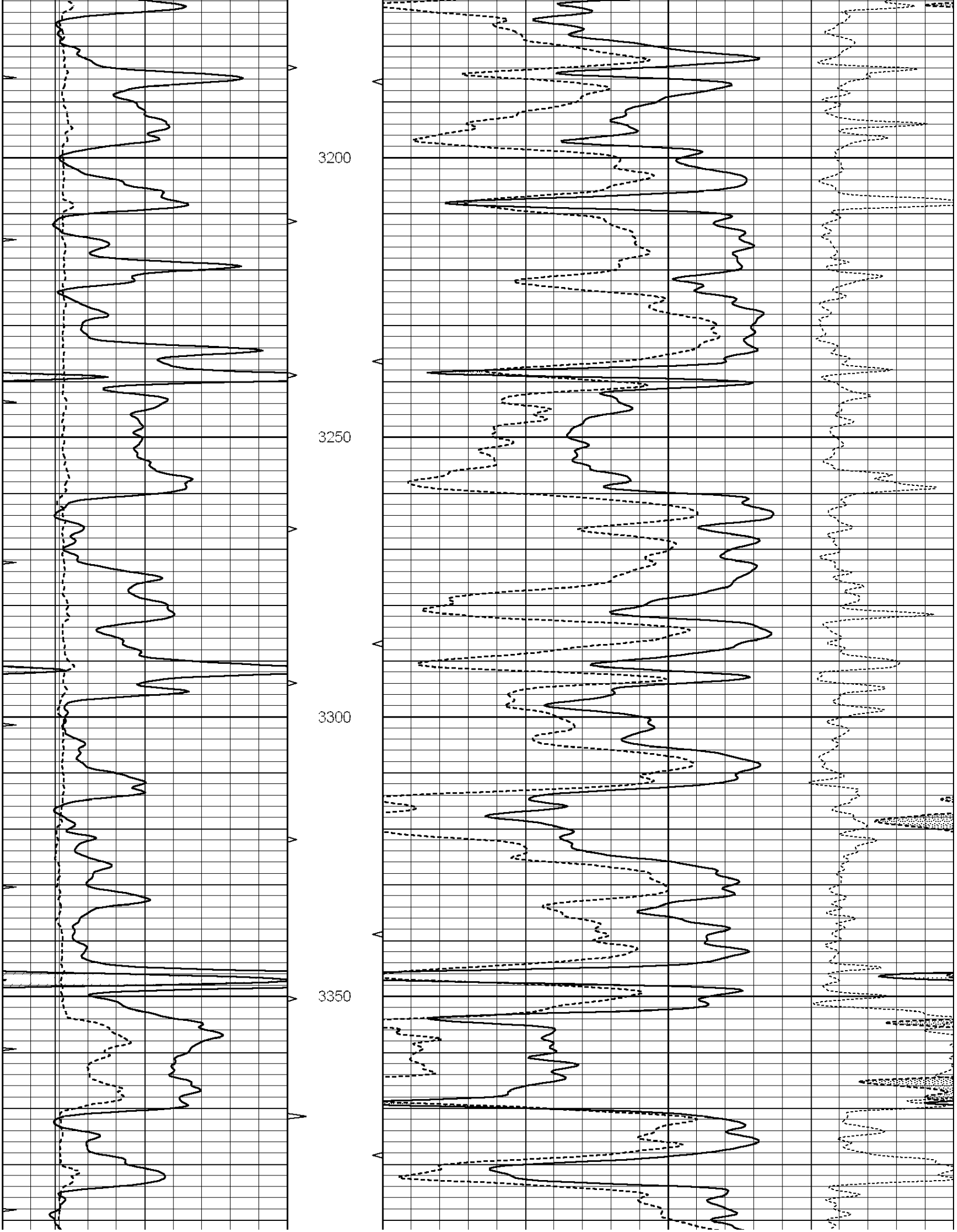
SUPERIOR
Hays,

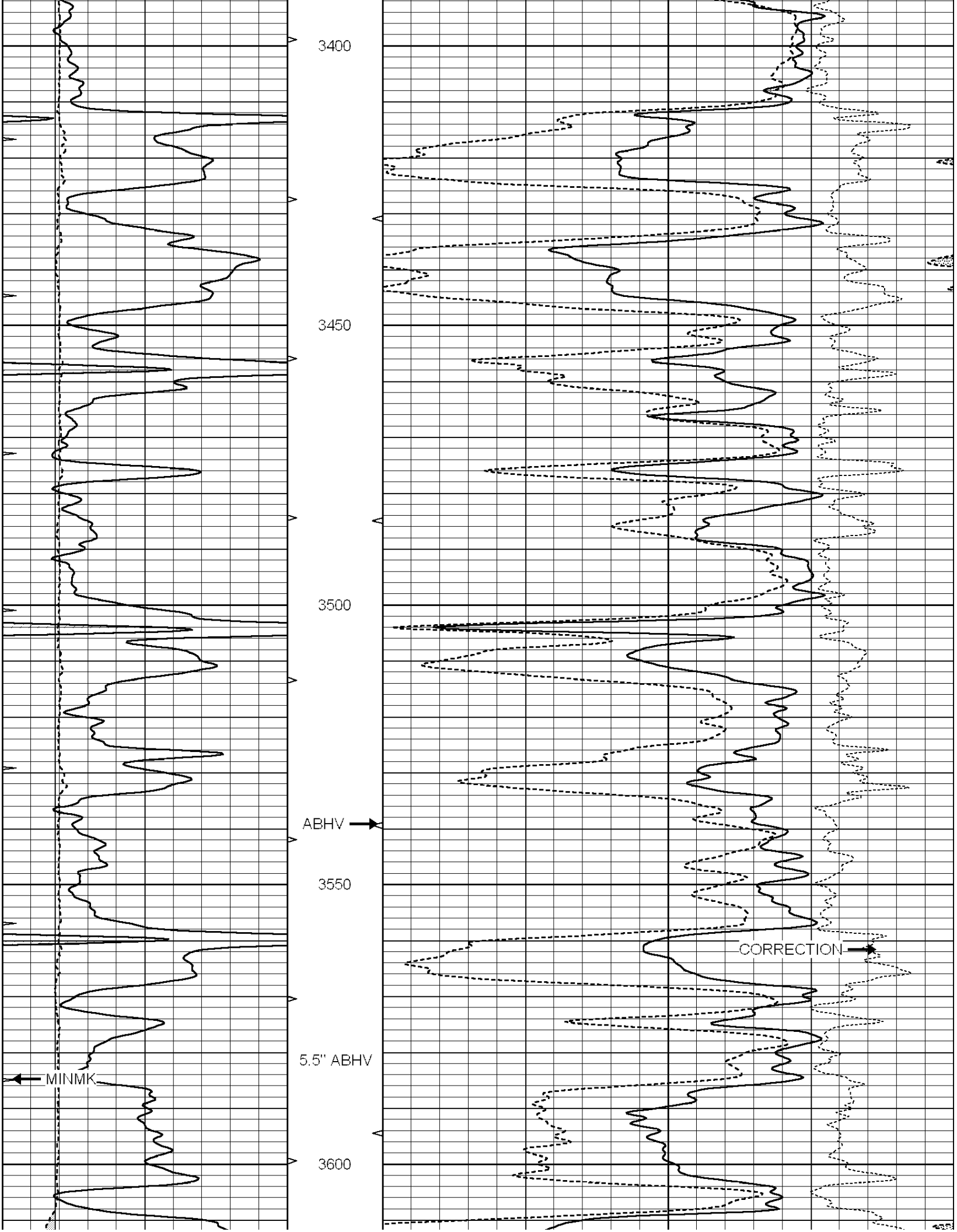
Kansas

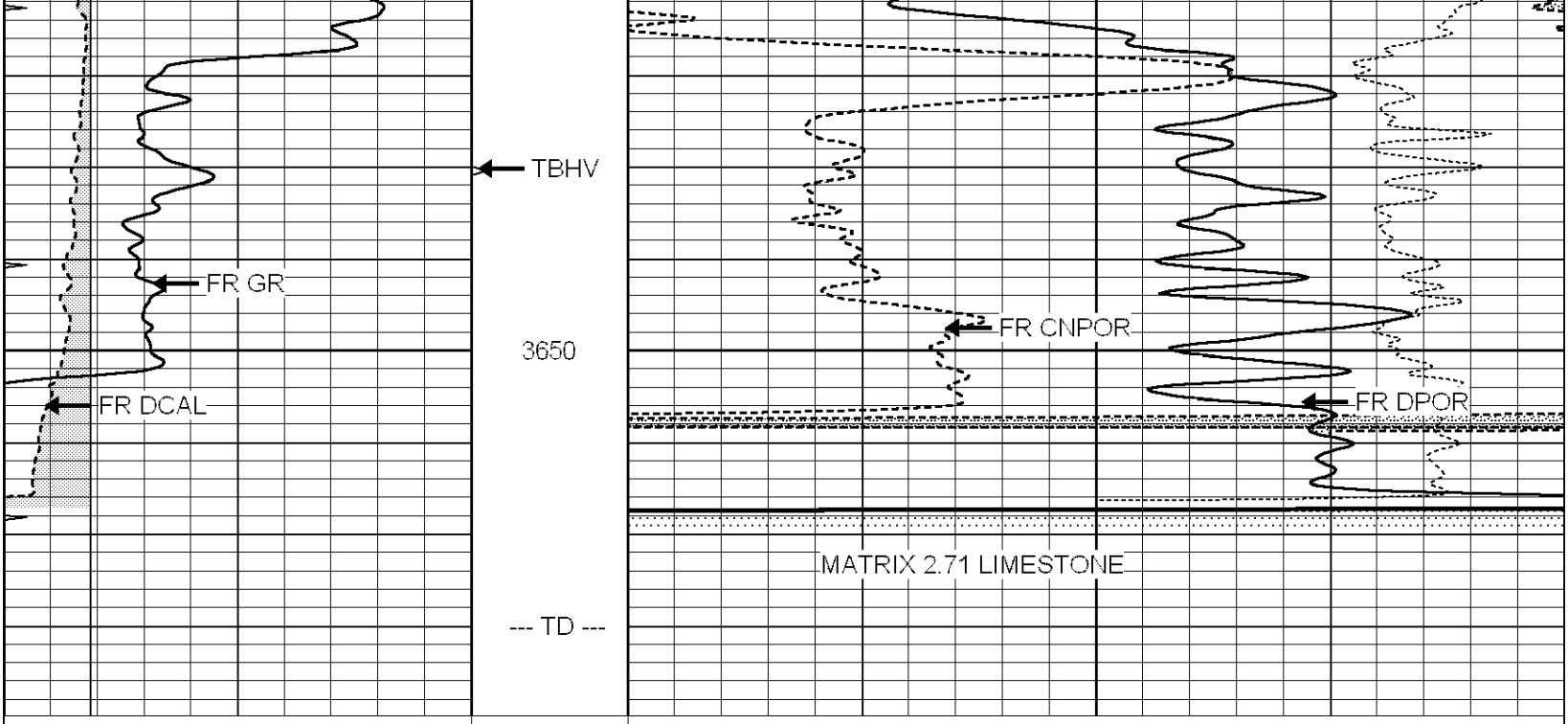
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Dataset Pathname:	pass3.1A
Presentation Format:	den_neu
Dataset Creation:	Mon May 21 23:38:49 2012
Charted by:	Depth in Feet scaled 1:240

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




3200
3250
3300
3350


3400
3450
3500
ABHV
3550
CORRECTION
5.5" ABHV
MINMK
3600



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

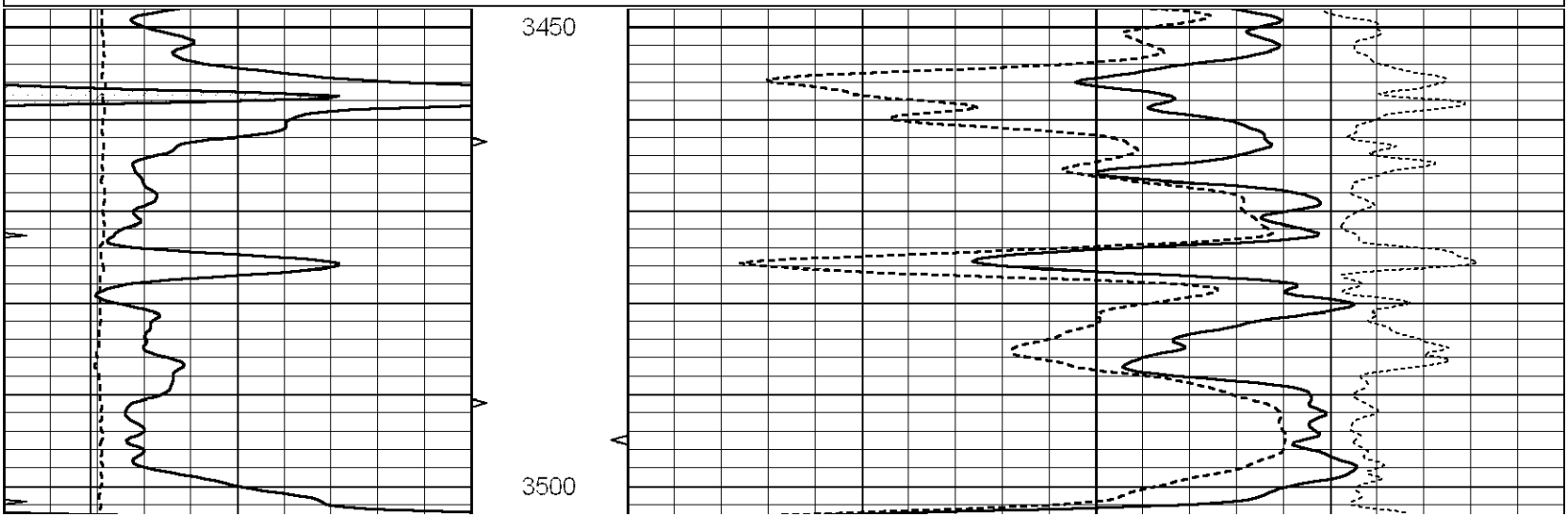
SUPERIOR WELL SERVICES

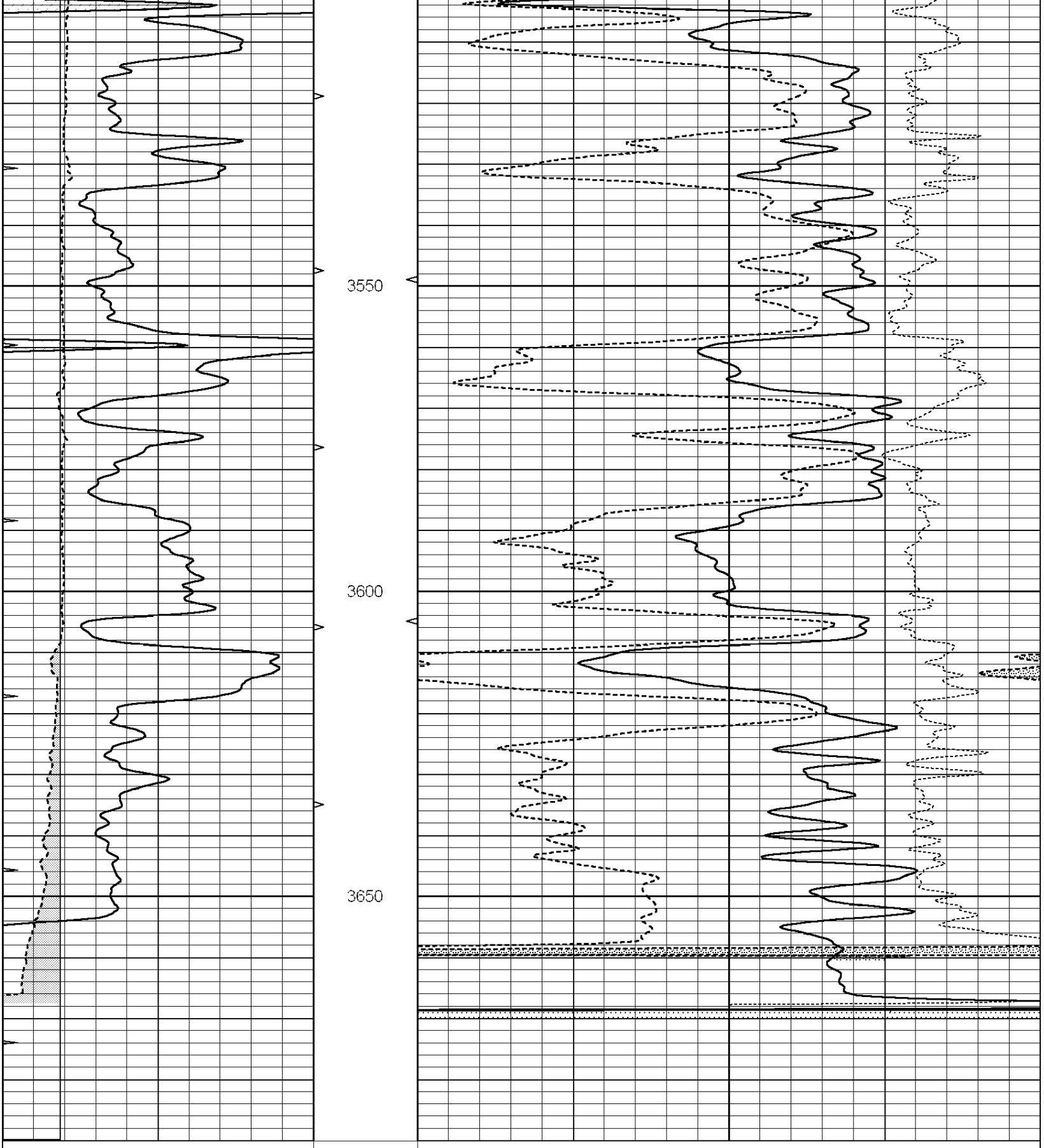
SUPERIOR
Hays,
Kansas

REPEAT SECTION

Database File:	009122ddn.db
Dataset Pathname:	pass2.1A
Presentation Format:	den_neu
Dataset Creation:	Mon May 21 23:35:13 2012
Charted by:	Depth in Feet scaled 1:240

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





Calibration Report

Database File: 009122ddn.db

Dataset Pathname: pass3.1A
Dataset Creation: Mon May 21 23:38:49 2012

Dual Induction Calibration Report

Serial-Model:	PROBE9-DILG
Surface Cal Performed:	Mon May 21 22:21:01 2012
Downhole Cal Performed:	Mon Jul 28 12:02:56 2008
After Survey Verification Performed:	Mon Jul 28 12:02:56 2008

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	550.000	-14.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	540.000	-18.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3970.000	mmho-m		

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		

Compensated Density Calibration Report

Serial-Model:	GEAR1-GEARHART
Source / Verifier:	147 / 147
Master Calibration Performed:	Mon May 21 22:04:25 2012

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1243.76	629.14	cps
Aluminum	2.590	g/cc	282.16	435.01	cps

Spine Angle = 76.03

Density/Spine Ratio = 0.576

	Size		Reading	
Small Ring	8.40	in	4.01	V
Large Ring	14.00	in	5.67	V

Compensated Neutron Calibration Report

Serial Number:	NUE_2I
Tool Model:	G

CALIBRATION

Detector	Readings		Target		Normalization
Short Space	1.00	cps	1.00	cps	1.0000
Long Space	1.00	cps	1.00	cps	1.0000

Gamma Ray Calibration Report

Serial Number:	GR5	
Tool Model:	OPEN	
Performed:	Mon May 21 22:04:07 2012	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.7000	GAPI/cps