HALLIBURTON

DUAL SPACED NEUTRON
BOREHOLE COMPENSATED SONIC
ARRAY COMPENSATED TRUE RESISTIVITY

COMPANY	MERCHANT ENERGY PARTNERS, LLC
WELL	SCHWAKE A-1
FIELD	WEST PEETZ
COUNTY	LOGAN
STATE	CO

COMPANY MERCHANT ENERGY PARTNERS, LLC
WELL SCHWAKE A-1
FIELD WEST PEETZ
COUNTY LOGAN STATE CO

API No. 0507507167
Location

Other Services:
RWCH
GTET

Sect. 6 Twp. 11 Rge. 52W

Permanent Datum	GL	Elev. 4547.0 ft	Elev.: K.B. 4549.0 ft
Log measured from	KB	, above perm. Datum	D.F. 4550.0 ft
Drilling measured from	KB		G.L. 4547.0 ft

Date	22-Feb-10					
Run No.	THREE					
Depth - Driller	5766.00 ft					
Depth - Logger	5752.0 ft					
Bottom - Logged Interval	5746 ft					
Top - Logged Interval	5100 ft					
Casing - Driller	5.500 in	@ 5350.0 ft		@		@
Casing - Logger	5350.0 ft					
Bit Size	4.750 in			@		@
Type Fluid in Hole	WBM					
Density / Viscosity	8.3 ppg					
PH / Fluid Loss						
Source of Sample						
Rm @ Meas. Temperature	0.80 ohmm	@ 75.00 degF		@		@
Rmf @ Meas. Temperature	0.67 ohmm	@ 75.00 degF		@		@
Rmc @ Meas. Temperature	0.74 ohmm	@ 75.00 degF		@		@
Source Rmf / Rmc	CHART	CHART				
Rm @ BHT	0.34 ohmm	@ 185.0 degF		@		@
Time Since Circulation	3.0 hr					
Time on Bottom	22-Feb-10 17:29					
Max. Rec. Temperature	185.0 degF	@ 5752.0 ft		@		@
Equipment / Location	10549597	BRIGHTON				
Recorded By	C. BLUE					
Witnessed By	JEFF SCHNEIDER					

Fold here

Service Ticket No.: N/A API Serial No.: 0507507167 PGM Version: WL INSITE R2.4 (Build 20)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE					
Date	Sample No.				
Depth-Driller					
Type Fluid in Hole					
Density	Viscosity				
Ph	Fluid Loss				
Source of Sample					
Rm @ Meas. Temp		@		@	
Rmf @ Meas. Temp.		@		@	
Rmc @ Meas. Temp.		@		@	
Source Rmf	Rmc				
Rm @ BHT		@		@	
Rmf @ BHT		@		@	
Rmc @ BHT		@		@	

RESISTIVITY SCALE CHANGES			
Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA				
Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
ONE	ACRT-S4353	N/A	FREE	N/A

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	THREE	Run No.	TWO	Run No.		Run No.	THREE
Serial No.	11294346	Serial No.	1105781	Serial No.		Serial No.	11301132
Model No.	GTET	Model No.	BSAT	Model No.		Model No.	DSNT
Diameter	3.625"	No. of Cent.	0	Diameter		Diameter	3.625"
Detector Model No.	102A	Spacing	0.5'	Log Type		Log Type	NEU/NEU
Type	SCINT			Source Type		Source Type	Am241Be
Length	8"	LSA [Y/N]	NO	Serial No.		Serial No.	DSN 434
Distance to Source	10'	FWDA [Y/N]	NO	Strength		Strength	15 Ci

LOGGING DATA

GENERAL	GAMMA	ACOUSTIC	DENSITY	NEUTRON

GENERAL				GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
THREE	5752	5100	REC	0	250							30%	-10%	SAND

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

Remarks: RUN ONE: RWCH/GTET/ACRT RAN IN COMBINATION
RUN TWO: RWCH/GTET/BSAT RAN IN COMBINATION
RUN THREE: RWCH/GTET/DSNT RAN IN COMBINATION
TENSION PULLS AFFECT TOOL RESPONSE
NO MUD DATA PROVIDED
DSNT RAN WITHOUT DECENTRALIZER DUE TO HOLE SIZE

CREW: A. LEWIS, J. WALKER
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES -- BRIGHTON, CO -- (303) 825-4346

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PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	4.750	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDWT	Borehole Fluid Weight	8.333	ppg
	SHARED	OBM	Oil Based Mud System?	No	
	SHARED	RMUD	Mud Resistivity	2.000	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	40.0	degF
	SHARED	TD	Total Well Depth	5752.00	ft
	SHARED	BHT	Bottom Hole Temperature	185.0	degF
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in
	GTET	GEOK	Process Gamma Ray EVR?	No	
	ACRt	RTOK	Process ACRt?	Yes	
	ACRt	MNSO	Minimum Tool Standoff	0.25	in
	ACRt	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
	ACRt	TPOS	Tool Position	Free Hanging	
	ACRt	RMOP	Rmud Source	Mud Cell	
	ACRt	RMIN	Minimum Resistivity for MAP	0.20	ohmm
	ACRt	RMIN	Maximum Resistivity for MAP	200.00	ohmm
	ACRt	LSFU	ACRT Long Space Array No of Frequency Used	3	
	ACRt	MSFU	ACRT Middle 17 Space Array No of Frequency Used	3	
	ACRt	SSFU	ACRT Short Space Array No of Frequency Used	2	

	ACRT	SSPU	ACRT Short Space Array No of Frequency Used	2	
BOTTOM					

Data: SCHWAKE_CRAIG\0001 ACRT\002.03 08-Mar-10 13:04 Up **Date: 08-Mar-10 13:13:10**

HALLIBURTON

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	4.350	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDWT	Borehole Fluid Weight	8.333	ppg
	SHARED	OBM	Oil Based Mud System?	No	
	SHARED	RMUD	Mud Resistivity	2.000	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	50.0	degF
	SHARED	TD	Total Well Depth	5752.00	ft
	SHARED	BHT	Bottom Hole Temperature	185.0	degF
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in
	GTET	GEOK	Process Gamma Ray EVR?	No	
	BSAT	MBOK	Compute BCAS Results?	Yes	
	BSAT	FLLO	Semblance Filter Low Pass Value?	5000	Hz
	BSAT	FLHI	Semblance Filter High Pass Value?	27000	Hz
	BSAT	DTFL	Delta -T Fluid	189.00	uspf
	BSAT	DTMT	Delta -T Matrix Type	Sandstone 55.5	
	BSAT	DTSH	Delta -T Shale	100.00	uspf
	BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
BOTTOM					

Data: SCHWAKE_CRAIG\0002 BSAT\002.03 08-Mar-10 13:12 Up **Date: 08-Mar-10 13:13:51**

HALLIBURTON

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	4.750	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDWT	Borehole Fluid Weight	8.333	ppg
	SHARED	OBM	Oil Based Mud System?	No	
	SHARED	RMUD	Mud Resistivity	2.000	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	50.0	degF
	SHARED	TD	Total Well Depth	5752.00	ft
	SHARED	BHT	Bottom Hole Temperature	185.0	degF
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in

GTET	GEOK	Process Gamma Ray EVR?	No	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Sandstone	
DSNT	DNSO	DSNTool Standoff	0.000	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	

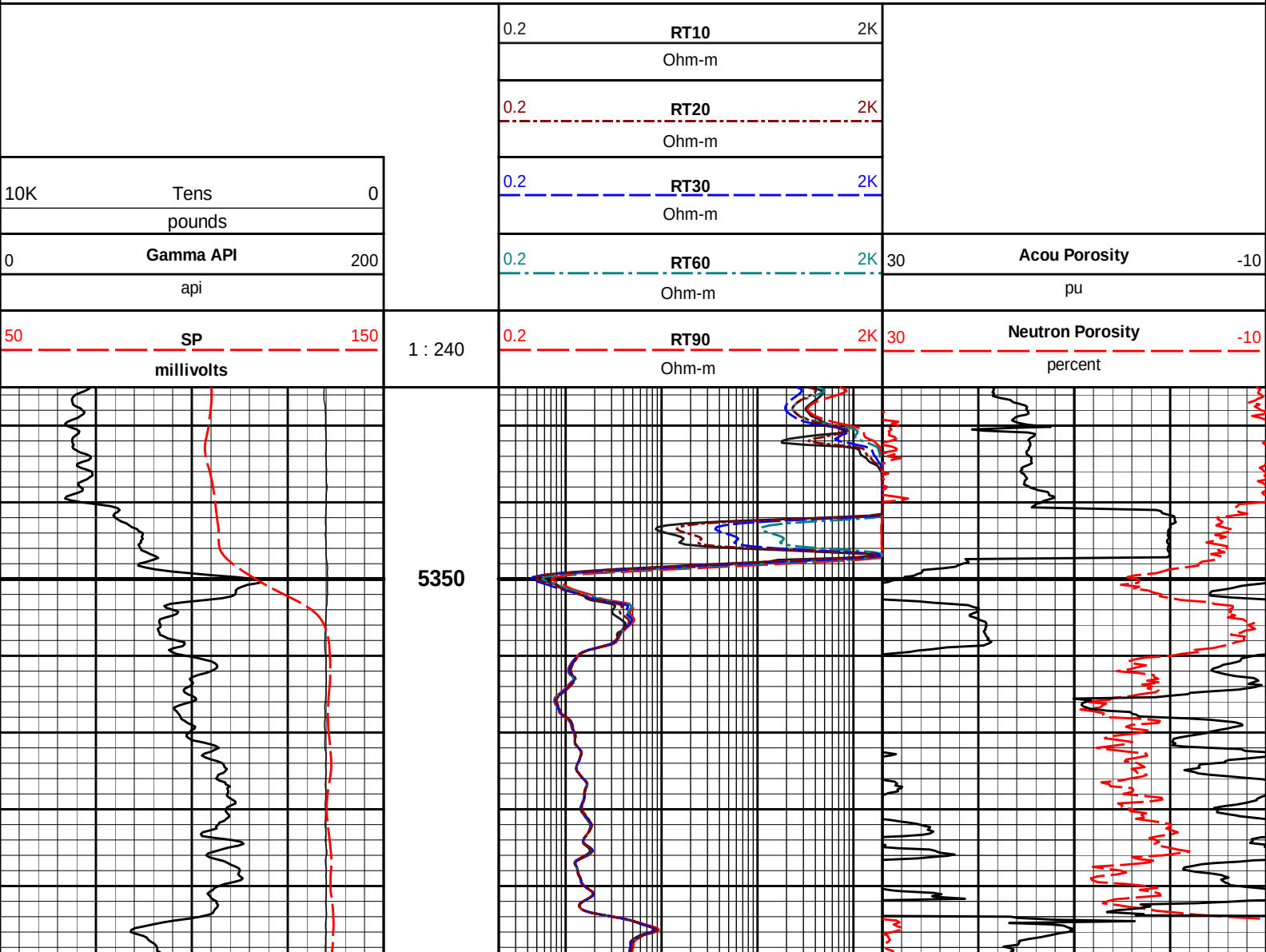
BOTTOM

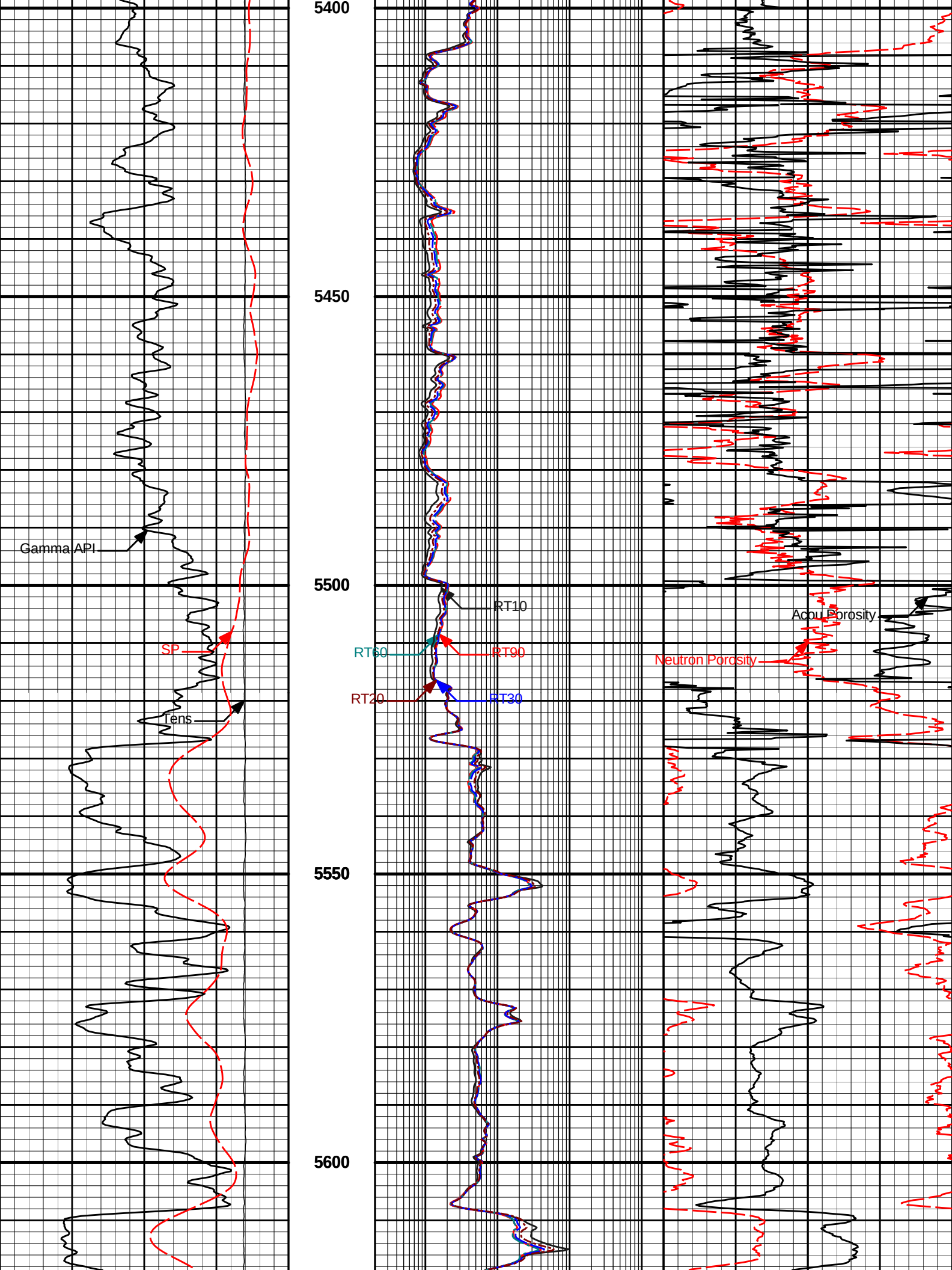
Data: SCHWAKE_CRAIG\0003 DSNT\002.02 08-Mar-10 13:15 Up **Date: 08-Mar-10 13:17:33**

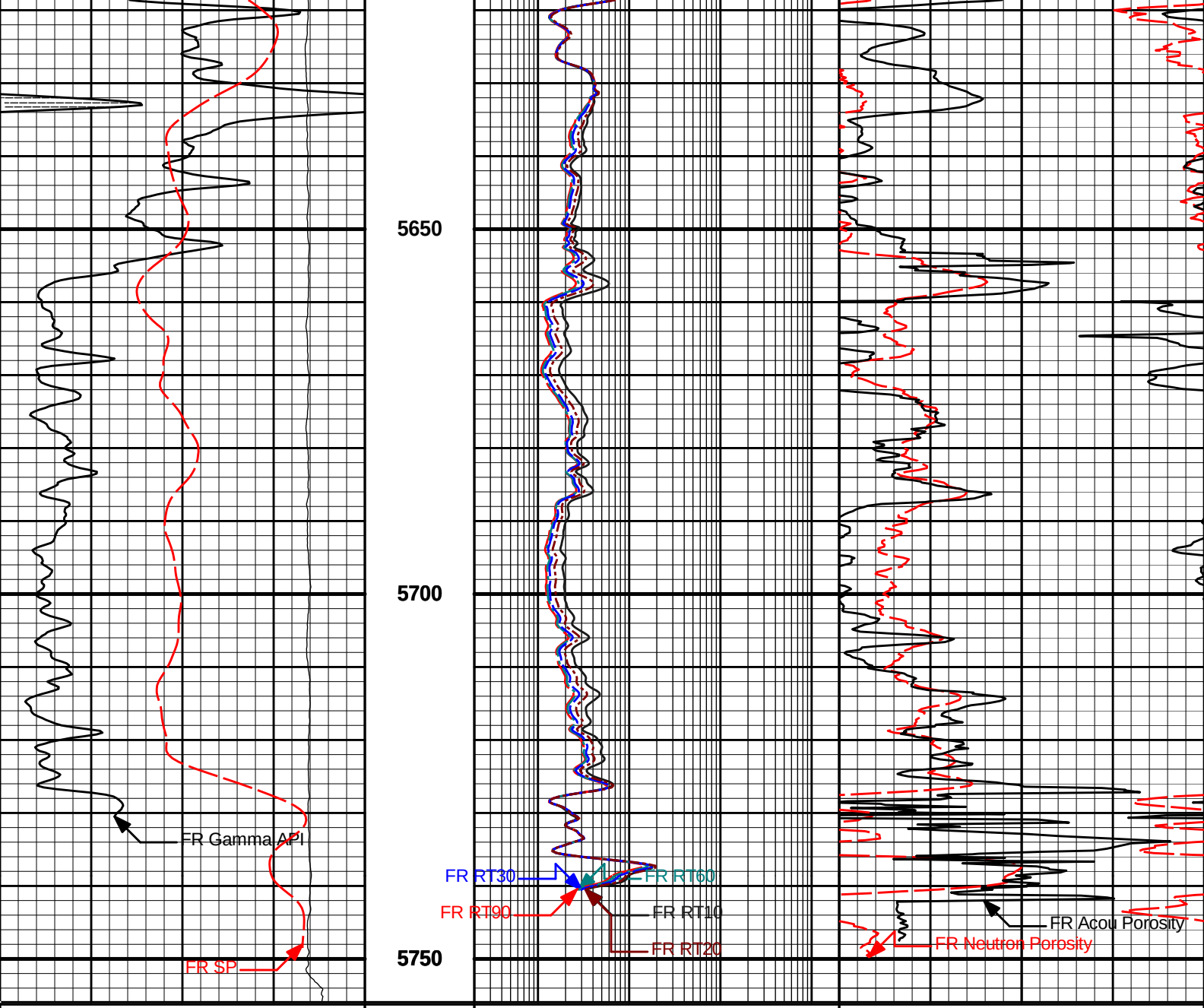
HALLIBURTON

Plot Time: 08-Mar-10 13:26:38
Plot Range: 5325 ft to 5755.92 ft
Data: SCHWAKE_CRAIG\Well Based**
Plot File: \\COMP\MAIN PASS

MAIN PASS 5" = 100'




5400
5450
5500
5550
5600
Gamma API
SP
Tens
RT10
RT60
RT90
RT20
RT30
Acou Porosity
Neutron Porosity



50 **SP** 150 millivolts	1 : 240	0.2 **RT90** 2K Ohm-m	30 **Neutron Porosity** -10 percent
0 **Gamma API** 200 api		0.2 **RT60** 2K Ohm-m	30 **Acou Porosity** -10 pu
10K Tens 0 pounds		0.2 **RT30** 2K Ohm-m	
		0.2 **RT20** 2K Ohm-m	
		0.2 **RT10** 2K Ohm-m	

HALLIBURTON

Plot Time: 08-Mar-10 13:26:39
Plot Range: 5325 ft to 5755.92 ft
Data: SCHWAKE_CRAIG\Well Based**
Plot File: \\COMP\MAIN PASS

MAIN PASS 5" = 100'

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
					37.02 ft
RWCH-B097 135.00 lbs	Ø 3.625 in →		← Load Cell @ 33.34 ft ← BH Temperature @ 32.77 ft	6.25 ft	
					30.77 ft
GTET-11294346 165.00 lbs	Ø 3.625 in →		← GammaRay @ 24.71 ft	8.52 ft	
					22.25 ft
			← Mud Resistivity @ 15.86 ft		
ACRt-90199477-E2817-S4353 250.00 lbs	Ø 3.625 in →		← ACRt @ 11.88 ft	19.25 ft	
			← SP @ 4.28 ft		
					3.00 ft
MULE SHOE-KW-MS 50.00 lbs	Ø 3.625 in →			3.00 ft	
					0.00 ft

Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	B097	135.00	6.25		30.77	300.00
GTET	Natural Gamma Ray Tool	11294346	165.00	8.52		22.25	60.00
ACRt	Array Compensated True Resistivity	90199477-E2817-S4353	250.00	19.25		3.00	300.00
SP	SP Ring	PROTO1	0.00	0.25	*	4.28	300.00
MS	MS	KW-MS	50.00	3.00		0.00	100.00
Total			**600.00**	**37.02**			

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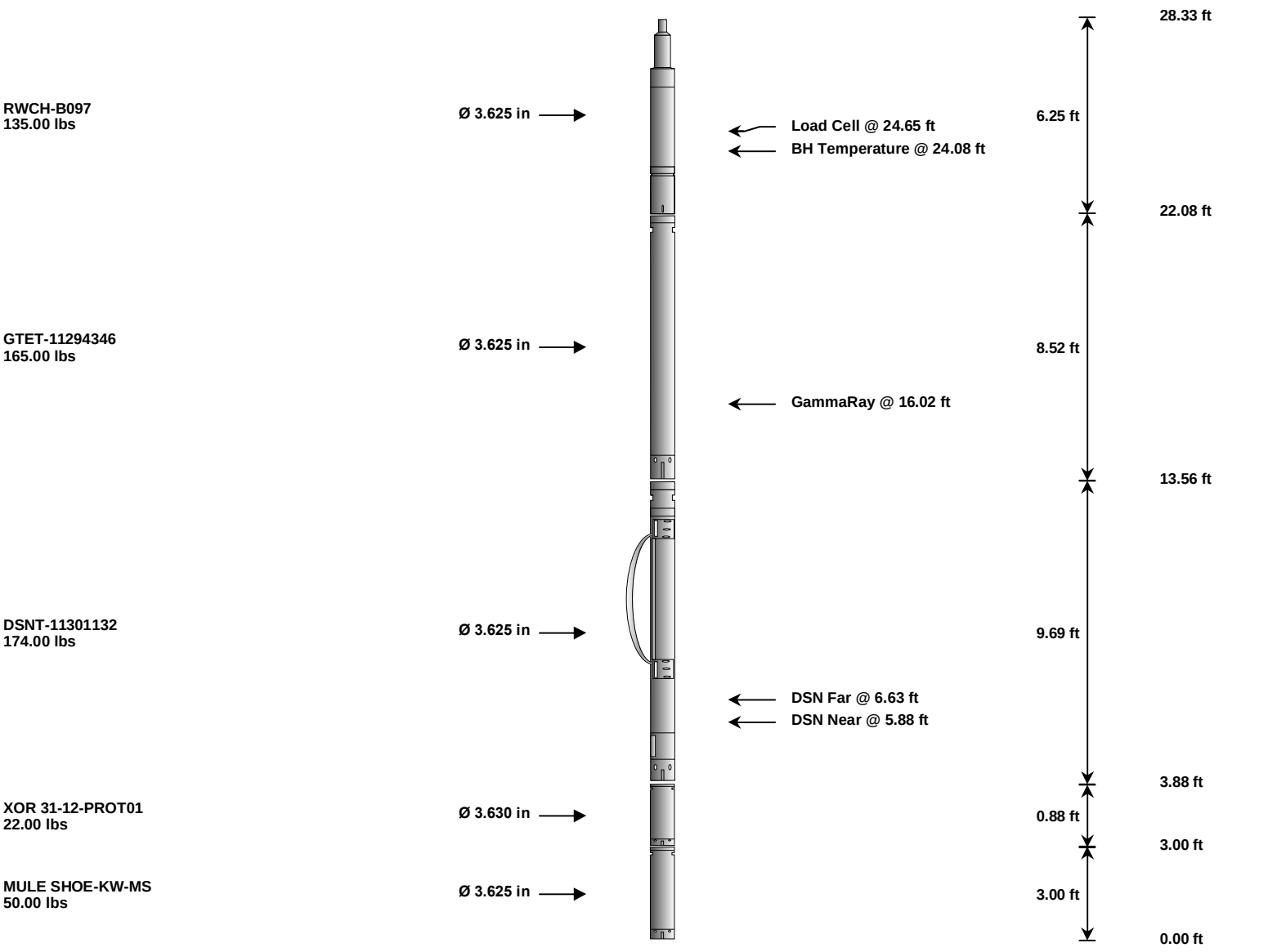
TOOL STRING DIAGRAM REPORT

Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
					33.55 ft
RWCH-B097 135.00 lbs	Ø 3.625 in		Load Cell @ 29.86 ft BH Temperature @ 29.30 ft	6.25 ft	
					27.30 ft
GTET-11294346 165.00 lbs	Ø 3.625 in		GammaRay @ 21.23 ft	8.52 ft	
					18.77 ft
BSAT-1105781 300.00 lbs	Ø 3.625 in		Sonic Receivers @ 10.26 ft	15.77 ft	
					3.00 ft
MULE SHOE-KW-MS 50.00 lbs	Ø 3.625 in			3.00 ft	
					0.00 ft

Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	B097	135.00	6.25	27.30	300.00
GTET	Natural Gamma Ray Tool	11294346	165.00	8.52	18.77	60.00
BCAS	Borehole Sonic Array Tool	1105781	300.00	15.77	3.00	60.00
MS	MS	KW-MS	50.00	3.00	0.00	100.00
Total			**650.00**	**33.55**		

HALLIBURTON

TOOL STRING DIAGRAM REPORT



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	B097	135.00	6.25		22.08	300.00
GTET	Natural Gamma Ray Tool	11294346	165.00	8.52		13.56	60.00
DSNT	Dual Spaced Neutron	11301132	174.00	9.69		3.88	60.00
DCNT	DSN Decentralizer	11277440	50.00	5.13	*	7.21	300.00
XOR	Crossover DSNT 31 to 12 Pins	PROT01	22.00	0.88		3.00	300.00
MS	MS	KW-MS	50.00	3.00		0.00	100.00
Total			**596.00**	**28.33**			

* Not included in Total Length and Length Accumulation.

Data: SCHWAKE\0003 DSNT\IDLE

Date: 22-Feb-10 17:24:36

COMPANY	**MERCHANT ENERGY PARTNERS, LLC**
WELL	**SCHWAKE A-1**
FIELD	**WEST PEETZ**

COUNTY	**LOGAN**	STATE	**CO**

HALLIBURTON	**DUAL SPACED NEUTRON** **BOREHOLE COMPENSATED** **SONIC** **ARRAY COMPENSATED** **TRUE RESISTIVITY**