

CG 341-31-105 & R.D. 1



**COMPENSATED DENSITY
DUAL SPACED NEUTRON LOG**

COMPANY: HALLIBURTON LOGGING SERVICES, INC. (INDIANA & MICHIGAN ENERGY COMPANY)
 WELL: _____
 FIELD: _____
 COUNTY: _____ STATE: _____
 Location: 2017 W. 19th Street & 661.401 North
 D111/K/S/7R
 P123
 Other Services: _____
 Run No: _____
 Log Type: _____
 Log Measured From: _____
 Log Measured To: _____
 Date: 08-22-91
 Time: 22:50
 Depth: 1206.0
 Run No: 68247
 Log Type: 0352-02
 Well: 0
 Part Number: 26000

Service Ticket No.	168247	API Serial No.		PGM Version:	
Change in Mud Type or Additional Samples		RESISTIVITY/RWA SCALE CHANGES		COMPUTED FROM	
Date	Sample No.	I	Type Log	Depth	Scale Up Hole
Depth-Driller					Scale Down Hole
Type Fluid in Hole					a
Dens Visc					m

gh Fluid Loss					
Source of Sample					
R _w @ Meas Temp	@ *F	@ *F	Run No.	Tool Type and No.	Tool Position
R _w @ Meas Temp	@ *F	@ *F		Pad Type	Tool Postion
R _w @ Meas Temp	@ *F	@ *F			Other
Source R _w R _w					
R _w @ BHT	@ *F	@ *F			
R _w @ BHT	@ *F	@ *F			
R _w @ BHT	@ *F	@ *F			

EQUIPMENT DATA		GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No	ONE	Run No		Run No	ONE	Run No	ONE	Run No	ONE
Serial No	G-3231	Serial No		Serial No	G-126	Serial No	G-126	Serial No	G-135
Model No	HA	Model No		Model No	HA	Model No	HA	Model No	HA
Diameter	3.38"	No. of Cent.		Diameter	3.38"	Diameter	3.38"	Diameter	3.38"
Detector Model No.	NA	Spacing		Log Type	GAMMA	Log Type	NEUTRON	Log Type	NEUTRON
Type	SCINTI			Source Type	CS 137	Source Type	CS 137	Source Type	Am241Be
Length	4.5'	LSA		Serial No	18	Serial No	18	Serial No	893
Distance to Source	NA	FWDA		Strength	2 C1	Strength	2 C1	Strength	20 C1

GENERAL		GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run	Depths	Scale	Scale	Scale	Scale	Scale	Scale	Scale	Scale
ONE	1742'	1210'	30	0	150	1.65	2.65	2.65	60

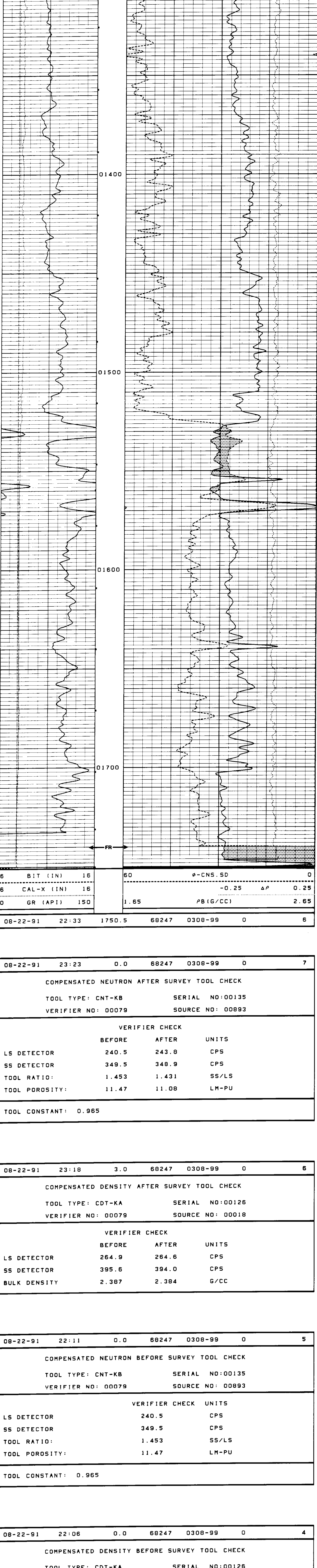
REMARKS: DUE TO HOLE CONDITIONS, LOG WAS RUN FROM 1742' TO 1210'. ALSO, CLIENT DID NOT WANT TO RUN A REPEAT SECTION.

CASED HOLE PARAMETERS	From	To
Bit Size		
Csg O.D.		
Csg Wt		

Halliburton Logging Services, Inc. does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters, or recommendations which may be given by Halliburton Logging Services, Inc. personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions or recommendations agrees that Halliburton Logging Services, Inc. is not responsible, except where due to gross negligence or willful misconduct, for any loss, damage, or expense resulting from the use thereof.

08-22-91	22:50	1206.0	68247	0352-02	0	6
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6	BIT (IN)	16	60	φ-CNS, SD	0
6	CAL-X (IN)	16		-0.25 ΔP	0.25
0	GR (API)	150	1.65	PB (G/CC)	2.65



08-22-91	22:33	1750.5	68247	0308-99	0	6
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6	BIT (IN)	16	60	φ-CNS, SD	0
6	CAL-X (IN)	16		-0.25 ΔP	0.25
0	GR (API)	150	1.65	PB (G/CC)	2.65

08-22-91	23:23	0.0	68247	0308-99	0	7
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COMPENSATED NEUTRON AFTER SURVEY TOOL CHECK

TOOL TYPE: CNT-KB SERIAL NO: 00135
 VERIFIER NO: 00079 SOURCE NO: 00893

VERIFIER CHECK

	BEFORE	AFTER	UNITS
LS DETECTOR	240.5	243.8	CPS
SS DETECTOR	349.5	348.9	CPS
TOOL RATIO:	1.453	1.431	SS/LS
TOOL POROSITY:	11.47	11.08	LM-PU

TOOL CONSTANT: 0.965

08-22-91	23:18	3.0	68247	0308-99	0	6
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COMPENSATED DENSITY AFTER SURVEY TOOL CHECK

TOOL TYPE: CDT-KA SERIAL NO: 00126
 VERIFIER NO: 00079 SOURCE NO: 00018

VERIFIER CHECK

	BEFORE	AFTER	UNITS
LS DETECTOR	264.9	264.6	CPS
SS DETECTOR	395.6	394.0	CPS
BULK DENSITY	2.387	2.384	G/CC

08-22-91	22:11	0.0	68247	0308-99	0	5
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COMPENSATED NEUTRON BEFORE SURVEY TOOL CHECK

TOOL TYPE: CNT-KB SERIAL NO: 00135
 VERIFIER NO: 00079 SOURCE NO: 00893

VERIFIER CHECK

			UNITS
LS DETECTOR		240.5	CPS
SS DETECTOR		349.5	CPS
TOOL RATIO:		1.453	SS/LS
TOOL POROSITY:		11.47	LM-PU

TOOL CONSTANT: 0.965

08-22-91	22:06	0.0	68247	0308-99	0	4
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COMPENSATED DENSITY BEFORE SURVEY TOOL CHECK

TOOL TYPE: CDT-KA SERIAL NO: 00126
 VERIFIER NO: 00079 SOURCE NO: 00018

VERIFIER CHECK

			UNITS
LS DETECTOR		264.9	CPS
SS DETECTOR		395.6	CPS
BULK DENSITY		2.387	G/CC

08-22-91	22:00	0.0	68247	0308-99	0	3
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GAMMA RAY BEFORE SURVEY CALIBRATION

TOOL TYPE: GRT-HA SERIAL NO: 03231

	BACKGROUND	CALIBRATOR	STANDARD	UNITS
	204.9	984.3	218.0	GAPI
	DELTA COUNTS PER SEC: 779.4			CPS/API = 3.575

08-22-91	21:57	0.0	68247	0308-99	0	2
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CALIPER BEFORE SURVEY CALIBRATION

TOOL TYPE: XCA-KA SERIAL NO: 00126

	MEASURED		UNITS	CALIBRATED		UNITS
CALX	6.62	14.74	IN	7.00	14.00	IN

07-22-91	10:39	0.0	7674	0308-99	0	1
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COMPENSATED NEUTRON SHOP CALIBRATION

TOOL TYPE: CNT-KB SERIAL NO: 00135
 VERIFIER NO: 00079 SOURCE NO: 00893

	LOW - φ	MED - φ	HIGH - φ	UNITS
TANK RATIO:	0.566	1.389	2.176	SS/LS
TANK POROSITY:	-0.34	11.23	25.89	LM-PU
LS DETECTOR	2544.7	531.6	230.8	CPS
SS DETECTOR	1487.2	767.9	537.2	CPS
TOOL RATIO:	0.584	1.439	2.320	SS/LS
TOOL POROSITY:	-0.36	11.21	27.06	LM-PU

TOOL CONSTANT: 0.965

SURFACE TEMPERATURE: 70° F

FIELD VERIFIER

	SS DETECTOR	LS DETECTOR	RATIO	POROSITY
	352.2 CPS	240.8 CPS	1.462	11.64

07-22-91	09:54	0.0	7674	0308-99	0	0
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COMPENSATED DENSITY SHOP CALIBRATION

TOOL TYPE: CDT-KA SERIAL NO: 00126
 VERIFIER NO: 00079 SOURCE NO: 00018

	MAG BLK (CPS)	ALUM BLK (CPS)	SPINE ANGLE	DEN/SPINE RATIO
LS DETECTOR	1232.7	274.4	76.1	0.569
SS DETECTOR	762.7	527.0		

FIELD VERIFIER

			UNITS
LS DETECTOR		265.8	CPS
SS DETECTOR		393.4	CPS
BULK DENSITY		2.376	G/CC

-END-