COMPANY TAYLOR OPERATING COMPANY

WELL CC 13-3-55

FIELD EXPLORATION

COUNTY COLUMBIA STATE OREGON

HALLIBURTON

EXCELL 2000

SPECTRAL DENSITY DUAL SPACED NEUTRON GAMMA

2"=100', 5"=100'

COMPANY TAYLOR OPERATING COMPANY

WELL CC 13-3-55

FIELD EXPLORATION

COUNTY COLUMBIA STATE OREGON

API No. 36-009-00359

Location 2101.6' FSL 513.7' FWL

Other Services HRI BCS SED

Sect 3 Twp 5N Rge 5W

Permanent Datum G.L. Elev 1090'

Log measured from K.B. 10.0 ft. above perm. datum

Drilling measured from K.B.

Elev.: K.B. 1100' D.F. 1100' G.L. 1090'

Date	MAY 17, 2004			
Run No.	1B			
Depth – Driller	1617			
Depth – Logger	1616'			
Bottom – Logged Interval	1608'			
Top – Logged Interval	389'			
Casing – Driller	9 5/8 @ 390'	@	@	@
Casing – Logger	389'			
Bit Size	8 1/2			
Type Fluid in Hole	GEL/CEM			
Dens. | Visc.	8.8 | 41	|	|	|
Ph | Fluid Loss	9.5 | 8.5	|	|	|
Source of Sample	FLOWLINE			
Rm @ Meas. Temp.	2.680 @ 67 F	@	@	@
Rmf @ Meas. Temp.	2.950 @ 71 F	@	@	@
Rmc @ Meas. Temp.	1.630 @ 71 F	@	@	@
Source Rmf | Rmc	MEAS | MEAS	|	|	|
Rm @ BHT	2.043 @ 90 F	@	@	@
Time Since Circ.	1530 05-17			
Time on Bottom	1915 05-17			
Max. Rec. Temp.	90 F @ TD	@	@	@
Equip. | Location	49599 | WDLD	|	|	|
Recorded By	G. ROUSSEAU			
Witnessed By	S. McCORMICK			

Service Ticket No.: 30776*5 API Serial No.: 36-009-00359 PGM Version: XL v5.0

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLES		
Date | Sample No.	|	|
Depth – Driller		
Type Fluid in Hole		
Dens. | Visc.	|	|
Ph | Fluid Loss	|	|
Source of Sample		
Rm @ Meas. Temp.	2.680 @ 67 F	@
Rmf @ Meas. Temp.	2.950 @ 71 F	@
Rmc @ Meas. Temp.	1.630 @ 71 F	@
Source Rmf | Rmc	MEAS | MEAS	|
Rm @ BHT	2.043 @ 90 F	@
Rmf @ BHT	2.371 @ 90 F	@
Rmc @ BHT	1.310 @ 90 F	@

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

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.	ONE	Run No.	ONE
Serial No.	A180	Serial No.		Serial No.	I741M350	Serial No.	005
Model No.	NGRT	Model No.		Model No.	SDLT_DA	Model No.	DSNT_X
Diameter	3.625"	No. of Cent.		Diameter	5.50"	Diameter	3.625"
Detector Model No.	432	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT.			Source Type	CS-137	Source Type	AM241BE
Length	4.00"	LSA [Y / N]	NO	Serial No.	2694GW	Serial No.	DSN-16
Distance to Source	10.0'	FWDA [Y / N]	NO	Strength	1.5 CI	Strength	18.5 CI

LOGGING DATA

GENERAL				GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run	Depth		Speed	Scale		Scale			Scale			Scale		
No.	From	To	Ft / Min	L	R	L	R	Matrix	L	R	Matrix	L	R	Matrix
1B	1616'	389'	20	0	150				1.65	2.65	2.65	.60	0	SAND
				API	API				GMCC	GMCC	GMCC	%	%	

DIRECTIONAL INFORMATION

Maximum Deviation	NA	deg. @	NA	KOP	NA

NA

Remarks:

K.B. ELEVATION IS PROVISIONAL.

REPEAT SECTION AS PER CUSTOMER.

BHT TAKEN OFF OF INTERNAL TOOL SENSORS. (MAXIMUM READING THERMOMETERS < 100 DEG)

TOOL LOGGED AT 20 FPM TO AQUIRE EVR DATA.

POROSITY DIPLAYED ON QUARTZ MATRIX.

NO BARITE IN MUD.

CREW: M. EMERSON, D. ROSENSTEEL. RIG: TAYLOR DRILLING.

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

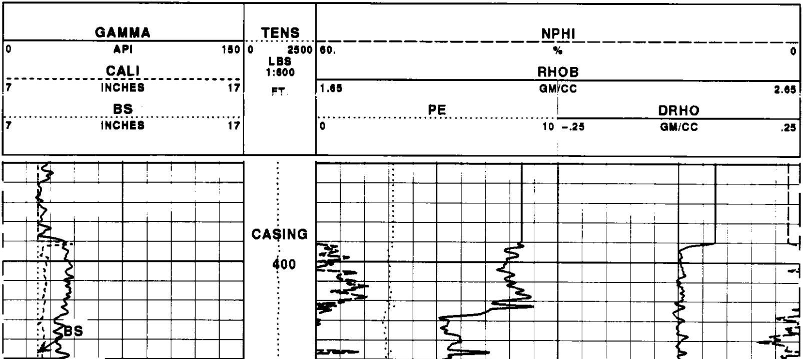
HALLIBURTON

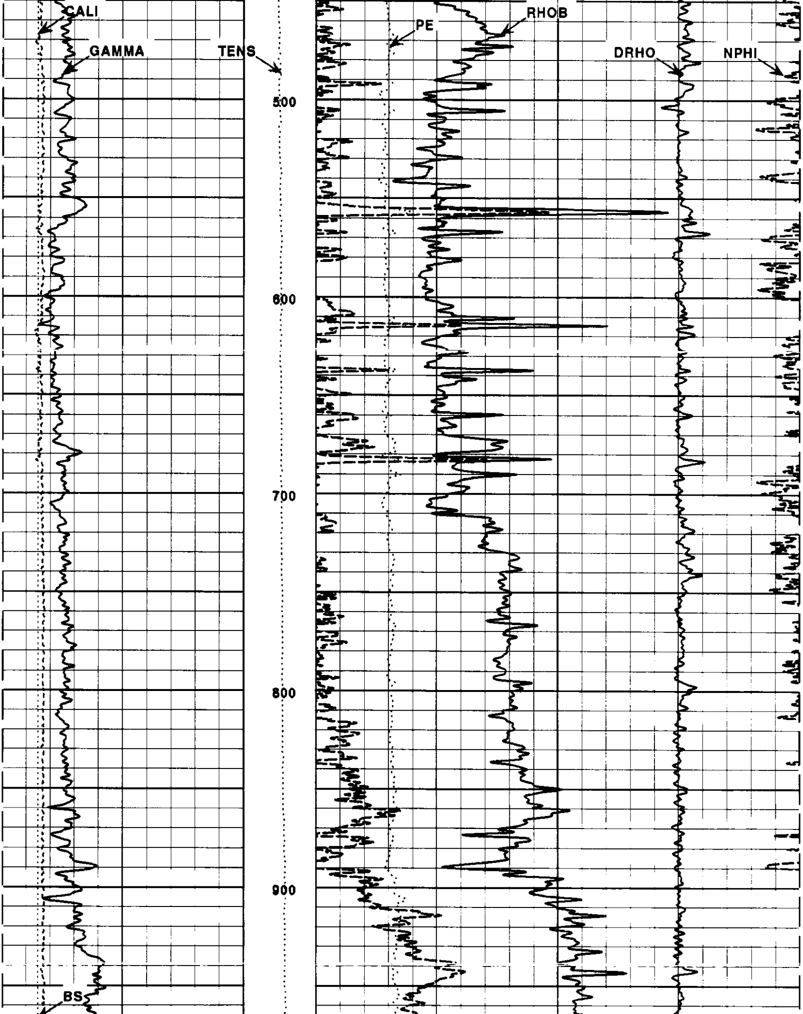
2"=100' MAIN SECTION

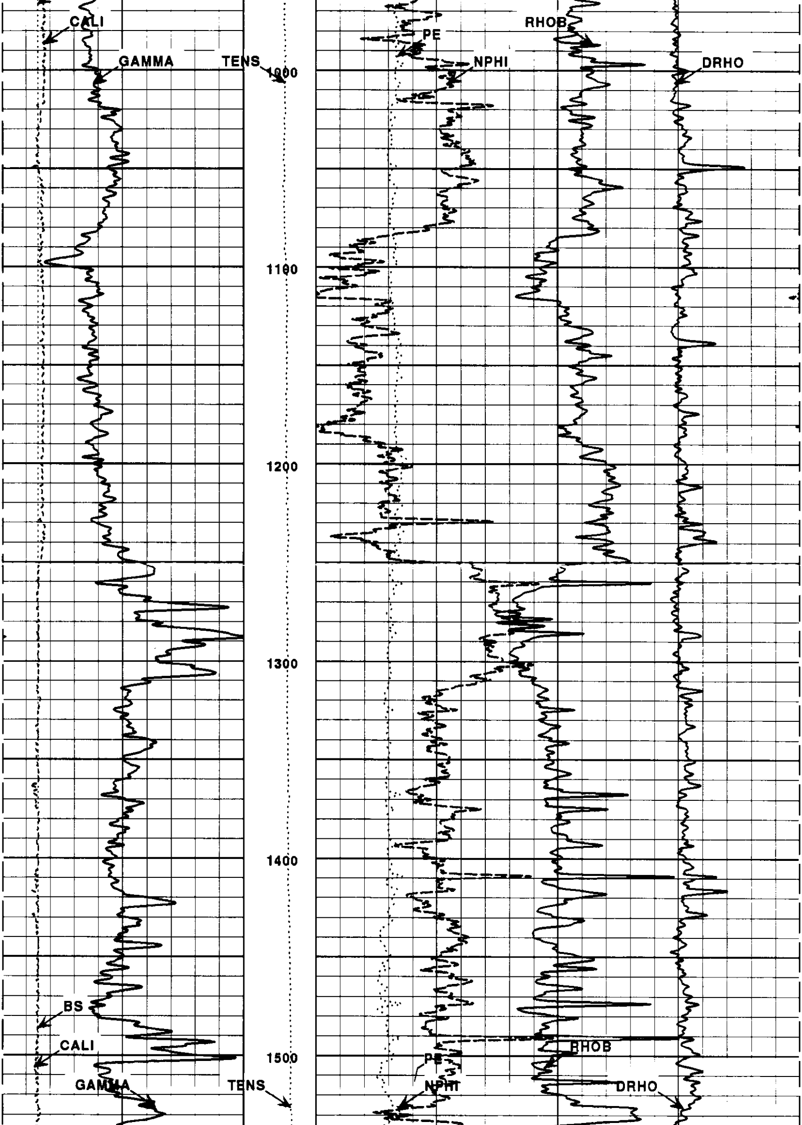
HALLIBURTON

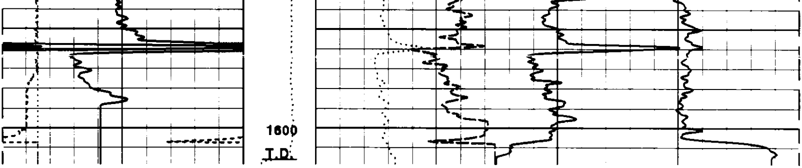
EXCELL

Version No: 5.0 | hc:3.0
Data File: taylor_1_sdl.2.cls
Format File: 2.SDL.spc
Plot Time: 2004-05-17 22:06:06
Log Time: 2004-05-17 19:12:37
Top Depth: 348.08
Bottom Depth: 1618.25









BS 7 INCHES 17		PE 0 10
		DRHO -.25 GM/CC .25
CALI 7 INCHES 17	1:600 FT.	RHOB 1.65 GM/CC 2.65
GAMMA 0 API 150	TENS 0 2500 LBS	NPHI 60. % 0

HALLIBURTON
EXCELL

Version No: 5.0 | hc:3.0
Data File: taylor_1_sdl.2.cls
Format File: 2.SDL.spc
Plot Time: 2004-05-17 22:05:36
Log Time: 2004-05-17 19:12:37

Top Depth: 348.08
Bottom Depth: 1618.25

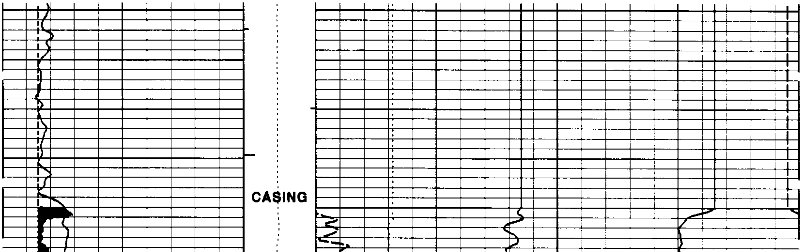
5"=100' MAIN SECTION

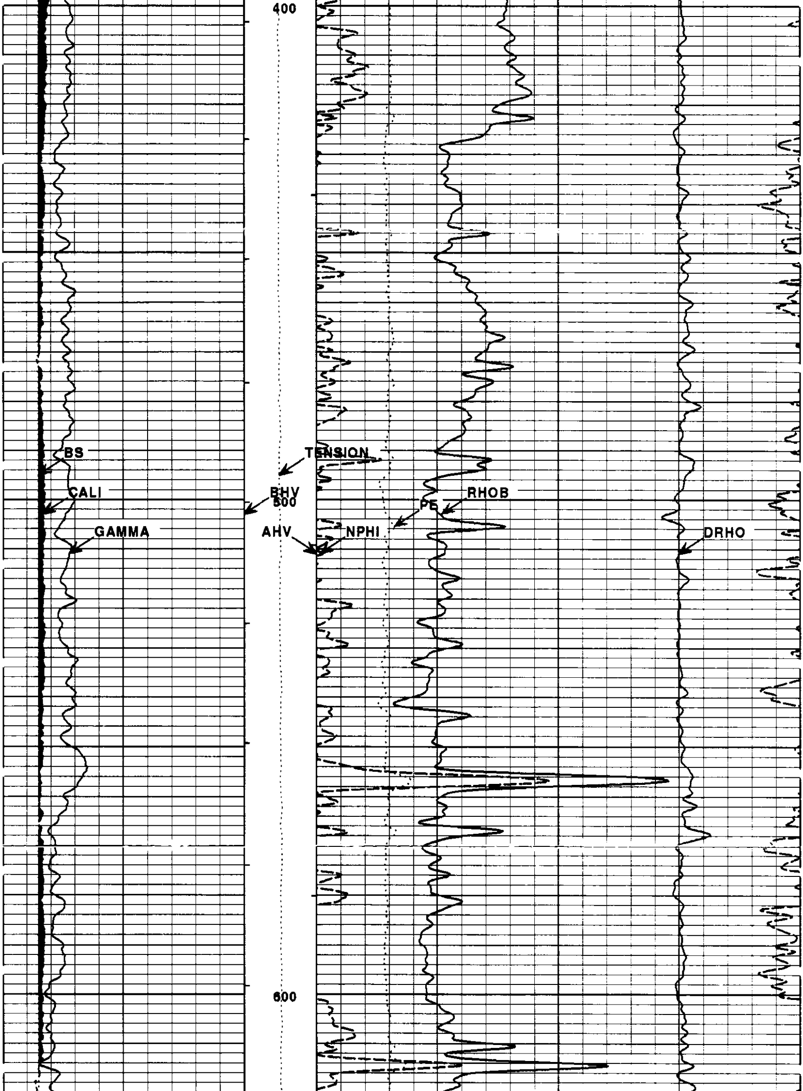
HALLIBURTON
EXCELL

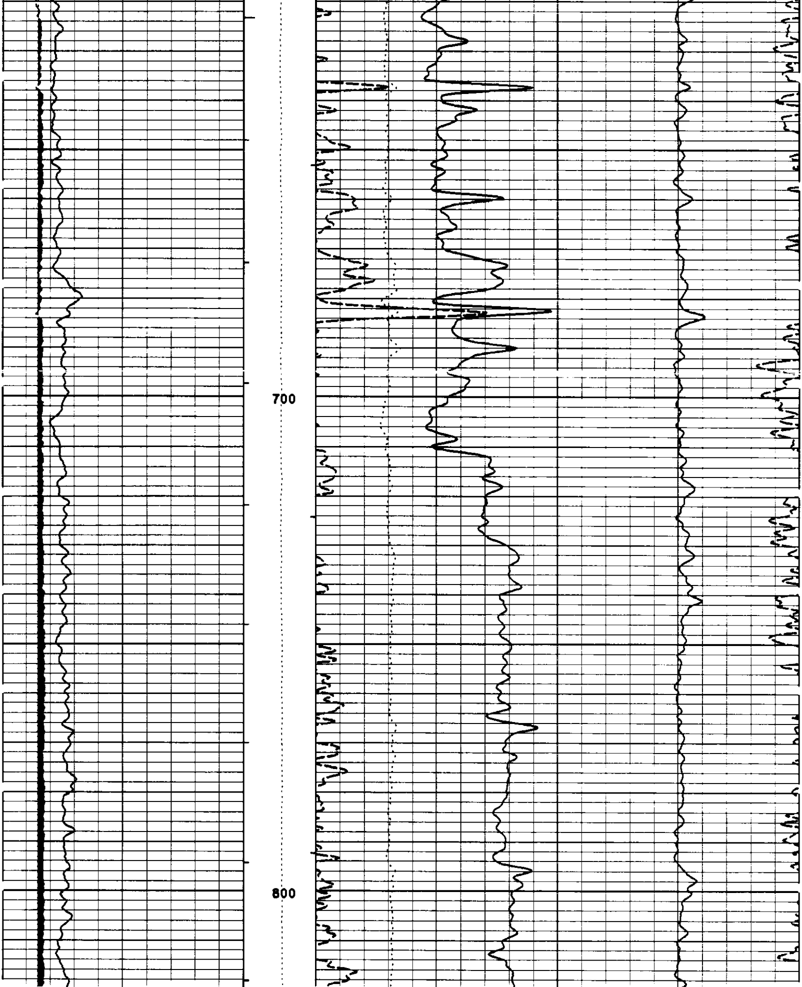
Version No: 5.0 | hc:3.0
Data File: taylor_1_sdl.2.cls
Format File: 5.SDL.spc
Plot Time: 2004-05-17 22:02:32
Log Time: 2004-05-17 19:12:37

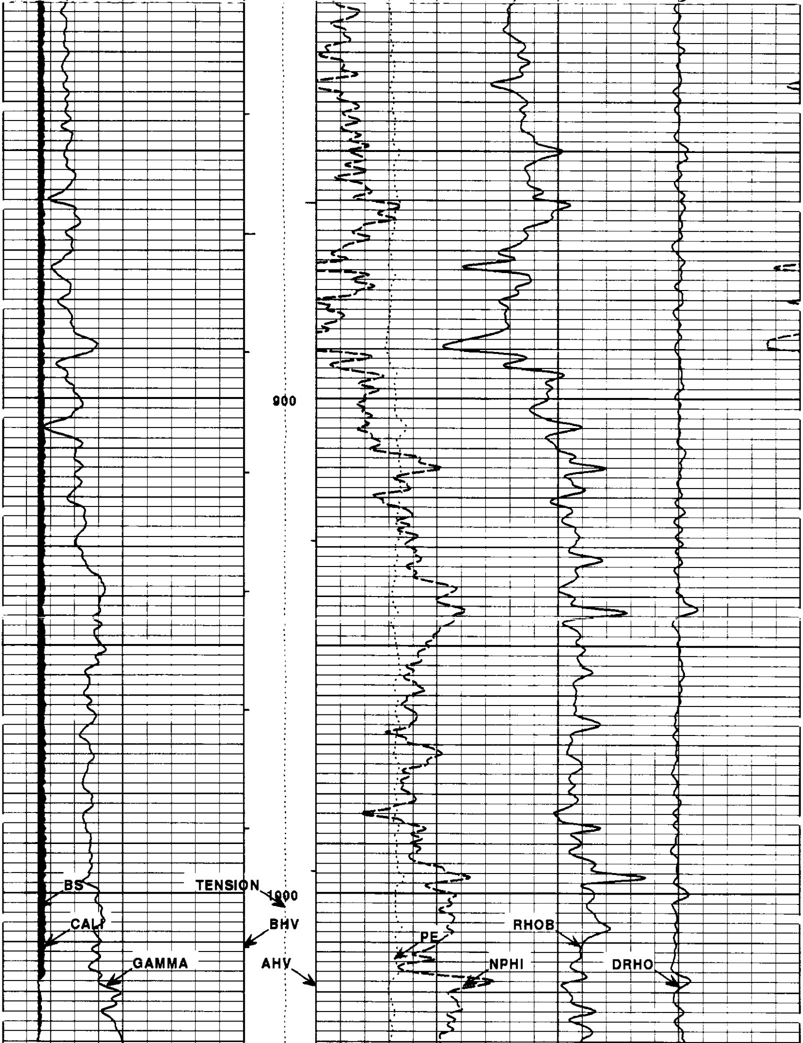
Top Depth: 348.08
Bottom Depth: 1618.25

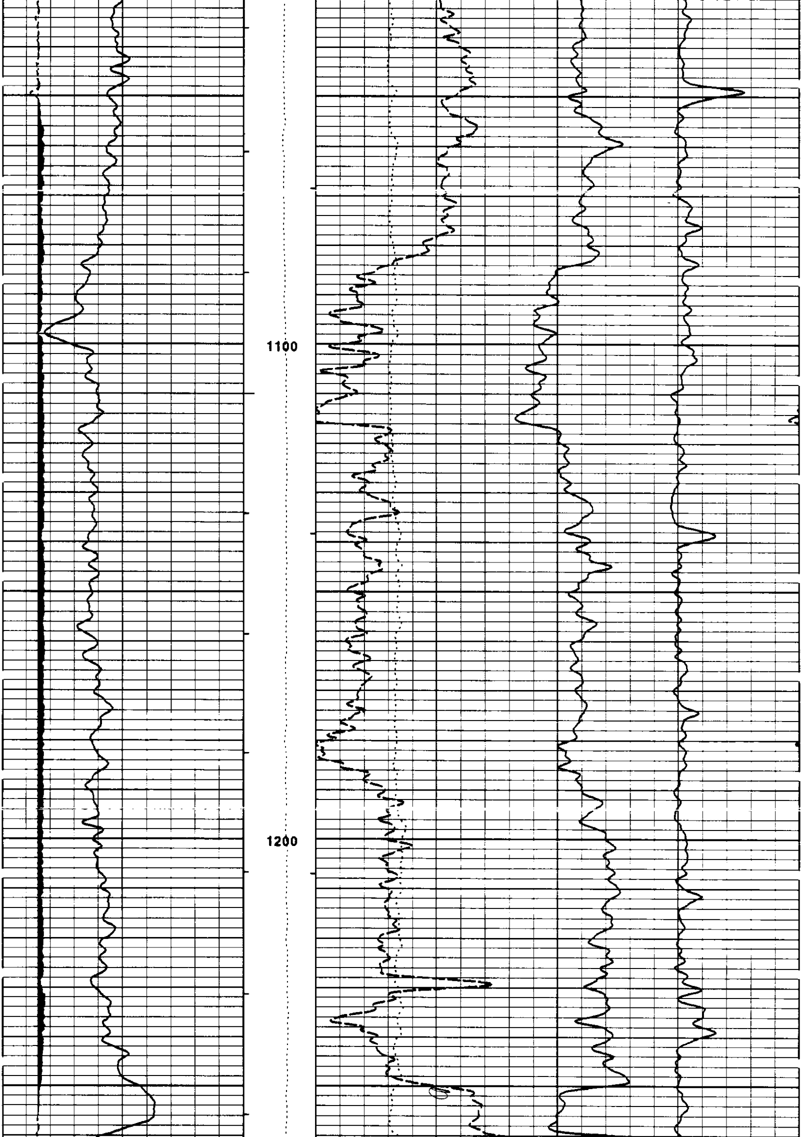
GAMMA 0 API 150	AHV 100 FT3 0	NPHI 60. % 0
CALI 7 INCHES 17	BHV 0 FT3 100	RHOB 1.65 GM/CC 2.65
BS 7 INCHES 17	TENSION 0 2500 POUNDS 1:240 FT.	PE 0 10
		DRHO -.25 GM/CC .25

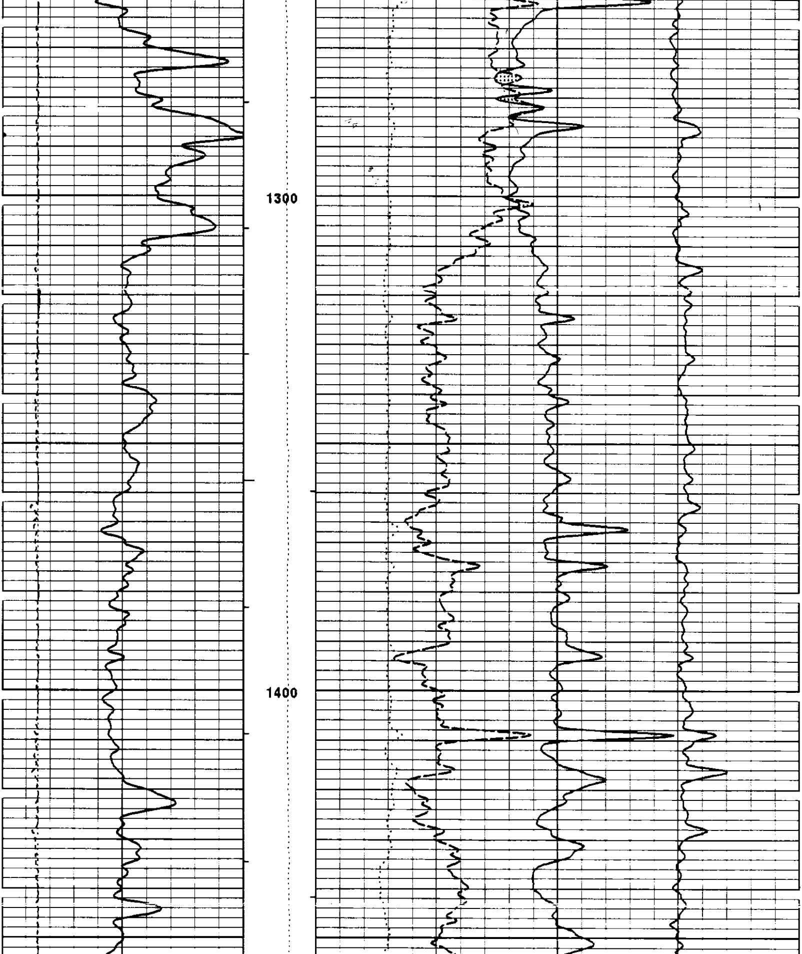


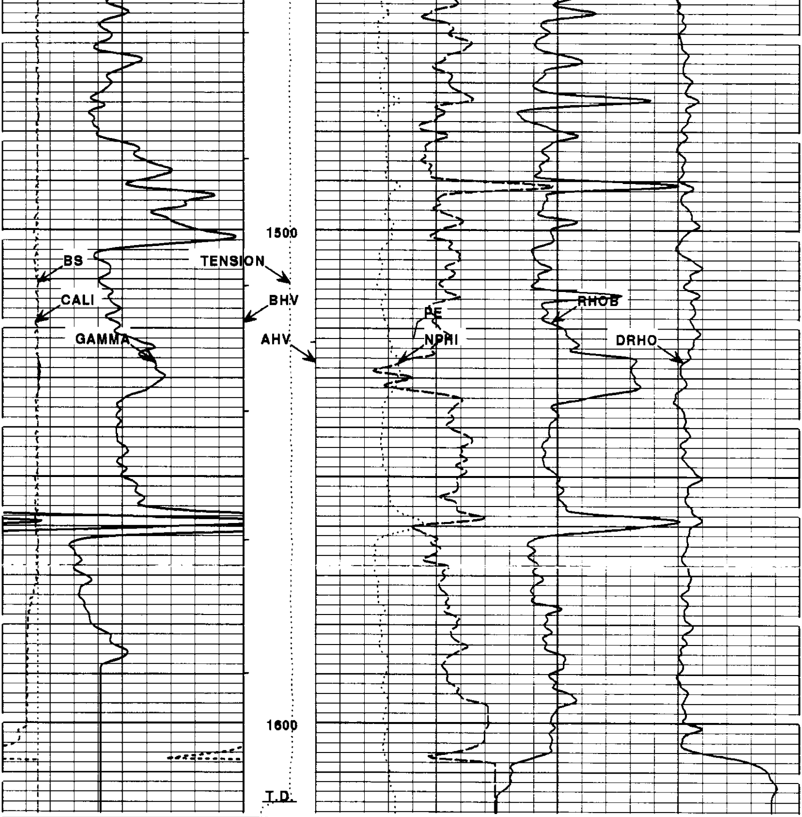












	1:240 FT.		
BS	TENSION	PE	DRHO
7 INCHES 17	0 2500 POUNDS	0 10	-.25 GM/CC .25
CALI	BHV	RHOB	
7 INCHES 17	0 FT3 100	1.65 GM/CC 2.65	
GAMMA	AHV	NPHI	
0 API 150	100 FT3 0	60. % 0	

HALLIBURTON
EXCELL

Version No: 5.0 | hc:3.0
Data File: taylor_1_sdl.2.cis
Format File: 5.SDL.spc
Plot Time: 2004-05-17 22:01:27
Log Time: 2004-05-17 19:12:37

Top Depth: 348.08
Bottom Depth: 1618.25

5"=100' REPEAT SECTION

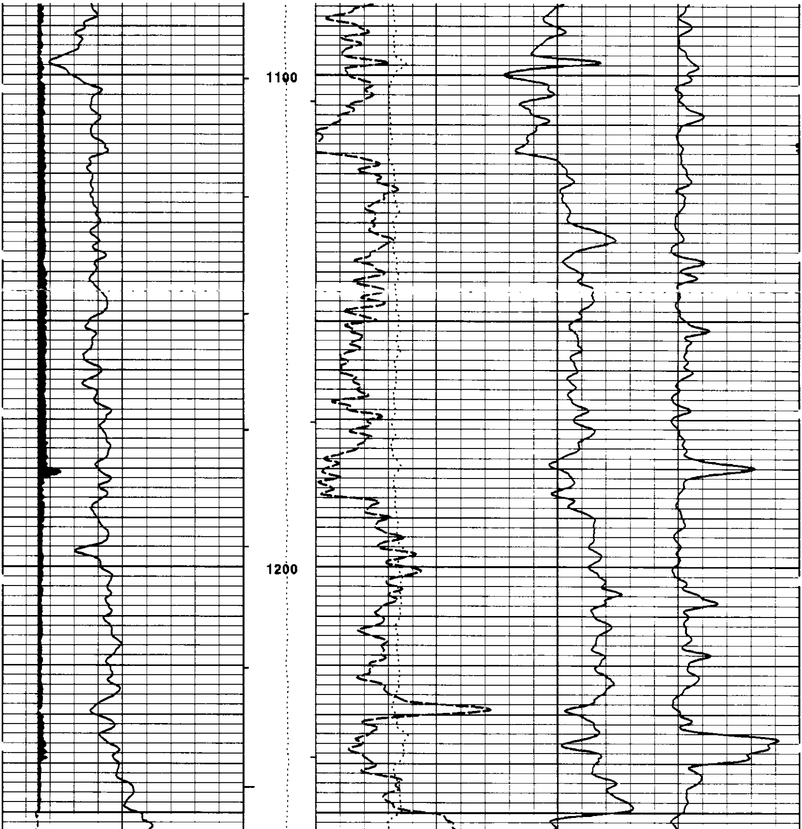
HALLIBURTON

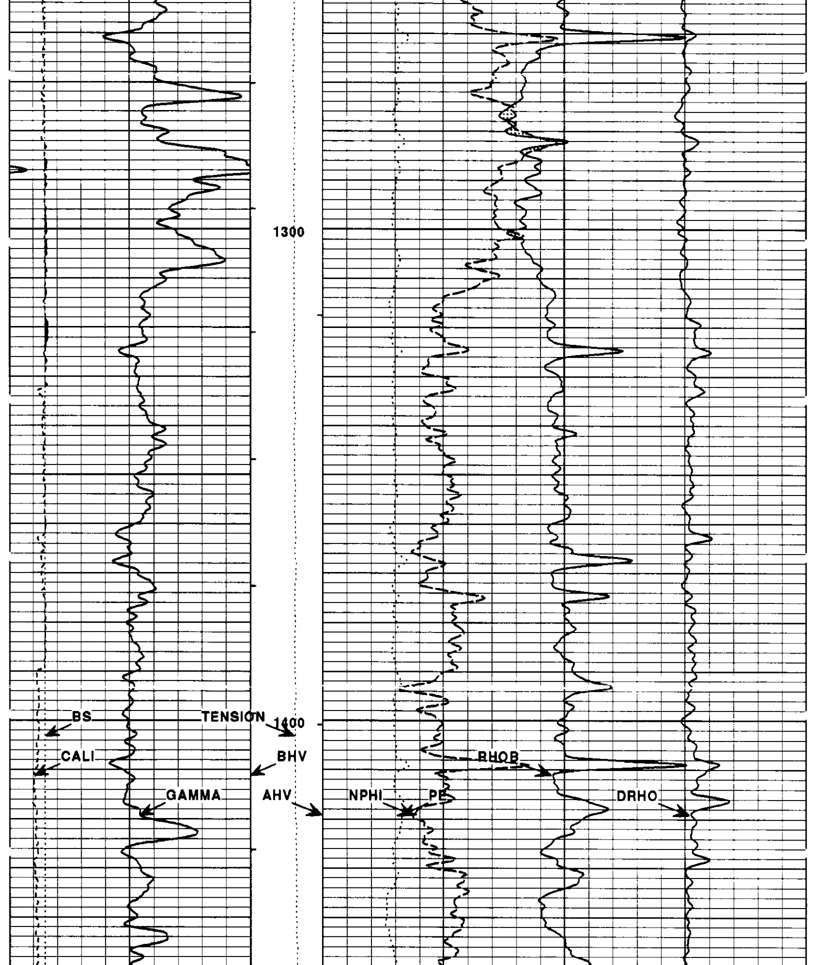
EXCELL

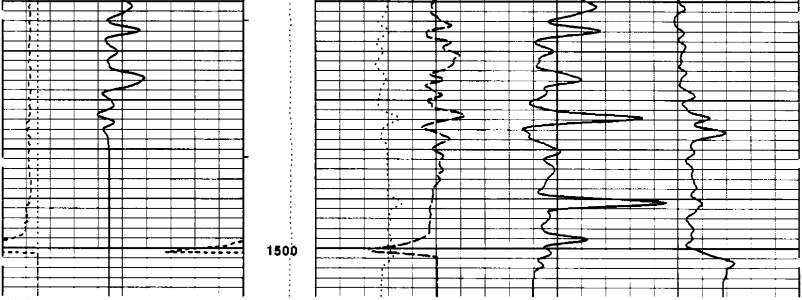
Version No: 5.0 | hc:3.0
Data File: taylor_1_sdl.1.cls
Format File: 5.SDL.spc
Plot Time: 2004-05-17 22:01:05
Log Time: 2004-05-17 18:53:48

Top Depth: 1085.08
Bottom Depth: 1509.75

GAMMA	AHV	NPHI	
0 API 150	100 FT3 0	60. % 0	
CALI	BHV	RHOB	
7 INCHES 17	0 FT3 100	1.65 GM/CC 2.65	
BS	TENSION	PE	DRHO
7 INCHES 17	0 2500 POUNDS	0 10	-.25 GM/CC .25
	1:240 FT.		







	1:240 FT.		
BS 7 INCHES 17	TENSION 0 2500 POUNDS	PE 0 10	DRHO -.25 GM/CC .25
CALI 7 INCHES 17	BHV 0 FT3 100	RHOB 1.65 GM/CC 2.65	
GAMMA 0 API 150	AHV 100 FT3 0	NPHI 60. % 0	

HALLIBURTON

EXCELL 2000

Version No: 5.0 | hc:3.0
Data File: taylor_1_sdl.1.cls
Format File: 5.SDL.spc
Plot Time: 2004-05-17 22:00:42
Log Time: 2004-05-17 18:53:48
Top Depth: 1085.08
Bottom Depth: 1509.75

Current EXCELL-2000 Parameter Values
Depth: 0.000
Date: 17-May-2004 18:40
Service Number: 2241
Software Version: 5.0

Mnemonic	Tool	Parameter Description	Value	Units
PERF	DITSHD	PERFORATED INTERVAL	NO	
TD	DITSHD	TOTAL DEPTH	0.	FT
CS_ANT	DITSHD	CASING DEPTH (FOR ANNOTATION)	0.	FT
GR_OK	GAMMA	DO GAMMA CALCULATIONS?	YES	
CASED	SHARED	CASED HOLE?	NO	
CASEOD	SHARED	CASING DIAMETER (OD)	7.	Inches
MUDWT	SHARED	BOREHOLE FLUID WEIGHT	8.8	Pounds/Gal.
GRSO	GAMMA	GAMMA RAY STANDOFF	1.5	Inches
BS	SHARED	BIT SIZE	8.5	Inches
DSN_OK	DSNT_X	DO DSNT_X CALCULATIONS?	YES	
DRILL	DSNT_X	TPL - NEUTRON IN SLEEVE?	NO	
BADHOL	DSNT_X	DSNT_X BAD HOLE CORRECTION	NO	
NLITH	DSNT_X	NEUTRON LITHOLOGY	SAND	
DSNSO	DSNT_X	DSNT_X STANDOFF	0.	Inches
DSNTMP	DSNT_X	DSNT_X TEMPERATURE CORRECTION	NONE	
DSNPRS	DSNT_X	DSNTX PRESSURE CORRECTION	NONE	
VLDTMP	DSNT_X	IS DSNT_X TEMPERATURE VALID?	YES	
SDL_OK	SDL_DA	DO SDL CALCULATIONS?	YES	
EVR_OK	SDL_DA	DO SDL EVR CALCULATIONS?	YES	
AIR	SDL_DA	AIR FILLED BOREHOLE?	NO	
LOGB	SDL_DA	LOGGING CAL BLOCKS?	NO	
SDLTC	SDL_DA	SDL TEMPERATURE CORRECTION?	YES	
MUDT	SDL_DA	MUD CORRECTION TYPE?	NONE	
RHOMAT	SDL_DA	MATRIX DENSITY	2.65	Grams/CC
RHOFLU	SDL_DA	FLUID DENSITY	1.	Grams/CC
CAL_OK	CAL_DA	DO CALIPER CALCULATIONS?	YES	
AHVOK	CAL_DA	DO ANNULAR VOLUME CALCULATION?	YES	
MLOGOK	MIC_SD	DO MICRO-LOG CALCULATIONS?	NO	

EXCELL-2000 Calibration Report
Date: 17-May-2004 21:24

GAMMA RAY TOOL SHOP CALIBRATION SUMMARY

PERFORMED: 17-May-2004 14:07 LAST SHOP CALIBRATION: 20-Apr-2004 08:13
SERIAL NUMBER: A180_5_0 MODEL: NGRT-A
BLANKET #: TB-67
TRUCK UNIT NUMBER: 49599 PROGRAM VERSION: 5.0
PERFORMED BY: G. ROUSSEAU

	MEASURED	CALIBRATED	UNITS
BACKGROUND	132	137	GAPI
BACKGROUND+CALIBRATOR	328	342	GAPI
CALIBRATOR	196	205	GAPI
GAPI CONVERSION FACTOR	0.481		GAPI/CPS

GAMMA RAY TOOL BEFORE SURVEY FIELD CHECK SUMMARY

PERFORMED: 17-May-2004 14:09 LAST SHOP CALIBRATION: 17-May-2004 14:07

	SHOP	FIELD	UNITS
BACKGROUND	137	137	GAPI
BACKGROUND+CALIBRATOR	342	346	GAPI
CALIBRATOR	205	208	GAPI

GAMMA RAY TOOL AFTER SURVEY FIELD CHECK SUMMARY

PERFORMED: 17-May-2004 21:17 LAST SHOP CALIBRATION: 17-May-2004 14:07

	BEFORE	AFTER	UNITS
BACKGROUND	137	31	GAPI
BACKGROUND+CALIBRATOR	346	238	GAPI
CALIBRATOR	208	207	GAPI

DUAL SPACED NEUTRON--GIBRALTAR SHOP CALIBRATION SUMMARY

PERFORMED: 20-Apr-2004 09:09 LAST SHOP CALIBRATION: 20-Mar-2004 11:16
SERIAL NUMBER: DSNTX005 MODEL: DSNT-X
SOURCE NUM: DSN-16
TRUCK UNIT NUMBER: 49599 PROGRAM VERSION: 5.0
PERFORMED BY: G. ROUSSEAU

** NEUTRON CALIBRATION SUMMARY **

CALIBRATION CONSTANTS

	Prev. Value	New Value	Control Limit On New Value
Gain	1.007	1.005	0.90 - 1.10

```
                           WATER TANK SUMMARY
                         (Horizontal Water Tank)

                     Current
                     Reading        Calib.                     Control
                    (Previous       (New                        Limit
                     Coef.)         Coef.)        Change      On Change
                    ---------      --------      --------    -----------
Porosity              23.88          23.83        -0.05       +/- 0.20
Calibrated Ratio      9.784          9.769        -0.016      +/- 0.050

Reference value assigned to tank: 52.720

                              VERIFIER

                                    Value    Control Limits
                                    -----    --------------
           Snow-block porosity      4.74       2.0 -  9.0


                    PASS/FAIL SUMMARY

              Background Check:           PASSED
              Gain-Range Check:           PASSED
              Snow-block Check:           PASSED
```

DUAL SPACED NEUTRON--GIBRALTAR BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED: 17-May-2004 18:23 LAST SHOP CALIBRATION: 20-Apr-2004 09:09

```
                     ** NEUTRON FIELD-CHECK SUMMARY **


                                                      Control Limit
                             Shop     Before   Change   On Change
                             ----     ------   ------  -------------
      Snow-Block Por.(pu)    4.74      5.36     0.61     +/- 1.50

                         PASS/FAIL SUMMARY

                 Snow Block Change:          PASSED
                 Snow Block Stats:           PASSED
```

DUAL SPACED NEUTRON--GIBRALTAR AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED: 17-May-2004 21:24 LAST SHOP CALIBRATION: 20-Apr-2004 09:09

```
                     ** NEUTRON POST-CHECK SUMMARY **


                                                      Control Limit
                            Before    After    Change   On Change
                            ------    -----    ------  -------------
      Snow-Block Por.(pu)    5.36      5.32     -0.04    +/- 1.50

                         PASS/FAIL SUMMARY

                 Snow Block Change:          PASSED
                 Snow Block Stats:           PASSED
```

SDL (D) WITH (A) MANDREL SHOP CALIBRATION SUMMARY

PERFORMED: 20-Apr-2004 11:08   LAST SHOP CALIBRATION: 24-Mar-2004 15:50
SERIAL NUMBER: I741M350   MODEL: SDL_DA
SOURCE NUM: 2694 GW
TRUCK UNIT NUMBER: 49599   PROGRAM VERSION: 5.0
PERFORMED BY: G. ROUSSEAU

DENSITY CALIBRATION SUMMARY

	PREV VALUE	NEW VALUE	CONTROL LIMIT ON NEW VALUES
NEAR BAR GAIN	0.9734	0.9901	0.90 - 1.10
NEAR DENS GAIN	0.9861	0.9879	0.90 - 1.10
NEAR PEAK GAIN	0.9791	0.9804	0.90 - 1.10
NEAR LITH GAIN	0.9767	0.9811	0.90 - 1.10
FAR BAR GAIN	1.0029	1.0046	0.90 - 1.10
FAR DENS GAIN	1.0003	1.0031	0.90 - 1.10
FAR PEAK GAIN	1.0064	1.0061	0.90 - 1.10
FAR LITH GAIN	1.0024	1.0022	0.90 - 1.10
NEAR BAR OFFSET	0.2886	0.1333	NONE
NEAR DENS OFFSET	0.1301	0.1177	NONE
NEAR PEAK OFFSET	0.1640	0.1548	NONE
NEAR LITH OFFSET	0.2049	0.1642	NONE
FAR BART OFFSET	0.1043	0.0979	NONE
FAR DENS OFFSET	0.1293	0.1107	NONE
FAR PEAK OFFSET	0.0371	0.0456	NONE
FAR LITH OFFSET	-0.0852	-0.0780	NONE
NEAR BART BKG	1109.8	1109.4	700 -1500
NEAR DENS BKG	456.5	455.7	290 - 600
NEAR PEAK BKG	201.7	201.5	130 - 280
NEAR LITH BKG	192.3	190.7	125 - 270
FAR BART BKG	568.7	564.7	350 - 750
FAR DENS BKG	230.8	229.4	140 - 300
FAR PEAK BKG	101.9	101.2	50 - 130
FAR LITH BKG	98.9	98.1	50 - 130

CALIBRATION-BLOCK SUMMARY

	CURRENT READING (PREVIOUS COEF.)	CALIB. (NEW COEF.)	CHANGE	CONTROL LIMIT ON CHANGE
MAGNESIUM				
Density g/cc	1.675	1.678	0.003	+/- 0.015
Pe	2.562	2.594	0.032	+/- 0.15
ALUMINUM				
Density g/cc	2.607	2.603	-0.004	+/- 0.015
Pe	3.171	3.200	0.029	+/- 0.15

TOOL SUMMARY

	NEAR DETECTOR		FAR DETECTOR	
	VALUE	CONTROL LIMITS	VALUE	CONTROL LIMITS
Quality				
Background	0.0033	+/- 0.0110	0.0003	+/- 0.0140
Mag Block	-0.0058	+/- 0.0110	0.0059	+/- 0.0140
Alum Block	-0.0016	+/- 0.0110	-0.0087	+/- 0.0140
Resolution	9.1	6.0 - 11.0	9.6	6.0 - 11.0
Verifier (B+D+P+L)	1957	1250 - 2700	993	600 - 1300

Pad temperature = 18.0

PASS/FAIL SUMMARY

Bkg Quality Check: PASSED
Bkg Range Check: PASSED
Bkg Resolution Check: PASSED
Bkg Verification Check: PASSED
Magnesium Quality Check: PASSED
Aluminum Quality Check: PASSED
Gains Check: PASSED
Changes in Cal. Block: PASSED

SDL (D) WITH (A) MANDREL BEFORE SURVEY FIELD CHECK SUMMARY

PERFORMED: 17-May-2004 18:12 LAST SHOP CALIBRATION: 20-Apr-2004 11:08

	SHOP	BEFORE	CHANGE	CONTROL LIMIT ON CHANGE
Near (B+D+P+L) cps	1957.3	1958.4	1.1	+/- 17.7
Far (B+D+P+L) cps	993.4	1005.1	11.7	+/- 16.9
Near Resolution	9.10	9.51	0.41	+/- 0.5
Far Resolution	9.56	10.49	0.93	+/- 1.0

Pad temperature = 26.5

PASS/FAIL SUMMARY

Bkg Quality Check: PASSED
Bkg Resolution Check: PASSED
Bkg Verification Check: PASSED

SDL (D) WITH (A) MANDREL AFTER SURVEY FIELD CHECK SUMMARY

PERFORMED: 17-May-2004 21:10 LAST SHOP CALIBRATION: 20-Apr-2004 11:08

	BEFORE	AFTER	CHANGE	CONTROL LIMIT ON CHANGE
Near (B+D+P+L) cps	1958.4	1952.3	-6.1	+/- 19.7
Far (B+D+P+L) cps	1005.1	996.7	-8.4	+/- 18.3
Near Resolution	9.5	9.2	-0.3	+/- 0.5
Far Resolution	10.5	10.0	-0.5	+/- 1.0

Pad temperature = 18.0

PASS/FAIL SUMMARY

Bkg Quality Check: PASSED
Bkg Resolution Check: PASSED
Bkg Verification Check: PASSED

SDL-D CALIPER: A MANDREL SHOP CALIBRATION SUMMARY

PERFORMED: 27-Apr-2004 22:26 LAST SHOP CALIBRATION: 27-Apr-2004 22:25
SERIAL NUMBER: I741M350 MODEL: SDL-DA
TRUCK UNIT NUMBER: 49599 PROGRAM VERSION: 5.0
PERFORMED BY: G. ROUSSEAU

	MEASURED	CALIBRATED	UNITS
VALUE 1	8.022	8.000	INCH
VALUE 2	15.990	16.000	INCH
GAIN	0.00816		
OFFSET	-11.459		

SDL-D CALIPER: A MANDREL BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED: 17-May-2004 18:17 LAST SHOP CALIBRATION: 27-Apr-2004 22:26

	SHOP	FIELD	UNITS
VALUE 1	8.000	7.872	INCH

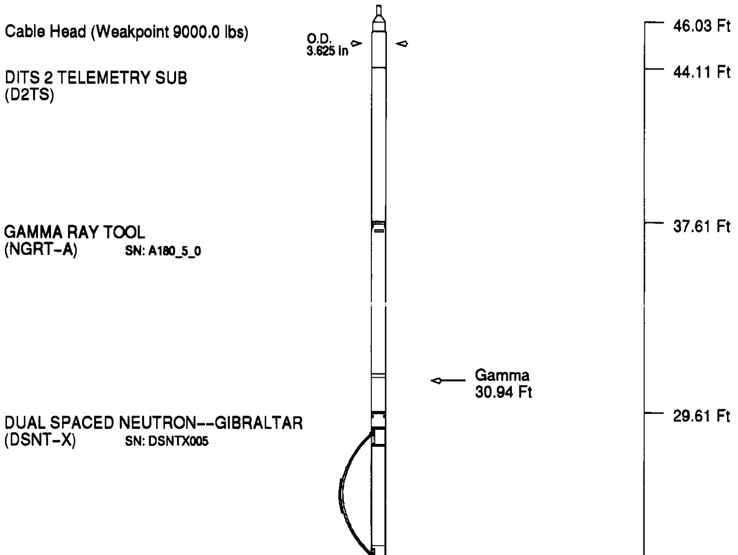
SDL-D CALIPER: A MANDREL AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED: 17-May-2004 21:13 LAST SHOP CALIBRATION: 27-Apr-2004 22:26

	BEFORE	AFTER	UNITS
VALUE 1	7.872	7.588	INCH

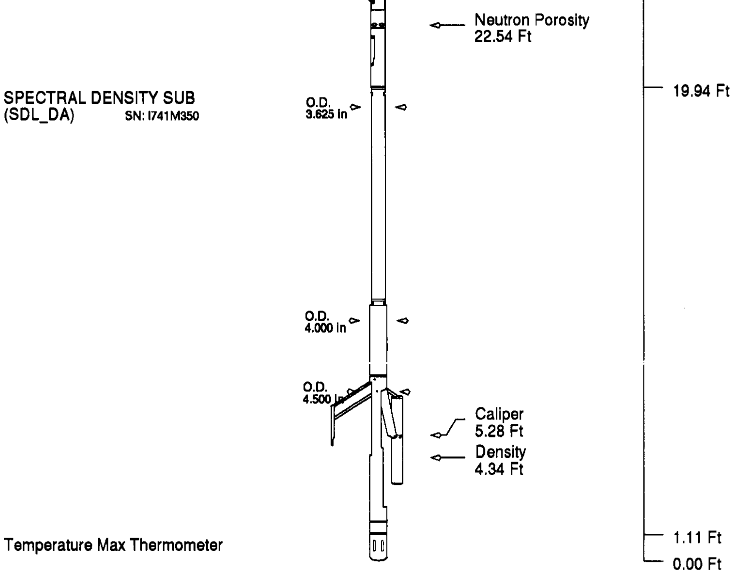
EXCELL-2000 Calibration Summary Table
Date: 17-May-2004 21:24

Service or Signal	Shop	Before	After	Change	Tolerance
GAMMA	205	208	207	1	+/- 9.0
Snow-Block Por.(pu)	4.74	5.36	5.32	-0.04	+/- 1.50
DENSITY NEAR(B+D+P+L)	1957.3	1958.4	1952.3	-6.1	+/- 19.7
DENSITY FAR (B+D+P+L)	993.4	1005.1	996.7	-8.4	+/- 18.3
CALIPER VALUE 1	8.000	7.872	7.588	0.284	+/-0.5

SPECTRAL DENSITY
DUAL SPACED NEUTRON
Excell 2000 Tool String Diagram **GAMMA**



Cable Head (Weakpoint 9000.0 lbs)
O.D. 3.625 in
46.03 Ft
44.11 Ft
DITS 2 TELEMETRY SUB (D2TS)
37.61 Ft
GAMMA RAY TOOL (NGRT-A) SN: A180_5_0
Gamma 30.94 Ft
29.61 Ft
DUAL SPACED NEUTRON--GIBRALTAR (DSNT-X) SN: DSNTX005



Tool Mnemonic	Length (Ft)	Weight In Air (lbs)	Logging Speed (Ft/min)
D2TS	6.50	100.00	N/A
NGRT-A	8.00	151.80	60.00
DSNT-X	9.67	150.00	60.00
SDL_DA	18.83	475.00	60.00
TMAX	1.11	35.00	N/A
Tool String	44.11	911.80	60.00

COMPANY	**TAYLOR OPERATING COMPANY**		
WELL	**CC 13-3-55**		
FIELD	**EXPLORATION**		
COUNTY	**COLUMBIA**	**STATE**	**OREGON**

HALLIBURTON

EXCELL

SPECTRAL DENSITY
DUAL SPACED NEUTRON
GAMMA
2"=100', 5"=100'