HALLIBURTON

EXCELL 2000

HIGH RES. INDUCTION
BOREHOLE COMP. SONIC
GAMMA

2"=100', 5"=100'

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

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

Sect 3 Twp 5N Rge 5W

Other Services
SDL
DSN
SED

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.	1A			
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	1700 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
ONE	HRIT #211_132	NA	1.50" SO	NA

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.	ONE	Run No.		Run No.	
Serial No.	A180	Serial No.	112458	Serial No.		Serial No.	
Model No.	NGRT	Model No.	305B	Model No.		Model No.	
Diameter	3.625"	No. of Cent.	THREE	Diameter		Diameter	
Detector Model No.	432	Spacing	2 FEET	Log Type		Log Type	
Type	SCINT.			Source Type		Source Type	
Length	4.00"	LSA [Y / N]	NO	Serial No.		Serial No.	
Distance to Source	NA	FWDA [Y / N]	NO	Strength		Strength	

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
1A	1616'	389'	30	0	150	150	50	55.5						
				API	API	USEC	USEC	USEC						

DIRECTIONAL INFORMATION

Maximum Deviation	NA	deg. @	NA	KOP	NA
NA					

Remarks:

K.B. ELEVATION IS PROVISIONAL.
HRI STANDOFF 1.50"
REPEAT SECTION AS PER CUSTOMER.
BHT TAKEN OFF OF INTERNAL TOOL SENSORS.

1300'	RM=2.63 @ 67.7F	RMF=3.00 @ 81.0F	RMC=1.83 @ 81.4F
1400'	RM=2.76 @ 84.5F	RMF=3.04 @ 73.9F	RMC=1.99 @ 74.0F
1500'	RM=2.56 @ 75.1F	RMF=3.04 @ 75.3F	RMC=1.44 @ 74.4F
1600'	RM=2.63 @ 71.1F	RMF=2.73 @ 81.8F	RMC=1.57 @ 76.0F

RWA FROM SONIC POROSITY USING RHG, DTMA=55.5
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

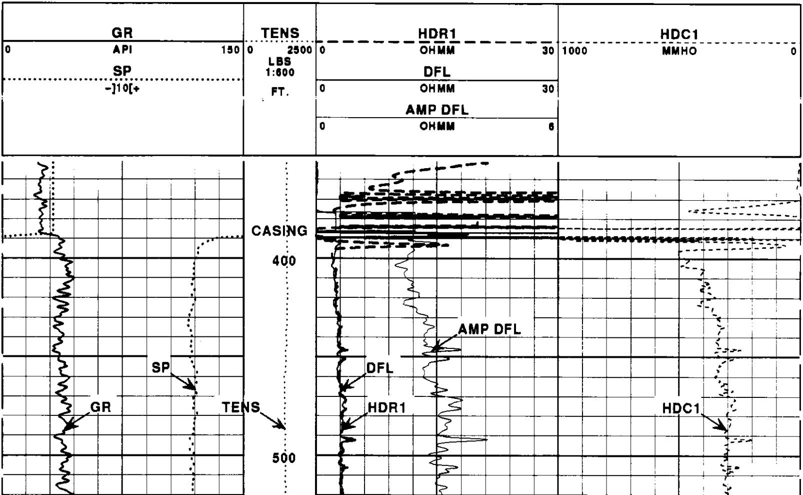
HALLIBURTON

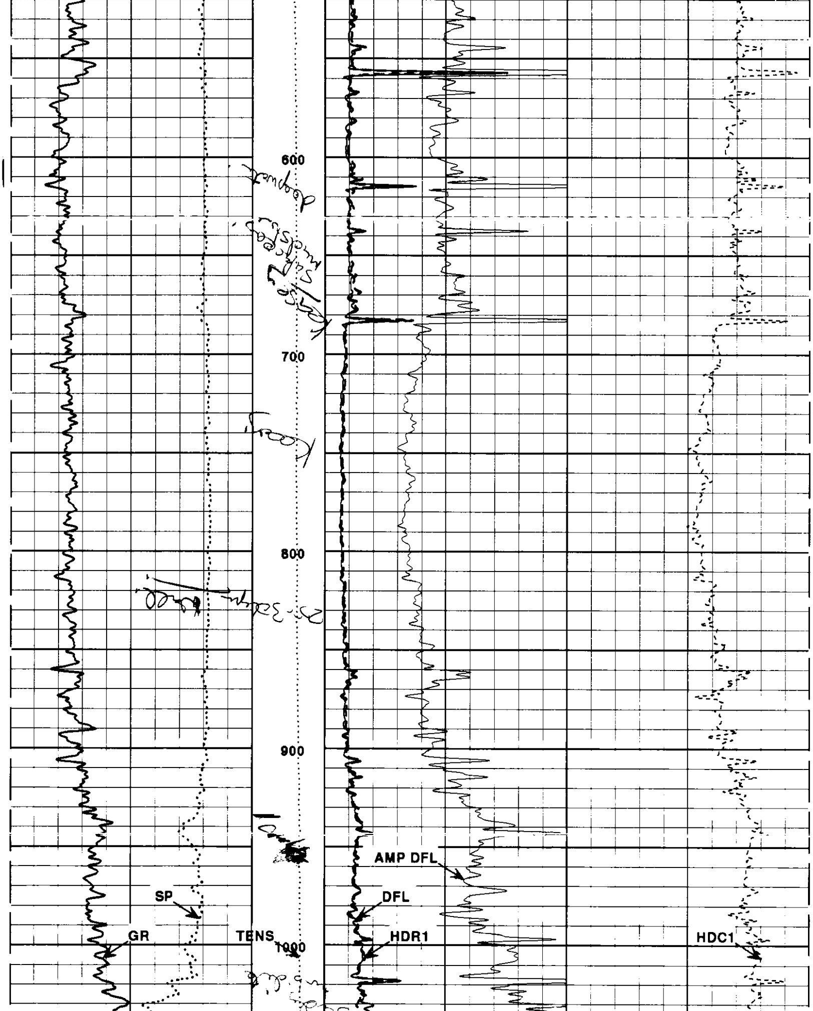
2"=100' MAIN SECTION

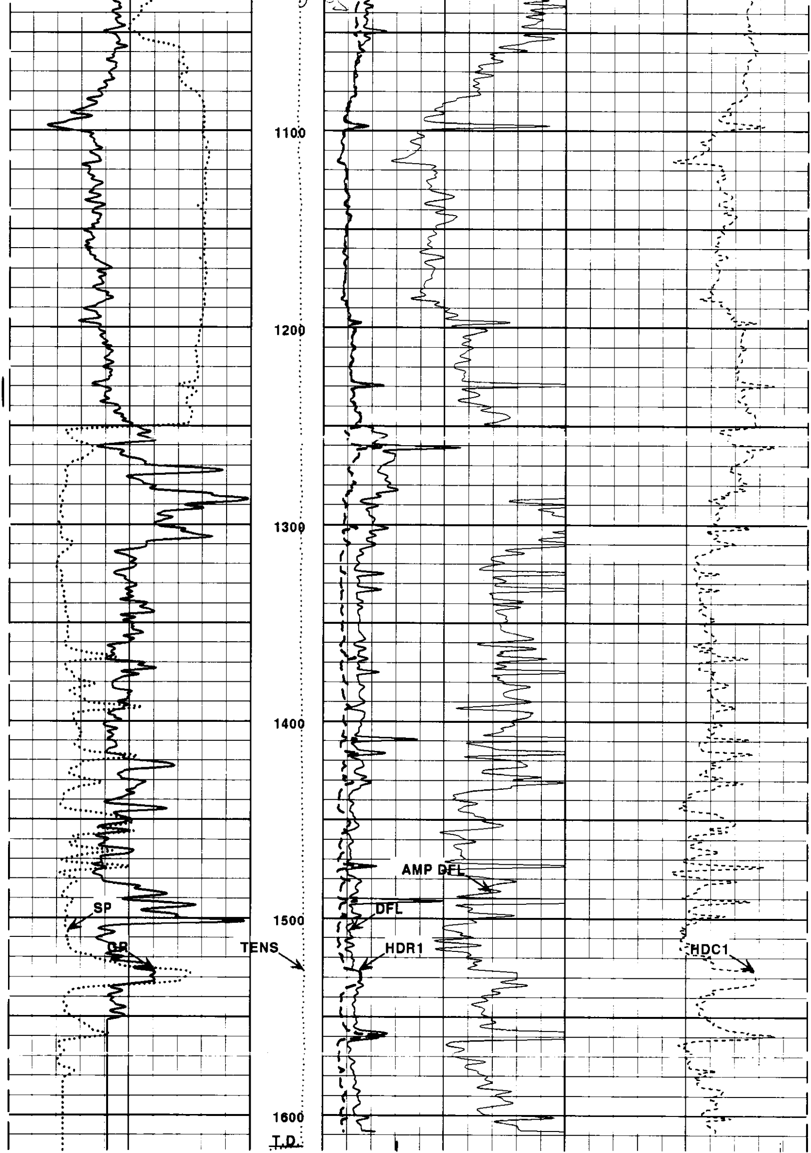
HALLIBURTON
EXCELL

Version No: 5.0 | hc:3.0
Data File: taylor_1_hrl_bcs.4.cls
Format File: 2.HRI.spc
Plot Time: 2004-05-17 21:10:05
Log Time: 2004-05-17 15:42:56

Top Depth: 350.00
Bottom Depth: 1617.75







SP -]10[+ GR 0 API 150	1:600 FT. TENS 0 2500 LBS	AMP DFL 0 OHMM 6 DFL 0 OHMM 30 HDR1 0 OHMM 30	HDC1 1000 MMHO 0

HALLIBURTON

EXCELL

Version No: 5.0 | hc:3.0
Data File: taylor_1_hrl_bcs.4.cls
Format File: 2.HRI.spc
Plot Time: 2004-05-17 21:09:36
Log Time: 2004-05-17 15:42:56

Top Depth: 350.00
Bottom Depth: 1617.75

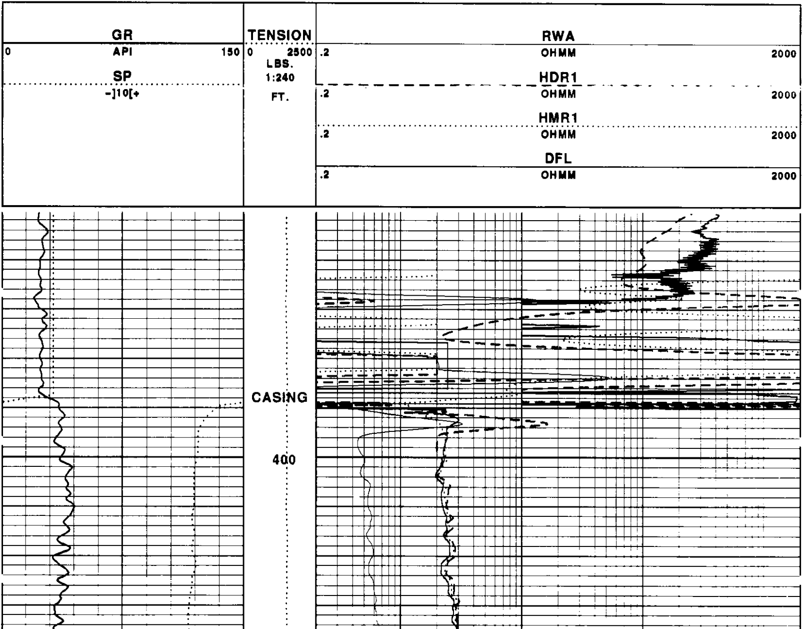
5"=100' MAIN SECTION

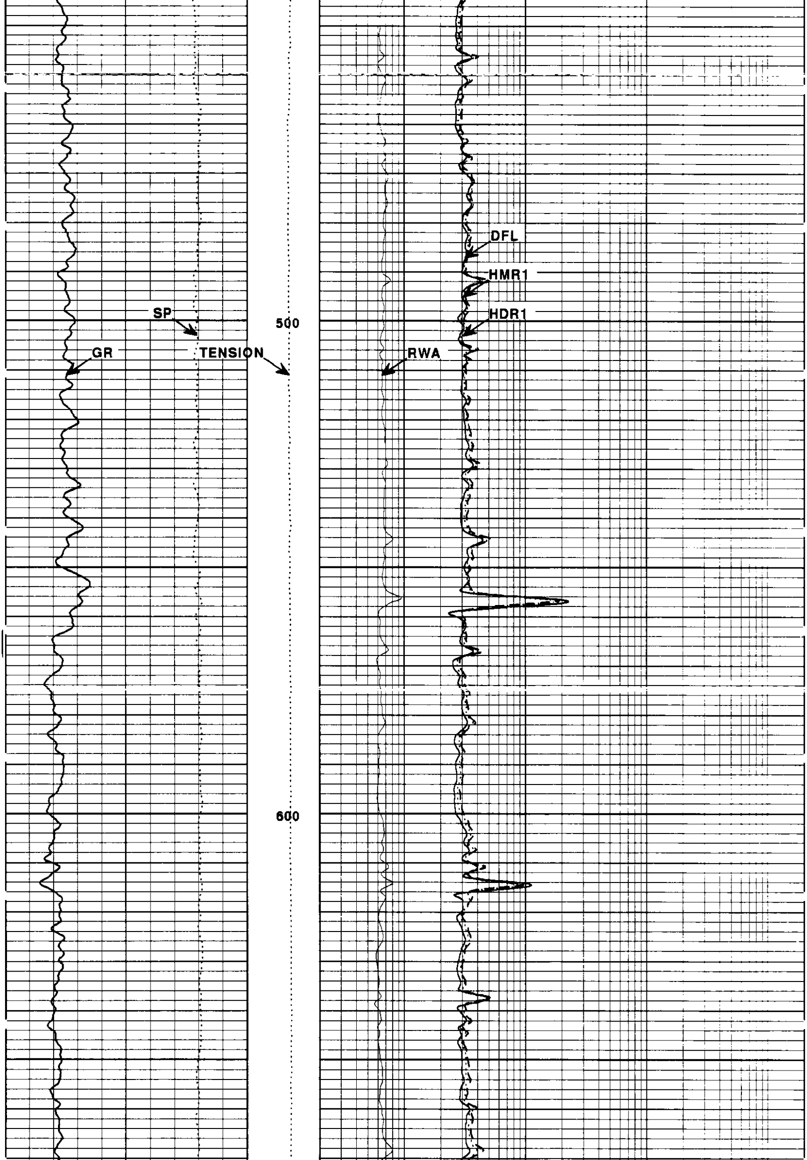
HALLIBURTON

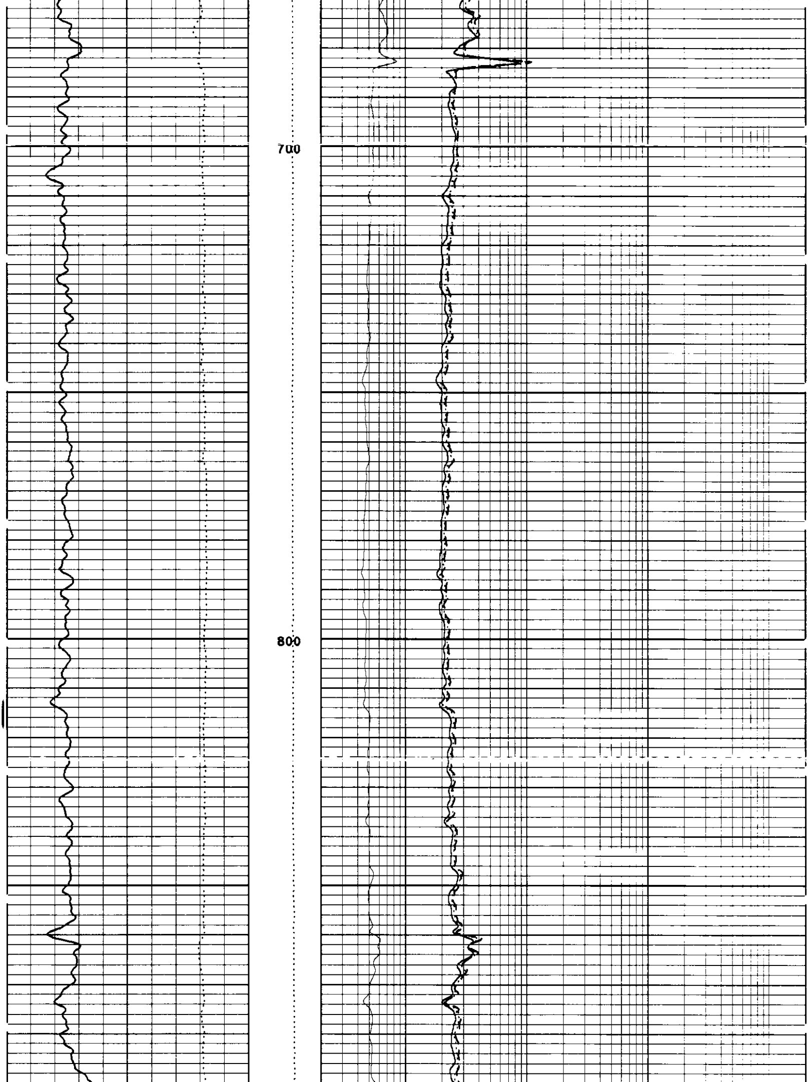
EXCELL

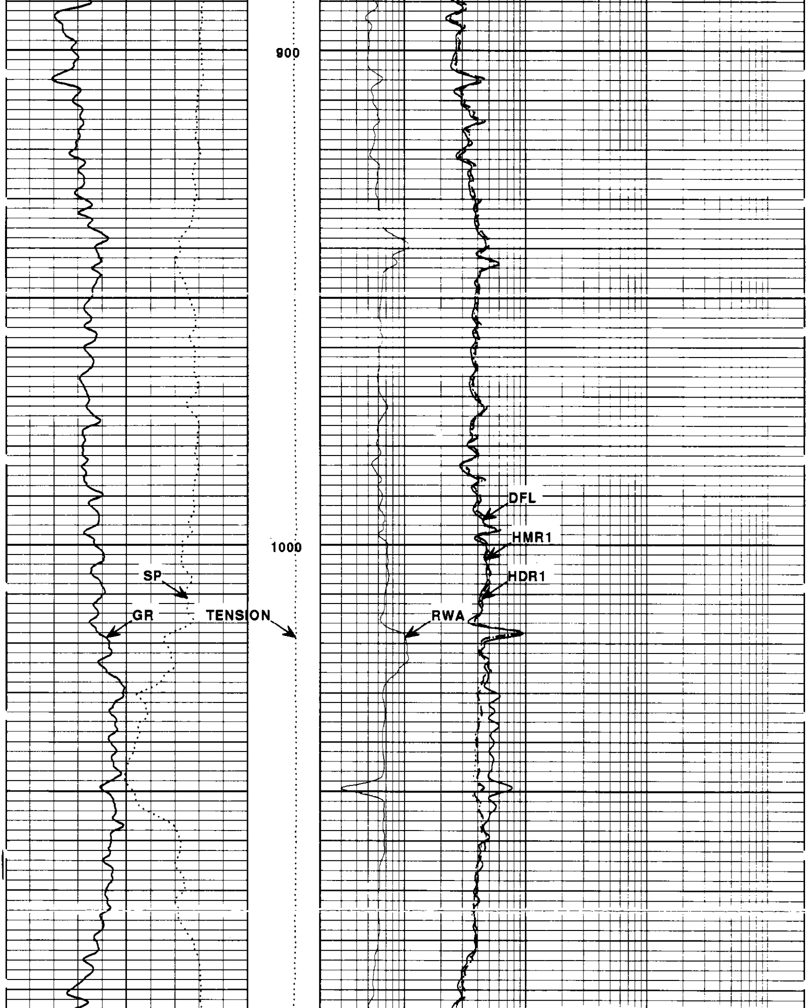
Version No: 5.0 | hc:3.0
Data File: taylor_1_hrl_bcs.4.cls
Format File: 5.HRI.spc
Plot Time: 2004-05-17 21:07:15
Log Time: 2004-05-17 15:42:56

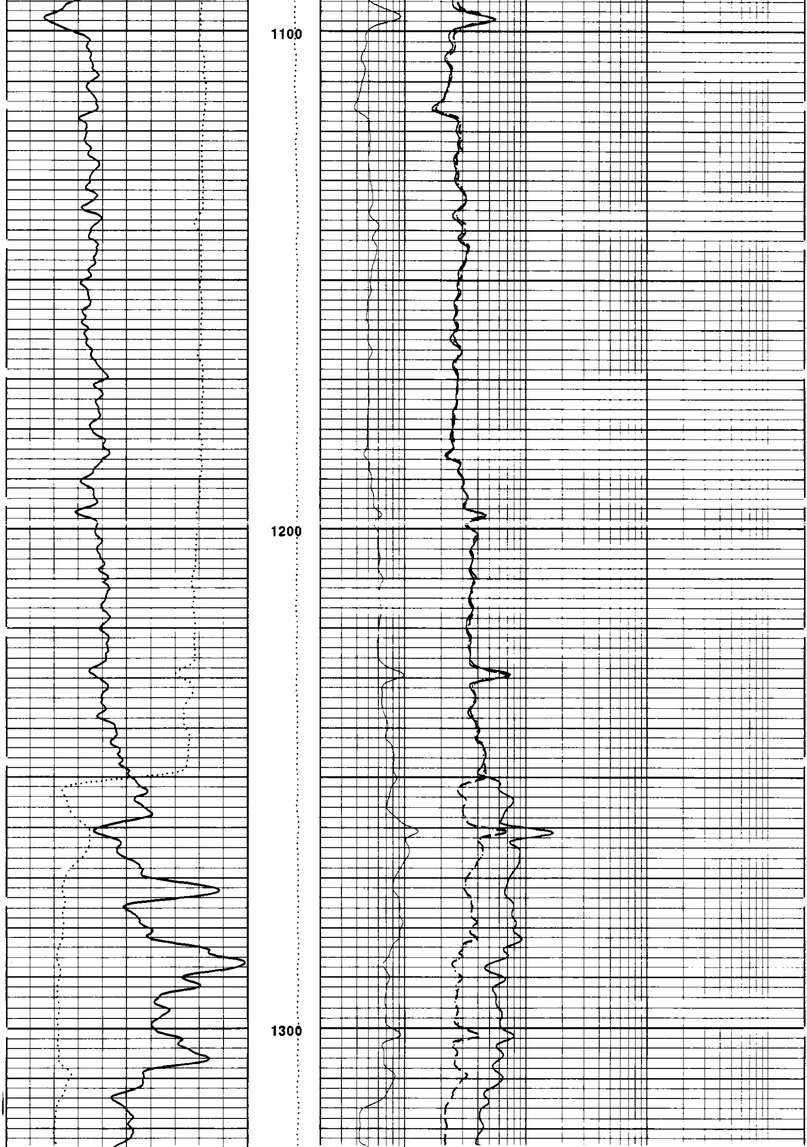
Top Depth: 350.00
Bottom Depth: 1617.75

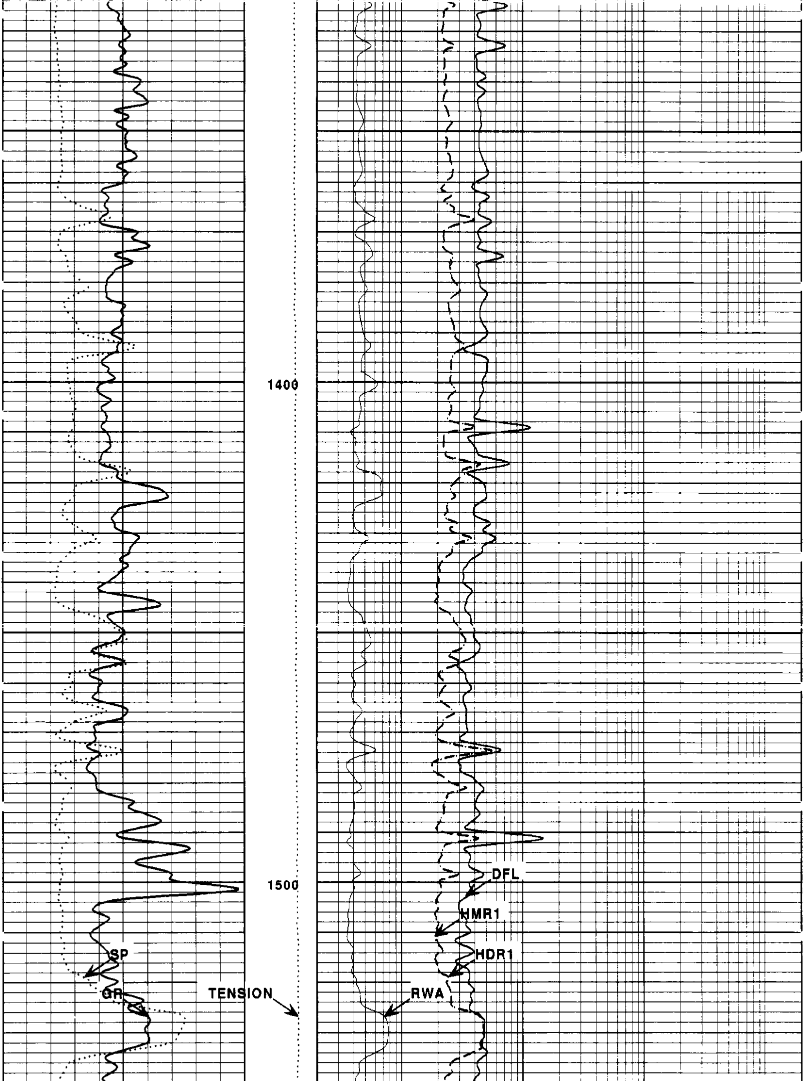


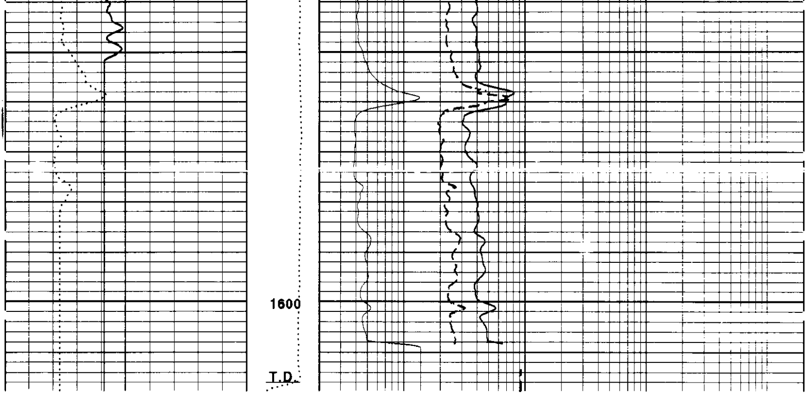












		DFL .2 OHMM 2000
		HMR1 .2 OHMM 2000
SP -]10[+	1:240 FT.	HDR1 .2 OHMM 2000
GR 0 API 150	TENSION 0 2500 LBS.	RWA .2 OHMM 2000

HALLIBURTON
EXCELL

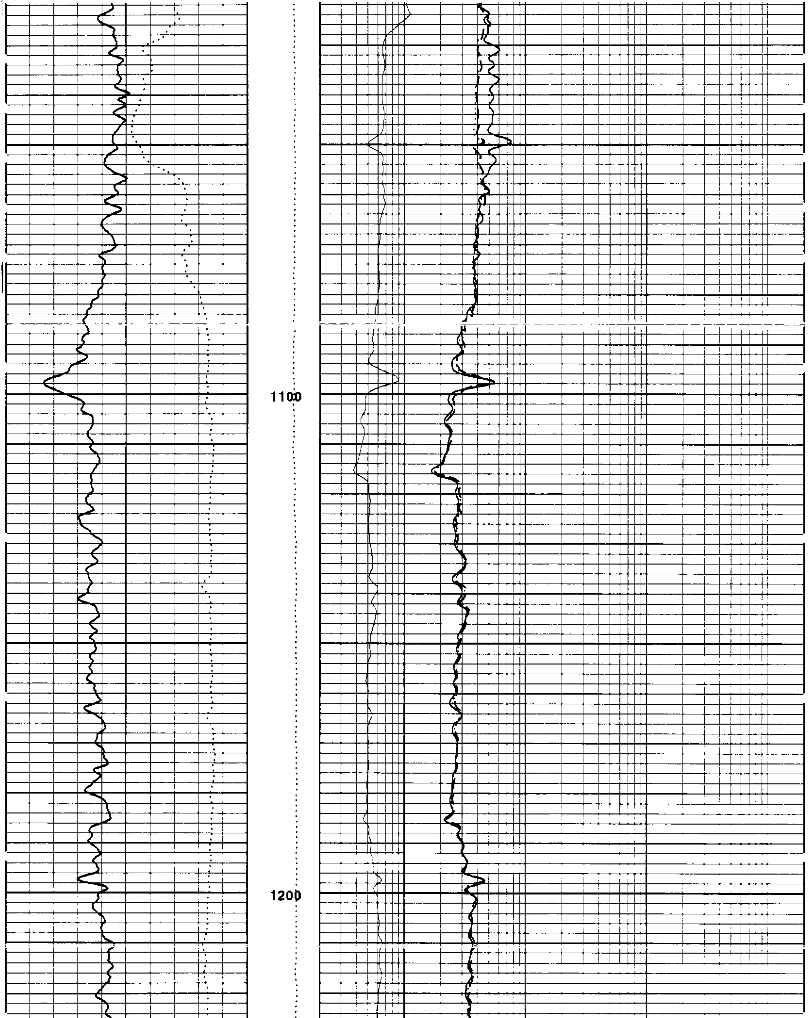
Version No: 5.0 | hc:3.0
Data File: taylor_1_hrl_bcs.4.cls
Format File: 5.HRI.spc
Plot Time: 2004-05-17 21:06:10
Log Time: 2004-05-17 15:42:56
Top Depth: 350.00
Bottom Depth: 1617.75

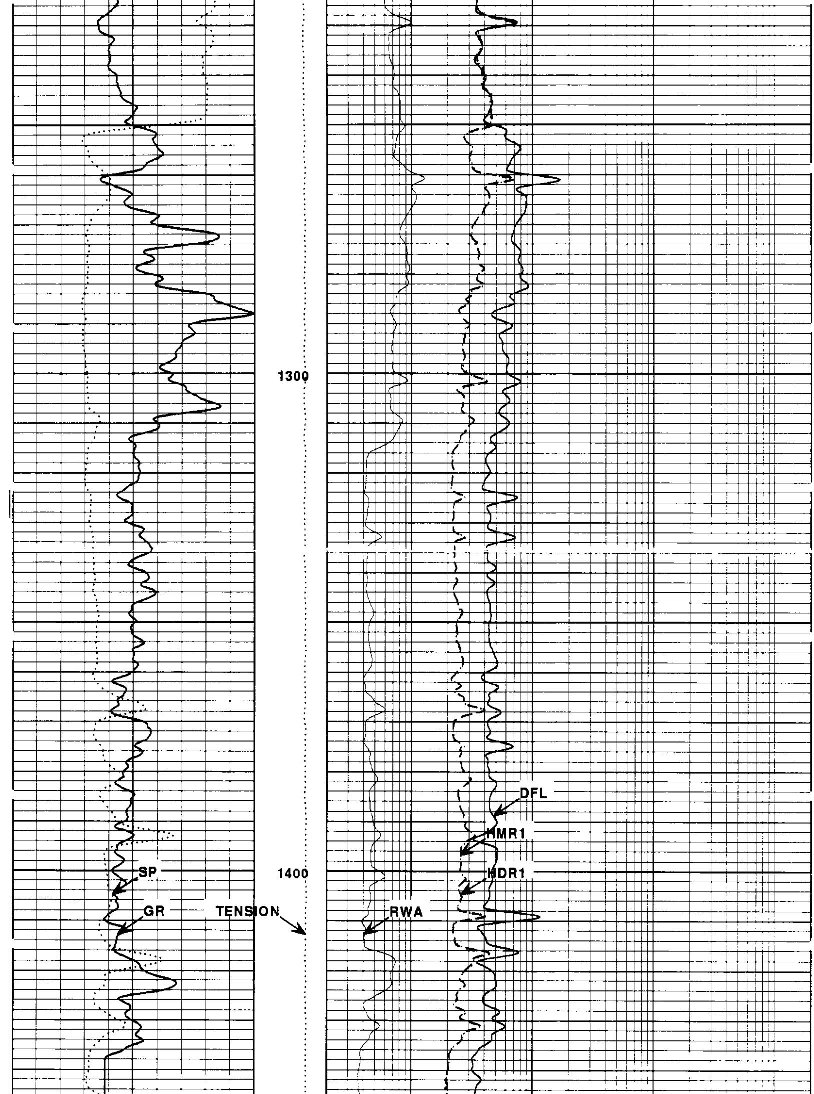
5"=100' REPEAT SECTION

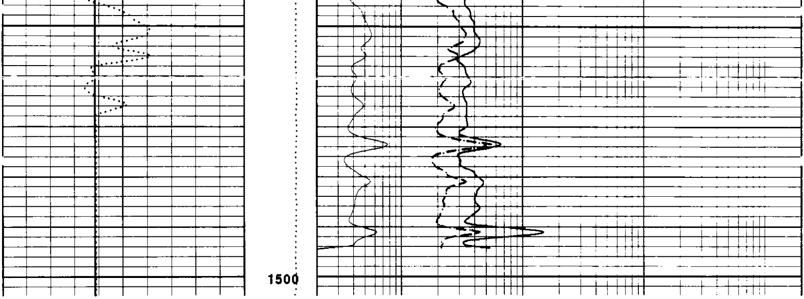
HALLIBURTON
EXCELL

Version No: 5.0 | hc:3.0
Data File: taylor_1_hrl_bcs.3.cls
Format File: 5.HRI.spc
Plot Time: 2004-05-17 21:05:45
Log Time: 2004-05-17 15:20:04
Top Depth: 1021.08
Bottom Depth: 1503.75

GR 0 API 150	TENSION 0 2500 LBS.	RWA .2 OHMM 2000
SP -]10[+	1:240 FT.	HDR1 .2 OHMM 2000
		HMR1 .2 OHMM 2000
		DFL .2 OHMM 2000







SP	1:240	DFL
-]10[+	FT.	.2 OHMM 2000
GR	TENSION	HMR1
0 API 150	0 2500 LBS.	.2 OHMM 2000
		HDR1
		.2 OHMM 2000
		RWA
		.2 OHMM 2000

HALLIBURTON

EXCELL

Version No: 5.0 | hc:3.0
Data File: taylor_1_hri_bcs.3.cls
Format File: 5.HRI.spc
Plot Time: 2004-05-17 21:05:19
Log Time: 2004-05-17 15:20:04

Top Depth: 1021.08
Bottom Depth: 1503.75

Current EXCELL-2000 Parameter Values
Depth: 9772.167
Date: 17-May-2004 15:05
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
FWSTOK	BCS	DO FWST CALCULATIONS?	YES	
WYLIE	BCS	ACOUSTIC POROSITY EQUATION	RHGP	
DTSHA	BCS	DELTA T SHALE	100.	uSec/Ft.
DTMAT	BCS	DELTA T MATRIX	55.5	uSec/Ft.
DTFLU	BCS	DELTA T FLUID?	189.	uSec/Ft.
RHOMAT	BCS	MATRIX DENSITY	2.65	Grams/CC
RHOFLU	SHARED	FLUID DENSITY	1.	Grams/CC
DTFT	BCS	USE 1 OR 2 FT DT FOR POROSITY	2	Feet
ARCHA	SHARED	ARCHIE A	1.	
ARCHM	SHARED	ARCHIE M	1.8	
FSEL	SHARED	POROSITY SELECTION FOR F	ACOU	
USEFIX	BCS	USE MINIMUM FIXED THRESHOLD.	NO	
USENOI	BCS	USE NOISE THRESHOLD FOR PICK.	NO	
TDU_OK	TDUF	USE TDU DISPLAY CONTROLS?	YES	
HRI_OK	HRIDE	DO HRI INDUCTION CALCULATION?	YES	
DFL_OK	HRIDE	DO DFL CALCULATIONS?	YES	
PYRITE	HRIDE	PYRITE SWITCH	NO	OHMM
CASING	HRIDE	CASING DEPTH	0.	Feet
HRIDSP	HRIDE	SPIKE REDUCTION FILTER TYPE?	DELT	
HRITC	HRIDE	HRI TEMPERATURE CORRECTION	NONE	
CTEM	HRIDE	CONST TEMPERATURE	75.	
BHT	HRIDE	BOTTOM HOLE TEMPERATURE	105.	Degrees F.
TSURF	HRIDE	SURFACE TEMPERATURE	60.	Degrees F.
BHD	HRIDE	BOTTOM HOLE DEPTH	1617.	Feet

SP	HRIDE	USE DIGITAL SP?	NO	
RMUD	HRIDE	MUD RESIST AT SURFACE (0=Air)	2.68	OHMM
TRM	HRIDE	TEMPERATURE OF MUD	67.	DEGF
RRMIN	HRIDE	MINIMUM RESISTIVITY FOR MAP?	0.2	OHMM
RRMAX	HRIDE	MAXIMUM RESISTIVITY FOR MAP?	200.	OHMM
XPHLOC	XP_RWA	CROSSPLOT SELECTION FOR XPOR	XPLT	
CASED	SHARED	IS THE HOLE CASED?	NO	
GR_OK	GAMMA	DO GAMMA CALCULATIONS?	YES	
CASEOD	GAMMA	CASING DIAMETER (OD)	7.	Inches
MUDWT	GAMMA	BOREHOLE FLUID WEIGHT	8.8	Pounds/Gal.
GRSO	GAMMA	GAMMA RAY STANDOFF	0.	Inches
BS	GAMMA	BIT SIZE	8.5	Inches

EXCELL-2000 Calibration Report

Date: 17-May-2004 17:31

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 17:31 LAST SHOP CALIBRATION: 17-May-2004 14:07

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

ENHANCED HIGH RESOLUTION IND. SHOP CALIBRATION SUMMARY

PERFORMED: 20-Apr-2004 12:14 LAST SHOP CALIBRATION: 20-Mar-2004 16:46
SERIAL NUMBER: 11_32_5 MODEL: HRI
TRUCK UNIT NUMBER: 49599 PROGRAM VERSION: 5.0
PERFORMED BY: G. ROUSSEAU

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                         HRI MASTER CALIBRATION SUMMARY

      TEST LOOP RESPONSE:

           1 - TEST LOOP CLOSED
                      MEASURED SIGNAL            NOMINAL
                          R         X         R         X
          HRD            1977      1972      1977      1972       MMHOS
          HRM            2839      2832      2839      2832       MMHOS

           2 - TEST LOOP OFF(SONDE ERROR)
                      MEASURED SIGNAL            NOMINAL
                          R         X         R         X
          HRD              -4       -13     +/-15     +/-100      MMHOS
          HRM              -9       -60     +/-15     +/-100      MMHOS

      ELECTRONICS RELATIVE GAIN:

                            SET                  NOMINAL
                      MAGNITUDE    PHASE   MAGNITUDE   PHASE
          HRD            1.01      -1.56   1. +/-0.1   0. +/-5
          HRM            1.01      -1.51   1. +/-0.1   0. +/-5

      Temperature at time of calibration was      79.8   DEG F


          #############################################################
          #                         **** NOTICE ****                  #
          #      THE HIGH RESOLUTION INDUCTION TOOL (HRID) IS A       #
          #   CONTINUAL SELF-CALIBRATING TOOL.  DURING LOGGING, THE   #
          #    TOOL CONSTANTLY SELF-UPDATES ITS COEFFICIENTS.  THE    #
          #    SHOP CALIBRATION IS PERFORMED UNDER VERY STRINGENT     #
          #   CONDITIONS, AND SINCE THE TOOL IS SELF-CALIBRATING      #
          #     DURING LOGGING, NO FIELD OR POST CALIBRATIONS ARE     #
          #          AVAILABLE OR NECESSARY FOR THE HRID TOOL.        #
          #############################################################
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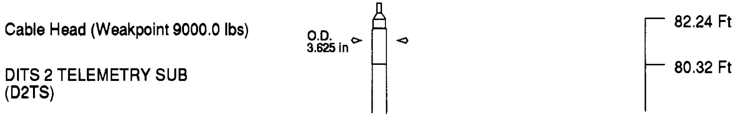
EXCELL-2000 Calibration Summary Table

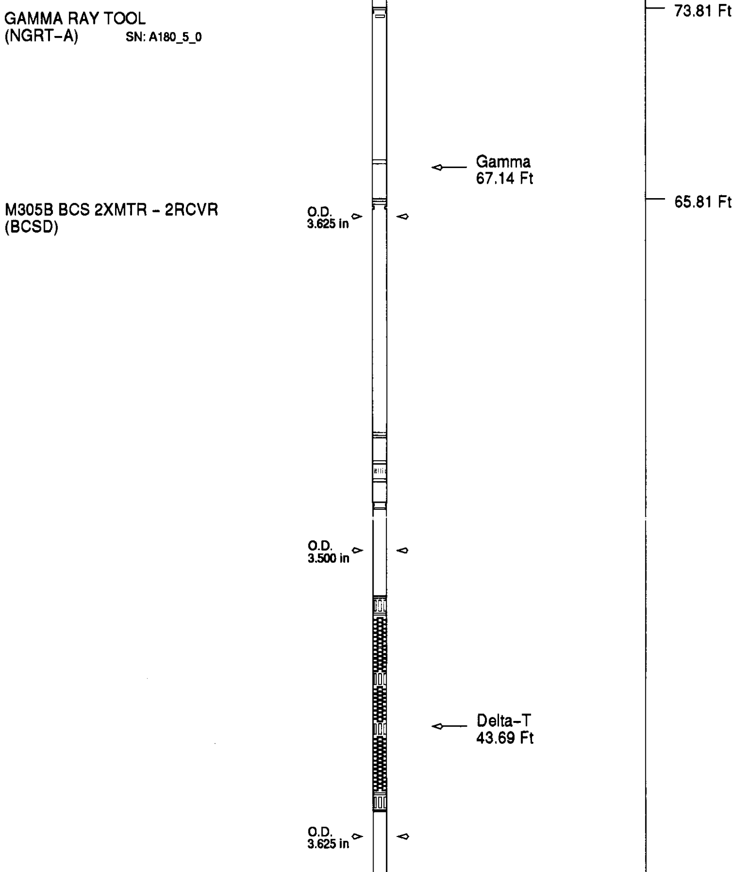
Date: 17-May-2004 17:31

Service or Signal	Shop	Before	After	Change	Tolerance
GAMMA	205	208	207	1	+/- 9.0

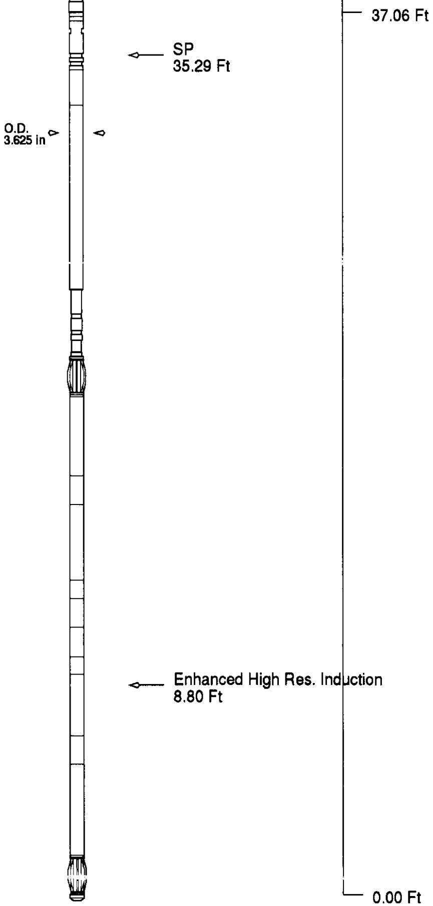
HIGH RES. INDUCTION
BOREHOLE COMP. SONIC
GAMMA

Excell 2000 Tool String Diagram





ENHANCED HIGH RESOLUTION IND.
(HRI) SN: 11_32_5



Tool Mnemonic	Length (Ft)	Weight In Air (lbs)	Logging Speed (Ft/min)
D2TS	6.51	100.00	N/A
NGRT-A	8.00	151.80	60.00
BCSD	28.75	515.00	60.00
HRI	37.06	445.00	100.00
Tool String	80.32	1211.80	60.00

COMPANY TAYLOR OPERATING COMPANY

WELL CC 13-3-55

FIELD EXPLORATION

COUNTY COLUMBIA **STATE** OREGON

HALLIBURTON

HIGH RES. INDUCTION
BOREHOLE COMP. SONIC
GAMMA
2"=100', 5"=100'