HALLIBURTON | **Sperry Drilling**

AGR Azimuthal Gamma Ray
XBAT Bi-Modal Acoustic
EWR-M5

Powered by INSITE™

1 : 500

Country : **Japan**
Field : **Nankai Trough**
Location : **Lat: 33° 18' 3.04" North**
Long: 136° 38' 12.17" East
Well : **C0002P**
Company : **JAMSTEC**
Rig : **CHIKYU**

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LOCATION

Latitude : **33° 18' 3.04" North**
Longitude : **136° 38' 12.17" East**

UTM Easting = 652382.4 m
UTM Northing = 3685834.6 m

Other Services
Directional Drilling
DDSr Drillstring Dynamics

Permanent Datum : **Mean Sea Level** Elevation : **0.00 m**
Log Measured From : **Drill Floor** **28.50 m** Above Permanent Datum
Drilling Measured From : **Drill Floor**

TVDss LOG

Elev. KB **0.00 m**
DF **28.50 m**
GL **0.00 m**
WD **1939.00 m**

Depth Logged : **4,156.11 m** To **4,995.59 m**
Date Logged : **26-Dec-13** To **02-Jan-14**
Total Depth MD : **5,026.00 m** TVD : **5,024.09 m**
Spud Date : **11-Oct-13**

Unit No. : **0003501**
Job No. : **JP-XX-0900526576**

Plot Type : **Final**
Plot Date : **13-Jan-14**

Run No.	Borehole Record (TVDss)		
	Size	From	To
4	12.250 in	4,156.11 m	4,995.59 m

Run No.	Borehole Record (TVDss)		
	Size	From	To

Casing Record (TVDss)			
Size	Weight	From	To
36.000 in	822.35 kgpm	1,934.32 m	1,992.50 m
20.000 in	192.39 kgpm	1,934.32 m	2,799.30 m
13.375 in	101.19 kgpm	2,799.30 m	3,874.39 m

WELL INFORMATION

MWD Run Number	400				
Date run completed	02-Jan-14				
Rig Bit Number	4				
Bit Size (in)	12.250				
Tool Nominal OD (in)	8.000				
Log Start Depth (TVD, m)	4,184.611				
Log End Depth (TVD, m)	5,024.093				
Drill or Wipe	Drill				
Drill/Wipe Start Date and Time	26-Dec-13 10:00				
Drill/Wipe End Date and Time	31-Dec-13 00:15				
Min Inc (deg) @ Depth (TVD, m)	1.40 @ 4,947.854				
Max Inc (deg) @ Depth (TVD, m)	2.93 @ 4,152.405				
Bit TFA(cm2) / Bit Type	6.8 / PDC				
Flow Rate (m3pm)	3.03				
Max AV (mps) / CV (mps) @ MWD	1.3 / 3.1				
Fluid Type	Polymer				
Density (ppg) / Viscosity (spl)	10.68 / 107.81				
Filtrate CL (ppm)	120,700.00				
pH / Fluid Loss (m3pm)	11.10 / 0				
PV (mPsec) / YP (pa)	44 / 27.29				
% Solids / % Sand	14 / 0.2				
% Oil / Oil:Water Ratio	N/A / N/A				
Rm @ Measured Temp (degC)	.110 @ 24.00				
Rmf @ Measured Temp (degC)	.080 @ 24.00				
Rmc @ Measured Temp (degC)	.140 @ 24.00				
Max Tool Temp (degC) / Source	43.14 / HCIM				
Rm @ Max Tool Temp (degC)	.0774 @ 43.14				
Lead MWD Engineer	Alex Munro				
Customer Representative	Dr Moe				

SENSOR INFORMATION

Downhole Processor Information

Tool Type	HCIM				
Software Version	88.56				
Sub Serial Number	11952679				
Insert Serial Number	11790865				
Date and Time Initialized	26-Dec-13 16:50				
Date and Time Read	02-Jan-14 05:24				
ECMB SW Version	N/A				

Directional Sensor Information

Tool Type	PCDC				
Distance From Bit (m)	31.450				
Software Version	6.21				
Sub Serial Number	11025002				
Sonde Serial Number	11902126				
Sensor ID Number	N/A				
Toolface Offset (deg)	0				

Gamma Ray Sensor Information

Tool Type	AGR				
Distance From Bit (m)	16.230				
Recorded Sample Period (sec)	10				
Software Version	9.23				
Sub Serial Number	11952679				
Insert/Sonde Serial Number	239879				

Resistivity Sensor Information

Tool Type	EWR-M5				
Distance From Bit (m)	19.030				
Recorded Sample Period (sec)	12				
Software Version	1.56				
Sub Serial Number	11952679				
Receiver Insert Serial Number	208050				
Transmitter Insert Serial Number	239879				
Receiver Orientation	Down				

Sonic Sensor Information

Tool Type	XBAT				
Distance From Bit (m)	26.84				
Recorded Sample Period (sec)	20				
Sub Serial Number	N/A				
Receiver Insert Serial Number	12108405				
Transmitter Insert Serial Number	11215811				
MIT File	4:M11_D5				
Config File	N/A				
Real-Time Window (us/m)	N/A - N/A				
Battery Insert Serial Number	11816955				
MCM Software Version	N/A				
DAQ1/DAQ2 Software Version	N/A / N/A				
DSM Software Version	N/A				

REMARKS

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1. All depths are referenced to driller's pipe tally. No correction has been made
for pipe stretch or squat.

2. The following smoothing parameters have been applied to the data:
   Sonic curves 0.1524m interval, 0.4 coercion distance

3. XCAL data had been office processed.
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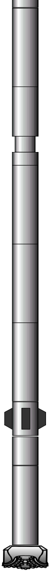
MWD RUN 400 - BHA

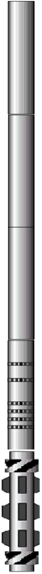
	Component Length (m)	Cumulative Length (m)
		5251.15
Drill Pipe 6.6250 in OD	940.000	
Sub 8.5000 in OD	.800	4311.15
		4310.35
Drill Pipe 5.5000 in OD	902.400	
Sub 7.5000 in OD	.800	3407.95
		3407.15
Drill Pipe 5.5000 in OD	789.600	
		2617.55
Drill Pipe 5.0000 in OD	2,331.200	
Sub 8.5000 in OD	.910	286.35
		285.44
Drill Pipe 5.6800 in OD	108.390	
Sub 8.5000 in OD	.610	177.05

MWD RUN 400 - MWD

	Sensor Measure Point Distance To Bit (m)
MWD - Directional SN# 11902126	31.450
MWD - Processor SN# 10996871	
MWD - Telemetry SN# 10450009	
MWD - Sonic SN# 11816955	
MWD - Processor	



Collar **8.5000 in OD**	**18.540**
Jar **8.0000 in OD**	**9.370**
Collar **8.5000 in OD**	**111.050**
Collar **8.0000 in OD**	**2.360**
MWD **8.0000 in OD**	**23.23**
Stabilizer **8.5000 in OD**	**1.680**
Sub **8.0000 in OD**	**.680**
Motor **9.6250 in OD**	**9.190**
Bit **7.7500 in OD**	**.340**



MWD - Gamma Ray **SN# 239879**	**16.230**
MWD - Drilling **SN# 239879**	**16.020**
MWD - Drilling **SN# 239879**	**16.790**
MWD - Resistivity **SN# 208050**	**19.030**
MWD - Resistivity **SN# 11576832**	**13.790**

XCAL Max Ellipse Diameter
10 inches 20

XCAL Min Ellipse Diameter
10 inches 20

XCAL Hole Diameter
10 inches 20

XCAL Ellipticity
0.5 0

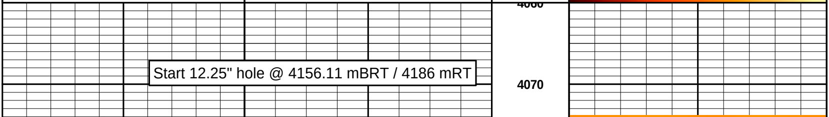
XCAL Tool Displacement Y
-2 inches 2

XCAL Maj Axis Orientation
-180 degrees 180

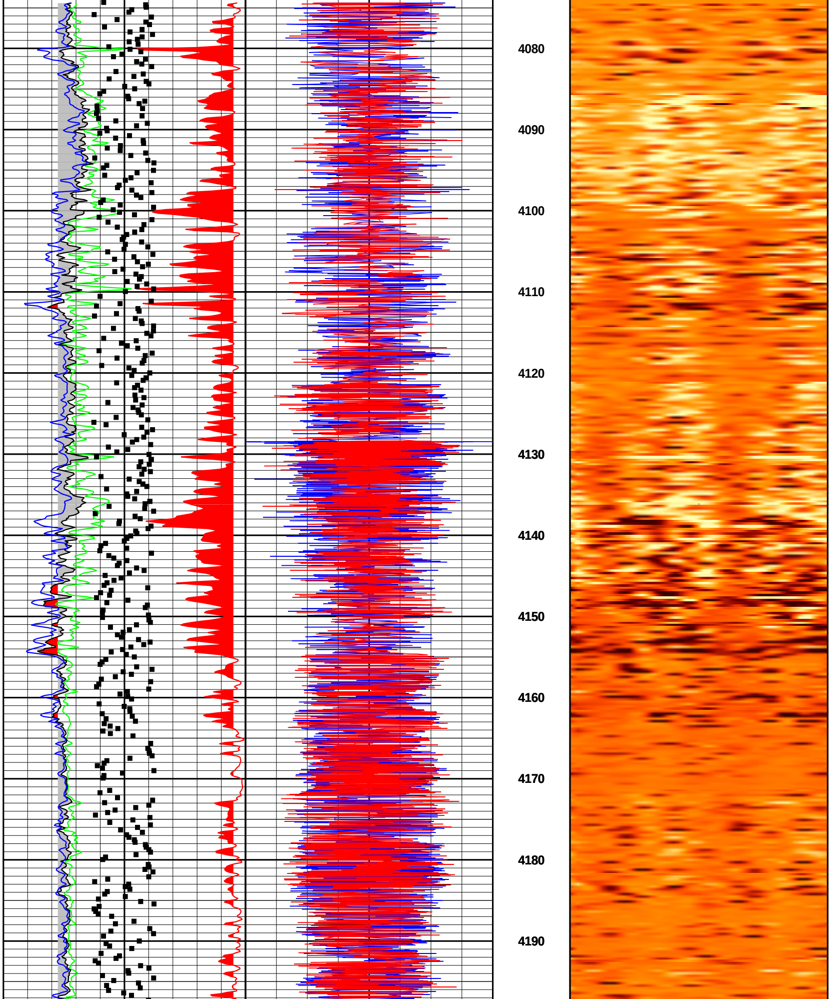
XCAL Tool Displacement X
-2 inches 2

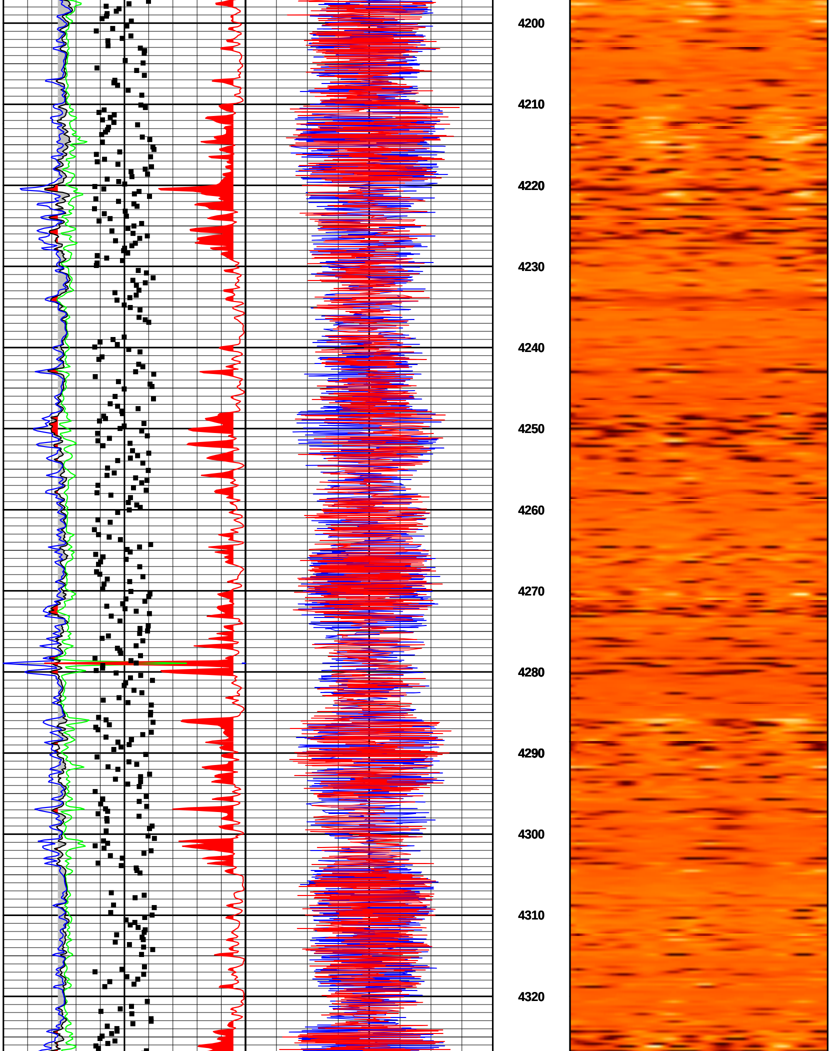
1 : 500
TVDss
m

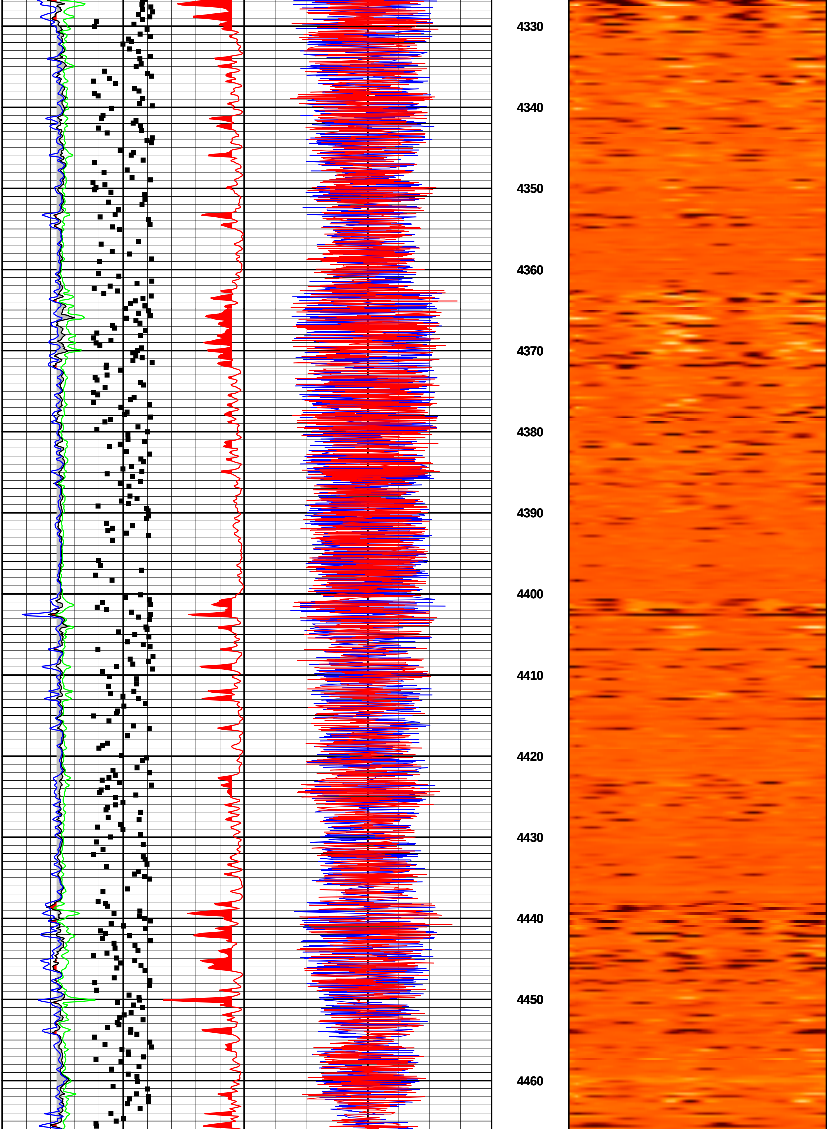
XCAL Radius Array
N E S W N
5.5 inches 7

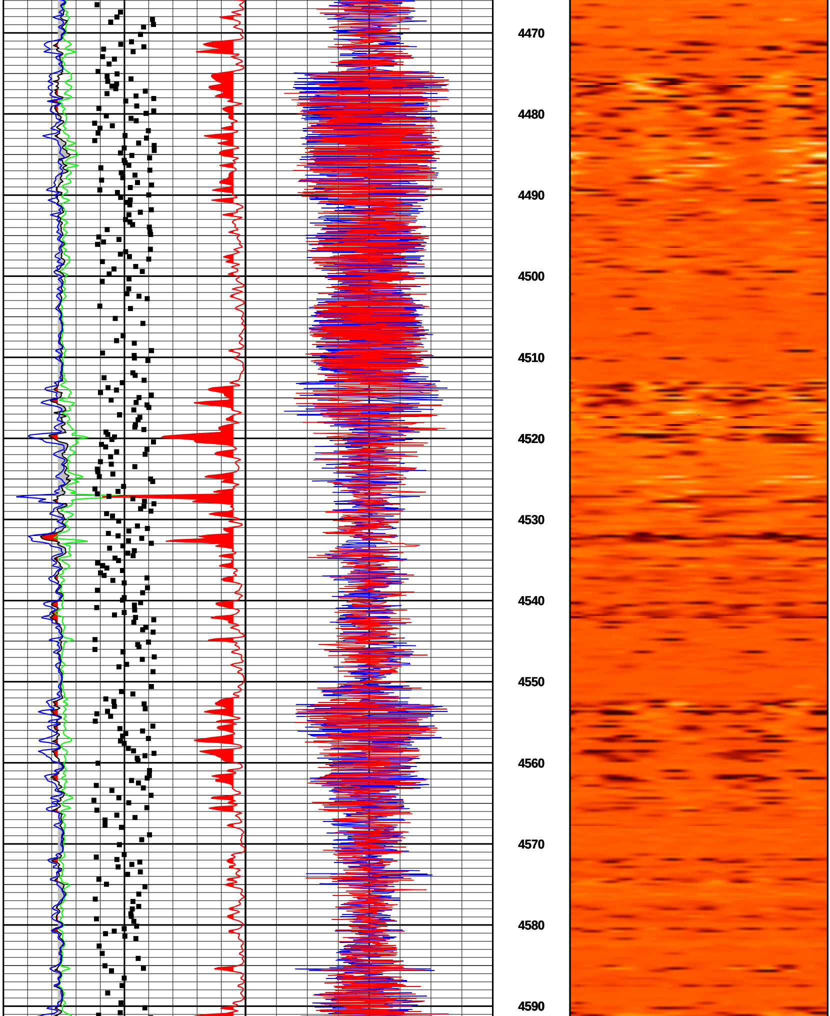


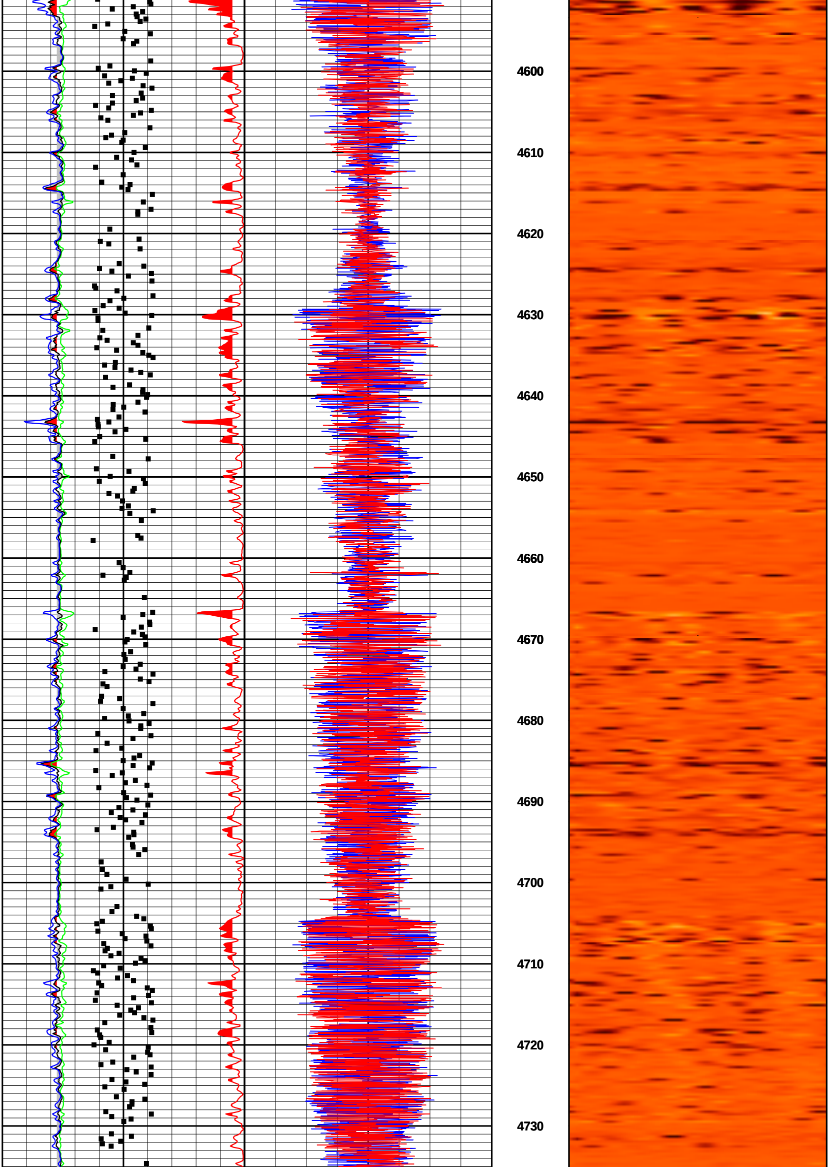
Start 12.25" hole @ 4156.11 mBRT / 4186 mRT

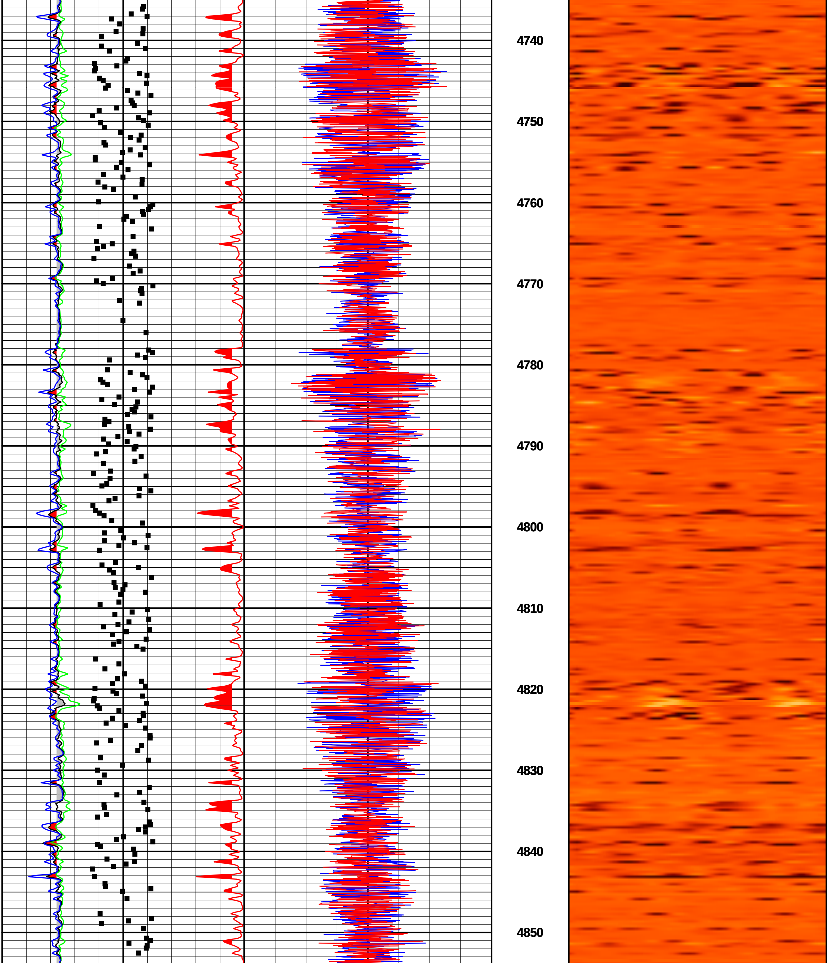


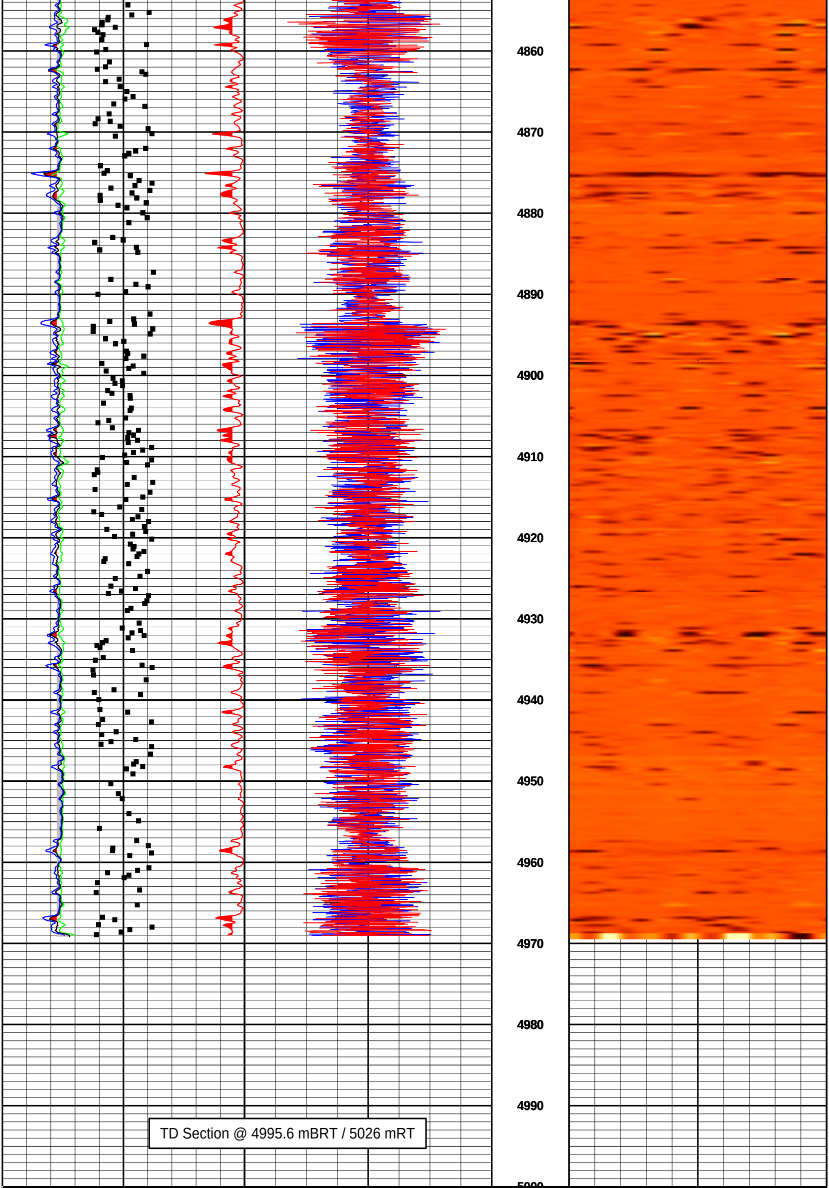












TD Section @ 4995.6 mBRT / 5026 mRT

XCAL Maj Axis Orientation
-180 degrees 180

XCAL Ellipticity
0.5 0

XCAL Hole Diameter
10 inches 20

XCAL Min Ellipse Diameter
10 inches 20

XCAL Max Ellipse Diameter
10 inches 20

XCAL Tool Displacement X
-2 inches 2

XCAL Tool Displacement Y
-2 inches 2

1 : 500
TVDss
m

XCAL Radius Array
N E S W N
5.5 inches 7

HALLIBURTON

DIRECTIONAL SURVEY REPORT

JAMSTEC
C0002P
Nankai Trough
Japan
JP-XX-0900526576

Measured Depth (metres)	*Inclination (degrees)*	*Direction (degrees)*	*Vertical Depth (metres)*	*Latitude (metres)*	*Departure (metres)*	*Vertical Section (metres)*	*Dogleg (deg/30m)*
2827.800	0.00	0.00	2827.800	0.000 N	0.000 E	0.000	TIE-IN
2890.590	3.40	159.39	2890.553	1.743 S	0.656 E	-1.743	1.62
2928.740	5.12	140.76	2928.598	4.121 S	2.131 E	-4.121	1.72
2966.900	5.18	106.59	2966.613	5.932 S	4.859 E	-5.932	2.38
3010.810	5.07	76.58	3010.355	6.048 S	8.647 E	-6.048	1.81
3043.630	5.11	51.56	3043.050	4.802 S	11.203 E	-4.802	2.01
3084.170	5.36	38.78	3083.422	2.204 S	13.803 E	-2.204	0.88
3123.580	4.98	25.39	3122.673	0.777 N	15.689 E	0.777	0.96
3162.080	4.18	4.38	3161.052	3.686 N	16.513 E	3.686	1.44
3199.710	2.00	1.06	3198.625	5.710 N	16.630 E	5.710	1.74
3238.190	0.31	209.19	3237.098	6.290 N	16.592 E	6.290	1.78
3276.890	0.44	239.16	3275.798	6.123 N	16.413 E	6.123	0.18
3314.850	0.41	269.76	3313.757	6.048 N	16.152 E	6.048	0.18
3353.040	0.12	310.15	3351.946	6.073 N	15.985 E	6.073	0.26
3391.260	0.56	336.21	3390.165	6.270 N	15.879 E	6.270	0.36
3429.140	0.50	334.26	3428.044	6.588 N	15.732 E	6.588	0.05
3468.360	0.62	352.84	3467.262	6.952 N	15.632 E	6.952	0.17
3505.570	0.31	333.27	3504.471	7.242 N	15.561 E	7.242	0.28
3544.480	0.19	98.24	3543.381	7.327 N	15.578 E	7.327	0.34
3581.980	0.25	209.19	3580.880	7.247 N	15.599 E	7.247	0.29
3620.060	0.31	210.19	3618.960	7.085 N	15.507 E	7.085	0.05
3657.980	0.84	245.28	3656.878	6.880 N	15.203 E	6.880	0.48
3691.660	0.36	224.61	3690.556	6.702 N	14.905 E	6.702	0.46
3729.630	0.25	132.00	3728.526	6.561 N	14.882 E	6.561	0.35
3767.900	0.44	166.60	3766.795	6.362 N	14.978 E	6.362	0.21
3887.570	0.31	300.87	3886.464	6.081 N	14.807 E	6.081	0.17
3904.000	0.22	301.45	3902.894	6.121 N	14.742 E	6.121	0.16
3996.760	2.38	94.61	3995.629	6.059 N	16.513 E	6.059	0.83
4010.460	1.46	75.41	4009.321	6.080 N	16.966 E	6.080	2.44
4039.630	3.59	105.91	4038.462	5.923 N	18.204 E	5.923	2.52
4074.320	3.88	104.24	4073.078	5.336 N	20.386 E	5.336	0.27
4114.770	2.47	97.13	4113.466	4.891 N	22.578 E	4.891	1.08
4153.753	2.93	97.28	4152.405	4.661 N	24.399 E	4.661	0.35
4190.770	2.85	92.40	4189.375	4.503 N	26.256 E	4.503	0.21
4228.710	2.82	92.05	4227.269	4.430 N	28.132 E	4.430	0.03
4267.620	2.72	91.98	4266.133	4.364 N	30.013 E	4.364	0.08
4305.530	2.53	93.65	4304.003	4.279 N	31.748 E	4.279	0.16
4343.840	2.36	93.75	4342.278	4.174 N	33.379 E	4.174	0.13
4382.200	2.25	92.32	4380.607	4.091 N	34.920 E	4.091	0.10
4416.740	1.97	92.61	4415.124	4.037 N	36.192 E	4.037	0.24
4458.160	2.10	92.74	4456.517	3.968 N	37.663 E	3.968	0.09

4494.780	2.10	91.96	4493.113	3.913 N	39.004 E	3.913	0.02
4535.180	1.97	89.62	4533.488	3.892 N	40.437 E	3.892	0.11
4572.710	1.83	90.94	4570.997	3.887 N	41.679 E	3.887	0.12
4610.770	1.73	90.61	4609.039	3.871 N	42.861 E	3.871	0.07
4649.220	1.82	89.80	4647.470	3.867 N	44.054 E	3.867	0.07
4686.700	1.70	90.44	4684.933	3.865 N	45.206 E	3.865	0.10
4724.760	1.62	93.01	4722.976	3.832 N	46.310 E	3.832	0.09
4762.960	1.77	95.87	4761.160	3.743 N	47.436 E	3.743	0.13
4801.260	1.71	92.70	4799.442	3.656 N	48.596 E	3.656	0.09
4838.540	1.67	90.73	4836.706	3.623 N	49.696 E	3.623	0.06
4913.640	1.53	90.52	4911.776	3.600 N	51.795 E	3.600	0.06
4949.730	1.40	87.84	4947.855	3.612 N	52.720 E	3.612	0.12
4990.290	1.74	80.10	4988.400	3.736 N	53.822 E	3.736	0.29
5026.000	1.74	80.10	5024.093	3.923 N	54.889 E	3.923	0.00

CALCULATION BASED ON MINIMUM CURVATURE METHOD

SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT
TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT

VERTICAL SECTION RELATIVE TO WELL HEAD
VERTICAL SECTION IS COMPUTED ALONG A DIRECTION OF 0.00 DEGREES (GRID)
A TOTAL CORRECTION OF -7.66 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 5026.000 METRES
IS 55.029 METRES ALONG 85.91 DEGREES (GRID)

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