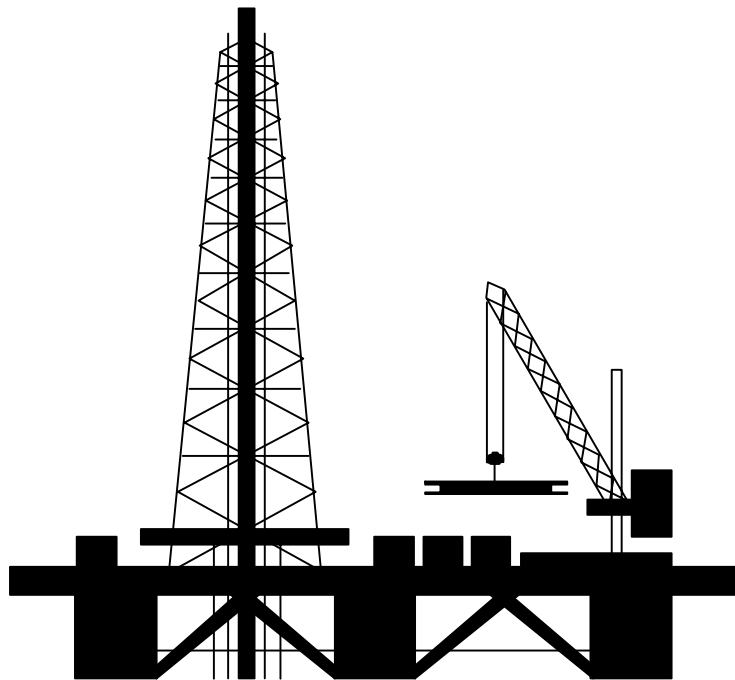




Nexus Energy Ltd.



Directional Drilling End of Well Report

Well : Culverin #1

Date: December 2005 – January 2006

**HALLIBURTON**

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-

**Customer : Nexus Energy Limited**

**Well : Culverin #1**

### **Job Objectives:**

The objective is to drill a 12.25" hole vertically to FTD at 3612 mMDRT, intersecting three targets:

Target #1 (Primary) top 67.5 Ma Sand (Culverin reservoir) at 2947mMDRT

Target #2, which was 68.5 Ma sand (Scimitar medium reservoir), at 3257 mMDRT

Target #3, the 70.3Ma sand (Scimitar deep reservoir) at 3542 mMDRT.

The 12.25" hole will drill the Gippsland Limestone, Lakes Entrance and Latrobe sections. The Gippsland is a soft sticky dispersive marl interspersed with calcarenite. The Lakes Entrance (top @ 2582m) is calcilutite/calcsiltite with minor calcarenite. The Latrobe (top @ 2970m) is interbedded sandstone, siltstone and claystone with minor coal. High ROP's are expected in the Gippsland and Lakes Entrance but these will decline in the Latrobe section. Hard stringers are expected. The hole will be drilled with a straight 9 5/8" 6:7 lobe 5.0 stage motor with a Hycalog PDC RSX616M bit. MWD includes a DM, HCIM-EWR-DGR, CTN-ACAL-SLD and HOC.

### **Summary of Results:**

BHA 1 commenced drilling on the 24th Dec 2005 at 1525mMDRT in the Gippsland Formation. Initially the Gippsland Formation was drilled with 110 rpm 850gpm and a WOB of 15-20klbs. The SPP was 2400psi and the differential pressure was 200psi. These parameters yielded build rates of 0.25 - 0.42°deg/30m. The drilling parameters were modified in an attempt to reduce the build rate. The surface rpm were increased gradually to 140rpm and the WOB reduced to 10 - 15klbs at a flow rate of 900gpm. This reduced the build rate to generally less than 0.1°/30m. This building tendency was also noted on offset wells. The BHA performed well through the rest of the Gippsland Formation with the ROP averaging 50 m/hr.

The Lakes Entrance Formation came in at 2824 mMDRT. A hard bed was encountered between 2685 - 2760m which reduced ROP to 5-15 mph. The primary target (Culverin reservoir) was encountered at a depth of 2837 mMDRT. The motor torqued up slightly in this section and stalled out several times. The SPP was 3700 - 3800psi with a 200 - 300psi differential pressure. The weight was limited to 12 klbs. The ROP was averaged 25m/h, but increased to 90m/h in places. The second geological target, the near 68.5Ma, sand came in 156m high at 3103 mMDRT. The inclination held steady through this section. There was a tendency to walk to the right.

Drilling slowed down due to hard formation beginning at 3147 mMDRT, with ROP's of 10 m/hr. The inclination remained steady, and the bit was still walking slightly to the right. The bit torqued up through this section and the motor stalled at times. At 3402 mMDRT the rate of penetration dropped to virtually nothing at the bit was pulled. The same assembly was run for the next run.

BHA 2 began drilling at 4202 mMDRT. It was tested on the way in the hole and recorded 750 psi at 720gpm. The initial ROP was 5 - 20 m/hr with 15 - 20klbs on the bit. The pump rate was 4200 psi at 890gpm, with 200psi differential. Hard stringers were encountered interbedded within softer formations. Coal interbeds were also present. The ROP in the hard stringers dropped as low as 1m/hr and increased to 20 - 30 m/hr in the softer beds. The assembly dropped from 3.54 degrees to 3.32 degrees. The final target (70.3Ma - Scimitar deep reservoir) was drilled at 3520.5 mMDRT.

The SPP dropped by 500psi, steadily over several hours and after checking surface equipment it was decided to POOH at 3571 mMDRT. A washout was suspected, however after reaching surface no washout was found. The motor was not tested on the trip out, as there was concern it could cause a potential washout in a connection to let go. The fluid in the motor drained ok. It was decided to run back in with a rotary assembly.

### **Discussion:**

BHA #	Bit #	Motor Run #	Hole Size (in)	MD In (m)	MD Out (m)	TVD In (m)	TVD Out (m)	Inc In (deg)	Inc Out (deg)	Azi In (deg)	Azi Out (deg)	Drig hrs	Circ hrs
1	1	1	12.350	1511	3402	1511	3398	0.1	3.6	360	55	126	1
2	2	2	12.250	3402	3571	3398	3567	3.6	3.2	55	52	30	4

Table 1 - BHA Summary

### **Motor Run Summary:**

The motor for BHA 1 was a 9 5/8" 6/7 Lobe, 5.0 stage SperryDrill (S/N: 963006) with a 12 1/8" (S/N: CP490670) stabiliser sleeve and a bottleneck crossover (S/N: A639) bored for a float. This motor performed well, drilling 1877m (from 1525 - 3402 mMDRT) in 94.92 hrs (on bottom time), there were 127.83 circulating hrs during the first run and the motor was below the rotary table for 162.5 hrs. The

differential for this motor was 100 - 400 psi throughout the run. The motor stalled out at times when the bit torqued up at 2845 mMDRT and between 3128 - 3288 mMDRT due to formation. The flow rate was 850 - 900gpm for most of the run.

The motor for BHA 2 was also a 9 5/8" 6/7 Lobe, 5.0 stage SperryDrill (S/N: 963271) with at 12 1/8" (S/N: CP075589) stabiliser sleeve and a bottleneck crossover (S/N: S18819-11) bored for a float. The motor drilled 169m (3402 - 3571 mMDRT). There were 32.66 circulating hours and 25.00 on bottom hours on this motor. The motor was below the rotary table for 56.0 hrs. A loss of pump pressure was the reason for POOH. A piece of rubber came over the shakers at that time, however it appeared to be a piece of the casing shoe. This motor experienced no stalling. The differential pressure was 100 - 200psi. This reduced to less than 50 psi at times in hard formations. The differential was also low when the pump pressure declined.

Motor Run #	Manufacturer	Type	Lobe	OD (in)	Gauge (in)	Bend (deg)	Adj	DLS (Ori) (°/100')	ROP (Ori) (m/hr)	ROP (Rot) (m/hr)
1	SSDS	SperryDrill	6/7	9.625	12.125	0.00	Y		0	15
2	SSDS	SperryDrill	6/7	9.625	12.125	0.00	N		0	6

Table 2 - Motor Run Summary

### **Bit Run Summary:**

The first two bit runs (rig bit run 3 and 4) were both drilled with a new Reed Hycalog PDC RSX616M bit, with an IADC code of 422M. The bits were both dressed with 4 x 18's and 2 x 28's (giving a TFA of 2.197sqin).

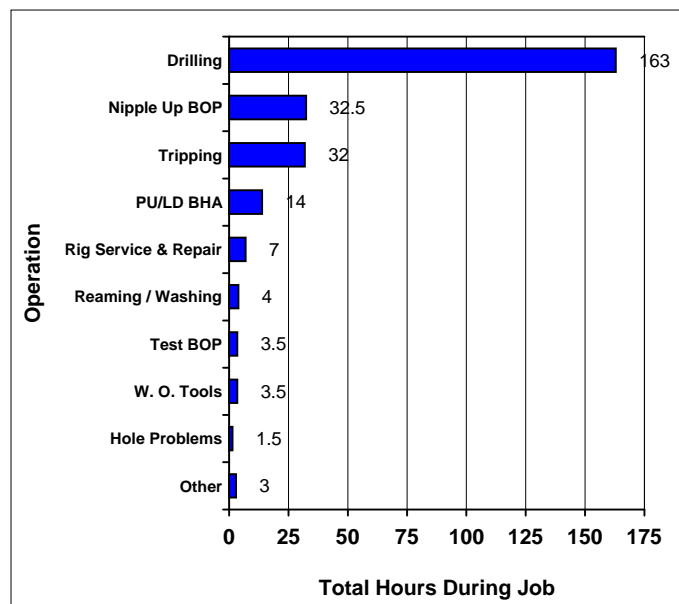
The first bit drilled 1877m (from 1525 - 3402 mMDRT) in 94.92 hrs (on bottom time). The average surface rotation was 150 rpm, with an additional 110 - 120 rpm from the motor. Harder interbeds were drilled with 70 - 90 rpm. The WOB for this bit ranged from 10 to 25 klbs. This bit performed well until it was pulled due to slow ROP's. The grading for the bit was 4-6-WT-S-X-1/8-RO-ROP.

The second bit drilled 169m (from 3402 - 3571mMDRT) in 25.0 hrs (on bottom time). The average surface rotation was 100 rpm, with an additional 110 - 120 rpm from the motor. Harder interbeds were drilled with 65 - 70 rpm. The WOB for this bit was 20 - 25 klbs. This run encountered very slow drilling. The bit grade when pulled was 3-5-WT-S-X-IN-DL-PP.

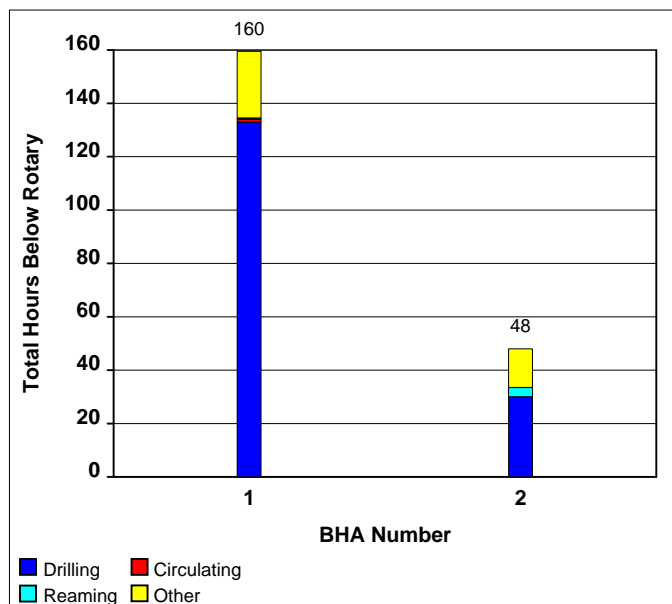
Bit #	Manufacturer	Style	OD (in)	Gge Len (in)	Nozzles (/32's)	TFA (in²)	Dull Grades I O D L B G O R	Ftge (m)	Drig hrs	ROP (m/hr)
1	Hycalog	RSX-616M	12.250	0.240	4x18, 2x28	2.197	4-6-WT-S-X-8-RO-ROP	1891	126.35	15
2	Hycalog	RSX-616M	12.250	0.240	4x18, 2x28	2.197	3-5-WT-SX-I-N-DL-PP	169	30.00	6

Table 3 - Bit Run Summary

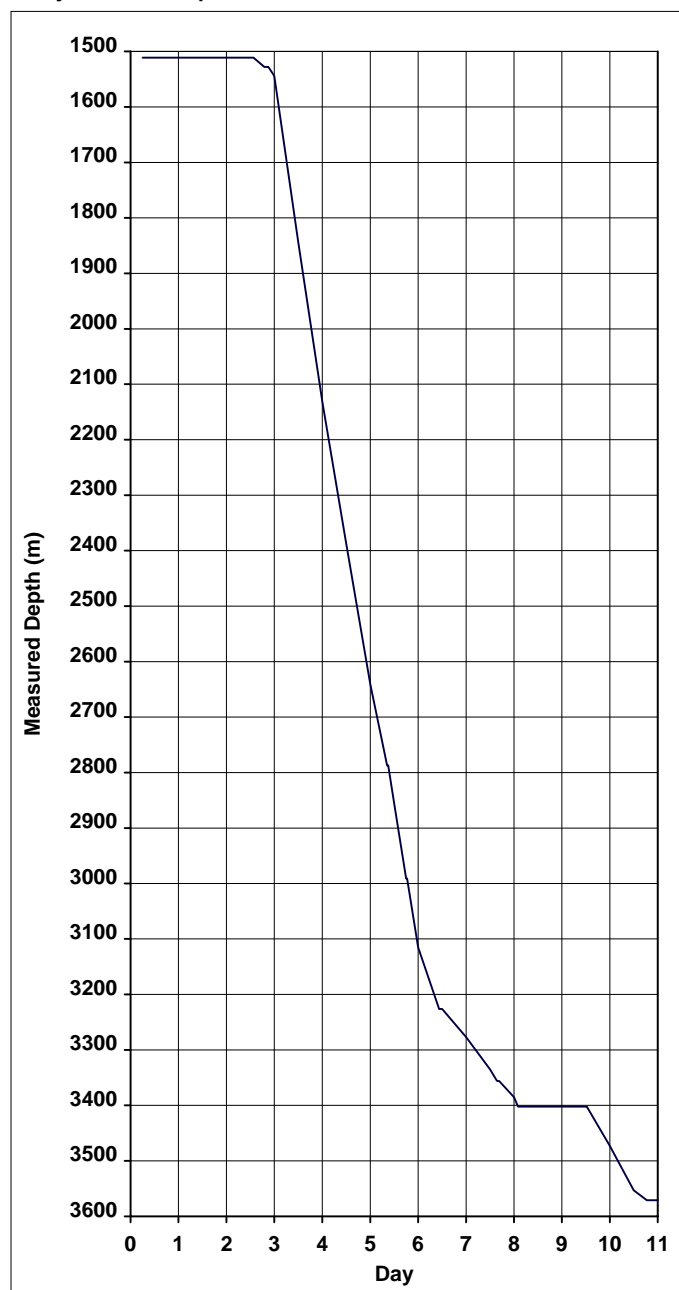
## Hours by Operation Summary



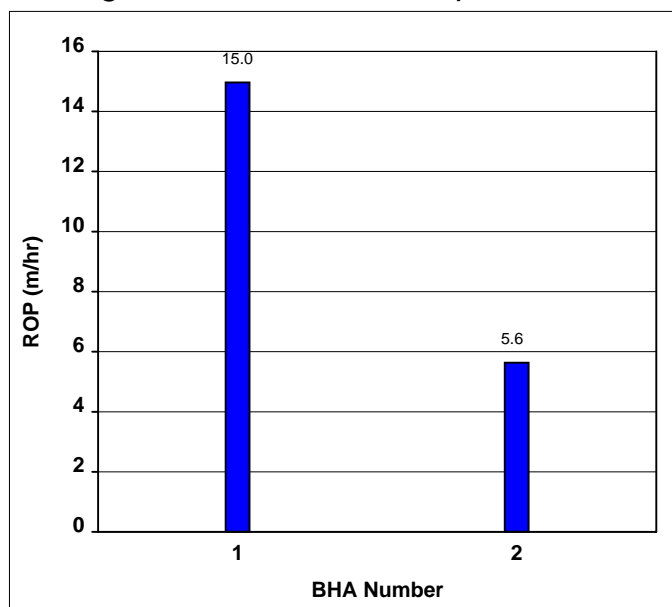
## Hours per BHA Breakdown



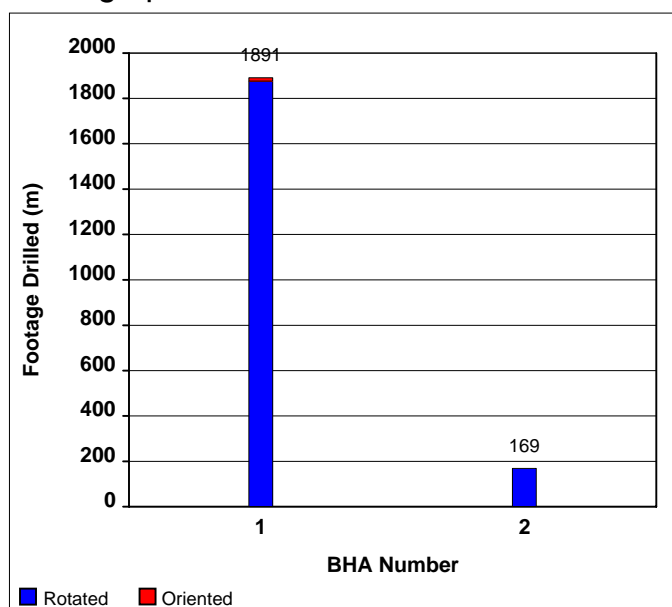
## Days vs. Depth



## Average Rate of Penetration per BHA



## Footage per BHA



# **HALLIBURTON**

## **Sperry Drilling Services**

### **Nexus Energy Ltd.**

Culverin

Culverin

Culverin #1

Culverin #1

Design: Culverin #1

### **Standard Survey Report**

14 March, 2006

## Sperry Drilling Services

<b>Company:</b>	Nexus Energy Ltd.	<b>Local Co-ordinate Reference:</b>	Well Culverin #1
<b>Project:</b>	Culverin	<b>TVD Reference:</b>	WELL @ 21.50m (Original Well Elev)
<b>Site:</b>	Culverin	<b>MD Reference:</b>	WELL @ 21.50m (Original Well Elev)
<b>Well:</b>	Culverin #1	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Culverin #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Culverin #1	<b>Database:</b>	Perth Office Database

Project	Culverin		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	GDA94		
Map Zone:	Zone 55S (144 E to 150 E)		

Site		Culverin			
Site Position:		Northing:	5,748,256.39 m	Latitude:	38° 24' 08.140" S
From:	Map	Easting:	644,437.30 m	Longitude:	148° 39' 14.924" E
Position Uncertainty:	0.00 m	Slot Radius:	in	Grid Convergence:	-1.028 °

Well	Culverin #1					
Well Position	+N/-S	0.00 m	Northing:	5,748,256.39 m	Latitude:	38° 24' 08.140" S
	+E/-W	0.00 m	Easting:	644,437.30 m	Longitude:	148° 39' 14.924" E
Position Uncertainty		0.00 m	Wellhead Elevation:	m	Water Depth:	585.50 m

Wellbore	Culverin #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2005	3/02/2006	13.402	-68.821	59,967

Design	Culverin #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth:
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(m)	(m)	(m)	(°)
	0.00	0.00	0.00	38.062

Survey Program		Date	14/03/2006		
From (m)	To (m)	Survey (Wellbore)	Tool Name	Description	
607.00	3,758.00	MWD Survey (Culverin #1)			

Survey									
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)
0.00	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.00	0.00
585.50	0.000	0.000	585.50	0.00	0.00	0.00	0.000	0.00	0.00
30"									
607.00	0.000	0.000	607.00	0.00	0.00	0.00	0.000	0.00	0.00
681.95	1.260	227.000	681.94	-0.56	-0.60	-0.81	0.504	0.50	0.00
767.68	0.810	263.550	767.66	-1.27	-1.89	-2.17	0.272	-0.16	12.79
825.04	0.930	254.570	825.01	-1.44	-2.75	-2.83	0.095	0.06	-4.70
911.19	1.090	257.490	911.15	-1.81	-4.22	-4.02	0.059	0.06	1.02
1,027.78	0.850	252.600	1,027.72	-2.30	-6.13	-5.59	0.065	-0.06	-1.26
1,056.46	0.790	254.040	1,056.40	-2.42	-6.52	-5.93	0.066	-0.06	1.51
1,085.16	0.770	260.550	1,085.10	-2.51	-6.90	-6.23	0.095	-0.02	6.80
1,113.81	0.620	255.110	1,113.75	-2.58	-7.24	-6.50	0.171	-0.16	-5.70
1,142.54	0.510	257.730	1,142.47	-2.65	-7.52	-6.72	0.118	-0.11	2.74

## Sperry Drilling Services

<b>Company:</b>	Nexus Energy Ltd.	<b>Local Co-ordinate Reference:</b>	Well Culverin #1
<b>Project:</b>	Culverin	<b>TVD Reference:</b>	WELL @ 21.50m (Original Well Elev)
<b>Site:</b>	Culverin	<b>MD Reference:</b>	WELL @ 21.50m (Original Well Elev)
<b>Well:</b>	Culverin #1	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Culverin #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Culverin #1	<b>Database:</b>	Perth Office Database

Survey									
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)
1,171.11	0.430	257.640	1,171.04	-2.70	-7.74	-6.90	0.084	-0.08	-0.09
1,228.35	0.220	250.900	1,228.28	-2.78	-8.06	-7.16	0.112	-0.11	-3.53
1,257.08	0.170	244.390	1,257.01	-2.82	-8.15	-7.24	0.057	-0.05	-6.80
1,342.79	0.060	257.650	1,342.72	-2.88	-8.31	-7.39	0.039	-0.04	4.64
1,371.46	0.030	247.140	1,371.39	-2.89	-8.33	-7.41	0.032	-0.03	-11.00
1,428.75	0.110	336.430	1,428.68	-2.84	-8.37	-7.39	0.060	0.04	46.76
1,486.03	0.160	21.180	1,485.96	-2.72	-8.36	-7.29	0.059	0.03	23.44
1,509.77	0.090	0.700	1,509.70	-2.67	-8.35	-7.25	0.104	-0.09	-25.88
1,511.08	0.100	359.841	1,511.01	-2.67	-8.35	-7.24	0.235	0.23	-19.67
13 3/8"									
1,540.46	0.330	354.580	1,540.39	-2.56	-8.35	-7.16	0.235	0.23	-5.37
1,569.11	0.360	350.120	1,569.04	-2.38	-8.38	-7.04	0.042	0.03	-4.67
1,597.73	0.500	2.930	1,597.66	-2.17	-8.39	-6.88	0.177	0.15	13.43
1,626.44	0.630	1.960	1,626.37	-1.89	-8.37	-6.65	0.136	0.14	-1.01
1,655.17	0.860	9.390	1,655.10	-1.52	-8.33	-6.33	0.260	0.24	7.76
1,683.81	1.150	21.610	1,683.73	-1.04	-8.19	-5.87	0.376	0.30	12.80
1,712.56	1.540	24.620	1,712.47	-0.42	-7.93	-5.22	0.413	0.41	3.14
1,741.12	1.850	23.410	1,741.02	0.35	-7.58	-4.40	0.328	0.33	-1.27
1,769.90	2.120	24.210	1,769.78	1.26	-7.18	-3.43	0.283	0.28	0.83
1,798.49	2.390	23.170	1,798.35	2.30	-6.73	-2.34	0.287	0.28	-1.09
1,827.17	2.730	24.420	1,827.00	3.47	-6.21	-1.10	0.360	0.36	1.31
1,855.78	2.980	24.430	1,855.58	4.76	-5.62	0.29	0.262	0.26	0.01
1,884.43	3.090	24.800	1,884.19	6.14	-4.99	1.76	0.117	0.12	0.39
1,913.08	3.070	24.580	1,912.80	7.54	-4.35	3.26	0.024	-0.02	-0.23
1,941.89	3.120	23.610	1,941.56	8.96	-3.71	4.77	0.075	0.05	-1.01
1,970.98	3.180	24.110	1,970.61	10.42	-3.07	6.32	0.068	0.06	0.52
1,999.06	3.220	24.850	1,998.65	11.85	-2.42	7.84	0.061	0.04	0.79
2,027.82	3.270	25.230	2,027.36	13.33	-1.73	9.43	0.057	0.05	0.40
2,056.65	3.240	27.040	2,056.14	14.79	-1.01	11.03	0.111	-0.03	1.88
2,085.12	3.330	26.590	2,084.57	16.25	-0.27	12.63	0.099	0.09	-0.47
2,113.64	3.400	27.830	2,113.04	17.74	0.50	14.27	0.106	0.07	1.30
2,142.04	3.460	29.610	2,141.39	19.23	1.31	15.95	0.129	0.06	1.88
2,170.63	3.600	30.300	2,169.92	20.75	2.19	17.69	0.154	0.15	0.72
2,199.17	3.770	30.650	2,198.40	22.33	3.12	19.51	0.180	0.18	0.37
2,227.87	3.850	36.050	2,227.04	23.93	4.17	21.41	0.384	0.08	5.64
2,256.54	3.990	35.430	2,255.64	25.52	5.31	23.37	0.153	0.15	-0.65
2,285.35	4.140	37.210	2,284.38	27.16	6.52	25.41	0.204	0.16	1.85
2,314.02	4.150	34.690	2,312.98	28.84	7.74	27.48	0.191	0.01	-2.64
2,342.60	4.240	35.480	2,341.48	30.55	8.94	29.57	0.112	0.09	0.83
2,371.30	4.200	37.230	2,370.10	32.25	10.19	31.68	0.141	-0.04	1.83
2,399.91	4.280	37.960	2,398.63	33.93	11.48	33.79	0.101	0.08	0.77
2,428.46	4.300	38.320	2,427.10	35.61	12.80	35.93	0.035	0.02	0.38
2,457.14	4.300	37.540	2,455.70	37.30	14.13	38.08	0.061	0.00	-0.82
2,514.65	4.090	38.400	2,513.06	40.62	16.71	42.29	0.114	-0.11	0.45
2,543.24	4.050	40.480	2,541.58	42.19	18.00	44.31	0.160	-0.04	2.18
2,572.00	4.010	40.970	2,570.27	43.72	19.32	46.33	0.055	-0.04	0.51
2,600.65	3.910	40.540	2,598.85	45.22	20.61	48.31	0.109	-0.10	-0.45
2,629.39	3.860	40.580	2,627.52	46.70	21.88	50.25	0.052	-0.05	0.04
2,658.02	3.890	41.300	2,656.09	48.16	23.15	52.19	0.060	0.03	0.75
2,686.60	3.770	41.460	2,684.60	49.59	24.41	54.09	0.126	-0.13	0.17
2,715.15	3.770	40.420	2,713.09	51.01	25.64	55.97	0.072	0.00	-1.09
2,743.83	3.800	42.100	2,741.71	52.43	26.89	57.86	0.120	0.03	1.76
2,772.65	3.830	43.730	2,770.46	53.83	28.19	59.77	0.117	0.03	1.70
2,801.66	3.840	42.760	2,799.41	55.25	29.52	61.70	0.068	0.01	-1.00



#### Sperry Drilling Services

<b>Company:</b>	Nexus Energy Ltd.	<b>Local Co-ordinate Reference:</b>	Well Culverin #1
<b>Project:</b>	Culverin	<b>TVD Reference:</b>	WELL @ 21.50m (Original Well Elev)
<b>Site:</b>	Culverin	<b>MD Reference:</b>	WELL @ 21.50m (Original Well Elev)
<b>Well:</b>	Culverin #1	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Culverin #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Culverin #1	<b>Database:</b>	Perth Office Database

Survey									
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)
2,830.44	3.890	43.810	2,828.12	56.66	30.85	63.63	0.090	0.05	1.09
2,859.14	3.950	44.310	2,856.76	58.07	32.22	65.58	0.072	0.06	0.52
2,887.70	3.860	45.650	2,885.25	59.45	33.59	67.51	0.135	-0.09	1.41
2,916.43	3.870	45.260	2,913.91	60.80	34.97	69.43	0.029	0.01	-0.41
2,944.96	3.830	45.790	2,942.38	62.15	36.34	71.33	0.056	-0.04	0.56
2,973.53	3.730	46.710	2,970.89	63.45	37.70	73.20	0.123	-0.11	0.97
3,002.19	3.720	46.750	2,999.49	64.73	39.05	75.04	0.011	-0.01	0.04
3,059.49	3.720	46.570	3,056.67	67.28	41.76	78.71	0.006	0.00	-0.09
3,088.21	3.810	46.460	3,085.32	68.57	43.13	80.58	0.094	0.09	-0.11
3,116.08	3.750	45.370	3,113.13	69.85	44.45	82.40	0.101	-0.06	-1.17
3,145.07	3.740	48.330	3,142.06	71.15	45.83	84.27	0.200	-0.01	3.06
3,173.79	3.670	49.590	3,170.72	72.37	47.23	86.09	0.112	-0.07	1.32
3,202.65	3.710	48.970	3,199.52	73.58	48.63	87.91	0.059	0.04	-0.64
3,231.77	3.530	48.200	3,228.58	74.79	50.01	89.72	0.192	-0.19	-0.79
3,260.37	3.660	49.860	3,257.13	75.97	51.37	91.48	0.175	0.14	1.74
3,317.48	3.720	47.740	3,314.12	78.39	54.13	95.09	0.078	0.03	-1.11
3,346.36	3.650	50.410	3,342.94	79.61	55.53	96.91	0.192	-0.07	2.77
3,375.03	3.690	54.030	3,371.55	80.73	56.98	98.69	0.246	0.04	3.79
3,404.40	3.540	54.900	3,400.86	81.81	58.49	100.47	0.163	-0.15	0.89
3,432.80	3.590	51.960	3,429.21	82.86	59.91	102.17	0.200	0.05	-3.11
3,461.32	3.480	51.530	3,457.67	83.95	61.29	103.88	0.119	-0.12	-0.45
3,490.24	3.380	50.310	3,486.54	85.04	62.63	105.57	0.128	-0.10	-1.27
3,519.26	3.320	50.110	3,515.51	86.12	63.94	107.22	0.063	-0.06	-0.21
3,547.59	3.320	49.950	3,543.79	87.18	65.19	108.83	0.010	0.00	-0.17
3,555.34	3.360	53.740	3,551.53	87.45	65.55	109.27	0.868	0.15	14.67
3,583.83	3.000	50.850	3,579.98	88.42	66.80	110.80	0.415	-0.38	-3.04
3,641.38	2.980	50.160	3,637.45	90.33	69.12	113.73	0.021	-0.01	-0.36
3,758.00	2.980	50.160	3,753.91	94.21	73.77	119.66	0.000	0.00	0.00

Casing Points				
Measured Depth (m)	Vertical Depth (m)	Name	Casing Diameter (in)	Hole Diameter (in)
585.50	585.50	30"	30.00	36.00
1,511.08	1,511.01	13 3/8"	13.37	17.50

Checked By: _____	Approved By: _____	Date: _____
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MD (m)	Formation Name MD/TVD	<div>Inclination ——— DLS ———</div>	Bit Data	Drilling Parameters	Motor	BHA Stabilizers	Comments	BHA ID
1500			RSX-616M 4x18, 2x28 /32's 0.82 ft/min 126.35 hrs	WOB 15 lbs RPM 132 FLO 885 gpm SPP 3179 psi	9-5/8" SperryDrill 6/7 L 0.00° ABH	12.125 in 12.125 in @ 10.81 m 11.750 in @ 20.62 m 11.750 in @ 25.56 m 12.125 in @ 46.26 m	Rev/gal: 0.13 Survey Distance: 13.13m	#1 @ 1511
1600								
1700								
1800								
1900								
2000								
2100								
2200								
2300								
2400								
2500								
2600								
2700								
2800								
2900								
3000								
3100								
3200								
3300								
3400								
3500			RSX-616M 4x18, 2x28 /32's 0.31 ft/min 30.00 hrs	WOB 20 lbs RPM 105 FLO 875 gpm SPP 4103 psi	9-5/8" SperryDrill 6/7 L 0.00° BH	12.125 in @ 1.18 m 12.125 in @ 10.64 m 11.750 in @ 20.45 m 11.750 in @ 25.39 m 12.125 in @ 46.08 m	Rev/gal: 0.13 Survey distance: 13.13m	#2 @ 3402
3600								

**Customer :** Nexus Energy Limited  
**Well :** Culverin #1  
**Rig :** Ocean Patriot

**Field :** Culverin  
**Lease :** VIC/P56  
**Job # :** AU-DD-0003951414

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**North Ref :** Grid    **Declination :** 13.40°    **VS Dir :** 38.06° (from Wellhead)

WELLBORE SURVEY										DRILLING PARAMETERS									Comment
Measured Depth (m)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (m)	Vertical Section (m)	Coordinates		DLS	Build Rate	Turn Rate	WOB	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation		Tool Face (deg)	ROP (m/hr)	BHA No. (#)	
0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00										Tieon
607.00	0.00	0.00	607.0	0.0	0.0	0.0	0.00	0.00	0.00										
681.95	1.26	227.00	681.9	-0.8	-0.6	-0.6	0.51	0.51	0.00										
767.68	0.81	263.55	767.7	-2.2	-1.3	-1.9	0.28	-0.16	0.00										
825.04	0.93	254.57	825.0	-2.8	-1.4	-2.7	0.10	0.06	0.00										
911.19	1.09	257.49	911.2	-4.0	-1.8	-4.2	0.06	0.06	0.00										
1027.78	0.85	252.60	1027.7	-5.6	-2.3	-6.1	0.07	-0.06	0.00										
1056.46	0.79	254.04	1056.4	-5.9	-2.4	-6.5	0.07	-0.06	0.00										
1085.16	0.77	260.55	1085.1	-6.2	-2.5	-6.9	0.10	-0.02	0.00										
1113.81	0.62	255.11	1113.7	-6.5	-2.6	-7.2	0.17	-0.16	0.00										
1142.54	0.51	257.73	1142.5	-6.7	-2.6	-7.5	0.12	-0.12	0.00										
1171.11	0.43	257.64	1171.0	-6.9	-2.7	-7.7	0.09	-0.09	0.00										
1228.35	0.22	250.90	1228.3	-7.2	-2.8	-8.1	0.11	-0.11	0.00										
1257.08	0.17	244.39	1257.0	-7.2	-2.8	-8.1	0.06	-0.05	0.00										
1342.79	0.06	257.65	1342.7	-7.4	-2.9	-8.3	0.04	-0.04	0.00										
1371.46	0.03	247.14	1371.4	-7.4	-2.9	-8.3	0.03	-0.03	0.00										
1428.75	0.11	336.43	1428.7	-7.4	-2.8	-8.4	0.06	0.04	0.00										
1486.03	0.16	21.18	1486.0	-7.3	-2.7	-8.4	0.06	0.03	0.00										
1509.77	0.09	0.70	1509.7	-7.2	-2.7	-8.3	0.11	-0.09	0.00										
1540.46	0.33	354.58	1540.4	-7.2	-2.6	-8.4	0.24	0.24	0.00	15	80	800	1800				20	1	
1569.11	0.36	350.12	1569.0	-7.0	-2.4	-8.4	0.04	0.03	0.00	15	80	800	1800				20	1	
1597.73	0.50	2.93	1597.7	-6.9	-2.2	-8.4	0.18	0.15	0.00	15	80	800	1800				20	1	
1626.44	0.63	1.96	1626.4	-6.6	-1.9	-8.4	0.14	0.14	0.00	18	110	900	2450				45	1	
1655.17	0.86	9.39	1655.1	-6.3	-1.5	-8.3	0.26	0.24	0.00	18	110	900	2450				45	1	
1683.81	1.15	21.61	1683.7	-5.9	-1.0	-8.2	0.38	0.31	0.00	18	110	900	2450				45	1	
1712.56	1.54	24.62	1712.5	-5.2	-0.4	-7.9	0.42	0.41	3.19	20	110	900	2500				50	1	
1741.12	1.85	23.41	1741.0	-4.4	0.4	-7.6	0.33	0.33	-1.29	15	110	900	2500				50	1	
1769.90	2.12	24.21	1769.8	-3.4	1.3	-7.2	0.29	0.29	0.85	20	110	900	2600				55	1	
1798.49	2.39	23.17	1798.4	-2.3	2.3	-6.7	0.29	0.29	-1.11	18	120	890	2600				50	1	
1827.17	2.73	24.42	1827.0	-1.1	3.5	-6.2	0.37	0.36	1.33	18	120	890	2800				30	1	

**Customer :** Nexus Energy Limited  
**Well :** Culverin #1  
**Rig :** Ocean Patriot

**Field :** Culverin  
**Lease :** VIC/P56  
**Job # :** AU-DD-0003951414

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**North Ref :** Grid    **Declination :** 13.40°    **VS Dir :** 38.06° (from Wellhead)

WELLBORE SURVEY										DRILLING PARAMETERS									
Measured Depth (m)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (m)	Vertical Section (m)	Coordinates		DLS (°/100')	Build Rate (°/100')	Turn Rate (°/100')	WOB (lbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation		Tool Face (deg)	ROP (m/hr)	BHA No. (#)	Comment
					N/S (m)	E/W (m)								From (m)	To (m)				
1855.78	2.98	24.43	1855.6	0.3	4.8	-5.6	0.27	0.27	0.01	12	130	890	2700				38	1	
1884.43	3.09	24.80	1884.2	1.8	6.1	-5.0	0.12	0.12	0.39	12	130	890	2700				38	1	
1913.08	3.07	24.58	1912.8	3.3	7.5	-4.3	0.00	-0.02	-0.23	12	130	890	2700				38	1	
1941.89	3.12	23.61	1941.6	4.8	9.0	-3.7	0.08	0.05	-1.03	12	130	890	2700				38	1	
1970.98	3.18	24.11	1970.6	6.3	10.4	-3.1	0.07	0.06	0.52	12	130	890	2700				38	1	
1999.06	3.22	24.85	1998.6	7.8	11.9	-2.4	0.06	0.04	0.80	12	140	890	2700				35	1	
2027.82	3.27	25.23	2027.4	9.4	13.3	-1.7	0.06	0.05	0.40	12	140	890	2700				35	1	
2056.65	3.24	27.04	2056.1	11.0	14.8	-1.0	0.11	-0.03	1.91	12	140	890	2700				35	1	
2085.12	3.33	26.59	2084.6	12.6	16.3	-0.3	0.10	0.10	-0.48	12	140	890	2700				35	1	
2113.64	3.40	27.83	2113.0	14.3	17.7	0.5	0.11	0.07	1.33	12	140	890	2700				35	1	
2142.04	3.46	29.61	2141.4	15.9	19.2	1.3	0.13	0.06	1.91	12	150	900	2900				35	1	
2170.63	3.60	30.30	2169.9	17.7	20.8	2.2	0.16	0.15	0.74	12	150	900	2900				35	1	
2199.17	3.77	30.65	2198.4	19.5	22.3	3.1	0.18	0.18	0.37	12	150	900	2900				35	1	
2227.87	3.85	36.05	2227.0	21.4	23.9	4.2	0.39	0.08	5.73	12	150	900	3000				35	1	
2256.54	3.99	35.43	2255.6	23.4	25.5	5.3	0.16	0.15	-0.66	12	150	900	3000				35	1	
2285.35	4.14	37.21	2284.4	25.4	27.2	6.5	0.21	0.16	1.88	15	150	900	3000				40	1	
2314.02	4.15	34.69	2313.0	27.5	28.8	7.7	0.19	0.01	-2.68	15	150	900	3000				40	1	
2342.60	4.24	35.48	2341.5	29.6	30.5	8.9	0.11	0.10	0.84	15	150	900	3000				40	1	
2371.30	4.20	37.23	2370.1	31.7	32.3	10.2	0.14	-0.04	1.86									1	
2399.91	4.28	37.96	2398.6	33.8	33.9	11.5	0.10	0.09	0.78	15	150	900	3100				35	1	
2428.46	4.30	38.32	2427.1	35.9	35.6	12.8	0.04	0.02	0.38	15	150	900	3100				35	1	
2457.14	4.30	37.54	2455.7	38.1	37.3	14.1	0.06	0.00	-0.83	18	150	900	3200				25	1	
2514.65	4.09	38.40	2513.1	42.3	40.6	16.7	0.12	-0.11	0.46	18	150	900	3200				25	1	
2543.24	4.05	40.48	2541.6	44.3	42.2	18.0	0.16	-0.04	2.22	18	150	900	3200				25	1	
2572.00	4.01	40.97	2570.3	46.3	43.7	19.3	0.06	-0.04	0.52	18	150	900	3450				25	1	
2600.65	3.91	40.54	2598.8	48.3	45.2	20.6	0.11	-0.11	-0.46	18	150	900	3450				25	1	
2629.39	3.86	40.58	2627.5	50.3	46.7	21.9	0.05	-0.05	0.04	18	150	900	3450				25	1	
2658.02	3.89	41.30	2656.1	52.2	48.2	23.1	0.06	0.03	0.77	13	150	900	3600				55	1	
2686.60	3.77	41.46	2684.6	54.1	49.6	24.4	0.13	-0.13	0.17	18	150	900	3600				45	1	
2715.15	3.77	40.42	2713.1	56.0	51.0	25.6	0.07	0.00	-1.11	18	150	900	3600				45	1	
2743.83	3.80	42.10	2741.7	57.9	52.4	26.9	0.12	0.03	1.79	15	100	900	3450				10	1	

**Customer :** Nexus Energy Limited  
**Well :** Culverin #1  
**Rig :** Ocean Patriot

**Field :** Culverin  
**Lease :** VIC/P56  
**Job # :** AU-DD-0003951414

**North Ref :** Grid      **Declination :** 13.40°      **VS Dir :** 38.06° (from Wellhead)

WELLBORE SURVEY										DRILLING PARAMETERS									
Measured Depth (m)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (m)	Vertical Section (m)	Coordinates		DLS (°/100')	Build Rate (°/100')	Turn Rate (°/100')	WOB (lbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation		Tool Face (deg)	ROP (m/hr)	BHA No. (#)	Comment
					N/S (m)	E/W (m)								From (m)	To (m)				
2772.65	3.83	43.73	2770.5	59.8	53.8	28.2	0.12	0.03	1.72	18	140	900	3500				24	1	
2801.66	3.84	42.76	2799.4	61.7	55.2	29.5	0.07	0.01	-1.02	16	100	900	3600				20	1	
2830.44	3.89	43.81	2828.1	63.6	56.7	30.9	0.09	0.05	1.11	10	150	890	3650				35	1	
2859.14	3.95	44.31	2856.8	65.6	58.1	32.2	0.07	0.06	0.53	10	150	890	3800				20	1	
2887.70	3.86	45.65	2885.2	67.5	59.4	33.6	0.14	-0.10	1.43	12	150	890	3700				50	1	
2916.43	3.87	45.26	2913.9	69.4	60.8	35.0	0.03	0.01	-0.41	12	150	890	3700				50	1	
2944.96	3.83	45.79	2942.4	71.3	62.1	36.3	0.06	-0.04	0.57	12	150	890	3700				50	1	
2973.53	3.73	46.71	2970.9	73.2	63.4	37.7	0.12	-0.11	0.98	12	150	890	3750				40	1	
3002.19	3.72	46.75	2999.5	75.0	64.7	39.1	0.00	-0.01	0.04	5	150	890	3800				25	1	
3059.49	3.72	46.57	3056.7	78.7	67.3	41.8	0.00	0.00	-0.10	12	150	875	3700				60	1	
3088.21	3.81	46.46	3085.3	80.6	68.6	43.1	0.10	0.10	-0.12	10	150	880	3800				40	1	
3116.08	3.75	45.37	3113.1	82.4	69.9	44.4	0.10	-0.07	-1.19	10	95	890	4000				20	1	
3145.07	3.74	48.33	3142.1	84.3	71.1	45.8	0.20	-0.01	3.11	12	150	890	4000				40	1	
3173.79	3.67	49.59	3170.7	86.1	72.4	47.2	0.11	-0.07	1.34	12	150	890	4000				20	1	
3202.65	3.71	48.97	3199.5	87.9	73.6	48.6	0.06	0.04	-0.65	10	90	860	3700				30	1	
3231.77	3.53	48.20	3228.6	89.7	74.8	50.0	0.20	-0.19	-0.81	15	150	900	4050				8	1	
3260.37	3.66	49.86	3257.1	91.5	76.0	51.4	0.18	0.14	1.77	20	150	900	4050				8	1	
3317.48	3.72	47.74	3314.1	95.1	78.4	54.1	0.08	0.03	-1.13	15	90	850	3700				4	1	
3346.36	3.65	50.41	3342.9	96.9	79.6	55.5	0.20	-0.07	2.82	20	150	835	3700				10	1	
3375.03	3.69	54.03	3371.6	98.7	80.7	57.0	0.25	0.04	3.85	22	70	800	4000				5	1	
3404.40	3.54	54.90	3400.9	100.5	81.8	58.5	0.17	-0.16	0.90	15	120	895	4200				30	2	
3432.80	3.59	51.96	3429.2	102.2	82.9	59.9	0.20	0.05	-3.16	15	100	870	4100				20	2	
3461.32	3.48	51.53	3457.7	103.9	83.9	61.3	0.12	-0.12	-0.46	22	125	885	4100				4	2	
3490.24	3.38	50.31	3486.5	105.6	85.0	62.6	0.13	-0.11	-1.29	20	100	875	4200				12	2	
3519.26	3.32	50.11	3515.5	107.2	86.1	63.9	0.06	-0.06	-0.21	20	100	875	4200				12	2	
3547.59	3.32	49.95	3543.8	108.8	87.2	65.2	0.00	0.00	-0.17	22	150	850	4150				30	2	
3555.34	3.36	53.74	3551.5	109.3	87.5	65.5	0.88	0.16	14.91	22	65	850	3850				1	2	
3583.83	3.00	50.85	3580.0	110.8	88.4	66.8	0.42	-0.39	-3.09	25	65	850	3800				1	2	
3641.38	2.98	50.16	3637.4	113.7	90.3	69.1	0.02	-0.01	-0.37	25	65	850	3800				1	2	

### BHA Report

Customer : Nexus Energy Limited

Well : Culverin #1

Field : Culverin

Lease : VIC/P56

Rig : Ocean Patriot

Job # : AU-DD-0003951414

BHA# 1

BHA# 1 : Date In :23/12/200 MD In (m) : 1511 TVD In (m) : 1511 Date Out 30/12/200 MD Out (m): 3402 TVD Out (m): 3398

#### BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in <sup>2</sup> )	Dull Condition
1	12.250	Hycalog	RSX-616M	211010	4x18, 2x28	2.197	4-6-WT-S -X-8-RO-ROP

#### MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs
1	9.625	SSDS	SperryDrill	963006	0.00°		265	127.78

#### COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Hycalog PDC RSX616M	211010	12.250	2.875	12.250	379.54	P 6-5/8" Reg	0.25	
2	9-5/8" SperryDrill Lobe 6/7 - 5.0 stg	963006	9.625	6.135	12.125	147.21	B 7-5/8" Reg	8.58	
3	Bottleneck XO w/float	A639	9.438	2.875	9.438	216.30	B 6-5/8" Reg	1.22	
4	NM Integral Blade Stabilizer	694776	7.938	2.875	12.125	146.54	B 6-5/8" Reg	1.81	10.81
5	DIR	18603354	8.000	1.920		161.44	B 6-5/8" Reg	2.81	
6	HCIM-EWR-DGR	90089208	8.000	1.920	11.750	161.44	B 6-5/8" Reg	6.99	
7	CTN-SLD-ACAL	90089209	8.000	1.920	11.750	161.44	B 6-5/8" Reg	11.48	
8	HOC	10645027	8.000	1.920		161.44	B 6-5/8" Reg	3.11	
9	1x Drill collar	18600035	7.875	2.875		143.87	B 6-5/8" Reg	9.06	
10	Integral Blade Stabilizer	47607	8.250	2.875	12.125	160.05	B 6-5/8" Reg	2.10	46.26
11	1x 1 joint Drill collar	18600026	7.875	2.875		143.87	B 6-5/8" Reg	8.68	
12	Drilling Jar	11150D	8.188	3.063		154.34	B 6-5/8" Reg	9.31	
13	1x 1 joint Drill collar	18600031	7.875	2.875		143.87	B 6-5/8" Reg	8.81	
14	Cross Over Sub	MSO1930-2	8.500	2.875		171.26	B 4-1/2" IF	1.16	
15	21 joints HWDP		5.000	2.875		44.79	B 4-1/2" IF	192.98	
								268.35	

Parameter	Min	Max	Ave
WOB (lbs) :	5	25	15
RPM (rpm) :	50	150	132
Flow (gpm) :	650	900	885
SPP (psi) :	1600	4050	3179

Activity	Hrs
Drilling :	126.35
Reaming :	0.47
Circ-Other :	0.95
Total :	127.78

BHA Weight	(lb)
in Air (Total) :	66469
in Mud (Total) :	56237
in Air (Bel Jars) :	28586
in Mud (Bel Jars) :	24185

Drill String	OD(in)	Len(m)

#### PERFORMANCE

	In	Out
Inclination (deg)	0.10	3.55
Azimuth (deg)	359.89	54.83

	Distance(m)	ROP (m/hr)	Build (°/100')	Turn (°/100')	DLS (°/100')
Oriented :	15.00	0			
Rotated :	1876.00	15	0.25	0.80	
Total :	1891.00	15	0.06	0.00	0.06

#### COMMENTS

Rev/gal: 0.13  
Survey Distance: 13.13m

**OBJECTIVES:**

The objective of BHA 1 is to drill vertically to FTD in one bit run. FTD is planned at 3612m. There are three targets:

Target #1 (Primary) top 67.5Ma Sand (Culverin reservoir) is expected at 2947mMDRT.

Target #2 is the 68.5MA sand (Scimitar medium reservoir), it is expected at 3257 mMDRT.

The final target, Target #3 is the 70.3Ma sand (Scimitar deep reservoir) at 3542 mMDRT.

The 12.25" hole will drill the Gippsland Limestone, Lakes Entrance and Latrobe sections. The Gippsland is a soft sticky dispersive marl interspersed with calcarenite. The Lakes Entrance (top @ 2582m) is calcilutite/calcisiltite with minor calcarenite. The Latrobe (top @ 2970m) is interbedded sandstone, siltstone and claystone with minor coal. High ROP's are expected in the Gippsland and Lakes Entrance but these will decline in the Latrobe section. Hard stringers are expected. The hole will be drilled with a straight 9 5/8" 6:7 lobe 5.0 stage motor with a Hycalog PDC RSX616M bit. MWD includes a DM, HCIM-EWR-DGR, CTN-ACAL-SLD and HOC.

**RESULTS:**

BHA 1 commenced drilling on the 24th Dec 2005 at 1525mMDRT in the Gippsland Formation. Initially the Gippsland Formation was drilled with 110 rpm 850gpm and a WOB of 15-20klbs. The SPP was 2400psi and the differential pressure was 200psi. These parameters yielded build rates of 0.25 - 0.42°deg/30m. The drilling parameters were modified in an attempt to reduce the build rate. The surface rpm were increased gradually to 140rpm and the WOB reduced to 10 - 15klbs at a flow rate of 900gpm. This reduced the build rate to generally less than 0.1°/30m. This building tendency was also noted on offset wells. The BHA performed well through the rest of the Gippsland Formation with the ROP averaging 50 m/hr.

The Lakes Entrance Formation came in at 2824 mMDRT. A hard bed was encountered between 2685 - 2760m which reduced ROP to 5-15 mph. The primary target (Culverin reservoir) was encountered at a depth of 2837 mMDRT. The motor torqued up slightly in this section and stalled out several times. The SPP was 3700 - 3800psi with a 200 - 300psi differential pressure. The weight was limited to 12 klbs. The ROP was averaged 25m/h, but increased to 90m/h in places. The second geological target, the near 68.5Ma, sand came in 156m high at 3103 mMDRT. The inclination held steady through this section. There was a tendency to walk to the right.

Drilling slowed down due to hard formation beginning at 3147 mMDRT, with ROP's of 10 m/hr. The inclination remained steady, and the bit was still walking slightly to the right. The bit torqued up through this section and the motor stalled at times. At 3402 mMDRT the rate of penetration dropped to virtually nothing at the bit was pulled. The same assembly was run for the next run.

### BHA Report

Customer : Nexus Energy Limited

Well : Culverin #1

Field : Culverin

Lease : VIC/P56

Rig : Ocean Patriot

Job # : AU-DD-0003951414

BHA# 2

BHA# 2 : Date In :31/12/200 MD In (m) : 3402 TVD In (m) : 3398 Date Cur: 1/01/2006 MD Cur (m): 3571 TVD Cur (m): 3567

#### BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
2	12.250	Hycalog	RSX-616M	211406	4x18, 2x28	2.197	3-5-WT-SX-I-N-DL-PP

#### MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs
2	9.625	SSDS	SperryDrill	963271	0.00°		154	33.50

#### COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Hycalog PDC RSX616M	211406	12.250	2.875	12.250	379.54	P 6-5/8" Reg	0.24	
2	9-5/8" SperryDrill Lobe 6/7 - 5.0 stage	963271	9.625	6.135	12.125	147.21	B 7-5/8" Reg	8.54	1.18
3	Bottleneck XO w/float	S18819-11	9.438	2.875	9.438	216.30	B 6-5/8" Reg	1.10	
4	NM Integral Blade Stabilizer	694776	7.938	2.875	12.125	146.54	B 6-5/8" Reg	1.81	10.64
5	DIR	18603354	8.000	1.920		161.44	B 6-5/8" Reg	2.81	
6	HCIM-EWR-DGR	90089208	8.000	1.920	11.750	161.44	B 6-5/8" Reg	6.99	
7	CTN-SLD-ACAL	90089209	8.000	1.920	11.750	161.44	B 6-5/8" Reg	11.48	
8	HOC	10562336	8.000	1.920		161.44	B 6-5/8" Reg	3.10	
9	1x Drill collar	18600035	7.875	2.875		143.87	B 6-5/8" Reg	9.06	
10	Integral Blade Stabilizer	47607	8.250	2.875	12.125	160.05	B 6-5/8" Reg	2.10	46.08
11	1x 1 joint Drill collar	18600026	7.875	2.875		143.87	B 6-5/8" Reg	8.68	
12	Drilling Jar	11150D	8.188	3.063		154.34	B 6-5/8" Reg	9.31	
13	1x 1 joint Drill collar	18600031	7.875	2.875		143.87	B 6-5/8" Reg	8.81	
14	Cross Over Sub	MSO1930-2	8.500	2.875		171.26	B 4-1/2" IF	1.16	
15	21x 21 x joints HWDP		5.000	2.875		44.79	B 4-1/2" IF	192.98	
								268.17	

Parameter	Min	Max	Ave
WOB (lbs) :	15	25	20
RPM (rpm) :	65	150	105
Flow (gpm) :	850	895	875
SPP (psi) :	3800	4200	4103

Activity	Hrs
Drilling :	30.00
Reaming :	3.50
Circ-Other :	0.00
Total :	33.50

BHA Weight	(lb)
in Air (Total) :	66347
in Mud (Total) :	56032
in Air (Bel Jars) :	28463
in Mud (Bel Jars) :	24038

Drill String	OD(in)	Len(m)

#### PERFORMANCE

	In	Out
Inclination (deg)	3.55	3.16
Azimuth (deg)	54.83	52.23

	Distance(m)	ROP (m/hr)	Build (°/100')	Turn (°/100')	DLS (°/100')
Oriented :	0.00	0			
Rotated :	169.00	6			
Total :	169.00	6	-0.07	-0.47	0.08

#### COMMENTS

Rev/gal: 0.13  
Survey distance: 13.13m



**Customer :** Nexus Energy Limited**Well :** Culverin #1**Field :** Culverin**Lease :** VIC/P56**Rig :** Ocean Patriot**Job # :** AU-DD-0003951414**BHA# 2****OBJECTIVES:**

BHA 2 was RIH after BHA 1 was pulled for a bit trip. The objective of this BHA is to drill beyond the third and final target, (the 70.3Ma sand - Scimitar deep reservoir) at 3542 mMDRT to reach a final TD of 3900 mMDRT. Hard stringers and slow drilling are expected. The hole will be drilled with a straight 9 5/8" 6:7 lobe 5.0 stage motor with a Hycalog PDC RSX616M bit. MWD includes a DM, HCIM-EWR-DGR, CTN-ACAL-SLD and HOC.

**RESULTS:**

BHA 2 began drilling at 4202 mMDRT. It was tested on the way in the hole and recorded 750 psi at 720gpm. The initial ROP was 5 - 20 m/hr with 15 - 20klbs on the bit. The pump rate was 4200 psi at 890gpm, with 200psi differential. Hard stringers were encountered interbedded within softer formations. Coal interbeds were also present. The ROP in the hard stringers dropped as low as 1m/hr and increased to 20 - 30 m/hr in the softer beds. The assembly dropped from 3.54 degrees to 3.32 degrees. The final target (70.3Ma - Scimitar deep reservoir) was drilled at 3520.5 mMDRT.

The SPP dropped by 500psi, steadily over several hours and after checking surface equipment it was decided to POOH at 3571 mMDRT. A washout was suspected, however after reaching surface no washout was found. The motor was not tested on the trip out, as there was concern it could cause a potential washout in a connection to let go. The fluid in the motor drained ok. It was decided to run back in with a rotary assembly.

Motor Serial # : 963006	Job # : AU-DD-0003951414
Directional Driller(s) : B. Rowland	Customer : Nexus Energy Limited
Location : VIC/P56	Rig : Ocean Patriot
Well : Culverin #1	Bit Run # : 1      BHA # : 1      Motor Run # : 1
Depth In/Out : 1511 / 3402 m	Date In/Out : 23/12/2005 / 30/12/2005      Hole Size : 12.350 in
Application Details : Performance Drilling	

**MOTOR CONFIGURATION**

	From Bit (m)	Component	Type	Diam In/Out (in)
Upr Stab	1	Sleeve Stab/Pad	Yes	12.125 12.125
	2	Bent Housing	Yes	Adjustable: 0.00° bend
Lwr Stab or Pad Sub	3	Housing Tool Used	No	
Motor Top	4	Stator Elastomer	Nitrile	Stator: Standard
Pad	5	Bent Sub / 2nd Bent Hsg	No	
Bend (Housing)	6	Lower String Stab	Yes	12.125 12.125
Sleeve Tool	7	Upper String Stab	Yes	12.125 12.125
Additional Features : Flex Collar : No      Short Brg Pack : No      Rtr Noz / Size : /32's Brg Cfg (Off/On) :      Lobe Cfg : 6/7      BHA OD/ID : 9.438 / 2.875 in				
				Arr Ret Pick Up Sub : No No Bit Box Protr : No No

**MOTOR RUN DATA**

Max Dogleg While Rotating : 0.42 °/100'				RPM : 150	Motor Stalled : Yes		Prev Job/Well Hrs : 0.00	
Max Dogleg Overpulled In : °/100'				Force : lbf	Float Valve : Yes		Drilling Hrs : 126.35	
Max Dogleg Pushed Through : °/100'				Force : lbf	DP Filter : No		Circ Hrs : 0.95	
Hole Azimuth Start / End : 359.89° / 54.83°				Inc Start / End : 0.10° / 3.55°		Reaming Hrs : 0.47		
Interval Oriented / Rot. : 15 / 1876 m				Directional Perf Ori / Rot : / 0.25 °/100'		Total Hrs This Run : 127.78		
Jarring Occured : No						New Cumulative Hrs : 127.77		
	Diff Press (psi)	Str RPM	Rotn Torque (ft-lbs)	Drag Up/Dn (lbf)	WOB (lbs)	ROP Oriented (m/hr)	ROP Rotated (m/hr)	
Avg :	265	132	6333	/	15	0	15	
Max :	600	150	8000	/	25		84	

**PRE-RUN TESTS**

Motor Tested Pre-Run : Yes	with : 0 Collars, Bit, MWD
Dump Sub Operating : Yes	Brg Play : mm
Flow 1 : 705 gpm	Pressure 1 : 650 psi
Flow 2 : gpm	Pressure 2 : psi
Driveshaft Rotation Observed : Yes	
Bearing Leakage Observed : No	

**POST-RUN TESTS**

Motor Tested Post-Run : No	with : 2 Collars
Dump Sub Operating : Yes	Brg Play : 5.0 mm
Flow 1 : gpm	Pressure 1 : psi
Flow 2 : gpm	Pressure 2 : psi
Driveshaft Rotation Observed : Yes	
Bearing Leakage Observed : No	
Driveshaft Rotated to Drain Mud : Yes	
Fluid Flushed : No	Fluid Used :

**MUD DATA**

Base : Water	Additives :	Mud Wt : 10.1 ppg	SPP Start/End : 1600 / 3900 psi
% Oil/Water : /	% Solids : 10.00	% Sand :	PV : 16 cp      YP : 27.0 lbf/100ft²      pH : 9.0
DH Temp Avg/Max : 37.6 / 48.0	FlowRate Avg/Max : 885 / 900 gpm	Chloride Content : 83000 ppm	
Principle Formation Name(s) :	Lithology :		

**BIT DATA**

Make : Hycalog	Type : RSX-616M	Serial # : 211010	Dull Grade	1	2	3	4	5	6	7	8
Pre Existing Hours From Other Wells: 0			In								
Prev Drilling Hrs : 0.00	Prev Reaming Hrs : 0.00	No of Runs This Bit : 1	Out	4	6	WT	S	X	8	RO	ROP
Jet Sizes (/32's) : 4x18, 2x28	TFA : 2.197 in²	Gage Length : 0.240 in									

**PERFORMANCE COMMENTS**

Problem Perceived : No	Problem Date :	Service Interrupt : No	Service Interrupt Hrs :
Performance Motor : Yes	Tandem Motor : No	LIH : No	PPR Ref # :

Customer Representative's Signature (optional) : ..... Date: .....

Motor Serial # : 963271	Job # : AU-DD-0003951414	
Directional Driller(s) : B. Rowland	Customer : Nexus Energy Limited	
Location : VIC/P56	Rig : Ocean Patriot	
Well : Culverin #1	Bit Run # : 2	BHA # : 2
Depth In/Out : 3402 / 3571 m	Date In/Out : 31/12/2005 / 1/01/2006	Motor Run # : 2
Application Details : Performance Drilling		Hole Size : 12.250 in

**MOTOR CONFIGURATION**

		From Bit (m)	Component	Type	Diam In/Out (in)	
<div><div><div>Upr Stab</div><div>Lwr Stab or Pad Sub</div><div>Motor Top</div><div>Pad</div><div>Bend (Housing)</div><div>Sleeve Tool</div></div><div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div></div></div></div></div></div>	1	1.18	Sleeve Stab/Pad	Yes	Stab: 4 I 10°	12.125 12.125
	2	2.50	Bent Housing	Yes	Non-Adjustable: 0.00° bend	
	3		Housing Tool Used	No		
	4	8.78	Stator Elastomer			
	5		Bent Sub / 2nd Bent Hsg	No		
	6	10.64	Lower String Stab	Yes	Stab: 3 I 270°	12.125 12.125
	7	46.08	Upper String Stab	Yes	Stab: 3 I 270°	12.125 12.125
Additional Features :					Arr	Ret
Flex Collar		: No	Short Brg Pack	: No	Rtr Noz / Size	: /32's
Brg Cfg (Off/On)		:	Lobe Cfg	: 6/7	BHA OD/ID	: 9.438 / 2.875 in
Pick Up Sub					: No	No
Bit Box Protr					: No	No

**MOTOR RUN DATA**

Max Dogleg While Rotating		:	°/100'	RPM	:	Motor Stalled	:	No	Prev Job/Well Hrs	:	0.00		
Max Dogleg Overpulled In		:	°/100'	Force	:	lbf	Float Valve	:	No	Drilling Hrs	:	30.00	
Max Dogleg Pushed Through		:	°/100'	Force	:	lbf	DP Filter	:	No	Circ Hrs	:	0.00	
Hole Azimuth Start / End		:	54.83° / 52.23°	Inc Start / End		:	3.55° / 3.16°			Reaming Hrs	:	3.50	
Interval Oriented / Rot.		:	0 / 169 m	Directional Perf Ori / Rot		:	/ °/100'			Total Hrs This Run	:	33.50	
Jarring Occured		:	No							New Cumulative Hrs	:	33.50	
	Diff Press	(psi)	Str RPM	Rotn Torque	(ft-lbs)	Drag Up/Dn	(lbf)	WOB	(lbs)	ROP Oriented	(m/hr)	ROP Rotated	(m/hr)
Avg :	154		105	6000		/		20		0		6	
Max :	200		150	7000		/		25				75	

**PRE-RUN TESTS**

Motor Tested Pre-Run : Yes	with : 2 Collars, Bit, MWD
Dump Sub Operating : Yes	Brg Play : 3.0 mm
Flow 1 : 720 gpm	Pressure 1 : 750 psi
Flow 2 : gpm	Pressure 2 : psi
Driveshaft Rotation Observed : Yes	
Bearing Leakage Observed : No	

**POST-RUN TESTS**

Motor Tested Post-Run : No	with :
Dump Sub Operating : N/A	Brg Play : 3.0 mm
Flow 1 : gpm	Pressure 1 : psi
Flow 2 : gpm	Pressure 2 : psi
Driveshaft Rotation Observed : Yes	
Bearing Leakage Observed : No	
Driveshaft Rotated to Drain Mud : Yes	
Fluid Flushed : No	Fluid Used :

**MUD DATA**

Base : Water	Additives :	Mud Wt : 10.2 ppg	SPP Start/End : 4200 / 3800 psi
% Oil/Water : /	% Solids : 10.50	% Sand :	PV : 17 cp    YP : 30.0 lbf/100ft²    pH : 8.5
DH Temp Avg/Max : 48.5 / 50.0	FlowRate Avg/Max : 875 / 895 gpm	Chloride Content : 82000 ppm	
Principle Formation Name(s) :	Lithology :		

**BIT DATA**

Make : Hycalog	Type : RSX-616M	Serial # : 211406	Dull Grade	1	2	3	4	5	6	7	8
Pre Existing Hours From Other Wells: 0			In								
Prev Drilling Hrs : 0.00	Prev Reaming Hrs : 0.00	No of Runs This Bit : 1	Out	3	5	WT	SX	I	N	DL	PP
Jet Sizes (/32's) : 4x18, 2x28	TFA : 2.197 in²	Gage Length : 0.240 in									

**PERFORMANCE COMMENTS**

Problem Perceived : Yes	Problem Date :	Service Interrupt : No	Service Interrupt Hrs :
Performance Motor : No	Tandem Motor : No	LIH : No	PPR Ref # :

Pressure loss of 500 psi while drilling. Request was made to test motor post run, but was denied due to concern over potential washouts. Motor experienced no stalling whilst drilling. Uncertain if the motor was the cause of the pressure loss.

Customer Representative's Signature (optional) : ..... Date: .....

# sperry-sun

## DRILLING SERVICES

### Daily Drilling Report

Customer : Nexus Energy Limited

Well : Culverin #1

Field : Culverin

Lease : VIC/P56

Rig : Ocean Patriot

Job # : AU-DD-0003951414

CURRENT STATUS Report # 1 22/12/2005

Total Depth (m) :	1511	Casing Depth (m) :	585.50	Operator Reps :	R. King, B.Webb
Drilled last 24 hrs (m) :	0	Casing Diameter (in) :	30.000	SSDS Reps :	B. Rowland (1)
Hole Size (in) :		Casing ID (in) :	19.500		

#### LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
1509.77	0.09	0.70	1509.70	8.76	S72.28W

#### LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

#### BHA SUMMARY

#### MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft <sup>2</sup> )	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
					/					

#### TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	06:00	6.00	1511.00		Running marine riser and BOP's
06:00	07:00	1.00	1511.00		Secure test caps in marine riser, connect lines, test c&k lines.
07:00	13:00	6.00	1511.00		Continue running marine riser and BOP's
13:00	14:00	1.00	1511.00		Secure test caps in marine riser, connect lines, test c&k lines.
14:00	21:30	7.50	1511.00		Continue running marine riser and BOP's
21:30	22:30	1.00	1511.00		Secure test caps in marine riser, connect lines, test
22:30	00:00	1.50	1511.00		P/U slip joint.

#### COMMENTS

Tools arrived at 16:00hrs, on board at 21:00hrs.

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## DRILLING SERVICES

### Daily Drilling Report

Customer : Nexus Energy Limited

Well : Culverin #1

Field : Culverin

Lease : VIC/P56

Rig : Ocean Patriot

Job # : AU-DD-0003951414

CURRENT STATUS Report # 2 23/12/2005

Total Depth (m) :	1511	Casing Depth (m) :	585.50	Operator Reps :	R. King, B.Webb
Drilled last 24 hrs (m) :	0	Casing Diameter (in) :	30.000	SSDS Reps :	B. Rowland (2)
Hole Size (in) :	12.350	Casing ID (in) :	19.500		

#### LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
1509.77	0.09	0.70	1509.70	8.76	S72.28W

#### LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

#### BHA SUMMARY

BHA 1: 268.35 m; Bit #1 (5.22 hrs), PDM #1 (5.22 hrs), Sub, Stab, MWD, MWD, MWD, MWD, 1x DC, Stab, 1x DC, Jar, 1x DC, Sub, HWDP

#### MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lb/100ft <sup>2</sup> )	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
					/					

#### TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	01:00	1.00	1511.00		M/U slip joint and landing joint.
01:00	02:00	1.00	1511.00		ROV making repairs to camera.
02:00	04:00	2.00	1511.00		Nipple up choke, kill and booster goosenecks.
04:00	05:00	1.00	1511.00		Break circ w/ dowell. Test choke and kill lines, commence move rig.
05:00	05:30	0.50	1511.00		Latch SDL ring to slip joint complete rig move.
05:30	07:00	1.50	1511.00		Bleed down tensioners and secure storm saddles to guidelines.
07:00	08:00	1.00	1511.00		land and latch BOP's.
08:00	09:00	1.00	1511.00		Secure pod hoses in storm saddles
09:00	10:00	1.00	1511.00		Break circ w/ dowell. Test choke and kill lines,
10:00	11:00	1.00	1511.00		Unlock slip joint and scope out.
11:00	12:00	1.00	1511.00		MU diverter to slip joint
12:00	12:30	0.50	1511.00		Connect power block to diverter
12:30	13:30	1.00	1511.00		rig down riser spider diverter running tool and install master bushings.
13:30	16:00	2.50	1511.00		clear rig floor of marine riser equip, install iron roughneck tracks
16:00	18:00	2.00	1511.00		Cut Drill Line
18:00	21:30	3.50	1511.00		RIH 17.5" BHA and lay down same
21:30	00:00	2.50	1511.00	1	PU 12.25" BHA and download BHA

#### COMMENTS

# sperry-sun

## DRILLING SERVICES

### Daily Drilling Report

Customer : Nexus Energy Limited

Well : Culverin #1

Field : Culverin

Lease : VIC/P56

Rig : Ocean Patriot

Job # : AU-DD-0003951414

CURRENT STATUS Report # 3 24/12/2005

Total Depth (m) :	1544	Casing Depth (m) :	1511.08	Operator Reps :	R. King, B.Webb
Drilled last 24 hrs (m) :	33	Casing Diameter (in) :	13.625	SSDS Reps :	B. Rowland (3)
Hole Size (in) :	12.350	Casing ID (in) :	12.347		

#### LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
1540.46	0.33	354.58	1540.39	8.74	S72.99W

#### LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

#### BHA SUMMARY

BHA 1: 268.35 m; Bit #1 (8.07 hrs), PDM #1 (9.02 hrs), Sub, Stab, MWD, MWD, MWD, MWD, 1x DC, Stab, 1x DC, Jar, 1x DC, Sub, HWDP

#### MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft <sup>2</sup> )	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
KCl/Polymer	9.5	48	10	13.0	4.0 / 6.0	7	9.5	5.35		

#### TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	03:00	3.00	1511.00	1	MU 12.25" BHA, load radioactive sources, shallow pulse test.
03:00	03:30	0.50	1511.00	1	PU 55m HWDP
03:30	09:00	5.50	1511.00	1	PU 745m 5: DP, function diverter.
09:00	09:30	0.50	1511.00	1	Function test BOP.
09:30	11:30	2.00	1511.00	1	Troubleshoot BOP's (blue pod).
11:30	13:30	2.00	1511.00	1	RIH to 1450m, wash to TOC at 1478m.
13:30	19:00	5.50	1528.00	1	Drill cmt plugs, shoe track and shoe, displace to 9.5 ppg mud, drill 3m new hole
19:00	20:00	1.00	1528.00	1	Circ BU, condition mud.
20:00	21:00	1.00	1528.00	1	Leak-off Test at 1511m w/ 9.5 ppg mud, 1625psi equivalent 15.8 ppg.
21:00	00:00	3.00	1544.00	1	Drill to 1544m, flush c&k, perform SCR's.

#### COMMENTS

Problems encountered with flooding of the shakers, leading to slow flow rates and ROP's while drilling cement. Control drill until the stabilisers out of the casing.

circ hrs: 9 hrs



**Job # :** AU-DD-0003951414

circ hrs: 22



**Job # :** AU-DD-0003951414

<b>Total Depth</b>	<b>(m)</b>	<b>:</b>	<b>2641</b>
<b>Drilled last 24 hrs</b>	<b>(m)</b>	<b>:</b>	<b>510</b>
<b>Hole Size</b>	<b>(in)</b>	<b>:</b>	<b>12.350</b>

**Casing Depth (m) :** 1511.08  
**Casing Diameter (in) :** 13.625  
**Casing ID (in) :** 12.347

**Operator Reps** : R. King, B.Webb  
**SSDS Reps** : B. Rowland (5)

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2629.39	3.86	40.58	2627.52	51.57	N25.10E

Formation Name	MD Top (m)	TVD Top (m)

BHA 1: 268.35 m; Bit #1 (53.68 hrs), PDM #1 (54.63 hrs), Sub, Stab, MWD, MWD, MWD, MWD, 1x DC, Stab, 1x DC, Jar, 1x DC, Sub, HWDP

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
KCl/ Polymer	10.0	55	16	25.0	6.0 / 9.0	4	8.7	10.00		

From	To	Hours	TMD (m)	BHA #	Activity
00:00	12:00	12.00	2388.00	1	Drill ahead to 2388m.
12:00	00:00	12.00	2641.00	1	Drill ahead to 2641m.

circ hrs: 22hrs



# sperry-sun

## DRILLING SERVICES

### Daily Drilling Report

Customer : Nexus Energy Limited

Well : Culverin #1

Field : Culverin

Lease : VIC/P56

Rig : Ocean Patriot

Job # : AU-DD-0003951414

CURRENT STATUS Report # 6 27/12/2005

Total Depth (m) :	3115	Casing Depth (m) :	1511.08	Operator Reps :	R. King, B.Webb
Drilled last 24 hrs (m) :	474	Casing Diameter (in) :	13.625	SSDS Reps :	B. Rowland (6)
Hole Size (in) :	12.350	Casing ID (in) :	12.347		

#### LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
3088.21	3.81	46.46	3085.32	81.01	N32.17E

#### LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

#### BHA SUMMARY

BHA 1: 268.35 m; Bit #1 (75.53 hrs), PDM #1 (76.47 hrs), Sub, Stab, MWD, MWD, MWD, MWD, 1x DC, Stab, 1x DC, Jar, 1x DC, Sub, HWDP

#### MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lb/100ft <sup>2</sup> )	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
KCl/Polymer	9.9	56	15	25.0	7.0 / 11.0	5	9.5	10.00		

#### TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	08:30	8.50	2787.00	1	Drill ahead to 2787m.
08:30	09:00	0.50	2787.00	1	c/o saver sub.
09:00	12:00	3.00	2857.00	1	Drill ahead to 2857m.
12:00	18:00	6.00	2991.00	1	Drill ahead to 2991m.
18:00	18:30	0.50	2991.00	1	c/o front die in pipehandler.
18:30	00:00	5.50	3115.00	1	Drill ahead to 3115m.

#### COMMENTS

Trq and motor stall at 2845 mMDRT due to formation.  
Torguing up and motor stalling at 3128m MDRT. Pyrite encountered at 3146 mMDRT.

circ hrs: 21hrs



**Job # :** AU-DD-0003951414

**Casing ID** (in) : 12.347

circ hrs: 23 hrs

# Daily Drilling Report

**Customer :** Nexus Energy Limited

**Well :** Culverin #1

**Field :** Culverin

**Lease :** VIC/P56

**Rig :** Ocean Patriot

**Job # :** AU-DD-0003951414

**CURRENT STATUS** Report # 8 29/12/2005

**Total Depth (m) : 3385**

**Casing Depth (m) : 1511.08**

**Operator Reps** : R. King, B.Webb

**Drilled last 24 hrs (m) : 108**

**Casing Diameter (in) :** 13.625

**SSDS Reps** : B. Rowland (8)

**Hole Size** (in) : 12.350

**Casing ID** (in) : 12.347

## LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
3375.03	3.69	54.03	3371.55	98.81	N35.22E

**LAST FORMATION TOP**

Formation Name	MD Top (m)	TVD Top (m)
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## BHA SUMMARY

BHA 1: 268.35 m; Bit #1 (118.75 hrs), PDM #1 (119.7 hrs), Sub, Stab, MWD, MWD, MWD, MWD, 1x DC, Stab, 1x DC, Jar, 1x DC, Sub, HWDP

## MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
KCl/Polymer	10.2	60	16	26.0	6.0 / 9.0	4	8.8	10.50		

## TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	12:00	12.00	3335.00	1	Drill ahead to 3335m.
12:00	15:30	3.50	3356.00	1	Drill ahead to 3356m
15:30	16:30	1.00	3356.00	1	c/o swab on mud pump, troubleshoot blower motor.
16:30	00:00	7.50	3385.00	1	Drill ahead to 3385m.

## COMMENTS

circ hrs: 24

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## DRILLING SERVICES

### Daily Drilling Report

Customer : Nexus Energy Limited

Well : Culverin #1

Field : Culverin

Lease : VIC/P56

Rig : Ocean Patriot

Job # : AU-DD-0003951414

CURRENT STATUS Report # 9 30/12/2005

Total Depth (m) :	3402	Casing Depth (m) :	1511.08	Operator Reps :	R. King, G. Webster
Drilled last 24 hrs (m) :	17	Casing Diameter (in) :	13.625	SSDS Reps :	B. Rowland (9)
Hole Size (in) :	12.350	Casing ID (in) :	12.347		

#### LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
3375.03	3.69	54.03	3371.55	98.81	N35.22E

#### LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

#### BHA SUMMARY

BHA 1: 268.35 m; Bit #1 (126.82 hrs), PDM #1 (127.77 hrs), Sub, Stab, MWD, MWD, MWD, MWD, 1x DC, Stab, 1x DC, Jar, 1x DC, Sub, HWDP

#### MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lb/100ft <sup>2</sup> )	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
KCl/Polymer	10.1	60	16	27.0	6.0 / 9.0	4	9.0	10.00		

#### TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	02:00	2.00	3402.00	1	Drill ahead to 3390m.
02:00	02:30	0.50	3402.00	1	Troubleshoot Elmago brake system.
02:30	08:30	6.00	3402.00	1	Drill ahead to 3402m.
08:30	09:30	1.00	3402.00	1	POOH to 2867m.
09:30	10:00	0.50	3402.00	1	Backream to 2819 due to 50k overpull
10:00	12:00	2.00	3402.00	1	POOH to 2300m.
12:00	16:30	4.50	3402.00	1	POOH to 1475m. Recalibrate MWD caliper tool.
16:30	18:30	2.00	3402.00	1	POOH 12.25" BHA. Remove radioactive sources, break bit, LD Motor.
18:30	20:30	2.00	3402.00	1	PU MWD from derrick and download
20:30	21:00	0.50	3402.00	1	Grease TDS, change dies pipe handler, check compensator.
21:00	23:00	2.00	3402.00	1	PU new motor, MU bit, RIH with 12.25" BHA.
23:00	00:00	1.00	3402.00	1	Initiate MWD and load radioactive sources.

#### COMMENTS

POOH for bit

circ hrs 9 hrs



**Job # :** AU-DD-0003951414

**SSDS Reps** : B. Rowland (10)

circ hrs 15 hrs



**Job # :** AU-DD-0003951414

<b>Total Depth</b>	<b>(m)</b>	<b>:</b>	3571
<b>Drilled last 24 hrs</b>	<b>(m)</b>	<b>:</b>	98
<b>Hole Size</b>	<b>(in)</b>	<b>:</b>	12.250

**Casing Depth (m) :** 1511.08  
**Casing Diameter (in) :** 13.625  
**Casing ID (in) :** 12.347

**SSDS Reps** : B. Rowland (11)

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
3641.38	2.98	50.16	3637.45	113.74	N37.42E

Formation Name	MD Top (m)	TVD Top (m)
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BHA 2: 268.17 m; Bit #2 (33.5 hrs), PDM #1 (33.5 hrs), Sub, Stab, MWD, MWD, MWD, MWD, 1x DC, Stab, 1x DC, Jar, 1x DC, Sub, 21x HWDP

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lb/100ft <sup>2</sup> )	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
KCl/Polymer	10.2	65	17	30.0	7.0 / 10.0	4	8.5	10.50		

From	To	Hours	TMD (m)	BHA #	Activity
00:00	12:00	12.00	3553.00	2	Drill ahead to 3553m.
12:00	18:30	6.50	3571.00	2	Drill ahead to 3571m
18:30	00:00	5.50	3571.00	2	Flow check, POOH wet checking for washout.

Observed pressure loss of 400 psi over 30 min at 18:00hrs.

Circ hrs 18.5hrs