



## **END OF WELL REPORT**

**Overseas Energy Holdings Ltd**

**Westwood-1  
Westwood-1 ST1**

**by**

**BAKER HUGHES INTEQ**

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## Sample Manifest

### Sampling Summary and Record of Distribution for Westwood-1

Cuttings samples were collected at the intervals tabulated below

Section	Depth range (mMDKB)	Sampling intervals (m)
311 mm (12-1/4")	120.0 – 340.0	10m
216mm (8-1/2")	340.0 – 1324.0	3m

#### Missed Samples

Section	Explanation	Depth (mMDRT)
311 mm (12-1/4")	No samples missed	
216mm (8-1/2")	No samples missed	

### Underweight Samples:

Underweight Sample Depth (mMDKB)	Reason
9.0 – 12.0	Not bagged by BHI
18.0 – 21.0	Not bagged by BHI
21.0 – 24.0	Not bagged by BHI
24.0 – 27.0	Not bagged by BHI
27.0 – 30.0	Not bagged by BHI
33.0 – 42.0	Not bagged by BHI
42.0 – 48.0	Not bagged by BHI
48.0 – 51.0	Not bagged by BHI
51.0 – 54.0	Not bagged by BHI
54.0 – 57.0	Not bagged by BHI
57.0 – 60.0	Not bagged by BHI
60.0 – 63.0	Not bagged by BHI
63.0 – 66.0	Not bagged by BHI
69.0 – 72.0	Not bagged by BHI
72.0 – 75.0	Not bagged by BHI
75.0 – 78.0	Not bagged by BHI
78.0 – 81.0	Not bagged by BHI
81.0 – 84.0	Not bagged by BHI
84.0 – 87.0	Not bagged by BHI
87.0 – 90.0	Not bagged by BHI
93.0 – 96.0	Not bagged by BHI
96.0 – 99.0	Not bagged by BHI
99.0 – 102.0	Not bagged by BHI
102.0 – 105.0	Not bagged by BHI
105.0 – 108.0	Not bagged by BHI
108.0 – 111.0	Not bagged by BHI
111.0 – 114.0	Not bagged by BHI
114.0 – 117.0	Not bagged by BHI
117.0 – 120.0	Not bagged by BHI

## Sample Manifest

SAMPLE TYPE	No. of Sets	COMPOSITION			PACKING DETAILS
		Sample    Depth    Interval			
		Big Box No:	Small Box No.	Depth From – To (mMDKB)	
200g W&D Drill Cuttings Sets A - B	2	1	1	0.0 – 54.0	Large boxes marked as Set A & B. Total 14 Boxes Weight 10Kg each  Total Wt.(14x10)= 140Kgs
			2	54.0 – 120.0	
			3	120.0 – 290.0	
			4	290.0 – 364.0	
		2	5	364.0 – 400.0	
			6	400.0 – 442.0	
			7	442.0 – 490.0	
			8	490.0 – 535.0	
		3	9	535.0 – 580.0	
			10	580.0 – 622.0	
			11	622.0 – 664.0	
			12	664.0 – 703.0	
		4	13	703.0 – 742.0	
			14	742.0 – 790.0	
			15	790.0 – 832.0	
			16	832.0 – 871.0	
		5	17	871.0 – 919.0	
			18	919.0 – 967.0	
			19	967.0 – 1018.0	
			20	1018.0 – 1069.0	
		6	21	1069.0 – 1111.0	
			22	1111.0 – 1153.0	
			23	1153.0 – 1198.0	
			24	1198.0 – 1249.0	
		7	25	1249.0 – 1297.0	
			26	1297.0 – 1324.0	

## Sample Manifest

<b>Samplex Trays Set C &amp; D</b>	2		1	0 – 1324.0	<b>Placed in 2 wooden boxes Marked as Set C &amp; D Total Wt.(2x6)= 6 Kgs</b>
<b>GeoChem Samples Set E</b>	1		1	558.0 – 600.0	<b>Placed in the Large Cardboard box marked as Set E  Total Wt.(1x10)= 10Kgs</b>
			2	600.0 – 700.0	
			3	700.0 – 800.0	
			4	800.0 – 900.0	
			5	900.0 – 1000.0	
			6	1000.0 – 1100.0	
			7	1100.0 – 1200.0	
			8	1200.0 – 1300.0	
			9	1300.0 – 1326.0	

## Sample Destination:

SET NUMBER	SET TYPE	DESTINATION
<b>A</b>	200g W&D Drill Cuttings Sample	OEH, TASMANIA
<b>B</b>	200g W&D Drill Cuttings Sample	MRT CORE LIBRARY, 93 MORNINGTON ROAD, TASMANIA, 7018
<b>C</b>	Samplex Trays	MRT CORE LIBRARY, 93 MORNINGTON ROAD, TASMANIA, 7018
<b>D</b>	Samplex Trays	OEH, TASMANIA
<b>E</b>	Geochemical Samples	OEH, TASMANIA

## Sample Manifest

### Mudlogging Samples Compliancy Checklist

It is critically important for all cuttings samples to be compliant with both Government and Woodside requirements. Please help us to ensure compliance by following the sampling program for the well, and completing this checklist. Woodside appreciates your help with this.

**Well:** Westwood-1  
**Mudlogging Contractor:** Baker Hughes Inteq  
**Crew Chief Name at TD:** J Lawrance / A Rayan  
**Sample Catchers Names:** Amit / Rahul

### CREW CHIEF TO COMPLETE, SIGN AND THEN SEND TO OPS GEOLOGIST

YES	
	Correct weight (200 g +) - or reason why underweight marked on bag.
	Samples dry (& free of oily residue for SBM).
	Correct sampling intervals.
	Correct number of splits.
	Correct marking of split boxes.
	Correct bag types (plastic for WBM / foil for SBM).
	Correct labelling (indelible pen for plastic bags with WBM / metals tags for SBM).
	Legible labelling.
	Empty and labelled bags for missed intervals, with reason why missed (eg high ROP, cored interval, washed off shakers, lost circulation).
	Comprehensive sample manifest taped to outside of split boxes.
	This declaration has been sent to the ops geologist within 7 days of TD of the well.

**Signed By Crew Chief:**

**Date:** \_\_\_\_\_

## Sample Manifest

### Sampling Summary and Record of Distribution for Westwood-1 ST1

Cuttings samples were collected at the intervals tabulated below

Section	Depth range (mMDKB)	Sampling intervals (m)
216mm (8-1/2")	860.0 – 1678.0	3m
216mm (8-1/2")	1678.0 – 1679.0	1m

#### Missed Samples

Section	Explanation	Depth (mMDRT)
216mm (8-1/2")	No samples missed	

#### NOTE:

Started bagging samples from 874.0 mMDKB.

Samples from 1120.0 mMDKB are -10m Depth Corrected.

SAMPLE TYPE	No. of Sets	COMPOSITION			PACKING DETAILS
		Sample   Depth   Interval			
		Big Box No:	Small Box No.	Depth From - To (mMDKB)	
200g W&D Drill Cuttings Sets A - B	2	1	1	874.0 – 916.0	Large boxes marked as Set A & B. Total 10 Boxes Weight 8Kg each  Total Wt.(8x10)= 80Kgs
			2	916.0 – 961.0	
			3	961.0 – 1009.0	
			4	1009.0 – 1048.0	
	2	2	5	1048.0 – 1090.0	
			6	1090.0 – 1138.0	
			7	1138.0 – 1183.0	
			8	1183.0 – 1225.0	
	2	3	9	1225.0 – 1267.0	
			10	1267.0 – 1309.0	
			11	1309.0 – 1357.0	
			12	1357.0 – 1405.0	
	2	4	13	1405.0 – 1450.0	
			14	1450.0 – 1495.0	
			15	1495.0 – 1546.0	
			16	1546.0 – 1597.0	

## Sample Manifest

	2	5	17	1597.0 – 1637.0	
			18	1637.0 – 1679.0	
Samplex Trays Set C & D	C		1	860.0 – 1679.0	Placed in wooden box Marked as Set C
	D		1	1366.0 – 1679.0	Placed in Small split box Marked as Set D
Mud Samples Set E	1			1679.0	Packed in 1 Small Split Box = 1x1=1 Kg marked as Set E
GeoChem Samples Set F	1		1	1300.0 – 1400.0	Placed in the Large Cardboard box marked as Set F
			2	1400.0 – 1500.0	
			3	1500.0 – 1600.0	
			4	1600.0 – 1679.0	

## Sample Destination:

SET NUMBER	SET TYPE	DESTINATION
A	200g W&D Drill Cuttings Sample	OEI, TASMANIA
B	200g W&D Drill Cuttings Sample	MRT CORE LIBRARY, 93 MORNINGTON ROAD, TASMANIA, 7018
C	Samplex Trays	MRT CORE LIBRARY, 93 MORNINGTON ROAD, TASMANIA, 7018
D	Samplex Trays	OEI, TASMANIA
E	Mud Samples	OEI, TASMANIA
F	Geochemical Samples	OEI, TASMANIA

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**Well:** Westwood-1 ST1

**Mudlogging Contractor:** Baker Hughes Inteq

**Crew Chief Name at TD:** Dedi / Shaharizad

**Sample Catchers Names:** Amit / Rahul


**CREW CHIEF TO COMPLETE, SIGN AND THEN SEND TO OPS GEOLOGIST**

YES	
	Correct weight (200 g +) - or reason why underweight marked on bag.
	Samples dry (& free of oily residue for SBM).
	Correct sampling intervals.
	Correct number of splits.
	Correct marking of split boxes.
	Correct bag types (plastic for WBM / foil for SBM).
	Correct labelling (indelible pen for plastic bags with WBM / metals tags for SBM).
	Legible labelling.
	Empty and labelled bags for missed intervals, with reason why missed (eg high ROP, cored interval, washed off shakers, lost circulation).
	Comprehensive sample manifest taped to outside of split boxes.
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**Signed By Crew Chief:** \_\_\_\_\_




**Date:** \_\_\_\_\_



BIT RUN SUMMARY																														
OPERATOR Overseas Energy Holdings Ltd						WELL NAME Westwood-1						CONTRACTOR Hunt Energy						RIG Rig 3												
<div> INTEQ</div>				Mud Pump Data Pump 1: 5.5" Liner, 16" Stroke, 5.6 gl/stk Pump 2: 5.5" Liner, 16" Stroke, 5.6 gl/stk 95% Eff			BIT DULL CHARACTERISTICS												REASONS PULLED											
							BC - Broken Cone			CI - Cone Interference			PB - Pinched Bit			SS - Self-Sharpening			BHA - Bottomhole Assembly			LOG - Run Logs			FM - Formation Change			TD - Total / Clog depth		
							BT - Broken Teeth			CR - Cored			PN - Plugged Nozzle			TR - Tracking			DMF - Downhole Motor failure			RIG - Rig repair			HP - Hole Problems			TQ - Torque		
							BU - Balled Up			CT - Chipped Teeth			RG - Rounded Gauge			WO - Washed-Out Bit			DSF - Drill String failure			CM - Condition Mud			HR - Hours			TW - Twist-Off		
							CC - Cracked Cone			FC - Flat Crested Wear			RO - Ring Out			WT - Worn Teeth			DST - Drill Stem Test			CP - Core Point			PP - Pump Pressure			WC - Weather Conditions		
CD - Cone Dragged			HC - Heat Checking			SD - Shirlat Damage			NO - No Dull Charact.			DTF - Downhole Tool Failure			DP - Drill Plug			PR - Penetration rate			WD - Washout - Drill String									
BHA #	BIT No.	MAKE	TYPE	TFA sq.in.	JETS	SERIAL No.	DEPTH IN m	METRES ON BIT	HRS ON BOTTOM	AV ROP m/hr	WOB klbf	RPM S/M	TBR krev	SPP psi	FLOW IN gpm	TQ kftlb	GRADE								MW ppg	REMARKS				
																	I	O	D	L	B	G	O	R						
311mm (12-1/4") Hole Section 122.0 - 340.0 mMDKB																														
2	NB2	Smith	Tri-Cone- GFS20BODVCPS	1.002	2x18,1x20,1x16	C63CU	112.0	218.0	39.5	8.0	11-45	10-94/no motor	156.8	233-830	262-597	2-91	2	2	CT	A	E	1/16	BT	TD	8.9 - 9.5					
216mm (8-1/2") Hole Section 340.0 - 1326.0 mMDKB																														
3	NB3	Security	Tri-Cone - EBXS 12DS	0.4510	3 x 14	10876747	340.0	218.0	22.9	11.6	2-42	2-92/no motor	99.4	424-1251	266-424	3-88	1	1	WT	A	E	IN	NO	PR	9.1 - 9.4	POOH for Bit change				
3	NB4	Smith	PDC - JX7926	0.7731	7 x 12	Mi716VYEBPX	558.0	447.0	42.1	10.6	5-45	0-108/no motor	248.5	117-1598	125-584	2-88	6	2	WT	N	X	IN	NO	BHA	9.2 - 9.4	POOH due to build in Inclination				
4	NB5	Security	Tri-Cone - EBXS 20DS	0.746	3 x 18	10895631	1005.0	68.0	15.3	4.4	8-39	0-72 / 76-236	124.9	690-1105	269-336	0-81	1	1	NO	A	E	IN	NO	MWD	9.1 - 9.3	POOH due to MWD tool failure				
4	5RR	Security	Tri-Cone - EBXS 20DS	0.746	3 x 18	10895631	1073.0	174.0	28.1	6.2	14-47	0-72 / 38-186	259.3	1061-1378	215-413	0-75	3	3	BT	G	E	X	CT	TQ	9.2 - 9.3	POOH for Bit change				
4	NB6	Reed	R30APDH	0.746	3 x 18	AD 8201	1247.0	79.0	12.7	5.4	12-48	0-88 / 12-181	111.1	172-1492	114-394	0-91	3	3	BT	G	E	X	CT	TD	9.2 - 9.3	POOH for plug back for sidetrack				

NOTE: Bit run number = BHA number ; NB = New Bit RB = Rerun Bit PDM = Downhole Motor A = Adjustable Gauge Stabilizer M = FEWD / MWD tools

BIT RUN SUMMARY

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OPERATOR Overseas Energy Holdings Ltd							WELL NAME Westwood-1 ST1									CONTRACTOR Hunt Energy							RIG Rig 3										
<div></div>				Mud Pump Data Pump 1: 5.5" Liner, 16" Stroke, 5.6 gl/stk Pump 2: 5.5" Liner, 16" Stroke, 5.6 gl/stk 95% Eff			BIT DULL CHARACTERISTICS												REASONS PULLED														
							BC - Broken Cone				CI - Cone Interference				PB - Pinched Bit				SS - Self-Sharpening				BHA - Bottomhole Assembly			LOG - Run Logs			FM - Formation Change			TD - Total / Csg depth	
							BT - Broken Teeth				CR - Cored				PN - Plugged Nozzle				TR - Tracking				DMF - Downhole Motor failure			RIG - Rig repair			HP - Hole Problems			TQ - Torque	
							BU - Balled Up				CT - Chipped Teeth				RG - Rounded Gauge				WO - Washed-Out Bit				DSF - Drill String failure			CM - Condition Mud			HR - Hours			TW - Twist-Off	
							CC - Cracked Cone				FC - Flat Crested Wear				RO - Ring Out				WT - Worm Teeth				DET - Drill Stem Test			CP - Core Point			PP - Pump Pressure			WC - Weather Conditions	
							CD - Cone Dragged				HC - Heat Checking				SD - Shirttail Damage				NO - No Dull Characs.				DTF - Downhole Tool Failure			DP - Drill Plug			PR - Penetration rate			WO - Washout - Drill String	
BHA #	BIT No.	MAKE	TYPE	TFA sq.in.	JETS	SERIAL No.	DEPTH IN m	METRES ON BIT	HRS ON BOTTOM	AV ROP m/hr	WOB klbf	RPM S/M	TBR krev	SPP psi	FLOW IN gpm	TQ kftlb	GRADE								MW ppg	REMARKS							
																	I	O	D	L	B	G	O	R									
216mm (8-1/2") Hole Section 815.0 - 1679.0 mMDKB																																	
5	NB7	Smith	Tri-Cone - FH 30	0.746	3 x 18	PKE 9578	815.0	297.0	49.3	6.0	10 - 44	0-75 / 55 - 112	324.9	555 - 1365	202 - 396	0 - 28	2	2	NO	A	E	X	NO	DMF	9.2 - 9.3	POOH change bit							
6	NB8	Smith	Tri-Cone - FH 30 DVPS	0.746	3 x 18	PJ 4480	1112.0	277.0	60.9	4.6	10 - 33	0-81 / 84 - 114	449.9	1134 - 1395	235 - 405	0 - 8	3	2	NO	A	E	X	NO	DMF	9.2 - 9.3	POOH change bit & BHA, MWD failure							
7	NB9	Smith	Tri-Cone - GF150 DPS	0.746	3 x 18	PM4384	1389.0	128.0	24.6	5.2	11 - 40	0 - 75 / 75 - 105	174.2	1005 - 1512	277 - 368	0 - 8	4	7	BT	G	E	X	SD	DTF	9.3 - 9.4	POOH change bit & BHA, MWD failure							
8	NB10	Reed	Tri-Cone - R30APDH	0.746	3 x 18	CN6324	1517.0	87.0	18.4	18.4	13 - 37	0 / 69 - 109	984	1207 - 1529	265 - 384	0	6	4	BT	G	E	X	SD	BHA	9.3 - 9.4	POOH change BHA							
9	7RR	Smith	Tri-Cone - FH 30	0.9204	3 x 20	PKE 9578	1604.0	75.0	21.1	3.6	40475	0 / 93	1119.2	1150 - 1533	299 - 365	0	5	4	BT	G	E	X	BT	TD	9.2-9.3	T.D well							

NOTE: Bit run number = BHA number ; NB = New Bit RB = Rerun Bit PDM = Downhole Motor A = Adjustable Gauge Stabilizer M = FEWD / MWD tools

**FORMATION EVALUATION LOG**  
1:200

# **DRILLING DATA PLOT**

1:500