Overseas Energy Holdings Limited

Westwood 1 (ST1) Final Well Report

August 2010

OVERSEAS ENERGY HOLDINGS

Westwood 1, ST1

Final Well Report

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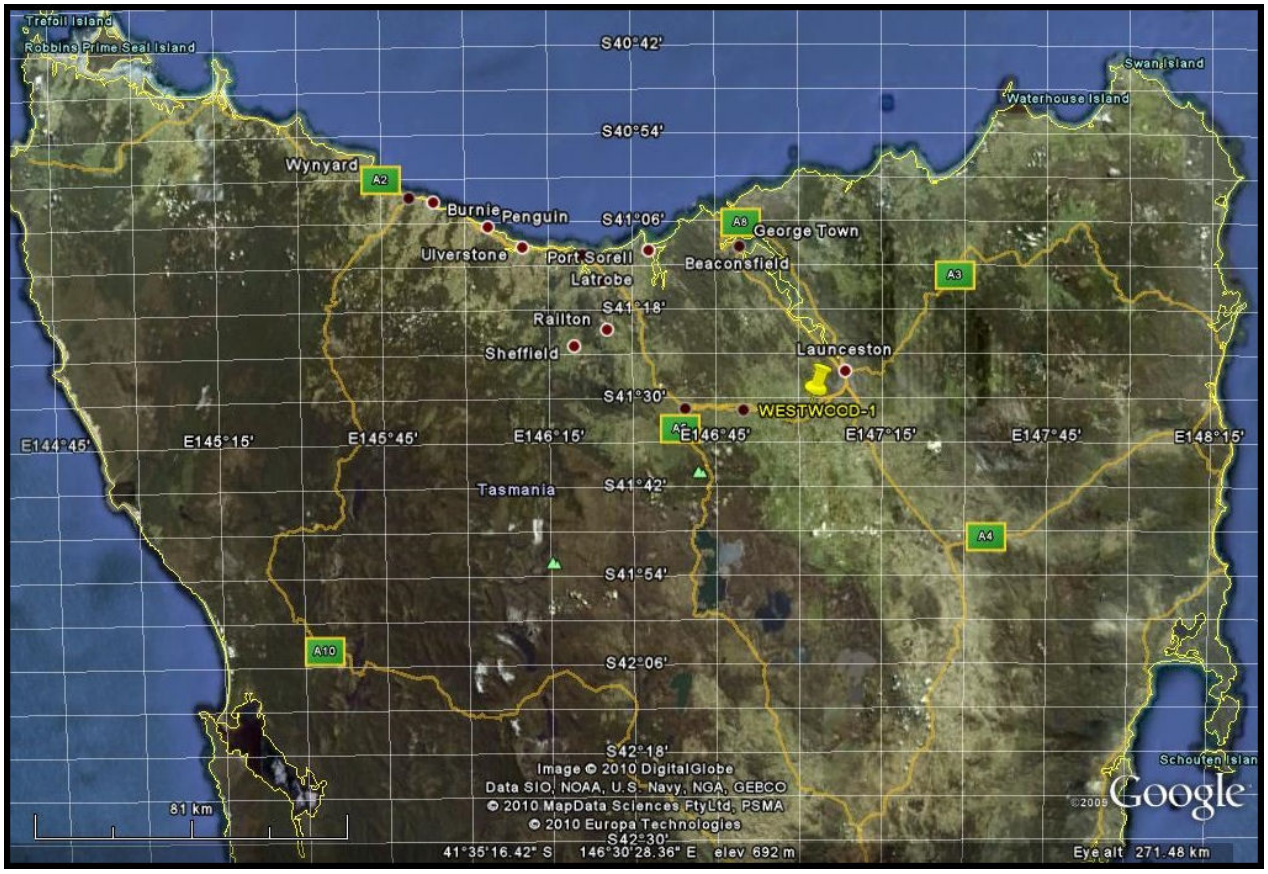


Well Data Card

WELL: WESTWOOD-1 ST1		**WELL TYPE:** Oil Exploration Well
BLOCK/LICENCE: SEL 05/2005, Tasmania		**STATUS:** Plugged And Abandoned
TYPE STRUCTURE: N/A		**TOTAL DEPTH:** 1679m Drlr, 1678m Lgr
SEISMIC STATION: Offline. (Closest seismic station is SP 850, Line TB01-PW (GSLM, 2001).		**SPUDDED:** 06:30 hrs, 25/11/2009 **TD REACHED:** 05:00 hrs, 01/01/2010 **RIG RELEASED:** 18:00, hrs, 04/01/2010
LONGITUDE: 147° 2' 3.7" E **LATITUDE:** 41° 31' 10.4" S (GDA 94, GRS80 Ellipsoid)	**EASTING:** 502867.0m **NORTHING:** 5403564.2m (MGA 94, Zone 55s)	**RIG:** HUNT RIG-3
ELEVATIONS (AHD): GROUND: 145m **RT:** 149m		

CASING SIZE	SHOE DEPTH	TYPE
340mm (13.625", 13 3/8") 244mm (9.625", 9 5/8")	104.8m Driller 338m, Driller, 337.5m Logger	54.5 LB/FT K55, BTC 36 LB/FT K55, BTC

AGE	GROUP AND FORMATION TOPS		DEPTH, LOGGER (m) RT	DEPTH, LOGGER (m) SSTVD*	TRUE* THICKNESS (m)	HIGH (H) LOW (L) (m)
PALAEOCENE TO PLEISTOCENE		TERTIARY SEDIMENTS	4.0	+145.0	90.5	0
JURASSIC		DOLERITE	94.5	+54.5	124.5	280.5 H
TRIASSIC	UPPER PARMEENER SUPERGROUP		219.0	-70.0	286.9	456 H
LATE PERMIAN	LOWER PARMEENER SUPERGROUP	BOGAN GAP GROUP	506.0	-356.9	191.9	394.1 H
LATE PERMIAN		POATINA GROUP	698.0	-548.8	88.1	402.2 H
EARLY PERMIAN		LIFFEY GROUP	786.0	-636.7	73.8	414.3 H
EARLY PERMIAN		GOLDEN VALLEY GROUP	860	-710.5	73.6	561.5 H
EARLY PERMIAN		QUAMBY FORMATION (Tasmanites)	934.0 (1012)	-784.1 (-861.7)	87.6 N/A	516.9 H N/P
LATE CARBONIFEROUS		STOCKERS FORMATION	1022.0	-871.7	66.8	679.3 H
PROTEROZOIC		BADGER HEAD GROUP	1089.0	-938.5	582.5+	Not prog.
		TOTAL DEPTH	1679.0	-1521.0	N/A	330 H

N/P = NOT PROGNOSED, N/a = NOT APPLICABLE. * Subsea depths and thicknesses adjusted to true vertical using deviation data.

WIRELINE LOGGING SUMMARY

RUN	TYPE OF LOG	FROM (m)	TO (m)	REMARKS:
1 / 1	**DUAL LATEROLOG-MLL-COMPENSATED SONIC-TAC**			Deepest log from 1677.2m. Maximum temperature 61ºC (142ºF). Surface casing at 337.5m. REPEAT SECTION: 330-3290m (good overlay).
	GRGC	1665.5	9	GR TO NEAR SURFACE
	SPDL	1661	337.5	SPONTANEOUS POTENTIAL
	DSLL-DDLL	1673	337.5	DEEP AND SHALLOW RESISTIVITY
	MRRS	1677	337.5	INVADED ZONE RESISTIVITY
	MATC	1677	337.5	MMR CALIPER (X)
	2-ARM CALIPER	1664	337.5	2-ARM CALIPER (Y)
	DT35	1669	337.5	SONIC, FIRST ARRIVAL, 36-60" INTERVAL^

NET PAY SUMMARY

LOG INTERPRETATION	PERFORATIONS / REMARKS
No pay has been interpreted	NONE

Summary

The Westwood-1 ST1 exploration well was located in the southern portion of exploration licence SEL5/2005 in the northeastern portion of the Longford Sub basin. The wellsite was approximately 12.5km southwest of Launceston and approximately 2.5km east of the town of Carrick off the Bass Highway alongside Westwood Road, Tasmania, on the 'Meanda Rise' property.

The primary objectives for Westwood-1 were to intersect hydrocarbons within the Early Permian Liffey Group sandstones of the Lower Parmeener Supergroup. Secondary objectives were to define any other potential hydrocarbon zones intersected by the well; to delineate the oil source rocks within the intersected lithology and to define the thickness of both the near surface Tertiary sediments and the underlying Jurassic dolerites.

There were few wells drilled in the area and minimal available seismic data. Most of the wells were water bores that did not penetrate deep into the regionally widespread, durable dolerite, with typical depths being less than 200m. No conventional hydrocarbon traps, such as anticlines, stratigraphic pinch-out or fault plays etc, were defined in the area prior to drilling. Divining spotted the location.

Westwood-1 'spudded' on 25/11/2009. The well entered a pre-drilled pilot hole, that had been drilled with a mineral rig into the hard Jurassic dolerite to 110m, with a 445mm (17.5") bit. The hole was deepened to 112m. 340mm (13.625", 13 3/8") surface casing was then run and cemented to 104.8m Driller, and a blow-out preventer (BOP) was installed.

The intermediate hole section was drilled with a 311mm (12.25") tri-cone bit to 303m into the Triassic Upper Parmeener Supergroup sediments. 244mm (9.625", 9 5/8") casing was run and cemented at 338m. The BOP was reinstalled and pressure tested.

The main Westwood-1 hole section was drilled with a 216mm (8.5") tri-cone bit from 303m to 558m where the bit was changed to a PDC type to try and improve drilling rate. The well began to deviate significantly from around 880m where a driller's survey at 941m recorded a hole angle of 11º. (The previous survey at 791m was 2º). Weight on bit was reduced in an attempt to control deviation. The well was drilled to 1005m with increased angles at where it was decided to initiate controlled deviation drilling to attain the sub-surface target location.

Drilling continued from 1005m with a new tri-cone bit and deviation assembly. Difficulties were encountered in steering to the target in generally strongly cemented, hard sandstones and meta sediments. The tools were tripped out at 1326m.

At 1326m a decision to plug-back and sidetrack the well was made due to severe dog-legging in the well path. A cement plug was set from 880-780m and the sidetrack commenced at 847m. Westwood-1 was then conventionally renamed to Westwood-1 ST1.

Deviation control continued to be difficult, most likely due to alternating hard and sub fissile rock units with strong regional dip. Total depth was called at 1679m, driller, and was reached at 05:00 hrs, 1/1/2010.

Wireline logs were run by Weatherford at total depth. The single, basic, run comprised the dual laterolog, gamma ray, sonic, spontaneous potential and caliper tools. Neutron and density porosity tools were not run due to the lack of hydrocarbon shows and risk of encountering hole problems.

Formation tops were intersected significantly higher to prognosis. No hydrocarbon shows were recorded during drilling and log interpretation did not highlight any potential hydrocarbon zones. No drill-stem tests were run in the well.

Westwood-1 ST1 was plugged and suspended pending possible future sidetracking. Hunt Rig-3 was released on 4/01/2010.

In June 2010 a decision was made not to re-enter the well and it was abandoned.

1.0 General Information

Well Name	: Westwood-1 ST1
Well Classification	: Oil Exploration
Title Holder	: Overseas Energy Holdings Ltd - Operator
Rig	: Hunt Rig-3
Permit	: SEL 05/2005, Tasmania, Australia.
Latitude	: 41° 31' 10.4" S (GDA 94)
Longitude	: 147° 2' 3.7" E
Northing	: 5403564.2m (MGA 94, Zone 55s)
Easting	: 502867.0m
Seismic Station	:Offline. (Closest seismic station is SP 850, Line TB01-PW (GSLM, 2001).
Ground / RT Elevations	: GL 145m AHD / RT 149m AHD
Proposed TD	: 2000m RT, -1851m SS
Actual TD	: 1678m RT, -1520m SSTVD (Logger).
Primary Objectives	: Liffey Group - oil
Secondary Objectives	: delineation of source rocks and dolerite thickness
Status	: Plugged and Abandoned
Drilling Contractor	: Hunt Oil and Mineral Co. (Australia) Pty Ltd
Drilling Supervision	: Kelly Down Consultants
Geological Supervision	: Westminster Geological Pty Ltd
Drilling Fluids	: RMN Drilling Fluids
Mud Logging Services	: Baker Hughes INTEQ
Cementing Services	: Halliburton Well Services
Wireline Logging	: Weatherford
Deviation Drilling	: Weatherford

2.0 Geological Information

2.1 Drilling Rationale:

Westwood-1 ST1 was an exploration well drilled in November 2009 to January 2010 to evaluate the oil and source rock potential of the Longford sub-basin, SEL 05/2005 Tasmania. The well location was 'divined' and was situated off a nearby seismic line (Line TB01-PW, shot by GSLM). Other than relatively shallow water bores, there are no hydrocarbon exploration wells in the vicinity.

The primary oil objectives were sandstones in the Early Permian Liffey Group. The secondary objectives were to evaluate intersected source rocks; to appraise any additional hydrocarbon shows and to define the thickness of the widespread Jurassic dolerite unit and overlying Tertiary deposits in this area.

OEHL is investigating carrying out gravimetric and magnetotelluric surveys at the proposed locations for Bass Highway 1 and Weymouth Road 1 prior to drilling activities.

2.2 Drilling Summary:

Westwood-1 spud on 25/11/2009. The well entered a pre-drilled pilot hole, that had been drilled with a mineral rig into the hard Jurassic dolerite to 110m, with a 445mm (17.5") bit. (The top of the dolerite was at 94.5m). The hole was deepened to 112m. The well was then reamed and cleaned with a stabilizer added to the string. 340mm (13.625", 13 3/8") surface casing was then run and cemented to 104.8m Driller, and a blow-out preventer (BOP) was installed.

The intermediate hole section was drilled with a 311mm (12.25") tri-cone bit to 303m. The rate of penetration (ROP) was around 2-4 m/hr to the base of the hard dolerite at 219m. ROP was faster beneath the dolerite with speeds up to 30m/hr. 244mm (9.625", 9 5/8") casing was run and cemented at 338m. The BOP was attached and pressure tested.

The main Westwood-1 hole section was drilled with a 216mm (8.5") tri-cone bit from 303m to 558m where the bit was changed. The new PDC bit drilled to 1005m where a driller's survey recorded hole angle at 15ºm at 976m. (An increase in hole angle to 11º was recorded at 941m following a previous survey of 2º at 791m). Weight on bit was reduced in an attempt to control deviation. At 1005m, the well was wiper tripped and circulated whilst awaiting directional drilling gear and personnel required to attain the sub-surface target location.

Drilling continued from 1005m with a new tri-cone bit, downhole mud motor, string orientation mule-shoe and MWD (measurement whilst drilling) tools for directional drilling. At 1073m the directional tools malfunctioned and were tripped out for servicing. Drilling continued to 1247m where the bit was changed before recommencing drilling. Difficulties were encountered in steering to the target in

generally strongly cemented and hard sandstones and meta sediments and interbedded fissile to sub fissile shales with a strong regional dip. The tools were tripped out at 1326m.

A decision to plug-back and sidetrack the well deeper was made to improve the control of the trajectory. A cement plug was set from 880-780m and the sidetrack commenced at 847m. (This depth was initially reported as 857m but an error was found in the pipe tally at the next trip and the depth was amended by -10m). Westwood-1 was then conventionally renamed to Westwood-1 ST1. Rotary and slide-drilling continued to try and maintain the trajectory plan.

The drilling motor was swapped out at 1112m and a new motor and bit (bit-8) were run in the hole. At 1389m, a trip was made after deviation tools did not respond during a survey. The mule shoe was replaced and a new bit (bit-9) was run in the hole. Rotary and slide drilling continued to 1517m at which point the MWD tool failed to function. The downhole motor was re-orientated from 1.5º to 1.15º as the deviation trajectory was not as required, the BHA (bottom hole assembly) was adjusted and a new bit (bit-10) was attached.

Deviation drilling continued from 1517m to 1604m where a trip was made to change the BHA. New MWD tools and a new bit (bit-11) were made up and controlled drilling continued at between 2.5 to 6m/hr. The total depth of 1679m, driller, was reached at 05:00 hrs, 1/1/2010. The hole was circulated clean and the drill-string tripped out.

2.3 Stratigraphic Summary:

The Longford Sub-basin is a Tertiary sedimentary basin in north-central Tasmania thought to have formed during the same event that produced the highly prospective offshore Bass Basin. The Sub-basin is not connected to the Bass Basin as can be seen on Figure 3 below. The basin is approximately 100km by 30km and formed due to NE-SW extension during the Late Cretaceous to Early Palaeocene break-up between Australia and Antarctica. The Longford Sub-basin overlies complex Palaeozoic and Mesozoic rocks.

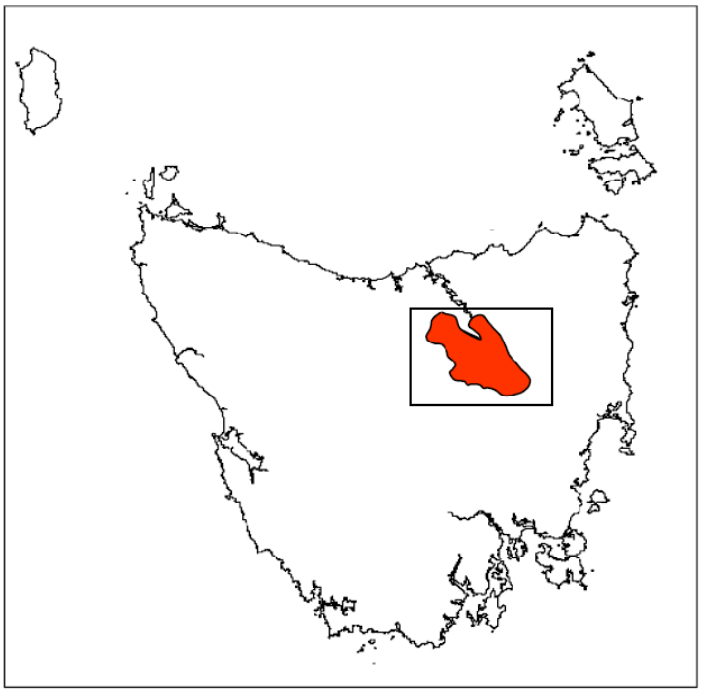


Figure 1: Location of the Longford Sub-basin (after Lane, 2002).

The Tertiary rocks of the sub-basin comprise lacustrine and fluviatile sandstones, conglomerates, siltstones and mudstones with thin lignite (immature coal) units and relatively thin alkaline-olivine basalt lava flows.

There is little information for this area of the basin. The closest drilling of any relevance are boreholes drilled by the government for the purpose of water investigations. The boreholes are located 2km south of the wellsite with a maximum depth of 150m (Matthews, 1983). Most terminated in the uppermost part of the widespread Jurassic dolerite.

2.4 Westwood-1 ST1 Stratigraphic Prognosis:

The stratigraphic prognosis for Westwood-1 was based on an interpretation of seismic data provided by Lane (2002) of OPH-1 (Oil Prospecting Hole) drilled at Bracknell. (OPH-1 was drilled in 1968 and reached a total depth of 687m 2m into dolerite). In an attempt to match recorded geology and depth to the seismic profiles, Lane converted the Gamma Ray log of OPH-1 into TWT and then further tied and displayed the log onto the seismic line TB01-PM at shot point 450. (Refer to drilling program). This OPH-1 interpretation was related to the GSLM Line TB01-PW, adjacent to Westwood-1, to provide some well control. It was recognized that seismic interpretation below the dolerite was problematic and likely to be incorrect.

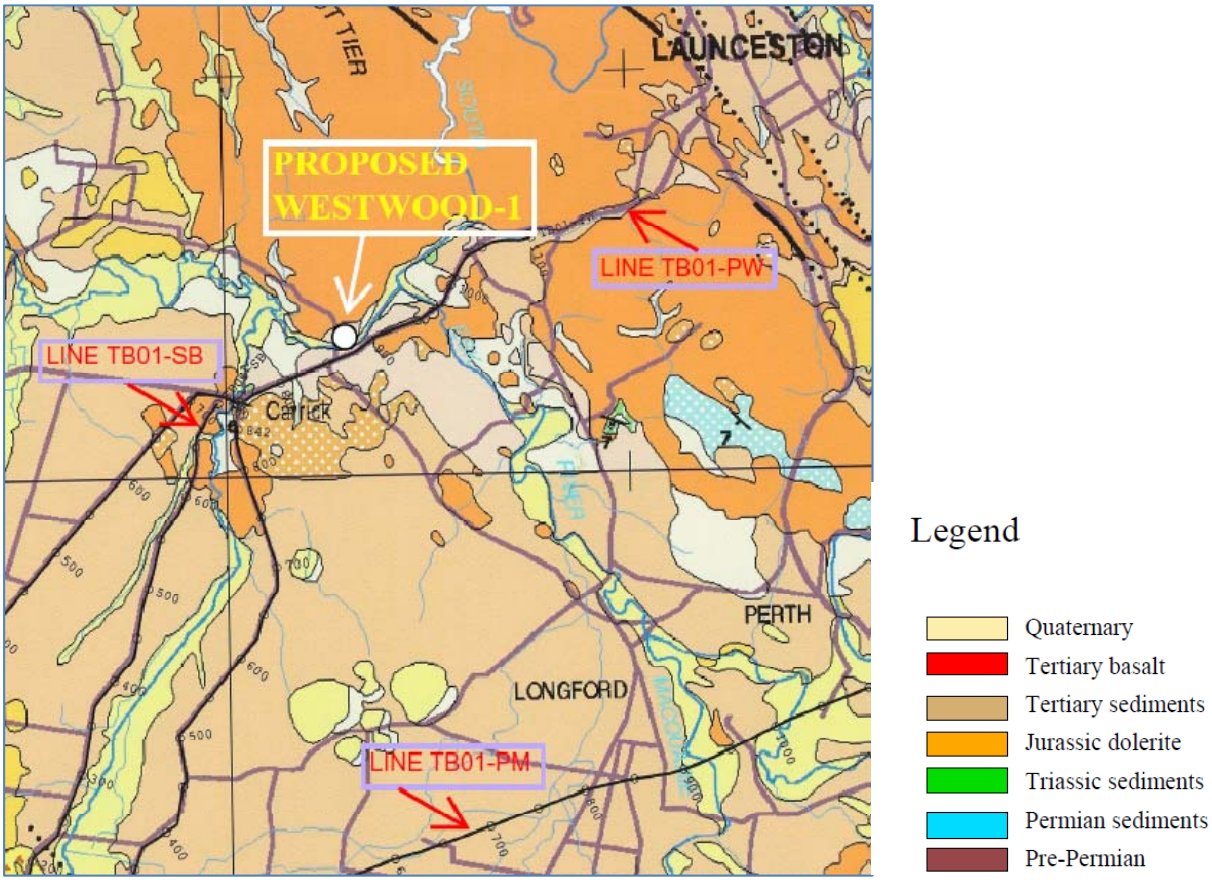


Figure 2: Surface Geology and Nearby Seismic Lines

To strengthen the stratigraphic interpretation for Westwood-1, regional data and geologic studies derived from the Minerals Resources Tasmania (MRT) were reviewed. This included 1989 work on the Lower Parmeener Supergroup by Clarke and Forsythe (MRT Geological Bulletin 71) from which the bulk of the stratigraphic prediction was based.

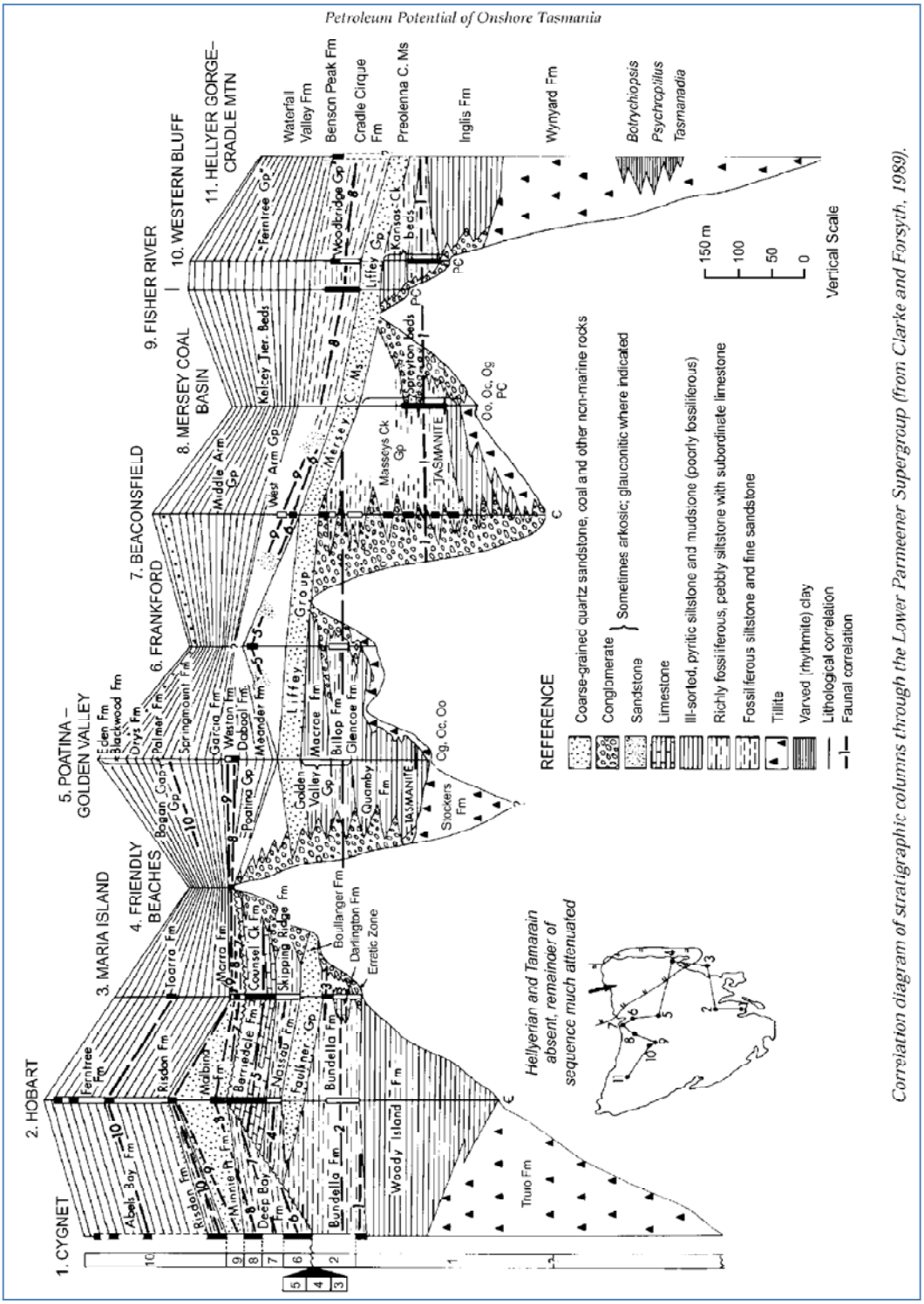


Figure 3: Regional Stratigraphy Section

2.5 Westwood-1 and ST1 Stratigraphy:

Tables 1 and 2 present the prognosis and actual tops for the well. For the initial, plugged back lower Westwood-1 section below the Liffey Group (not logged) driller's depths are shown. Logger's depths apply to the wireline logged sidetrack section.

Rotary table (RT) height was 149m above the Australian Height Datum (AHD). Ground level was 145m. Comparisons in depths between the initial and sidetracked lower sections should be based on corrected subsea depths due to the difference in deviations.

Table 1: Stratigraphic Summary, pre-sidetrack section

AGE	GROUP AND FORMATION TOPS	DEPTH, (m)				Difference to Prognosis HIGH (H) LOW (L)	TRUE* THICKNESS
		ACTUAL (Lgr & Dlr)		PROGNOSED			
		RT	SSTVD*	(m)	SSTVD	(m)	(m)
Palaeocene to Pleistocene	Tertiary Sediments	4	+145	4	+145	0	90.5
Jurassic	Dolerite	94.5	+54.5	375	-226	280.5 H	124.5
Triassic	Upper Parmeener Supergroup.	219	-70	675	-526	456 H	286.9
Late Permian	Lower Parmeener Supergroup: Bogan Gap Group	506	-356.9	900	-751	394.1 H	191.9
Late Permian	Lower Parmeener Supergroup: Poatina Group	698	-548.8	1100	-951	402.2 H	88.1
Early Permian	Liffey Group	786	-636.7	1200.0	-1051	414.3 H	60.9
Early Permian	Golden Valley Group	853 Drlr	-703.5	1300.0	-1151	447.5 H	73.5^
Early Permian	Quamby Formation (Tasmanites)	927 Drlr 1005 Drl	-777.0 -853.2	1450.0 N/P	-1301 N/P	524 H N/P	85.9^ N/A
Late Carboniferous	Stockers Fm	1015 Drl	-862.9	1700.0	-1551	688.1 H	73^
Proterozoic	Badger Head Group	1090 Drl	-935.9	N/P	N/P	N/P	293.9+^
TOTAL DEPTH PRE SIDETRACKING		1286	-1229.8	2000.0	-1851	621.2 H	N/A

N/P = NOT PROGNOSED, N/a = NOT APPLICABLE. * Subsea depths and thicknesses adjusted to true vertical using deviation data. ^Non-log picks.

Table 2: Stratigraphic Summary, ST1 sidetrack section

AGE	GROUP AND FORMATION TOPS	DEPTH, (m)				Difference to Prognosis HIGH (H) LOW (L)	TRUE* THICKNESS
		ACTUAL (Logger)		PROGNOSED			
		RT	SSTVD*	(m)	SSTVD	(m)	(m)
Early Permian	Golden Valley Grp	860	-710.5	1300.0	-1151	561.5 H	73.6
Early Permian	Quamby Formation (Tasmanites)	934 1012	-784.1 -861.7	1450.0 N/P	-1301 N/P	516.9 H N/P	87.6 N/A
Late Carboniferous	Stockers Fm	1022	-871.7	1700.0	-1551	679.3 H	66.8
Proterozoic	Badger Head Group	1089	-938.5	N/P	N/P	N/P	582.5+
	TOTAL DEPTH	1679	-1521.0	2000.0	-1851	330 H	N/A

N/P = NOT PROGNOSED, N/a = NOT APPLICABLE. * Subsea depths and thicknesses adjusted to true vertical using deviation data. Discrepancies in true thickness will be based on initial driller's picks versus post logging picks. The log picked thicknesses are correct.

Mainly due to differential stretching of drill-pipe and wireline tool cables, driller's and logger's depths can differ slightly. Logger's depths at total depth are 1m higher than driller's, possible fill on bottom, and intermediate casing was recorded 0.5m higher than driller's depth.

The penetrated geologic sequence has been reviewed in-house and by staff at MRT. A majority of the field picks have been retained with minor adjustments applied for pipe-tally corrections and wireline log depths. Thin sections of cuttings were also analyzed by MRT scientists to improve the regional correlations. Their preliminary report is included in Appendix 1 (ii).

A review of the Westwood-1 ST1 stratigraphic sequence from total depth to the surface follows. All depths mentioned are logger's:

Westwood-1 ST1 reached a measured total depth of 1679m, 582.5m into the **Proterozoic Badger Head Group**. This is a sequence of generally hard, metamorphosed sandstone, meta silty sandstone (quartzwacke), meta siltstone, shale and fissile to sub fissile slate beds with minor limestone and occasional conglomerates. The Badger Head Group origins are defined as predominantly turbiditic and were likely formed by marine currents transporting mixed sediments down continental slopes. As the current waned the deposits were sorted with conglomeratic and pebbly grains being overlain by progressively finer grains to form a Bouma sequence. Increasing depth of burial, pressure and heat caused the rocks to undergo from relatively low to higher grade metamorphism that changed the mineral structure and composition and initial rock fabric. The Proterozoic has been subjected to intense folding and faulting, particularly during the Devonian

The thin section study by MRT identified a higher grade of metamorphism affecting the Westwood-1 ST1 samples compared to the Mathinna Group rocks located to the north-east and Eldon Group rocks in north central Tasmania. The rocks compared most favorably to samples of the Badger Head Group that outcrops 40km northwest of the well.

Wireline logs indicate hard rock as shown by the high and overlying deep and medium resistivity curves and the relatively fast sonic travel times.

In Westwood-1 ST1, the Badger Head rocks were dominated by calcareous meta sandstone and interbedded quartzwackes (significant clay to silt sized matrix) with cleaner quartzites. The metasandstones were generally described as *pale grey/white, very fine to fine, occasionally medium and coarse, moderately well sorted, subrounded to subangular, strong calcareous and siliceous cement, local lithics, mica and pyrite, hard to very hard, poor to tight visual porosity, no fluorescence.*

The quartzwackes were seen as *mottled medium to pale grey, black in parts where slightly carbonaceous, very fine to medium, generally fine, subrounded to*

subangular, strong silica cement, calcareous to dolomitic cement in parts, local cross-cutting calcareous veining, occasionally micaceous, trace pyrite, foliated in parts with occasional sub fissility, relic banding and meta siltstone laminae, generally hard to rarely moderately friable with poor to tight porosity, no fluorescence.

Interbedded metasiltstone was described as *black to medium grey, generally arenaceous, silicified and grading to meta silty sandstone and minor black/dark-grey, pelitic, shaley to slaty, smooth cleavage surfaces, fissile to subfissile, brittle.* Occasional calcite veining was observed in the silty sandstones and siltstones. Metasandstone porosity was minimal.

Minor limestone units were described as *Calcite/marble, white, sub vitreous lustre, crystalline, blocky, hard to occasionally brittle*. Traces of Dolomite were described as *opaque white, crystalline, satin lustre, banded in parts with siltstone and very fine sandstone, blocky, hard*.

Above 1300m the rocks assumed a greenish colouration, probably from chlorite. Metasandstone was typically *pale grey green, very pale green, translucent to white quartz, very fine to medium, occasionally very coarse to granule sized quartz grains and pebble fragments, subrounded to subangular, occasionally elongate, occasional frosted (weathered) grain surfaces, silicified aggregates with welded grains and silica occluded matrix, calcareous in parts, trace dolomite cement, occasional 'schistosic' sheen from metasiltstone laminae, granular to crystalline texture, rare brownish black siliceous inclusions, trace mica and pyrite, minor red to pink igneous lithics (granite?), hard, no visual porosity, no fluorescence..* Subordinate metasiltstone/quartzwacke was *dark to medium grey, phyllitic texture in parts (common very fine mica flakes), arenaceous, generally silicified, calcareous in parts, occasional very fine quartz grains, occasional micromica and anhedral pyrite, shaley to slate-like platy fissile cuttings, brittle to moderately hard.* (Much of the metasiltstone samples had distinctive H2S odours in HCl).

Lying unconformably above the Badger Head Group was the **Late Carboniferous Stockers Formation**. This was the initial sequence of the Lower Parmeener Supergroup that infilled the Tasmania Basin. This has been described tillite, a deposit comprising debris eroded from several rock types by glaciers and ice sheets and deposited in lakes and coastal areas or on fluvial plains by meltwater rivers and streams as the ice retreated.

In Westwood-1 ST1, this relatively thin formation (67m) consisted of lithic and calcareous sandstones with interbedded siltstone and minor limestone. The major lithology was described as *LITHIC SANDSTONE (CONGLOMERATIC?): generally translucent to minor clear quartz, common varicoloured meta quartz and lithic (glacial erratics) fragments, predominantly fine to occasionally medium and local very coarse to granule and minor pebble fragments, common rounded to sub rounded and occasionally elongate weathered and pitted quartz grains, poorly*

sorted, disaggregated to minor aggregates with weak siliceous cement, occasionally matrix supported. Erratics include grains and fragments of translucent to opaque white quartzite, grey to grey-brown quartz, metaquartz with common silicified and welded sand aggregates, meta limestone and occasional dolomite, occasional basalt, orange/pink granite fragments, generally disaggregated, poor porosity, no fluorescence.

Subordinate silty sandstone *was medium to dark grey, very fine to fine, common silt sized quartz grains, argillaceous and common silty matrix, minor carbonaceous(?) specks, trace pyrite, micromica, lithics, calcareous in parts ,firm to moderately friable, tight visual porosity, no* fluorescence and thin siltstone was *medium grey, arenaceous with common very fine quartz grains, grading to very fine silty sandstone in parts, micromica, occasional pyrite, calcareous in parts, sub blocky to subfissile, fair to brittle.*

The formation top was picked on cuttings and on wireline logs where a dominant sandstone unit occurred underlain by relatively compact silty sandstones and siltstones as shown by a shift to the left on the sonic log. The Stockers Formation represents the basal unit of the Late Carboniferous to Permian Lower Parmeener Supergroup.

The **Early Permian Quamby Formation** is part of a widespread succession of thick marine mudstones, siltstones, thin silty sandstones thin sandstones. Occasional pebble beds were formed by drop-stones falling from melting ice rafts and ice-bergs. The top of this formation was picked at 934m from where 90% siltstone dominated the sequence below. On wireline logs, the gamma ray shows the top of a fining-downwards (becoming shalier) sequence with a base at 969m. (this more easily seen on a 'zoomed out' view).

In Westwood-1 ST1 the siltstones were typically described as *medium to light grey, predominantly argillaceous matrix, occasionally very fine quartz, micromica, massive to minor laminated, occasional pyrite layers patches, trace fossil fragments, micromica in parts, subfissile-sub blocky, firm to soft.* Silty sandstones were generally *medium to light grey, very fine to silt sized quartz grains grading to arenaceous siltstone, argillaceous matrix in parts, trace micromica, micro pyrite, possible coal flakes, calcareous in parts, firm to moderately friable, poor to tight visual porosity, no fluorescence.*

No obvious drop-stones were seen in the cuttings but thin sandstone beds were recorded as *medium to light grey, very fine to fine with occasional medium to coarse grains below 1027m, angular, moderately well sorted, weak to strong siliceous and calcareous cement, silty in parts, occasional algal discs, disseminated to minor anhedral pyrite, micromica, rare coal specks, trace lithics, (igneous and metamorphic), firm to friable, poor to tight visual porosity, no fluorescence.*

Tasmanites, fossilised algae and forming good source rock in some parts of Tasmania, were seen from 1012m - *medium amber/yellow, discoidal to 1mm diameter, translucent with semblances of internal 'vein' like structures, moderately flexible, commonly seen in mat-like clusters in siltstone and silty sandstone, no effervescence in HCl acid, bright and even yellow fluorescence.* Pictures of these interesting fossils taken down the Westwood-1 ST1 microscope can be seen in Appendix 1 (iii). Of note was that no significant gas and no fluorescence shows were seen when drilling though the Tasmanites. This has been attributed to the Tasmanites, despite being type 1 kerogen, being thermally immature for hydrocarbon generation (pers. comm. Clive Calver, May 2010).

The **Early Permian Golden Valley Group** was intersected above the Quamby Formation. This sequence also comprises cold-water marine siltstones and mudstones with interbedded silty sandstones and sandstones, thin limestone and occasional coarser ice-rafted drop-stones. Traces of medium to coarse grained, loose stones were seen in Westwood-1 ST1.

The top of the Golden Valley Group was picked at 860m based on an increase in siltstone and silty sandstone and major log signature breaks for the resistivity curves indicting less permeable rock.

The siltstones were generally *medium grey, arenaceous grading to silty sandstone, occasionally argillaceous, minor coal specks, local fossils (crinoids), trace pyrite and mica, firm to soft, sub blocky to minor subfissile.* Intergradational and interbedded silty sandstones were described as *medium grey, very fine grading to arenaceous siltstone, common to abundant silty and local argillaceous matrix, calcareous in parts, coal specks, trace pyrite and micromica, friable to firm, poor visual porosity, no fluorescence.*

Sandstone was generally seen as *medium grey aggregates, translucent quartz grains, very fine grading to arenaceous siltstone, subrounded to subangular, moderately well sorted, weak to moderately strong siliceous and occasional calcareous cement, clean to local silty matrix grading to silty sandstone, minor coal specks, local fossils, trace pyrite and mica, moderately friable to firm, occasionally hard where calcareous, poor to tight visual porosity, no fluorescence.* Thin limestone was *pale yellow brown to white/pale grey, micritic to crystalline, blocky, hard to moderately hard. Comm free calcite grains.* Occasional fossils were seen in this formation including crinoid fragments.

The **Liffey Group (Early Permian**) is described as a thin unit (20-40m) of fluvial to paralic (coastline) origin. The Liffey was the primary objective for hydrocarbons in Westwood-1 ST1 owing to perceived reservoir quality sandstones lying above potential thick mudstone source rocks.

In Westwood-1 ST1 the Liffey Group sediments initially comprise dominantly non-calcareous siltstones and thin sandstones. In the upper section, above 804m,

sandstones dominate. The sandstones generally have strong siliceous cement and poor porosity. The siltstones are mainly arenaceous grading to silty sandstone.

The top of the Liffey has been defined below the base of calcareous sandstones of the overlying **Poatina Group (Late Permian)**. This group is regionally defined as a series of fossiliferous, calcareous marine mudstones, sandstones and thin limestones.

In this well, siltstone with subordinate calcareous sandstone dominates the basal section up to 730m. The siltstones were recorded as being *light olive grey to dusky yellow, firm to hard, blocky to subfissile, moderately calcareous, trace calcareous sandstone.* The calcareous sandstone was seen as *greyish yellow to yellowish grey to light olive grey, quartz, calcite and rare feldspar, fine to medium, angular to subangular, moderately sorted, firm to hard, carbonate cemented aggregates, poor inferred porosity, no fluorescence.*

In the upper section above 745m, calcium carbonate increases. Siltstones are generally moderately calcareous and limestones thicken. Limestone was described as *greyish yellow to medium yellow, locally dolomitic, locally recrystallised, fossiliferous with common crinoid, bryozoan and rare bivalve (Clamus sp?) fragments.* From 715m the section is predominantly arenaceous with subordinate calcareous siltstone and fossiliferous limestone beds.

The top of the Poatina Group was picked at 698m based on the occurrence of limestone. Wireline logs show a marked decrease in gamma ray and a decrease in porosity. Resistivity inclusions indicating limestone.

The **Late Permian Bogan Gap Group** is interpreted as being of marine origin and generally comprises interbedded pyritic siltstones and mudstones with thin sandstones.

This is a relatively thick unit in this location (192m) and is comprised predominantly of siltstone. A typical siltstone description was: *light olive grey to greyish olive, hard, subfissile, grading to very fine to fine quartzose feldspathic sandstone, pyritic, common very fine feldspar, quartz, biotite and muscovite, granule sized quartzite lithics embedded in silt. (Possibly of glaciomarine derivation and ice-rafted debris).*

Thin sandstones were *translucent to white to yellowish grey, quartz and minor feldspar, fine to coarse, subrounded, poorly sorted, disaggregated, trace pyrite nodules, moderate inferred porosity, no fluorescence.* From 604m, traces of glauconite (marine origin) were recorded.

From above 550m sandstone dominates the lithology - *clear to translucent to milky white to greyish, quartz, feldspar, medium to granule, angular to subrounded, moderately sorted, disaggregated, moderate inferred porosity, no fluorescence.* As can be seen, porosity was moderately developed. Marine deposited feldspathic

sandstone (arkose) also became common above 540m: *light grey to medium light grey, very fine to fine, angular to subangular, well sorted, hard, silica cemented aggregates with minor calcareous cement, common muscovite, biotite, trace glauconite, very poor inferred porosity, no fluorescence.*

The top of the Bogan Gap group was picked on logs at 506m where logs indicate the top of a sandier section.

The **Upper Parmeener Supergroup** sediments are of **Triassic** age and regionally were thought to comprise fluvial sandstones, siltstones, thin coals, mudstones and possible thin volcanic tuffs. These rocks were a secondary target for the well as sandstones were expected to be of reservoir quality.

In Westwood-1 ST1, the lithology is dominated by sandstone with subordinate interbedded siltstone and thin claystone. A distinguishing component of the sandstones was glauconite that indicates the sandstones were of marine, or marginal marine origin, rather than terrestrial.

The lower Triassic siltstones were described as *light grey, firm, blocky, grading to very fine sandstone, common very fine, feldspar, biotite and muscovite*. Thin claystones *were light brown, soft amorphous, slightly calcareous* and dominant sandstones were generally *clear to translucent to milky white to greyish yellow to pale green, quartz, feldspar, coarse to very coarse, angular to subangular, moderately sorted, disaggregated with rare calcareous cemented fine sand aggregates, trace glauconite, trace monazite, trace micaceous siltstone, moderate inferred porosity, no fluorescence.* Micaceous sandstone were prominent with abundant muscovite and biotite.

Above 397m, glauconite sandstones were common and dominated the lithology up to the top. These sandstones were described as *translucent to pale green, quartz, feldspar and muscovite, medium to very coarse, angular to subangular, poorly sorted, disaggregated with rare weakly silica-glauconite cemented aggregates, moderately to strongly glauconitic, moderate inferred porosity, no fluorescence.* Hornsfels was described at the contact of the Triassic sandstone and intruded dolerite. The hornsfels (formed by contact metamorphism) was *yellowish green to pale green, very fine, epidote-chlorite altered siltstone and/or chilled dolerite.* The top of the Triassic was simply put at the base of the dolerite.

Massive **Dolerite** intruded into Tasmania in the **middle Jurassic**, mainly as sheets in the Tasmania Basin. The dolerite sheets can be up to 500m thick. These durable rocks are exposed over much of Tasmania and form spectacular features.

In Westwood-1 ST1, dolerite has been described as *PLAGIOCLASE-RICH 'LEUCODOLERITE': greyish green to pale green, medium grained, ophitic plagioclase >> augite-amphibole-biotite + Fe-Ti oxides + pyrite with trace chlorite-illite alteration. Minor (~10%) finer-grained mafic dolerite, moderately hard to hard,*

trace vein (?) calcite-sericite, no porosity, no fluorescence and, at the top of the intrusion, *DOLERITE: predominantly fresh, greenish grey to greenish black, fine grained ophitic texture (plagioclase-amphibole), trace illite-chlorite alteration.* In this location the dolerite was 124.5m thick.

The **Tertiary** age sediments lying above the dolerite comprised weathered dolerite fragments, feldspathic sandstone: *off-white to pale grey plagioclase feldspar, fine to medium, subangular to subrounded, moderately sorted, common illite-alteration, unconsolidated*; and dominantly claystone and siltstone up to 40m. The claystone was generally described as *moderate reddish brown, soft, subblocky,* and the siltstone as *orange brown to moderate reddish brown, firm, subblocky to blocky, non-calcareous, trace carbonaceous fragments, locally arenaceous.*

Above 40m, fluvial sandstones and conglomerates were recorded: *SANDSTONE: clear to translucent quartz and off-white pale grey plagioclase feldspar, very fine to granule, subangular to subrounded, poorly sorted, unconsolidated; CONGLOMERATE: angular greyish olive green dolerite and angular pale grey green quartzite cuttings.*

The uppermost surficial deposits (9m) comprised claystone: *red brown (haematitic) to yellowish brown, soft, subblocky, locally grading to siltstone* and *SILTSTONE: orange brown to yellowish-grey. Firm, subblocky to blocky, non-calcareous, trace carbonaceous fragments.*

Detailed lithological descriptions of the Westwood-1 ST1 drilled cuttings are contained in Appendix 1. Interval descriptions are included on the composite log, Enclosure A.

2.6 Hydrocarbon Summary:

Primary oil objectives for the well were the Liffey Group sandstones of the Lower Parmeener Supergroup. Secondary objectives included the evaluation of any other potential hydrocarbon zones intersected by the well.

There were no fluorescence shows nor significant gas shows in this well.

3.0 Well Evaluation

3.1 Wellsite Geology:

Geological supervision of the drilling and logging phases from pilot hole re-entry to total depth was provided by Les Burgess (Westminster Geological Pty Ltd) and Roman Leslie (RPS Energy).

3.2 Mud Logging:

Mud logging services were provided by Baker Hughes Inteq. Equipment available included sensors for recording and monitoring depth, total and chromatographic gas, fluorescence, mud-pit levels, weight on bit (WOB), RPM and torque. Refer to Enclosure B for the 1:200 metric mudlog.

3.3 Cuttings Sampling:

The following cutting samples were taken at the wellsite:

Cuttings, washed and dried – two sets, one set for OEH and one set for MRT (Mineral Resources Tasmania);

Two sets of Samplex tray samples for OEH and MRT;

One set of unwashed geochemistry samples for OEH.

Underweight cuttings samples were collected by Spaldings who drilled the shallow surface hole.

The nominal (dependent on drilling speed) sample interval was 10m from 120-340m and 3m intervals from 340m to total depth at 1324m for Westwood-1, pre-sidetracking.

3m samples were collected for the Westwood-1 ST1 sidetracked section from 860-1679m, TD.

Refer to the sample manifests, Appendix 4.

3.4 Petrographic Thin Section Study:

Nine slides of cuttings samples were evaluated for petrography by MRT. Six samples have been interpreted as Proterozoic Badger Head Group equivalent rocks (initially thought to be younger Devonian Eldon Group metamorphics) and three samples are probably from the Lower Parmeener Supergroup, Carboniferous Stockers Formation.

3.5 Drill-Stem Testing:

No drill-stem tests were run in this well due to the lack of hydrocarbon shows.

3.6 Wireline Logging:

Weatherford performed the wireline-logging service. The following logs were run in Westwood-1 ST1:

Table 3: Summary of Wireline Logs

RUN	TYPE OF LOG	FROM (m)	TO (m)	REMARKS
1 / 1	**DUAL LATEROLOG-MLL-COMPENSATED SONIC-TAC**			Deepest log from 1677.2m. Maximum temperature 61ºC (142ºF). Surface casing at 337.5m. REPEAT SECTION: 330-3290m (good overlay).
	GRGC	1665.5	9	GR TO NEAR SURFACE
	SPDL	1661	337.5	SPONTANEOUS POTENTIAL
	DSLL-DDLL	1673	337.5	DEEP AND SHALLOW RESISTIVITY
	MRRS	1677	337.5	INVADED ZONE RESISTIVITY
	MATC	1677	337.5	MMR CALIPER (X)
	2-ARM CALIPER	1664	337.5	2-ARM CALIPER (Y)
	DT35	1669	337.5	SONIC, FIRST ARRIVAL, 36-60" INTERVAL^

^ Compressional

There were no significant problems during the logging run. The neutron-density suite of logs was not run owing to lack of shows and the risk of hole problems in the deviated well.

The logger's total depth was 1678m compared to the driller's depth of 1679m.

Hole Conditions:

An examination of the wellbore geometry based on the caliper curves shows the well to be washed out and rugose in many places.

From the intermediate casing shoe at 338m to 475m, the nominal 8" well was overguage up to 12", mainly across silty and shaley zones. The hole remained in, or close to, gauge down to 860m, top of Golden Valley Group, from where a few thin intervals washed out to a maximum of 10.5" to 990m and up to 11" to the near the top of the Stockers Formation at 1018m.

From here to total depth, hole gauge was mainly perfect with only minor small washout, through hard, metamorphosed rock units. (An interesting feature is the wavy shape of the caliper log in the harder rock below 1090m possibly as a result of a spiralling drill-string).

3.7 Log Interpretation:

This report presents a wireline data evaluation produced by Les Burgess. Parameters used in the interpretation, such as apparent water resistivities, were derived from this well as little relevant regional data exists.

The interpretation used the sonic log for porosity calculation; the Indonesian water saturation equation, suitable for interbedded siltstones and sandstone and moderately permeable silty sandstones and linear gamma ray based shale volumes. The main aims of this evaluation was to determine if any hydrocarbons had been missed and to evaluate potential reservoir quality.

No hydrocarbon anomalies were indicated by the interpretation. The log interpretation report is located in Appendix 2.

3.8 Geothermal Gradient:

A simple geothermal gradient for this well has been constructed from the sole temperature data obtained from the single log run.

The maximum temperature from log run-1 was 61ºC recorded 14.5m above total depth at 1664.5m. Assuming an average surface temperature of 15ºC an approximate gradient would be derived from (61ºC-15ºC / 1679m = 2.74ºC / 100m.

3.9 Deviation Data:

This well was designed to be a vertical well. From a depth of 625m hole angle began to increase from below 2º to 7º at 926m survey depth (Golden Valley Group). Despite controlled drilling with lower weight on bit, hole angle increased to 15º at 995m survey depth (Quamby Formation). At this total depth, 1005m, technical help was requested and Weatherford supplied deviation tools and a directional driller to bring the well trajectory back on target. The prime target was 43m north of the surface location and a vertical hole was required to evaluate this zone at depth.

The well trajectory initially swung to the northeast then curved to the west 28m beyond the target. Refer to the blue-black track on the schematic below. Difficulties were encountered in steering to the target in generally strongly cemented and hard sandstones and meta sediments and interbedded fissile to sub fissile shales with a strong regional dip, particularly below 1090m in the Badger Head Group. The tools were tripped out at 1326m, the well was plugged back and a sidetrack was commenced to provide an improved chance of reaching the target.

The sidetrack commenced at 847m with both rotary and slide-drilling methods used to control the deviation (red trace on the schematic).

Difficulties in controlling the angle and azimuth were again confronted and the resultant sidetrack trajectory is shown by the red line in the schematic below. Once more the well path had a strong tendency too swing to the west. The deviation assembly was re-configured to reduce the general westerly trend but the well track would not swing to the east.

The target was extended as a line trending northwest to southeast and this was eventually crossed as shown below. The well is located at the junction of the two axes.

The final subsea location in the Y direction (northerly) was 57.6m and the X offset (easterly) was -36.9m from the surface well location.

Appendix 3 contains the Weatherford end of Well Report and includes tabulated and graphical survey data for the well.

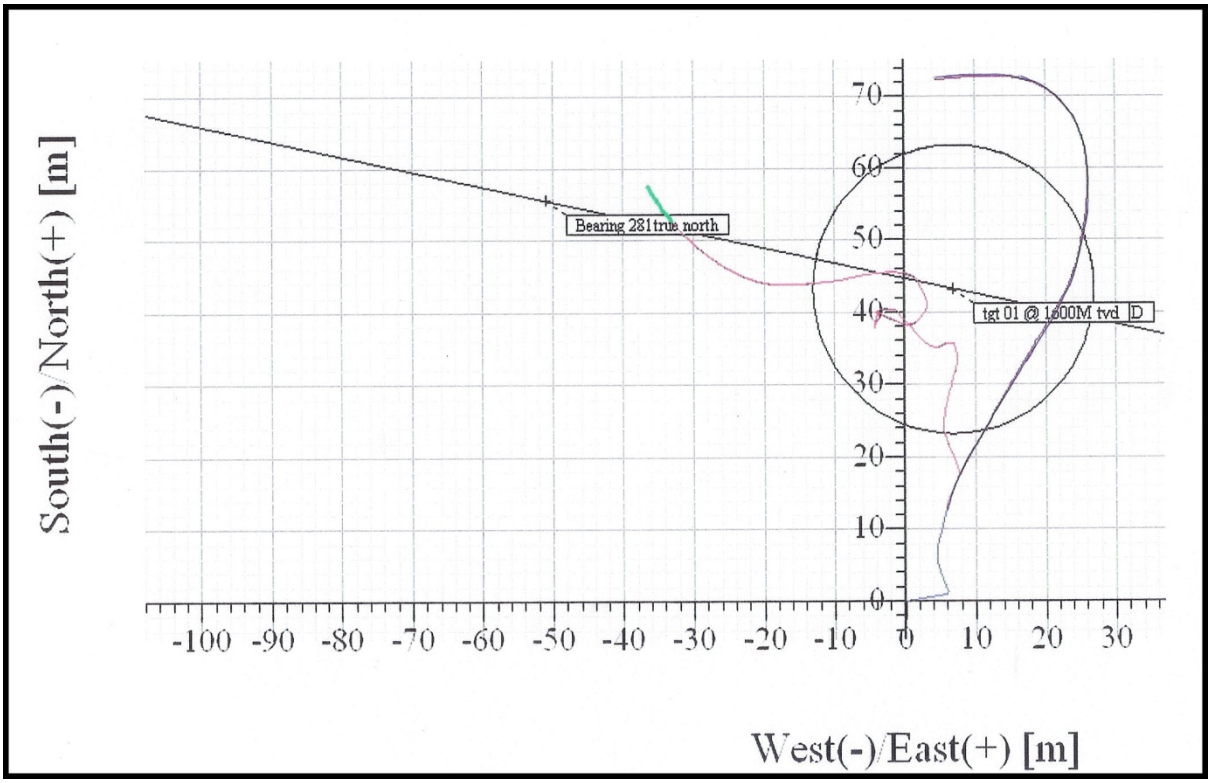


Figure 4: Well Trajectories

3.10 Well Suspension/Abandonment:

Following the logging run, 4 cement plugs were run in Westwood-1 ST1 prior to the well being suspended for possible future sidetracking. These plugs isolated potential aquifers to prevent them from commingling.

The cement plugs were set over the following intervals:

1. 840-740m
2. 540-500m
3. 370-300m
4. 40-10m

In July 2010 it was decided that the well would not be re-entered and would be abandoned. The lease was opened for remediation back to farmland.

4.0 Conclusions

Westwood-1 ST1 was a non-conventionally located hydrocarbon exploration well drilled to primarily evaluate the Liffey Group sandstones for oil. Secondary objectives were to evaluate any other hydrocarbon bearing zones, potential source rocks and Jurassic dolerite thickness in the area.

The well failed to find hydrocarbons before reaching total depth at 1679m, driller. The well experienced major deviation problems in most-likely folded and probably faulted metamorphosed rocks that alternated between durable quartzitic sandstones and fissile to sub fissile shales and slates. The upper target reference for the well trajectory was eventually crossed by the wellbore with no indications of hydrocarbons.

Owing to the difficulties in steering, the very slow rate of penetration, the lack of shows, the risk of becoming stuck in the hole and escalating costs, total depth was called at 1679m, some 221m above the prognosed total depth of 2000m.

Following logging, the well was plugged and initially suspended. In July 2010 the well was abandoned.

5.0 References

Westwood-1 Drilling Programme, Overseas Energy Holdings Ltd. Unpublished, 5/3/2009.

REFS: Westwood-1 Drilling Program, OEH, 2009 – unpublished. Seismic Interpretation and Basin Analysis of the Longford Sub-basin, Paul Lane, University of Tasmania, 2002.

The Petroleum Potential of Onshore Tasmania: a Review, Geological Survey Bulletin 71. By C.A.Bacon, C.R.Calver, C.J.Boreham, D.E.Leaman, K.C.Morrison, A.T.Revill & J.K.Volkman, March 2000.

Appendixes

APPENDIX 1: **(i) LITHOLOGICAL DESCRIPTIONS**

(ii) THIN SECTION REPORT

(iii) TASMANITE MICRO-PHOTOGRAPHS

APPENDIX 2: **WIRELINE LOG INTERPRETATION**

APPENDIX 3: **WELL DEVIATION REPORT**

APPENDIX 4: **SAMPLE MANIFESTS**

APPENDIX 1: (i) LITHOLOGICAL DESCRIPTIONS

Drill cutting samples were taken at an interval of 10m from 120-340m and at 3m intervals from 340m to total depth at 1324m for Westwood-1, pre-sidetracking.

3m samples were collected for the Westwood-1 ST1 sidetracked section from 860-1679m, TD.

This appendix contains interval sample descriptions based on significant facies changes.

	LITHOLOGICAL DESCRIPTIONS	**Gas:Peak/Bkg-% Composition (%) C1:C2:C3:C4:C5**
	TERTIARY SEDIMENTS	
4-15m	SILTSTONE AND CLAYSTONE WITH MINOR INTERGRADATIONAL SANDSTONE__ SILTSTONE: orange brown to yellowish-grey to greyish green, firm, subblocky to blocky, non-calcareous, trace carbonaceous fragments. CLAYSTONE: red brown (hematitic) to medium brown to yellowish brown, soft, subblocky, locally grading to siltstone. SANDSTONE: clear to translucent quartz and off-white pale grey plagioclase feldspar, very fine to medium, subangular to subrounded, poorly sorted, unconsolidated. Trace subrounded dolerite and quartzite (lithic) granules.	No gas
15-36m	CONGLOMERATE WITH SANDSTONE WITH MINOR INTERBEDDED SILTSTONE__ CONGLOMERATE: angular greyish olive green dolerite and angular pale grey green quartzite cuttings (clasts broken by RC hammer). SANDSTONE: clear to translucent quartz and off-white pale grey plagioclase feldspar, very fine to granule, subangular to subrounded, poorly sorted, unconsolidated. SILTSTONE: greyish green to olive-grey. Firm, subblocky to blocky, non-calcareous, trace carbonaceous fragments, locally clay-rich.	
36-84m	SILTSTONE AND CLAYSTONE WITH MINOR INTERGRADATIONAL SANDSTONE AND FELDSPATHIC SANDSTONE__ SILTSTONE: orange brown to moderate reddish brown to yellowish-grey to greenish-grey, Firm, subblocky to blocky to subfissile, non-calcareous, trace carbonaceous fragments, locally arenaceous. CLAYSTONE: medium brown to yellowish brown to moderate reddish orange to pale green blue, soft, subblocky, locally grading to siltstone. SANDSTONE: clear to translucent quartz and off-white pale grey plagioclase feldspar, very fine to granule, subangular to subrounded, poorly sorted, unconsolidated. FELDSPATHIC SANDSTONE: off-white pale grey plagioclase feldspar, fine to very coarse, subangular to subrounded, poorly sorted, unconsolidated, abundant coarse to granule sized dolerite lithics.	

84-94.5	INTERBEDDED CLAYSTONE, SILTSTONE AND FELDSPATHIC SANDSTONE WITH DOLERITIC LAG (?) CONGLOMERATE__ CLAYSTONE: moderate reddish brown, soft, subblocky SILTSTONE: greenish-grey. Firm, subblocky to subfissile, locally arenaceous. FELDSPATHIC SANDSTONE: off-white to pale grey plagioclase feldspar, fine to medium, subangular to subrounded, moderately sorted, common illite-alteration, unconsolidated. DOLERITE: angular fragments, yellowish grey (weathered) to greyish olive green (fresh), consisting of fine-grained ophitic intergrowths of plagioclase and amphibole (after clinopyroxene), hard to very hard, moderate illite-chlorite-limonite alteration.	

	JURASSIC DOLERITE	
94.5-120m	DOLERITE: predominantly fresh greenish grey to greenish black, fine grained ophitic texture (plagioclase-amphibole), with subordinate aphyric to microporphyritic "chilled margin" fragments (93-96m sample), hard to very hard, minor illite-chlorite alteration.	
184-219m	LAYERED DOLERITE-PLAGIOCLASE-RICH "LEUCODOLERITE"__ DOLERITE: greyish green to dusky green, fine to medium grained, ophitic plagioclase-augite-amphibole + Fe-Ti oxides with weak chlorite-illite alteration, moderately hard to hard, trace vein (?) calcite-sericite, trace pyrite, no porosity, no fluorescence, PLAGIOCLASE-RICH "LEUCODOLERITE": greyish green to pale green, medium grained, ophitic plagioclase >> augite-amphibole-biotite + Fe-Ti oxides + pyrite with trace chlorite-illite + trace epidote alteration, moderately hard to hard, trace vein (?) calcite-sericite, no porosity, no fluorescence. HORNFELS: yellowish green to pale green, very fine, epidote-chlorite altered siltstone and/or chilled dolerite (?).	No gas.
	TRIASSIC - UPPER PARMEENER SUPERGROUP	
219-340m (12.25" TD)	SANDSTONE WITH MINOR INTERBEDDED MICACEOUS SANDSTONE, GLAUCONITIC "GREENSAND" AND SILTSTONE__ SANDSTONE: clear to translucent to milky white to greyish yellow to light greenish grey quartz, feldspar (albitic plagioclase and orthoclase/microcline) and muscovite, fine to granule, subrounded to angular, well to poorly sortied, predominantly disaggregated with common silica-glauconite and trace carbonate-cemented aggregates, poor to moderate inferred porosity, no fluorescence. MICACEOUS SANDSTONE: clear to translucent to milky white to greyish yellow to light greenish grey quartz, muscovite and feldspar (albite and orthoclase), medium to coarse, subangular to angular, moderately sortied, disaggregated with common silica-glauconite and trace carbonate-cemented aggregates, common haematite alteration of K-feldspar, poor to moderate inferred porosity, no fluorescence. (NB. sands likely derived from proximal S-type granite source). GLAUCONITIC SANDSTONE: light greenish grey to clear to translucent to milky white quartz, feldspar and muscovite, fine, subangular to subrounded, very well sortied, disaggregated with common silica-glauconite aggregates, strongly glauconitic, moderate inferred porosity, no fluorescence. SILTSTONE: light brown (muscovite-rich) to pale green (glauconitic) to pale yellow brown, firm, blocky to subfissile, micaceous, locally very glauconitic.	0.07/0.00% (max) at 305m 10/89/1/0/0

340-427m	SANDSTONE AND GLAUCONITIC 'GREENSAND', WITH INTERBEDDED MICACEOUS SANDSTONE, MICACEOUS SILTSTONE AND SILTSTONE __ SANDSTONE: clear to translucent to milky white to greyish yellow to light greenish grey quartz, feldspar, and muscovite, fine to granule, subrounded to angular, well to poorly sorted, predominantly disaggregated with common silica-glauconite and trace carbonate-cemented aggregates, trace pyrite nodules, trace monazite, poor to moderate inferred porosity, no fluorescence. GLAUCONITIC SANDSTONE: light greenish grey to pale green to greenish white, quartz, feldspar and muscovite, fine to very coarse, subangular to subrounded, poorly to very well sorted, disaggregated with common weakly glauconite cemented aggregates, strongly glauconitic, moderate inferred porosity, no fluorescence. MICACEOUS SANDSTONE: clear to translucent to milky white to greyish yellow to light greenish grey quartz, muscovite, biotite and feldspar (albite and orthoclase), medium to coarse, angular to subrounded, moderately sorted, disaggregated with common silica-glauconite and trace carbonate-cemented aggregates, common hematite alteration of K-feldspar, poor to moderate inferred porosity, no fluorescence. MICACEOUS SILTSTONE: olive grey to medium light grey to pale green, (glauconitic), firm, subblocky to subfissile, locally arenaceous. SILTSTONE: light brown (muscovite-rich) to pale green (glauconitic) to pale yellow brown, firm, blocky to subfissile, micaceous, locally very glauconitic.	
427-478	SANDSTONE WITH INTERBEDDED SILTSTONE, CLAYSTONE AND MINOR MICACEOUS SANDSTONE__ SANDSTONE: clear to translucent to milky white to greyish yellow to pale green, quartz, feldspar and muscovite fine to granule, angular to subrounded, poorly to moderately well sorted, locally weakly glauconitic, disaggregated with minor carbonate cemented fine to medium sand aggregates, trace to common (~3%) monazite, trace massive magnetite granules (449-435m), trace granule euhedral hedenbergite (at 439-442m), moderate inferred porosity, no fluorescence. SILTSTONE: light grey to pale olive, firm, blocky, grading to very fine sandstone, common very fine, feldspar, biotite and muscovite. CLAYSTONE: light brown, soft amorphous, slightly calcareous. MICACEOUS SANDSTONE: clear to translucent to milky white to greyish yellow to light grey quartz, feldspar, muscovite and medium, subangular to angular, well sorted, silica cemented aggregates, poor inferred porosity, no fluorescence.	0.06/0.00% at 474m 99.5/0.0/0.0/0.5/0.0 0.05/0.00% at 474.5m 99.0/0.0/0.0/0.5/0.5

478-506	INTERGRADATIONAL SILTSTONE AND FELDSPATHIC SANDSTONE, WITH MINOR SANDSTONE__ SILTSTONE: medium light grey to olive grey, hard, blocky, grading to very fine feldspathic sandstone, common very fine, feldspar, biotite and muscovite. FELDSPATHIC SANDSTONE: light grey to medium light grey, very fine to medium, angular to subangular, well sorted, hard, silica cemented aggregates with minor carbonate cement, common muscovite, biotite, trace fine monazite, very poor inferred porosity. SANDSTONE: clear to translucent to milky white to greyish, quartz, with minor feldspar, medium to coarse, angular to subangular, moderately sorted, predominantly disaggregated with rare calc cemented fine sand aggregates, trace muscovite, trace glauconite, moderate inferred porosity, no fluorescence.	
	LATE PERMIAN LOWER PARMEENER SUPERGROUP: BOGAN GAP GROUP	
506-520	INTERGRADATIONAL SILTSTONE AND FELDSPATHIC SANDSTONE, WITH MINOR SANDSTONE__ SILTSTONE: medium light grey to olive grey, hard, blocky, grading to very fine feldspathic sandstone, common very fine, feldspar, biotite and muscovite. FELDSPATHIC SANDSTONE: light grey to medium light grey, very fine to medium, angular to subangular, well sorted, hard, silica cemented aggregates with minor carbonate cement, common muscovite, biotite, trace fine monazite, very poor inferred porosity. SANDSTONE: clear to translucent to milky white to greyish, quartz, with minor feldspar, medium to coarse, angular to subangular, moderately sorted, predominantly disaggregated with rare calc cemented fine sand aggregates, trace muscovite, trace glauconite, moderate inferred porosity, no fluorescence.	
520-604m	INTERGRADATIONAL SILTSTONE AND FELDSPATHIC SANDSTONE, WITH MINOR INTERBEDDED SANDSTONE__ SILTSTONE: medium light grey to greyish olive grey, firm to hard, blocky to subfissile, grading to very fine feldspathic sandstone, locally pyritic, common very fine, feldspar, biotite and muscovite. FELDSPATHIC SANDSTONE: light grey to medium light grey, very fine to fine, angular to subangular, well sorted, hard, silica cemented aggregates with minor calcareous cement, common muscovite, biotite, trace fine monazite, very poor inferred porosity. SANDSTONE: translucent to white to yellowish grey, quartz and feldspar, fine to coarse, angular to subangular, moderately to well sorted, predominantly disaggregated with common silica cemented fine to medium sand aggregates from 560m, trace calcareous cemented aggregates, trace muscovite, trace monazite, trace glauconite, trace quartz granules, trace pyrite nodules, poor to moderate inferred porosity, no fluorescence.	0.06/0/01% at 576.5m 96/1/3/0/0

604-698m	SILTSTONE WITH INTERBEDDED TO INTERGRADATIONAL SANDSTONE__ SILTSTONE: medium light grey to greyish olive grey, firm to hard, blocky to subfissile, grading to very fine f sandstone, locally pyritic, common very fine, feldspar, biotite and muscovite, common embedded (ice-rafted) granule sized lithics (metapelite, metaquartzite and S-type 2-mica granite) up to 3mm. SANDSTONE: translucent to white to yellowish grey, quartz and feldspar, fine to coarse, angular to subrounded, poorly to well sorted, predominantly disaggregated with common silica cemented fine to medium sand aggregates, trace calcareous cemented aggregates, trace muscovite, trace monazite, trace glauconite, trace quartz granules, trace pyrite nodules, poor to moderate inferred porosity, no fluorescence.	Trace formation gas 0.12/0.03%, 97.50.5/1.0/0.5/0.5 at 673m.
	LATE PERMIAN LOWER PARMEENER SUPERGROUP: POATINA GROUP	
698-727m	INTERBEDDED LIMESTONE, SILTSTONE AND CALCAREOUS SANDSTONE__ LIMESTONE: greyish yellow to moderate yellow to milky white, bioskeletal and fossiliferous boundstone (?) containing fragments of crinoids, bivalves (*clamus sp?*), and bryozoans, locally dolomitic, hard. SILTSTONE: medium light grey to greyish olive grey, firm to hard, blocky to subfissile, grading to very fine sandstone, locally calcareous, rare embedded (ice-rafted?) granule sized metamorphic and granitoid lithics. CALCAREOUS SANDSTONE: greyish yellow to yellowish grey to light olive grey, quartz, calcite and rare feldspar, fine to coarse, angular to subangular, well to moderately sorted, firm to hard, carbonate cemented aggregates with minor disaggregated sand, poor inferred porosity, no fluorescence.	Trace formation gas 0.02/0.00% 99/0/2/0/0 at 719m
727-786m	SILTSTONE WITH INTERBEDDED CALCAREOUS SANDSTONE: SILTSTONE: medium light grey to dusky yellow to light olive grey, firm to hard, blocky to subfissile, grading to very fine sandstone, moderately calcareous, locally pyritic, trace black shale. CALCAREOUS SANDSTONE: greyish yellow to yellowish grey to light olive grey, quartz, calcite and rare feldspar, fine to coarse, angular to subangular, well to moderately sorted, firm to hard, carbonate cemented aggregates with minor disaggregated sand, poor inferred porosity, no fluorescence.	Trace formation gas 0.03/0.01% 99/0/1/0/0 at 774m
	EARLY PERMIAN LIFFEY GROUP-MARINE EQUIVALENT?	
786-817m	SILTSTONE WITH INTERBEDDED TO INTERGRADATIONAL SANDSTONE: SILTSTONE: light olive grey to olive black, firm to hard, blocky to subfissile, grading to very fine sandstone, locally micaceous (biotite-rich), locally pyritic. SANDSTONE: white to very light grey, fine to medium, angular to subangular, moderately to well sorted, firm silica cemented aggregates, trace biotite, trace pyrite, poor inferred porosity, no fluorescence.	Trace formation gas 0.05/0.01% 98.5/0.0/1.5/0.0/0.0 at 805.5m

NOTE: INITIAL WELL TRACK BELOW 815m (TOP OF SIDETRACK PLUG) WAS NOT LOGGED. FORMATION TOPS ARE TAKEN FROM THE INITIAL FIELD PICKS.		
817-853m	SILTSTONE WITH INTERBEDDED TO INTERGRADATIONAL SANDSTONE: SILTSTONE: light olive grey to olive black, firm to hard, blocky to subfissile, grading to very fine sandstone, locally micaceous (biotite-rich), non calcareous, locally pyritic. SANDSTONE: white to very light grey, quartzose, fine to medium, angular to subangular, moderately to well sorted, firm silica cemented aggregates, trace biotite, trace pyrite, poor inferred porosity, no fluorescence.	Trace formation gas 0.06/0.01% 100/0/0/0/0 at 844.0m
	(EARLY PERMIAN GOLDEN VALLEY GROUP)	
853-991m	SILTSTONE WITH MINOR INTERBEDDED CLAYSTONE, LIMESTONE AND CALCAREOUS SANDSTONE__ SILTSTONE: very light grey to light olive grey, soft to moderately hard, blocky to subfissile, locally grading to very fine sandstone, locally micaceous (biotite-rich), locally pyritic. CLAYSTONE: light grey to medium grey, soft, amorphous. LIMESTONE: greyish yellow to medium yellow to amber brown, locally dolomitic, locally recrystallised, fossiliferous with common crinoid fragments. CALCAREOUS SANDSTONE: greyish yellow to yellowish grey to light olive grey, transparent to translucent, quartz, abundant calcite and rare feldspar, fine to granule, angular to subrounded, moderately to poorly sorted, disaggregated, with minor weakly carbonate cemented medium sand aggregates, common pyrite nodules, trace glauconite, moderate inferred porosity, no fluorescence.	Trace formation gas 0.09/0.02% 100/0/0/0/0 at 871.5m
991-998m	SILTSTONE AND CALCISILTITE WITH MINOR INTERBEDDED CLAYSTONE, LIMESTONE AND CALCAREOUS SANDSTONE__ SILTSTONE: light olive grey to greyish olive, firm locally hard, blocky to subfissile, locally weakly calcareous. CALCISILTITE: yellowish grey, soft, locally firm, subblocky to blocky, locally arenaceous. LIMESTONE: greyish yellow to medium yellow to amber brown, locally dolomitic, locally recrystallised, fossiliferous with common crinoid, fragments. Trace white, silica- cemented fine to medium sandstone aggregates.	Trace formation gas 0.09/0.01% 99/0/1/0/0 at 998.0m

998-1005m	SULPHATE-RICH SILTSTONE WITH MINOR INTERBEDDED CLAYSTONE, LIMESTONE AND CALCAREOUS SANDSTONE__ SILTSTONE: greyish olive to dark olive grey, hard, subfissile to fissile, very weakly calcareous, locally carbonaceous, contains ~15% by volume medium to coarse orange yellow sulphate crystals! CALCISILTITE: yellowish grey, soft, locally firm, subblocky to blocky, locally arenaceous. CALCILUTITE: very light grey to bluish white, amorphous. Trace limestone, trace granule-sized massive pyrite, trace silica and carbonate cemented fine to medium sandstones.	Trace formation gas 0.09/0.02% 98/0/2/0/0 at 998.5m
1005-1015m	SILTSTONE WITH MINOR INTERBEDDED CLAYSTONE AND SANDSTONE__ SILTSTONE: medium light grey to medium grey to greyish olive to yellowish grey, soft to hard, blocky to subfissile, locally moderately calcareous, locally carbonaceous, locally arenaceous, locally pyritic, trace-5% orange yellow TASMANITES algal discoids. CLAYSTONE: light to medium grey, soft, amorphous. SANDSTONE: yellowish grey to very light grey to white, very fine to medium, quartzose, with minor feldspar, biotite and titanite, angular to subangular, moderately to well sorted, firm to hard, strongly silica cemented aggregates with minor carbonate cemented aggregates, poor inferred porosity, no fluorescence. Trace-5% granule-sized, angular to rounded metamorphic “lithics”, trace limestone, trace pyrite nodules.	No Gas
	LATE CARBONIFEROUS STOCKERS FORMATION	
1015-1039m	CONGLOMERATE (TILLITE) WITH MINOR INTERBEDDED (?) SILTSTONE, CLAYSTONE AND SANDSTONE__ CONGLOMERATE (TILLITE): white to yellowish grey to pink to green to grey to black, angular to rounded, very poorly sorted clasts (broken by bit) of metaquartzite, metapelite, metaconglomerate (?), granite and basalt/micro-gabbro. SILTSTONE: medium light grey to medium grey to greyish olive, soft to hard, blocky to subfissile, locally weakly calcareous, locally arenaceous, grading to very fine sandstone. CLAYSTONE: light to medium grey, soft, amorphous. SANDSTONE: yellowish grey to very light grey to white, very fine to medium, quartzose, with minor feldspar, biotite and titanite, angular to subangular, moderately to well sorted, firm to hard, strongly silica cemented aggregates with minor carbonate cemented aggregates, poor inferred porosity, no fluorescence.	No Gas

1072-1078m	TILLITE - common metasandstone and metamorphic silty sandstone (psammite) pebble shards and occasional varicoloured siliceous igneous grains associated with arenaceous siltstones, claystones and minor limestone. METASANDSTONE: translucent, opaque white silicified quartzose aggregates, fine to medium and occasionally coarse rounded to subangular welded grains, dolomitic in parts, occasional occluded matrix, generally very hard, tight visual porosity; occasional pale green and occasional pale red/orange, rare pale green siliceous igneous fragments. META SILTY SANDSTONE (PSAMMITE): medium to dark grey, occasionally light grey, very fine to fine, occasionally medium, subrounded to angular, moderately well sorted, very strong to occasionally moderately weak siliceous cement, common silty matrix, common recrystallised quartz with lithic inclusions, hard to moderately friable in parts, no visual porosity, no fluorescence. SILTSTONE: dark grey to black, generally arenaceous grading to silty sandstone, common very fine quartz grains, silicified, local disseminated and globular pyrite, trace mica, very calcareous grading to silty limestone, hard to moderately friable, blocky to occasionally shaley.	Trace gas
1072-1090m	SANDSTONE INTERBEDDED WITH INTERGRADATIONAL SILTY SANDSTONE, SILTSTONE AND MINOR LIMESTONE__ SANDSTONE: translucent to occasionally medium and pale grey quartz, fine to medium – occasionally coarse, subrounded to subangular, poorly sorted, generally loose (disaggregated), poor inferred porosity, no fluorescence. Occasional very coarse and angular metamorphic siliceous pebble shards, occasional jasper fragments. SILTY SANDSTONE: as above but commonly moderately friable, poor to tight inferred porosity, no fluorescence. SILTSTONE: dark grey to black, generally arenaceous grading to silty sandstone, common very fine quartz grains, silicified, local disseminated and globular pyrite, trace mica, very calcareous grading to silty limestone, hard to moderately friable, blocky to occasionally shaley. LIMESTONE: commonly mottled pale to medium grey/off white, micritic, silty in parts, sub blocky, moderately hard to occasionally friable. CALCITE: opaque white to minor cloudy free calcite grains, brittle, possible vein / fracture infill.	Trace gas

	METAMORPHOSED 'BASEMENT' (ELDON GROUP?)	
1090-1099m	TILLITE - common metasandstone and metamorphic pebble shards and occasional varicoloured siliceous igneous grains associated with arenaceous and argillaceous siltstones and minor limestone. METASANDSTONE: translucent, opaque white silicified quartzose aggregates, fine to medium and occasionally coarse rounded to subangular welded grains, dolomitic in parts, occasional occluded matrix, generally very hard, tight visual porosity; occasional pale green and occasional pale red/orange, rare pale green siliceous igneous fragments. METASANDSTONE: medium to dark grey, occasionally light grey, very fine to fine, occasionally medium, subrounded to angular, moderately well sorted, very strong to occasionally moderately weak siliceous cement, local strong interstitial pyritic cement, local calcareous and dolomitic cement, minor to occasionally common silty matrix grading to meta silty sandstone (psammite), common recrystallised quartz with lithic inclusions, trace mica, trace garnet, hard to moderately friable in parts, no visual porosity, no fluorescence. METASILTSTONE: medium to light grey, off-white in parts, sub vitreous lustre, phyllitic texture, subconchoidal fracture surfaces, tabular to occasionally blocky, subfissile to splintery – shaley. SILTSTONE: black to dark grey, finely arenaceous grading to silty sandstone in parts, local pyrite, trace mica, blocky to tabular cuttings, moderately hard to brittle. CALCAREOUS SILTSTONE: medium to light grey, finely arenaceous, common fine to medium quartz grains, local clasts of dark siltstone, occasional pebble fragments, moderately strong calcareous cement, generally moderately friable. CALCITE: translucent, cloudy off-white to opaque white grains, moderately hard to brittle.	Trace gas
1099-1102m	INTERBEDDED SANDSTONE, SILTSTONE AND MINOR LIMESTONE__ SANDSTONE: fine to medium, moderately well sorted, subrounded to subangular, disaggregated to occasional strong siliceous cement, calcareous in parts, occasional silty matrix, poor inferred or, no fluorescence. SILTSTONE/SHALE: dark grey, phyllitic in parts, occasional very fine quartz grains, trace micromica, trace disseminated pyrite, platey to tabular cuttings, brittle to firm, subfissile to sub blocky. LIMESTONE: mottled to patchy medium to light grey, occasionally off-white, silty in parts, moderately hard to hard, blocky.	Possible formation change? With increasing phyllitic siltstone and shaley siltstone and decrease in coarser grains. Trace gas

1102-1120m	PREDOMINANTLY CALCAREOUS SILTSTONE GRADING TO SILTY SHALE WITH SUB INTERBEDDED SILTY SANDSTONE, SANDSTONE AND LIMESTONE__ SANDSTONE: fine to medium, moderately well sorted, subrounded to subangular, disaggregated t occasional strong siliceous cement, calcareous in parts, occasional silty matrix, poor inferred or, no fluorescence. SILTSTONE/SHALE: dark grey, phyllitic in parts, occasional very fine quartz grains, trace micromica, trace disseminated pyrite, platey to tabular cuttings, brittle to firm, subfissile to sub blocky. LIMESTONE: mottled to patchy medium to light grey, occasionally off-white, silty in parts, moderately hard to hard, blocky.	Trace gas
1120-1129m	INTERBEDDED SANDSTONE, METASANDSTONE, SILTY SHALE AND META SILTSTONE WITH SUBORDINATE META SILTY SANDSTONE AND LIMESTONE__ SANDSTONE: fine to medium, moderately well sorted, subrounded to subangular, disaggregated to occasional strong siliceous cement, calcareous in parts, occasional silty matrix, poor inferred porosity, no fluorescence. SILTY SANDSTONE: medium to dark grey, fine to very fine grading to arenaceous siltstone, subrounded to subangular, moderately well sorted, weak to moderately strong calcareous cement, common silty matrix, trace micromica, moderately friable, poor visual porosity, no fluorescence. SILTSTONE: shaley, dark grey, phyllitic in parts, occasional very fine quartz grains, trace micromica, trace disseminated pyrite, platey to tabular cuttings, brittle to firm, subfissile to sub blocky. LIMESTONE: mottled to patchy medium to light grey, occasionally off-white, silty in parts, micritic to sparritic, moderately hard to hard, blocky.	Trace gas

1129-1165m	PREDOMINANTLY SANDSTONE AND LOW GRADE METASANDSTONE WITH INTERBEDDED AND INTERGRADATIONAL META SILTY SANDSTONE, METASILTSTONE, MINOR LIMESTONE AND FREE CALCITE__ SANDSTONE: translucent to occasional clear (recrystallised) quartz, very fine to fine, occasionally medium, local coarse angular quartzite pebble shards, angular to subrounded, poorly sorted, disaggregated to occasionally weak siliceous cement, slightly calcareous in parts, minor silt matrix, no fluorescence. METASANDSTONE: (20%) grey/translucent quartz with minor black inclusions, very fine to fine grading to arenaceous metasiltstone, subrounded to subangular, well-sorted, strong siliceous and dolomitic cement, minor mica flakes, rare pyrite, common silt matrix grading to meta silty sandstone (psammite), hard to brittle, occasionally subfissile, tight visual porosity, no fluorescence. SILTY SANDSTONE: medium to dark grey, fine to very fine grading to arenaceous siltstone, subrounded to subangular, moderately well sorted, weak to moderately strong calcareous cement, common silty matrix, trace micromica, moderately friable, poor visual porosity, no fluorescence. METASILTSTONE: black to dark-grey, arenaceous–siliceous in parts, trace micromica, trace disseminated pyrite, shaley in parts. METASILTSTONE: phyllitic, medium to light grey/silver grey, vitreous lustre (metallic), sub conchoidal fracture surfaces, brittle, subfissile. LIMESTONE: pale grey, translucent, patchy to mottled in parts, micritic to crystalline, silty and occasional very fine quartz grains, moderately hard, brittle. CALCITE: common free calcite, opaque to cloudy white, brittle-firm.	facies change to quartzose beds Trace gas
1165-1184m	METASILTSTONE WITH INTERBEDDED METASANDSTONE AND SUBORDINATE LIMESTONE__ META SILTSTONE: shaley, medium to dark grey, finely arenaceous grading to silty sandstone in parts, local pyrite, trace mica, blocky to tabular cuttings, subfissile in parts, moderately hard to brittle. SANDSTONE: translucent-very pale grey silicified aggregates, very fine to fine welded grains, clean to occasional silty matrix, calcareous in parts, hard to moderately hard, no visual porosity, no fluorescence. CALCAREOUS SANDSTONE: translucent t occasionally clear aggregates, fine to very fine, subrounded to subangular, moderately well sorted, weak to strong calcareous cement, moderately hard, clean, tight visual porosity, no fluorescence. QUARTZITE: (trace to 10%) pebble shards to very coarse grains, recrystallised clear quartz, common pyrite and lithic inclusions, hard, no fluorescence. LIMESTONE: (20%) (CALCISILTITE) pale grey, occasionally medium grey, slightly sucrosic texture, common silt and very fine quartz grains, tabular to bladed cuttings, hard to brittle. CALCITE: (20%) as free fragments, opaque white to white, minor very pale grey in parts, brittle to firm – possibly fracture infill.	Trace gas

1184-1221m	DOMINANTLY METASILTSTONE WITH INTERGRADATIONAL SILTY SANDSTONE AND THIN SANDSTONES WITH COMMON FREE CALCITE AND OCCASIONAL LIMESTONE__ METASILTSTONE: dark to medium grey, arenaceous, silicified, grading to meta silty sandstone, black laminae (possibly carbonaceous?), disseminated pyrite and occasional nodular pyrite, trace micromica, shaley, brittle to firm, subfissile to fissile and METASILTSTONE: silver grey with metallic sheen and phyllitic texture, subconchoidal fracture surfaces, tabular to platy, moderately hard to brittle, subfissile to fissile. METASANDSTONE: clear (recrystallised) to translucent quartz, common lithic inclusions, very coarse with common quartzite pebble fragments to very fine grained silicified and welded aggregates, angular (broken) to minor subrounded grains, disaggregated in parts, generally clean to occasional silty matrix grading to silty sandstone in parts, tight visual and inferred porosity, no fluorescence. LIMESTONE: (maximum 20%) patchy medium to light grey, mottled grey-off-white, sucrosic texture in parts, common very fine quartz, blocky, hard to brittle. CALCITE: free calcite as above.	Trace gas
1221-1231m	METASANDSTONE WITH SUBORDINATE INTERGRADATIONAL META SILTY SANDSTONE AND METASILTSTONE__ METASANDSTONE/CONGLOMERATE?: primarily as translucent to opaque white pebble shards, occasional clear recrystallised quartz with occasional lithic and pale green inclusions (chlorite?), angular broken fragments, tight inferred porosity, no fluorescence. METASANDSTONE: light to medium grey becoming pale green grey, translucent in parts, fine to medium, subrounded to subangular, silicified aggregates, clean to minor silty matrix, hard, tight visual porosity, no fluorescence. META SILTY SANDSTONE: (20%) mottled medium to light grey, translucent, silicified, very fine to fine, subrounded quartz grains with common occluded silty matrix, minor lithics, trace coal? (no gas), occasional pyrite, moderately hard to hard, tight porosity, no fluorescence. METASILTSTONE: phyllitic texture, silver grey with metallic sheen and phyllitic texture, subconchoidal fracture surfaces, tabular to platy, moderately hard to brittle, subfissile to fissile.	facies change to dominantly metasandstone. dominant pale green colour below 1228m. Trace gas

1231-1247m	META CALCAREOUS SANDSTONE WITH MINOR META SILTY SANDSTONE, METASILTSTONE AND LIMESTONE__ METASANDSTONE: very pale green, very fine to very coarse – generally fine to medium, subrounded to subangular, frosted grain surfaces, moderately well sorted, disaggregated to strong siliceous cement, calcareous in parts, tight inferred porosity, no fluorescence. META CALCAREOUS SANDSTONE: translucent to pale grey, very pale translucent green, silicified very fine to fine subrounded-sub angular quartz grains, minor silt and lithic inclusions, calcareous in parts, hard to moderately friable (fractured?), tight inferred porosity, no fluorescence. META SILTY SANDSTONE: as above plus minor brownish black, very fine, subrounded, well-sorted, strong siliceous cement, common silt matrix, hard to moderately hard, poor to tight visual porosity, no fluorescence. METASILTSTONE: as above with phyllitic texture in parts, subfissile to fissile, brittle to firm. LIMESTONE: as above PYRITE: trace, brassy, nodular, blocky, very hard.	Trace gas
1247-1261m	META CALCAREOUS SANDSTONE WITH MINOR META SILTY SANDSTONE, METASILTSTONE AND LIMESTONE__ METASANDSTONE: very pale green, very fine to very coarse – generally fine to medium, subrounded to subangular, frosted grain surfaces, moderately well sorted, disaggregated to strong siliceous cement, calcareous in parts, tight inferred porosity, no fluorescence. QUARTZITE: as pebble fragments (possibly conglomeratic), translucent, minor clear to cloudy quartz, fine to very coarse and pebbly fragments, occasional pyrite and lithic inclusions, hard, tight inferred porosity, no fluorescence. META SILTY SANDSTONE: translucent/medium grey to occasionally brownish black, very fine, subrounded, well-sorted, strong siliceous cement, common silt matrix, hard to moderately hard, poor to tight visual porosity, no fluorescence. METASILTSTONE: mottled to patchy pale to medium grey, minor grey-green/translucent, very fine to fine relic welded grains, occluded matrix and laminae in parts, trace pyrite, generally tabular to bladed cuttings, brittle to moderately hard, no visual porosity, no fluorescence. LIMESTONE: predominantly a calcite, white, amorphous to crystalline grains, brittle to firm. PYRITE: trace, brassy, nodular, blocky, very hard.	Trace gas

1261-1294m	THINLY INTERBEDDED METASANDSTONE, METASILTSTONE AND LIMESTONE__ METASILTSTONE: dark grey to occasionally medium grey, occasionally arenaceous and siliceous to argillaceous and shaley, trace mica, blocky to tabular cuttings, fissile, brittle. METASANDSTONE: very fine to fine, welded aggregates with occasional coarse to granule sized pebble shards, occasional pale green (chlorite?) and pyrite inclusions within quartzite grains, hard to moderately hard silicified aggregates, calcareous and dolomite in parts, tight porosity, no fluorescence. LIMESTONE: mottled medium grey/translucent/off-white grains, sucrosic texture, common silty matrix, trace lithics, minor pale green inclusions, blocky, hard to occasionally brittle.	Generally pale grey sediments below 1261m Trace gas
1294-1312m	METASANDSTONE WITH MINOR META SILTY SANDSTONE, METASILTSTONE (SHALE), LIMESTONE AND TRACE DOLOMITE__ METASANDSTONE: pale grey green, fine to medium, occasionally coarse (quartzite grains), subrounded to subangular, poorly sorted, strong siliceous and calcareous cement, silty in parts, hard aggregates to common disaggregated grains, tight inferred porosity, no fluorescence. METASILTSTONE/SHALE: as above, silicified in parts. LIMESTONE AND CALCITE: as above DOLOMITE: patchy clear/translucent/pale yellow brown in parts, crystalline, silty, blocky, hard to brittle.	Trace gas
1312-1326m	METASANDSTONE WITH INTERBEDDED METASILTSTONE, META SILTY SANDSTONE AND MINOR CARBONACEOUS (?) SILTSTONE__ METASANDSTONE: as above with common pale yellow brown to amber, very fine to fine and medium, subrounded-sub angular, moderately well sorted, silicified and occasional calcareous aggregates, hard, tight, no fluorescence. METASILTSTONE: dark grey to black where possibly carbonaceous, shaley with platey to bladed cuttings, possible (no gas detected) coal clasts and laminae between metasiltstone and very fine metasandstone, trace micromica and pyrite, platey, brittle to firm, subfissile. META SILTY SANDSTONE: mottled medium to light grey/translucent, medium brown in parts, very fine to fine, subrounded, welded, silicified aggregates, common silty laminae, trace pyrite, crystalline in parts, hard, no visual porosity, no fluorescence.	Trace gas
Well plugged back to 815m due to excessive deviation.		
Sidetrack-1 kicked off at 847m (WESTWOOD-1 ST1)		
	(LOWER PARMEENER SUPERGROUP: BASAL LIFFEY GROUP)	

847-860m	INTERBEDDED SANDSTONE, SILTY SANDSTONE, SILTSTONE AND THIN LIMESTONE BEDS__ SANDSTONE: medium grey aggregates, translucent to minor clear quartz grains, very fine to fine, occasionally medium, subrounded to subangular, moderately well sorted, weak to moderately strong siliceous and increasing calcareous cement, common to abundant silty and argillaceous matrix grading to silty sandstone, minor coal specks, local fossils (crinoids?) and bivalves, trace pyrite and mica, moderately friable to firm, occasionally hard where calcareous, poor to tight visual porosity, no fluorescence. SILTSTONE: medium grey, arenaceous grading to silty sandstone, occasionally argillaceous, minor coal specks, local fossils (crinoids), trace pyrite and mica, firm to soft, sub blocky to minor subfissile. LIMESTONE: pale yellow brown to white/pale grey, micritic to crystalline, blocky, hard to moderately hard. Comm free calcite grains.	Trace gas
860-867m	PREDOMINANTLY SILTSTONE WITH INTERBEDDED CALCAREOUS SANDSTONE, SILTY SANDSTONE AND OCCASIONAL LIMESTONE__ SILTSTONE: as above becoming argillaceous, firm to moderately soft. SILTY SANDSTONE: as above grading to very fine sandstone, poor to tight visual porosity, no fluorescence. LIMESTONE: as above	
867-879m	INTERBEDDED SANDSTONE, SILTY SANDSTONE, SILTSTONE AND THIN LIMESTONE BEDS__ SANDSTONE: medium grey aggregates, translucent quartz grains, very fine grading to arenaceous siltstone, subrounded to subangular, moderately well sorted, weak to moderately strong siliceous and occasional calcareous cement, clean to local silty matrix grading to silty sandstone, minor coal specks, local fossils, trace pyrite and mica, moderately friable to firm, occasionally hard where calcareous, poor to tight visual porosity, no fluorescence. SILTSTONE: medium grey, arenaceous grading to silty sandstone, occasionally argillaceous, minor coal specks, local fossils, trace pyrite and mica, firm to soft, sub blocky to minor subfissile. LIMESTONE: grey, crystalline, commonly silty, blocky, hard.	Trace gas 163/102ppm C1

879-897m	THINLY INTERBEDDED SILTSTONE, SANDSTONE, INTERGRADATIONAL SILTY SANDSTONE AND MINOR LIMESTONE__ SILTSTONE: medium grey, predominantly arenaceous grading to silty sandstone in parts, local argillaceous matrix, calcareous in parts, occasional disseminated and patchy pyrite, micromica, trace feldspar, trace coal specks, of fossil fragments, firm to moderately friable, occasional subfissile. SANDSTONE: medium grey aggregates, translucent quartz grains, very fine grading to arenaceous siltstone, subrounded to subangular, moderately well sorted, weak to moderately strong siliceous and occasional calcareous cement, clean to local silty matrix grading to silty sandstone, minor coal specks, local fossils, trace pyrite and mica, moderately friable to firm, occasionally hard where calcareous, poor to tight visual porosity, no fluorescence. SILTY SANDSTONE: medium grey, very fine grading to arenaceous siltstone, common to abundant silty and local argillaceous matrix, calcareous in parts, coal specks, trace pyrite and micromica, friable to firm, poor visual porosity, no fluorescence. LIMESTONE: trace as above.	Trace gas 181/105 ppm C1
897-906m	SILTSTONE: medium grey, predominantly arenaceous grading to silty sandstone in parts, local argillaceous matrix, calcareous in parts, occasional disseminated and patchy pyrite, micromica, trace feldspar, trace coal specks, of fossil fragments, firm to moderately friable, occasional subfissile.	Trace gas 178/127 ppm C1
906-934m	DOMINANTLY SANDSTONE WITH INTERGRADATIONAL SILTY SANDSTONE, INTERBEDDED SILTSTONE AND TRACE LIMESTONE__ SANDSTONE: medium grey aggregates, translucent quartz grains, very fine grading to arenaceous siltstone, subrounded to subangular, moderately well sorted, weak to moderately strong siliceous and occasional calcareous cement, clean to local silty matrix grading to silty sandstone, minor coal specks, local fossils, trace pyrite and mica, moderately friable to firm, occasionally hard where calcareous, poor to tight visual porosity, no fluorescence. SILTSTONE: medium grey, predominantly arenaceous grading to silty sandstone in parts, local argillaceous matrix, calcareous in parts, occasional disseminated and patchy pyrite, micromica, trace feldspar, trace coal specks, of fossil fragments, firm to moderately friable, occasional subfissile. SILTY SANDSTONE: medium grey, very fine grading to arenaceous siltstone, common to abundant silty and local argillaceous matrix, calcareous in parts, coal specks, trace pyrite and micromica, friable to firm, poor visual porosity, no fluorescence. LIMESTONE: trace as above with trace calcite: large tabular cuttings, very pale translucent brown, cloudy, brittle.	Trace gas 339/215 ppm C1
	LOWER PARMEENER SUPERGROUP: QUAMBY FORMATION	

934-975m	MASSIVE SILTSTONE WITH TRACE SILTY SANDSTONE AND LIMESTONE__ SILTSTONE: medium grey, predominantly arenaceous grading to silty sandstone in parts, local argillaceous matrix, calcareous in parts, occasional disseminated and patchy pyrite, micromica, trace feldspar, trace coal specks, of fossil fragments, firm to moderately friable, occasional subfissile. LIMESTONE: trace as above with trace calcite: large tabular cuttings, very pale translucent brown, cloudy, brittle.	Trace gas 214/115 ppm C1
975-993m	SILTSTONE: medium to light grey, predominantly argillaceous matrix, occasionally very fine quartz, micromica, massive to minor laminated, occasional pyrite layers patches, trace fossil fragments, micromica in parts, subfissile-sub blocky, firm to soft.	Trace gas 253/151 ppm C1
993-1002m	MASSIVE SILTSTONE WITH MINOR INTERGRADATIONAL SILTY SANDSTONE__ SILTSTONE: medium to light grey, predominantly argillaceous matrix, occasionally very fine quartz, micromica, massive to minor laminated, occasional pyrite layers patches, trace fossil fragments, micromica in parts, subfissile-sub blocky, firm to soft. SILTY SANDSTONE: medium to light grey, very fine to silt sized quartz grains grading to arenaceous siltstone, argillaceous matrix in parts, trace micromica, micro pyrite, possible coal flakes, calcareous in parts, firm to moderately friable, poor to tight visual porosity, no fluorescence.	Trace gas 322/235 ppm
1002-1008m	SILTSTONE WITH COMMON 'ALGAL' MATS AND FLAKES WITH MINOR INTERGRADATIONAL SILTY SANDSTONE__ SILTSTONE: medium to light grey, arenaceous to argillaceous as above. SILTY SANDSTONE: as above. TASMANITE (fossillised algae) medium amber/yellow, discoidal to 1mm diameter, translucent with semblances of internal 'vein' like structures, moderately flexible, commonly seen in mat-like clusters in siltstone and silty sandstone, no effervescence in HCl acid, bright and even yellow fluorescence.	Trace gas 855/346 ppm TASMANITE from 1012m
1008-1022m	SILTSTONE WITH INTERBEDDED SANDSTONE WITH MINOR LIMESTONE AND HEAVY TRACE TASMANITE__ SILTSTONE: as above SANDSTONE: medium to light grey, very fine to fine with occasional medium to coarse grains below 1027m, angular, moderately well sorted, weak to strong siliceous and calcareous cement, silty in parts, occasional algal discs, disseminated to minor anhedral pyrite, micromica, rare coal specks, trace lithics, (igneous and metamorphic), firm to friable, poor to tight visual porosity, no fluorescence. LIMESTONE: pale grey, micritic, silty, occasional algal discs, soft to hard, generally blocky. PYRITE: trace, brassy, blocky, anhedral to subhedral cubic crystals, hard.	Trace gas 358/238 ppm
	STOCKERS TILLITE FORMATION	

1022-1029m	LITHIC AND CALCAREOUS SANDSTONE WITH INTERGRADATIONAL SILTY SANDSTONE, INTERBEDDED SILTSTONE AND MINOR LIMESTONE__ LITHIC SANDSTONE (CONGLOMERATIC?): generally translucent to minor clear quartz, common varicoloured meta quartz and lithic (glacial erratics) fragments, predominantly fine to occasionally medium and local very coarse to granule and minor pebble fragments, common rounded to sub rounded and occasionally elongate weathered and pitted quartz grains, poorly sorted, disaggregated to minor aggregates with weak siliceous cement, occasionally matrix supported. Erratics include grains and fragments of translucent to opaque white quartzite, grey to grey-brown quartz, metaquartz with common silicified and welded sand aggregates, meta limestone and occasional dolomite, occasional basalt, orange/pink granite fragments, generally disaggregated, poor porosity, no fluorescence. CALCAREOUS SANDSTONE: (10%), white/clear/translucent quartz grains, fine to very fine, occasionally medium, rounded to angular, moderately well sorted, strong calcareous cement, generally clean aggregates, local mica and pyrite, moderately hard to hard, no visual porosity, no fluorescence. SILTY SANDSTONE: medium to dark grey, very fine to fine, common silt sized quartz grains, argillaceous and common silty matrix, minor carbonaceous(?) specks, trace pyrite, micromica, lithics, calcareous in parts ,firm to moderately friable, tight visual porosity, no fluorescence. SILTSTONE: medium grey, arenaceous with common very fine quartz grains, grading to very fine silty sandstone in parts, micromica, occasional pyrite, calcareous in parts, sub blocky to subfissile, fair to brittle.	Trace gas 183/125 ppm
1029-1089m	LITHIC AND CALCAREOUS SANDSTONE WITH SUBORDINATE INTERBEDDED SILTY SANDSTONE AND SILTSTONE AND TRACE DOLOMITE__ LITHIC SANDSTONE: as above with 20% calcareous sandstone as above, poor inferred porosity, no fluorescence. SANDSTONE: from 1057m, predominantly pale translucent grey green, translucent and occasional clear quartz, very fine to very coarse, occasional granule, rounded to subangular, elongate in parts, poorly sorted, disaggregated, occasional calcareous cement, common fragments of metamorphic and igneous erratics, poor inferred porosity, no fluorescence. SILTY SANDSTONE (boulder clay?): medium to dark grey, very fine to fine and occasionally medium, common silt sized quartz grains, angular, well-sorted, weak siliceous cement, calcareous in parts, common to abundant argillaceous matrix, micromica, occasional pyrite and lithics, firm to moderately friable, tight visual porosity, no fluorescence. SILTSTONE: medium to dark grey, argillaceous to arenaceous, commonly as soft and amorphous rock flour, common microliths, trace pyrite and mica, sub blocky to occasionally subfissile.	Trace gas 128/95 ppm
	PROTEROZOIC BADGER HEAD GROUP	

1089-1107m facies change to meta siltstone	DOMINANTLY META ARENACEOUS SILTSTONE WITH INTERGRADATIONAL META SILTY SANDSTONE AND LITHIC SANDSTONE__ META SILTSTONE: dark grey, arenaceous with occasional argillaceous laminae, silicified, micromica, common micaceous sheen on cleavage surfaces, generally shaley to minor slaty, platy, subfissile to splintery, brittle in parts. [NOTE: distinctive H2S odours in HCl]. META SILTY SANDSTONE: dark grey to black, very fine to fine, common silt sized quartz grains, subrounded to subangular, well-sorted, silicified, commonly calcareous, laminated, hard, occasionally subfissile, tight porosity, no fluorescence. LITHIC SANDSTONE: translucent white to grey and pale green quartz, varicoloured igneous and metamorphic siliceous fragments, very fine to fine and occasionally medium, becoming coarse to very coarse and pebbly from 1114m, generally disaggregated, poor inferred porosity, no fluorescence. LIMESTONE: mottled to patchy medium to light grey, occasionally off-white, silty in parts, moderately hard to hard, blocky.	Trace gas 53/33 ppm
1107-1122m	METASILTSTONE WITH MINOR INTERGRADATIONAL META SILTY SANDSTONE, SANDSTONE AND LIMESTONE: METASILTSTONE: as above, hard to bright, shaley in parts. META SILTY SANDSTONE: as above SANDSTONE: as above predominantly coarse to pebble fragments. LIMESTONE: as above with common free Calcite, white, brittle-firm.	Trace gas 37/34 ppm
1122-1126m	METASANDSTONE WITH SUBORDINATE METASILTSTONE AND MINOR LIMESTONE__ META SILTSTONE: dark grey, arenaceous with occasional argillaceous laminae, silicified, micromica, common micaceous sheen on cleavage surfaces, generally shaley to minor slaty, platy, subfissile to splintery, brittle in parts. [NOTE: distinctive H2S odours in HCl]. METASANDSTONE: medium to grey, minor green grey, very fine to fine, subangular to subrounded, well-sorted, silicified, hard, tight, no fluorescence. LIMESTONE: mottled to patchy medium to light grey, occasionally off-white, silty in parts, moderately hard to hard, blocky.	Trace gas 30/18 ppm
1126-1129m	INTERBEDDED METASANDSTONE, SILTY SHALE AND META SILTSTONE WITH SUBORDINATE META SILTY SANDSTONE AND LIMESTONE__ SILTY SANDSTONE: medium to dark grey, fine to very fine grading to arenaceous siltstone, subrounded to subangular, moderately well sorted, weak to moderately strong calcareous cement, common silty matrix, trace micromica, moderately friable, poor visual porosity, no fluorescence. SILTSTONE: shaley, dark grey, phyllitic in parts, occasional very fine quartz grains, trace micromica, trace disseminated pyrite, platey to tabular cuttings, brittle to firm, subfissile to sub blocky. LIMESTONE: mottled to patchy medium to light grey, occasionally off-white, silty in parts, micritic to sparritic, moderately hard to hard, blocky.	Trace gas 9/9 ppm

1129-1177m	METASILTSTONE WITH INTERGRADATIONAL META SILTY SANDSTONE, METASANDSTONE AND LIMESTONE BEDS__ METASILTSTONE: black to dark-grey, arenaceous–siliceous in parts, carbonaceous with patchy dull coal (no gas detected), trace micromica, trace disseminated pyrite, shaley in parts. METASILTSTONE: phyllitic, medium to light grey/silver grey, vitreous lustre (metallic), sub conchoidal fracture surfaces, brittle, subfissile. METASANDSTONE: translucent to occasional clear (recrystallised) quartz, very fine to fine, occasionally medium, local coarse angular quartzite pebble shards, angular to subrounded, poorly sorted, disaggregated to occasionally weak siliceous cement, slightly calcareous in parts, minor silt matrix, no fluorescence. METASANDSTONE: (20%) grey/translucent quartz with minor black inclusions, very fine to fine grading to arenaceous metasiltstone, subrounded to subangular, well-sorted, strong siliceous and dolomitic cement, minor mica flakes, rare pyrite, common silt matrix grading to meta silty sandstone (psammite), hard to brittle, occasionally subfissile, tight visual porosity, no fluorescence. META SILTY SANDSTONE: medium to dark grey, fine to very fine grading to arenaceous siltstone, subrounded to subangular, moderately well sorted, strong siliceous to moderately strong calcareous cement, common silty matrix, trace micromica, moderately friable, poor visual porosity, no fluorescence. LIMESTONE: pale grey, translucent, patchy to mottled in parts, micritic to crystalline, silty and occasional very fine quartz grains, moderately hard, brittle. CALCITE: common free calcite, opaque to cloudy white, brittle-firm.	Trace gas 23/10 ppm
1177-1195m	FINELY INTERBEDDED AND LAMINATED METASANDSTONE, SILICIFIED ARENACEOUS METASILTSTONE, META SILTY SANDSTONE AND LIMESTONE__ METASANDSTONE: generally translucent, white and pale olive grey as above with up to 10% medium to very coarse and granule sized white quartz pebble fragments, no fluorescence. METASILTSTONE: medium to dark grey, arenaceous/siliceous grading to meta silty sandstone, common very fine quartz, finely laminae, argillaceous and micaceous bedding surfaces in parts, local disseminated to anhedral pyrite, hard to brittle, minor splintery and subfissile. META SILTY SANDSTONE: as above LIMESTONE: as above and common free calcite grains.	Trace gas 14/11 ppm

1195-1213m	META CALCAREOUS SANDSTONE WITH MINOR META SILTY SANDSTONE, METASILTSTONE AND LIMESTONE__ METASANDSTONE: very pale green, very fine to very coarse (10% coarse to pebbly) – generally fine to medium, subrounded to subangular, occasional frosted grain surfaces, moderately well sorted, disaggregated to strong siliceous cement, calcareous in parts, tight inferred porosity, no fluorescence. META CALCAREOUS SANDSTONE: translucent to pale grey, very pale translucent green, silicified very fine to fine subrounded-sub angular quartz grains, minor silt and lithic inclusions, calcareous in parts, hard to moderately friable (fractured?), tight inferred porosity, no fluorescence. META SILTY SANDSTONE: as above plus minor brownish black, very fine, subrounded, well-sorted, strong siliceous cement, common silt matrix, hard to moderately hard, poor to tight visual porosity, no fluorescence. METASILTSTONE: as above with phyllitic texture in parts, subfissile to fissile, brittle to firm. LIMESTONE: as above trace to 10%, generally as rock flour. PYRITE: trace, brassy, nodular, blocky, very hard.	Facies change to predominantly metasandstone. Dominant pale green colour below 1195m. Trace gas 14/11 ppm
1213-1228m	META CALCAREOUS SANDSTONE WITH MINOR META SILTY SANDSTONE, METASILTSTONE AND LIMESTONE__ METASANDSTONE: very pale green, very fine to very coarse (10% coarse to pebbly) – generally fine to medium, subrounded to subangular, occasional frosted grain surfaces, moderately well sorted, disaggregated to strong siliceous cement, calcareous in parts, tight inferred porosity, no fluorescence. META CALCAREOUS SANDSTONE: translucent to pale grey, very pale translucent green, silicified very fine to fine subrounded-sub angular quartz grains, minor silt and lithic inclusions, calcareous in parts, hard to moderately friable (fractured?), tight inferred porosity, no fluorescence. META SILTY SANDSTONE: as above plus minor brownish black, very fine, subrounded, well-sorted, strong siliceous cement, common silt matrix, hard to moderately hard, poor to tight visual porosity, no fluorescence. METASILTSTONE: as above with phyllitic texture in parts, subfissile to fissile, brittle to firm. LIMESTONE: generally as off white amorphous rock flour, occasionally micritic to sparritic, silty in parts, moderately hard to brittle. PYRITE: trace, brassy, nodular, blocky, very hard.	Trace gas 20/16 ppm C1

1228-1237m	PREDOMINANTLY METASANDSTONE WITH MINOR METASILTSTONE AND LIMESTONE__ METASANDSTONE: pale grey green, very pale green, translucent to white quartz, very fine to medium, occasional very coarse to granule sized quartz grains and pebble fragments (drop-stones?), subrounded to subangular, occasionally elongate, occasional frosted (weathered) grain surfaces, silicified aggregates with welded grains and silica occluded matrix, calcareous in parts, trace dolomite cement, occasional 'schistosic' sheen from metasiltstone laminae, granular to crystalline texture, rare brownish black siliceous inclusions, trace mica and pyrite, minor red to pink igneous lithics (granite?), hard, no visual porosity, no fluorescence. METASILTSTONE: dark to medium grey, phyllitic texture, arenaceous to generally silicified, calcareous in parts, occasional very fine quartz grains, occasional micromica and subhedral to anhedral pyrite, shaley platy cuttings, brittle to moderately hard. LIMESTONE: as above trace to 10%, generally as rock flour.	Trace gas 152/52 ppm C1
1237-1255m	INTERBEDDED METASILTSTONE, INTERGRADATIONAL META SILTY SANDSTONE AND METASANDSTONE__ METASILTSTONE: dark to medium grey, phyllitic texture, arenaceous, generally silicified, calcareous in parts, carbonaceous with dull flaky and patchy coal (no gas detected), occasional very fine quartz grains, occasional micromica and anhedral pyrite, shaley to slate-like platy fissile cuttings, brittle to moderately hard. METASANDSTONE: as above with up to 10% coarse to pebbly drop-stones. META CALCAREOUS SANDSTONE: pale translucent green, translucent, very fine to occasionally medium, subrounded to subangular, moderately well sorted to very well-sorted, generally clean aggregates, strong to moderately strong calcareous cement, occasional calcite laminae, hard to moderately hard, tight visual porosity, no fluorescence. META SILTY SANDSTONE: patchy medium to dark grey/translucent/off-white, fine to very fine grading to arenaceous siltstone, subrounded, well-sorted, silicified aggregates, common micro metasiltstone laminae (occasionally showing phyllitic texture), trace mica and pyrite, firm to hard, tight visual porosity, no fluorescence. LIMESTONE: generally as off white amorphous rock flour, occasionally micritic to sparritic, silty in parts, moderately hard to brittle.	Trace gas 60/37 ppm C1

1255-1285m	PREDOMINANTLY METASILTSTONE WITH SUBORDINATE INTERBEDDED METASANDSTONE AND MINOR LIMESTONE__ METASILTSTONE: dark to medium grey, phyllitic texture, arenaceous to generally silicified, calcareous in parts, occasional very fine quartz grains, occasional micromica and subhedral to anhedral pyrite, shaley to slate-like platy fissile cuttings, brittle to moderately hard. METASANDSTONE: as above, tight and hard with occasional coarse to pebbly drop-stones (10-20%) to 1282m. CALCAREOUS SANDSTONE: banded pale to medium grey, mottled pale grey/translucent, fine to very fine grading to arenaceous siltstone, subangular to subrounded, well-sorted, moderately strong calcareous cement, common siliceous cement, silty in parts, moderately hard, poor micro porosity, no fluorescence.	Trace gas 47/32 ppm C1
1285-1288m	METASANDSTONE WITH INTERBEDDED METASILTSTONE AND MINOR LIMESTONE__ METASANDSTONE: banded pale to medium grey, mottled pale grey/translucent, fine to very fine grading to arenaceous siltstone, subangular to subrounded, well-sorted, moderately strong calcareous cement, common siliceous cement, silty in parts, moderately hard, poor micro porosity, no fluorescence. METASILTSTONE: as above becoming increasingly arenaceous and grading to META SILTY SANDSTONE. CALCITE: very pale translucent green, crystalline, blocky, hard to brittle.	Trace gas 40 ppm C1
1288-1306m	METASANDSTONE: pale to medium grey, pale yellow brown, translucent quartz and aggregates, very fine to coarse, predominantly medium, subangular to subrounded, occasional elongate grains with etched/pitted surfaces, poorly sorted, strong siliceous and local calcareous cement, generally silicified aggregates with welded grains and relic matrix, occasional metasiltstone clasts, abundant disaggregated grains, hard aggregates with tight porosity, no fluorescence. CALCITE: trace, very pale translucent green, crystalline, blocky, hard to brittle.	Trace gas 35/28 ppm C1
1306-1312m	METASANDSTONE: pale olive grey, translucent, off-white quartz, very fine-coarse, angular to subrounded, poorly sorted, common etched and pitted grain surfaces, thinly laminated with meta silty sandstone, silicified, calcareous in parts, local amber brown biotite (anhedral crystals in parts), hard aggregates (commonly disaggregated), tight porosity, no fluorescence.	Trace gas 36/45 ppm C1

1312-1321m	METASANDSTONE WITH INTERBEDDED METASILTSTONE AND CALCITE__ METASANDSTONE: as above with common metasiltstone matrix and clasts grading to meta silty sandstone and with up to 20% coarse to pebbly drop-stones. METASILTSTONE: dark to medium grey, phyllitic texture in parts (common very fine mica flakes), arenaceous, generally silicified, calcareous in parts, occasional very fine quartz grains, occasional micromica and anhedral pyrite, shaley to slate-like platy fissile cuttings, brittle to moderately hard. CALCITE: white, occasionally very pale grey to grey-green, crystalline, blocky, hard to brittle.	Trace gas 70/45 ppm C1
1321-1348m	PREDOMINANTLY METASILTSTONE WITH SUBORDINATE INTERBEDDED META SILTY SANDSTONE, METASANDSTONE AND MINOR LIMESTONE__ METASILTSTONE: dark to medium grey, phyllitic texture, generally silicified, calcareous in parts, occasional very fine quartz grains, carbonaceous with dull flaky and patchy coal (no gas detected), occasional micromica and subhedral to anhedral pyrite, shaley to slate-like platy fissile cuttings, brittle to moderately hard. METASANDSTONE: as above, tight and hard with occasional coarse to pebbly drop-stones (10%) to 1327m. META SILTY SANDSTONE: patchy medium to dark grey/translucent/off-white, fine to very fine grading to arenaceous siltstone, subrounded, well-sorted, silicified aggregates, common micro metasiltstone laminae (occasionally showing phyllitic texture), trace mica and pyrite, firm to hard, tight visual porosity, no fluorescence. LIMESTONE: generally as off white amorphous rock flour, occasionally patchy grey/white crystalline (marble-like), silty in parts, moderately hard to brittle.	Trace gas 55/37 ppm C1
1348-1366m	DOMINANTLY METASILTSTONE/ SLATE WITH MINOR SILTY SANDSTONE AND LIMESTONE BEDS__ SLATE (30%): dark grey, platy, smooth surfaces, trace micromica, occasional pyrite laminae and rare 'vertical' pyrite micro-veins, splintery to brittle, subfissile to fissile in parts. METASILTSTONE: dark to medium grey, arenaceous in parts, generally silicified, micromica, trace pyrite, phyllitic in parts with abundant micromica on cleavage planes, carbonaceous with dull flaky and patchy coal (no gas detected), hard to moderately hard, occasionally brittle where subfissile. SILTY SANDSTONE: as above with common metasiltstone laminae and clasts. LIMESTONE: generally as off white amorphous rock flour, occasionally patchy grey/white crystalline (marble-like), silty in parts, moderately hard to brittle.	Trace gas 65/32ppm C1

1366-1375m	METASILTSTONE WITH MINOR SILTY SANDSTONE AND LIMESTONE __ METASILTSTONE: dark to medium grey, black, carbonaceous in parts with dull flaky coal (no gas detected), commonly silicified where arenaceous to shaley where predominantly argillaceous, micromica, occasional anhedral to euhedral pyrite, phyllitic in parts with micromica on cleavage planes, hard to firm, commonly brittle, sub blocky to subfissile. META SILTY SANDSTONE: patchy medium to dark grey/translucent/off-white, fine to very fine grading to arenaceous siltstone, subrounded, well-sorted, silicified aggregates, common micro metasiltstone laminae (occasionally showing phyllitic texture), trace mica and pyrite, firm to hard, tight visual porosity, no fluorescence. LIMESTONE: generally as amorphous white calcite and off white amorphous rock flour, occasionally patchy grey/white crystalline and occasionally silty, moderately hard to brittle.	Trace gas 63/50ppm C1
1375-1389m	METASILTSTONE WITH INTERGRADATIONAL SILTY SANDSTONE, SANDSTONE AND LIMESTONE__ METASILTSTONE: as above carbonaceous in parts. META SILTY SANDSTONE: as above. METASANDSTONE: pale grey to white aggregates, very fine to fine, occasionally medium and minor coarse (10-20% drop-stones), subrounded to subangular, moderately well sorted aggregates, strong to moderately strong siliceous and calcareous cement, clean to local silty matrix, hard to moderately hard, tight porosity, no fluorescence. META DOLOMITIC SANDSTONE: patchy light to medium grey/black/translucent aggregates, very fine to fine, occasionally medium, subrounded to subangular, poorly sorted, strong dolomitic cement, siliceous in parts, micromica, occasional pyrite, coal flakes (dull black, no gas), hard to moderately friable, tight visual porosity, no fluorescence. DOLOMITE: white, satin lustre, local quartz grains, moderately hard to hard.	Trace gas 97/74ppm C1

1389-1429m	METASILTSTONE WITH MINOR SILTY SANDSTONE AND LIMESTONE AND TRACE QUARTZITE DROP-STONES __ METASILTSTONE: dark to medium grey, rare carbonaceous in parts with dull disseminated coal (no gas detected), commonly silicified where arenaceous to shaley where predominantly argillaceous, calcareous in parts showing possible micro varves, local parallel and cross-cutting calcite filled veins, occasional anhedral to euhedral pyrite, phyllitic in parts (silver grey with abundant micromica on cleavage planes), hard to firm, commonly brittle, sub blocky to subfissile. META CALCAREOUS SILTY SANDSTONE: patchy medium to dark grey/translucent/off-white, fine to very fine grading to arenaceous siltstone, subrounded, well-sorted, calcified to silicified aggregates (dolomitic in parts), occasional micro metasiltstone laminae (occasionally showing phyllitic texture), trace mica and pyrite, firm to hard and occasionally moderately friable, tight to poor visual and inferred porosity, no fluorescence. LIMESTONE: generally as amorphous white calcite and off white amorphous rock flour, occasionally patchy grey/white crystalline and occasionally silty, moderately hard to brittle. QUARTZITE: translucent to opaque white, very coarse to pebble fragments.	Trace Gas 102/65 ppm
1429-1438m	METASILTSTONE WITH INCREASING INTERGRADATIONAL SILTY SANDSTONE AND MINOR LIMESTONE__ METASILTSTONE: as above, generally shaley, occasionally phyllitic. SILTY SANDSTONE: grey/translucent/why, very fine to fine grading to arenaceous siltstone, subrounded to subangular, well-sorted, weak to strong calcareous and siliceous cement, dolomitic in parts, common silty matrix, trace pyrite and mica, firm to hard, poor to tight visual and inferred porosity, no fluorescence.	Trace Gas 107 ppm
1438-1447m	INTERBEDDED METASILTSTONE AND METASANDSTONE WITH INCREASING INTERGRADATIONAL SILTY SANDSTONE AND MINOR LIMESTONE__ METASILTSTONE: dark to medium grey, rare carbonaceous in parts with dull disseminated coal (no gas detected), commonly silicified where arenaceous to shaley where predominantly argillaceous, calcareous in parts showing possible micro varves, local parallel and cross-cutting calcite filled veins, occasional anhedral to euhedral pyrite, phyllitic in parts (silver grey with abundant micromica on cleavage planes), hard to firm, commonly brittle, sub blocky to subfissile. METASANDSTONE: as translucent to opaque white quartzite, very coarse to pebble fragments, interpreted to be drop-stones. META SILTY SANDSTONE: grey/translucent/why, very fine to fine grading to arenaceous siltstone, subrounded to subangular, well-sorted, weak to strong calcareous and siliceous cement, dolomitic in parts, common silty matrix, trace pyrite and mica, firm to hard, poor to tight visual and inferred porosity, no fluorescence. LIMESTONE: generally as amorphous white calcite and off white amorphous rock flour, occasionally patchy grey/white crystalline and occasionally silty, moderately hard to brittle.	Trace Gas 181/107 ppm

1447-1468m	METASANDSTONE WITH SUBORDINATE META SILTY SANDSTONE, METASILTSTONE AND TRACE LIMESTONE__ METASANDSTONE: patchy medium to light grey/translucent, fine to very fine, occasionally medium, subrounded to subangular, moderately well sorted, etched grain surfaces, silicified, calcareous in parts, welded aggregates with metasiltstone clasts and relic matrix (bands and microlaminae), micaceous in parts, moderately hard to very hard, tight to no visual porosity, no fluorescence. QUARTZITE: as very coarse to pebbly drop stones, maximum 20% at 1468m. SANDSTONE: (20% maximum from 1456m) very pale grey, very fine to fine to occasionally medium, rounded to subangular, moderately well sorted, weak to moderately strong siliceous cement, clean to occasional biotite and silt matrix, friable to moderately hard, fair to tight porosity, no fluorescence. META SILTY SANDSTONE: banded to patchy medium to dark-grey, light grey in parts, fine to very fine, subrounded disaggregated grains, generally silicified and dolomitised aggregates, trace mica and pyrite, hard to moderately hard, hard to occasionally subfissile, tight porosity, no fluorescence. METASILTSTONE: black, dark-grey, sub vitreous, uneven to crenulated cleavage/bedding surfaces, finely arenaceous in parts, common disseminated coal (? no gas), trace micro fossils (crinoid stems?), moderately hard, fissile to sub blocky. LIMESTONE: as above, predominantly as free calcite grains.	facies change to predominantly metasandstone Trace Gas 96/65 ppm
1468-1474m	QUARTZITE: as very coarse to granule sized pebble fragments, possibly drop stones, white opaque quartz, pure to occasional lithic inclusions and pyrite veining (subhedral cubic crystals), no rounded grain surfaces, hard, no fluorescence. META SILTY SANDSTONE: as above METASILTSTONE: as above.	Trace Gas 97/74 ppm

1474-1516m	DOMINANTLY METASANDSTONE WITH INTERGRADATIONAL META SILTY SANDSTONE AND MINOR METASILTSTONE WITH TRACE DOLOMITE AND CALCITE__ METASANDSTONE: patchy medium to light grey/translucent, very fine to predominantly fine, occasionally medium and coarse, subrounded to subangular, moderately well sorted, etched grain surfaces, silicified, calcareous in parts, welded aggregates with metasiltstone clasts and relic matrix (bands and microlaminae), micaceous in parts, moderately hard to very hard, tight to no visual porosity, no fluorescence. QUARTZITE: as very coarse to pebbly drop stones, maximum 20% at 1468m. SANDSTONE: (10% maximum from 1495m) very pale grey, very fine to fine to occasionally medium, rounded to subangular, moderately well sorted, strong to moderately strong siliceous cement, clean to occasional biotite and silt matrix, friable to moderately hard, fair to tight porosity, no fluorescence. META SILTY SANDSTONE: banded to patchy medium to dark-grey, light grey in parts, fine to very fine, subrounded disaggregated grains, generally silicified and dolomitised aggregates, trace mica and pyrite, hard to moderately hard, hard to occasionally subfissile, tight porosity, no fluorescence. METASILTSTONE: black, dark-grey, sub vitreous, uneven to crenulated cleavage/bedding surfaces, finely arenaceous in parts, common disseminated micro coal granules and flakes (? no gas), moderately hard, fissile to sub blocky. DOLOMITE: trace, opaque white, crystalline, satin lustre, banded in parts with siltstone and very fine sandstone, blocky, hard. CALCITE: white, amorphous firm to brittle grains.	Trace Gas 34/19 ppm
1516-1525m	DOMINANTLY METASANDSTONE WITH INTERGRADATIONAL META SILTY SANDSTONE AND MINOR METASILTSTONE WITH TRACE DOLOMITE AND CALCITE__ METASANDSTONE: patchy medium to light grey/translucent, very fine to predominantly fine, occasionally medium and coarse, subrounded to subangular, occasional orientated grains producing some fissility, moderately well sorted, common etched grain surfaces, silicified, welded aggregates with metasiltstone clasts and relic matrix (bands and microlaminae), micaceous in parts, moderately hard to very hard, tight to no visual porosity, no fluorescence. QUARTZITE: trace as very coarse to pebbly drop stones. META SILTY SANDSTONE: banded to patchy medium to dark-grey, light grey in parts, fine to very fine, subrounded disaggregated grains, generally silicified and dolomitised aggregates, trace mica and pyrite, hard to moderately hard, hard to occasionally subfissile, tight porosity, no fluorescence. METASILTSTONE: black, dark-grey, sub vitreous in parts where micaceous, smooth to minor uneven surfaces, finely arenaceous in parts, firm to moderately hard and brittle, shaley to minor slate-like, fissile to sub blocky.	Trace Gas 31/18 ppm

1525-1537m	METASANDSTONE WITH INTERGRADATIONAL META SILTY SANDSTONE__ METASANDSTONE: mottled light to medium grey, very fine to fine to occasionally medium with local coarse quartzite and silicified aggregate fragments, weak to strong siliceous cement, slightly calcareous in parts, trace pyrite and mica, moderately friable to hard, poor to tight porosity, no fluorescence. MICACEOUS SANDSTONE: (trace) very pale grey, very fine to fine, rounded to subangular, well sorted, weakly cemented, clean to abundant silvery brown large biotite flakes, friable, fair to good porosity, no fluorescence.	Trace Gas 25/14 ppm Some indications of porosity and firm to soft shale cuttings. Also large cavings.
1537-1555m	METASANDSTONE WITH INTERGRADATIONAL META SILTY SANDSTONE AND SUBORDINATE METASILTSTONE__ METASANDSTONE: mottled light to medium grey, very fine to fine to occasionally medium with local coarse quartzite and silicified aggregate fragments, weak to strong siliceous cement, calcareous in parts, occasional carbonaceous patches laminae (no gas response), trace pyrite and mica, predominantly hard to occasionally moderately friable, tight to poor porosity, no fluorescence. META SILTY SANDSTONE: patchy medium to dark-grey, light grey in parts, fine to very fine, subrounded disaggregated grains, generally silicified and occasional dolomitised aggregates, minor weakly cemented, relic banding and silty laminae, trace mica and pyrite, hard to moderately hard and occasionally moderately friable, occasionally subfissile where 'foliated', tight porosity, no fluorescence. QUARTZITE: trace, as very coarse to pebbly drop-stones. CALCAREOUS SANDSTONE: trace, pale grey, very fine, subrounded, well-sorted, weak to moderately strong calcareous cement, dolomitic in parts, clean aggregates, firm to moderately friable, tight to poor visual porosity, no fluorescence. METASILTSTONE: black, dark-grey, sub vitreous in parts where micaceous, smooth to minor uneven surfaces, finely arenaceous in parts, firm to moderately hard and brittle, shaley to minor slate-like, fissile to sub blocky.	Trace Gas 20/14 ppm

1555-1579m	INTERBEDDED METASANDSTONE, META SILTY SANDSTONE, METASILTSTONE AND MINOR CALCAREOUS SANDSTONE AND LIMESTONE__ METASANDSTONE: medium to light grey aggregates becoming very dark grey from 1567m, generally translucent quartz to occasionally clear, very fine to medium - predominantly fine, occasional very coarse to pebbly quartzite drop-stones (up to 20% of sample) rounded to angular, moderately well sorted, strong siliceous cement, generally silicified, relic silty matrix, trace mica and pyrite, hard, tight porosity, no fluorescence. META SILTY SANDSTONE: mottled medium to pale grey, black in parts where slightly carbonaceous, very fine to medium, generally fine, subrounded to subangular, strong silica cement, calcareous to dolomitic cement in parts, occasionally micaceous, trace pyrite, foliated in parts with occasional sub fissility, relic banding and meta siltstone laminae, generally hard to occasionally moderately friable with poor to tight porosity, no fluorescence. METASILTSTONE: black to medium grey, generally arenaceous grading to meta silty sandstone, laminated in parts, commonly silicified, occasionally foliated with sub fissility, hard to occasionally brittle, mainly blocky to sub blocky. METASILTSTONE: very dark grey to medium grey, shaley to slaty, smooth surfaces, occasional micromica, trace disseminated coal (no gas response), trace pyrite, platy to bladed, splintery to brittle, subfissile to fissile. LIMESTONE: generally as calcite/marble, white, sub vitreous lustre, crystalline, blocky, hard to occasionally brittle.	Trace Gas 22/12 ppm
1579-1604m	PREDOMINANTLY METASILTSTONE WITH MINOR INTERBEDDED SILTY SANDSTONE__ METASILTSTONE: very dark grey to medium grey, shaley to slaty, smooth surfaces, occasional micromica, trace disseminated coal (no gas response), trace pyrite, platy to bladed, splintery to brittle, occasionally hard where silicified, subfissile to fissile. CALCAREOUS SANDSTONE: trace, pale grey, very fine, subrounded, well-sorted, weak to moderately strong calcareous cement, dolomitic in parts, clean aggregates, firm to moderately friable, tight to poor visual porosity, no fluorescence. META SILTY SANDSTONE: as above predominantly very fine grading to siltstone.	Facies change to predominantly shale/slate. Trace Gas 39/16 ppm

1618-1627m	METASANDSTONE WITH MINOR SANDSTONE AND META SILTY SANDSTONE AND TRACE TUFF__ METASANDSTONE: as above with common calcareous cement and irregular of white kaolinite after decomposed feldspar, hard to occasionally moderately friable, tight to poor porosity, no fluorescence. SANDSTONE: (trace) light to medium grey, translucent to common clear quartz grains, very fine to medium, trace coarse, rounded to subangular, poorly sorted, weak to moderately strong calcareous and siliceous cement, trace feldspar, trace kaolinite, possible black, granulated coal (?), hard to firm, occasionally friable, tight to poor porosity, no fluorescence. CALCAREOUS SANDSTONE: pale grey, fine to very fine grading to arenaceous siltstone, subrounded to sub angular, well-sorted, weak to moderately strong calcareous and subordinate calcareous cement, local kaolinite, pyrite, biotite mica flakes and lithics, firm to moderately friable, fair to poor visual porosity, no fluorescence. TUFF: pale grey, laminated (pumice like), amorphous very fine to occasionally medium sized quartz, common brick-red flakes and micro-shards of volcanic glass, trace mafics, moderately hard to firm, irregular fracture surfaces, no fluorescence.	Trace Gas 21/14 ppm
1627-1633m	MAINLY SHALEY METASILTSTONE WITH INTERGRADATIONAL META SILTY SANDSTONE AND MINOR META CALCAREOUS SANDSTONE__ METASILTSTONE: black to medium grey, generally arenaceous grading to meta silty sandstone, laminated in parts, commonly silicified, occasionally foliated with sub fissility, hard to occasionally brittle, mainly blocky to sub blocky. META CALCAREOUS SANDSTONE: pale grey/white, very fine to fine, occasionally medium, moderately well sorted, subrounded to subangular, strong calcareous and siliceous cement, local lithics, mica and pyrite, hard to moderately hard, poor to tight visual porosity, no fluorescence. META SILTY SANDSTONE: mottled medium to pale grey, black in parts where slightly carbonaceous, very fine to medium, generally fine, subrounded to subangular, strong silica cement, calcareous to dolomitic cement in parts, occasionally micaceous, trace pyrite, foliated in parts with occasional sub fissility, relic banding and meta siltstone laminae, generally hard to occasionally moderately friable with poor to tight porosity, no fluorescence.	Trace Gas 19/15 ppm/
1633-1642m	CALCAREOUS META SANDSTONE WITH MINOR INTERGRADATIONAL SANDSTONE AND METASILTSTONE__ META CALCAREOUS SANDSTONE: pale grey/white, very fine to fine, occasionally medium, moderately well sorted, subrounded to subangular, strong calcareous and siliceous cement, local lithics, mica and pyrite, hard to moderately hard, poor to tight visual porosity, no fluorescence. META SILTY SANDSTONE: calcareous in parts, tight visual porosity, no fluorescence. METASILTSTONE: generally arenaceous, silicified and grading to meta silty sandstone and minor black/dark-grey, pelitic, shaley to slaty, smooth cleavage surfaces, fissile to subfissile, brittle.	Trace Gas 26/40 ppm

1642-1675m	DOMINANTLY META CALCAREOUS SANDSTONE (70-90%) WITH INTERGRADATIONAL META SILTY SANDSTONE AND MAXIMUM 20% SILICIFIED TO SHALEY METASILTSTONE__ CALCAREOUS META SILTY SANDSTONE: mottled white/pale grey/very pale brown, very fine to medium and occasionally coarse, subrounded to angular, moderately well sorted aggregates, common etched grain surfaces, strong to very strong calcareous and siliceous cement, crystalline texture in parts where grains and matrix are silicified, minor pyrite, trace micromica, hard, tight porosity, no fluorescence. MICACEOUS SANDSTONE: (trace) pale grey, very fine to fine, trace medium, rounded to subangular, well-sorted, weakly cemented, large biotite flakes, foliated, friable to subfissile, poor porosity, no fluorescence. META SILTY SANDSTONE: mottled medium to pale grey, black in parts where slightly carbonaceous, very fine to medium, generally fine, subrounded to subangular, strong silica cement, calcareous to dolomitic cement in parts, occasionally micaceous, trace pyrite, foliated in parts with occasional sub fissility, relic banding and meta siltstone laminae, generally hard to occasionally moderately friable with poor to tight porosity, no fluorescence. METASILTSTONE: black to medium grey, generally arenaceous grading to meta silty sandstone, laminated in parts, commonly silicified, occasionally foliated with sub fissility, hard to occasionally brittle, mainly blocky to sub blocky.	Trace Gas 48/13 ppm
1675-1679m TD	CALCAREOUS META SILTY SANDSTONE: mottled white/pale grey/very pale brown, very fine to medium and occasionally coarse, subrounded to angular, moderately well sorted aggregates, common etched grain surfaces, strong to very strong calcareous and siliceous cement, crystalline texture in parts where grains and matrix are silicified, trace pale green quartzite, minor pyrite, trace micromica, hard, tight porosity, no fluorescence.	Trace Gas 14/12 ppm

APPENDIX 1: (ii) THIN SECTION REPORT

Preliminary examination of thin sections of cuttings from the Westwood-1 ST1 well

C.R. Calver

Summary

Thin sections were made of cuttings from the following depths to constrain the position of the unconformity beneath the Parmeener Supergroup, and characterize the basement.

TS no.	Depth
R15815	1033-1036m
R15816	1087-1090m
R15817	1117-1120m
R15818	1180-1183m
R15819	1279-1282m
R15820	1366-1369m
R15821	1477-1480m
R15822	1567-1570m
R15823	1672-1675m

The lower six samples consist of a metamorphosed and cleaved, quartzwacke-slate sequence, and are tentatively correlated with the Proterozoic Badger Head Group (correlate of the Oonah Formation) which crops out on the Dazzler Range and Badger Head, about 40 km to the northwest of the drill site. The upper three samples consist mainly of undeformed conglomerate with diverse clasts, sandstone and mudstone, and belong to the basal Parmeener Supergroup (late Carboniferous to early Permian).

Description

The lower six samples consist of chips predominantly of quartzwacke, of fine to medium grainsize (0.1 – 1 mm) and poorly rounded to angular grains. Apart from predominant quartz, there are grains of fine-grained quartzite, plagioclase, K-feldspar, biotite, muscovite, chlorite and rare chert, and minor to abundant secondary carbonate, in the quartzwacke. There is no visible porosity. Some cuttings fragments show strong cleavage. About 30 % of the cuttings fragments are dark pelite with a strong planar slaty (subphyllitic) cleavage. (Some apparently uncleaved fragments are probably oriented with cleavage parallel to the thin section). Small augen of chlorite and biotite are present in the slate, and pre-date the cleavage. R15823 shows a chip of siltstone with abundant, oriented, probably metamorphic biotite post-dated by cleavage. Several fragments show the slaty cleavage at a low angle to bedding, and a few show two cleavages. In R15822, some of the chips are predominantly secondary carbonate. Two chips are of a coarse-grained carbonate with strongly undulose extinction, probably saddle (baroque) dolomite. Also in R15822, some pelite chips have dispersed rhombs of secondary dolomite which pre-date the slaty cleavage. R15821 contains a few chips of vein quartz. R15820 contains (in addition to predominant quartzwacke and cleaved pelite) a chip of foliated chert and one of foliated fine grained quartzite.

The upper three samples consist predominantly of undeformed conglomerate, sandstone and mudstone. A few chips of well-sorted quartz sandstone are present. Conglomerate and poorly sorted

sandstone has clasts of quartzwacke and slate like the underlying sequence, but other lithologies are present, eg in R15817, a chip of rhyolite with euhedral and embayed quartz phenocrysts; in R15816, a fragment of shard-bearing tuffaceous sandstone; and in R15815

a fragment of sucrosic dolostone as well as felsic volcanic fragments. Mudstone chips in these three samples contain cross sections of possible agglutinating foraminifera, common in mudstones of the lower Parmeener Supergroup.

Correlation of the basement sequence

The basement sequence in Westwood 1 ST1 is lithologically similar to the Badger Head Group of the Dazzler Range-Badger head area, a correlate of the Proterozoic Oonah and Burnie Formations of western and northern Tasmania (Gee & Legge, 1979; Black et al., 2004). It also somewhat resembles the Mathinna Supergroup (lower Palaeozoic) of northeast Tasmania, but is of higher metamorphic grade than either the Mathinna Supergroup or Eldon Group (D.B. Seymour, personal communication). The sequence lacks the clean orthoquartzite that would be expected of 'Tyennan' Proterozoic basement. Representative thin sections of the type Badger Head Group (R07229, R07232, R07237, R07238, R07290, R07291) were examined for comparison. These rocks are very similar to the Westwood-1 ST1 basement, except that secondary carbonate is absent (possibly because of weathering) and metamorphic chlorite and biotite are absent, indicating the Westwood basement is higher grade.

References

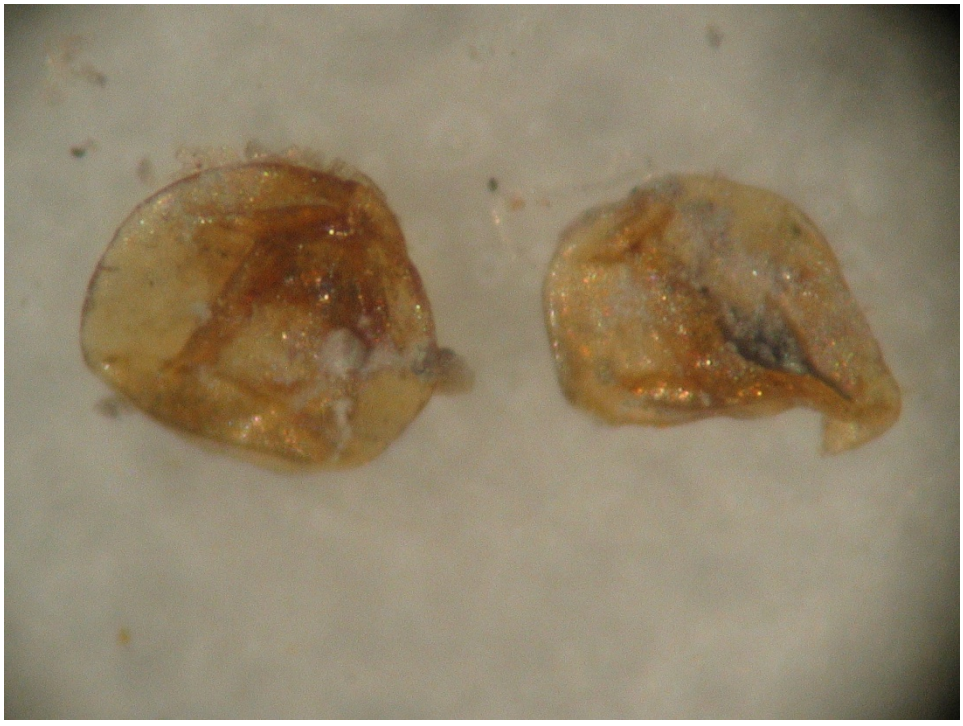
BLACK L. P., CALVER C. R., SEYMOUR D. B., & REED A. 2004. SHRIMP U-Pb detrital zircon ages from Proterozoic and Early Palaeozoic sandstones and their bearing on the early geological evolution of Tasmania. *Australian Journal of Earth Sciences* **51**, 885-900.

GEE R. D. & LEGGE P. J. 1979. Geological atlas 1:63,360 series, sheet 30 (8215N). *Beaconsfield (2nd edn.)*. Map and explanatory notes. Tasmania Department of Mines.

APPENDIX 1: (iii) TASMANITE MICRO-PHOTOGRAPHS

This photographs were taken down the microscope at Westwood-1 ST1 and show the well preserved Tasmanite algal discs.

Tasmanite discoids were approximately 0.5-1mm diameter.



APPENDIX 2: WIRELINE LOG INTERPRETATION

A quick look log evaluation was performed on the logged well section, from 338m to total depth, using the Geoscience Software interpretation package.

There were no hydrocarbon shows in the well and so the log interpretation focused on the potential reservoir quality of the sandstones, namely porosity calculation.

The GS software package utilised the sole porosity log run in the hole, the sonic. Using standard industry and petrophysical parameters for rock and fluid travel times, and incorporating calculated clay/shale volume based on a linear response from the gamma-ray log, log porosity was calculated using the Wyllie-Hunt porosity equation.

This appendix contains the calculated shale volume (VSH) and porosity results. Conventional net sand, having reservoir quality but lacking hydrocarbons, is commonly defined with a shale volume of less than 45% and porosity of 8% or greater.

The porosity curve is also included on the composite log.

As can be seen on the presented data, the Pre-Cambrian Badger Head Group sequence of generally metamorphosed sedimentary rocks, has mainly poor to tight porosity.

No evidence of fractures were seen on the logs throughout the well.

Interpretation by Les Burgess, Westminster Geological P/L, July 2010.						
WELL	:	WESTWOOD-1 ST1				
DEPTH	UNITS	:	m			
RKB	Elevation	:	149	m	AMSL	
MD	INTERVAL	:	338	to	1662.5	
TVD	INTERVAL	:	337.9	to	1654.8	
V-Shale	Cutoff	:	45	%		
Porosity	Cutoff	:	8	%		
Minimum	Thickness	:	0.5	m		
Lithology	Type	:	Any	Lithology		
			Measured	True Vertical		
			Depth	Depth		
GROSS	LITHOLOGY	:	1324.3	1316.6	m	
NET	SAND	:	148.7	148.5	m	
NET	SAND	ZONES	75	75		
NET	SAND	AV POR	13.1	13.1	%	
	NET/GROSS	:	0.1	0.1	Ratio	
	NET SAND	**MEASURED**	**DEPTH**	**NET**	**AVG.**	**AVG.**
	ZONE	**from**	**to**	**SAND, m**	**VSH**	**POR.**
UPSG: TRIASSIC	1	338.0	338.7	0.7	37.2	15.8
	2	341.0	342.4	1.4	21.6	11.0
	3	347.7	349.7	2.0	32.9	11.8
	4	353.4	354.0	0.6	35.4	13.4
	5	354.2	355.2	1.0	35.2	11.4
	6	356.1	356.6	0.5	41.5	12.2
	7	356.9	359.2	2.3	25.8	15.9
	8	360.4	361.4	1.0	24.6	9.2
	9	363.4	364.7	1.3	22.4	11.5
	10	365.6	367.9	2.3	19.8	10.1
	11	374.7	376.6	1.9	38.6	11.8
	12	385.6	386.6	1.0	37.6	11.1
	13	388.2	390.4	2.2	30.2	12.2
	14	391.1	394.6	3.5	30.5	13.9
	15	413.7	418.0	4.3	34.6	14.4
	16	419.1	419.7	0.6	38.3	12.0
	17	423.0	423.8	0.8	39.9	11.4
	18	426.0	427.8	1.8	28.7	18.9
	19	434.5	435.0	0.5	42.1	11.3
	20	444.5	446.2	1.7	35.3	20.9
	21	467.1	467.7	0.6	35.0	11.0
	22	480.6	481.3	0.7	41.4	12.3
	23	482.1	483.4	1.3	39.2	15.5
				34m		

LPSG: BOGAN GAP GROUP, 506m	24	519.7	520.3	0.6	40.8	9.9
	25	522.4	523.1	0.7	40.1	10.3
	26	524.3	525.5	1.2	40.4	9.6
	27	529.1	529.7	0.6	42.3	9.3
	28	531.7	532.8	1.1	40.1	11.0
	29	535.4	536.6	1.2	40.9	8.9
	30	606.7	608.7	2.0	20.5	13.9
	31	610.0	612.5	2.5	39.1	10.8
	32	612.8	614.2	1.4	41.9	12.6
	33	614.9	616.0	1.1	41.8	10.4
	34	619.2	620.2	1.0	40.3	10.0
	35	621.0	621.8	0.8	42.6	10.3
	36	622.5	623.1	0.6	39.8	9.0
	NET SAND	**MEASURED**	**DEPTH**	**NET**	**AVG.**	**AVG.**
	ZONE	**from**	**to**	**SAND, m**	**VSH**	**POR.**
	37	673.7	674.8	1.1	42.2	9.8
	38	675.6	676.5	0.9	40.2	10.7
	39	679.8	680.4	0.6	38.4	16.2
	40	688.8	689.9	1.1	39.7	10.3
	41	690.6	693.4	2.8	34.4	10.6
				21.3m		
LPSG: POATINA GROUP, 698m	42	700.6	701.5	0.9	1.5	8.6
	43	701.6	702.8	1.2	17.3	9.3
	44	703.2	712.3	9.1	24.3	12.1
	45	712.7	717.7	5.0	37.5	11.4
	46	725.7	735.8	10.1	34.7	13.9
	47	736.5	737.5	1.0	43.2	15.2
	48	738.7	746.9	8.2	34.9	15.3
	49	747.3	748.9	1.6	37.6	14.3
	50	749.2	759.2	10.0	32.8	17.8
	51	759.5	764.1	4.7	37.0	13.1
	52	764.3	767.9	3.6	39.0	14.9
	53	771.0	776.4	5.4	27.0	13.3
	54	780.2	780.9	0.7	36.3	10.2
	55	782.2	782.8	0.6	38.4	8.7
	56	783.2	784.4	1.2	39.7	9.4
				63.3m		

LPSG: LIFFEY GROUP, 786m	57	792.0	793.3	1.3	35.5	12.8
	58	795.5	796.3	0.8	35.4	9.5
	59	812.5	813.1	0.6	42.1	14.6
	60	813.6	815.7	2.1	39.9	16.5
	61	817.4	818.4	1.0	41.5	11.1
	62	822.2	826.3	4.1	38.0	15.0
	63	827.2	829.4	2.2	40.8	11.1
	64	830.0	831.2	1.2	40.6	12.5
	65	831.6	835.2	3.6	40.0	12.0
	66	835.6	836.2	0.6	35.8	14.2
	67	838.7	839.4	0.7	43.3	9.9
	68	840.9	841.5	0.6	38.4	8.7
	69	843.5	847.7	4.2	37.3	11.9
	70	847.8	851.1	3.3	38.6	11.6
	71	852.4	853.0	0.6	41.5	8.9
				26.9m		
LPSG: GOLDEN VALLEY GROUP, 860m	NO NET SAND					
LPSG: QUAMBY FM, 934m	72	1019.8	1020.9	**1.1m**	34.3	13.6
LPSG: STOCKERS FM, 1022m	NO NET SAND					
PRE CAMBRIAN BADGER HEAD GROUP, 1089m	73	1305.4	1306.1	0.7	3.1	13.4
	74	1319.0	1319.8	0.8	30.8	12.1
	75	1474.1	1474.7	0.6	38.5	12.5
				2.1m		

APPENDIX 3: SAMPLE MANIFESTS

Samples of washed and dried cuttings were collected for OEH and MRT on the Westwood-1 main track and the Westwood-1 ST1 sidetrack.

The manifests of samples dispatched from the rig are included here.

Sampling Summary and Record of Distribution for WESTWOOD-1 ST1

Cuttings samples were collected at the intervals tabulated below

Section	Depth range (m)	Sampling intervals (m)
8 ½" (216mm)	860 – 1678	3m
8 ½" (216mm)	1678 – 1679	1m

Missed Samples

Section	Explanation	Depth (m)
8 1/2" (216 mm)	**No samples missed**	

NOTE:

Started to bag samples from 874m.

Samples from 1120m to the casing shoe are Depth Corrected by -10m.

SAMPLE TYPE	No. of Sets	COMPOSITION	PACKING DETAILS
		Sample Depth Interval	

		Big Box No:	Small Box No.	Depth From - To (m)	
200g W&D Drill Cuttings Sets A - B	2	1	1	874 – 916	**Large boxes marked as Set A & B. Total 10 Boxes Weight 8Kg each Total Wt.(8x10)= 80Kgs**
			2	916 – 961	
			3	961 – 1009	
			4	1009 – 1048	
	2	2	5	1048 – 1090	
			6	1090 – 1138	
			7	1138 – 1183	
			8	1183 - 1225	
	2	3	9	1225 – 1267	
			10	1267 – 1309	
			11	1309 – 1357	
			12	1357 – 1405	
	2	4	13	1405 – 1450	
			14	1450 – 1495	
			15	1495 – 1546	
			16	1546 – 1597	
	2	5	17	1597 – 1637	
			18	1637 – 1679	
Samplex Trays Set C & D	C		1	860 – 1679	**Placed in wooden box Marked as Set C**
	D		1	1366 – 1679	**Placed in Small split box Marked as Set D**

Mud Sample (TD) **Set E**	1			1679	**Packed in 1 Small Split Box = 1x1=1 Kg marked as Set E**
GeoChem Samples **Set F**	1		1	1300 – 1400	**Placed in the Large Cardboard box marked as Set F**
			2	1400 – 1500	
			3	1500 – 1600	
			4	1600 – 1679	

Sample Destination:

SET NUMBER	SET TYPE	DESTINATION
A	200g W&D Drill Cuttings Sample	OEH, 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	OEH, TASMANIA
E	Mud Samples	OEH, TASMANIA
F	Geochemical Samples	OEH, TASMANIA

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 ST1
Mudlogging Contractor:	Baker Hughes Inteq
Crew Chief Name at TD:	Dedi / Shaharizad
Sample Catchers Names:	Amit / Rahul

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.

Date: 3/1/10

APPENDIX 4: WELL DEVIATION REPORT

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Overseas Energy Holdings

Well : Westwood -1

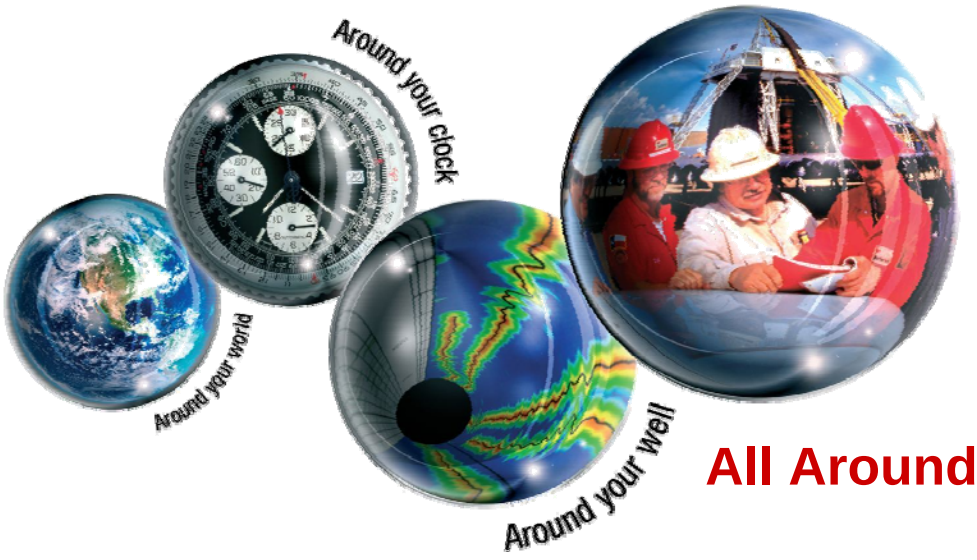
Order No AU-DD-OEH-001

End of Well Report

Rig – Hunt Rig 3
Location – SEL5/2005 Tasmania

Start Date: December, 9, 2009
End Date: January, 4, 2010

Directional Drilling Engineer:
Dan Power
Ned Clark



All Around You

Table of Contents Page

1. Health, Safety, and Environment

Weatherford International is dedicated to continual safety awareness and improvement for all personnel. HSSE is Weatherford's outline for making the workplace safe to the benefit of employees, their families, clients, and shareholders. HSSE also encompasses Weatherford's commitment to protecting the environment in all actions performed by Weatherford personnel.

Weatherford employees will strive to seamlessly integrate Weatherford safety culture with the local policies of Hunt Energy and Mineral Co. Australia Pty Ltd and Overseas Energy Holdings. Participation in the SmartSTART program and instruction in the Permit-to-Work system are mandatory for all Weatherford employees working on Hunt Energy and Mineral Co. Australia Pty Ltd and Overseas Energy Holdings installments.

Weatherford personnel shall perform risk assessments for any task that could present a hazard. Previous information regarding root causes for incidents shall be used where possible to ensure the continual growth of the safety culture.

Job # AU-DD-OEH-001 Safety Statistics

Classification	*Number*	*Comments*
START Cards Submitted	9	
Safety Meetings / Permits Tool Box Talks	80	Arrival orientation, General Rig Safety, Emergency Drills, Pre tower meetings
Lost Time Accidents	0	
Lost Time Incidents	0	
Near Misses	0	
Sum of Weatherford Personnel Days on the Hunt Energy rig #3	87	Five employees working from 09DEC09-04JAN10

2. Well Specifications

Job Number	AU-DD-OEH-001
Operator	Overseas Energy Holdings
Well Name	Westwood 1
Field	SEL5/2005
Location	Tasmania, Australia

Information Provided:

Surface Location	Geodetic Datum:			WGS 1984/ Zone 55S
	Latitude:	41°	31’	10.4” South
	Longitude:	147°	02’	03.7” East
	Northing:	5403564.163m		
	Easting:	502867.011m		
Magnetic Model	BGGM 2009			
Magnetic Field Strength	61544 nT			
Magnetic Dip Angle	-71.57°			
Magnetic Declination	13.96°			
Grid Convergence	-0.02°			
Total Correction	13.98°			
Magnetic Reference	Grid North			
Local Gravity	0.9996 g			

Well Profile	S Well	
Well Type	Exploration	
Spud Date	27 November 2009	
Total Depth Date	01 January 2010	
Permanent Datum	Mean Sea Level	
Sea Floor	N/A	
Depth Measured From	Drill Floor	149.0 m *above Permanent Datum*
Drilling Contractor	Hunt Energy and Mineral Co. Australia Pty Ltd	
Rig Name	#3	
Rig Type	Land Rig 450HP - Cantilever / Jackknife type mast and structure	
Mud Pump Type	TSM 500 Duplex 6" x 16" slush pump	
Number of Pumps	2	
Dampener Type	Pump Mates 450-60 & Hydril K-10 Pulsation Dampener	

Borehole Record

Hole Size	Start Depth (m)	End Depth (m)
17½" Surface Hole	0	104
12¼" Intermediate Hole	104	338
8½" Production Hole	338	1005
8½" Production Hole	1005	1326

Borehole Record (Sidetrack 1)

Hole Size	Start Depth (m)	End Depth (m)
8½" Production Hole	804	1679

Casing Record

Casing Size	Weight (kg/m)	Grade	Start Depth (m)	End Depth (m)
340 mm - 13.375”	81.1049	K-55	0	104
244 mm – 9.625”	53.5739	K-55	0	338

Mud Record

Mud Company: RMN Drilling Fluids

Mud Type	Mud Weight (sg)	Start Depth (m)	End Depth (m)
Gel Spud Mud	8.5 - 8.8	0	104
NaCl PHPA Polymer	8.5 - 9.2	104	338
NaCl PHPA Polymer	8.8 - 9.4	338	1679

3. Weatherford Directional Drilling Services Provided

1. Motors for Performance drilling
2. Stabilizers for Direction Control
3. Non Magnetic Drill Collars for MWD Tool Spacing & EMS Spacing
4. Precision Pulse MWD Tool (CDS)

4. Job Summary

On December 9th, 2009 Weatherford MWD began providing directional only services on the Hunt Energy and Mineral Co. Australia Pty Ltd rig #3 for Overseas Energy Holdings.

Westwood 1 is an exploration well located in the southern portion of Exploration License SEL5/2005 in the north-eastern portion of the Longford Sub basin. The Westwood-1 well site is located approximately 12.5km south-west of Launceston, approximately 2.5km east of the town of Carrick off the Bass Highway alongside Westwood Road. The well site is located on the 'Meanda Rise' property of Mr. W Walker (on the 'Junction Farm' property of Mr. G W Mayes & Ms N A Powers).

An initial target tolerance of 100m radius had been specified for the well. Later this was modified by Overseas Energy Holdings.

The 6.75 inch Weatherford PP-MWD tool was used for the 8.5 inch hole from 1005m to 1326 m. The well was cemented back to 804m and was then sidetracked to 1679m. During the drilling of both sections, Real Time Tool Face, and Surveys on demand were provided. All depths are referenced to measured depth (MD) unless otherwise noted.

After logging the well was considered not commercially viable and was plugged and suspended on 3rd January 2010.

Highlights:

1. No recordable or lost time incidents during the period that Weatherford personnel were on the Well.

2. Surveys were taken during connections with minimum time lost.

Disappointments:

1. None. The tools performed as expected for the entirety of the well.

Recommendations for Improvement:

1. Use of 30 degree pulser orifice to overcome signal detection issues associated with rig duplex pumps.
2. Rig pump selection to allow for greater flow rates.
3. Future exploration wells in this region would benefit from LWD tools which include vibration sensors, and azimuthal gamma or similar.

DIRECTIONAL DRILLING ANALYSIS:

When we first arrived on site the well had been drilled to a depth of 1005m and they had surveyed it with single shot magnetic instruments. The hole had 15 degrees and we were advised that they wanted to be at zero degrees at approx. 1600m with the target centre approx. 15m west of our present position. The client wanted us to try and spiral the well down to 0 degrees around the centre, I advised that this would probably be a very difficult situation and could be quite costly. As the angle in the hole was attained fairly quickly, we advised that surveying back to bottom with the MWD would give us a much more accurate survey. It was agreed that instead of trying to spiral the well we would try and zigzag down either side of the centre line to give the required target exposure for logging.

Directional control from 1005m to 1173m was fairly positive and we managed to drop and turn from 30.28 azimuth to 291 azimuth and drop to 7.5 inc but from here on, even though we were steering at 180 degrees from hole direction for up to 9m, the angle increased and the direction was very reluctant to turn. The best we could get was 264.74az and we needed to get the direction around to 180az just to reach the target, at 1326m I advised the client that to attempt to reach this target from this depth we will be running the rig to very near its capacity and could risk leaving equipment down the hole. It was decided that a sidetrack was the safest and easiest way.

Sidetrack # 1.

The cement plug was set between 888m and 788m. After 8 hours the cement assembly was put on top of cement and an attempt was made to hole 10000lb on it. Assembly was laid down and we ran in with BHA 5 and a new bit. After approx. 18 hours the cement was still not very solid, and we could not maintain any weight on it for longer than a few seconds. The top of the cement was found at 821m and we tried to sidetrack to 849m carrying 5-7000lb, but there was no indication that we were encountering any formation. I decided to attempt to time drill from 849m, a survey at 851m indicated we had turned the well to the north and dropped 1 degree, but the samples were being contaminated with cement, and the samples of formation were not clear until 869m. I rotated from 877m to 906m to confirm sidetrack successful. Inclination was building in rotation so began sliding to knock down Inc. We were successful in dropping Inc to 3.78 degrees at 936m. Inc continued to build with rotation to 7.45 degrees at 1003m, sliding reduced Inc to 3.12 then began to build with rotation. Dan Power arrived on site on the 19th. We POOH at 1121m after pressure spikes motor on way out bearing measured at 5.2mm.

After consultation with the client representative Tim Franklin it was decided to use low angle in the hole and slowly spiral about its axis. This action will keep us within 7m of target. If the client changes the target depth we should be in a position to build angle quickly and attain the target centre. Bob Fleming left site on the 22nd.
A depth correction was made of -10m as it was discovered when POOH that a collar had not been added to previous BHA. Hole depth was corrected to 1112m. Inc angle had been building quickly with previous BHA so I began sliding to counteract this from 1112m -1154m reaming each Kelly twice. I succeeded in dropping the angle to 1.58 degrees and then began rotating

continuing to ream. Angle began to build again in rotation and continued trend to West. By sliding I managed to drop the angle out of well by 1250m but it turned to the South. Torque was rising in rotation and when reaming. In rotation this time the angle dropped but again pulled towards the west. I managed to flip the hole underneath itself and turned it east and began to build angle to 6.12 degrees from 1340-1371m. We then had to POOH at 1389m for MWD problems.

Ned Clark arrived on site PM on the 26th. When MWD reached the surface we experienced problems taking out the grub screw from the Orientation sub for MWD tool. RIH with BHA 7 and new DD Ned Clark began to slide to the left to centre of target. This action resulted in an initial 67 degree swing in azimuth in 3 kelly's, confirming the previous trend of the hole pulling hard to the left or west. We then attempted to drop the inclination by steering down but failed. The well also continued to swing to the left as we steered right. At this point MWD problems were experienced and we could not get a reliable toolface, the decision was made to POOH. After consultation with client, company man Lou De Vattimo and the Weatherford office in Perth the decision was made to dial down the motor to 1.15 bend and drop the roller reamer out of the BHA this did reduce torque but did not help us at all with our steering ability.

The angle of the well continued to build from 6.59-14.16 degrees and the azimuth continued to hold in the 280-270 degree range. At this point after detailed discussion between the client representative Tim Franklin, Lou De Vattimo and the Weatherford office in Perth, a decision was made to dial the motor back up to the original setting of 1.5 and drop out the string stabilizer. The target was again moved by the client and a new target was given anywhere to the left side of the original target point. This slick assembly did enable us to turn very sharply to the right but meant we could not ream or rotate due to excessive doglegs. Ned Clark leaves site 7pm on the 31st. We continued until an MWD survey was taken over the new target line and the client confirmed TD. After two days on standby the decision was made by the client to plug and suspend the well with the possibility it may be sidetracked in the future.

Formation Characteristics

The formation had fissile and sub fissile shaly siltstone and subordinate hard sandstone. Formation when drilled had a tendency to pull to the left and build angle. Three separate formation horizons were mapped on the same track in a comparison between initial and sidetrack wells suggesting a 10 degree dip to the west. Hard bands of quartzite were layered through 70% Siltstone, 5% Silty Sandstone, 5% Limestone, 20% Sandstone. The hardness of the formation may have contributed in part to our MWD problems as the bit damage on our last three BHA's suggested severe vibration and bouncing. Les Burgess the contract geologist on site described the scenario as trying to drill against a pane of glass and continually sliding or bouncing up and to the left.

5. BHA Reports

Weatherford

BHA Report

Drilling Services

BHA 2 - Drop & Hold Section

FILE #: 1010101 **WELL NAME:** Westwood # 1 **SERVICE CO.:** Precision Energy Services
JOB TYPE: **COMPANY:** Overseas Energy Holdings **SURVEY TYPE:**
RIG & NO: Hunt Energy 3 **SURFACE LOCATION:** Haspden **FIELD / LOCATION:** Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming
MWD Supervisor: Clive Pickering, Faheem Khan

BHA SURVEY TYPE: Positive Pulse MWD **HOLE SIZE:** 8.5

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Tri-Cone Bit	Security	10895631	EBXS20DSD	8.5	0	0		4 1/2" REG Pin	0.28	0.28
1	Drilling Motor	PES	675-3186		6.75	0	0	4 1/2" REG Box	4 1/2" IF Box	8.33	8.61
1	mule shoe	PES	675-17990		6.75	0	0	4 1/2" IF Pin	4 1/2" IF Box	1.06	9.67
1	Short NMDC	PES	675-23450		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.80	13.47
1	Short NMDC	PES	675-23449		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.90	17.37
1	NMDC	PES	675-21270		6.75	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	9.48	26.85
1	X/O Sub	Rig			6.58	2.88	0	4 1/2" IF Pin	4" IF Box	0.60	27.45
1	18 x Drill Collar	Rig			0	0	0			166.65	194.10
1	Jar				6.5	2.75	0	4" IF Pin	4" IF Box	9.06	203.16
2	2 X Drill Collar	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	18.17	221.33
1	6 x HWDP	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	54.97	276.30

(O.D. units are ; I.D. units are ; FNock units are)

GENERAL INFORMATION

DATES RUN:	2009/12/11 TO 2009/12/14		
DEPTH IN:	0.00	**ANGLE IN:**	0.00
DEPTH OUT:	1073.00	**ANGLE OUT:**	0.00
DRILL HRS:	20.25	**BUILD:**	0.00
ORIENTING HRS:	7.00	**HOLE MADE:**	1073.00
ROTATING HRS:	13.25	**AVG R.O.P.:**	52.99

MOTOR INFORMATION

MANFCT.	PES	**SETTING:**	1.50
SERIAL #:	675-3186	**KICK PAD:**	No
MODEL:		**STABILIZER:**	8 3/8" (213mm)
LOBE CFG:	6/7	**MOTOR HRS:**	20.25
BIT TO BEND:	0		

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	1.0%	100.0%	100.0%
S.P.M.:	0	58	0
STROKE VOLUME:	0.0	6.79	0.0
TOTAL FLOW RATE:	393.82		
PUMP PRESSURE:	**OFF BTM:** 1200	**ON BTM:** 1350	

MUD INFORMATION

MUD TYPE:	Polymer	**LIQUID BASE:**	Water		
DENSITY:	9.2	**TEMP:**	0		
VISCOSITY:	40	**pH:**	9		
WTR LOSS:	1	**SAND:**	0	**LIQUID RATE:**	0
PLAST VISC:	12	**SOLIDS:**	0	**GAS TYPE:**	
YIELD PT:	17	**OIL:**	0	**GAS RATE:**	0

BIT INFORMATION

MANFCT: Security **TYPE:** EBXS20DSD **IADC BIT GRADE:** 1 / 1 / NO / A / E / I / NO / DTF
NOZZLES: 0.746 TFA

REASON FOR BHA CHANGE

MWD failure

FORMATION CHARACTERISTICS

10% Siltstone, 10-15% Sandstone,75% Conglomorate.

MWD COMMENTS

MWD tool could not give TF or Survey.

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Weatherford

BHA Report

Drilling Services

BHA 3 - Drop and Hold Section

FILE #: 1010101 **WELL NAME:** Westwood # 1 **SERVICE CO.:** Precision Energy Services
JOB TYPE: **COMPANY:** Overseas Energy Holdings **SURVEY TYPE:**
RIG & NO: Hunt Energy 3 **SURFACE LOCATION:** Haspden **FIELD / LOCATION:** Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming
MWD Supervisor: Clive Pickering, Faheem Khan

BHA SURVEY TYPE: Positive Pulse MWD **HOLE SIZE:** 8.5

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Tri-Cone Bit	Security	10895631	EBXS20DSD	8.5	0	0		4 1/2" REG Pin	0.28	0.28
1	Drilling Motor	PES	675-3186		6.75	0	0	4 1/2" REG Box	4 1/2" IF Box	8.33	8.61
1	mule shoe	PES	675-17990		6.75	0	0	4 1/2" IF Pin	4 1/2" IF Box	1.06	9.67
1	Short NMDC	PES	675-23450		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.80	13.47
1	Short NMDC	PES	675-23449		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.90	17.37
1	NMDC	PES	675-21270		6.75	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	9.48	26.85
1	X/O Sub	Rig			6.58	2.88	0	4 1/2" IF Pin	4" IF Box	0.60	27.45
1	18 x Drill Collar	Rig			0	0	0			166.65	194.10
1	Jar				6.5	2.75	0	4" IF Pin	4" IF Box	9.06	203.16
2	2 X Drill Collar	Rig			6.25	2.879	0	4" IF Pin	4" IF Box	18.17	221.33
1	6 x HWDP	Rig			6.25	2.879	0	4" IF Pin	4" IF Box	54.97	276.30

(O.D. units are ; I.D. units are ; FNeck units are)

GENERAL INFORMATION

DATES RUN:	2009/12/14 TO 2009/12/16		
DEPTH IN:	1073.00	**ANGLE IN:**	0.00
DEPTH OUT:	1246.00	**ANGLE OUT:**	0.00
DRILL HRS:	33.50	**BUILD:**	0.00
ORIENTING HRS:	10.00	**HOLE MADE:**	173.00
ROTATING HRS:	23.50	**AVG R.O.P.:**	5.16

MOTOR INFORMATION

MANFCT.	PES	**SETTING:**	1.50
SERIAL #:	675-3186	**KICK PAD:**	No
MODEL:		**STABILIZER:**	8 3/8" (213mm)
LOBE CFG:	6/7	**MOTOR HRS:**	34.00
BIT TO BEND:	0		

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	1.0%	100.0%	100.0%
S.P.M.:	0	58	0
STROKE VOLUME:	6.78	6.78	0.0
TOTAL FLOW RATE:	393.24		
PUMP PRESSURE:	**OFF BTM:** 1250	**ON BTM:** 1400	

MUD INFORMATION

MUD TYPE:	Polymer	**LIQUID BASE:**	Water		
DENSITY:	9.2	**TEMP:**	0		
VISCOSITY:	38	**pH:**	8.5		
WTR LOSS:	7.8	**SAND:**	0.25	**LIQUID RATE:**	0
PLAST VISC:	10	**SOLIDS:**	5.9	**GAS TYPE:**	
YIELD PT:	10	**OIL:**	0	**GAS RATE:**	0

BIT INFORMATION

MANFCT: Security **TYPE:** EBXS20DSD **IADC BIT GRADE:** 3 / 3 / BT / G / E / I / CT / TQ
NOZZLES: 0.746 TFA

REASON FOR BHA CHANGE

Pulled for bit.

FORMATION CHARACTERISTICS

60% Siltstone,15% Silty Sandstone, 5% Limestone, 20% Sandstone.

MWD COMMENTS

MWD performed well.

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Weatherford

BHA Report

BHA 4 - Drop & Hold Section

Drilling Services
V4.2.28/5

FILE #: 1010101
JOB TYPE:
RIG & NO: Hunt Energy 3
WELL NAME: Westwood # 1
COMPANY: Overseas Energy Holdings
SURFACE LOCATION: Haspden
SERVICE CO.: Precision Energy Services
SURVEY TYPE:
FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming
MWD Supervisor: Clive Pickering, Faheem Khan

BHA SURVEY TYPE: Positive Pulse MWD **HOLE SIZE:** 8.5

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Tri-Cone Bit	Reed	AD8201	R30APDH	8.5	0	0		4 1/2" REG Pin	0.28	0.28
1	Drilling Motor	PES	675-3186		6.75	0	0	4 1/2" REG Box	4 1/2" IF Box	8.33	8.61
1	mule shoe	PES	675-17990		6.75	0	0	4 1/2" IF Pin	4 1/2" IF Box	1.06	9.67
1	Short NMDC	PES	675-23450		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.80	13.47
1	Short NMDC	PES	675-23449		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.90	17.37
1	NMDC	PES	675-21270		6.75	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	9.48	26.85
1	X/O Sub	Rig			6.58	2.88	0	4 1/2" IF Pin	4" IF Box	0.60	27.45
1	18 x Drill Collar	Rig			0	0	0			166.65	194.10
1	Jar				6.5	2.75	0	4" IF Pin	4" IF Box	9.06	203.16
2	2 X Drill Collar	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	18.17	221.33
1	6 x HWDP	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	54.97	276.30

(O.D. units are ; I.D. units are ; FNeck units are)

GENERAL INFORMATION

DATES RUN:	2009/12/16 TO 2009/12/17		
DEPTH IN:	1246.00	**ANGLE IN:**	0.00
DEPTH OUT:	1326.00	**ANGLE OUT:**	0.00
DRILL HRS:	14.00	**BUILD:**	0.00
ORIENTING HRS:	4.50	**HOLE MADE:**	80.00
ROTATING HRS:	9.50	**AVG R.O.P.:**	5.71

MOTOR INFORMATION

MANFCT.	PES	**SETTING:**	1.50
SERIAL #:	675-3186	**KICK PAD:**	No
MODEL:		**STABILIZER:**	8 3/8" (213mm)
LOBE CFG:	6/7	**MOTOR HRS:**	17.25
BIT TO BEND:	0		

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	1.0%	100.0%	100.0%
S.P.M.:	0	58	0
STROKE VOLUME:	6.78	6.78	0.0
TOTAL FLOW RATE:	393.24		
PUMP PRESSURE:	**OFF BTM:** 1250	**ON BTM:** 1450	

MUD INFORMATION

MUD TYPE:	Polymer	**LIQUID BASE:**	Water		
DENSITY:	9.2	**TEMP:**	0		
VISCOSITY:	38	**pH:**	8.5		
WTR LOSS:	7.8	**SAND:**	0.25	**LIQUID RATE:**	0
PLAST VISC:	10	**SOLIDS:**	5.9	**GAS TYPE:**	
YIELD PT:	10	**OIL:**	0	**GAS RATE:**	0

BIT INFORMATION

MANFCT: Reed **TYPE:** R30APDH **IADC BIT GRADE:** 3 / 3 / BT / G / E / I / CT / TQ
NOZZLES: 0.746 TFA

REASON FOR BHA CHANGE

Pulled for sidetrack.

FORMATION CHARACTERISTICS

45% Siltstone,15% Silty Sandstone, 20% Limestone, 20% Sandstone.

MWD COMMENTS

MWD performed well.

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Weatherford

BHA Report

Drilling Services

BHA 5 - Build And drop Section

FILE #: 1010101 **WELL NAME:** Westwood # 1 **SERVICE CO.:** Precision Energy Services
JOB TYPE: **COMPANY:** Overseas Energy Holdings **SURVEY TYPE:**
RIG & NO: Hunt Energy 3 **SURFACE LOCATION:** Haspden **FIELD / LOCATION:** Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming, Dan Power
MWD Supervisor: Clive Pickering, Faheem Khan

BHA SURVEY TYPE: Positive Pulse MWD **HOLE SIZE:** 8.5

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Tri-Cone Bit	Smith	PK9578	FH30	8.5	0	0		4 1/2" REG Pin	0.28	0.28
1	Drilling Motor	PES	675-3186		6.75	0	0	4 1/2" REG Box	4 1/2" IF Box	8.33	8.61
1	mule shoe	PES	675-17990		6.75	0	0	4 1/2" IF Pin	4 1/2" IF Box	1.06	9.67
1	Short NMDC	PES	675-23450		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.80	13.47
1	Short NMDC	PES	675-23449		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.90	17.37
1	NMDC	PES	675-21270		6.75	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	9.48	26.85
1	X/O Sub	Rig			6.58	2.88	0	4 1/2" IF Pin	4" IF Box	0.60	27.45
1	18 x Drill Collar	Rig			0	0	0			166.65	194.10
1	Jar				6.5	2.75	0	4" IF Pin	4" IF Box	9.06	203.16
2	2 X Drill Collar	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	18.17	221.33
1	6 x HWDP	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	54.97	276.30

(O.D. units are ; I.D. units are ; FNeck units are)

GENERAL INFORMATION

DATES RUN:	2009/12/18 TO 2009/12/21		
DEPTH IN:	804.00	**ANGLE IN:**	0.00
DEPTH OUT:	1121.00	**ANGLE OUT:**	0.00
DRILL HRS:	47.25	**BUILD:**	0.00
ORIENTING HRS:	24.00	**HOLE MADE:**	282.00
ROTATING HRS:	23.25	**AVG R.O.P.:**	5.97

MOTOR INFORMATION

MANFCT.	PES	**SETTING:**	1.50
SERIAL #:	675-3186	**KICK PAD:**	No
MODEL:		**STABILIZER:**	8 3/8" (213mm)
LOBE CFG:	6/7	**MOTOR HRS:**	62.50
BIT TO BEND:	0		

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	1.0%	100.0%	100.0%
S.P.M.:	57	0	0
STROKE VOLUME:	6.78	6.78	0.0
TOTAL FLOW RATE:	3.67137		
PUMP PRESSURE:	**OFF BTM:** 1100	**ON BTM:** 1350	

MUD INFORMATION

MUD TYPE:	Polymer	**LIQUID BASE:**	Water		
DENSITY:	9.3	**TEMP:**	0		
VISCOSITY:	44	**pH:**	10.5		
WTR LOSS:	6.8	**SAND:**	0.25	**LIQUID RATE:**	0
PLAST VISC:	19	**SOLIDS:**	6.1	**GAS TYPE:**	
YIELD PT:	16	**OIL:**	0	**GAS RATE:**	0

BIT INFORMATION

MANFCT: Smith **TYPE:** FH30 **IADC BIT GRADE:** 2 / 2 / NO / A / E / I / NO / DMF
NOZZLES: 0.92 TFA

REASON FOR BHA CHANGE

Motor pressure spiked. Worn bearing DMF

FORMATION CHARACTERISTICS

60% Siltstone, 15% Silty Sandstone, 5% Limestone, 20% Sandstone.

MWD COMMENTS

MWD performed well.

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BHA Report

BHA 6 - Hold Section

Drilling Services

V4.2.28/5

FILE #: 1010101 **WELL NAME:** Westwood # 1 **SERVICE CO.:** Precision Energy Services
JOB TYPE: **COMPANY:** Overseas Energy Holdings **SURVEY TYPE:**
RIG & NO: Hunt Energy 3 **SURFACE LOCATION:** Haspden **FIELD / LOCATION:** Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming, Dan Power
MWD Supervisor: Clive Pickering, Faheem Khan

BHA SURVEY TYPE: Positive Pulse MWD **HOLE SIZE:** 8.5

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Tri-Cone Bit	Smith	FH30-DVPS	PJ4480	8.5	0	0		4 1/2" REG Pin	0.25	0.25
1	Drilling Motor	PES	675-2600		6.75	0	0	4 1/2" REG Box	4 1/2" IF Box	8.56	8.81
1	Stabilizer 8.125"	PES	WFD-2786	steel	6.5	2.125	0.695	4 1/2" IF Pin	4 1/2" IF Box	1.83	10.64
1	mule shoe	PES	675-17990		6.75	0	0	4 1/2" IF Pin	4 1/2" IF Box	1.06	11.70
1	Short NMDC	PES	675-23450		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.80	15.50
1	Short NMDC	PES	675-23449		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.90	19.40
1	NMDC	PES	675-21270		6.75	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	9.48	28.88
1	X/O Sub	Rig			6.58	2.88	0	4 1/2" IF Pin	4" IF Box	0.60	29.48
1	8.125 String Reamer	Rig	XM-1281	STEEL	6.75	2.875	0	4" IF Pin	4" IF Box	1.79	31.27
1	18 x Drill Collar	Rig			0	0	0			166.65	197.92
1	Jar				6.5	2.75	0	4" IF Pin	4" IF Box	9.06	206.98
2	2 X Drill Collar	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	18.17	225.15
1	6 x HWDP	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	54.97	280.12

(O.D. units are ; I.D. units are ; FNeck units are)

GENERAL INFORMATION

DATES RUN:	2009/12/21 TO 2009/12/26		
DEPTH IN:	1121.00	**ANGLE IN:**	0.00
DEPTH OUT:	1391.00	**ANGLE OUT:**	0.00
DRILL HRS:	83.50	**BUILD:**	0.00
ORIENTING HRS:	43.75	**HOLE MADE:**	270.00
ROTATING HRS:	39.75	**AVG R.O.P.:**	3.23

MOTOR INFORMATION

MANFCT.	PES	**SETTING:**	1.50
SERIAL #:	675-2600	**KICK PAD:**	No
MODEL:		**STABILIZER:**	8 3/8" (213mm)
LOBE CFG:	6/7	**MOTOR HRS:**	83.50
BIT TO BEND:	0		

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	1.0%	100.0%	100.0%
S.P.M.:	57	0	0
STROKE VOLUME:	6.78	0.0	0.0
TOTAL FLOW RATE:	3.67137		
PUMP PRESSURE:	**OFF BTM:** 1400	**ON BTM:** 1450	

MUD INFORMATION

MUD TYPE:	Polymer	**LIQUID BASE:**	Water		
DENSITY:	9.35	**TEMP:**	0		
VISCOSITY:	41	**pH:**	10.5		
WTR LOSS:	6.5	**SAND:**	0.1	**LIQUID RATE:**	0
PLAST VISC:	16	**SOLIDS:**	6.6	**GAS TYPE:**	
YIELD PT:	19	**OIL:**	0	**GAS RATE:**	0

BIT INFORMATION

MANFCT: Smith **TYPE:** PJ4480 **IADC BIT GRADE:** 3 / 2 / NO / A / E / I / NO / DTF
NOZZLES: 0.746 TFA

REASON FOR BHA CHANGE

Battery failure.

FORMATION CHARACTERISTICS

Fissile and sub fissile shaley siltstone and subordinate hard sandstone.Formation has a tendancy to pull to the left and build angle. Three formation horizons were mapped on the same track in a comparison between initial and sidetrack wells suggesting a 10 degree dip to the west. 70% Siltstone ,5% Silty Sandstone, 5% Limestone, 20% Sandstone.

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BHA Report

BHA 7 - Hold Section

Drilling Services

FILE #: 1010101 **WELL NAME:** Westwood # 1 **SERVICE CO.:** Precision Energy Services
JOB TYPE: **COMPANY:** Overseas Energy Holdings **SURVEY TYPE:**
RIG & NO: Hunt Energy 3 **SURFACE LOCATION:** Haspden **FIELD / LOCATION:** Westwood / Tasmania / Australia

DIR Supervisor: Dan Power, Ned Clark
MWD Supervisor: Clive Pickering, Faheem Khan

BHA SURVEY TYPE: Positive Pulse MWD **HOLE SIZE:** 8.5

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Tri-Cone Bit	Smith	PM4384	GF150DPS	0	0	0		4 1/2" REG Pin	0.25	0.25
1	Drilling Motor	PES	675-2600		6.75	0	0	4 1/2" REG Box	4 1/2" IF Box	8.56	8.81
1	Stabilizer 8.125"	PES	WFD-2786	steel	6.5	2.125	0.695	4 1/2" IF Pin	4 1/2" IF Box	1.83	10.64
1	Muleshoe sub	PES	675-17980		6.75	0	0	4 1/2" IF Pin	4 1/2" IF Box	1.10	11.74
1	Short NMDC	PES	675-23450		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.80	15.54
1	Short NMDC	PES	675-23449		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.90	19.44
1	NMDC	PES	675-21270		6.75	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	9.48	28.92
1	X/O Sub	Rig			6.58	2.88	0	4 1/2" IF Pin	4" IF Box	0.60	29.52
1	8.125 String Reamer	Rig	XM-1281	STEEL	6.75	2.875	0	4" IF Pin	4" IF Box	1.79	31.31
1	14 X Drill Collar	Rig			6.25	2.875	0	4" IF Pin	4" IF Box	129.68	160.99
1	Jar				6.5	2.75	0	4" IF Pin	4" IF Box	9.06	170.05
2	2 X Drill Collar	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	18.17	188.22
1	6 x HWDP	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	54.97	243.19

(O.D. units are ; I.D. units are ; FNeck units are)

GENERAL INFORMATION

DATES RUN:	2009/12/26 TO 2009/12/28		
DEPTH IN:	1391.00	**ANGLE IN:**	0.00
DEPTH OUT:	1517.24	**ANGLE OUT:**	0.00
DRILL HRS:	33.75	**BUILD:**	0.00
ORIENTING HRS:	14.75	**HOLE MADE:**	126.24
ROTATING HRS:	17.00	**AVG R.O.P.:**	3.74

MOTOR INFORMATION

MANFCT.	PES	**SETTING:**	1.50
SERIAL #:	675-2600	**KICK PAD:**	No
MODEL:		**STABILIZER:**	8 3/8" (213mm)
LOBE CFG:	6/7	**MOTOR HRS:**	32.50
BIT TO BEND:	0		

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	1.0%	100.0%	100.0%
S.P.M.:	57	0	0
STROKE VOLUME:	6.78	0.0	0.0
TOTAL FLOW RATE:	3.67137		
PUMP PRESSURE:	**OFF BTM:** 1300	**ON BTM:** 1400	

MUD INFORMATION

MUD TYPE:	Polymer	**LIQUID BASE:**	Water		
DENSITY:	9.3	**TEMP:**	0		
VISCOSITY:	40	**pH:**	10		
WTR LOSS:	6.6	**SAND:**	0.1	**LIQUID RATE:**	0
PLAST VISC:	16	**SOLIDS:**	6.3	**GAS TYPE:**	
YIELD PT:	17	**OIL:**	0	**GAS RATE:**	0

BIT INFORMATION

MANFCT: Smith **TYPE:** GF150DPS **IADC BIT GRADE:** 4 / 7 / BT / G / E / I / SD / DTF
NOZZLES: 0.746 TFA

REASON FOR BHA CHANGE

Pulled for MWD failure. Ran in with Dropping assembly, took out roller reamer and reduced bend to 1.15 to reduce torque and drop angle.

FORMATION CHARACTERISTICS

Drilling hard bands of quartzite. 70% Siltstone,5% Silty Sandstone, 5% Limestone, 20% Sandstone.

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BHA Report

BHA 8 - Hold Section

Drilling Services

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power, Ned Clark
MWD Supervisor: Clive Pickering, Faheem Khan

BHA SURVEY TYPE: Positive Pulse MWD | HOLE SIZE: 8.5

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Tri-Cone Bit	Reed	CN6324	R30APDH	8.5	0	0		4 1/2" REG Pin	0.25	0.25
1	Drilling Motor	PES	675-2600		6.75	0	0	4 1/2" REG Box	4 1/2" IF Box	8.56	8.81
1	Stabilizer 8.125"	PES	WFD-2786	steel	6.5	2.125	0.695	4 1/2" IF Pin	4 1/2" IF Box	1.83	10.64
1	Muleshoe sub	PES	675-17980		6.75	0	0	4 1/2" IF Pin	4 1/2" IF Box	1.10	11.74
1	Short NMDC	PES	675-23450		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.80	15.54
1	Short NMDC	PES	675-23449		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.90	19.44
1	NMDC	PES	675-21270		6.75	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	9.48	28.92
1	X/O Sub	Rig			6.58	2.88	0	4 1/2" IF Pin	4" IF Box	0.60	29.52
1	14 X Drill Collar	Rig			6.25	2.875	0	4" IF Pin	4" IF Box	129.68	159.20
1	Jar				6.5	2.75	0	4" IF Pin	4" IF Box	9.06	168.26
2	2 X Drill Collar	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	18.17	186.43
1	6 x HWDP	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	54.97	241.40

(O.D. units are ; I.D. units are ; FNeck units are)

GENERAL INFORMATION

DATES RUN:	2009/12/28 TO 2009/12/30		
DEPTH IN:	1517.24	ANGLE IN:	0.00
DEPTH OUT:	1604.57	ANGLE OUT:	0.00
DRILL HRS:	26.50	BUILD:	0.00
ORIENTING HRS:	25.75	HOLE MADE:	87.33
ROTATING HRS:	0.75	AVG R.O.P.:	3.30

MOTOR INFORMATION

MANFCT.	PES	SETTING:	1.15
SERIAL #:	675-2600	KICK PAD:	No
MODEL:		STABILIZER:	No
LOBE CFG:	6/7	MOTOR HRS:	26.75
BIT TO BEND:	0		

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	1.0%	100.0%	100.0%
S.P.M.:	57	0	0
STROKE VOLUME:	6.78	0.0	0.0
TOTAL FLOW RATE:	3.67137		
PUMP PRESSURE:	OFF BTM: 1300	ON BTM: 1350	

MUD INFORMATION

MUD TYPE:	Polymer	LIQUID BASE:	Water		
DENSITY:	9.3	TEMP:	0		
VISCOSITY:	43	pH:	9.7		
WTR LOSS:	6.8	SAND:	0.1	LIQUID RATE:	0
PLAST VISC:	16	SOLIDS:	6.3	GAS TYPE:	
YIELD PT:	19	OIL:	0	GAS RATE:	0

BIT INFORMATION

MANFCT: Reed | TYPE: R30APDH | IADC BIT GRADE: 6 / 4 / BT / G / E / I / SD / BHA
NOZZLES: 0.746 TFA

REASON FOR BHA CHANGE

Could not drop Inc to cross target line quick enough. Built to 12.25 degrees.

FORMATION CHARACTERISTICS

Drilling hard bands of quartz-meta sandstone. 60% Siltstone,5% Silty Sandstone, 5% Limestone, 30% Sandstone.

MWD COMMENTS

MWD performed well

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BHA Report

BHA 9 - Hold Section

Drilling Services

FILE #: 1010101 **WELL NAME:** Westwood # 1 **SERVICE CO.:** Precision Energy Services
JOB TYPE: **COMPANY:** Overseas Energy Holdings **SURVEY TYPE:**
RIG & NO: Hunt Energy 3 **SURFACE LOCATION:** Haspden **FIELD / LOCATION:** Westwood / Tasmania / Australia

DIR Supervisor: Dan Power, Ned Clark
MWD Supervisor: Clive Pickering, Faheem Khan

BHA SURVEY TYPE: Positive Pulse MWD **HOLE SIZE:** 8.5

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Tri-Cone Bit	Smith	PK9578	FH30	8.5	0	0		4 1/2" REG Pin	0.28	0.28
1	Drilling Motor	PES	675-2355	LE6754	0	0	6.505	4 1/2" REG Box	4 1/2" IF Box	8.35	8.63
1	Muleshoe sub	PES	675-17980		6.75	0	0	4 1/2" IF Pin	4 1/2" IF Box	1.10	9.73
1	Short NMDC	PES	675-23450		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.80	13.53
1	Short NMDC	PES	675-23449		6.75	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	3.90	17.43
1	NMDC	PES	675-21270		6.75	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	9.48	26.91
1	X/O Sub	Rig			6.58	2.88	0	4 1/2" IF Pin	4" IF Box	0.60	27.51
1	12 X Drill Collar	Rig			6.25	2.875	0	4" IF Pin	4" IF Box	111.31	138.82
1	Jar				6.5	2.75	0	4" IF Pin	4" IF Box	9.06	147.88
2	2 X Drill Collar	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	18.17	166.05
1	6 x HWDP	Rig			6.25	2.878	0	4" IF Pin	4" IF Box	54.97	221.02

(O.D. units are ; I.D. units are ; FNock units are)

GENERAL INFORMATION

DATES RUN:	2009/12/30 TO 2010/01/01		
DEPTH IN:	1604.57	**ANGLE IN:**	0.00
DEPTH OUT:	1679.00	**ANGLE OUT:**	0.00
DRILL HRS:	27.25	**BUILD:**	0.00
ORIENTING HRS:	26.25	**HOLE MADE:**	74.43
ROTATING HRS:	1.00	**AVG R.O.P.:**	2.73

MOTOR INFORMATION

MANFCT.	PES	**SETTING:**	1.50
SERIAL #:	675-2355	**KICK PAD:**	No
MODEL:	LE6754	**STABILIZER:**	8 3/8" (213mm)
LOBE CFG:	6/7	**MOTOR HRS:**	30.75
BIT TO BEND:	1.715		

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	1.0%	100.0%	100.0%
S.P.M.:	57	0	0
STROKE VOLUME:	6.78	0.0	0.0
TOTAL FLOW RATE:	3.67137		
PUMP PRESSURE:	**OFF BTM:** 1250	**ON BTM:** 1350	

MUD INFORMATION

MUD TYPE:	Polymer	**LIQUID BASE:**	Water		
DENSITY:	9.3	**TEMP:**	0		
VISCOSITY:	42	**pH:**	9.6		
WTR LOSS:	6.8	**SAND:**	0.1	**LIQUID RATE:**	0
PLAST VISC:	17	**SOLIDS:**	6.3	**GAS TYPE:**	
YIELD PT:	19	**OIL:**	0	**GAS RATE:**	0

BIT INFORMATION

MANFCT: Smith **TYPE:** FH30 **IADC BIT GRADE:** 5 / 4 / BT / G / E / I / BT / TD
NOZZLES: 0.92 TFA

REASON FOR BHA CHANGE

TD well 1679m

FORMATION CHARACTERISTICS

60% Siltstone,5% Silty Sandstone, 5% Limestone, 30% Sandstone.

MWD COMMENTS

MWD performed well

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6. Motor Run Reports

DRILLING SYSTEMS
MOTOR RUN DATA SHEET

Customer:	Overseas Energy Holdings	Well:	Westwood #1
Rig / Platform:	Hunt Rig 3	Hole Section:	8 1/2" Drop and hold
Job No.:	AU-DD-OEH-001	Date:	12/11/2009 - 1/1/2010

Tool / Motor Data				
Run No.:	1	2	3	4
BHA No.:	2	3	4	5
Tool Type:	PP MWD	PP-MWD	PP MWD	PP MWD
Tool No.:	675-3186	675-3186	675-3186	675-3186
Tool Size:	6 3/4"	6 3/4	6 3/4	6 3/4
AKO:	1.5	1.5	1.5	1.5
UBHS:	675-17990	675-17990	675-17990	675-17990
Depth In:	1005m	1074	1246	814
Depth Out:	1074	1246	1326	1121
Footage:	69m	172	80	307
Date In:	12/11/2009	12/13/2009	12/16/2009	12/18/2009
Date Out:	12/13/2009	12/16/2009	12/17/2009	12/21/2009
Drill Hrs:	11.98	24.74	5.44	45.41
Circ Hrs:	2.92	3.17	1.83	3.75
Op Hrs:	14.9	27.91	7.27	49.16
Rotary Hrs:	7.67	19.98	1.99	17.41
Steer Hrs:	4.31	4.76	3.45	28
Avg ROP:	5.75	6.95	14.7	6.76
Max Temp:	45	45	45	45
CircTemp:				
Differential Pressure				
Stall:				
Working:	215	200	150	150
Bearing Wear				
Gap In:	0.36	0.68	0.97	2.15
Gap Out:	0.68	0.97	2.15	5.2
Bit Data				
Bit Type:	EBXS20DS	EBXS20DS	R30A PHD	FH30
Manufacturer:	Security	Security	Reed	Smith
TFA:	0.74	0.7455	0.745	0.745
Nozzle Size:	3 x 18	3 x 18	3 x 18	3 x 18
Parameters				
RPM:	60	60	60	60
Avg WOB:	20	25	25	25
Max WOB:	30	35	35	35
Min Flow:	324	324	324	324
Max Flow:	324	395	395	395
Min SPP:	850	1250	1250	1250
Max SPP:	1150	1450	1450	1450
Mud Data				
Mud Type:	Polymer	Polymer	Polymer	Polymer
Mud weight:	9.2	9.2	9.2	9.2
PV / YP:	Jan-00	10	10	10
% Solids/Sand:	tr	tr	tr	
Formation	10% Siltstone	60% Siltstone	45% Siltstone	60% Silty Sandstone
	10-15% Sandstone	15% Silty Sandstone	20% Limestone	20% Sandstone
	75%Conglomorate	5 % Limestone	15% Silty Sandstone	15% Silty Sandstone
		20% Sandstone	20% Sandstone	5% Limestone

Tool / Motor Data				
Run No.:	5	6	7	8
BHA No.:	6	7	8	9
Tool Type:	PP MWD	PP MWD	PP MWD	PP MWD
Tool No.:	675-2600	675-2600	675-2600	675-2355
Tool Size:	6 3/4	6 3/4	6 3/4	6 3/4
AKO:	1.5	1.5	1.15	1.5
UBHS:	675-17990	675-17980	675-17980	675-17980
Depth In:	1111	1391	1517	1604
Depth Out:	1391	1517	1604	1780
Footage:	280	126	87	
Date In:	12/22/2009	12/26/2009	12/28/2009	12/31/2009
Date Out:	12/26/2009	12/28/2009	12/30/2009	1/1/2010
Drill Hrs:	55.57	21.99	16	20.42
Circ Hrs:	7.58	4.92	3.16	?
Op Hrs:	63.15	26.91	19.16	
Rotary Hrs:	27.54	12.79	4.5	0.5
Steer Hrs:	28.03	9.2	11.5	19.92
Avg ROP:	5.03	5.72	3.67	
Max Temp:	45	45	48	54.5
CircTemp:				
Differential Pressure				
Stall:				
Working:	150	100	50	100
Bearing Wear				
Gap In:	0.5	0.75	3	2.15
Gap Out:	0.75	3	4.1	5.2
Bit Data				
Bit Type:	FH30DVPS	GF-150-DPS	R30APDH	FH30
Manufacturer:	Smith	Smith	Reed	Smith
TFA:	0.745	0.0745	0.0745	0.9204
Nozzle Size:	3 X18	3 x18	3 X18	3 X 20
Parameters				
RPM:	60	60	60	60
Avg WOB:	20	15-20	15-20	15-20
Max WOB:	25	25	25	25
Min Flow:	324	360	360	360
Max Flow:	390	400	400	400
Min SPP:	1140	1100		
Max SPP:	1300	1400		
Mud Data				
Mud Type:	Polymer	Polymer	Polymer	Polymer
Mud weight:	9.3	9.3	9.3	
PV / YP:	15/17	16/20	17/22	
% Solids/Sand:	0.25/5.9	tr/ 6.3	0.1/6.3	
Formation:	70% Silt Stone	70% Silt Stone	65% Silt Stone	
	20 % Sandstone	20 % Sandstone	30 % Sandstone	
	5% Silty Sandstone	5% Silty Sandstone	5% Silty Sandstone	
	5% Limestone	5% Limestone	5% Limestone	

Comments

Run # 1 motor was pulled for MWD failure.
Run # 2 was pulled for bit.
Run # 3 Pulled for sidetrack
Run # 4 Pulled for motor pressure spiking.
Run # 5 Pulled for MWD failure.
Run # 6 Pulled for MWD failure.
Run # 7 Pulled to dial up motor and change BHA to slick
Run # 8 Pulled for TD

7. Drilling Parameters

Kelly Down Engineering

CLIENT	Westwood Tanzania
AREA	Hunt Oil Rig 3
RIG	Westwood 1
WELL #	#VALUE!
TOTAL BIT REVELUTIONS =	

MOTOR TYPE: LE 6754
MOTOR SN:
Revs/GAL = 0.283

Hole size:
Bit Hrs: 0.00
O Hrs: 11.68
R Hrs: 35.50

Dist. to bit:
Motor Hrs: 55.10
Circ. Hrs: 6.92
Ream. Hrs: 1.00

Drilling ROP:
In hole ROP:
Tot. Fr/Mt O: 57
Tot. Fr/Mt R: 147

Pump Output
Ave Differential
DRILLERS: B.Fleming

BHA # 2
BIT # 3
BIT TYPE/MANUF Security

Starkie's summary
While drilling
% Creating 0%
% Rotating 0%

Total in hole
Orienting 0%
Rotating 0%
Circulating/Ream. 0%

Page

STT TIME	END TIME	DRLG MINS	START DEPTH	END DEPTH	O R	Drlg CL	Mins CIR	Mins Rm	Hrs Drlg	WOB	TF / RPM	TORQ	LPM GPM	SPM	SPP PSI / KPA OFF	ON	DIFFL	SVY DEPTH	INC	AZIM	TVD	DLS	B/R	BIT INC	BIT TVD	DATE	COMMENTS
22:15	23:46	91	1005	1012	O	7	10		1.33	25	90/100		320	57	850	1000	150									12/12/09	
0:07	0:54	47	1012	1015	O	3	5		0.70	25	90/100L		320	57	850	1050	200	996	15.43	32.55						13/12/09	
0:54	3:15	141	1015	1021	R	6			2.35	25	60	65	320	57	850	1050	200	1013	15.66	30.28							
3:20	5:54	154	1021	1030	R	9	5		2.48	25	60	65	320	57	850	1050	200	1040	13.82	13.08							
6:08	8:03	115	1030	1038	O	8	5		1.83	25/30	150L		320	57	850	1050	200										
8:03	8:11	8	1038	1039	R	1	5		0.05	20/25	60	70	320	57	850	1050	200										
8:20	11:30	190	1039	1049	R	10			3.17	20/25	60	70	320	57	850	1050	200										
11:35	13:15	100	1049	1059	R	10			1.67	15/25	60	70	320	57	850	1000	150										
13:25	14:21	56	1059	1064	O	5	5		0.85	25/30	170L		320	57	850	1150	300										
14:21	15:18	57	1064	1068	R	4			0.95	25	60	70	320	57	850	1100	250										
15:20	17:10	110	1068	1073	R	5	140		-0.50	25	60	70	320	57	850	1100	250	MWD Failure. POOH								14/12/09	
20:45	21:19	34	1073	1076	R	3	40		-0.10	20	60	60	394	58	1200	1300	100	1058	13.69	9.05							
21:44	22:05	21	1076	1078	O	2	20		0.02	25/30	120L		394	58	1200	1350	150										
22:05	22:35	30	1078	1082	O	4	5		0.42	30	180		394	58	1200	1350	150										
22:35	23:02	27	1082	1086	R	4	5		0.37	25	60	75	394	58	1200	1300	100										
23:02	0:00	58	1086	1090	R	4			0.97	25	60	75	394	58	1200	1300	100									15/12/09	
0:00	0:30	30	1090	1095	R	5			0.50	25	60	75	394	58	1200	1350	150	1087	11.04	359.55							
0:40	1:57	77	1095	1105	R	10	5		1.20	25	60	70	394	58	1200	1350	150	1116	9.18	347.14							
2:12	3:35	83	1105	1110	O	5	5		1.30	35	180		394	58	1200	1350	150	1145	8.29	327.53							
3:35	4:25	50	1110	1114	R	4			0.83	25	60	70	394	58	1200	1350	150	1173	7.50	310.05							
4:30	6:20	110	1114	1123	R	9	5		1.75	25	60	70	394	58	1200	1350	150										
6:25	7:54	89	1123	1132	R	9			1.48	25	60	70	394	58	1200	1350	150										
8:08	9:40	92	1132	1140	O	8	5		1.45	35	180		394	58	1250	1400	150										
9:40	10:08	28	1140	1142	R	2			0.47	25	60	75	394	58	1250	1350	100										
10:17	12:40	143	1142	1151	R	9			2.38	25	60	75	394	58	1250	1350	100										
12:45	14:55	130	1151	1160	R	9	5		2.08	25	60	75	395	58	1250	1350	100										
15:35	16:45	70	1160	1170	O	10	25		0.75	35	180		395	58	1250	1350	100	RIG service									
16:55	19:10	135	1170	1180	R	10			2.25	25	60	75	395	58	1250	1350	100										
19:10	20:30	80	1180	1188	R	8	5		1.25	25	60	75	395	58	1250	1350	100										
20:35	22:00	85	1188	1197	O	9	5		1.33	35	180		395	58	1250	1350	100										
22:00	22:20	20	1197	1199	R	1.6			0.33	25	60	75	395	58	1250	1350	100										
22:30	0:00	90	1198.6	1207	R	8.4			1.50	25	60	75	395	58	1250	1350	100										
0:00	1:30	90	1207	1217	R	10	5		1.42	25	60	75	395	58	1250	1350	100	1201	7.49	291.65						16/12/09	
1:45	2:54	69	1217	1225	O	8			1.15	35	150L		395	58	1250	1400	150	1230	8.27	273.90							
2:54	3:07	13	1225	1227	R	2	5		0.13	25	60	80	395	58	1250	1400	150										
3:15	4:20	65	1227	1236	R	9			1.08	25	60	80	395	58	1250	1450	200										
4:30	6:00	90	1236	1245	R	9	5		1.42	25	60	80	395	58	1250	1450	200										
6:25	7:00	35	1245	1246	O	1	35		0.00	35	180		395	58	1250	1500	250										
18:45	19:42	57	1246	1254	R	8		60	-0.05	35	60	80	395	58	1250	1400	150	New bit									
20:00	22:00	120	1254	1264	R	10	10		1.83	25	60	80	395	58	1260	1400	150										
22:05	23:40	95	1264	1273	R	9	5		1.50	25	60	80	395	58	1250	1400	150										
0:11	2:05	114	1273	1281	O	8	20		1.57	35	180		407	60	1350	1450	100	Pump #1 too noisy. No toolfaces									
2:05	2:20	15	1281	1283	R	2	5		0.17	25	60	80	394	58	1250	1450	200										
2:25	4:45	140	1283	1293	R	10			2.33	25	60	80	394	58	1260	1450	200										
4:50	6:29	99	1293	1302	R	9	5		1.57	25	60	80	394	58	1250	1400	150										
6:45	8:00	75	1302	1311	O	9	5		1.17	35	180		394	58	1260	1400	150										
8:22	8:40	18	1311	1313	O	2			0.30	35	180		407	60	1350	1500	150										
8:40	10:00	80	1313	1320	R	7	5		1.25	25	60	90	394	58	1260	1360	100										
10:05	11:00	55	1320	1326	R	6	5		0.83	25	60	90	394	58	1250	1360	100	Hole TD Decision made to sidetrack hole									

Grey-shaded areas are input fields. These follow down the sheet from Row 20. Use the Macro to clear data.
Turquiose cells will calculate for you. Use a new sheet for each day and / or if there is a BHA change. Use the Macros on right to do things!

	CLIENT	Overseas Energy Holdings				MOTOR TYPE:	
Statistics summary	AREA	Westwood Tasmania				LE 6754	
While drilling	RIG	Hunt Oil Rig 3				MOTOR SN:	
% Orienting 0%	WELL #	Westwood Sidetrack 1				675-3180	
% Rotating 0%	TOTAL BIT REVELUTIONS =	#VALUE!				Revs/GAL =	0.283
Total, in hole	Hole size:	Dist. to bit:	Drilling ROP:	Pump Output:	6.78	BHA #	5
Orienting 0%	Bit Hrs: 0.00	Motor Hrs: 181.04	In hole ROP:	Ave Differential:		BIT #	3
Rotating 0%	O Hrs: 99.31	Circ. Hrs: 8.42	Tot. Ft/Mt O: 469	DRILLERS:	B.Fleming	BIT TYPE / MANUF.	
Circulating/Ream. 0%	R Hrs: 61.48	Ream. Hrs: 11.83	Tot. Ft/Mt R: 407		D.Power	Smith	
					N.Clarke		

STT TIME	END TIME	DRLG MINS	START DEPTH	END DEPTH	O R	Drlg CL	Mins CIR	Mins Rm	Hrs Drlg	WOB	TF / RPM	TORQ	LPM GPM	SPM	SPP PSI / KPA OFF	SPP PSI / KPA ON	DIFFL	SVY DPTH	INC	AZIM	TVD	DLS	B/R	BIT INC	BIT TVD	Date	COMMENTS
17:45	17:55	10	815	822	R	7		35	0.75	0/4	50		320	47	750	800	50	SIDETRACK # 1 START								18/12/09	
18:10	18:22	12	822	831	O	9	5		0.12	0/3	350		320	47	750	800	50	SOFT CEMENT									
18:35	19:02	27	831	840	O	9	5		0.37	5/7	300		304	45	700	750	50	801	3.03	19.66							
19:20	19:50	30	840	849	O	9	5		0.42	8/9	300		300	44	700	750	50	813	3.24	20.29							
20:15	0:00	225	849	857	O	8			3.75	0/8	270		257	38	550	625	75	824	3.82	23.86							
0:00	0:40	40	857	859	O	2			0.67	0/10	250		257	38	550	650	100	842.45	4.09	23.79						19/12/09	
1:05	4:03	178	859	868	O	9			2.97	0/10	250		257	38	550	650	100	851.90	3.93	15.30							
4:20	6:46	146	868	877	O	9			2.43	10	250		320	47	800	850	50	860.77	3.78	346.55							
7:07	8:30	83	877	887	R	10	5		1.30	15	50		386	57	1100	1200	100	870.33	3.71	357.51							
8:40	10:10	90	887	896	R	9			1.50	15	50		386	57	1100	1200	100	879.46	6.81	327.95							
10:40	12:15	95	896	906	R	10			1.58	20	60		386	57	1100	1200	100		7.43	333.06							
12:30	13:20	50	906	910	R	4			0.83	20	60		386	57	1100	1200	100	898.87	7.37	331.30							
13:40	14:35	55	910	915	O	5			0.92	18	180		330	49	950	980	30	908.30	7.80	336.87							
14:45	16:45	120	915	925	O	10			2.00	20	180		330	49	980	1030	50	917.79	6.16	351.80							
17:00	18:15	75	925	934	O	9			1.25	20	180		330	49	980	1040	60	927.49	4.31	0.99							
18:40	19:55	75	934	943	R	9	5		1.17	18	60		386	57	1180	1250	70	936.77	3.78	12.61							
20:20	21:30	70	943	953	R	10	20		0.83	18/20	60		386	57	1150	1240	90	946.18	386.00	8.33							
22:04	23:28	84	953	962	O	9	35		0.82	20	90/100L		339	50	850	1050	200										
23:41	0:00	19	962	964	R	2	5		0.23	20	60		386	57	1150	1240	90										
0:00	0:35	35	964	972	R	8	5		0.50	20	60	35	386	57	1150	1240	90									20/12/09	
0:47	2:00	73	972	981	R	9	5		1.13	20	60	35	386	57	1150	1240	90	965.41	5.21	9.49							
2:19	3:30	71	981	991	R	10	20		0.85	20	60	35	386	57	1150	1350	200	975.06	4.99	10.39							
3:45	5:08	83	991	1000	O	9	5		1.30	20	180		386	57	1150	1325	175	984.49	6.01	16.17							
5:21	6:25	64	1000	1009	R	9	5		0.98	20	60	35	386	57	1150	1325	175	993.40	6.85	15.19							
6:36	7:50	74	1009	1019	R	10	5		1.15	20	60	35	386	57	1150	1325	175		7.46	17.67							
8:00	9:40	100	1019	1029	O	10	5		1.58	20	150L		340	50	980	1060	80	1012.49	6.73	10.22							
9:55	11:35	100	1029	1038	O	9	5		1.58	20	160L		367	54	1150	1230	80	1021.33	6.89	11.00							
11:50	13:35	105	1038	1047	O	9	5		1.67	20	180		360	53	1110	1190	80	1030.23	6.09	4.30							
13:55	15:45	110	1047	1055	O	8	5		1.75	20	170L		360	53	1100	1200	100	1049.29	3.69	307.25							
16:10	17:55	105	1055	1065	R	10	5		1.67	20	60	40	386	57	1100	1300	200	1058.72	4.05	234.22							
18:10	19:42	92	1065	1075	R	10	5		1.45	20	60	40	386	57	1100	1300	200	1067.72	4.04	237.53							
20:07	20:30	23	1075	1078	R	3	5		0.30	20	60	50	386	57	1100	1300	200	1076.95	3.62	239.69							
20:40	22:10	90	1078	1084	O	6	5		1.42	20	120R		386	57	1100	1325	225	1086.64	3.12	255.63							
22:15	0:00	105	1084	1093	R	9	5		1.67	20	60	50	386	57	1100	1325	225	1095.77	3.25	250.15							
0:20	2:45	145	1093	1102	O	9	5		2.33	20	360		368	54	1100	1250	150	1076.00	3.62	239.69						21/12/09	
3:00	4:50	110	1102	1112	R	10	5		1.75	20	60	55	368	54	1100	1325	225	1086.00	3.12	255.63							
5:05	7:20	135	1112	1121	O	9	5		2.17	20	150R		368	54	1100	1350	250	1095.77	3.25	250.15							
3:00	3:55	55	1111	1116	R	5			0.92	20	60	50	386	57	1100	1200	100	1098.05	5.20	303.71		Rig depth corrected for				22/12/09	
4:12	5:30	78	1116	1125	R	9			1.30	20	60	50	386	57	1100	1200	100	1007.58	7.34	314.52		missing collar by 10m					
5:45	9:15	210	1125	1135	O	10			3.50	20	170R		386	57	1100	1200	100	1116.70	9.10	319.84		All previous surveys are 10m					
9:40	12:30	170	1135	1145	O	10		15	2.58	25	170R		365	54	1100	1250	150	1126.42	8.71	317.80		to deep.					
13:00	15:10	130	1145	1154	O	9		15	1.92	25	170R		365	54	1100	1250	150	1135.59	6.39	314.77							
15:35	17:30	115	1154	1163	R	9		15	1.67	15/20	60	55	365	54	1100	1280	180		3.29	320.98							
17:50	19:30	100	1163	1172	R	9		15	1.42	15/20	60	55	365	54	1100	1280	180	1154.57	1.58	324.19							
19:50	21:50	120	1172	1182	R	10		15	1.75	15/20	60	55	365	54	1100	1280	180	1164.16	1.74	325.21							
22:08	0:00	112	1182	1191	R	9		15	1.62	15/20	60	55	365	54	1100	1280	180	1173.53	2.13	291.91						23/12/09	
0:39	2:35	116	1191	1201	R	10		10	1.77	15/20	60	55	386	57	1100	1250	150	1182.65	2.87	283.46							
2:53	4:20	87	1201	1207	R	6	5		1.37	20	60	55	386	57	1100	1240	140	1192.28	3.60	279.35							
4:30	5:45	75	1207	1210.5	O	3.5	5		1.17	20	110R		386	57	1150	1300	150	1201.59	4.12	273.45							
6:15	8:00	105	1210.5	1219	O	8.5	5	15	1.42	20	125R		386	57	1200	1300	100	1211.06	3.44	260.38	ched to pump 1 after pump 2 overheated						
9:00	10:40	100	1219	1228	O	9	5	10	1.42	20	120R		386	57	1154	1250	96	1220.63	2.74	214.09							
11:15	13:30	135	1228	1239	R	11	5	10	2.00	15/20	60		386	57	1100	1250	150		4.06	188.67							
14:00	16:20	140	1239	1248	R	9	5	10	2.08	15/20	60		386	57	1100	1250	150	1248.68	3.92	192.53							
16:30	18:00	90	1248	1252	R	4	5	10	1.25	15/20			386	57	1100	1250	150										
18:10	19:15	65	1252	1258	O	6	5	10	0.83	30R			386	57	1140	1280	140										
19:50	0:00	250	1258	1267	O	9	5	15	3.83	30R			386	57	1140	1280	140										
0:40	2:30	110	1267	1276	O	9	5	10	1.83	15/20	30R		386	57	1140	1280	140	1258.16	2.10	201.26						24/12/09	
3:00	5:00	120	1276	1280.5	O	4.5			2.00	15/20	30R		386	57	1140	1280	140	1267.71	0.85	16.45							
5:00	6:15	75	1280.5	1286	R	5.5	5	10	1.00	15/20	60		386	57	1140	1280	140	1277.32	3.43	25.84							
6:45	8:55	130	1286	1298	R	12	5	10	1.92	20	60		386	57	1140	1280	140	1286.79	4.56	19.16							
9:20	10:55	95	1298	1302	O	4	5	10	1.33	20	160R		386	57	1145	1295	150	1296.02	3.00	14.61							
11:20	14:05	165	1302	1315	R	13	5	10	2.50	18	60		386	57	1140	1280	140		1.01	0.92							

14:20	16:36	136	1315	1323	R	8	10	15	1.85	20	60		386	57	1150	1250	100	1314.57	0.78	302.46		
17:01	19:05	124	1323	1332	R	9		10	1.90	18	60		386	57	1150	1270	120	1323.47	1.37	279.94		
19:40	22:30	170	1332	1341	O	9	5	10	2.58	18/20	90R		386	57	1140	1280	140					
22:50	0:00	70	1341	1344	O	3	5	10	0.92	18/20	100R		386	57	1140	1280	140					
0:00	2:30	150	1344	1351	O	7	5	10	1.83	18/20	100R		386	57	1140	1280	140	1333.01	1.02	272.16		25/12/09
2:50	5:07	137	1351	1360	O	9	5	10	2.03	20/25	100R		386	57	1130	1260	130	1341.89	0.74	138.58		
5:35	6:30	55	1360	1361	O	1	5	10	0.67	20/25	90R		386	57	1140	1300	160	1350.99	3.17	119.67		
7:20	9:30	130	1361	1369	O	8	5	10	1.92	20/25	90R		386	57	1150	1310	160	1360.55	5.27	114.05		
10:25	13:04	159	1369	1378	R	9	5	10	2.40	20	60	65	386	57	1200	1330	130	1371.80	6.12	112.01		
13:30	16:25	175	1378	1389	R	11	5	10	2.67	25	58	65	386	57	1200	1335	135				MWD Problems/No detection	
17:10	17:15	5	1389	1390	R	1			0.08	20	60		386	57	1220	1300	80	1381.11	5.05	112.47		26/12/09
17:50	19:00	70	1390	1393	O	3	5	10	0.92	20	60		386	57	1240	1300	60	1390.01	4.95	109.81		
19:20	21:15	115	1393	1398.5	O	5.5	5	10	1.67	12	90L		400	59	1400	1450	50	1399.27	4.23	96.47		
21:15	22:45	90	1398.5	1409	R	10.5	5	10	1.25	15	60		400	59	1400	1450	50					
22:45	0:00	75	1409	1412	O	3	5	10	1.00	15	80L		400	59	1400	1450	50					
0:00	2:00	120	1412	1418	O	6	5	10	1.75	15	80L		386	57	1220	1300	80	1381.11	5.05	112.47		27/12/09
2:00	4:22	142	1418	1422	O	4	5	10	2.12	15	75L		386	57	1240	1300	60	1390.01	4.95	109.81		
4:22	5:00	38	1422	1427	R	5	5	10	0.38	15	60		400	59	1400	1450	50	1399.27	4.23	96.47		
5:00	6:45	105	1427	1437	R	10	5	10	1.50	15	60		400	59	1400	1450	50	1408.81	4.18	72.54		
6:45	8:20	95	1437	1445	R	8	5	10	1.33	15	60		400	59	1400	1450	50	1418.42	5.15	53.27		
8:30	9:15	45	1445	1449	O	4	5	10	0.50	15	180G		380	56	1360	1400	40		5.54	45.78		
9:15	11:00	105	1449	1455	R	6	5	10	1.50	15	60		380	56	1400	1440	40	1436.90	5.42	35.39		
11:20	13:40	140	1455	1464	R	9	5	10	2.08	15	60		376	55	1300	1400	100	1446.25	4.34	13.91		
14:00	16:20	140	1464	1474	R	10	5	10	2.08	15	60		390	58	1300	1400	100	1455.69	4.04	348.78		
17:15	18:30	75	1474	1479	O	5	5	10	1.00	15	110R		365	54	1300	1350	50	1464.90	4.18	336.24		
18:45	20:00	75	1479	1483	O	4	5	10	1.00	15	110R		365	54	1300	1350	50	1474.50	3.36	339.29		
20:15	22:15	120	1483	1492	R	9	5	10	1.75	15	55		365	54	1300	1350	50	1483.85	4.80	337.44		
22:30	0:00	90	1492	1501	O	9	5	10	1.25	15	135R		365	54	1300	1350	50					
0:00	0:30	30	1501	1503	O	2	5	10	0.25	15	135R	0	350	52	1300	1350	50	1483.85	4.80	337.44		28/12/09
0:45	2:30	105	1503	1512	R	9	5	10	1.50	15		5500	350	52	1300	1350	50	1493.44	5.48	326.78		
2:45	3:00	15	1512	1517	O	5		10	0.08	15	180		350	53	1300	1350	50				Lost MWD signal	
3:00	3:15	15	1517	1519	O	2	5	10	0.00	15	55	0	350	52	1300	1350	50	1500.78	5.36	315.25		29/12/09
3:15	5:45	150	1519	1528	R	9	5	10	2.25	15	170R	55	350	52	1300	1350	50	1510.36	6.59	295.23		
6:00	7:45	105	1528	1538	O	10	5	10	1.50	15	180		350	52	1300	1350	50	1519.95	8.60	278.70		
9:10	12:10	180	1538	1548	R	10	5	10	2.75	15	180		360	53	1300	1350	50	1529.57	10.26	268.54		
14:00	16:10	130	1548	1557	O	9	5	10	1.92	15	180		360	53	1300	1350	50	1539.10	11.22	263.69		
16:35	22:00	325	1557	1567	O	10	5	30	4.83	15	170R		370	55	1300	1350	50		11.43	259.53		
22:30	0:00	90	1567	1577	O	10	5	30	0.92	10	170R		370	55	1280	1360	80	1558.28	11.28	258.30		
0:00	2:00	120	1577	1586	O	9	5	10	1.75	20	175R		360	53	1300	1350	50	1567.83	10.77	260.43		30/12/09
2:15	4:00	105	1586	1596	O	10	5	10	1.50	20	175R		360	53	1300	1350	50	1576.96	10.41	262.89		
4:15	6:15	120	1596	1604	O	8	5	10	1.75	20	175R		360	53	1300	1350	50	POOH to change BHA				
1:10	3:45	155	1604	1612.5	O	8.5	5		2.50	20	90R		394	58	1280	1400	120	1596.16	13.13	266.31		31/12/09
4:15	7:10	175	1612.5	1622	O	9.5	5		2.83	20	90R		394	58	1250	1360	110	1605.77	14.16	269.52		
8:30	11:30	180	1622	1632	O	10	5		2.92	20	90R		370	56	1250	1350	100	1615.33	15.82	280.80		
11:15	15:00	225	1632	1642	O	10	5		3.67	20	90R		370	55	1250	1350	100	1624.76	17.54	290.14		
15:00	16:00	60	1642	1644	R	2	5		0.92	20	45	4500	370	55	1250	1350	100					
16:00	18:30	150	1644	1651	O	7	5		2.42	20	110R		370	55	1250	1350	100		19.58	299.24		
18:45	21:45	180	1651	1660	O	9	5		2.92	20	110R		394	58	1250	1350	100					
22:00	0:00	120	1660	1665	O	5	5		1.92	20	110R		394	58	1250	1350	100					
0:00	0:55	55	1665	1669	O	4	5		0.83	15/20	110R		360	53	1250	1350	100					1/1/2010
1:15	5:00	225	1669	1679	O	10	5		3.67	15/20	110R		360	53	1250	1350	100				TD 1679 M	

8 Weatherford Directional Drilling Observations

Disappointments:

None. The tools performed as expected for the entirety of the well.

Recommendations for Improvement:

The Hunt Rig # 3 was not set up for directional work. Pumps were sub standard, the drill string needed to be cleaned and the table was difficult to orientate accurately. The rig was at its limits drilling 1700m and needs considerable maintenance work to be considered for further use in directional wells.

Recommend two directional drillers to be on site at all times, when we are required to slide. Due to the need to slide as much as we did it became a fatigue management issue that we only had one DD on site for 5 days, while continuously sliding.

Use of 30 degree pulser orifice to overcome signal detection issues associated with rig duplex pumps.

Rig pump selection to allow for greater flow rates.

9 Definitive Survey

Overseas Energy Holdings

Tasmania
Site #1
Westwood-1

Westwood-1

Design: Westwood-1

Standard Survey Report

09 February, 2010

Weatherford International Ltd.

Survey Report

Company:	Overseas Energy Holdings	**Local Co-ordinate Reference:**	Well Westwood-1
Project:	Tasmania	**TVD Reference:**	WELL @ 149.00m (Original Well Elev)
Site:	Site #1	**MD Reference:**	WELL @ 149.00m (Original Well Elev)
Well:	Westwood-1	**North Reference:**	Grid
Wellbore:	Westwood-1	**Survey Calculation Method:**	Minimum Curvature
Design:	Westwood-1	**Database:**	EDM 2003.21 Single User Db

Project Tasmania

Map System:	Universal Transverse Mercator	**System Datum:**	Mean Sea Level
Geo Datum:	WGS 1984		
Map Zone:	Zone 55S (144 E to 150 E)		

Site Site #1

Site Position:		**Northing:**	5,403,564.16 m	**Latitude:**	41° 31' 10.400 S
From:	Map	**Easting:**	502,867.01 m	**Longitude:**	147° 2' 3.700 E
Position Uncertainty:	0.00 m	**Slot Radius:**	in	**Grid Convergence:**	-0.02 °

Well Westwood-1

Well Position	**+N/-S**	0.00 m	**Northing:**	5,403,564.16 m	**Latitude:**	41° 31' 10.400 S
	+E/-W	0.00 m	**Easting:**	502,867.01 m	**Longitude:**	147° 2' 3.700 E
Position Uncertainty		0.00 m	**Wellhead Elevation:**	m	**Ground Level:**	145.00 m

Wellbore Westwood-1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2009	12/9/2009	13.96	-71.57	61,544

Design Westwood-1

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	766.65

Vertical Section:	Depth From (TVD) (m)	+N/-S (m)	+E/-W (m)	Direction (°)
	0.00	0.00	0.00	346.00

Survey Program Date 2/9/2010

From (m)	To (m)	Survey (Wellbore)	Tool Name	Description
327.02	766.65	Survey #1 (Vertical)	MWD	MWD - Standard
790.68	907.79	Survey #1 (Westwood-1)	MWD	MWD - Standard
917.49	993.03	Survey #2 (Westwood-1)	MWD	MWD - Standard
1,002.49	1,020.23	Survey #3 (Westwood-1)	MWD	MWD - Standard
1,039.29	1,519.95	Survey #4 (Westwood-1)	MWD	MWD - Standard
1,529.57	1,596.16	Survey #5 (Westwood-1)	MWD	MWD - Standard
1,605.77	1,679.00	Survey #6 (Westwood-1)	MWD	MWD - Standard

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	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00
327.02	1.69	81.54	326.97	0.71	4.77	-0.47	0.155	0.16	0.00
362.65	1.76	81.81	362.59	0.86	5.83	-0.57	0.059	0.06	0.23
400.65	1.46	329.20	400.58	1.36	6.16	-0.17	2.119	-0.24	-88.90
438.65	1.32	335.92	438.57	2.18	5.73	0.73	0.169	-0.11	5.31
476.65	1.48	336.45	476.56	3.03	5.36	1.64	0.127	0.13	0.42
512.65	1.79	339.05	512.54	3.98	4.97	2.66	0.266	0.26	2.17

Overseas Energy Holdings
Westwood 1
Hunt Energy – Rig #3

Weatherford International Ltd.

Survey Report

Company:	Overseas Energy Holdings	**Local Co-ordinate Reference:**	Well Westwood-1
Project:	Tasmania	**TVD Reference:**	WELL @ 149.00m (Original Well Elev)
Site:	Site #1	**MD Reference:**	WELL @ 149.00m (Original Well Elev)
Well:	Westwood-1	**North Reference:**	Grid
Wellbore:	Westwood-1	**Survey Calculation Method:**	Minimum Curvature
Design:	Westwood-1	**Database:**	EDM 2003.21 Single User Db

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)
550.65	1.73	348.99	550.52	5.10	4.65	3.82	0.245	-0.05	7.85
625.65	2.14	8.53	625.48	7.59	4.64	6.24	0.308	0.16	7.82
701.65	2.33	14.84	701.42	10.49	5.25	8.91	0.123	0.07	2.49
739.65	2.61	13.37	739.39	12.08	5.65	10.35	0.227	0.22	-1.16
766.65	2.71	18.25	766.36	13.28	5.99	11.44	0.275	0.11	5.43
790.68	3.03	19.66	790.36	14.42	6.38	12.45	0.411	0.40	1.75
803.49	3.24	20.29	803.15	15.08	6.62	13.03	0.498	0.49	1.48
813.92	3.82	23.86	813.56	15.67	6.86	13.55	1.783	1.67	10.27
832.45	4.09	23.79	832.05	16.84	7.38	14.56	0.437	0.44	-0.11
841.90	3.93	15.30	841.47	17.46	7.60	15.10	1.950	-0.51	-26.95
850.77	3.78	346.55	850.32	18.04	7.61	15.66	6.488	-0.51	-97.24
860.33	3.71	357.51	859.86	18.66	7.53	16.28	2.254	-0.22	34.39
879.37	7.43	333.06	878.81	20.37	6.94	18.08	6.826	5.86	-38.52
888.87	7.37	331.30	888.23	21.45	6.37	19.27	0.740	-0.19	-5.56
898.30	7.80	336.87	897.58	22.57	5.83	20.49	2.708	1.37	17.72
907.79	6.16	351.80	907.00	23.67	5.50	21.63	7.690	-5.18	47.20
917.49	4.31	0.99	916.66	24.55	5.43	22.50	6.264	-5.72	28.42
926.77	3.78	12.61	925.92	25.19	5.51	23.11	3.147	-1.71	37.56
936.18	3.80	8.33	935.31	25.80	5.62	23.68	0.904	0.06	-13.65
945.94	3.97	20.30	945.04	26.44	5.78	24.26	2.542	0.52	36.79
955.41	5.21	9.49	954.48	27.17	5.97	24.92	4.773	3.93	-34.24
965.06	4.99	10.39	964.10	28.02	6.12	25.71	0.728	-0.68	2.80
974.49	6.01	16.17	973.48	28.90	6.33	26.51	3.689	3.24	18.39
983.40	6.85	15.19	982.34	29.86	6.60	27.37	2.852	2.83	-3.30
993.03	7.46	17.67	991.89	31.01	6.94	28.41	2.130	1.90	7.73
1,002.49	6.73	10.22	1,001.28	32.14	7.22	29.43	3.720	-2.32	-23.63
1,011.33	6.89	11.00	1,010.06	33.17	7.42	30.39	0.627	0.54	2.65
1,020.23	6.09	4.30	1,018.90	34.16	7.55	31.32	3.709	-2.70	-22.58
1,039.29	4.68	307.25	1,037.89	35.64	7.01	32.89	8.318	-2.22	-89.80
1,057.72	4.04	237.83	1,056.28	35.75	5.86	33.27	8.123	-1.04	-113.00
1,066.95	3.62	239.69	1,065.48	35.43	5.33	33.09	1.423	-1.37	6.05
1,076.64	3.12	255.63	1,075.16	35.21	4.81	33.00	3.273	-1.55	49.35
1,085.77	3.25	250.15	1,084.27	35.06	4.33	32.97	1.087	0.43	-18.01
1,098.05	5.20	303.71	1,096.52	35.25	3.54	33.35	10.222	4.76	130.85
1,107.58	7.34	314.52	1,106.00	35.92	2.75	34.19	7.665	6.74	34.03
1,117.22	9.10	319.84	1,115.54	36.93	1.82	35.40	5.961	5.48	16.56
1,126.42	8.71	317.80	1,124.63	38.01	0.88	36.66	1.636	-1.27	-6.65
1,135.59	6.39	314.77	1,133.72	38.88	0.05	37.71	7.698	-7.59	-9.91
1,144.89	3.29	320.98	1,142.98	39.45	-0.49	38.40	10.127	-10.00	20.03
1,154.57	1.58	324.19	1,152.65	39.78	-0.74	38.77	5.314	-5.30	9.95
1,164.16	1.74	325.21	1,162.24	40.00	-0.90	39.03	0.509	0.50	3.19
1,173.53	2.13	291.91	1,171.60	40.18	-1.14	39.27	3.746	1.25	-106.62
1,182.65	2.87	283.46	1,180.72	40.30	-1.52	39.47	2.713	2.43	-27.80
1,192.28	3.60	279.35	1,190.33	40.41	-2.05	39.70	2.385	2.27	-12.80
1,201.59	4.12	273.45	1,199.62	40.47	-2.68	39.92	2.106	1.68	-19.01
1,211.06	3.44	260.38	1,209.07	40.45	-3.30	40.04	3.464	-2.15	-41.40
1,220.63	2.74	214.09	1,218.63	40.21	-3.71	39.91	7.875	-2.19	-145.11
1,229.59	3.47	189.01	1,227.57	39.76	-3.87	39.52	5.104	2.44	-83.97
1,239.14	4.06	188.67	1,237.10	39.14	-3.97	38.94	1.855	1.85	-1.07
1,248.68	3.92	192.53	1,246.62	38.49	-4.09	38.34	0.952	-0.44	12.14
1,258.16	2.01	201.26	1,256.09	38.02	-4.22	37.91	6.194	-6.04	27.63
1,267.71	0.85	16.45	1,265.64	37.93	-4.26	37.84	8.978	-3.64	550.34
1,277.32	3.43	25.84	1,275.24	38.26	-4.11	38.12	8.101	8.05	29.31
1,286.79	4.56	19.16	1,284.68	38.87	-3.87	38.65	3.866	3.58	-21.16

Weatherford International Ltd.

Survey Report

Company:	Overseas Energy Holdings	**Local Co-ordinate Reference:**	Well Westwood-1
Project:	Tasmania	**TVD Reference:**	WELL @ 149.00m (Original Well Elev)
Site:	Site #1	**MD Reference:**	WELL @ 149.00m (Original Well Elev)
Well:	Westwood-1	**North Reference:**	Grid
Wellbore:	Westwood-1	**Survey Calculation Method:**	Minimum Curvature
Design:	Westwood-1	**Database:**	EDM 2003.21 Single User Db

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)
1,296.02	3.00	14.61	1,293.89	39.45	-3.69	39.17	5.159	-5.07	-14.79
1,314.57	0.78	302.46	1,312.43	39.99	-3.67	39.69	4.624	-3.59	-116.68
1,333.01	1.02	272.16	1,330.87	40.06	-3.94	39.82	0.853	0.39	-49.30
1,341.89	0.74	138.58	1,339.75	40.02	-3.98	39.80	5.477	-0.95	-451.28
1,350.99	3.17	119.67	1,348.85	39.85	-3.72	39.57	8.181	8.01	-62.34
1,360.55	5.28	114.06	1,358.38	39.54	-3.09	39.12	6.739	6.62	-17.60
1,371.80	6.12	112.01	1,369.57	39.11	-2.06	38.44	2.305	2.24	-5.47
1,381.11	5.65	112.47	1,378.83	38.75	-1.18	37.88	1.522	-1.51	1.48
1,390.01	4.95	109.81	1,387.70	38.45	-0.41	37.41	2.500	-2.36	-8.97
1,399.27	4.23	96.47	1,396.93	38.27	0.30	37.06	4.156	-2.33	-43.22
1,408.81	4.18	72.54	1,406.44	38.34	0.98	36.96	5.480	-0.16	-75.25
1,418.42	5.15	53.27	1,416.02	38.70	1.66	37.15	5.712	3.03	-60.16
1,427.26	5.54	45.78	1,424.82	39.24	2.29	37.52	2.710	1.32	-25.42
1,436.90	5.42	35.39	1,434.42	39.93	2.88	38.05	3.106	-0.37	-32.33
1,446.25	4.34	13.91	1,443.74	40.64	3.23	38.65	6.750	-3.47	-68.92
1,455.69	4.04	348.78	1,453.15	41.31	3.25	39.30	5.863	-0.95	-79.86
1,464.90	4.18	336.24	1,462.34	41.93	3.05	39.95	2.957	0.46	-40.85
1,474.50	4.36	339.29	1,471.91	42.60	2.78	40.66	0.905	0.56	9.53
1,483.85	4.80	337.44	1,481.23	43.29	2.50	41.40	1.489	1.41	-5.94
1,493.44	5.48	326.78	1,490.78	44.04	2.10	42.23	3.659	2.13	-33.35
1,500.78	5.36	315.25	1,498.09	44.58	1.66	42.85	4.471	-0.49	-47.13
1,510.34	6.59	295.23	1,507.60	45.13	0.85	43.58	7.536	3.86	-62.82
1,519.95	8.60	278.70	1,517.12	45.47	-0.36	44.21	9.207	6.27	-51.60
1,529.57	10.26	268.54	1,526.62	45.56	-1.92	44.67	7.312	5.18	-31.68
1,539.10	11.17	263.96	1,535.98	45.44	-3.69	44.99	3.921	2.86	-14.42
1,548.71	11.40	259.63	1,545.40	45.17	-5.55	45.18	2.740	0.72	-13.52
1,558.28	11.28	258.30	1,554.79	44.81	-7.40	45.27	0.902	-0.38	-4.17
1,567.83	10.77	260.43	1,564.16	44.48	-9.19	45.38	2.050	-1.60	6.69
1,576.96	11.41	262.89	1,573.12	44.22	-10.93	45.55	2.615	2.10	8.08
1,586.13	12.25	265.84	1,582.10	44.04	-12.80	45.83	3.385	2.75	9.65
1,596.16	13.13	266.31	1,591.88	43.89	-15.00	46.21	2.650	2.63	1.41
1,598.88	13.42	267.27	1,594.53	43.85	-15.62	46.33	3.990	3.17	10.56
Target									
1,605.77	14.16	269.52	1,601.22	43.81	-17.26	46.68	3.990	3.23	9.81
1,615.33	15.82	280.80	1,610.46	44.04	-19.71	47.50	10.510	5.21	35.40
1,624.76	17.54	290.14	1,619.49	44.77	-22.31	48.84	10.116	5.47	29.71
1,634.61	19.58	299.24	1,628.83	46.09	-25.14	50.81	10.773	6.21	27.72
1,644.04	21.26	306.36	1,637.67	47.88	-27.90	53.21	9.532	5.34	22.65
1,653.37	22.09	312.83	1,646.34	50.07	-30.55	55.98	8.129	2.67	20.80
1,662.86	22.46	319.12	1,655.12	52.66	-33.05	59.09	7.624	1.17	19.88
1,679.00	22.46	319.12	1,670.04	57.32	-37.08	64.59	0.000	0.00	0.00

Survey Point at 1679m MD is a Projection

Overseas Energy Holdings
Westwood 1
Hunt Energy – Rig #3

Weatherford International Ltd.

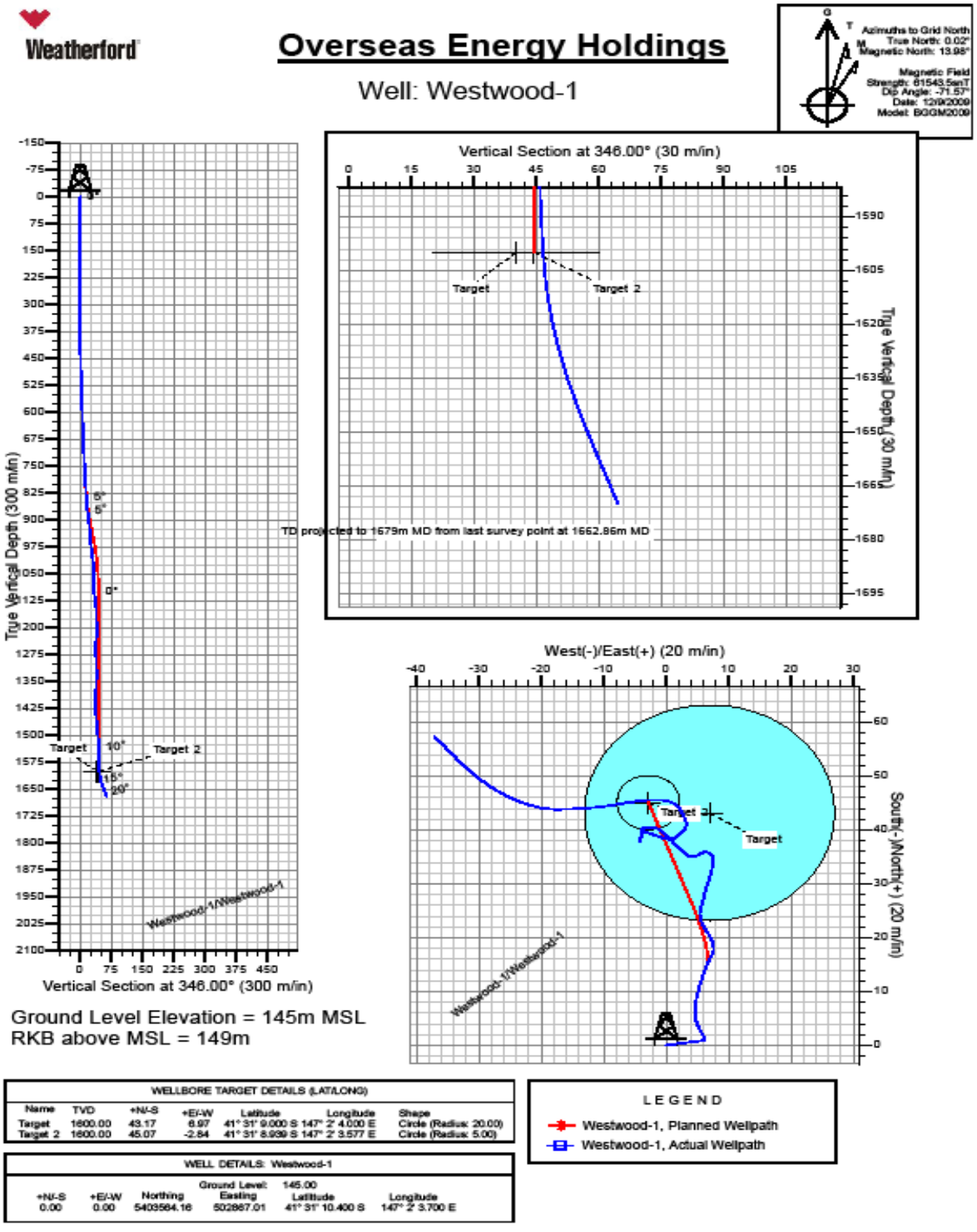
Survey Report

Company:	Overseas Energy Holdings	**Local Co-ordinate Reference:**	Well Westwood-1
Project:	Tasmania	**TVD Reference:**	WELL @ 149.00m (Original Well Elev)
Site:	Site #1	**MD Reference:**	WELL @ 149.00m (Original Well Elev)
Well:	Westwood-1	**North Reference:**	Grid
Wellbore:	Westwood-1	**Survey Calculation Method:**	Minimum Curvature
Design:	Westwood-1	**Database:**	EDM 2003.21 Single User Db

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (m)	+N/-S (m)	+E/-W (m)	Northing (m)	Easting (m)	Latitude	Longitude
Target 2	0.00	360.00	1,600.00	45.07	-2.84	5,403,609.23	502,864.17	41° 31' 8.939 S	147° 2' 3.577 E
- actual wellpath misses target center by 13.76m at 1601.14m MD (1596.73 TVD, 43.83 N, -16.15 E) - Circle (radius 5.00)									
Target	0.00	0.00	1,600.00	43.17	6.97	5,403,607.33	502,873.98	41° 31' 9.000 S	147° 2' 4.000 E
- actual wellpath misses target center by 23.25m at 1598.88m MD (1594.53 TVD, 43.85 N, -15.62 E) - Circle (radius 20.00)									

10 Comparison Plot



11 Daily Activity Reports

Weatherford

Daily Activity Report

Drilling Services

V4.2.28/5

Day 3 - 2009/12/11

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 0.0 | PROGRESS: 0.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 0.0 | AVG. ROP.: 0.0 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-13:30	Wait On Directional Tools	13.50	0	n/a	14:30-17:30	PU Directional Tools	3.00	0	2
13:30-14:30	Other - See Comments - tools arrive on site	1.00	0	n/a	17:30-24:00	Work On MWD	6.50	0	2

TIME SUMMARY (hrs):

MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00		
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	0.00		
MOTOR REAM:	0.00			TRIP:	0.00		
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	24.00		
MOTOR HRS:	0.00	DRILL HRS:	0.00	TOTAL HRS:	24.00		

DRILLING PARAMETERS:

ROTARY TORQUE:		STRING WEIGHT	0
WOB SLIDING (HI):	0	WOB ROTATE (HI):	0
WOB SLIDING (LO):	0	WOB ROTATE (LO):	0
RPM (ROTARY):		DRAG UP:	0
RPM (MOTOR):		DRAG DN:	0

BHA / MOTOR / BIT INFORMATION:

BHA: 2 | HOLE SIZE: 8.5 | SECTION TYPE: Drop & Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-3196 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 0 | MTR HRS TO DATE: 0
MANFCT: Security | BIT TYPE: Tri-Cone Bit | TYPE: EBXS20DSD | NOZZLES: 0.746 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 0 | PRESSURE OFF BTM: 0 | TOTAL FLOW RATE: 0.00

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000

MUD RECORD

MUD TYPE: | VISC: 0 | WTR LOSS: 0 | PV: 0 | YP: 0 | pH: 0
DENSITY: 0 | GEL 0/10: 0.00 | SAND: 0 | SOLIDS: 0 | OIL: 0 | TEMP: 0
LIQUID BASE: | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

Directional and MWD tools arrive at 1330hrs. unload shack and tools. strap assembly and run motor in hole. test motor and orient to muleshoe. waiting while MWD crew ready tools and set up for test.

Weatherford

Daily Activity Report

Drilling Services

V4.2.28/5

Day 4 - 2009/12/12

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 0.0 | PROGRESS: 0.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 0.0 | AVG. ROP.: 0.0 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-05:00	Work On MWD	5.00	0	2	10:45-14:30	Shallow Test Tools - see comments	3.75	0	2
05:00-06:30	Shallow Test Tools - unable to get test	1.50	0	2	14:30-21:00	RIH With Directional	6.50	0	2
06:30-10:45	RIH With Directional	4.25	0	2	21:00-24:00	Orienting With Motor	3.00	0	2

TIME SUMMARY (hrs):

MOTOR DRILL:	3.00	ORIENTING HRS:	3.00	ROTARY DRILL:	0.00	ROTARY TORQUE:	
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	3.00	WOB SLIDING (HI):	25000
MOTOR REAM:	0.00			TRIP:	10.75	WOB SLIDING (LO):	10000
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	10.25	RPM (ROTARY):	
MOTOR HRS:	3.00	DRILL HRS:	3.00	TOTAL HRS:	24.00	RPM (MOTOR):	90.56

DRILLING PARAMETERS:

STRING WEIGHT	98000
WOB ROTATE (HI):	0
WOB ROTATE (LO):	0
DRAG UP:	5000
DRAG DN:	2000

BHA / MOTOR / BIT INFORMATION:

BHA: 2 | HOLE SIZE: 8.5 | SECTION TYPE: Drop & Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-3196 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 3 | MTR HRS TO DATE: 3
MANFCT: Security | BIT TYPE: Tri-Cone Bit | TYPE: EBXS20DSD | NOZZLES: 0.746 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1050 | PRESSURE OFF BTM: 950 | TOTAL FLOW RATE: 324.90

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 58.00	LINER: 5.50	STROKE VOL.:	5.6000
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 40 | WTR LOSS: 1 | PV: 12 | YP: 17 | pH: 9
DENSITY: 9.3 | GEL 0/10: 8.00 | SAND: 0 | SOLIDS: 0 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

MWD could not get a good shallow test due to pump noise. the BHA was tripped in to casing shoe depth and shallow tested again. The pulse was good but could not be fully decoded. help was asked of from Scott Robert in USA. problem was solved after 3 hours. Ran in hole and surveyed hole approx every 2 stands to bottom. on bottom could not get a toolface reading due to excessive noise from the 2 pumps. we required about 450 gpm to get a decent signal and penetration rate but could not attain required flow rate with 2 pumps as they would stall out. we drilled with very reduced flow rate of 320gpm, but signal was good at this rate although penetration rate was low. we had good toolfaces with one pump.

Weatherford

Daily Activity Report

Drilling Services

V4.2.26/5

Day 5 - 2009/12/13

FILE #: 1010101
JOB TYPE:
RIG & NO: Hunt Energy 3

WELL NAME: Westwood # 1
COMPANY: Overseas Energy Holdings
SURFACE LOCATION: Haspden

SERVICE CO.: Precision Energy Services
SURVEY TYPE:
FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0
KB ELEV: 0

START DEPTH: 0.0
END DEPTH: 1073.0

PROGRESS: 1073.0
AVG. ROP.: 62.2

DAILY COST: CAN$0.00
PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS:

(All units are metric.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:00	Orienting With Motor	1.00	1015	2	13:15-14:15	Orienting With Motor	1.00	1064	2
01:00-06:00	Rotating With Motor	5.00	1030	2	14:15-17:15	Rotating With Motor	3.00	1073	2
06:00-08:00	Orienting With Motor	2.00	1038	2	17:15-18:30	Work On MWD	1.25	1073	2
08:00-13:15	Rotating With Motor	5.25	1059	2	18:30-24:00	POOH For EM MWD	5.50	1073	2

TIME SUMMARY (hrs):

MOTOR DRILL:	17.25	ORIENTING HRS:	4.00	ROTARY DRILL:	0.00	TOTAL HRS:	24.00
TIME DRILL:	0.00	ROTATING HRS:	13.25	MOTOR HRS:	17.25		
MOTOR REAM:	0.00			TRIP:	5.50		
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	1.25		
MOTOR HRS:	17.25	DRILL HRS:	17.25				

DRILLING PARAMETERS:

ROTARY TORQUE:	70	STRING WEIGHT	98000
WOB SLIDING (HI):	30000	WOB ROTATE (HI):	25000
WOB SLIDING (LO):	15000	WOB ROTATE (LO):	15000
RPM (ROTARY):	60	DRAG UP:	8000
RPM (MOTOR):	90	DRAG DN:	4000

BHA / MOTOR / BIT INFORMATION:

BHA: 2 — HOLE SIZE: 8.5 — SECTION TYPE: Drop & Hold — SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES — STABILIZER: No — SERIAL#: 675-3196 — MODEL: — LOBE CFG.: 6/7
SETTING: 1.5 — KICKPAD: No — SIZE: 6 3/4" (171mm) — MTR HRS THIS DAY: 17.25 — MTR HRS TO DATE: 20.25
MANFCT: Security — BIT TYPE: Tri-Cone Bit — TYPE: EBXS20DSD — NOZZLES: 0.746 TFA
IADC BIT GRADE: 1 / 1 / NO / A / E / I / NO / DTF

PUMP PARAMETERS

PRESSURE ON BTM: 1200 — PRESSURE OFF BTM: 950 — TOTAL FLOW RATE: 324.90

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 58.00	LINER: 5.50	STROKE VOL.: 5.6000
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000

MUD RECORD

MUD TYPE: Polymer — VISC: 40 — WTR LOSS: 1 — PV: 12 — YP: 17 — pH: 9
DENSITY: 9.2 — GEL 0/10: 8.00 — SAND: 0 — SOLIDS: 0 — OIL: 0 — TEMP: 0
LIQUID BASE: Water — LIQUID RATE: 0 — GAS TYPE: — GAS RATE: 0

COMMENTS:

Still drilling with low flow rate, sliding ok and toolfaces come up enough for us to calculate where the toolface actually is while sliding with different weights.so we don't lose control of the well and keep down time to a minimum. MWD failed at 2pm no toolfaces or surveys were detected. contacted Scott Robert in the USA and after reading the files we sent over adv ised we should try a few procedures and if they failed to POOH and replace tools.POOH for tool replacement.

Weatherford

Daily Activity Report

Drilling Services

V4.2.28r5

Day 6 - 2009/12/14

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1073.0 | PROGRESS: 0.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1073.0 | AVG. ROP.: 0.0 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-02:00	POOH To Check Tools	2.00	1073	2	14:30-15:30	Shallow Test Tools	1.00	1073	3
02:00-07:00	Work On MWD	5.00	1073	2	15:30-18:00	RIH With Directional	2.50	1073	3
07:00-10:30	RIH With Directional	3.50	1073	3	18:00-18:30	Shallow Test Tools	0.50	1073	3
10:30-11:30	Shallow Test Tools	1.00	1073	3	18:30-20:30	RIH With Directional	2.00	1073	3
11:30-13:00	POOH For MWD - no pulse detected	1.50	1073	3	20:30-22:30	Orienting With Motor	2.00	1073	3
13:00-14:30	Work On MWD	1.50	1073	3	22:30-24:00	Rotating With Motor	1.50	1073	3

TIME SUMMARY (hrs):

MOTOR DRILL:	3.50	ORIENTING HRS:	2.00	ROTARY DRILL:	0.00		
TIME DRILL:	0.00	ROTATING HRS:	1.50	MOTOR HRS:	3.50		
MOTOR REAM:	0.00			TRIP:	11.50		
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	9.00		
MOTOR HRS:	3.50	DRILL HRS:	3.50	TOTAL HRS:	24.00		

DRILLING PARAMETERS:

ROTARY TORQUE:	75	STRING WEIGHT	98000
WOB SLIDING (HI):	30000	WOB ROTATE (HI):	25000
WOB SLIDING (LO):	25000	WOB ROTATE (LO):	20000
RPM (ROTARY):	60	DRAG UP:	10000
RPM (MOTOR):	111	DRAG DN:	5000

BHA / MOTOR / BIT INFORMATION:

BHA: 2 | HOLE SIZE: 8.5 | SECTION TYPE: Drop & Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-3196 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 0 | MTR HRS TO DATE: 20.25
MANFCT: Security | BIT TYPE: Tri-Cone Bit | TYPE: EBXS20DSD | NOZZLES: 0.746 TFA
IADC BIT GRADE: 1 / 1 / NO / A / E / I / NO / DTF

BHA: 3 | HOLE SIZE: 8.5 | SECTION TYPE: Drop and Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-3196 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 3.5 | MTR HRS TO DATE: 23.75
MANFCT: Security | BIT TYPE: Tri-Cone Bit | TYPE: EBXS20DSD | NOZZLES: 18, 18, 18, n/a: 0 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1350 | PRESSURE OFF BTM: 1200 | TOTAL FLOW RATE: 393.82

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000		
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 58.00	LINER: 6.00	STROKE VOL.: 6.7900		
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000		

MUD RECORD

MUD TYPE:	Polymer	VISC: 40	WTR LOSS: 1	PV: 12	YP: 17	pH: 9	
DENSITY:	9.2	GEL 0/10: 8.00	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0	
LIQUID BASE:	Water		LIQUID RATE: 0	GAS TYPE:		GAS RATE: 0	

COMMENTS:

POOH with MWD. Changed out tool and RIH for shallow hole test, unable to detect any pulse on #1 pump. #2 pump still being worked on. Pulsator in bad shape. pulled out to check MWD again, changed pulse unit and tested again on surface, it worked ok. Ran in hole for another shallow hole test and tried with #1 pump again, had pulse but pump too noisy, used pump#2 and it worked ok. after the pulsator was repaired on #2 all worked ok. RIH and performed another shallow test at casing shoe. all ok.RIH and continue drilling

Weatherford

Daily Activity Report

Drilling Services

V4.2.25r5

Day 7 - 2009/12/15

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1073.0 | PROGRESS: 134.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1207.0 | AVG. ROP.: 5.7 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-02:00	Rotating With Motor	2.00	1095	3	15:00-15:30	Rig Service	0.50	1160	3
02:00-03:30	Orienting With Motor	1.50	1110	3	15:30-16:45	Orienting With Motor	1.25	1170	3
03:30-04:30	Rotating With Motor	1.00	1114	3	16:45-19:15	Rotating With Motor	2.50	1180	3
04:30-06:15	Rotating With Motor	1.75	1123	3	19:15-20:30	Rotating With Motor	1.25	1188	3
06:15-08:00	Rotating With Motor	1.75	1132	3	20:30-22:00	Orienting With Motor	1.50	1197	3
08:00-09:45	Orienting With Motor	1.75	1140	3	22:00-22:30	Rotating With Motor	0.50	1198.6	3
09:45-10:15	Rotating With Motor	0.50	1142	3	22:30-24:00	Rotating With Motor	1.50	1207	3
10:15-15:00	Rotating With Motor	4.75	1160	3			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	23.50	ORIENTING HRS:	6.00	ROTARY DRILL:	0.00
TIME DRILL:	0.00	ROTATING HRS:	17.50	MOTOR HRS:	23.50
MOTOR REAM:	0.00			TRIP:	0.00
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	0.50
MOTOR HRS:	23.50	DRILL HRS:	23.50	TOTAL HRS:	24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	70	STRING WEIGHT	98
WOB SLIDING (HI):	35000	WOB ROTATE (HI):	25000
WOB SLIDING (LO):	25000	WOB ROTATE (LO):	25000
RPM (ROTARY):	60	DRAG UP:	10000
RPM (MOTOR):	111	DRAG DN:	5000

BHA / MOTOR / BIT INFORMATION:

BHA: 3 | HOLE SIZE: 8.5 | SECTION TYPE: Drop and Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-3196 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 23.5 | MTR HRS TO DATE: 47.25
MANFCT: Security | BIT TYPE: Tri-Cone Bit | TYPE: EBXS20DSD | NOZZLES: 18, 18, 18, n/a: 0 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1350 | PRESSURE OFF BTM: 1200 | TOTAL FLOW RATE: 393.24

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 58.00	LINER: 6.00	STROKE VOL.: 6.7900
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 38 | WTR LOSS: 7.8 | PV: 10 | YP: 10 | pH: 8.5
DENSITY: 9.25 | GEL 0/10: 4.00 | SAND: 0.25 | SOLIDS: 5.9 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

All equipment operating well, sliding ok, toolfaces fairly regular and surveys good. We are orienting at low side at all times but formation reluctant to drop angle, suspect we are drilling an incline. the well is turning left ok, but we reached 7.5 degs inc and is reluctant to drop further. Am sliding an average of 9.5m per 30m.

Weatherford

Daily Activity Report

Drilling Services

V4.2.28r5

Day 8 - 2009/12/16

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1207.0 | PROGRESS: 66.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1273.0 | AVG. ROP.: 7.0 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:30	Rotating With Motor	1.50	1217	3	12:30-17:45	RIH With Directional	5.25	1246	4
01:30-03:00	Orienting With Motor	1.50	1225	3	17:45-18:45	Ream Hole	1.00	1246	4
03:00-04:30	Rotating With Motor	1.50	1236	3	18:45-19:45	Orienting With Motor	1.00	1254	4
04:30-06:00	Rotating With Motor	1.50	1245	3	19:45-20:45	Rotating With Motor	1.00	1254	4
06:00-06:30	Orienting With Motor	0.50	1246	3	20:45-21:45	Rotating With Motor	1.00	1273	4
06:30-07:00	Circulating	0.50	1246	3	21:45-24:00	Back Reaming	2.25	1273	4
07:00-12:30	Change Bit	5.50	1246	4			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	9.50	ORIENTING HRS:	1.00	ROTARY DRILL:	0.00	ROTARY TORQUE:	80
TIME DRILL:	0.00	ROTATING HRS:	2.00	MOTOR HRS:	13.25	WOB SLIDING (HI):	35000
MOTOR REAM:	1.00			TRIP:	5.25	WOB SLIDING (LO):	30000
CIRC:	2.75	ROTARY DRILL:	0.00	OTHER:	5.50	RPM (ROTARY):	60
MOTOR HRS:	13.25	DRILL HRS:	9.50	TOTAL HRS:	24.00	RPM (MOTOR):	111

DRILLING PARAMETERS:

STRING WEIGHT	100000		
WOB ROTATE (HI):	25000		
WOB ROTATE (LO):	20000		
DRAG UP:	30000		
DRAG DN:	5000		

BHA / MOTOR / BIT INFORMATION:

BHA: 3 | HOLE SIZE: 8.5 | SECTION TYPE: Drop and Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: 8 3/8" (213mm) | SERIAL#: 675-3196 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 7 | MTR HRS TO DATE: 54.25
MANFCT: Security | BIT TYPE: Tri-Cone Bit | TYPE: EBXS20DSD | NOZZLES: 0.748 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

BHA: 4 | HOLE SIZE: 8.5 | SECTION TYPE: dROP aND hOLD | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: 8 3/8" (213mm) | SERIAL#: 675-3196 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 6.25 | MTR HRS TO DATE: 60.5
MANFCT: Reed | BIT TYPE: Tri-Cone Bit | TYPE: R30APDH | NOZZLES: 0.748 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1400 | PRESSURE OFF BTM: 1250 | TOTAL FLOW RATE: 393.24

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 6.00	STROKE VOL.: 6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 58.00	LINER: 6.00	STROKE VOL.: 6.7900
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000

MUD RECORD

MUD TYPE:	Polymer	VISC: 38	WTR LOSS: 7.8	PV: 10	YP: 10	pH: 8.5
DENSITY:	9.2	GEL 0/10: 4.00	SAND: 0.25	SOLIDS: 5.9	OIL: 0	TEMP: 0
LIQUID BASE:	Water		LIQUID RATE: 0	GAS TYPE:		GAS RATE: 0

COMMENTS:

Could not hold a toolface at 1245m pressure fluctuating and higher overpull. decision made to pooh and check bit and motor. Changed bit. Motor ok Bearing .97. RIH continue drilling. steering ok. formation continueing to try and build.

Weatherford

Daily Activity Report

Drilling Services

Day 9 - 2009/12/17

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1273.0 | PROGRESS: 53.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1326.0 | AVG. ROP.: 4.9 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-02:00	Orienting With Motor	2.00	1281	4	08:00-11:00	Rotating With Motor	3.00	1326	4
02:00-06:30	Rotating With Motor	4.50	1302	4	11:00-19:00	POOH - See Comments - to set cmt plug	8.00	1326	4
06:30-08:00	Orienting With Motor	1.50	1313	4	19:00-24:00	RIH Open Ended	5.00	1326	n/a

TIME SUMMARY (hrs):

MOTOR DRILL:	11.00	ORIENTING HRS:	3.50	ROTARY DRILL:	0.00	ROTARY DRILL:	0.00
TIME DRILL:	0.00	ROTATING HRS:	7.50	MOTOR HRS:	11.00		
MOTOR REAM:	0.00			TRIP:	13.00		
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	0.00		
MOTOR HRS:	11.00	DRILL HRS:	11.00	TOTAL HRS:	24.00		

DRILLING PARAMETERS:

ROTARY TORQUE:	80	STRING WEIGHT	100000
WOB SLIDING (HI):	35000	WOB ROTATE (HI):	25000
WOB SLIDING (LO):	25000	WOB ROTATE (LO):	20000
RPM (ROTARY):	60	DRAG UP:	40000
RPM (MOTOR):	111	DRAG DN:	5000

BHA / MOTOR / BIT INFORMATION:

BHA: 4 | HOLE SIZE: 8.5 | SECTION TYPE: Drop & Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: 8 3/8" (213mm) | SERIAL#: 675-3186 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 11 | MTR HRS TO DATE: 71.5
MANFCT: Reed | BIT TYPE: Tri-Cone Bit | TYPE: R30APDH | NOZZLES: 0.746 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1450 | PRESSURE OFF BTM: 1250 | TOTAL FLOW RATE: 393.24

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 6.00	STROKE VOL.:	6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 58.00	LINER: 6.00	STROKE VOL.:	6.7900
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000

MUD RECORD

MUD TYPE:	Polymer	VISC:	38	WTR LOSS:	7.8	PV: 10	YP: 10	pH: 8.5
DENSITY:	9.2	GEL 0/10:	4.00	SAND:	0.25	SOLIDS: 5.9	OIL: 0	TEMP: 0
LIQUID BASE:	Water			LIQUID RATE:	0	GAS TYPE:		GAS RATE: 0

COMMENTS:

Having difficulty steering the well down. we are orienting 180 degs lowside but angle still increasing and now direction has locked in at approx 267 az. we discussed problem with client, and gave them a proposal for a sidetrack at 914m direct to the target. this was accepted and we are POOH to set a cement plug.

Weatherford

Daily Activity Report

Drilling Services

Day 10 - 2009/12/18

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Hasporden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming, Dan Power
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1326.0 | PROGRESS: 0.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 839.0 | AVG. ROP.: 0.0 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-07:00	Wait On Cement	7.00	804	n/a	13:30-16:00	Lay Down Drill Pipe	2.50	804	5
07:00-09:00	POOH - See Comments - To pick up Assy 5	2.00	804	5	16:00-17:30	RIH	1.50	804	5
09:00-10:00	Handle Directional Tools	1.00	804	5	17:30-20:00	Control Drill	2.50	839	5
10:00-13:30	RIH With Directional	3.50	804	5	20:00-24:00	Time Drill	4.00	839	5

TIME SUMMARY (hrs):

MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00	ROTARY TORQUE:	
TIME DRILL:	6.50	ROTATING HRS:	0.00	MOTOR HRS:	6.50	WOB SLIDING (HI):	0
MOTOR REAM:	0.00			TRIP:	9.50	WOB SLIDING (LO):	0
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	8.00	RPM (ROTARY):	
MOTOR HRS:	6.50	DRILL HRS:	0.00	TOTAL HRS:	24.00	RPM (MOTOR):	

DRILLING PARAMETERS:

STRING WEIGHT	0		
WOB ROTATE (HI):	0		
WOB ROTATE (LO):	0		
DRAG UP:	0		
DRAG DN:	0		

BHA / MOTOR / BIT INFORMATION:

BHA: 5 | HOLE SIZE: 8.5 | SECTION TYPE: Build And drop | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-3196 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 6.5 | MTR HRS TO DATE: 78
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: FH30 | NOZZLES: 0.92 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 0 | PRESSURE OFF BTM: 0 | TOTAL FLOW RATE: 257.64

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 39.00	LINER: 6.00	STROKE VOL.: 6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 6.00	STROKE VOL.: 6.7900
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 38 | WTR LOSS: 7.8 | PV: 10 | YP: 10 | pH: 8.5
DENSITY: 9.2 | GEL 0/10: 4.00 | SAND: 0.25 | SOLIDS: 5.9 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

Dan power arrived on site PM. attempt to sidetrack off cement plug. cement supposed to be at 804m could not carry weight until 821m, tried to carry weight from 821 to 849m but was drilling very quickly. started time drilling from 849m. we are not sure how much cement remains in hole, so do not want to risk running out of plug.

Weatherford

Daily Activity Report

Drilling Services
V4.2.26/5

Day 11 - 2009/12/19

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming, Dan Power
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 939.0 | PROGRESS: 125.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 964.0 | AVG. ROP.: 7.3 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-06:45	Time Drill	6.75	877	5	20:00-21:30	Rotating With Motor	1.50	953	5
06:45-12:15	Rotating With Motor	5.50	906	5	21:30-23:30	Orienting With Motor	2.00	962	5
12:15-18:15	Orienting With Motor	6.00	934	5	23:30-24:00	Rotating With Motor	0.50	964	5
18:15-20:00	Rotating With Motor	1.75	943	5			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	17.25		
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	0.00		
MOTOR REAM:	0.00			TRIP:	0.00		
CIRC:	0.00	ROTARY DRILL:	17.25	OTHER:	6.75		
MOTOR HRS:	0.00	DRILL HRS:	17.25	TOTAL HRS:	24.00		

DRILLING PARAMETERS:

ROTARY TORQUE:	70	STRING WEIGHT	78000
WOB SLIDING (HI):	20000	WOB ROTATE (HI):	20000
WOB SLIDING (LO):	15000	WOB ROTATE (LO):	15000
RPM (ROTARY):	60	DRAG UP:	5000
RPM (MOTOR):	110	DRAG DN:	2000

BHA / MOTOR / BIT INFORMATION:

BHA: 5 | HOLE SIZE: 8.5 | SECTION TYPE: Build And drop | SURVEY TYPE: Positive Pulse MWD
MANFCT.: n/a | STABILIZER: n/a | SERIAL#: n/a | MODEL: n/a | LOBE CFG.: n/a
SETTING: n/a | KICKPAD: n/a | SIZE: n/a | MTR HRS THIS DAY: 0 | MTR HRS TO DATE: 0
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: FH30 | NOZZLES: 0.92 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1250 | PRESSURE OFF BTM: 550 | TOTAL FLOW RATE: 396.46

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 6.00	STROKE VOL.:	6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 57.00	LINER: 6.00	STROKE VOL.:	6.7900
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 38 | WTR LOSS: 7.8 | PV: 10 | YP: 10 | pH: 8.5
DENSITY: 9.2 | GEL 0/10: 4.00 | SAND: 0.25 | SOLIDS: 5.9 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

Continued Time drilling to 877m. sample cement still showing fairly soft, survey taken at 851.9 showed a definite change in azimuth to 15 az from 26 az in original hole and a one degree drop in inc. samples did not clean up until 960m. rotated one single to confirm sidetrack. drilled ahead. formation still building in rotary. slid down to arrest same. have good control so far.

Weatherford

Daily Activity Report

Drilling Services

Day 12 - 2009/12/20

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Hasporden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming, Dan Power
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 964.0 | PROGRESS: 129.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1093.0 | AVG. ROP.: 5.7 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:30	Rotating With Motor	0.50	972	5	06:30-07:45	Rotating With Motor	1.25	1019	5
00:30-02:00	Rotating With Motor	1.50	981	5	07:45-16:00	Orienting With Motor	8.25	1055	5
02:00-02:15	Circulating - See Comments - survey	0.25	981	5	16:00-17:45	Rotating With Motor	1.75	1065	5
02:15-03:30	Rotating With Motor	1.25	991	5	17:45-19:45	Rotating With Motor	2.00	1075	5
03:30-04:45	Circ & Accumulate Surveys	1.25	991	5	19:45-20:30	Rotating With Motor	0.75	1078	5
04:45-05:15	Orienting With Motor	0.50	1000	5	20:30-22:15	Orienting With Motor	1.75	1084	5
05:15-06:30	Rotating With Motor	1.25	1009	5	22:15-24:00	Rotating With Motor	1.75	1093	5

TIME SUMMARY (hrs):

MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	22.50		
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	0.00		
MOTOR REAM:	0.00			TRIP:	0.00		
CIRC:	0.00	ROTARY DRILL:	22.50	OTHER:	1.50		
MOTOR HRS:	0.00	DRILL HRS:	22.50	TOTAL HRS:	24.00		

DRILLING PARAMETERS:

ROTARY TORQUE:	25	STRING WEIGHT	78000
WOB SLIDING (HI):	20000	WOB ROTATE (HI):	20000
WOB SLIDING (LO):	15000	WOB ROTATE (LO):	15000
RPM (ROTARY):	60	DRAG UP:	7000
RPM (MOTOR):	109	DRAG DN:	2000

BHA / MOTOR / BIT INFORMATION:

BHA: 5 | HOLE SIZE: 8.5 | SECTION TYPE: Build And drop | SURVEY TYPE: Positive Pulse MWD
MANFCT.: n/a | STABILIZER: n/a | SERIAL#: n/a | MODEL: n/a | LOBE CFG.: n/a
SETTING: n/a | KICKPAD: n/a | SIZE: n/a | MTR HRS THIS DAY: 0 | MTR HRS TO DATE: 0
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: FH30 | NOZZLES: 0.92 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1325 | PRESSURE OFF BTM: 1150 | TOTAL FLOW RATE: 396.46

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 6.00	STROKE VOL.: 6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 57.00	LINER: 6.00	STROKE VOL.: 6.7900
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 38 | WTR LOSS: 7.8 | PV: 10 | YP: 10 | pH: 8.5
DENSITY: 9.2 | GEL 0/10: 4.00 | SAND: 0.25 | SOLIDS: 5.9 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

The object now is to keep the hole as close to the centre of the target until the supposed target depth of 1600m. this requires us to use the low angle in the hole and slowly spiral about its axis. this action keeps us within about 7m from the centre of target. If the client changes the target depth we are in a position to build angle and attain the centre position. this will require a lot of sliding. What we are trying to do has been explained to the company representative Tim Franklin and he approves.

Weatherford

Daily Activity Report

Drilling Services

Day 13 - 2009/12/21

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Bob Fleming, Dan Power
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1093.0 | PROGRESS: 28.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1121.0 | AVG. ROP.: 3.7 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-02:45	Orienting With Motor	2.75	1102	5	16:00-16:30	Other - See Comments - Test motor & Orient	0.50	1121	6
02:45-04:45	Rotating With Motor	2.00	1112	5	16:30-17:00	Shallow Test Tools	0.50	1121	6
04:45-07:30	Orienting With Motor	2.75	1121	5	17:00-20:00	RIH With New BHA	3.00	1121	6
07:30-08:00	Circ & Condition Hole	0.50	1121	5	20:00-21:30	Pressure Test - BOP's	1.50	1121	6
08:00-11:00	POOH To Change BHA	3.00	1121	5	21:30-22:30	Slip And Cut	1.00	1121	6
11:00-13:30	Change Bit And Motor - LO motor BO stab	2.50	1121	5	22:30-24:00	RIH With New BHA	1.50	1121	6
13:30-16:00	RIH With New BHA - PU SS & RR	2.50	1121	6			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	7.50	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	8.00
MOTOR REAM:	0.00			TRIP:	10.00
CIRC:	0.50	ROTARY DRILL:	0.00	OTHER:	6.00
MOTOR HRS:	8.00	DRILL HRS:	7.50	TOTAL HRS:	24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	55	STRING WEIGHT	98000
WOB SLIDING (HI):	20000	WOB ROTATE (HI):	20000
WOB SLIDING (LO):	20000	WOB ROTATE (LO):	20000
RPM (ROTARY):	60	DRAG UP:	105000
RPM (MOTOR):	111	DRAG DN:	95000

BHA / MOTOR / BIT INFORMATION:

BHA: 5 | HOLE SIZE: 8.5 | SECTION TYPE: Build And drop | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-3196 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 8 | MTR HRS TO DATE: 134
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: FH30 | NOZZLES: 0.92 TFA
IADC BIT GRADE: 2 / 2 / NO / A / E / I / NO / DMF

BHA: 6 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-2600 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 0 | MTR HRS TO DATE: 0
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: PJ4480 | NOZZLES: 0.748 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1350 | PRESSURE OFF BTM: 1100 | TOTAL FLOW RATE: 396.46

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 57.00	LINER: 6.00	STROKE VOL.: 6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 6.00	STROKE VOL.: 6.7900
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 44 | WTR LOSS: 6.8 | PV: 19 | YP: 16 | pH: 10.5
DENSITY: 9.3 | GEL 0/10: 4.00 | SAND: 0.25 | SOLIDS: 6.1 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

Bob Fleming left on annual leave 1330hrs. Continued to drill ahead with low angle attempting to spiral into target. Pressure spikes experienced @ 1110-1120m. Decision made to pull out of hole and pick up new motor. POOH, motor bearing measured 5.2mm laid out motor and picked up new BHA 6. RIH and test motor, MWD. Ran in to casing shoe. BOP test and slip and cut. Pulse test out of casing, continued running in hole.

Weatherford

Daily Activity Report

Drilling Services

V4.2.26/5

Day 14 - 2009/12/22

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1121.0 | PROGRESS: 70.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1191.0 | AVG. ROP.: 3.3 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-03:00	RIH With New BHA	3.00	1112	6	05:30-15:15	Orienting With Motor	9.75	1154	6
03:00-05:30	Rotating With Motor	2.50	1125	6	15:15-24:00	Rotating With Motor	8.75	1191	6

TIME SUMMARY (hrs):

MOTOR DRILL:	21.00	ORIENTING HRS:	9.75	ROTARY DRILL:	0.00	ROTARY TORQUE:	55
TIME DRILL:	0.00	ROTATING HRS:	11.25	MOTOR HRS:	21.00	WOB SLIDING (HI):	25000
MOTOR REAM:	0.00			TRIP:	3.00	WOB SLIDING (LO):	20000
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	0.00	RPM (ROTARY):	60
MOTOR HRS:	21.00	DRILL HRS:	21.00	TOTAL HRS:	24.00	RPM (MOTOR):	111

DRILLING PARAMETERS:

STRING WEIGHT	86		
WOB ROTATE (HI):	20000		
WOB ROTATE (LO):	20000		
DRAG UP:	97		
DRAG DN:	75		

BHA / MOTOR / BIT INFORMATION:

BHA: 6 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-2600 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 21 | MTR HRS TO DATE: 21
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: PJ4480 | NOZZLES: 0.746 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1300 | PRESSURE OFF BTM: 1100 | TOTAL FLOW RATE: 396.46

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 57.00	LINER: 6.00	STROKE VOL.:	6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 45 | WTR LOSS: 6.3 | PV: 21 | YP: 17 | pH: 10.5
DENSITY: 9.3 | GEL 0/10: 4.00 | SAND: 0.25 | SOLIDS: 6.1 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

Continued to RIH. Took two check shots for last two singles to test MWD. Depth correction of -10m was made for missing collar from rig count. Drilled depth corrected to 1111m. Inc angle was building quickly from rotation with previous BHA so began sliding to counteract from 1125-1154m. Succeeded in dropping angle to 1.58 degrees @1154.57m. While sliding reamed each Kelly twice. Continued this once we began rotating at 1154m. Rotate to 1191m.

Weatherford

Daily Activity Report

Drilling Services
V4.2.26/5

Day 15 - 2009/12/23

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1191.0 | PROGRESS: 76.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1267.0 | AVG. ROP.: 4.2 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-04:15	Rotating With Motor	4.25	1207	6	10:45-18:00	Rotating With Motor	7.25	1252	6
04:15-10:45	Orienting With Motor	6.50	1228	6	18:00-24:00	Back Reaming	6.00	1267	6

TIME SUMMARY (hrs):

MOTOR DRILL:	18.00	ORIENTING HRS:	6.50	ROTARY DRILL:	0.00	ROTARY TORQUE:	55
TIME DRILL:	0.00	ROTATING HRS:	11.50	MOTOR HRS:	24.00	WOB SLIDING (HI):	20000
MOTOR REAM:	0.00			TRIP:	0.00	WOB SLIDING (LO):	20000
CIRC:	6.00	ROTARY DRILL:	0.00	OTHER:	0.00	RPM (ROTARY):	60
MOTOR HRS:	24.00	DRILL HRS:	18.00	TOTAL HRS:	24.00	RPM (MOTOR):	110

DRILLING PARAMETERS:

STRING WEIGHT	96		
WOB ROTATE (HI):	20000		
WOB ROTATE (LO):	15000		
DRAG UP:	122		
DRAG DN:	80		

BHA / MOTOR / BIT INFORMATION:

BHA: 6 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-2600 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 24 | MTR HRS TO DATE: 45
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: PJ4480 | NOZZLES: 0.746 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1290 | PRESSURE OFF BTM: 1140 | TOTAL FLOW RATE: 396.46

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 57.00	LINER: 6.00	STROKE VOL.:	6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 44 | WTR LOSS: 6.5 | PV: 16 | YP: 21 | pH: 10.5
DENSITY: 9.3 | GEL 0/10: 4.00 | SAND: 0.25 | SOLIDS: 5.9 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

Attempted to drop Inc angle as trend had developed to West in Azimuth. Managed to drop Inc but turned to South. Now trying to drop angle Inc again and head to target. Torque is up when we rotate and ream down.

Weatherford

Daily Activity Report

Drilling Services

V4.2.26/5

Day 16 - 2009/12/24

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1267.0 | PROGRESS: 65.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1332.0 | AVG. ROP.: 2.7 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-05:00	Orienting With Motor	5.00	1280.5	6	11:00-19:00	Rotating With Motor	8.00	1332	6
05:00-09:00	Rotating With Motor	4.00	1298	6	19:00-24:00	Orienting With Motor	5.00	1332	6
09:00-11:00	Orienting With Motor	2.00	1302	6			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	24.00	ORIENTING HRS:	12.00	ROTARY DRILL:	0.00
TIME DRILL:	0.00	ROTATING HRS:	12.00	MOTOR HRS:	24.00
MOTOR REAM:	0.00			TRIP:	0.00
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	0.00
MOTOR HRS:	24.00	DRILL HRS:	24.00	TOTAL HRS:	24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	65	STRING WEIGHT	100
WOB SLIDING (HI):	25000	WOB ROTATE (HI):	25000
WOB SLIDING (LO):	15000	WOB ROTATE (LO):	15000
RPM (ROTARY):	60	DRAG UP:	129
RPM (MOTOR):	110	DRAG DN:	84

BHA / MOTOR / BIT INFORMATION:

BHA: 6 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-2600 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 24 | MTR HRS TO DATE: 69
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: PJ4480 | NOZZLES: 0.746 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1290 | PRESSURE OFF BTM: 1140 | TOTAL FLOW RATE: 396.46

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 57.00	LINER: 6.00	STROKE VOL.: 6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 41 | WTR LOSS: 6.5 | PV: 15 | YP: 17 | pH: 10.5
DENSITY: 9.25 | GEL 0/10: 4.00 | SAND: 0.25 | SOLIDS: 5.9 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

Managed to flip hole underneath itself and slid towards target. Under rotation dropping Inc angle and turning to the left (West)on Azi.

Weatherford

Daily Activity Report

Drilling Services

V4.2.28/5

Day 17 - 2009/12/25

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power, Ned Clark
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1332.0 | PROGRESS: 59.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1391.0 | AVG. ROP.: 4.1 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-09:30	Orienting With Motor	9.50	1369	6	17:30-18:30	Other - See Comments - Spot 10BBLs at MWD	1.00	1391	6
09:30-14:30	Rotating With Motor	5.00	1391	6	18:30-24:00	POOH For MWD - MWD non functional.	5.50	1391	6
14:30-17:30	Other - See Comments - Unable to Svy. MWD n	3.00	1391	6			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	14.50	ORIENTING HRS:	9.50	ROTARY DRILL:	0.00	ROTARY TORQUE:	65
TIME DRILL:	0.00	ROTATING HRS:	5.00	MOTOR HRS:	14.50	WOB SLIDING (HI):	25000
MOTOR REAM:	0.00			TRIP:	5.50	WOB SLIDING (LO):	18000
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	4.00	RPM (ROTARY):	60
MOTOR HRS:	14.50	DRILL HRS:	14.50	TOTAL HRS:	24.00	RPM (MOTOR):	110

DRILLING PARAMETERS:

STRING WEIGHT	0		
WOB ROTATE (HI):	25000		
WOB ROTATE (LO):	19000		
DRAG UP:	0		
DRAG DN:	0		

BHA / MOTOR / BIT INFORMATION:

BHA: 6 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: 8 3/8" (213mm) | SERIAL#: 675-2600 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 14.5 | MTR HRS TO DATE: 83.5
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: PJ4480 | NOZZLES: 0.746 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1290 | PRESSURE OFF BTM: 1140 | TOTAL FLOW RATE: 396.46

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 57.00	LINER: 6.00	STROKE VOL.:	6.7800
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 41 | WTR LOSS: 6.5 | PV: 15 | YP: 17 | pH: 10.5
DENSITY: 9.25 | GEL 0/10: 4.00 | SAND: 0.25 | SOLIDS: 5.9 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

New DD Ned Clarke arrives on site. Sliding @90 R to build angle slid 4 singles and turned hole to the East then began rotating. Detection problems with MWD tool trouble shoot, then decision made with comppany man to pull out of hole.

Weatherford

Daily Activity Report

Drilling Services

Day 18 - 2009/12/26

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power, Ned Clark
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1391.0 | PROGRESS: 21.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1412.0 | AVG. ROP.: 3.0 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-02:00	POOH For EM MWD	2.00	1391	7	16:30-17:00	EM MWD Surveys - Check Shot	0.50	1391	7
02:00-06:00	Other - See Comments - Service Mule Shoe	4.00	1391	7	17:00-17:15	Rotating With Motor	0.25	1391	7
06:00-07:15	Other - See Comments - Change bit Ori sub	1.25	1391	7	17:15-19:15	Rotary Drill	2.00	1391	7
07:15-09:45	Work On EM MWD - Assemble new tool	2.50	1391	7	19:15-21:15	Orienting With Motor - 80 deg Left	2.00	1398	7
09:45-10:15	RIH With New BHA	0.50	1391	7	21:15-22:45	Rotating With Motor	1.50	1409	7
10:15-10:30	Shallow Pulse Check	0.25	1391	7	22:45-24:00	Orienting With Motor	1.25	1412	7
10:30-16:30	RIH With New BHA	6.00	1391	7			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	5.00	ORIENTING HRS:	3.25	ROTARY DRILL:	2.00		
TIME DRILL:	0.00	ROTATING HRS:	1.75	MOTOR HRS:	5.25		
MOTOR REAM:	0.00			TRIP:	8.50		
CIRC:	0.25	ROTARY DRILL:	2.00	OTHER:	8.25		
MOTOR HRS:	5.25	DRILL HRS:	7.00	TOTAL HRS:	24.00		

DRILLING PARAMETERS:

ROTARY TORQUE:	50000	STRING WEIGHT	100000
WOB SLIDING (HI):	15000	WOB ROTATE (HI):	15000
WOB SLIDING (LO):	15000	WOB ROTATE (LO):	15000
RPM (ROTARY):	60	DRAG UP:	120000
RPM (MOTOR):	110	DRAG DN:	80000

BHA / MOTOR / BIT INFORMATION:

BHA: 7 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: 8 3/8" (213mm) | SERIAL#: 675-2600 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 5.25 | MTR HRS TO DATE: 88.75
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: GF150DPS | NOZZLES: 0.746 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1450 | PRESSURE OFF BTM: 1400 | TOTAL FLOW RATE: 396.46

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 57.00	LINER: 6.00	STROKE VOL.:	6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 41 | WTR LOSS: 6.5 | PV: 16 | YP: 19 | pH: 10.5
DENSITY: 9.35 | GEL 0/10: 4.00 | SAND: 0.1 | SOLIDS: 6.6 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

Continue POOH. Couldn't get grubscrew and locking nut out of muleshoe. Changed bit and Ori sub laid out 4 DC's. PU new MWD tool and RIH. Shallow pulse test and check shots off bottom. Survey @ 1391m and continued drilling. Survey showed 6.12 Inc and 112 Azi. Slide for correct Azi to the left and turned very quickly! 15degrees on slide and another 24 degrees on next kelly whith was rotated! Suggests that ground pulls to the left.

Weatherford

Daily Activity Report

Drilling Services
V4.2.28/5

Day 19 - 2009/12/27

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power, Ned Clark
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1412.0 | PROGRESS: 89.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1501.0 | AVG. ROP.: 3.9 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:30	Orienting With Motor - Steer 80 degs Left	1.50	1412	7	16:15-16:30	Rig Service	0.25	1474	7
01:30-04:15	Orienting With Motor - Oriented @75 Left	2.75	1422	7	16:30-20:00	Orienting With Motor - 110 Right	3.50	1483	7
04:15-08:15	Rotating With Motor	4.00	1445	7	20:00-22:15	Rotating With Motor	2.25	1492	7
08:15-09:15	Orienting With Motor - 180	1.00	1449	7	22:15-24:00	Orienting With Motor - 165R	1.75	1501	7
09:15-16:15	Rotating With Motor	7.00	1474	7			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	23.75	ORIENTING HRS:	10.50	ROTARY DRILL:	0.00	MOTOR HRS:	23.75
TIME DRILL:	0.00	ROTATING HRS:	13.25	MOTOR HRS:	23.75	TRIP:	0.00
MOTOR REAM:	0.00			TRIP:	0.00	OTHER:	0.25
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	0.25	TOTAL HRS:	24.00
MOTOR HRS:	23.75	DRILL HRS:	23.75	TOTAL HRS:	24.00		

DRILLING PARAMETERS:

ROTARY TORQUE:	50000 ft lbs	STRING WEIGHT	100000		
WOB SLIDING (HI):	15000	WOB ROTATE (HI):	15000		
WOB SLIDING (LO):	15000	WOB ROTATE (LO):	15000		
RPM (ROTARY):	60	DRAG UP:	140000		
RPM (MOTOR):	110	DRAG DN:	80000		

BHA / MOTOR / BIT INFORMATION:

BHA: 7 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: 8 3/8" (213mm) | SERIAL#: 675-2600 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 23.75 | MTR HRS TO DATE: 112.5
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: GF150DPS | NOZZLES: 0.746 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1350 | PRESSURE OFF BTM: 1300 | TOTAL FLOW RATE: 396.46

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 57.00	LINER: 6.00	STROKE VOL.:	6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 40 | WTR LOSS: 6.4 | PV: 16 | YP: 20 | pH: 10.5
DENSITY: 9.3 | GEL 0/10: 4.00 | SAND: 0.1 | SOLIDS: 6.3 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

Made plan to drop angle out of hole and drill to cross new target line. Azimuth swinging to left so tryed to counteract this by sliding to the right.

Weatherford

Daily Activity Report

Drilling Services
V4.2.28/5

Day 20 - 2009/12/28

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power, Ned Clark
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1501.0 | PROGRESS: 16.2 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1517.2 | AVG. ROP.: 5.4 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:30	Orienting With Motor - 165R	0.50	1503	7	11:45-13:00	Wait On MWD Tools - 1.15 bend LO SS	1.25	517.24	8
00:30-02:30	Rotating With Motor	2.00	1512	7	13:00-14:00	Change MWD - PO MWD Scribe Mtr	1.00	517.24	8
02:30-03:00	Orienting With Motor - Steer at 175R	0.50	517.24	7	14:00-14:15	RIH With New BHA	0.25	517.24	8
03:00-07:00	Other - See Comments - Unable to get MWD TF	4.00	517.24	7	14:15-14:30	Shallow Pulse Check	0.25	517.24	8
07:00-07:30	Circ Bottoms Up	0.50	517.24	7	14:30-15:45	RIH With New BHA	1.25	517.24	8
07:30-10:30	POOH For MWD	3.00	517.24	7	15:45-16:00	Shallow Test Tools	0.25	517.24	8
10:30-11:45	Change MWD	1.25	517.24	7	16:00-24:00	RIH With New BHA	8.00	517.24	8

TIME SUMMARY (hrs):

MOTOR DRILL:	3.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00	TRIP:	12.50
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	3.75	OTHER:	7.75
MOTOR REAM:	0.00						
CIRC:	0.75	ROTARY DRILL:	0.00				
MOTOR HRS:	3.75	DRILL HRS:	3.00	TOTAL HRS:	24.00		

DRILLING PARAMETERS:

ROTARY TORQUE:	5500	STRING WEIGHT	100000		
WOB SLIDING (HI):	15	WOB ROTATE (HI):	15		
WOB SLIDING (LO):	15	WOB ROTATE (LO):	15		
RPM (ROTARY):	55	DRAG UP:	160000		
RPM (MOTOR):	110	DRAG DN:	80000		

BHA / MOTOR / BIT INFORMATION:

BHA: 7 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: 8 3/8" (213mm) | SERIAL#: 675-2600 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 3.5 | MTR HRS TO DATE: 116
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: GF150DPS | NOZZLES: 0.746 TFA
IADC BIT GRADE: 4 / 7 / BT / G / E / I / SD / DTF

BHA: 8 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-2600 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.15 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 0.25 | MTR HRS TO DATE: 116.25
MANFCT: Reed | BIT TYPE: Tri-Cone Bit | TYPE: R30APDH | NOZZLES: 0.746 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1400 | PRESSURE OFF BTM: 1300 | TOTAL FLOW RATE: 396.46

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 57.00	LINER: 6.00	STROKE VOL.: 6.7900		
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000		
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000		

MUD RECORD

MUD TYPE: Polymer | VISC: 40 | WTR LOSS: 6.6 | PV: 16 | YP: 17 | pH: 10
DENSITY: 9.3 | GEL 0/10: 3.00 | SAND: 0.1 | SOLIDS: 6.3 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

Drilling ahead. MWD problems it would not switch from Gravity to Magnetic (Threshold was set at 5 degrees). We were able to continue drilling until 1517.4m when we lost signal and pulses. POOH to change out MWD and BHA.

Weatherford

Daily Activity Report

Drilling Services

Day 21 - 2009/12/29

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power, Ned Clark
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1517.2 | PROGRESS: 60.8 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1578.0 | AVG. ROP.: 3.1 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-03:00	RIH With New BHA	3.00	517.24	8	12:30-14:00	Rig Service - Radiator Overheating	1.50	1548	8
03:00-03:45	Rotating With Motor	0.75	1519	8	14:00-22:00	Orienting With Motor - 180	8.00	1567	8
03:45-05:45	Orienting With Motor - Steer at 175R	2.00	1528	8	22:00-23:30	Orienting With Motor - Steer @ 170R	1.50	1577	8
05:45-12:30	Orienting With Motor - Steer @ 170R	6.75	1548	8	23:30-24:00	Orienting With Motor	0.50	1578	8

TIME SUMMARY (hrs):

MOTOR DRILL:	19.50	ORIENTING HRS:	19.75	ROTARY DRILL:	0.00	ROTARY TORQUE:	3500
TIME DRILL:	0.00	ROTATING HRS:	0.75	MOTOR HRS:	19.50	WOB SLIDING (HI):	17000
MOTOR REAM:	0.00			TRIP:	3.00	WOB SLIDING (LO):	15000
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	1.50	RPM (ROTARY):	50
MOTOR HRS:	19.50	DRILL HRS:	19.50	TOTAL HRS:	24.00	RPM (MOTOR):	110

DRILLING PARAMETERS:

STRING WEIGHT	100000		
WOB ROTATE (HI):	20000		
WOB ROTATE (LO):	10000		
DRAG UP:	160000		
DRAG DN:	80000		

BHA / MOTOR / BIT INFORMATION:

BHA: 8 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-2600 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.15 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 19.5 | MTR HRS TO DATE: 135.75
MANFCT: Reed | BIT TYPE: Tri-Cone Bit | TYPE: R30APDH | NOZZLES: 0.746 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1350 | PRESSURE OFF BTM: 1300 | TOTAL FLOW RATE: 396.46

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 57.00	LINER: 6.00	STROKE VOL.:	6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 42 | WTR LOSS: 6.5 | PV: 17 | YP: 22 | pH: 10.1
DENSITY: 9.3 | GEL 0/10: 4.00 | SAND: 0.1 | SOLIDS: 6.3 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

Continue running in hole with BHA #8. Continue drilling ahead sliding @ 170R every kelly to drop angle in hole. Well continuing to build angle and turn to left.

Weatherford

Daily Activity Report

Drilling Services
V4.2.28/5

Day 22 - 2009/12/30

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power, Ned Clark
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1579.0 | PROGRESS: 26.6 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1604.6 | AVG. ROP.: 3.8 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-02:00	Orienting With Motor - Steer 170R	2.00	1586	8	16:30-17:00	Shallow Pulse Check	0.50	604.57	9
02:00-04:00	Orienting With Motor - Steer at 175R	2.00	1596	8	17:00-17:30	RIH With New BHA	0.50	604.57	9
04:00-07:00	Orienting With Motor	3.00	604.57	8	17:30-18:30	Shallow Pulse Check	1.00	604.57	9
07:00-08:00	Other - See Comments - Fow check	1.00	604.57	8	18:30-19:30	Slip And Cut	1.00	604.57	9
08:00-12:30	POOH To Change BHA	4.50	604.57	8	19:30-24:00	RIH With New BHA	4.50	604.57	9
12:30-16:30	Change Bit And Motor - Set mtr to 1.5	4.00	604.57	9			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	7.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00	ROTARY TORQUE:	3500
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	8.50	WOB SLIDING (HI):	20000
MOTOR REAM:	0.00			TRIP:	9.50	WOB SLIDING (LO):	15000
CIRC:	1.50	ROTARY DRILL:	0.00	OTHER:	6.00	RPM (ROTARY):	
MOTOR HRS:	8.50	DRILL HRS:	7.00	TOTAL HRS:	24.00	RPM (MOTOR):	110

DRILLING PARAMETERS:

STRING WEIGHT	120000		
WOB ROTATE (HI):	0		
WOB ROTATE (LO):	0		
DRAG UP:	195000		
DRAG DN:	90000		

BHA / MOTOR / BIT INFORMATION:

BHA: 8 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: No | SERIAL#: 675-2600 | MODEL: | LOBE CFG.: 6/7
SETTING: 1.15 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 7 | MTR HRS TO DATE: 142.75
MANFCT: Reed | BIT TYPE: Tri-Cone Bit | TYPE: R30APDH | NOZZLES: 0.746 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

BHA: 9 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: 8 3/8" (213mm) | SERIAL#: 675-2355 | MODEL: LE6754 | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 1.5 | MTR HRS TO DATE: 1.5
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: FH30 | NOZZLES: 0.92 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1350 | PRESSURE OFF BTM: 1300 | TOTAL FLOW RATE: 396.46

PUMP 1:	TYPE:	EFF.: 100.0%	SPM: 57.00	LINER: 6.00	STROKE VOL.: 6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000

MUD RECORD

MUD TYPE: Polymer | VISC: 43 | WTR LOSS: 6.8 | PV: 16 | YP: 19 | pH: 9.7
DENSITY: 9.3 | GEL 0/10: 4.00 | SAND: 0.1 | SOLIDS: 6.3 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

Continued to slide to drop inc initially thios seemed to work and we saw some drop and Azi locked in around 265 degrees.

Weatherford

Daily Activity Report

Drilling Services
V4.2.28r5

Day 23 - 2009/12/31

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power, Ned Clark
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1604.6 | PROGRESS: 60.4 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1665.0 | AVG. ROP.: 2.9 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:30	RIH With New BHA	0.50	604.57	9	08:15-11:30	Orienting With Motor - Steer 90 R	3.25	1632	9
00:30-01:15	EM MWD Surveys - Check shots	0.75	604.57	9	11:30-15:00	Orienting With Motor	3.50	1642	9
01:15-07:15	Orienting With Motor - @ 90R	6.00	1622	9	15:00-16:00	Rotating With Motor	1.00	1644	9
07:15-08:15	Ream - See Comments - 220 up / 85 dwn jar'g	1.00	1622	9	16:00-24:00	Orienting With Motor - Steer 110R	8.00	1665	9

TIME SUMMARY (hrs):

MOTOR DRILL:	21.75	ORIENTING HRS:	20.75	ROTARY DRILL:	0.00	ROTARY TORQUE:	4500
TIME DRILL:	0.00	ROTATING HRS:	1.00	MOTOR HRS:	22.75	WOB SLIDING (HI):	20000
MOTOR REAM:	1.00			TRIP:	0.50	WOB SLIDING (LO):	15000
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	0.75	RPM (ROTARY):	45
MOTOR HRS:	22.75	DRILL HRS:	21.75	TOTAL HRS:	24.00	RPM (MOTOR):	110

DRILLING PARAMETERS:

STRING WEIGHT	120		
WOB ROTATE (HI):	20000		
WOB ROTATE (LO):	15000		
DRAG UP:	220		
DRAG DN:	85		

BHA / MOTOR / BIT INFORMATION:

BHA: 9 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: 8 3/8" (213mm) | SERIAL#: 675-2355 | MODEL: LE6754 | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 22.75 | MTR HRS TO DATE: 24.25
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: FH30 | NOZZLES: 0.92 TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 1350 | PRESSURE OFF BTM: 1250 | TOTAL FLOW RATE: 0.00

PUMP 1:	TYPE:	EFF.: 1.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000		
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000		
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000		

MUD RECORD

MUD TYPE: Polymer | VISC: 43 | WTR LOSS: 6.8 | PV: 16 | YP: 19 | pH: 9.7
DENSITY: 9.3 | GEL 0/10: 4.00 | SAND: 0.1 | SOLIDS: 6.3 | OIL: 0 | TEMP: 0
LIQUID BASE: Water | LIQUID RATE: 0 | GAS TYPE: | GAS RATE: 0

COMMENTS:

Last 3 slides we saw started to lift again so decision was made to POOH and change BHA. Dropped out SS and picked up new motor with 1.5 bend. RIH shallow pulse test. Check shots as near bottom. Slide to right to cross target line.

Weatherford

Daily Activity Report

Drilling Services

Day 24 - 2010/01/01

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1665.0 | PROGRESS: 14.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1679.0 | AVG. ROP.: 2.5 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-05:30	Orienting With Motor - TD	5.50	1679	9	13:00-13:30	W/L Surveys & Orienting - Rig up W/L	0.50	1679	9
05:30-06:30	Circ Bottoms Up	1.00	1679	9	13:30-21:00	W/L Surveys & Orienting	7.50	1679	9
06:30-11:00	POOH - See Comments - TD	4.50	1679	9	21:00-22:30	W/L Surveys & Orienting - Rig Down W/L	1.50	1679	9
11:00-12:00	Work On MWD - LO MWD	1.00	1679	9	22:30-23:30	Standby - Waiting on decision	1.00	1679	9
12:00-13:00	Lay Down Directional Tools - LO BHA	1.00	1679	9			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	5.50	ORIENTING HRS:	5.50	ROTARY DRILL:	0.00		
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	6.50		
MOTOR REAM:	0.00			TRIP:	4.50		
CIRC:	1.00	ROTARY DRILL:	0.00	OTHER:	12.50		
MOTOR HRS:	6.50	DRILL HRS:	5.50	TOTAL HRS:	23.50		

DRILLING PARAMETERS:

ROTARY TORQUE:	45	STRING WEIGHT	120
WOB SLIDING (HI):	20000	WOB ROTATE (HI):	20000
WOB SLIDING (LO):	15000	WOB ROTATE (LO):	15000
RPM (ROTARY):	45	DRAG UP:	220
RPM (MOTOR):	110	DRAG DN:	85

BHA / MOTOR / BIT INFORMATION:

BHA: 9 | HOLE SIZE: 8.5 | SECTION TYPE: Hold | SURVEY TYPE: Positive Pulse MWD
MANFCT.: PES | STABILIZER: 8 3/8" (213mm) | SERIAL#: 675-2355 | MODEL: LE6754 | LOBE CFG.: 6/7
SETTING: 1.5 | KICKPAD: No | SIZE: 6 3/4" (171mm) | MTR HRS THIS DAY: 6.5 | MTR HRS TO DATE: 30.75
MANFCT: Smith | BIT TYPE: Tri-Cone Bit | TYPE: FH30 | NOZZLES: 0.92 TFA
IADC BIT GRADE: 5 / 4 / BT / G / E / I / BT / TD

PUMP PARAMETERS

PRESSURE ON BTM: 1350 | PRESSURE OFF BTM: 1250 | TOTAL FLOW RATE: 3.67

PUMP 1:	TYPE:	EFF.: 1.0%	SPM: 57.00	LINER: 6.00	STROKE VOL.: 6.7900
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000

MUD RECORD

MUD TYPE:	Polymer	VISC:	42	WTR LOSS:	6.8	PV:	17	YP:	19	pH:	9.6
DENSITY:	9.3	GEL 0/10:	4.00	SAND:	0.1	SOLIDS:	6.3	OIL:	0	TEMP:	0
LIQUID BASE:	Water			LIQUID RATE:	0	GAS TYPE:				GAS RATE:	0

COMMENTS:

Sliding hard right to cross target line to TD @1679m. Circulate bottoms up. POOH and LO BHA and MWD. Rig up wireline and run. Waiting on client for decision on sidetrack or P&A.

Weatherford

Daily Activity Report

Drilling Services

Day 25 - 2010/01/02

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1679.0 | PROGRESS: 0.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1679.0 | AVG. ROP.: 0.0 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-24:00	Standby	24.00	1679	n/a			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00		
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	0.00		
MOTOR REAM:	0.00			TRIP:	0.00		
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	24.00		
MOTOR HRS:	0.00	DRILL HRS:	0.00	TOTAL HRS:	24.00		

DRILLING PARAMETERS:

ROTARY TORQUE:		STRING WEIGHT	0
WOB SLIDING (HI):	0	WOB ROTATE (HI):	0
WOB SLIDING (LO):	0	WOB ROTATE (LO):	0
RPM (ROTARY):		DRAG UP:	0
RPM (MOTOR):		DRAG DN:	0

BHA / MOTOR / BIT INFORMATION:

BHA:	HOLE SIZE:	SECTION TYPE:	SURVEY TYPE:	
MANFCT.:	STABILIZER:	SERIAL#:	MODEL:	LOBE CFG.:
SETTING:	KICKPAD:	SIZE:	MTR HRS THIS DAY:	MTR HRS TO DATE:
MANFCT:	BIT TYPE:	TYPE:	NOZZLES:	
IADC BIT GRADE:				

PUMP PARAMETERS

PRESSURE ON BTM: 0 | PRESSURE OFF BTM: 0 | TOTAL FLOW RATE: 0.00

PUMP 1:	TYPE:	EFF.: 1.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000	
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000	
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.: 0.0000	

MUD RECORD

MUD TYPE:	VISC: 0	WTR LOSS: 0	PV: 0	YP: 0	pH: 0	
DENSITY: 0	GEL 0/10: 0.00	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0	
LIQUID BASE:		LIQUID RATE: 0	GAS TYPE:		GAS RATE: 0	

COMMENTS:

Standby waiting for decision from client. 3 plugs set @ 840-740m, 540-500m and 370-300m.

Weatherford

Daily Activity Report

Drilling Services
V4.2.25r5

Day 26 - 2010/01/03

FILE #: 1010101 | WELL NAME: Westwood # 1 | SERVICE CO.: Precision Energy Services
JOB TYPE: | COMPANY: Overseas Energy Holdings | SURVEY TYPE:
RIG & NO: Hunt Energy 3 | SURFACE LOCATION: Haspden | FIELD / LOCATION: Westwood / Tasmania / Australia

DIR Supervisor: Dan Power
MWD Supervisor: Clive Pickering, Faheem Khan

GROUND ELEV: 0 | START DEPTH: 1679.0 | PROGRESS: 0.0 | DAILY COST: CAN$0.00
KB ELEV: 0 | END DEPTH: 1679.0 | AVG. ROP.: 0.0 | PREVIOUS COST: CAN$0.00
TOTAL COST: CAN$0.00

WORK STATUS: *(All units are metric.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-24:00	Standby	24.00	1679	n/a			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00		
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	0.00		
MOTOR REAM:	0.00			TRIP:	0.00		
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	24.00		
MOTOR HRS:	0.00	DRILL HRS:	0.00	TOTAL HRS:	24.00		

DRILLING PARAMETERS:

ROTARY TORQUE:		STRING WEIGHT	0
WOB SLIDING (HI):	0	WOB ROTATE (HI):	0
WOB SLIDING (LO):	0	WOB ROTATE (LO):	0
RPM (ROTARY):		DRAG UP:	0
RPM (MOTOR):		DRAG DN:	0

BHA / MOTOR / BIT INFORMATION:

BHA:	HOLE SIZE:	SECTION TYPE:	SURVEY TYPE:	
MANFCT.:	STABILIZER:	SERIAL#:	MODEL:	LOBE CFG.:
SETTING:	KICKPAD:	SIZE:	MTR HRS THIS DAY:	MTR HRS TO DATE:
MANFCT:	BIT TYPE:	TYPE:	NOZZLES:	
IADC BIT GRADE:				

PUMP PARAMETERS

PRESSURE ON BTM: 0 | PRESSURE OFF BTM:0 | TOTAL FLOW RATE: 0.00

PUMP 1:	TYPE:	EFF.: 1.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000
PUMP 2:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000
PUMP 3:	TYPE:	EFF.: 100.0%	SPM: 0.00	LINER: 0.00	STROKE VOL.:	0.0000

MUD RECORD

MUD TYPE:	VISC: 0	WTR LOSS: 0	PV: 0	YP: 0	pH:	0
DENSITY: 0	GEL 0/10: 0.00	SAND: 0	SOLIDS: 0	OIL: 0	TEMP:	0
LIQUID BASE:		LIQUID RATE: 0	GAS TYPE:		GAS RATE:	0

COMMENTS:

Standby waiting on decision from client. At 5pm we were told well was being suspended rig crew were being stood down and we were being released.

12 Weatherford Personnel on Location

Field Engineers	Clive Pickering	LWD/MWD Engineer
	Faheem Khan	LWD/MWD Engineer
	Bob Fleming	Directional Driller
	Dan Power	Directional Driller
	Ned Clarke	Directional Driller

Weatherford International Contact Information

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