**05 Dec 2009**

**From:** Michael Lanzer / Kevin Monkhouse
**To:** Texas Richards

# DRILLING MORNING REPORT # 7
# Rockhopper-1

## Rockhopper-1

| | | | | | |
|---|---|---|---|---|---|
| **Date:** | 05 Dec 2009 | **Well Site Representative:** | Michael Lanzer | **OIM:** | Brian Meechan |
| **Report Number:** | 7 | **Night Representative:** | Kevin Monkhouse | **Drilling Company:** | Maersk |
| **Latitude (South):** | 39 ° 47 ' 34.18 " | **Longitude (East):** | 145 ° 26 ' 21.46 " | **Geologist:** | |

## Well Data

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Country | Australia | MDBRT | 966.0m | Cur. Hole Size | 17.500in | AFE Cost | US$27,409,709 |
| Field | Rockhopper | TVDBRT | 966.0m | Last Casing OD | 13.375in | AFE No. | Rockhopper-1 |
| Drill Co. | Maersk | Progress | 0.0m | Shoe TVDBRT | 961.0m | Daily Cost | US$867,546 |
| Rig | Kan Tan IV | Days from spud | 5.02 | Shoe MDBRT | 961.0m | Cumul. Cost | US$6,258,989 |
| Wtr Dpth(MSL) | 74.3m | Days on well | 6.96 | FIT/LOT: | / | Last LTI Date | 01 Nov 2009 |
| RT-ASL(MSL) | 26.0m | Planned TD MD | 3486.5m | | | Days Since Last LTI | 34 |
| RT-ML | 100.3m | Planned TD TVDRT | 3166.4m | Current Op @ 0600 | Rigging up to run BOPs | | |
| Datum | GDA 94 | Last BOP Test | | Planned Op | Rig up and run BOPs | | |

## Summary of Period 0000 to 2400 Hrs

Ran 13 3/8" casing to 854m. Rigged down casing handling equipment and made up 18 3/4" wellhead assembly. Ran 13 3/8" casing in to 954 m. Made up cement stand. Landed and latched 18 3/4" wellhead in 30" housing. Tested latch with 50klbs overpull. Rigged up and pressure tested surface lines to 3000 psi. Cemented casing with 460bbl 11.5ppg lead slurry and 66.8bbl of 15.8 ppg tail slurry. Displaced with rig pumps and bumped plug with 500 psi above FCP. Pressure tested casing to 2500psi/10 mins with cement unit. Released WHRT.

## HSE Summary

| Events | Num. Events | Days Since | Descr. | Remarks |
|---|---|---|---|---|
| Abandon Drill | 1 | 0 Days | Held abandon drill | Full life boat muster and abandonment drill |
| Emergency Drill | 0 | 31 Days | Full Emergency drill performed | |
| ER Exercises | 0 | 3 Days | | |
| Fire Drill | 0 | 21 Days | Main deck - Fire in Control room | |
| Permit To Work | 15 | 0 Days | Permits administered | |
| Pre-tour Meeting | 2 | 0 Days | Shift change meetings | |
| Safety Meeting | 0 | 4 Days | General safety meetings | |
| Safety Meeting | 15 | 0 Days | Prejob safety meetings | |
| Safety Meeting | 7 | 0 Days | Safety Meetings | |
| STOP Card | 44 | 0 Days | Number of STOP Cards submitted | |

## Operations For Period 0000 Hrs to 2400 Hrs on 05 Dec 2009

| Phse | Cls (RC) | Op | From | To | Hrs | Depth | Activity Description |
|---|---|---|---|---|---|---|---|
| P5 | P | G9 | 0000 | 0130 | 1.50 | 966.0m | Centralised shoe joint to well on guide wires with soft slings and ran 6 joints of 13-3/8" casing to 68m. |
| P5 | TP (WOW) | G25 | 0130 | 0230 | 1.00 | 966.0m | Shut down casing running operations due to wind gust over 30Kts and rig roll of +/-2° (crane limititation). WOW. |
| P5 | P | G9 | 0230 | 0400 | 1.50 | 966.0m | Continued to run 13-3/8" casing from 68m to 9 m. Stabbed into 30" wellhead housing with ROV in situ. Continued to run 13-3/8" casing to 123m filling every joint with 6bbl of seawater (total of 11 joints of casing run). |
| P5 | P | G1 | 0400 | 0600 | 2.00 | 966.0m | Rigged up 500 T elevators and FMS Slips. Rigged up FACL circulating tool to topdrive. |
| P5 | P | G9 | 0600 | 1330 | 7.50 | 966.0m | Ran 13-3/8" casing from 123m to 854m. Filled every joint with 6bbl of seawater (74 jts run). |
| P5 | P | G9 | 1330 | 1400 | 0.50 | 966.0m | Laid out 500 T elvators. Changed handling equipment to 5" DP elevators and installed 18-3/4" wellhead with 13-3/8" extension. Laid out FMS casing slips and changed out bales. Ran 18-3/4" hanger below table. Total 13-3/8" Csg + wellhead weight on MD 320klbs - hole good. |
| P5 | TP (TP) | G1 | 1400 | 1530 | 1.50 | 966.0m | Control line for the elevator spider caught on TDS whilst making up the wellhead and approximately 1-1/2 hrs was lost due to removing the bundle. |
| P5 | P | G9 | 1530 | 1600 | 0.50 | 966.0m | Ran 13-3/8" casing in on 5" HWDP landing string to 954m. |
| P5 | P | G9 | 1600 | 1700 | 1.00 | 966.0m | Picked up cement head stand out of mast and made up to running string. Connected |

| Phse | Cls (RC) | Op | From | To | Hrs | Depth | Activity Description |
|---|---|---|---|---|---|---|---|
| | | | | | | | circulating hose to cement head. RIH and opened heave compensator. Landed 18-3/4" hanger in 30" Wellhead Housing. Total up weight of casing plus running string 350klbs on MD. Slacked off 50klbs down. Confirmed latch with 50klbs overpull to 400klbs MD. Reduced weight to 190klbs. Checked slope indicator - 3/4 deg fwd port - no change. |
| P5 | P | G1 | 1700 | 1800 | 1.00 | 966.0m | Rigged up Haliburton control hoses to cement head. |
| P5 | P | F3 | 1800 | 1830 | 0.50 | 966.0m | Held JSA on cementing operation. Haliburton pumped 10bbls seawater. Pressure tested surface lines to 3000psi for 5mins - ok. Halliburton pumped 30bbl seawater and dropped the ball. Displaced at 1 bbl/min. Bottom plug sheared after 1.8 bbl with 1000 psi. |
| P5 | P | F3 | 1830 | 2130 | 3.00 | 966.0m | Haliburton mixed and pumped 460bbl of 11.5 ppg lead cement slurry (Used: 387bbl seawater mix fluid, 858 sx class G cement. Yield: 18.96 gal/sk - 3.01 Ft3/sk) Halliburton mixed and pumped 66.8bbl of 15.8 ppg tail cement slurry (Used: 39.5bbl fresh water mix, 323 sx class G cement. Yield: 5.12 gal/sk - 1.16 ft3/sk). Halliburton dropped top dart and displaced with 20bbl seawater. Top plug sheared with 250 psi after 3.8bbl pumped. |
| P5 | P | F3 | 2130 | 2230 | 1.00 | 966.0m | Displaced cement with rig pumps at 7 bbl/min slowing down to 2 bbl/min for the last 100 strokes. Plug bumped after 3280 strokes pumped (calculated 3324 strokes). FCP before bump - 430psi. Pressured up to 900psi on bump. Visual indication of cement returns to mudline via ROV. |
| P5 | P | P1 | 2230 | 2330 | 1.00 | 966.0m | Bled pressure off at cement unit to check for back flow. No flow. Lined up cement unit and pressure tested 13-3/8" casing to 2500 psi 10 mins. Bled off pressure. Pumped 4.5bbl and 4.5 BBL returned. |
| P5 | P | G1 | 2330 | 2400 | 0.50 | 966.0m | Haliburton reset valves in cement head and removed control hoses. Rigged down surface line to cement head. Adjusted MD weight to 180klbs to compensate for blocks plus running string weight and released 18-3/4" RT with 4-1/2 turns to the right and picked up clear of well head. |

## Operations For Period 0000 Hrs to 0600 Hrs on 06 Dec 2009

| Phse | Cls (RC) | Op | From | To | Hrs | Depth | Activity Description |
|---|---|---|---|---|---|---|---|
| P5 | P | G8 | 0000 | 0030 | 0.50 | 966.0m | Racked back cement head in mast. POOH with 18-3/8" WHRT. |
| P5 | P | G15 | 0030 | 0100 | 0.50 | 966.0m | Laid out 18-3/4" WHRT assembly (ROV inspected 18-3/4" Wellhead / PGB and seabed). |
| P5 | P | G15 | 0100 | 0300 | 2.00 | 966.0m | Laid out Halliburton cement head and racked back drillpipe stand in mast. |
| P4 | P | G6 | 0300 | 0500 | 2.00 | 966.0m | Laid out 9-1/2" DC, NMHOC and 17-1/2" stabiliser from mast. |
| P5 | P | G1 | 0500 | 0530 | 0.50 | 966.0m | Cleared excess equipment from drillfloor. |
| P6 | P | G13 | 0530 | 0600 | 0.50 | 966.0m | (IN PROGRESS) Rigged up to run riser and BOPs. |

## Operations For Period Hrs to Hrs on

### Phase Data to 2400hrs, 05 Dec 2009

| Phase | Phase Hrs | Start On | Finish On | Cumul. Hrs | Cumul. Days | Max Depth |
|---|---|---|---|---|---|---|
| Mob/Demob(P1) | 23.5 | 29 Nov 2009 | 30 Nov 2009 | 23.50 | 0.979 | 0.0m |
| Conductor Hole(P2) | 33.5 | 30 Nov 2009 | 01 Dec 2009 | 57.00 | 2.375 | 158.0m |
| Conductor Casing(P3) | 19 | 01 Dec 2009 | 02 Dec 2009 | 76.00 | 3.167 | 158.0m |
| Surface Hole(P4) | 63.5 | 02 Dec 2009 | 04 Dec 2009 | 139.50 | 5.813 | 966.0m |
| Surface Casing(P5) | 27.5 | 04 Dec 2009 | 05 Dec 2009 | 167.00 | 6.958 | 966.0m |

### WBM Data

### Cost Today US$ 6091

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Mud Type: | Hi-Vis PHB/Guar gum Sweeps | API FL: | | Cl: | 1400mg/l | Solids(%vol): | |
| | | Filter-Cake: | | K+C*1000: | | H2O: | 96% |
| Sample-From: | PIT 2 | HTHP-FL: | | Hard/Ca: | | Oil(%): | |
| Time: | 2130 | HTHP-cake: | | MBT: | 15 | Sand: | |
| Weight: | 8.80ppg | | | PM: | | pH: | 9 |
| Temp: | | | | PF: | | PHPA: | |

| | |
|---|---|
| Viscosity | 58sec/qt |
| PV | 12cp |
| YP | 36lb/100ft² |
| Gels 10s | 10 |
| Gels 10m | 16 |
| Fann 003 | 14 |
| Fann 006 | 16 |
| Fann 100 | 5 |
| Fann 200 | 40 |
| Fann 300 | 48 |
| Fann 600 | 60 |

Comment

Note: Costs are in AUD

### Bulk Stocks

| Name | Unit | In | Used | Adjust | Balance |
|---|---|---|---|---|---|
| Rig Fuel | m3 | 0 | 18 | 0 | 370.0 |
| Drill Water | m3 | 0 | 30 | -1 | 526.0 |
| Pot Water | m3 | 46 | 18 | -2 | 264.0 |

## Bulk Stocks

| Name | Unit | In | Used | Adjust | Balance |
|---|---|---|---|---|---|
| Brine | m3 | 0 | 0 | 0 | 180.0 |
| Cement class \'G\' | MT | 0 | 0 | 0 | 158.5 |
| Barite | MT | 0 | 0 | 0 | 125.9 |
| Bentonite | MT | 0 | 0 | 0 | 33.0 |
| BIOCIDE | can | 0 | 0 | 0 | 8.0 |
| Baradefoam-W300 | cans | 0 | 0 | 0 | 7.0 |
| XANTHUM GUM | sxs | 0 | 0 | 0 | 110.0 |
| Barolift | box | 0 | 0 | 0 | 16.0 |
| Barofibre | sxs | 0 | 0 | 0 | 40.0 |
| Barofilm/Petrofree | sxs | 0 | 0 | 0 | 40.0 |
| Caustic Soda | can | 0 | 0 | 0 | 11.0 |
| Circal 60/16 | Sacks | 0 | 0 | 0 | 149.0 |
| Circal Y | sxs | 0 | 0 | 0 | 91.0 |
| Citric Acid | sxs | 0 | 0 | 0 | 32.0 |
| Clayseal + | Drums | 0 | 0 | 0 | 46.0 |
| Cuttings Pit 1 | can | 0 | 0 | 0 | 32.0 |
| DEFOAMER | sxs | 0 | 0 | 0 | 126.0 |
| EZ-SPOT | Drum | 0 | 0 | 0 | 5.0 |
| EZ-MUD | pail | 0 | 0 | 0 | 121.0 |
| Gel | sxs | 0 | 0 | 0 | 123.0 |
| Milpac - LV | sxs | 0 | 0 | 0 | 36.0 |
| N-DRILL HT + | sxs | 0 | 0 | 0 | 105.0 |
| OBM | sxs | 0 | 0 | 0 | 6.0 |
| OXYGON | can | 0 | 0 | 0 | 33.0 |
| Pipe-Lax W | sxs | 0 | 0 | 0 | 87.0 |
| POTASSIUM CHLORIDE | MT | 0 | 0 | 0 | 33.0 |
| KOH | can | 0 | 0 | 0 | 44.0 |
| SOBM | sxs | 0 | 0 | 0 | 18.0 |
| Soda Ash | sxs | 0 | 0 | 0 | 0.0 |
| Sodium Bicarbonate | sxs | 0 | 0 | 0 | 38.0 |
| SALT FINE | pail | 0 | 0 | 0 | 32.0 |
| Surface Water | sxs | 0 | 0 | 0 | 40.0 |
| Foaming Agent | sxs | 0 | 0 | 0 | 40.0 |
| Generic Mesh 24 | Screens | 0 | 0 | 0 | 12.0 |
| Techmesh 84 | Screens | 0 | 0 | 0 | 8.0 |
| Techmesh 110 | Screens | 0 | 0 | 0 | 24.0 |
| Techmesh 140 | Screens | 0 | 0 | 0 | 16.0 |
| Techmesh 175 | Screens | 0 | 0 | 0 | 7.0 |
| Lime | sxs | 0 | 0 | 0 | 42.0 |

## Pumps

**Pump Data - Last 24 Hrs**

| No. | Type | Liner (in) | MW (sg) | Eff (%) | SPM (SPM) | SPP (psi) | Flow (gpm) |
|---|---|---|---|---|---|---|---|
| 1 | Continental Emsco | 6.50 | 1.05 | 97 | 67 | 1900 | 335 |
| 2 | Continental Emsco | 6.50 | 1.05 | 97 | 66 | 1900 | 330 |
| 3 | Continental Emsco | 6.50 | 1.05 | 97 | 67 | 1900 | 335 |

**Slow Pump Data**

| Depth (m) | SPM1 (SPM) | SPP1 (psi) | Flow1(gpm) | SPM2 (SPM) | SPP2 (psi) | Flow2 (gpm) | SPM3 (SPM) | SPP3 (psi) | Flow3 (gpm) |
|---|---|---|---|---|---|---|---|---|---|
| | 30 | | 252 | 40 | | 336 | 50 | | 420 |
| | 30 | | 252 | 40 | | 336 | 50 | | 420 |
| | 30 | | 252 | 40 | | 336 | 50 | | 420 |

## Casing

| OD | LOT / FIT | Csg Shoe (MD/TVD) | Cementing |
|---|---|---|---|
| 30 " | / | 156.80m / 156.80m | 265bbl 15.9ppg G cement slurry pumped.<br>Used: 1271sx of G cement - 160bbls of mix water.<br>Yield 1.17 ft3/sx<br>Ratio 5.20gal/sx |
| 13.38 | / | 961.00m / 961.00m | 460bbl of 11.5 ppg lead cement slurry. (Used: 387bbl SW mix fluid, 858 sx class G cement. Yield, 18.96 gal/sk - 3.01 ft3/sk) |

## Casing

| OD | LOT / FIT | Csg Shoe (MD/TVD) | Cementing |
|---|---|---|---|
| | | | 66.8bbl of 15.8 ppg tail cement slurry (Used: 39.5bbl fresh water mix, 323sx class G cement. Yield, 5.12 gal/sk - 1.16 ft3/sk) |

## Personnel On Board

| Company | Pax |
|---|---|
| ADA | 4 |
| Maersk | 36 |
| GRN | 5 |
| OMS | 21 |
| Dril-Quip | 2 |
| Geoservices | 4 |
| Halliburton Cementers | 3 |
| Halliburton (Baroid) | 2 |
| Sperry Sun | 2 |
| Fugro ROV | 6 |
| PCS | 3 |
| Reach | 1 |
| Other Contractor | 1 |
| Total | 90 |

## Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / Kosta Georgiou

| **Available** | **1928.1bbl** |
|---|---|
| Active | 55.0bbl |
| Mixing | 700.0bbl |
| Hole | 983.1bbl |
| Slug | |
| Reserve | |
| Kill | |
| PAD MUD | 190.0bbl |

| **Losses** | **581.0bbl** |
|---|---|
| Downhole | |
| Surf+ Equip | 0.0bbl |
| Dumped | |
| De-Gasser | |
| De-Sander | |
| De-Silter | |
| Centrifuge | |
| Pumped Sweep/Displace | 581.0bbl |

| Equipment | Description | Mesh Size |
|---|---|---|
| | | |

Comments

## Marine

Weather on 05 Dec 2009

| Visibility | Wind Speed | Wind Dir. | Pressure | Air Temp. | Wave Height | Wave Dir. | Wave Period |
|---|---|---|---|---|---|---|---|
| 10.0nm | 12kn | 252.0deg | 1015.0mbar | 12C° | 1.0m | 230.0deg | 5s |

| Heave | Pitch | Roll | Rig Dir. | Ris. Tension | VDL | Weather Comments |
|---|---|---|---|---|---|---|
| 1.0m | 1.0deg | 1.9deg | 315.0deg | 0.00klb | 445.00klb | Calm |

| Swell Height | Swell Dir. | Swell Period | Comments |
|---|---|---|---|
| 1.3m | 230.0deg | 5s | |

Rig Support

| Anchors | Tension (klb) |
|---|---|
| 1 | 245.0 |
| 2 | 252.0 |
| 3 | 287.0 |
| 4 | 274.0 |
| 5 | 268.0 |
| 6 | 263.0 |
| 7 | 219.0 |
| 8 | 264.0 |

| Vessel Name | Arrived (Date/Time) | Departed (Date/Time) | Status |
|---|---|---|---|
| **Far Scimitar** | 01:20 - 02/12/09 | 19:10 - 5/12/09 | In transit to Melbourne |

Bulks

| Item | Unit | Used | Quantity |
|---|---|---|---|
| Rig Fuel | M3 | | 324 |
| Potable Water | M3 | | 111 |
| Drill Water | M3 | | 143 |
| | t | | 0 |
| Barite | t | | 0 |
| Bentonite | t | | 0 |
| Brine | M3 | | 45 |
| Mud | bbl | | 0 |

| Vessel Name | Arrived (Date/Time) | Departed (Date/Time) | Status |
|---|---|---|---|
| **Far Fosna** | 19:15 - 4/12/09 | | Standby at Kan Tan IV |

Bulks

| Item | Unit | Used | Quantity |
|---|---|---|---|
| Rig Fuel | M3 | | 600 |
| Pot Water | M3 | | 307 |
| Drill Water | M3 | | 600 |

| Item | Unit | Used | Quantity |
|---|---|---|---|
| Bentonite | t | | 0 |
| Barite | t | | 0 |
| | t | | 0 |
| Brine | M3 | | 0 |
| Mud | bbl | | 0 |


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