AMOCO AUSTRALIA PETROLEUM COMPANY

TILANA NO. 1

DETAILED OPERATIONS PLAN

AUGUST, 1985

BASS BASIN T14/P TENEMENT

AMOCO AUSTRALIA PETROLEUM COMPANY

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WELL PROGRAM : TILANA NO. 1

JULY, 1985

BASS BASIN T 14/P TENEMENT

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AMOCO AUSTRALIA PETROLEUM COMPANY

EXPLORATORY WELL OPERATION PROGRAMME

Well Name	:	Tilana No. l
Proposed	:	Lat. 39 deg. 53' 36.96" S
		Long. 145 deg. 58' 42.2" E
Shot Point Location	:	Shot Point 5199, Line 871-A-50
Water Depth	:	± 262'
Rotary Kelly Bushing	:	± 73' MSL (22.3 m)
Authorized Total Depth	:	7792' RKB (2375 m)
Expected Drilling Time	:	47 DAYS
Well Objective	:	Eocene
Drilling Contractor/Rig	:	DIAMOND M/DIAMOND M EPOCH

The operations plan calls for 30", 20", 13-3/8", 9-5/8" casing strings. A 7" liner will be available. The tentative casing shoe depths are as follows:

CASING SIZE	MUDLINE DEPTH	<u>RKB DEPTH</u>
30"	± 315'	± 648'
20"	± 1,000'	± 1,333'
13-3/8"	± 5,355'	± 5,690'
9-5/8"	± 7,427'	± 7,762'

Exact casing shoe depths will be selected while drilling as dictated by lithology and hole conditions.

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I. PRE-SPUD PREPARATIONS

- Pre-Spud Meeting A pre-spud meeting will be held on the rig for all wellsite personnel. This meeting will be conducted as early as possible.
- Site Survey The location has already been surveyed for bathymetric hazards, bottom conditions, and shallow gas. The report will be made available as soon as possible.
- 3. Positioning of Rig The semisubmersible will move to the location, following a previously agreed route. Final positioning will be accomplished using a survey team that will be on location. The rig heading will be based on available weather data and provided prior to arrival of the vessel on location.
- 4. A specific procedure for anchor handling will be furnished prior to move.

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11. 36" HOLE AND 30" STRUCTURAL CASING

- A. Spud: It is anticipated that a temporary guide (TGB) will be used.
 - Skid and secure TGB in moonpool. Attach anti-rotation legs, slope indicator, and guide lines.
 - Fill TGB with sack barite. Paint a "target" on the funnel. Identify the TGB relative to the ship's heading.
 - Make-up the TGB running tool and "J" into TGB.
 Paint running tool.
 - 4. Lower the TGB to the sea floor, being careful not to rotate the TGB. Be sure of the rig's position before landing and releasing. Observe the TGB, note the position and orientation of the TGB to facilitate re-location for re-entry. Tension guidelines.
 - 5. Slack off the weight of the TGB and release the running tool with right hand rotation. POH. Steel line measure the running string. Check the altitude and attitude of the TGB after releasing running tool.
 - 6. Make up and run to the sea-floor a 26" bit on a 36" hole-opener with 3-9'' drill collars and 8'' drill collars as required.

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- Re-enter the TGB using re-entry guide frame while observing with rig camera.
- 8. Wash the bit down with minimum pump rate until the kelly bushings are engaged, then drill ahead to ± 653' RKB. Care should be taken not to wash out a crater around the TGB. Keep weight on the bit to a minimum through this section of the hole. Enough hole should be drilled to accommodate 8 joints (± 320 feet) of 30" casing. After drilling to TD, sweep the hole with a high vis pill (75 bbl mud min.). Fill the hole with mud and make a short trip. Condition the hole if fill encountered.
- 9. Prior to pulling out of hole to run casing, drop a survey. Observe the TGB after coming out of the hole.
- B. Logging Programme:No logs will be run in this hole section.
- C. Casing Programme:
 - 1. Casing is 30" X 1" wall thickness, Grade B, Range 3 with Dril Quip Quik Stab connectors. Enough 36" hole should be drilled so that with 8 joints of 30" casing run and the shoe resting just off bottom, the PGB will seat at the seabed. Check the 30" casing tally for exact measurements.

- Skid and secure the permanent guide base (PGB) in the moonpool. Paint a target on the PGB, and number guide posts.
- 3. Make up a joint of 30" casing (painted white with penetration stripes) with a welded duplex shoe, 6 joints of 30" casing, and the 30" housing joint painted with penetration stripes (total 8 joints, length approximately 320 ft.). Fill the casing with sea water while running. Attach soft line from shoe to guide lines.

Re-enter TGB with 30" shoe utilizing the rig camera for observation. Land 30" wellhead in rotary. Remove the running tool and install beacon and slope indicator on PGB.

- NOTE: All painting should be done prior to rigging up to run casing.
 - 4. Make up 5" D.P. cementing string and run into 30" casing to within 30 ft. of the shoe. Make up the cementing string to the running tool and engage the running tool into the 30" housing by left hand rotation. Lower 30" the housing into the PGB. Ensure the 30" housing latches into the PGB properly. Paint an orientation stripe on the running tool mandrel.
 - 5. Lower the 30" assembly into the water with the air bleeder valves opened on the top of the 30" running tool and one 10 Ft. snorkel installed to ensure the casing is full of water. Pick up just above water

level and close the bleeder valves on the running tool. RIH on 5" HWDP, filling the string with sea water as run.

- 6. RIH and land PGB on TGB. Observe TGB/PGB for settling. It may be necessary to hold the string at proper altitude from surface with the motion compensator. Check attitude of PGB/30" csg with slope indicator.
- 7. Circulate and cement casing with ± 2000 sxs class "G" cement at 15.8 ppg with ± 2% Calcium Chloride (exact formulation to be advised). Observe and report returns during cementation. Observe altitude and attitude of PGB after cementation is complete. DO NOT allow PGB to sink below the mud line.
- If necessary, support the 30"/PGB with the motion compensator until cement has taken initial set.
- 9. Adjust the motion compensator for neutral point at the wellhead and release the mechanical running tool with right hand rotation. Check tension on guide lines.
- 10. POH until 15 ft. of the cementing stinger remains in the wellhead and wash the wellhead area with seawater. Slowly pull the stinger out of the wellhead while pumping. POH and SLM for riser space out.

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- 11. Observe PGB area for cement build up. Observe the inclinometer to ensure that housing alignment is not more than $1-1/2^{\circ}$ off vertical. If the housing is more than 1-1/2 degrees from vertical, the well will be re spudded after recovering the 30" housing to \pm 50 ft below the mud line.

MATERIALS - PRESPUD THRU 30" CASING

Item	Quantity
TGB w/anti rotation legs	1 + 1 B/U
PGB	1 + 1 B/U
TGB "J" running tool	1
Barite (in sack for TGB)	as necessary
36" Hole Opener and cutters	1
26" Bit	2
30" Housing w/NS-60 box housing joint	1 + 1 B/U
30" Shoe joint with weld on float shoe	1 + 1 B/U
30" X 1" WT X-56 w/NS-60 connectors	ll jts
30" NS-60' connector o-rings and	
releasing screws (backup)	as necessary
5" HWDP	± 25 jts
'G' Cement	±2000 sx
Calcium Chloride	25 sx
Mud materials	as necessary
Honeywell beacon	2
Slope indicator	2

PERSONNEL

Wellhead Service Engineer Cementer Mud Engineer III. 26" HOLE AND 20" CONDUCTOR CASING:

This section of hole will be drilled with using sea water and viscous sweeps

- A. Drillout from 30" Casing:
 - Make up 18-3/4" wellhead, mechanical running tool, and 5" HWDP stringer and stand back. Ensure wear bushing is removed. Paint orientation and indexing marks on running tool.
 - 2. If it is determined that shallow gas may occur run 30'' connector, dump valve assembly and ball joint on riser. Latch connector to the 30" housing.
 - Nipple up riser, diverter, flow line, and diverter equipment. Pump seawater through all diverter lines and pressure test diverter system to 50 psi.
 - 4. Drill to 1343' RKB with a 17-1/2'' bit. Sweep the hole and fill riser completely with seawater. Observe well for flow. Open riser dump valve, drain slip joint, close dump valve and observe well. If stable, POH and pull 30'' pin connector.
 - 5. Open hole with 26" bit.
 - 6. Survey at ± 800' and at total depth.
 - At TD, sweep hole and make a wiper trip back to the 30'' shoe.
- NOTE: The Drilling Superintendent will advise what size pilot hole if any is to be drilled and wheter or not the riser is to be run.

- B. Drilling Mud Programme:
 - This interval of hole will be drilled with sea water and viscous sweeps.
 - 2. Sweep pill volumes should be ± 50 bbls at approximately 90'-100' intervals or as hole conditions require. Sweep at TD should be ± 200 bbl. (See Attachment #4 for properties).
- C. Casing Programme:
 - The hole will be drilled to approximately ± 1343' RKB. This will accommodate about 24 joints of 20", 94 ppf, Grade B, Range 3 casing. Casing connectors are Dril Quip Quik-Thread.
 - 2. The casing string will consist of a shoe joint (painted white with penetration stripes), and soft line attached to guide lines, approximately 22 intermediate joints, a crossover joint, and an 18-3/4" housing joint (w/penetration stripes). Check float shoe operation by filling casing with sea water after running 2 or 3 joints below sealevel. Okay stab of the 20" shoe into the 30'' housing should be observed with the rig T.V. camera.
 - While running casing, continuously fill with seawater (maximum interval two joints).

- Prior to making up the 18-3/4" housing joint, run a drill pipe stinger into the casing to approximately 50 feet above the shoe using a slotted plate and double elevator technique.
 - 5. Pick up 18-3/4" wellhead, make up the stinger with the 18-3/4" running tool. Recheck the running tool make up. Lower wellhead into water and fill casing through landing string.
- RIH with HWDP landing string filling with seawater as run. RIH with blocks unlocked.
- 7. Circulate prior to landing to check that floats are not plugged.
- 8. Land 18-3/4" wellhead into 30" housing and pull 10-15 K over pick up weight to ensure that it is latched into the 30" housing.
- 9. Circulate and condition hole with seawater. Cement with ± 1500 sxs extended class 'G' cement at 12.8 ppg. Tail in with 500 sxs class 'G' at 15.8 ppg. Displace tail slurry to within 25' of the shoe. Do not over displace. Release the pressure and check for back flow.
- Release mechanical running tool by right hand rotation.

- 11. POH until 15 ft. of cement stinger is inside the wellhead. Wash the wellhead area with seawater. When POH with stinger, <u>do not hesitate</u> or vessel motion may cause stinger to damage AX ring groove.
- 11. POH and SLM for riser space out.

BOP SEQUENCE

1.	Follow	D.M.	BOP	handling	procedures.

- 2. Use rig T.V. camera to observe landing of BOP.
- Test BOP after landing and nippling up in accordance with Attachment No. 3.
- 4. Run 18-3/4" nominal seat protector.

MATERIALS - 26" HOLE THRU 20" CASING

Item	Quantity
26" Bit	2
Drilling jars	2
Mud materials	as necessary
18-3/4" high-pressure housing w/Quik-Stab box	
down & running tool	1 + 1 B/U
18-3/4" wear bushing & running tool	1
20" S-60 casing	30 jts
20" Crossover (Quik-Stab pin x Quik-Thread	
pin)	2
20" S-60 shoe joint	1 + 1 B/U
20" Quik-Thred (S-60) O-rings	20 B/U
20" Quik-Stab (NS-60) O-rings	4 B/U
'G' cement	± 2000 sx
Sack Bentonite	± 100 sx
NF-1 Defoamer	as necessary
Power tongs and pack	1
20" Swage	1

PERSONNEL

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- A. This section will be drilled with a 12-1/4" bit, logged, then opened with a 17-1/2" Bit. The casing point has been tentatively selected at ± 5,690' RKB.
- B. Drillout from 20" Casing:
 - After landing and successfully testing the BOP stack as specified in Attachment No. 3 and installing the 18-3/4" seat protector, RIH with a 17-1/2" bit. Use a drill pipe float as necessary.
 - Before drilling out the shoe, pressure test the 20" casing to 500 psi.
 - 3. Drill out the shoe and 2' of cement below the shoe. Spot a gel pill on bottom. Run a CCCT to <u>leakoff</u>. Notify Drilling Superintendent if less than 12.5 ppg.
 - 4. Clean out rathole and drill 5' of new formation. Spot a gel pill on bottom. Run a FCCT to <u>leakoff</u>. Notify Drilling Superintendent if less than 12.5 ppg.
- NOTE: The decision to divert or to shut-in will be made based upon the 20" FCCT test results.
- C. Drilling Fluid Programme:
 - For this section, a seawater, low-solids, lightly dispersed gel-lignosulfonate mud system will be used after drilling the 20" shoe and cleaning out the rat hole.

The mud system has been designed based on the expected formation types with emphasis on simplicity of maintenance. It is planned to keep mud weight to a minimum to optimize drilling rates and prevent loss of circulation. The system is designed to keep water loss to a minimun to prevent troublesome shales from swelling and sloughing into the wellbore.

 The following range of mud properties is typical for this type of mud system.

Density	:	8.9-9.2 lb/gal
Yield Valve	:	8-20 lbs/100 sq. ft.
10 sec gel	:	6-15 1bs/100 sq. ft.
10 min gel	:	15-20 lbs/100 sq. ft.
API fluid loss	:	8-15 cc/30 min.
Bentonite	:	20-30 ppb
Nitrate	:	150-250 ppm
рН	:	10.5-11.0

3. Solids control equipment must be used continuously to keep drill solids content to a minimum. Controlled drilling will be used if necessary and the rate will be determined at the time. Analysis of the types of drilled solids, as well as quantities, will determine any additional treatment needed. Drill solids will be controlled by the "dump and dilute" method, employing whole mud and water additions. Dumping should not exceed 25% of total circulating volume per 24 hour circulating day.

- A pH of 10.5-11.0 will be maintained for corrosion control.
- 5. Magnetic single shot surveys should be taken on dull bits, at total depth, or at approximately 500' intervals. A multishot survey will be dropped prior to POH for logs.
- D. Logging Programme:
 - Prior to tripping for logs, sweep the hole with a 100 bb1 viscous pill.
 - 2. Run logs per Form 46.
 - Sidewall cores may be taken upon the wellsite geologist's recommendations.
- E. Casing Programme:
 - 1. 13-3/8", 68 lb./ft., N-80, Buttress casing will be
 run from the mudline to ± 5,000' RKB and 72 ppf N-80
 buttress will be run from ± 5,000' to TD.
 - 2. Remove nominal seat protector from 20" housing.

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- 3. Do not rely solely on average torque values for proper make up of buttress threads. Triangular makeup markings must be reasonably close for proper engagement. If possible highlight makeup markings prior to running casing. Drift all casing prior to running.
- 4. After visual inspection, make up float shoe, two joints of casing and float collar. Check float shoe and collar for proper operation. Use thread locking compound to lock the float equipment and the shoe joints, including the mill ends. Run the remainder of the casing string, and the casing hanger assembly.
- 5. Fill up the shoe joints before making up the float collar. Rig up a fill-up line so that each joint can be filled while the next joint is being picked up. Make sure the casing is totally full when 13-3/8" shoe has reached the 20" shoe. Monitor weight indicator to make sure casing is being filled properly. Fill running string while RIH.

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- 7. Make up SSR (Sub-Surface Release) cementing equipment, 13-3/8" hanger assembly and running tool, and using 5" HWDP, land in wellhead. Rabbit landing string as it is picked up to assure dart clearance. Have the SSR cementing equipment, hanger assembly and running tool made up prior to running casing.
- 8. Cement casing with extended class 'G' cement at 12.8 ppg. Use open hole caliper + 200' lap into 20" casing to determine cement volume. Tail in with 500 sx class 'G' plus additives at 15.8 ppg. The cement composition and Slurry Flow Plan will be provided prior to the job.
- 9. Bump top plug with 2000 psi and check the float equipment. <u>DO NOT OVER DISPLACE</u>. If the rig pumps are used for displacement, verify pump efficiency prior to job. If float equipment holds, release running tool and flush out the wellhead. WOC time is 8 hours.
- 10. RIH with wash tool and thoroughly wash BOP and wellhead area. Spot a clean gel pill in the wellhead seal area before pulling out of hole.
- 11. Run and install seal assembly, and test to 5000 psi with the drill pipe full of fluid and open to the atmosphere.

MATERIALS - 17-1/2" HOLE THRU 13-3/8" CASING

Item	Quantity
17-1/2" Bits & jets	3
17-1/2" Nearbit stabilizer	2
17-1/2" String stabilizer	4
8" Monel Drill Collar	2
Drilling jars	2
13-3/8" CIW hanger, extension and running tool	2
13-3/8" Seal assembly & running tool/tester	2
13-3/8" Wear bushing	2
13-3/8" Float shoe - buttress	2
13-3/8" Float collar - buttress	2
13-3/8" SSR plug, ball & dart set	2
13-3/8" SSR cementing/ball launching manifold	2
Thread lock compound	5
13-3/8", N-80, 68 ppf, range 3, buttress casing	± 125 jts
13-3/8", N-80, 72 ppf, R-3, buttress pup joints	30 jts
13-3/8" Buttress Collar	4
13-3/8" Klampon thread protectors	6
API modified thread dope	7 buckets
13-3/8" casing drift	1
Single shot instrument	1
Multishot instrument	1
Power tongs and unit	2
'G' cement (plus additives)	± 2500 sx
Mud materials	as necessary
Logging Tools	as necessary

PERSONNEL

Wellhead Engineer

Casing Crew

Directional Surveyor

Cementer

Mud Engineer

Logging Crew

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V. <u>12-1/4" HOLE AND 9-5/8" INTERMEDIATE CASING</u>

- A. This section of hole will be drilled with 12-1/4" bits to a planned 7,792 ft. RKB depth then logged. Casing will be run if testing is indicated. This section of hole will be drilled with a freshwater, low solids, lightly dispersed mud system. Keeping the mud weight low will be advantageous to interpreting drilling parameters, formation characteristics, and hole conditions. Unnecessarily weighted mud will mask formation effects and may lead to sticking or lost circulation. The objective formations are encountered, the formation may be drill stem tested after 9-5/8" casing is set. Take single shot survey on dull bits, and at total depth and approximately 500' intervals. A multishot survey will be run at TD.
- B. Drillout from the 13-3/8" casing:
 - After the BOP stack has been tested in accordance with Attachment No. 3 and the wear bushing has been installed, run in the hole with a 12-1/4" drilling assembly. Use a drill pipe float as necessary.
 - After drilling cement to within 15 ft. of the shoe, test the 13-3/8" casing to 2000 psi.
 - Drill out the shoe and drill 2 ft. of cement. Perform CCCT to <u>leakoff</u>. Notify Drilling Superintendent if less than 13.6 ppg.

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- Clean out the rat hole and drill 5 feet of new hole.
 Perform FCCT to <u>leakoff</u>. Notify Drilling
 Superintendent if less than 13.6 ppg.
- C. Drilling Fluid Programme:
 - 1. For this section, a freshwater, low-solids, lightly dispersed mud system will be used. The mud system has been designed based on the expected formation types with emphasis on simplicity of maintenance. It is planned to keep mud weight to a minimum to optimize drilling rates and help prevent differential sticking. However, the system can easily be weighted up for any abnormal pressures encountered.
 - The following range of mud properties is typical for this type of mud system.

Density	:	8.9-12.5 1b/gal
Yield Value	:	8-20 lbs/100 sq. ft.
10 sec gel	:	6-15 1bs/100 sq. ft.
10 min gel	:	15-30 lbs/100 sq. ft.
API fluid loss	:	15 cc/30 min.
Bentonite	:	20-30 ppb
Nitrate	:	150-250 ppm
pН	:	10.5-11.0

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- 3. Solids control equipment must be used continuously to keep drill solids content to a minimum. Controlled drilling will be used if necessary and the rate will be determined at the time. An analysis of the types and quantities of drilled solids will determine any additional treatment needed. Whole mud and water additions will be employed. Dumping should not exceed 20% of total circulating volume per 24 hour day.
- A pH of 10.5-11.0 will be maintained for corrosion control.
- D. Logging Programme:
 - 1. Upon reaching T.D., drop multishot survey.
 - Make a wiper trip to the 13-3/8" casing shoe and retrieve the survey.
 - 3. Run logs per Form 46.
- E. Coring Programme:

A core may be cut at the top of any zones with hydrocarbon shows, using a fibreglass inner barrel.

- F. Casing Programme:
 - A 12-1/4" hole will be drilled to a TD of approximately 7,792 ft. RKB. Run 9-5/8", 47 ppf, N-80, R-3 Buttress casing.

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- 2. After logging, make a wiper trip and condition hole.
- 3. Retrieve the 13-3/8" wear bushing.
- 4. Visually inspect all float equipment beforehand.
- 5. Make up the float shoe, followed by two joints of casing, and the float collar. Thread lock all connections for first three couplings, including the mill ends. Pump through the floats after make up.
- 6. Run casing, filling with mud as the next joint is being picked up. Drift all casing prior to running.
- 7. Make up the SSR plug set, 9-5/8" casing hanger and running tool and land in the wellhead using 5" HWDP Drift 5" HWDP while running. Keep running string full. Have plug set, hanger and running tool made up prior to starting in hole with 9-5/8" casing.
- 8. Cement program will be provided prior to the job.
- 9. After bumping the top plug with 3000 psi, check the float equipment. If float equipment holds, release running tool and flush out the wellhead. WOC time is 10 hours.
- 10. RIH with wash tool and thoroughly wash BOP and wellhead area. Spot a clean gel pill in wellhead seal area before pulling the wash tool out of hole.
- Run and install seal assembly and test to 5000 psi with the drill pipe open to atmosphere.

G. 7" Liner

In the event that drilling below 9-5/8" is required, a programme will be prepared at that time.

H. Testing

Zones identified as potentially productive will be tested. A DST procedure will be developed by the engineering staff.

I. Plugging and Abandonment

After being fully evaluated for potential production, the well will be plugged and abandoned according to Petroleum (Submerged Lands) Act 1967, Directions as to Drilling (1 June 1980).

A detailed programme will be furnished to the rig prior to commencement of P & A operations.

MATERIALS -	12-1/4"	HOLE	Ł	9-5/9"	CASING
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Item	Quantity
12-1/4" Bits and nozzles	as necessary
12-1/4" Nearbit stabilizer	3
12-1/4" String stabilizer	9
12-1/4" Roller Reamer	2
9-5/8" Float shoe - buttress	2
9-5/8" Float collar - buttress	2
9-5/8", 47 ppf, N-80, R III, buttress casing & pups	± 200 jts
9-5/8" Buttress Collars	6
9-5/8" casing hanger & pup w/running tool	2
9-5/8" seal assembly w/running test tool	2
9-5/8" wear bushing	2
8" Monel drill collar	2
Drilling jars	3
Coring equipment - lot	1
9-5/8" Surface release head	2
9-5/8" Klampon thread protectors	6
9-5/8" Swage	1
9-5/8" Casing drift	1
API modified thread compound	12
9-5/8" casing scraper with spare blocks	1
Power tongs & pack	2
Mud materials	as necessary
Cement	+ 3500 sx
Single and miltishot instruments	l each
Logging Tools	as necessary
DST Tools	as necessary

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PERSONNEL

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Casing Crew Core Hand Wellhead Engineer Mud Engineer Surveyor Cementer Testing Crews DST Crew Logging Crew

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Rotary ML. To 7792' RKB STRUTTED ELEVATION DEPTH 333' - STRUT DEPTH 333' - STRUT <td>YPE TOOLS</td> <td>ETHOD OF DRILLI</td> <td>DEPTH INTERVAL</td> <td>APPROX</td> <td>MATE DEPTHS OF C</td> <td>EOLOGICAL MARKETS</td>	YPE TOOLS	ETHOD OF DRILLI	DEPTH INTERVAL	APPROX	MATE DEPTHS OF C	EOLOGICAL MARKETS
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LSS-CM III IIII HBT IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	DLL-GR-SP-MSFL-Cal		5690' - 7792' (1734 - 2375m)	والماليين تخريب ا		
TWS # # # # # # # # # # ## # # ## # # ## # # # ## #	LSS-GR			TOTAL DEPTH	7792' (2375m) 7719 (2353m)55
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3m SZ201/RKB - 7792'RKB (6 sets) W+D PE SPECIAL TEST DEPTH INTERVAL ETC As Required Status As Required As Required Status Status As Required As Required Status Status As Required As Required Status Status Status NARKS As Required As Required Status Status Status NARKS Status As Required Status Status Status Status NARKS Status Status <td>REMARKS</td> <td></td> <td></td> <td>FREQUENCY DE</td> <td>PTH INTERVAL 43'RKB - 5720'RKE</td> <td>(6 sets) W+D</td>	REMARKS			FREQUENCY DE	PTH INTERVAL 43'RKB - 5720'RKE	(6 sets) W+D
PEE SPECIAL TEST DEPTH INTERVAL ETC As Required Specifies State BT As Required As Required Second as Required Second as Required RARKS As Required As Required REMARKS RARKS Itre cans of drilling fluid every 250m PROCEANH TYPE MUD NEIGHT #/CAL VISCOSITY SEC. API W.L. CC/30M PROCEANH TYPE MUD NEIGHT #/CAL VISCOSITY SEC. API W.L. CC/30M OTHER SPECIFICATION PROCEANH TYPE MUD NEIGHT #/CAL VISCOSITY SEC. API W.L. CC/30M OTHER SPECIFICATION RK - 333' (400M) Segmeter W/VISCOUS Sweeps 40-50 10 or Less YV 8-20 T320'-7772' (2375m) SW/CEL/DISP 8.9 - 9.2 40-50 10 or Less YV 8-20 ST20'-7772' (2375m) SW/CEL/DISP 8.9 - 12.5 40-50 10 or Less YV 8-20 ST20'-7772' (2375m) SW/CEL/DISP 8.9 - 12.5 40-50 10 or Less YV 8-20 ST20'-7772' (2375m) SW/CEL/DISP 8.9 - 12.5 2000 To as String Addition of Landink Points Points STARKS Properties of th				3m 57 10m Composite 13	20"RKB - 7792 RKE 43'-5720'RKB (25e	(6 sets) W+D ets) Wet
As Required As Required As Required As Required As Required As Required HARRS The above conforms with requirements of the Petroleum (Submerged Lands) Act 1967, Clause 14. HARRS 1 litre cans of drilling fluid every 250m From 13331 (400m) to total depth. ID PROCRAM MR 13431 (400M) Seawater Seawater VISCOSITY SEC. API M/Viscous Sweeps B, 9 - 9.2 VISCOSITY SEC. API 40-50 OTHER SPECIFICATION HER SPECIFICATION 40-50 DPROCRAM STRUC 127500 (1743m) Sw/CEL/DISP Structure and an exclusion of the detailed Operations Plan. VISCOSITY SEC. API 40-50 OTHER SPECIFICATION HIMP 20 or Less VV 6-20 HIMP 20 or Less SMARKS Properties of the Mud System are described in the detailed Operations Plan. Description OF LANDINC POINT, E 2000 m 2000 m 2	YPE SPE	CIAL TEST	DEPTH INTERVAL ETC	9m Composite 57 9m Composite 57	20'-7792'RKB (2se 20'-7792' Cans (1	ets) Wet set)
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HARKS 1 litre cans of drilling fluid every 250m JD PROCRAM From 1333' (406m) to total depth. PROXIMATE INTERVAL TYPE MUD WEICHT #/CAL VISCOSITY SEC. API W.L. CC/30M OTHER SPECIFICATION NL - 1343' (409M) Seawater m/Viscous Sweeps 40-50 15 or Less YV 8-20 1343'-520' (173m) SW/CEL/DISP 8.9 - 9.2 40-50 10 or Less YV 8-20 S720'-7792' (2375m) FW/CEL/DISP 8.9 - 12.5 40-50 10 or Less YV 8-20 Properties of the Mud System are described in the detailed Operations Plan. EMARKS Class CL HTPP 20 or Less NEFACE 1333' (406m) 20" 26" 2000 Class CL HADINC POINT,E ONDUCTOR 640' (198m) 30" 26" 2000 " basal/Demons Bluff LISTRING 782'' (2372m) 9 5/8" 12 1/4" Deened to 17 1/2" By Celiper " basal/Demons Bluff ILSTRING 782''' (2372m) 9 5/8" 12 1/4" Deened to 17 1/2" By Celiper " basal/Demons Bluff ILSTRING 782''''''''''''''''''''''''''''''''''''				Petroleum (Subme	erged Lands) Act 1	1967, Clause 14.
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DD PROCRAM PROXINATE INTERVAL TYPE MUD WEIGHT #/CAL VISCOSITY SEC. API W.L. CC/30M OTHER SPECIFICATION ML - 1343' (409M) Seawater W/Viscous Sweeps 1343'-5720' (1743m) SW/CEL/DISP 8:9 - 9.2 5720'-7792' (2375m) FW/CEL/DISP 8:9 - 9.2 40-50 15 or Less YV 8-20 YV 8-20 HTHP 20 or Less Properties of the Mud System are described in the detailed Operations Plan. ASINC PROCRAM ASINC STRING EST. DEPTH CASING SIZE * HOLE SIZE * SX. CEMENT TYPE CEMENT DESCRIPTION OF LANDINC POINT,E DODUCTOR 640' (1794m) 130'' 26'' 2000 URFACE 1333' (406m) 20'' 26'' 2000 URFACE 1333' (406m) 133/B'' 12 1/4'' Opened to 17 1/2'' By Celiper'' Bassl/Demons Bluff IL STRING 7762'' (2372m) 9 5/8'' 12 1/4''' By Celiper'' Bassl/Demons Bluff IL STRING Compositions to be Lab tested. 3. 30'' & 20'' Casing to be Cemented by Inner String method. MORMAL, THE TUBULAR GOODS ALLOCATION LETTER SPECIFIES CASING SIZES TO BE USED.HOLE SIZES WILL BE COVERNED BY CONTRAC CONVENTIONE Cores to more thoroughly investigate shows and potential reservoir rocks will be cut upon recommendation by the wellsite geologist and concurrence by Amoco's Sydney Office.						
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1343'-5720' (1743m) SW/CEL/DISP 8.9 - 9.2 40-50 15 or Less 17 6-20 5720'-7792' (2375m) FW/CEL/DISP 8.9 - 12.5 40-50 10 or Less YV 6-20 HTHP 20 or Less HTHP 20 or Less YV 6-20 HTHP 20 or Less EMARKS Properties of the Mud System are described in the detailed Operations Plan. Sinc STRING EST. DEPTH CASING SIZE * HOLE SIZE * SX. CEMENT TYPE CEMENT DESCRIPTION OF LANDING POINT, E ONDUCTOR 640' (196m) 30'' 26'' 2000 " URFACE 1333' (406m) 20'' 26'' 2000 " URFACE 1333' (406m) 20'' 26'' 2000 " URFACE 1333' (406m) 20'' 26'' 2000 " URFACE 1333' (406m) 13 3/8'' 12 1/4'' Opened to 17 1/2'' By Celiper'' Bessal/Demons Bluff IL STRING 7782'' (2372m) 938''' 12 1/4''' Opened to 17 1/2''' By Celiper''' Bessal/Demons Bluff IL STRING 7782'' (2372m) 938''' 12 1/4''' Opened to 17 1/2'''' By Celiper'''' Bessal/Demons Bluff INTERMENTAL All Casing Points are tentative. . . </th <th>UD PROGRAM</th> <th></th> <th>WEICHT 4/041</th> <th></th> <th>WI CC/DOW</th> <th></th>	UD PROGRAM		WEICHT 4/041		WI CC/DOW	
HiftP 20 or Less Properties of the Mud System are described in the detailed Operations Plan. ASINC PROCRAM ASINC STRING EST, DEPTH CASING SIZE * HOLE SIZE * SX, CEMENT TYPE CEMENT DESCRIPTION OF LANDINC POINT, E OMDUCTOR 668' (198m) 30" 36" 2000 Class Birler DESCRIPTION OF LANDINC POINT, E OMDUCTOR 668' (198m) 30" 1333' (406m) 20" 2000 " Class Birler DESCRIPTION OF LANDINC POINT, E OMDUCTOR 668' (198m) 133'8' 12 1/4" Opened to 17 1/2" By Caliper DESCRIPTION OF LANDINC POINT, E INTERMEDIATE S690' (1734m) 13.3/8' 12 1/4" Opened to 17 1/2" By Caliper INTER CASING IL STRING TD DEMONDETOR IL STRING IL STRING <td< th=""><th>AUD PROCRAM VPROXIMATE INTERVAL ML - 1343' (409M)</th><th>TYPE MUD Seawater</th><th>WEIGHT #/GAL VI w/Viscous Sweeps</th><th>SCOSITY SEC. API</th><th>W.L. CC/30M</th><th>OTHER SPECIFICATION</th></td<>	AUD PROCRAM VPROXIMATE INTERVAL ML - 1343' (409M)	TYPE MUD Seawater	WEIGHT #/GAL VI w/Viscous Sweeps	SCOSITY SEC. API	W.L. CC/30M	OTHER SPECIFICATION
CHARKS Properties of the Mud System are described in the detailed Operations Plan. ASINC PROCRAM ASING STRING CHARKS ASING STRING DADUCTOR EST. DEPTH 640' (198m) CASING SIZE + HOLE SIZE + SX. CEMENT 30'' TYPE CEMENT 2000 Class Class Class 2000 Class Clas	UD PROGRAM UPPROXINATE INTERVAL ML - 1343' (409M) 1343'-5720' (1743m) 5720'-7792' (2375m)	TYPE MUD Seawater SW/CEL/DISP FW/CEL/DISP	WEIGHT #/CAL VI w/Viscous Sweeps 8.9 - 9.2 8.9 - 12.5	SCOSITY SEC. AP1 40-50 40-50	W.L. CC/30M 15 or Less 10 or Less	OTHER SPECIFICATION YV 8-20 YV 6-20
Properties of the Mud System are described in the detailed Uperations Plan. ASINC PROCRAM ASINC STRING EST. DEPTH CASING SIZE * HOLE SIZE * SX. CEMENT TYPE CEMENT DESCRIPTION OF LANDING POINT, E ONDUCTOR 648' (1986m) 30" 36" 2000 Class "C" + Additives URFACE 1333' (406m) 20" 25" 2000 " NTERMEDIATE 5690' (1734m) 13 3/8" 12 1/4" Opened to 17 1/2" By Caliper" Basal/Demons Bluff IL STRING 7762' (2372m) 9 5/8" 12 1/4" By Caliper " INER CASING EVARKS 1. All Casing Points are tentative. 2. Cement Compositions to be Lab tested. 3. 30" & 20" Casing to be Cemented by Inner String method. NORMAL. THE TUBULAR COODS ALLOCATION LETTER SPECIFIES CASING SIZES TO BE USED.HOLE SIZES WILL BE COVERNED BY CONTRAC ORING PROCRAM Conventional Cores to more thoroughly investigate shows and potential reservoir rocks will be cut upon recommendation by the wellsite geologist and concurrence by Amoco's Sydney Office.	MUD PROGRAM MPROXIMATE INTERVAL ML - 1343' (409M) 1343'-5720' (1743m) 5720'-7792' (2375m)	TYPE MUD Seawater Sw/CEL/DISP FW/CEL/DISP	WEIGHT #/GAL VI w/Viscous Sweeps 8,9 - 9.2 8,9 - 12.5	SCOSITY SEC. API 40-50 40-50	W.L. CC/30M 15 or Less 10 or Less	OTHER SPECIFICATION YV 8-20 YV 6-20 HTHP 20 or Less
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ASING PROCRAM ASING STRING EST. DEPTH CASING SIZE * HOLE SIZE * SX. CEMENT TYPE CEMENT DESCRIPTION OF LANDING POINT,E OMOUGTOR 648° (196m) 20° 26° 2000 Class "C" + Additives URFACE 1333' (406m) 20° 26° 2000 " NTERMEDIATE 560° (1734m) 13 3/8" 12 1/4" Opened to 17 1/2" By Caliper" Basal/Demons Bluff IL STRING 7762' (2372m) 9 5/8" 12 1/4" By Caliper " INER CASING EVARKS 1. All Casing Points are tentative. 2. Cement Compositions to be Lab tested. 3. 30° & 20° Casing to be Cemented by Inner String method. NORMAL. THE TUBULAR GOODS ALLOCATION LETTER SPECIFIES CASING SIZES TO BE USED.HOLE SIZES WILL BE GOVERNED BY CONTRAC ORING PROCRAM Conventional Cores to more thoroughly investigate shows and potential reservoir rocks will be cut upon recommendation by the wellsite geologist and concurrence by Amoco's Sydney Office.	ND PROGRAM NPPROXIMATE INTERVAL ML - 1343' (409M) 1343'-5720' (1743m) 5720'-7792' (2375m) NDMARKS Properties of the Mu	TYPE MUD Seawater SW/CEL/DISP FW/CEL/DISP	WEIGHT #/CAL VI w/Viscous Sweeps 8,9 - 9.2 8.9 - 12.5 scribed in the detailed	SCOSITY SEC. API 40-50 40-50	W.L. CC/30M 15 or Less 10 or Less	OTHER SPECIFICATION YV 8-20 YV 6-20 HTHP 20 or Less
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BOP TEST REQUIREMENTS

Australian regulations specify the following BOP equipment test requirements:

BOP	After nstallation	Prior to Csg. Drillout	Following Disconnection of Pressure Seals	Weekly	Trip	Relatch LMRP
Connector, Choke & Kill Lines	5,000 psi	5,000 psi	5,000 psi	5,000 psi	N/A	5,000 psi
Annular	70% Rating	70% Rating	70% Rating	Function	N/A	Connection to 3,500 psi
Pipe Rams	5,000 psi	5,000 psi	5,000 psi	5,000 psi	Function	Function
Shear & Blind Rams	Function	Min 70%	Function	Function	Function	Function

The regulations additionally require that all such tests be recorded in the drillers log. (IADC report)

ATTACHMENT #4

TENTATIVE MUD PROGRAMME

TYPE SYSTEM	36" Hole Seawater w/Hi Vis Sweeps	26" Hole Seawater w/Hi Vis Sweeps	17-1/2" Hole Lightly Dispersed Seawater/Gel	12-1/4" Hole Lightly Dispersed Freshwater/Gel
MUD WT (PPG)	9.5-10.5	9.5-10.5	8.9-9.2	8.9-12.5
VIS (SEC)	100+	100+	40-50	40-50
YV	26	26	8-20	6-20
10 SEC GEL (LB/100 SF)	NC	NC	6-15	4-12
10 MIN GEL (LB/100 SF)	NC	NC	15-30	12-16
API FLUID LOSS (CC)	NC	NC	15	10
HTHP (500 PSI, PER				
TEMP, GRADIENT)	NC	NC	NC	18
pH	10.5	10.5-11.0	10.5-11.0	10.5-11.0
NITRATE (PPM)	-	_	150-250	150-250
MBT (PPB)	25-35	25-35	20-30	20-30
LOW GRAVITY SOLIDS				
(PPB)			50	50

ATTACHMENT #5

TENTATIVE CASING PROGRAMME

SETTING DEPTH (RKB)	30" ± 648'	20" ± 1,333'	13-3/8" ± 5,690'	9-5/8" ± 7,762'
HOLE SECTION	ML-TD	ML-TD	5,000'-TD	ML-TD
WT	1.0" WALL	94 PPF	72 PPF	47 PPF
GRADE	В	В	N-80	N-80
CONN	D.Q. QUIK STAB	D.Q. QUIK THREAD	BUTT	BUTT
HOLE SECTION			ML-5,000'	
WT			68 PPF	
GRADE			N-80	
CONN			BUTT	

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ATTACHMENT #6

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TENTATIVE CEMENTING PROGRAMME

ITEM	30" CSG	20" CSG	13-3/8" CSG	9-5/8' CSG
PREFLUSH	50 BBL	50 BBL	70 BBL	70 BBL
SPACER (SCAVENGER) SLURRY WT	NA	50 sx 'G' 10.0 ppg	50 sx 'G' 10.0 ppg	50 sx 'G' 10.0 ppg
MIA WAILA		30.3 gal/sx	JU.J gal/SA	JU.J gal/sk
LEAD SLURRY		1,500 sx 'G'	2,000 sx 'G'	2,575 sx 'G'
SLURRY WT (PPG)		12.8 pg	12.8	12.8
MIX WATER (GAL/SX)		10.8	10.8	10.8
YIELD(CF/SX)		1.94	1.94	1.94
BENTONITE (PREHYD)		2.5%	2.5%	2.5%
HR-6L (GAL/SX)		-	0.1	0.1
CFR-2L (GAL/SX)		-	TBA	TBA
NF1 (GAL/SX)		.05	.05	.05
TAIL SLURRY	2,000 sx 'G'	500 sx 'G'	500 sx 'G'	500 sx 'G'
SLURRY WT (PPG)	15.8	15.8	15.8	15.8
MIX WATER (GAL/SX)	5	5	5	5
YIELD (CF/SX)	1.15	1.15	1.15	1.15
CALCIUM CHLORIDE				
(% BWOW)	-	-	-	
HR-6L (GAL/SX)	-	-	.066	TBA
CFR-2L (GAL/SX)	-	-	TBA	TBA
NF-1 (GAL/SX)	-			-
CMT TOP RKB	ML	ML	± 1000'	TBA

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ATTACHMENT #7

TENTATIVE LOGGING PROGRAMME

17	-1,	/2"	HOLE

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RUN #1	ISF-BHC-GR-SP-CAL	(GR TO ML)
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<u>12-1/4" HOLE</u>

RUN #1 DLL-GR-SP-MSFL-(

RUN #2 LDT-CNL-GR-CAL

RUN #3 LSS-GR

RUN #4 HDT

RUN #5 VSP

NOTES:

1.	If 8-1/2"	hole	is	drilled,	the	same	logs	will	be	run	as	in	12-1/4"
	hole.												

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2. Provision will be made to run RFT if required.

ATTACHM

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4267	NELS N

4400

5 cm

QY" casing will be set as dever as possible dependent upon hole conditions





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