

439001

TPR  
OR-355.

**Drilling Program  
Squid No. 1**

**June, 1984**

TPR  
OR-355

**Weaver Oil & Gas, Corporation, Australia**

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INTRODUCTION

The Squid #1 Well, located on Permit T/15P, will test the structural and stratigraphic hydrocarbon potential of the Oligocene and Eocene section of the central area of the Bass Basin.

The primary objective section of the Squid #1 Well consists of the sand, shale and coal sequence known as the Eastern View Coal Measures of Eocene, Paleocene and Upper Cretaceous age. The top of this objective section is predicted, on the basis of seismic data, to be at a depth of 6225 feet, or approximately 1898 meters below mean sea level at the proposed well location.

The secondary objective section of the Squid #1 Well consists of a seismically defined intra-Oligocene lens assumed to contain an interbedded porous and permeable sand sequence. The top and base of this secondary objective section are predicted to be at depths of 4725 feet and 5150 feet, or approximately 1440 meters and 1570 meters.

The tertiary objective section of the Squid #1 Well consists of the basal Oligocene sand-shale sequence. The top and base of this tertiary objective section are predicted to be at depths of 5420 feet and 5770 feet, or approximately 1652 meters and 1759 meters.

**1.0 DRILLING PROGRAM**

**DRILLING PROGRAM DATA SHEET**

# OFFSHORE DRILLING PROGRAM

COMPANY **WEAVER OIL & GAS AUSTRALIA**

**439006**

WELL **SQUID No.1**

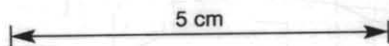
DEPTH	DRILLING TIME FORECAST	GEOLOGICAL DATA	CASING	BIT AND HYDRAULICS				MUD PROPERTIES				MUD TREATMENT AND REMARKS										
				SIZE	TYPE	Wt	RPM	Q	NOZZLE	AV	Wt		FUNNEL	W.L.	YP/PV							
0 - 300	SPUD WITH ONE PUMP (at 9m)  20" 94" WITH JV CONN AND WITH 18x24" FLE JOINT	WATER DEPTH - 80m  (MAXIMUM ANGLE 2°)	20" AT 259m KBE CEMENT TO SURFACE	26"	1-1-1	0-10	50	600 1200	3-20	25 45												MIX PREHYDRATED GEL SPUD MUD AS EARLY AS POSSIBLE USE FRESH WATER 100+ FUNNEL VISCOSITY USE SEAWATER FOR MAKE-UP AND ADD PREHYDRATED GEL TO MAINTAIN VISCOSITY FLOCCULATE WITH LIME IF NECESSARY TO MAINTAIN YIELD POINT
300 - 600		(MAXIMUM ANGLE 4°)		17 1/2"	1-1-1	5/10 28/30	170	1200	3-20	105	8.9/9.1	36	NO CONTROL	15/5								ADD WATER AS REQUIRED TO MAINTAIN LOW PV
600 - 900		MID MIOCENE																				
900 - 1200			13 3/8" AT 1250m KBE CEMENT TO SURFACE	17 1/2" 12 1/4"	1-1-1 SDGH	40/50 40/50	200 100 165	1200 750	3-20 3000 psi	105 150	9.1 9.1	36 10	CONTROL	15/6 20/7								RUN ONLY GAUGE PROTECTED BITS
1200 - 1500		TOP OLIGOCENE MID OLIGOCENE (OBJECTIVE 1463m-1593m)				50/60 50/60	160 160	750			9.1	36		20/7								CONTROL PV WITH WATER AND MAINTAIN YP WITH PREHYDRATED BENTONITE
1500 - 1800		BASE OLIGOCENE SECONDARY OBJECTIVE 1677m-1784m				60	125															USE FRESH WATER FOR MAKE-UP
1800 - 2100		EASTERN VIEW COAL MEASURES (OBJECTIVE 1921m - T.D.)  (MAXIMUM ANGLE 7°)			SDGH OR 5-1-7	70	90/110				9.1											USE DEXTRID FOR FLUID LOSS CONTROL USE PACKED BHA, SHOCK SUB AND DRILLING JARS
2100 - 2400								700		135	9.1			14/7								ADD ASPHALT FOR SHALE STABILITY USE CAUSTICIZED LIGNITE TO CONTROL GELS
2400 - 2700								650		125	9.1			15/8								MAXIMUM PH - 8.5
2700 - 3000						SDGH OR 5-1-7	75	90/110			9.3		8.0	15/8								
3000		MAY ENCOUNTER NON-SEDIMENTARY ROCKS (BASEMENT) NEAR T.D.		12 1/4"				650	3000	125	9.3	36	8.0	15/9								HAVE HPHT FLUID LOSS 20-25 AT T.D.

TESCO 11-79

DAYS FROM RIG RELEASE ON PREVIOUS WELL

PREPARED BY **LINDSEY I. LIPSCOMB**

DATE **MAY 1, 1984**



439007

OFFSHORE DRILLING PROGRAM  
Miscellaneous Data Sheet

Operator: Weaver Oil and Gas Corporation Australia  
 Well Name: Squid No. 1 Total Depth: 2896 meters  
 Permit No.: T/15F Water Depth: 80 meters  
 Graticular Block No. 0172  
 Coordinates: LAT - 40<sup>0</sup> 11' 54.0161" S LONG - 146<sup>0</sup> 18' 28.4208" E  
 Seismic Line WB-82-24 Shot Point No. 280

CASING PROGRAM

<u>Size</u>	<u>Depth</u>	<u>Length</u>	<u>Weight</u>	<u>Grade</u>	<u>Connection</u>	<u>Test Pressure</u>
20"	--	12m	Pile Joint	24"OD x 18"ID	CC	
20"	259m KBE	155m	94	H	JV	500 psi
13 3/8"	1250m KBE	1143m	68.0	K	Butt	1500 psi

CEMENTING PROGRAM

<u>Casing Size</u>	<u>Cement Class</u>	<u>Excess, %</u>	<u>Sacks</u>	<u>Yield, M<sup>3</sup>/Sk</u>	<u>Water, CPS</u>	<u>Water Type</u>	<u>Additives %</u>	<u>Top of Cement</u>
20"	G	200	1500	0.033	4.97	Fresh	2% CaCl	SF
13 3/8"								
Lead	G	None	900	0.057	11.3	Fresh	10% Gel	198m
Tail	G	None	500	0.033	4.97	Fresh	None	--

FORMATION EVALUATION

Electric Logging: Run No. 1, 1250m to 259m

DIL-LSS-CAL-GR

Run No. 2, TD to 1250m

DIL-LSS-CAL-GR ←

LDT-CNT-GR

~~DLL-MSFL-CAL~~additionally as  
required:

Velocity Survey

HDT

← CST (30 cores)

RFT (10 pressure tests per chamber)

Mud Logging: below 20" conductor casing to total depth.

Cuttings: washed and dried samples every 9 meters from 20"  
conductor to 1250 meters, and every 3 meters  
from 1250 meters to total depth.Conventional Cores: below surface casing, cut only if significant  
hydrocarbon indications are encountered.Sidewall Cores: below surface casing, acquired only if  
significant hydrocarbon indications are  
encountered.

Production Tests: as required for formation evaluation.

BLOWOUT PREVENTORS:18 3/4" - 10,000 psi. Test when installed and to 5000 psi after  
running surface casing and weekly thereafter.LEAK OFF TESTS:Run a leak-off test after drilling out below the conductor and  
surface casing.

**2.0 DETAILED PROCEDURES**



## 2.0 DRILLING PROCEDURES

### 2.1 Positioning the Drilling Vessel

#### 2.1.1 Anchor Pattern

The general mooring pattern will be with the bow facing into the direction of maximum anticipated storm conditions, taking into account the need for the helicopter to land and take off into the prevailing wind and for the work boats to have a comfortable lee side for day-to-day operations. Everything else being equal, the heading should be designed to simplify holding station while running the first moorings.

A detailed mooring pattern should be provided by the barge master or drillship captain showing the preferable pattern for the specific water depth and environmental conditions anticipated.

#### 2.1.2 Surveying and Marking Location

The location will be surveyed using a Decca transponder with three base stations.

At least two days prior to the rig move, set up onshore stations to ensure that all equipment is functional. Install the mobile station on the standby boat.

Establish the location using double triangulation from these shore base stations. Install one location buoy and one buoy at the position to drop the first anchor.

The timing will depend on availability of equipment but complete the survey 24 hours prior to the arrival of the rig at the new location. The survey vessel will standby on the well site to guide the rig as it approaches the location.

### 2.1.3 Mooring Procedures

The Drilling Supervisor will convene all parties for a mooring meeting prior to each move to review the mooring procedures and assign responsibilities for checking availability and condition of equipment.

#### Picking Up Anchors

1. While cutting the 30-inch casing, make preparations for retrieving anchors. Anchor handling crews should be aboard the work boats and the boats in position.
2. As soon as the 30-inch well head has cleared the seafloor, start ballasting up.
3. Whenever bolsters have cleared the water, start retrieving anchors.
4. If the drilling contractor will permit, retain the mud in the tanks while moving. If 8-inch drill collars are being used do not lay them down.
5. While underway, remove the 30-inch housing from the temporary guide base (if applicable) and slip and cut guide wires and tensioner wires.

6. Approach the location 30+ degrees to port or starboard of the prevailing wind (depending on current) and drop either number 6 or 7 at the location indicated by the buoy. This anchor will serve as a brake.
7. After approaching the location, turn the vessel into the prevailing wind.
8. Attach one boat to moorings 2 or 3. Hold the vessel position with this boat while running the other mooring. (Run about 3000 feet of chain).
9. After four anchors are set, take a position fix and start moving the vessel as required by manipulating the mooring lines.
10. While moving the vessel over the location, start ballasting down. Move the temporary guide base into the moonpool and prepare for running.
11. While moving the vessel over the location run the final four moorings.
12. When ballasted down, tension the moorings to 250 kips, take a final fix and run the temporary guide base.
13. Leave the windward anchors off the pawl until surface casing is set.

#### 2.1.4 Testing and Pretension of Moorings

All anchors should be set and tested to 200,000 pounds prior to spudding. All anchors will be tested to 250,000 pounds prior to landing the 18 3/4-inch BOP stack.

## 2.2 Establishing the Well

### 2.2.1 Prior to Arrival on Location

1. Prepare a bentonite, caustic, fresh water spud mud (800 barrels with a 100  $\pm$  second funnel viscosity).
2. Prepare 400 barrels of 11.5 ppg kill mud. (See Sections 8.4 and 8.5, Triton Operations Manual)
3. Inspect all pendant wires for wear and broken strands. Inspect all buoys and pig tails.
4. Slip and cut riser tensioner wires. Finish cutting guide wires.

### 2.2.2 Upon Arrival on Location

1. Measure the length of the 20-inch conductor and pile joint. Dress the running tool and assemble the temporary guide base on the spider deck. Attach the guide lines. Prepare to run.
2. Assemble all tools needed to run the 20-inch casing, pile joint and permanent guide structure.
3. Run the temporary guide base to the ocean floor as soon as ballasted down and a final fix has been taken to ensure the vessel is on location within the accepted tolerance of 300 meters.
4. Note the distance from the rotary table to the sea bed prior to spudding. Record the water depth and air gap measurement on the tour report, noting the date and time of day.

## 2.3 Drilling the 26-inch Hole and Setting 20-inch Casing

### 2.3.1 Drilling the Hole

The 26-inch hole will be drilled with a 26-inch hole pilot bit. Drill to the approximate depth specified on the drilling program but to the precise depth required to run the 20-inch casing and pile joint plus 30 feet of rat hole.

### 2.3.2 Drilling Parameters

2.3.2.1 Weight - a maximum of 5,000 to 10,000 pounds of bit weight should be used to spud the well until the bit and first two drill collars are buried. After drilling 50 feet, the weight can gradually be applied to a maximum of 15,000 to 20,000 pounds. To safeguard against developing hole angle, use the lightest weight reasonable.

2.3.2.2 Rotary Speed - a maximum rotary speed of 50 RPM should be used to spud the well and until the bit and two drill collars are buried, then gradually increase the rotary not to exceed 150 RPM. Note: Release the torque in the string gradually prior to making connections to avoid a possible string back-off.

2.3.2.3 Pump Speed - the first 30 feet of hole should be made with pumps at approximately half speed. Thereafter, the maximum volume from both pumps will be necessary to clean the hole.

### 2.3.3 Hole Cleaning

The hole will be drilled using sea water. Prior to making connections, the hole should be slugged with 10 to 15 bbls. of spud mud (funnel viscosity of the mud should be at least 100 seconds). Should it become difficult to keep the hole open, increase the size of the gel slug prior to making connections.

### 2.3.4 Directional Survey

After reaching total depth, the hole will be displaced with mud and a Totco survey run on wire line prior to pulling out. A maximum of two degrees deviation is allowed.

### 2.3.5 Wiper Trip

A wiper trip should be made to check for bridges and fill. If no fill or drag is experienced, again displace the hole with mud and pull out of hole.

If drag and/or fill-up is experienced, make a second wiper trip and displace the hole with mud again. Repeat until drag and fill are eliminated. In some cases a heavier mud may need to be spotted to keep hole open.

## 2.3.6 Running 20-inch Casing, Pile Joint

1. The permanent guide structure should already be on the spider. A string of 20-inch OD, 94 lb/ft casing with Cameron JV Connectors will be run. The top joint of 20-inch casing will have a Cameron CC connector.
2. All connections on the bottom two casing joints will be thread locked to prevent back-off when drilling out.
3. Paint a white strip on the shoe joint approximately 3 feet above the shoe to aid in identifying the location of the shoe on TV while stabbing into the temporary guide base.
4. Fill the casing with water as run. Ascertain that circulation is possible through the float shoe.
5. Have a 20-inch swedge available on the rig floor while running 20-inch casing.
6. Torque the casing properly. Do not weld casing.
7. Run centralizers as follows: One centralizer 10 feet above the float shoe, on each of the bottom three joints. Stab the 20-inch casing into the temporary guide base using ropes or 1/4-inch wire and shackles. Observe the stab with television.
8. Install the 18 3/8-inch housing in the casing string. Run one joint drill pipe as a stinger inside the 20-inch casing. Land the 18 3/8-inch housing and pile joint in the permanent guide base. Pick up the assembly and remove the spider beams.

9. Lower the casing on drill pipe. Land in the temporary guide base. Observe the landing with television.
10. Do not use wiper plugs for cementing.

#### 2.3.7 Cementing 20-inch Casing

1. Break circulation slowly with water. As soon as proper circulation is established start mixing cement.
2. Mix sufficient cement slurry to fill twice the theoretical annular capacity. Observe returns with TV. Pumping five sacks of Mica ahead of the cement will improve the likelihood of recognizing cement returns.
3. Displace cement to within 30 feet of the shoe with Halliburton measuring displacement and release the pressure to check the float.
4. If the float holds, release the running tool, retrieve the running string. If float does not hold, wait on cement until cement will not backflow.

#### 2.3.8 Blow Out Control

Refer to section 8.4 of the Triton Operations Manual for the contingency procedure for kick control in the conductor hole.



## 2.3.9. Checklist for Materials and Equipment 26-Inch Hole

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>LOCATION</u>
1	Temporary Guide Base, Cameron P/N 698514-1 with 6-foot radius and "J" running slots	1 1	Rig Base (Standby)
2	Permanent Guide Base, Cameron P/N 676389-2 with ring for attaching to Conductor Housing	1 1	Rig Base (Standby)
3	"0" Ring for 20-inch Cameron CC Connector	1	Rig
4	Retainer Lock Ring for 20-inch Cameron CC Connector	1	Rig
5	Tool, Mechanical Release for 20-inch Cameron CC Connector	2	Rig
6	Running Tool for Temporary Guide Base, J-Type	1	Rig
7	Housing, Casing Head, 18 3/4-inch, 10,000 psi w/AX Hub top, w/adapter, external, to land in Permanent Guide Base and welded to 30 foot piece of 24" OD x 18" ID 4130 steel pile joint w/CC Connector, box down, Cameron P/N 695586-1-1	1	Rig
8	Wear Bushing, 18 3/4-inch Housing with 17 5/8-inch ID, Cameron P/N 690148-1	1	Rig
9	Casing, 20-inch OD Float Shoe Joint, Grade X-52, w/welded float shoe w/JV Connector	2	Rig
10	Casing, 20-inch OD, grade X-52, 94 lb/ft. w/JV Connector	5 extra joints	Rig
11	Casing, 20" OD, grade X-52, 94 lb/ft w/JV Connector pin by CC Connector pin	2	Rig
12	Centralizer, 20-inch Halliburton	4	Rig
13	Stop Ring, 20-inch Halliburton	1	Rig

## 2.3.9. Checklist for Materials and Equipment 26-Inch Hole

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>LOCATION</u>
14	Housing Running Tool, 18 3/4-inch, w/4 1/2-inch IF box top and bottom, Cameron P/N 689956	2	Rig
15	"O" Ring for 18 3/4-inch Housing Running Tool, Cameron P/N 40314-15-13-85	1	Rig
16	Hole Opener, 26-inch Security Type B-26	2	Rig
17	Hole Opener Cutter, spare sets, Type S	1 set	Rig
18	Bit, 17 1/2-inch, X3A (or equivalent), w/5/8-inch nozzles	2	Rig
19	Bit, 26-inch, X3A (or equivalent), w/5/8-inch nozzles	1	Rig
20	AX Gasket for 18 3/4-inch, 10,000 psi WP Connector	2	Rig

## 2.4 Drilling the 17 1/2-inch Hole and Running 13 3/8-Inch Casing

### 2.4.1 Installing the 18 3/4-inch BOP Stack and 21-inch riser.

#### 2.4.1.1 Pressure Testing the BOP Stack on the Test Stump.

1. Prior to testing the stack on the stump, open all rams and check sealing elements for wear or damage. Flush the connector and ram cavities with a high pressure stream of water. Visually inspect the annular sealing element and replace bonnet seals.
2. Function test BOP's. Note gallons to function and closing time.
3. Test BOP's to at least 5000 psi. Complete the BOP test and inspection affidavits and send to shore for filing.

#### 2.4.1.2 Running the Stack and Riser.

The pressure and function check will be completed outside the critical path. Other preparations for running the BOP will proceed simultaneously in order to have the stack ready to run as soon as possible after cementing 20-inch casing.

1. Position the BOP stack on the spider beams. Insert the guide lines in the posts of the BOP stack.
2. Install and lock the lower marine riser package onto the 18 3/4-inch BOP stack.

3. Install a new AX gasket in the wellhead connector.  
Clean and grease with proper lubricant.
4. Insert the guide lines in the marine riser guide frame.
5. Place the marine riser handling spider on the rotary table.
6. Pick up a joint of 21-inch marine riser using the marine riser handling sub. Lower the marine riser joint through the marine riser handling spider and make up to top of the ball joint.
7. Pick up the BOP stack, remove the spider beams and lower the marine riser joint until it can be landed on the marine riser handling spider. Continue to run the marine riser spacing out as necessary. Test the choke line as run. (Every third joint to 1000 psi.)
8. Pick up the telescopic joint (locked in the closed position) and attach to the riser assembly.
9. Lower the slip joint through the rotary table and land in the marine riser handling spider. A special landing ring is provided on the slip joint below the packing box for this purpose. Remove the pins that lock the slip joint in the closed position.

10. Stroke out the slip joint inner barrel and pick up the entire assembly. Remove the marine riser handling spider and lower the slip joint through the rotary table until the riser tensioning cables can be installed to the riser tensioning ring on the outer barrel of the slip joint. Adjust the tension on the cables to support approximately 125 percent of the weight of the marine riser.
11. Install the air operating line to the slip joint packing gland; 5 to 10 psi is normally sufficient pressure to maintain an effective seal against the hydrostatic head of the drilling fluid. Install the choke line to the terminal fitting on the slip joint. Install the diverter package.
12. Tension the guide wires for landing the BOP stack.
13. Lower the marine riser and the BOP stack until the wellhead connector of the BOP stack is landed on the wellhead housing. Observe the landing with television.

Note: The Cameron collet connector should be open when the connector is on the rig floor and the control valve maintained in the "open" position until it is landed on the wellhead housing. Lock the BOP stack on the wellhead housing with 1500 psi. A pick-up test of 50,000 pounds above the stack weight should be performed to ensure the connector is latched.

14. Land and lock the diverter housing.
15. Reduce the tension in the guide wires to 5000 lbs.

16. Test the wellhead connector and casing against the blind/shear rams to 500 psi for 15 minutes. It will not be necessary to run a test plug.
17. Prior to drilling out cement, close the diverter bag on drill pipe and test the system to 50 psi.

#### 2.4.2 Drilling the Hole

A 17 1/2-inch hole will be drilled to the setting depth of the 13 3/8-inch casing. A minimum of 40 feet of rat hole should be drilled below the proposed shoe depth.

#### 2.4.3 Leak-Off Test

After drilling out cement and cleaning to bottom, drill 10 feet of new formation. Circulate and condition the mud and perform a leak-off test.

#### 2.4.4 Drilling Parameters

1. Weight - drill the float shoe with a maximum of 10,000 to 15,000 pounds. Restrict the drill-out torque to the make-up torque applied to the casing when running. Gradually increase the weight on the bit but keep the neutral point below the casing until the last stabilizer has cleared the shoe. As a rule, the hevi-wate drill pipe will be run in tension.
2. Rotary Speed - when drilling 17 1/2-inch hole, a maximum of 75 RPM rotary speed should be used until bit and stabilizers have cleared the float shoe and gradually increase to optimum speed (200  $\pm$  RPM) according to the formation encountered.

3. Pump Speed - when drilling the 17 1/2-inch hole, annular velocities should be maximized.

#### 2.4.5 Mud Properties

While drilling the 17 1/2-inch hole, a flocculated mud mixed by adding prehydrated gel to sea water will be used. A funnel viscosity 35 to 40 will be used to drill out and sea water additions will be made as needed. No water loss control will be maintained unless there are prospective hydrocarbon intervals in this section of the hole. All solids removal equipment should be in operation whenever circulating to effectively control solids build-up. Maintain 60 to 80 mesh screens on the shale shakers.

Reduce the PV by adding water and maintain the YP by continuous addition of prehydrated bentonite.

Prior to logging, the funnel viscosity should be increased to approximately 50-60 seconds by the addition of prehydrated gel.

#### 2.4.6 Wiper Trips

After drilling the 17 1/2-inch hole, make a wiper trip to the 20-inch casing shoe. Circulate the hole clean then pull out to log. Should the logs fail to go to bottom, raise the viscosity and yield point of the mud and make a second wiper trip. If the logs still fail to go to bottom, make a trip into the hole. Do not circulate. Pull out of hole without rotating the drill string.

#### 2.4.7 Deviation Control

While drilling the 17 1/2-inch hole, Totco surveys will be taken at 500 foot intervals below the 20-inch casing.

#### 2.4.8 Contingency for Kick Control while drilling the Surface Hole

A kick which occurs while drilling the surface hole will be handled as any other kick, but the definite possibility of a kick broaching to the surface around the conductor casing demands added precautions.

#### 2.4.9 Running 13 3/8-inch Casing

1. Prior to the start of running casing:
  - a. Calculate the space-out for the running strings.
  - b. Remove the casing protectors, clean and dry all threads.
  - c. Drift the casing, hanger and pup joint.
  - d. Make up the casing hanger, pup joint and the sub sea cementing plugs into a joint of casing. Stand in the derrick.
  - e. Have the cementer on board.
  - f. Mix gel and other additives in fresh water.
  - g. Retrieve the nominal wear bushing.



2. The float shoe, float collar, and all casing collars (on both mill side and field side) on the bottom two joints will be thread locked.
3. As soon as float equipment is picked up, check the floats for circulation.
4. Install centralizers per the drilling program.
5. Fill the casing as run. Calculate the running speed to avoid excessive surge pressures.
6. After installing the hanger, the 13 3/8-inch casing will be run on drill pipe. Drift the HWDP to insure adequate clearance for the ball and dart.

#### 2.4.10 Cementing the 13 3/8-inch casing

1. When the casing is landed and cement lines connected, break circulation slowly. If any hydrocarbon sands were encountered in the surface hole, circulate bottoms up prior to cementing.
2. While circulating, keep the annular velocity the same as used when drilling.
3. Mix cement, pump the dart and shear the wiper plug. Displace with rig pump or cementing pump.
4. Bring the cement 200 feet into the conductor casing. If a caliper log is not available, cement with the theoretical volume required.

5. Bump the plug with 2000 psi. Do not overdisplace the casing. Check the float. Do not test the casing at this time.
6. Observe returns while cementing. At completion of the cement job, back out the running tool and wash out the wellhead and BOP's thoroughly to remove any cement that might have accumulated in the wellhead, BOP's or riser.
7. If the float holds, back out the running tool and pull the running string.
8. Run the casing pack-off and test to 5000 psi.

## 2.4.11 Checklist for Materials and Equipment 17 1/2-Inch Hole

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>LOCATION</u>
1	Casing, 13 3/8-inch, K-55, 54.5 lb/ft, buttress, R-3 (two joints with loose couplings)	(8 extra)	Rig
2	Float Shoe, 13 3/8-inch buttress	2	Rig
3	Float Collar, 13 3/8-inch buttress box x pin	2	Rig
4	Casing Hanger, flow thru, 18 3/4-inch x 13 3/8-inch, Torque Set with 6-foot buttress pup joint, Cameron P/N 689410	2	Rig
5	Seal Assembly, 18 3/4-inch x 13 3/8-inch, Cameron P/N	2	Rig
6	Casing Hanger Running Tool, 18 3/4-inch x 13 3/8-inch, Cameron P/N 689432-1	2	Rig
7	Wear Bushing for 18 3/4-inch x 13 3/8-inch Housing, Cameron P/N 689701	1	Rig
8	Running and Testing Tool for 18 3/4-inch x 13 3/8-inch Torque Set Seal Assembly, Cameron P/N 689445-5	1	Rig
9	Testing Tool for 18 3/4-inch x 13 3/8-inch x 9 5/8-inch to test BOP, Cameron P/N 689460 c/w spare "O" Ring P/N 40314-14-13-85	1	Rig
10	Centralizer, 13 3/8-inch	10	Rig
11	Stop Collar, 13 3/8-inch	1	Rig

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>LOCATION</u>
12	Sub Sea Cementing Tools, Howco		
	Sub Sea Mandrel, 4-inch NU pin up	2	Rig
	Bottom Plug	2	Rig
	Top Plug	2	Rig
	Ball and Dart Launching		
	Manifold, 4 1/2-inch I.F.	1	Rig
	Ball	2	Rig
	Dart	2	Rig
13	Thread Protectors, 13 3/8-inch Klampon	5	Rig
14	Casing Drift, 12.250-inch O.D.	1	Rig
15	Circulating Sub, 13 3/8-inch buttress pin x 4 1/2-inch I.F. box	1	Rig
16	Thread Lock Compound, equivalent to Bakerlok Product 199-50	3 cans	Rig
17	Thread Lubricant, API Modified (no teflon)	4 pails	Rig
18	Emergency Slip and Seal Assembly w/running tools	1	Base
19	Stabilizer, 17 1/2-inch, four blade, 9 1/2-inch body w/7 5/8-inch API regular box and pin	2	Rig
20	Packer, Halliburton RTTS, for 13 3/8-inch, 54.5 lb/ft casing, adapted to 4 1/2-inch I.F.	1	Howco
21	Bit, 17 1/2-inch, X3A (or equivalent)	2	Rig
22	Marine Casing Cutter, 11 3/4- inch O.D., A-Z Hydraulic C-13 w/2 sets C13-8-19 knives	1	Base

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>LOCATION</u>
23	Marine Swivel, A-Z Assembly MSA-10, 12-inch O.D. w/6 5/8- inch API regular box and pin, c/w MSA-10-16 ring to land on 13 5/8-inch Wellhead, Cameron P/N 693880-01	1	Base
24	Cutter Space Out Assembly, A-Z, 6 1/4-inch DX 10-inches long	1	Base
25	Cutter Stabilizer, A-Z, w/ FWS-20 and FWS-5 blades	1	Base
26	Hole Opener, 17 1/2-inch, Security or equivalent, 6 5/8-inch API Reg. box by box	1	Rig
27	Hole Opener Cutters	1 set	Rig
28	Single Joint Elevators, 13 3/8-inch	1	Rig

## 2.5 Drilling the 12 1/4-Inch Hole and Running 9 5/8-Inch Casing

### 2.5.1 Testing the 18 3/4-inch BOP's and Casing

1. Test the BOP stack and choke manifold to 5000 psi, and the Hydril to 3500 psi prior to drilling out. The Drilling Supervisor will complete the test affidavit.
2. Test the casing prior to drilling out to 2000 psi.
3. Set the ball joint pressure.
4. Pump through the choke and kill line at 45 and 90 SPM to measure the circulating pressure loss. Record along with mud weight.
5. Perform a hang off drill on the upper pipe rams and post the space out information near the driller.

### 2.5.2 Drilling Out

1. Run the 12 1/4-inch wear bushing.
2. Check the cement samples prior to drilling out.
3. Restrict the torque when drilling out to the make-up torque applied to the casing while running.
4. When drilling out with stabilizers in the drill string keep the neutral point in the open hole.

### 2.5.3 After drilling out cement and drilling 10 feet of new hole, perform a leakoff test.

#### 2.5.4 Drilling Parameters

Drill the float collar and shoe with a maximum of 10,000 to 15,000 pounds and 75 RPM. Gradually increase the weight on the bit and the rotary speed to comply with the drilling program but maintain the neutral point below the casing until the last stabilizer has cleared the shoe.

#### 2.5.5 Hydraulics

Maintain the annular velocity specified in the drilling program. However, the nozzle sizes specified in the program are approximate and should be adjusted in the field as necessary.

#### 2.5.6 Mud Properties

Follow the mud properties specified in the drilling program. In general, run a flocculated prehydrated gel system until viscosity or water loss control is required, at which time chemical treatment should be initiated. Use the minimum chemical thinner required to control gel strength and reduce the water loss with bentonite and lignite. Prehydrate all bentonite in fresh water.

#### 2.5.7 Well Control

1. Abnormal pressure indicators will be monitored below surface casing.
2. Conduct well control drills routinely.

3. Test the blowout preventors weekly.
4. Function test BOP's on round trips.

#### 2.5.8 Formation Evaluation

The formation evaluation program is detailed in the drilling program.



### 3.0 FORMATION EVALUATION

FORMATION EVALUATION

Formation evaluation will be conducted as outlined in the Weaver Oil & Gas Geological Prognosis.

## 4.0 WELL CONTROL

WELL CONTROL

Well control procedures and operating guidelines are included in the Triton Well Control Manual and Section 4.4 of the Triton Operations Manual.

**5.0 CASING DESIGN FACTORS**

CASING DESIGN FACTORS

Casing design factors, along with running and handling procedures, are included in Section 3.3.2 of the Triton Operations Manual.

**6.0 CONTINGENCY PROCEDURES**

CONTINGENCY PROCEDURES

Contingency procedures for emergencies which may occur can be found in the Oil Spill Contingency Plan, the Emergency Procedures Manual, and Section 8 of the Triton Operations Manual.



**8.0 AUSTRALIAN GOVERNMENT REGULATIONS**

AUSTRALIAN GOVERNMENT REGULATIONS

The subject well will be drilled in full compliance with the Direction as to Drilling Operations (1 June 1980) by the State of Tasmania and the Commonwealth of Australia.