

3. WELL HISTORY

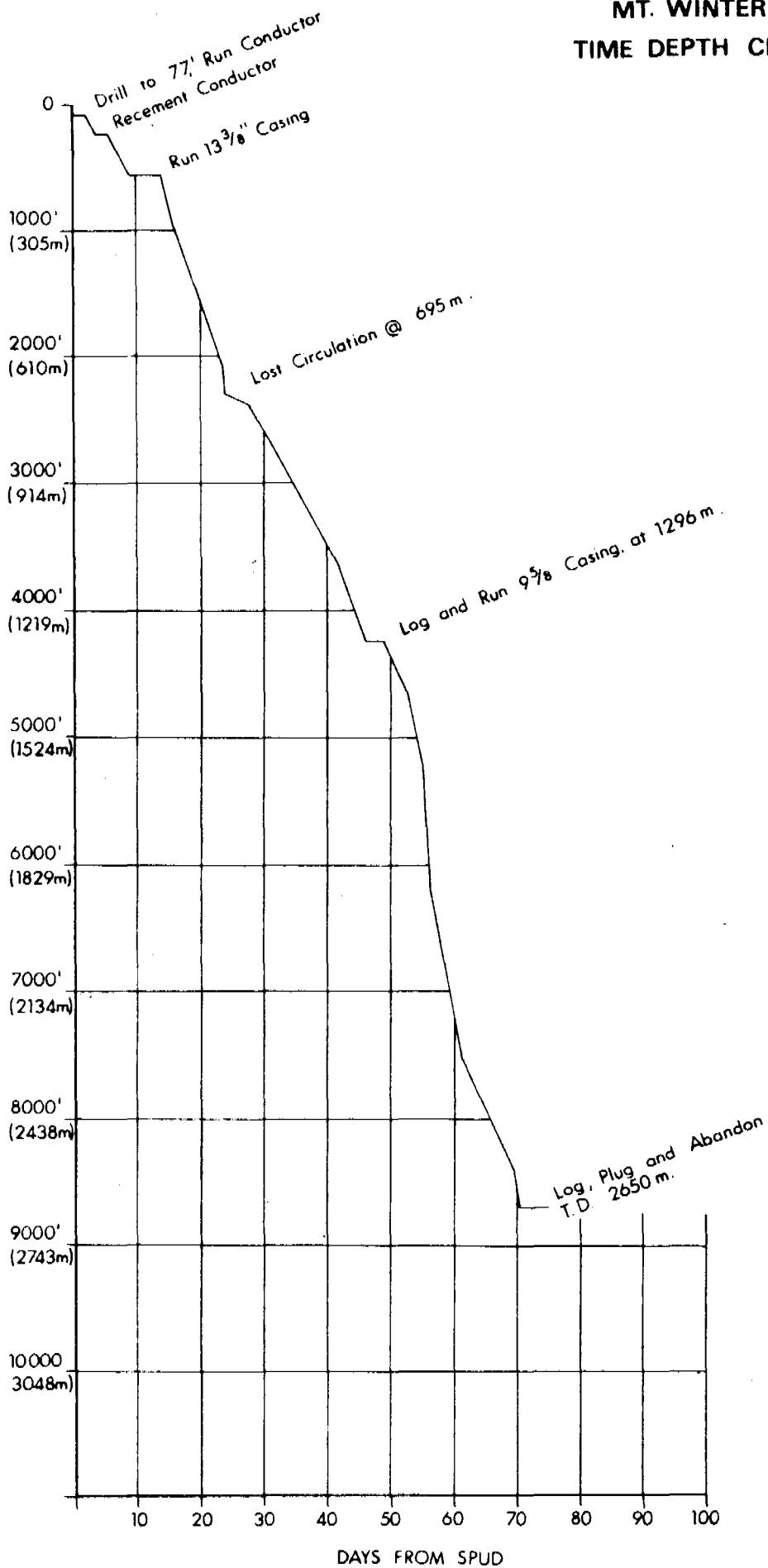
3.1 General Data

Well Name: Mt. Winter-1  
Operator: Pancontinental Petroleum Limited,  
11th Floor, 20 Bond Street, Sydney,  
N.S.W., 2000  
Tenement Holder: Magellan Petroleum (N.T.) Pty. Limited  
8th Floor, 420 George Street,  
Brisbane, QLD, 4000  
Petroleum Tenement: Oil Permit 178, Northern Territory  
District: Mt. Liebig  
Location: 23<sup>o</sup> 51' 57.3" S, 130<sup>o</sup> 47' 40.6" E.  
Water Supply: Drill water from Barry's Bore, located  
approximately 25 kms east of wellsite.  
Drinking water from Brown's Bore,  
located approximately 70 kms east of  
wellsite.  
Elevations: Ground - 646m above sea level  
Kelly Bushing - 653.5m above sea level.  
Total Depth: 2650 mKB  
Well Spudded: 20.00 hrs, November 29, 1981  
T.D. Reached: 20.00 hrs, February 8, 1982  
Rig Released: 20.00 hrs, February 12, 1982  
Total Time Drilling: 71 days  
Spud to Rig Released: 75 days (Figure 2)  
Well Status: The well was plugged with cement and  
abandoned.

3.2 Drilling Plant

Drilling Contractor: Petroleum Drilling Services Australia  
Pty. Limited, 5 Westcombe Street,  
Darra, QLD, 4076  
Drilling Rig: PDSA Rig 4  
Make: Houston Systems HD-5000  
Rated Depth: 4115m

# MT. WINTER 1 TIME DEPTH CHART



Power: 6 12V-71 Detroit Diesel engines  
4 GE SGT 558 DC Generator units  
2 Combination AC-DC Generator units  
with 2 GE SGT 558 DC Generators and  
2 Allis-Chalmers 300 KW, AC Generators.

Mast Make: Pyramid 136' x 24'

Mast Capacity: 600,000 lbs

Pumps: Skytop Brewok B-750 Duplex

Size: 7" x 16"

Rotary Table: Gardner Denver 27½

Drill Pipe: 11,000 ft 4½", 16.6 lb/ft Grade E  
with 4½ ft tool joints. 600 ft of  
4½" HEVI-WATE, 42 lb/ft with 4" if  
tool joints. 3000 ft of 4½", 16.6  
lb/ft Grade G.

Drill Collars: 15 - 8" Drill Collars.  
30 - 6½" Drill Collars

Well Control Equipment: Annular preventor - Hydril MSP20 2000  
21¼" rated at 2000 psi W.P.  
Annular preventor - Shaffer Spherical  
13-5/8" rated at 5000 psi  
Rams - 2 Shaffer LNS 13-5/8" single  
ram, rated at 5000 psi  
Rams - Shaffer SL SGL 13-5/8" single  
ram, rated at 5000 psi.

Air Drilling Equipment: (Supplied by Intairdrill)  
3 - Gardner WEN compressors rated at  
850 cfm, maximum pressure 3000 psi,  
each powered by a 12V-71 diesel engine.  
1 - Gardner Denver RLD Booster, maximum  
pressure 1000 psi, powered by 1 8V-71  
diesel engine.  
1 - Gardner Denver Triplex injection  
pump, diesel powered.

### 3.3 Drilling Data

#### 3.3.1 Well Configuration

<u>Hole Size</u>	<u>Depth</u>	<u>Casing &amp; Cementing Details</u>
26"	24m	Ran 22m of 20" casing. Landed at 24 mKB. Cement bottom of conductor with 20 sacks cement with 3% CaCl <sub>2</sub> . Cement outside conductor through 1" pipe with 114 sacks Brighton with 3% CaCl <sub>2</sub>
17½"	166m	Ran 12 joints of 13-3/8" 54.5 lb J-55 ST & C and 2 joints of 13-3/8" 61 lb J-55 ST & C casing. Landed at 165m. Cemented to surface with 107 sacks Class A with 2.5% gel, plus 300 sacks Neat Class A. Cement in place at 17.15 hrs, December 9, 1981. Good returns throughout.
12¼"	1296m	Ran 10 joints of 9-5/8" 43.5 lb N-80 LT & C, 60 joints 9-5/8" 40 lb J-55 ST & C, and 42 joints 9-5/8" 43.5 lb N-80 LT & C casing. Landed at 1296 mKB. Cemented with 200 sacks Class A with 2.5% prehydrated gel followed by 300 sacks Class A Neat. Cement in place at 14.30 hrs, January 17, 1982.
8½"	2650m	-

#### 3.3.2 Abandonment Programme

The well was plugged and abandoned on February 12, 1982.

Plug No. 1: 1455m - 1515m with 100 sacks Adelaide Brighton Blended Pozmix cement.

Plug No. 2: 1250 - 1310m with 100 sacks Class A cement. Tagged top of Plug No. 2 with DP at 1250m.

Plug No. 3: At surface with 16 sacks Adelaide Brighton Blended Pozmix.

### 3.3.3 Drilling Fluid

Drilling fluid and services were provided by Baroid. Surface hole was drilled using gel-water. After conductor was set, cement was drilled out with air, and drilling continued with air to a depth of 34m. At this point, the sand caving became a problem, and it was not possible to keep the hole open with air. Consequently, the drilling medium was changed to mud. Drilling continued with mud down to 166m, where 13-3/8" casing was set.

After drilling out and running a leak-off test, drilling continued using air. Water started to seep into the hole, and the drilling mode changed to mist drilling which progressed to a depth of 430m. At this point, the influx of water was too great to handle with the air compressor and so a switch was made back to mud drilling. At 695m, all returns were lost. 4 LCM pills and 3 cement plugs were pumped to try to remedy the problem, but without success. Drilling was continued with air/foam and aerated water to 1296m, where 9-5/8" casing was set.

Dry air was used to drill to 2014m. When water was encountered, a foam solution was injected with the air. At 2344m, the drilling fluid was changed back to mud, when the hole would not unload. At 2454m, a salt formation was encountered, hence salt was added to the mud to saturate it prior to drilling ahead. The saturated system was maintained for the duration of the well.

#### Chemicals Used at Mt. Winter-1

Gel	51,000 kg
Barite	20,760 kg
XC Polymer	600 kg
Sodium Sulphite	420 kg
Cellogen	1,750 kg
Salt	10,500 kg
Sodium Nitrate	150 kg
Soda Ash	1,040 kg

Caustic	1,840 kg
Quickfoam	5,740 ltr
Sodium Dichromate	460 kg
Mica	1,750 kg
Calcium Chloride	200 kg
Sawdust	3,180 kg
Sodium Bicarbonate	160 kg

3.3.4 Deviation Surveys

<u>Depth</u>	<u>Angle</u>	<u>Depth</u>	<u>Angle</u>
54	¼	953	1¼
91	½	1,050	1
130	1	1,290	1½
151	¾	2,188	7-¾
290	½	2,333	9
559	½	2,436	5
767.5	2-¾	2,641	8½

3.3.5 Formation Sampling

Samples of drilled cuttings were caught every 10 feet. The distribution was as follows:

Northern Territory Department of Mines	1
Bureau of Mineral Resources	1
Pancontinental Petroleum Limited	2
Magellan Petroleum (N.T.) Pty. Limited	1

Cuttings are described in Appendix A and Enclosure 2.

3.3.6 Conventional Coring

<u>Core No</u>	<u>Size</u>	<u>Interval</u>	<u>Formation</u>	<u>Recovery</u>
1	8-15/32	189.6-191.1m	Basal Stairway	100%
2	8-15/32	1336.2-1340.4m	Tempe	87%
3	8-15/32	2187-2196m	Bitter Springs	100%

Cores are described in Appendix B and Appendix C.

3.3.7 Sidewall Coring

21 sidewall cores were shot with 14 samples being recovered at the following depths:

2367	1705
2354	1688
1883	1637
1782	1627
1748	1638
1744	1483
1729	1424

The sidewall cores are described in Appendix D.

3.3.8 Wireline Logging

12½" Hole:

DLL	All logs run from 1296m to
MSFL	surface casing, GR run to
CNL	surface
FDC	
GR	
CAL	
BHC Sonic	
Dipmeter	

8½" Hole:

DLL	Ran from 2530m to 1296m
MSFL	
FDC	
CNL	
GR	
CAL	
GR	
BHC Sonic	Ran from 2603 to 1296m
Dipmeter	
Velocity Survey	

A list of the logs run are included in Appendix F.

3.3.9 Drill Stem Testing

Nil.