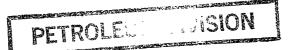


AMITY OIL NL

BROADBILL-1

WELL COMPLETION REPORT



0 4 AUG 1998

Prepared by

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1. INTRODUCTION

Broadbill-1 well was drilled in Permit VIC/P36 between the 17th and 31st January 1998. The well was located 6kilometres offshore of the Victorian coast and 13 kilometres west of the Perch oilfield within the Gippsland Basin.

The Broadbill Prospect was defined from a reasonable density seismic grid of various vintages ranging from 1981 to 1989. Direct well control was provided by the nearby Tommyruff-1 well. The Prospect was interpreted as a simple anticline with minimal fault impact and was prognosed to contain up to 78mmbbls recoverable oil.

Good oil shows to the west, in the onshore Woodside wells, the existence of the Perch Oilfield some 13 kilometres to the west, plus the well defined structural closure led to this prospect being highly regarded as a potential oil discovery. Prior to drilling, reservoir development was not considered a high risk, although seismic correlation on the available data set did not allow categoric definition of lateral extents of the sandstone section intersected at Top Latrobe Group in the nearby Tommyruff-1 well. There are no direct ties to the onshore Woodside wells.

Formation Tops were intersected at or near prognosis but, contrary to expectations, the Top Latrobe comprised a sequence of coals and shales with thin sandstones. The expected development of a thick sandstone unit similar to that intersected at Tommyruff-1 was absent and the first lithological unit encountered underneath the regional Lakes Entrance Formation seal was a thick coal. This effectively replaced any reservoir at Top Latrobe closure. Gas readings through this shaly coal unit were high. Indeed, gas readings remained high from Top Latrobe to a depth of 966 metres KB. Unfortunately reservoir development was poor throughout this section. No fluorescence was recorded in this upper part of the Latrobe Group. The remainder of the Latrobe Group was effectively devoid of hydrocarbon.

Due to drilling difficulties related to ledging and caving in of the interbedded coals, the well was terminated 5 metres into the Strzelecki Group. The difficult hole problems prevented logs being run over the lower 350 metres of the well.

Broadbill-1 was plugged and abandoned as a dry hole with gas shows.

2. WELL HISTORY

2.1 PERMIT AND LOCATION DATA

Well Name and Number Broadbill-1 (i)

Name and Address of Amity Oil NL (ii)

> 2nd Floor, 18 Richardson Street Operator

West Perth

Western Australia 6005

(iii) Post Drilling Amity Oil NL 60.00%

Name and Interests of Tenement holders

Latrobe Oil & Gas Pty Ltd 25.00%

Pan Pacific Petroleum (South Aust.) Pty Ltd 15.00%

(iv) **Exploration Permit** VIC/P36

(v) Basin Offshore Gippsland Basin, Victoria

Location Shotpoint 168 1989 Seismic Line GSE89A-08 (vi)

> Latitude: 38° 35'25.28" South Longitude: 147°01'17.40"East

(vii) Elevations: RKB 31.60 metres above mean sea level

> Water Depth 22 metres RKB to Seabed 53.60metres

17th January 1998 (viii) Date Spudded

Date Total Depth (ix) Reached 26th January 1998

Date Rig Released 31st January 1998 (x)

(xi) **Drilling Time** 15days

(xii) Total Depth 1345 metres KB

(xiii) Status Plugged and Abandoned

DRILLING PLANT 2.2

> Name and address of Santa Fe Drilling Operations Inc. (i)

Drilling Contractor 111 Raymond Street

SALE VIC 3850

(ii) **Drilling Unit** Parameswara

See Appendix 5 for details

2.3 DRILLING SUMMARY

Broadbill-1 well spudded at 1600 hours on 17th January, 1998. The 36 inch, (914mm), hole was drilled to 110 mKB with few problems. Ten joints of 30 inch (762mm) casing were run from 0300-0600 hours on 18th January. The 30 inch (762mm) riser extension was installed on the A Section. Commenced drilling and casing with 17½ inch (444mm) assembly at 1600 hours on 19th January. Tagged cement at 63 mKB and drilled to shoe at 106 mKB. Cleared out rathole to 110 mKB. Made up 121/4 inch (311mm) and commenced drilling at 0130 hours on 19th January to 117 mKB. Bit plugged and unable to clear. Cuttings found packed on top of DP float. ROV detects open hole around conductor. Rig up and grout 30 inch annulus through $2^{7}/_{8}$ inch (73mm) tubing with 40 bbls slurry at 15.9 ppg. Recommenced drilling 121/4 inch hole at 0630 hours on 20th January. Drill to 230mKB. Experiencing fluid losses increasing to 70 bbls/hour. Pump 25 bbl Hi-Vis pill with LCM. Work pipe and circulate out at reduced pump rate. Continue drilling to 413 mKB. Spot 100 lbs LCM pill across open hole. Run single shot survey at 398 mKB. Continue drilling to 701 mKB. Run survey at 686.82 mKB. Continue drilling to 785 mKB. Reach casing point; clean up hole. Run Schlumberger logging at 2330 hours on 21st January. Finish logging at 0630 hours on 22nd January. Run casing at 0900 hours and cement. Final cut, and nipple up B section at 0600 hours. Pressure test BOPs. All rams 500/3500 psi 5/10 min. Annular 500/2000 psi 5/10 min. Run in with 81/4 inch (210mm) string. Tag cement at 745 mKB. Drill out to 775 mKB. Drill shoe, clean rat hole and drill new formation to 788 mKB. Perform FIT at 788 mKB w/8.8 ppg, leak off at 564 psi, EMW 13 ppg. Drill on from 788 to 1095 mKB. Run MSS survey. Tight hole. Re-enter hole, work pipe at 150 rpm, reduced pump rate from 1065 to 1076 mKB. Regain full returns. Drill on from 1095 to 1345 mKB. Circulate bottom up, run MSS survey. Tight hole. Back reaming with slow progress 1268-1249 mKB. Minor fluid losses. Circulate hole clean and retrieve MSS tool. RIH to bottom; wash and ream 1078-1124 mKB. Hole clean, no problems. Run Schlumberger electric logs at 2000 hours on 26th January. Encountered hole problems 860-897 mKB, 960 mKB, 1004 to 1030 mKB. Could not pass 1030 mKB. Pull out logging tools. Re-enter hole at 0300 hours on 27th January and work through ledges at 880 and 982 mKB. Work tight hole at 1027 and 1035 mKB. Circulate, clean and displace open hole with Hi Vis. Run in hole with Schlumberger at 1730 hours on 27th January. Unable to pass ledging at 857 mKB. Pull out and abandon logging programme. Begin abandonment programme at 0230 hours on 28th January. Pull 30 inch conductor at 0430 hours on 30th January. Jack down at 2115 hours on 31st January.

2.4 DRILLING DATA

2.4.1 Well Profile

Broadbill-1 well was drilled with the following hole size:

914 millimetre (36inch) - 53 metres KB to 110 metres KB.

311 millimetre (121/4 inch) - 110 metres KB to 785 metres KB.

216 millimetre (8½ inch) - 785 metres KB to 1345 metres KB.

The well profile is illustrated in Figure 3.

2.4.2 Bit Record

Refer Table 1.

2.4.3. Casing and Cementing

Cementing operations were carried out by Halliburton.

Surface Casing

10 joints, 762mm (30 inch) OD grade X52; SF60 thread;460kg/m. Float shoe on bottom, landed at 106mKB.

Cementing Operation

Mixed and pumped 157bbl, (760sx),15.9 ppg, initially with 40bbl, (194sx), top up.

Intermediate Casing

57 joints; 244mm (9⁵/₈ inch) OD; grade L80; LTC thread; 69.5kg/m. Float shoe on bottom, landed at 779mKB.

Cementing Operation

Mixed and pumped 302bbl (800sx), 12.5 lead, 41bbl (200sx), 15.8 ppg tail

2.4.4 Drilling Fluid and Mud Summary

A. Surface Hole, 914 millimetre - 53 to 110 metres KB.

This section was drilled using a Sea Water/Hi-Vis Aquagel mud. The well was drilled with 40bbl hi-vis sweeps every 5-10 metres, with an 80bbl hi-vis sweep followed by a 35bbl hi-vis sweep at 110mKb. The hole was displaced by unflocculated pre-hydrated Aquagel prior to running 762mm conductor.

B. Intermediate Hole, 311 millimetre - 110 to 785 mKB.

This section was drilled using a Seawater/Aquagel/Polymer Mud. Fluid properties were maintained with mud weight at 8.9 to 9.2ppg, funnel viscosity 45 to 85 sec/qt and pH 8.2 to 8.5. No problems were experienced during the running and cementing of the 244 millimetre O.D. intermediate casing.

C. Production Hole, 216 millimetre - 785 to 1345m.

This section was drilled using a KCL/EZ-Mud/Polymer Mud. Fluid properties were maintained with mud weight 8.90 to 9.50ppg. Plastic viscosity averaged 10 to 16 cP, and pH ranged from 8.20 to 9.20. Mud weight was kept at 8.90ppg to 865mKB when coal seam sloughing led to mud loss. Weight increased to 9.50 ppg.

Refer to Appendix 5 for mud engineering report.

2.4.5 Bottom Hole Assembly

Refer to Table 2 for Bottom hole assembly.

2.4.6 Perforating Record

No perforations were carried out on the Broadbill-1 well.

2.4.7 Fishing

No fishing was necessary in Broadbill-1.

2.5 FORMATION SAMPLING

2.5.1 Ditch Cuttings

Samplings of ditch cuttings commenced at 100 metres KB, with samples collected at 15 metre intervals to 750 metres KB and every 10 metres from 750 metres KB to T.D. of 1345 metres KB. Over certain intervals, at client request, samples were taken every 5 metres. Two sets of 100 grams washed and dried cutting samples were collected and forwarded to the Victorian Department of Natural Resources and Environment Core Repository.

2.5.2 Coring

No cores were cut in Broadbill-1 well.

2.5.3 Sidewall Coring

No sidewall cores were taken in Broadbill-1 well.

2.6 LOGGING AND SURVEYS

2.6.1 Mudlogging

The mudlogging unit was provided by Halliburton and was operational from 100 metres KB to total depth. Continuous 24 hours per day monitoring of drilling operations included measurement and recording of:

- depth
- rate of penetration
- total gas levels
- gas chromatograph analysis
- pump stroke rate
- mud pit levels
- hook load/weight on bit

The final mud log, at a scale of 1:200 was annotated with:

- depth (metres)
- deviation surveys
- dates
- times
- lithology
- casing depths
- drilling parameters and bit information
- mud properties
- rate of penetration
- cuttings gas
- hydrocarbon shows
- drill stem test intervals
- formation integrity tests

Gas detectors and chromatographs were calibrated with standard check gas blends each trip. The gas detectors were calibrated in order to produce a chart deflection of 50 units by 1% methane. Calcium carbide checks were run on a regular basis.

The mudlogging services, including lagging, collection and description of drill cuttings, as well as microscopic and fluoroscopic examination of drill cuttings for hydrocarbon shows. The mudlog forms Enclosure 2.

2.6.2 Wireline Logging

Wireline logging was carried out by Schlumberger. Two logging runs were carried out on this well.

LOG	VERTICAL	SCALE	Г	EPTH RANGE	RUN NO.
BHC-DLL-MSFL	-CALS-GR-AMS	1:200,500	106	to 783 metres KB	1
LDL-CNL-CALI-	GR-AMS	1:200,500	106	to 783 metres KB	1
BHC-DLL-MSFL	GR-CALS-AMS	1:200,500	779	to 994 metres KB	2
LDL-CNL-GR-CA	ALI-AMS-SP	1:200,500	77 9	to 994 metres KB	2

Petrophysical Log Analysis (refer Appendix 6 and enclosure 3).

2.6.3 Deviation Surveys

The following surveys were carried out on the Broadbill-1 well.

Depth metres KB	Deviation°	Azimuth Corrected
110	0	0°
399	0.15	7 °
687	0.30	66°
780	0.25	333°
1074	2.25	45°
1340	3.30	53°

2.6.4. Temperature Surveys

No temperature surveys were run on the Broadbill-1 well. Maximum recorded temperatures from log runs were 42°C at 783mKB and 47°C at 994mKB. This gives a temperature gradient of 2.30°C per 100 metres at 783mKB and 2.71°C per 100 metres at 994mKB

2.6.5 Velocity Survey

No velocity survey was run in Broadbill-1.

2.7 TESTING

2.7.1 Drill Stem Tests

There were no Drill Stem Tests carried out on Broadbill-1 well.

2.7.2 Formation Integrity Test

One formation integrity test (F.I.T.) was performed at 788 metres KB. Mud weight 8.80 ppg; leak off at 564 psi; equivalent mud weight 13.0 ppg

2.8 ABANDONMENT OF WELL

Broadbill-1 well was plugged and abandoned on 30th January 1998 Cementing operations were carried out by Halliburton. See Fig 3 for final P & A Status.

3. GEOLOGY

3.1 REGIONAL GEOLOGY AND TECTONIC SETTING

VIC/P36 is located in the Gippsland Basin, offshore Victoria.

The Gippsland Basin is a Late Mesozoic to Tertiary basin located mainly offshore in the northeastern part of the Bass Strait. To the north basin sediments unconformably onlap the Paleozoic rocks of the Tasman Fold Belt. The basin is separated from the Bass Basin to the southwest by the Bassian Rise. The eastern margin is marked by a north-northeast trending structured high at the base of the continental slope.

The Gippsland Basin is estimated to contain up to 14,000 metres of sediments in an east-southeast trending deopcentre.

Deposition commenced in the Early Cretaceous and was related to the breakup of Gondwana. This complex breakup developed a rift complex extending along the southern and eastern margins of Australia. The Strzelecki Group and the equivalent Otway Group in the Bass and Otway Basins, were deposited in this developing rift complex. Strzelecki sediments comprise interbedded fluvial volcanoclastic sandstones, siltstones and minor coals. Further drifting episodes during the Early Cretaceous formed a series of horsts and grabens. In excess of 4000 metres of Strzelecki sediments are estimated within the Central Deep.

At the end of the Early Cretaceous a major tectonic event occurred resulting in vertical faulting and flower structures within the central area. Block faulting along the southern edge of the basin created the Southern Terrace and Southern Platform. Intense wrenching and faulting led to the development of wrench-related anticlines in the Central Deep, (e.g. Barracouta structure), and also gave rise to the Northern Terrace. Major fault systems such as the Rosedale, Foster and Darriman are all related to reactivation of deep-seated faults bounding basement blocks.

During the mid-Cretaceous another tectonic episode resulted in significant erosion at the Top Strzelecki. This crustal extension related episode is associated with final separation of Australia and Antarctica. Rifting was associated with a period of uplift and erosion and instigated major northwest- to southeast normal faulting. The Gippsland Basin effectively separated from the Bass and Otway Basins at this time.

The Golden Beach Group sediments were deposited on the North and South Terraces and within the Central Deep. These sediments comprise predominantly sandstones and shales with minor siltstones deposited in an active evolving rift setting Golden Bead sediments towards the east of the Basin.

In the early Companion uplift of the area occurred coincident with the opening of the Tasman Sea. This tectonic episode is marked by an unconformity at the top of the Golden Beach and by extensive volcanism. Several wells on the northern margin of the Gippsland Basin, (e.g. Kipper-1, Basher-1 etc), have penetrated volcanics interbedded with alluvial sediments. Active fault controlled subsidence occurred between the Foster Fault System to the south and the Wellington Fault System to the north. High deposition rates persisted until the Eocene, giving rise to the interbedded sandstone shale and coal sequence of the Latrobe Group. In Late Eocene the Tasman Sea began to encroach from a southeasterly direction. Sedimentation rates declined and the shoreline transgressed to the west and northwest depositing the thin glauconitic shales of the Gurnard Formation over a

wide area. At the end of the Eocene there was another significant tectonic event related to the cessation of spreading of the Tasman Sea and to extensive transpressional reactivations caused by southeast-northwest compression. This led to reactivation of many existing fault zones with reversal in many instances. Numerous northwest-southeast trending anticlinal structures were formed, with many of the hydrocarbon bearing structures being initiated. Regional uplift led to the development of numerous submarine channels, particularly along the eastern seaward margin of the basin. This channelling continued into the early Oligocene.

During the Oligocene to Miocene the area was subject to continued thermal subsidence, with relatively minor structural activation episodes. The thick Seaspray Group was deposited during this time and consists of he very fine grained shales and marls of the Lakes Entrance Formation and the massive limestone and thin sand sequence of the Gippsland Limestone Formation. The structural movements and considerable eustatic sea level fluctuations resulted in significant channelling continuing through into the Miocene. Some of these channels are major and extensive and significant to the entrapment of hydrocarbons.

A further reactivation of the earlier compressional tectonic events occurred during Miocene to Phoecene, resulting in rejuvenation of existing structures, initiation of new anticlinal features and tilting of the basin margin.

3.2 SUMMARY OF PREVIOUS WORK

Over 3000 kms of 2D seismic data have been acquired across VIC/P36 since 1963. Much of the early seismic is virtually unusable. The bulk of the data was acquired by Australian Aquitaine Petroleum in 1980-1983. In the north and west of the permit there were two speculative seismic surveys acquired in 1985 and since that time there has been a significant amount of detailed 2D and 3D seismic related t the Whiptail to Flying Fish series of structures. Some of the later data in the very north of the permit is available as SEGY data, but the majority of the non-speculative 2D seismic data is only available as hard copy.

Six wells were drilled within VIC/P36 during the 1980s and early 1990s. Although significant shows were intersected in Amberjack-1, Tommyruff-1 and Flying Fish-1, none of these wells were discoveries. There are a number of oilfields adjacent to the permit, including the Perch, Dolphin, Torsk, Tarwhine, Whiptail and Mulloway fields. Onshore, to the west are the good oil shows in the Woodside wells. Amity Oil NL was awarded VIC/P36 in 1995 and since then have re-interpreted all the available seismic data and correlated all available well information. This has led to the identification of several leads and prospects on the western margin of the permit of which the Broadbill prospect was considered to have the highest potential as an oil discovery.

3.3 BROADBILL-1 STRATIGRAPHY

For detailed descriptions of the lithology refer to the Composite Well Log, Mudlog and wellsite lithology sample descriptions in Enclosures 1, 2 and Appendix 3 respectively. Petrophysical log analysis is included in Appendix 6 and the Complex Lithology is included as enclosure 3.

The general stratigraphy of the offshore Gippsland Basin is shown in Figure 4 and the predicted and actual stratigraphic section of Broadbill-1 is shown in Figure 5.

STREZLECKI GROUP 1340 mKB to T.D. 1345 mKB

Only five metres of the Strezlecki Group was penetrated in Broadbill-1 well. The top of this group was picked on the evidence of a pink to brown coloration, with traces of volcanic fragments. No electric logs were available over the last 360m of the hole.

GOLDEN BEACH GROUP 1290mKB to 1340 mKB

The top of this unit was picked on a sharp decrease in drill rate and by an increase in quartz overgrowths and lithic fragments leading to a sharp decrease in porosity relative to the overlying Latrobe Group section.

The Golden Beach Group equivalent at Broadbill-1 comprised thick sandstones within interbedded shales and siltstones. Sandstones were medium to coarse grained, translucent to milky white with minor quartz overgrowths and traces of lithic fragments. Shales were soft, light grey to brown, with traces of mica, and the siltstones were argillaceous light brown and blocky. With no electric loop over the interval the thickness of individual lithologies cannot be determined.

LATROBE GROUP 850 TO 1290 mKB

The top of the Latrobe Group is picked from logs as an increase in resistivity and a decrease in the gamma. The first lithologic unit intersected beneath the Lakes Entrance claystones was a massive coal unit. The well experienced a severe washout over this interval.

The Latrobe Group at Broadbill comprised interbedded sandstones, siltstones and coals with a high proportion of coals in the first two hundred metres and an increasing percentage of sandstone over the next two hundred and forty metres. Due to hole difficulties no electric logs were obtained over the lower three hundred metres and thicknesses of individual lithologies are hard to determine. From 875 mKB to the base of the Latrobe only the mud log and ROP log are available to correlate lithology. Using a combination of these two logs a reasonably representative correlation can be made with the geological logs.

Sandstones penetrated in Broadbill-1 were generally fine to medium grained, becoming coarser towards the bottom of the sequence, well sorted, generally subrounded and loose grained. Porosity varied from very good at the top of the sequence to fair at the base of the sequence. No fluorescence was recorded in any sandstone within the Latrobe Group, but there were high C_1 gas readings over the first 110 metres of the sequence, and significant gas peaks for the next 100 metres. No significant shows of any kind were detected over the lower 230 metres.

Coals were uniformly dull black; moderately hard and bituminous and varied in thickness from less than 1 metre to 15 metres plus near the top of the sequence.

Siltstones were generally thin and confined to the top 200 metres of the sequence. Generally, they were brown to grey coloured, moderately soft and carbonaceous.

LAKES ENTRANCE FORMATION 782 - 850 mKB

The Lakes Entrance Formation claystones from the major seal for the Latrobe Group sandstones. In Broadbill-1 72 metres of this formation were penetrated. The section was composed entirely of grey to olive-grey, slightly silty and carbonaceous claystones with traces of glauconite towards the base. The claystones were soft to very soft with occasional firm layers and generally calcareous.

GIPPSLAND LIMESTONE FORMATION 53-782 mKB

The Gippsland Limestone Formation at Broadbill consisted of massive interbedded sandstones and limestones well delineated on the sonic logs. The interpreted Miocene sandstone, which had good shows in nearby wells, was intersected only 4 metres low to prognosis and while having good reservoir characteristics, there were no shows.

Sandstones were encountered mainly in the upper part of the Gippsland Limestone Formation with a 140 metre plus sand at the top of the formation. The lower 300 metres of the section was basically sandstone free.

Sandstones of the Gippsland Limestone Formation were medium to fine grained, rounded to subangular, moderately well sorted, with loose quartz grains and good porosity. The upper sandstones especially were highly fossiliferous.

Limestones were massive, generally grey to cream coloured calcarenites to calcilutites with abundant fossil fragments and traces of glauconite.

3.4 CONTRIBUTIONS TO GEOLOGICAL KNOWLEDGE

3.4.1 Trap

The Broadbill prospect is a low relief four way dip closure at Top Latrobe Group situated on the northern flank of an east-west paleo nose controlled by the intersection of two distinct fault trends within the deeper section. The structure exhibits a multi-phase structural history with initial development in the Oligocene or earlier followed by at least one phase of reactivation within the Miocene. Late Tertiary regional tilting is indicated, with post-Miocene section thickening towards the south and west, as opposed to a north and east dip within the Lakes Entrance Formation and Latrobe Group. Closure at Top Latrobe is a four way dip drape feature over tilted fault block within the Latrobe.

Seismic control is good except on the extreme west of the prospect. This does not compromise the crestal closure in time. Depth conversions maintained the structural integrity.

3.4.2 Reservoir

Primary reservoir at Broadbill-1 was prognosed as Top Latrobe Group sands, similar to the good sand intersected at the nearby Tommruff-1 well. Geophysical and geological interpretation indicated the vertical closure at Top Latrobe would be a thick sand unit with high porosity of 28 to 30%. Seismic data correlations were hampered by lack of digital data and the poor quality of the hard copy processed data. This reduced the ability to directly correlate the intra-Latrobe lithology, with the seismic signature of the coals and sandstones being impossible to differentiate. In the event the Top Latrobe Group directly beneath the regional Lakes Entrance seal proved to be coal. Gas readings within the coal unit and in the sandstone units below were high, but logs indicated that there was no commercial accumulation.

The intra-Latrobe sands proposed as secondary reservoir objectives, are trapped within a fault controlled block. No significant shows were intersected in the lower part of the Latrobe Group and hole difficulties prevented logging of this section. Post drill correlations indicate the likely distribution of lithology between Tommyruff-1, Broadbill-1 and Woodside-1 (Enclosure 4).

3.4.3 Seal

Seal for the Broadbill structure is supplied by the basal Lakes Entrance shale and marl sequence which forms the regional seal for the majority of hydrocarbon discoveries within the Gippsland Basin. This seal was well developed in Broadbill-1.

Intra-formational coals and carbonaceous shales form the seal for the intra-Latrobe sands. Accumulations within these sands, however, are dependent on cross-fault sealing. With the highly interbedded nature of the Latrobe section at Broadbill-1 the likelihood of cross fault leakage is considered to be high.

3.4.4. Source

The sediments of the older Latrobe Group Coal measures provide the major hydrocarbon source for the oil and gas fields around the central deep in the Gippsland Basin. Within VIC/P36 the Latrobe Group is relatively shallow and sub-mature for oil generation. Migration of oil and gas from the mature Lower Latrobe coals and carbonaceous shales to the northeast and east of the Broadbill-l location is proposed, as well as some contribution from the Strzelecki Formation which is potentially in the oil window on the southern platform in the south of VIC/P36. The adjacent Perch and Dolphin fields to the east of Broadbill and the good shows in the onshore Woodside wells to the west provide evidence of migration through the area around the Broadbill prospect.

3.4.5 Hydrocarbons and Shows

There were no oil shows within Broadbill-1 in any part of the section. The Lakes Entrance Formation indicated minor gas shows. Gas shows were high in the first 166m of the Latrobe Group, but fell off rapidly after that. Minor gas shows only were recorded from 966 mKB to T.D. of 1345 mKB. Broadbill-1 is interpreted to contain stacked reservoirs of gas at saturations too low to be economic. Failure to obtain logs below 994 mKB did not allow full petrophysical analysis of the Latrobe Group. The complex lithology log, (Enclosure 3), shows the interpretation of the top 110m of the Latrobe Group.

3.5 CONCLUSIONS

Broadbill-1 well confirmed the structural interpretation of the Broadbill prospect. The presence of coal at Top Latrobe, within the four way closure controlled by drape of the regional Lakes Entrance seal was unexpected, with the prognosis being a thick, high porosity sand similar to that encountered in Tommyruff-1 to the east. There are several possible explanations for this lack of sand at base seal.

The simplest solution is that erosion of the paleo-high on which Broadbill-1 is located has led to the unfortunate situation of a coal at Top Latrobe.

A more complicated scenario involves a different depositional environment on the paleo-high with more coal deposition at the top of the sequence or a lack of deposition of the younger, high-quality sands. With no cores or sidewall cores at Broadbill-1 there is no definitive age-dating to correlate between Broadbill-1 and Tommyruff-1.

Post-well reinterpretation of the Latrobe Group (Enclosure 4) shows the likely correlation of internal lithology of the upper Latrobe.

The lack of oil shows within the Latrobe Group was unexpected, especially with the nearby Perch oilfield to the east and the good shows in the onshore Woodside wells to the west. The presence of gas within the upper 115 metres of the Latrobe indicates a stacked section of accumulations. With no testing it is uncertain whether there is continuity of column or whether there are a series of small accumulations.

The lack of liquid hydrocarbons is attributed to either lack of closure or to migration shadow during oil generation and migration, possibly related to the Tertiary regional tilting referred to earlier in this report. Later readjustment and reestablishment of four way dip closure allowed the capture of migrating gas.

Broadbill-1 well tested a bonafide closure at Top Latrobe, which recorded a gas charged sequence within the upper 115m of section. Log evaluation indicated low saturation of gas, with a low net to gross reservoir section. The well was plugged and abandoned as a dry hole.

3.6 COST SUMMARY - BROADBILL-1

Site Preparations - Site Surveys & Government Reports	676,587
Rig Mobilisation-Demobilisation	\$1,408,989
Rig Cost - Overall Cost Spud to Release	2,366,391
Sundry Drilling Costs	1,107,900
Casing	540,702
Cementing	101,964
Mud Engineering and Fluids	60,436
Electric Logging	256,103
Technical Operations (Supervision, Mudlogging, Well Site Geologists etc)	810,326
Insurance and General	152,324
Total Costs	\$ <u>7,481,722</u>

\$

TABLE 1

DRILLING PERFORMANCE DATA BASE: BIT RECORDS

Units

Lengt	h Weight	Pressure	Flow	Density	ROP
mtrs	k-lbs	psi	Usgal/m	US ppg	m/hr

BROADBILL-1

SANTA FE

PARAMESWARA

DATE	BIT#	SIZE	SER#	MF	TYPE	1	""	2		TFA	OUT	FTGE	HR	SPP	FLW	WOB	RPM	MW	ROP	<u>, [1</u>	12	1.3	a de	, 1	: D		В
18/01/98	1	26.00	295478	VA	L3AB	3	22	4	17		110	58	4.5	651	901	2	71	0.0	12.9]		1	1	NO	A	0
19/01/98	2	17.50	W52CK	SM	R-1	3	20			.920	110	47	2	1151	901	11	86	8.9	23.5				1	1	NO	Α	1 1
21/01/98	3	12.25	G25CX	HU	MAX GT-1	3	16			.588	785	675	21.6	2152	748	12.8	131	9.2	31.2]		1	1	no	а	2
26/01/98	4	8.50	L8418D6	ОТ	ATMT	2	16	1	14	.542	1,345	577	27.1	1302	501	18.3	131	9.4	21.3	4	4	7	2	2	FC	Α	E

QUICK-LOOK BIT RECORD

(Check DPD option to generate a compressed bit record)

BROADBILL-1

From:

17/01/98

To: 26/01/98

DATE	BIT#	SIZE	SER#	MFR	TYPE	N1	N2	OUT	HR			TOTRPM	ROP	12	13	14	_O 1∈	$\mathbb{Q}^{D_{(1)}}$	$j_j > \mathbf{L}_j < 1$	В	G	02	R
17/01/98	1	26.00	295478	VA	L3AB	22	4	52	58.0	650	, ,	0											
18/01/98	1	26.00	295478	VA	L3AB	22	4	52	58.0	650	1	18,900	12.9				1	1	N	Α	0	i	NO
19/01/98	2	17.50	W52CK	SM	R-1	20		63	47.0	1150	10	10,200	23.5				1	1	N	Α	1	i	NO
19/01/98	3	12.25	G25CX	HU	MAX GT-	16		110	0.0	1		0						ļ					1
20/01/98	3.	12.25	G25CX	HU	MAX GT-	16		110	435.0	2400	10	98,280	34.5										
21/01/98	3	12.25	G25CX	HU	MAX GT-	16		110	675.0	1700	15	70,200	26.7				1	2	no	а	2	1	no
22/01/98	3	0.00		ОТ	İ		0	785	675.0	0	0	0	j j										i l
23/01/98	4	8.50	L8418D6	HU	ATMGT	16	- 1	785	0.0			0		4	4	7.00							1
24/01/98	4	8.50	L8418D6	HU	ATMGT	16	1	785	317.0	1240	15	70,200	35.2	4	4	7.00							i [
25/01/98	4	8.50	L8418D6	HU	ATMGT	16	1	785	567.0	1375	20	127,140	15.3	4	4	7.00							i l
26/01/98	4	8.50	L8418D6	ОТ	ATMGT	16	1	785	577.0	1375	20	14,040	5.6	4	4	7.00	2	2	FC	A	E	1	

TABLE 2

WELL:

BROADBILL-1

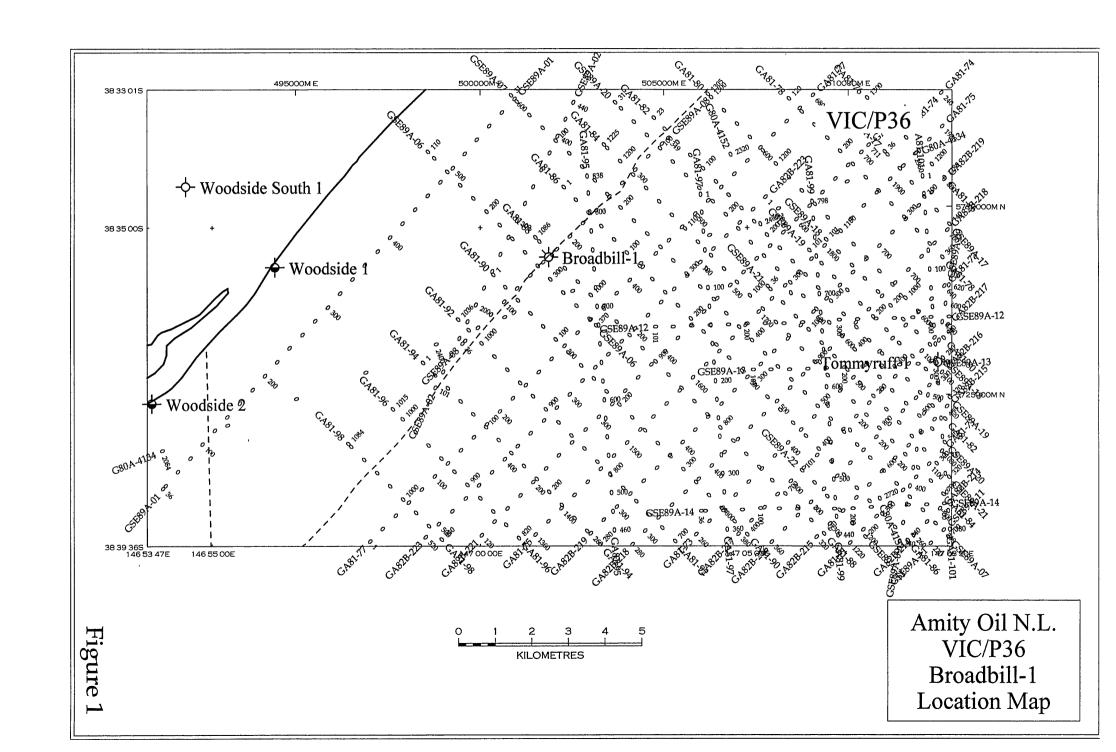
DRILLING COMPANY:

SANTA FE

RIG:

PARAMESWARA

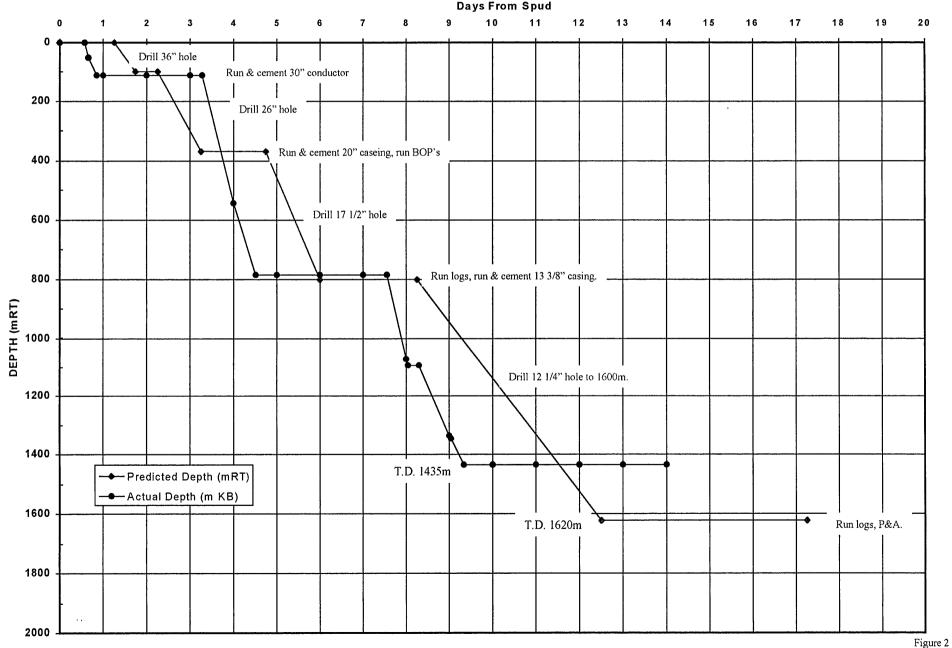
#	LENGTH	WT	WBJAR	STNG	P/UPWT	S/OFFWT	TQ MAX	TQONBOT	TQ/O/BOT	HRS	BHA DESCRIPTION
1	109.39	100		100	100	100	300	200	100		26" Bit, 36" Hole opener (s/n 7850), bit sub, 4x9-1/2" DC's,
											X-O, 1X8" DC, X-o, 6 x HWT
1	110.0	90		90	90	90	200	175	125	ı	171/2" Bit, bit sub, 3x9-1/2" DC's, X-O, X-O 9 x HWT
2	230.80									0.00	12-1/4" Bit, bit sub (float), monel (s/n 94002), 12-1/4" stab 8" DC,
!				:							12-1/4" stab, 8" DC, 12-1/4" stab, 7x8" DC's, 8" jars, 2x8" DC's,
1	}									i	X/O, 12xHWT
2	230.80	66	37	135	135	135	275	175	125	14.0	12-1/4" Bit, bit sub (float), monel (s/n 94002), 12-1/4" stab 8" DC,
											12-1/4" stab, 8" DC, 12-1/4" stab, 7x8" DC's, 8" jars, 2x8" DC's,
											X/O, 12xHWT
2	230.80	66	37	159	159	155	300	200	130	26.5	12-1/4" Bit, bit sub (float), monel (s/n 94002), 12-1/4" stab 8" DC,
											12-1/4" stab, 8" DC, 12-1/4" stab, 7x8" DC's, 8" jars, 2x8" DC's,
									•		X/O, 12xHWT
4	258.92	42	23								Bit, NB Stab, NMDC, Stab, DC, Stab, 11 DC, Jar, DC, HWDP
4	258.92	42	23	150	155	150	250	220	200	13.5	Bit, NB Stab, NMDC, Stab, DC, Stab, 11 DC, Jar, DC, HWDP
4	258.92	42	23	172	175	170	250	200	190	30.5	Bit, NB Stab, NMDC, Stab, DC, Stab, 11 DC, Jar, DC, HWDP
4	258.92	42	23	172	175	170	250	200	190	44.0	Bit, NB Stab, NMDC, Stab, DC, Stab, 11 DC, Jar, DC, HWDP
5	57.88								İ		6 jt TBG, XO



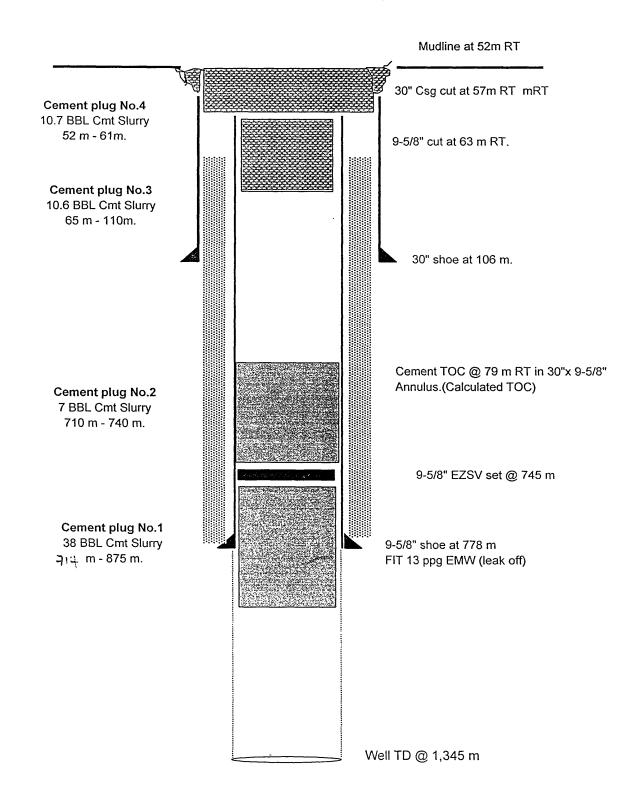
Amity Oil N.L.

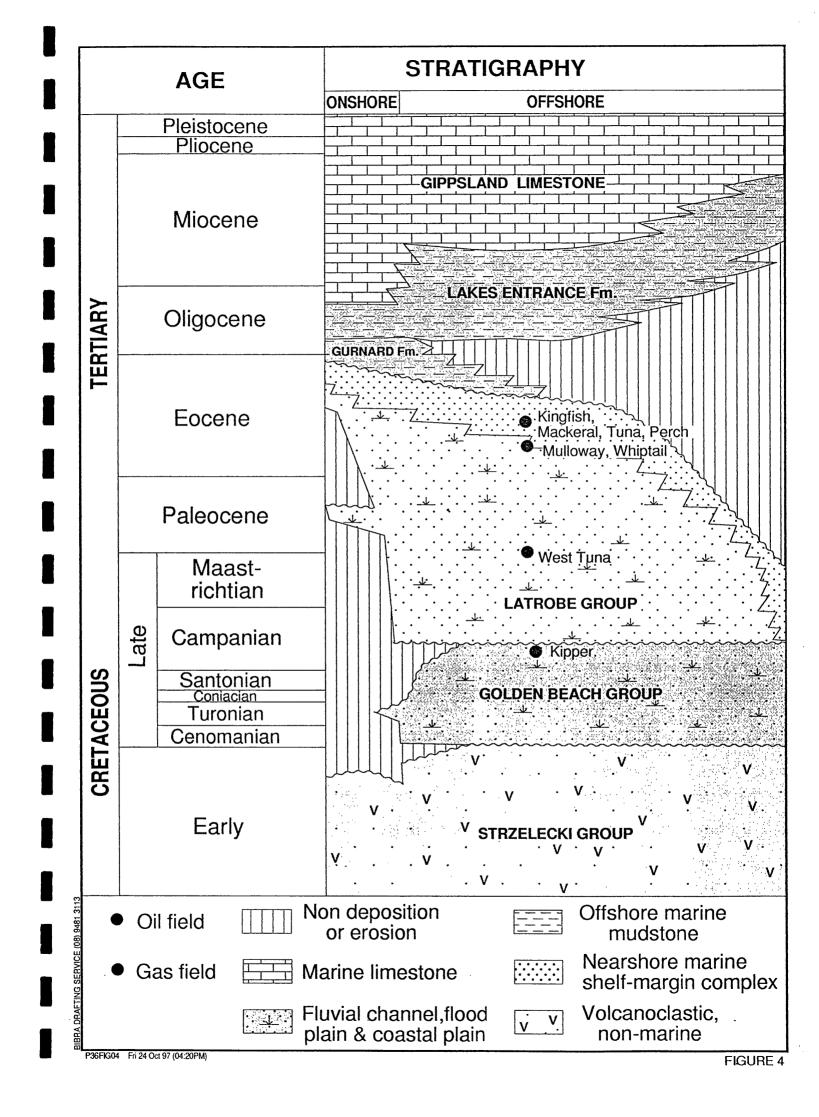
Broadbill-1 Time v. Depth Curve.

Days From Spud



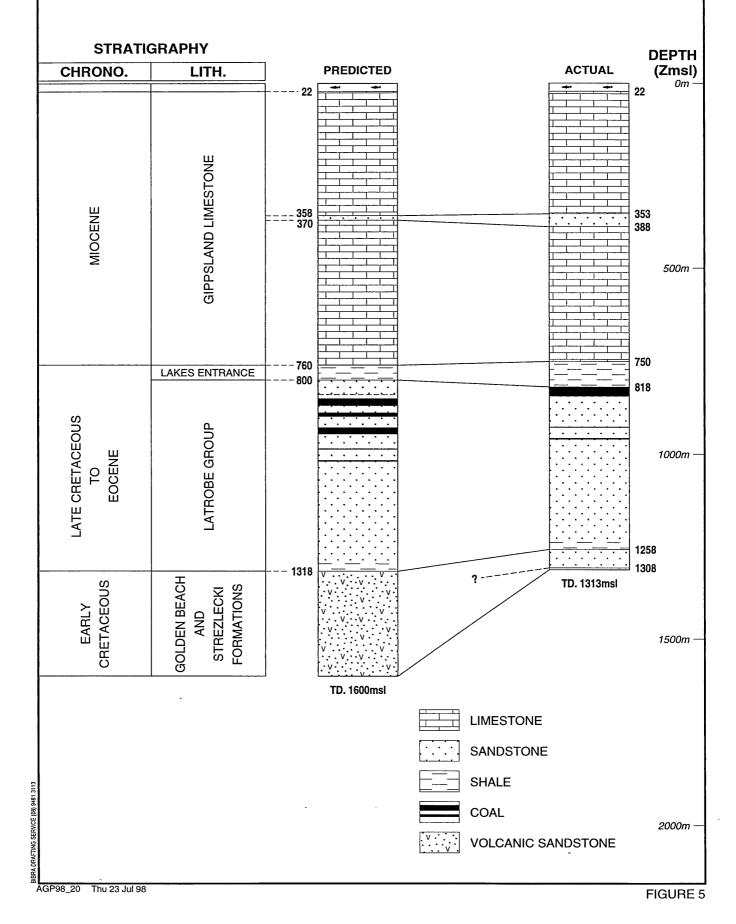
Broadbill #1 Well Abandonment Status





AMITY OIL N L

BROADBILL-1 PREDICTED Vs ACTUAL STRATIGRAPHIC SECTION



PE903926

This is an enclosure indicator page. The enclosure PE903926 is enclosed within the container PE903925 at this location in this document.

The enclosure PE903926 has the following characteristics:

ITEM_BARCODE = PE903926

CONTAINER_BARCODE = PE903925

NAME = Broadbill 1 Well Correlation Cross

Section

BASIN = GIPPSLAND

 $ON_OFF = OFFSHORE$

PERMIT = VIC/P36

TYPE = WELL

SUBTYPE = XSECTION

DESCRIPTION = Broadbill 1 Well Correlation Geological

Cross Section from Woodside South 1 to

Perch 2. Enclosure 4 from WCR

REMARKS =

DATE CREATED = 29/07/98

DATE_RECEIVED = 04/08/98

 $W_NO = W1219$

WELL_NAME = Broadbill 1

CONTRACTOR =

CLIENT_OP_CO = Amity Oil N.L

(Inserted by DNRE - Vic Govt Mines Dept)

APPENDIX 1 WELL INDEX SHEET

WELI	L INDEX SH	EET					
COMPA SPUDD COMPL T.D:	ED: 17 - LETED: 31 - 134: S: Plug	ty Oil NL 01 - 98 01 - 98 5metres KB ged and ndoned	TYPE: WELL: BASIN: LICENC LATITU LONGIT	CE: JDE	Wildcat Broadbill-1 Gippsland VIC/P36 38° 35'25.28 147° 01'17.4	3"S WATER DI	ON KB 31.60metres amsl EPTH 22.00metres
	Aua	Idoned		Depths (m)			
Format	ion/Marker	Thickne	ss K.B.	Sub Sea	Seismic TWT Datum MSL	Lithologic Summary	Remarks/ Shows
	MIOCENE AND LMST	728.4+	53.60	22	-	Predominantly limestones with sandstones and thin claystones	Nil
LAKES FORMA	ENTRANCE ATION	68	782	750	-	grey-green soft claystones	Minor gas shows
LATRO	BE GROUP	440	850	818	-	mainly sandstones with coals and thin claystones	-No Oil shows. High gas shows from 850 to 966mKB
GOLDE GROUP	EN BEACH	50	1290	1258	-	mainly sandstones with thin claystones and siltstones	Minor gas shows
STREZ! FORMA		5+	1340	1308	-	pink, lithic siltstones	Nil
L O G S	RUN 1 LDL C RUN 2 BHC I	DLL MSFL CAL INL CALI GR A DLL MSFL GR C INL GR CALI A	MS 1 CALS AMS SP 7	06 - 783 mKB 06 - 783 mKB 779 - 994 mKB 779 - 994mKB	} 3		
T E S T S			No Testing wa	as undertaken	in this well		
SIDE	WALL CORES			SS SAMPLES 45 metres KB		RED	
P L U G	Plug No 1 Plug No 2 Plug No 3 Plug No 4		744-875mKb 710-740mKB 65-110mKb 52-61mKB	38.0bbls C/s 7.0bbls C/s 10.6bbls C/s 10.7bbls C/s			
Broadb	oill-1 was plugg	ed and abandoned	l on 31 st January	1998			
					WE	LL NAME: BRO	VP36 DADBILL-1 ity Oil NL

APPENDIX 2

DAILY REPORTS

APPENDIX 2a DAILY DRILLING REPORTS

PAGE 22

AMITY OIL NL

DAILY DRILLING REPORT#

Report Date: 16,01.98

FROM: Westman / Jackson,

BROADBILL -1

TO: M. Lanzer Well Data DEPTH (m RT): CUR. HOLE SIZE ('); 36,00 DAILY COST 5: C8G OD ("): PROGRESS (m): 0.00 CUM COST S : DRILL CO. : SANTA FE SO RIG: **PARAMESWARA** DAYS FROM SPUD: -0,87 SHOE TVD (m RT): 0 AFE COST \$: MUD CO: BAROID DAYS +/- CURVE : LEAK-OFF EMW(ppg) 0.00 AFE BASIS: UNKNOWN RT ABOVE M&L (m): 30.7 CURRENT OP @ 0400 : WATER DEPTH @MSL (m): 21.7 PLANNED OP.; RT TO SEABED (m); Drill 36" hole. Run 30" csaing. 52.4 Summary of period 00:00 to 24:00 hre: Formation Tops - This report only FORMATION TOP(mBRT) Rig complete maintenance work and go on contract at boat arrival. Picking up drill tools, offloading boat and mixing mud. ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 16.01.98 PHSE CLS OP FROM TO HRS DEPTH **ACTIVITY DESCRIPTION** ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 16.01.98 REMARK / OBSERVATION SOLUTION / RECOMMENDATION Held pre-spud mtg for Broadbill #1, RBT Drlg Supt & rlg supt on site. Rig on contract from 17:00 hrs. MUD COST FOR TODAY: \$0 Mud Properties CUMULATIVE MUD COST TO DATE: \$0 API FLUID LOSS (om3/30mb) VISCOSITY(neo / at): 0 CI - (ppm): Type: SOLIDS (%voi): PV (aps): ٥ K+ (ppm): ٥ H2O (%vol): 0.0 FROM: API FILTER CAKE YP (b/100sq.ft): HARD/Ca (ppm): 0 ۵ OIL (%vol); ٥ TIME: ٥ GEL 10s/10m/30m HTHP FLUID LOSS MBT (ppb eq): 0.0 SAND: WEIGHT (ppg): 0.00 (lb/100sqft): 0 0 (am3/30min) PH: Ð PM: 0.0 0.0 TEMP (C): HTHP FILTER CAKE (32nds Inch) FANN 3/8/100 0 0 PF: PHPA: 0.0 0.0 0 Anchor Tension A2 -A1: A3: A4: A5: (kips) A6: A7: A8 : A9 : A10: Weather & Rig data @ 24:00 hrs Workboats Location. Fuel Banta D/wtr PMt Cmt Bent Hell (9x) (bbl) (bbl) (EX) (8X) (kltr) VDL (klps: 4,263.0 Padflo Command Rig WIND 8P. (kts): 25.0 VISIB.(nm): RIS.TENS: WIND DIR (deg) :360 CEILING (m) : HEAVE (m): PRES.(mbars): 1016 WAVES (m): ROLL (deg) : AIR TEMP (C): SWELL (m): PITCH (deg): COMMENTS: 7 flights, 27 pex on and 20 off

	ER (bbi) :		-	•			ELI-FUEL	(kitt) :	0.0
					Solide Data			sand	alit	olean
PHASE	CSG 8	HOE	C8G 8	HOE			HRS RUN	0.0	0.0	0,0
	M	5	TVD (m	BRT)	MESH 1	0	DISCARD RATE (opi	n) 0.0	0,0	0.0
					MESH 2	0	DISCARD WT (pgg)	0,00	0.00	0.00
LNGTI			GRD	THREAD	MESH 3	0	RETURN WT (ppg)	0.00	0,00	0.00
	PHASE LNGT	PHASE CSG 3	PHASE CSG SHOE MO	PHASE CSG SHOE CSG S MO TVD (m	POT WATER (bbi): 530.0 BARITE PHASE CSG SHOE TVD (mBRT) LNGTH CSG WT GRD THREAD	POT WATER (bbi): 880.0 BARITE (sx): 1,843 PHASE CSG SHOE CSG SHOE TVD (mBRT) LNGTH CSG WT GRD THREAD MESH 3	POT WATER (bbi): 680.0 BARITE (sx): 1,643 CEMENT PHASE CSG SHOE CSG SHOE MC TVD (mBRT) LNGTH CSG WT GRD THREAD MESH 3 0	POT WATER (bbi): 580.0 BARITE (sx): 1,643 CEMENT (sx): 184 PHASE CSG SHOE MO TVD (mBRT) MESH 1 0 DISCARD RATE (gpt) MESH 2 0 DISCARD WT (pgg): LNGTH CSG WT GRD THREAD MESH 3 0 RETURN WT (ppg)	POT WATER (bbi): 680.0 BARITE (ax): 1,843 CEMENT (sr): 184 PHASE CSG SHOE MO TVD (mBRT) MESH 1 0 DISCARD RATE (gpm) 0.0	POT WATER (bbi): 580.0 BARITE (sx): 1,543 CEMENT (sx): 184 PHASE CSG SHOE MD TVD (mBRT) MESH 1

Survey	MD	TVD	INCL		CORR.	•	DOGLEG	N/s	EW	TOOL TYPE
Last Tool Type : tota	a (m RT)	(m RT)	DEG	(deg)	AZ (deg)	SECT (m)	(m/30m)	(m)	(m)	
Magnetic Declination: 0.0	0 110	110	0.60	0	0.0	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				totoo
Survey method: Min Curvatu	re 🗀		· · · · · ·	·			<u> </u>		<u> </u>	

015053205

TEL:61 5 96296977 PARAMESWARA SANTA FE

P. 009

PAGE 03

AMITY OIL NL

DAILY DRILLING REPORT # 1

BROADBILL-1 Report Date: 16.01.98 FROM: Westman / Jackson.

	DRIL	LTYPE	DATE	10	NSPECT	BNO		DAT	E	IAB	ETY				DET	AILS		
: : 	TRIP (FIRE PIT DI INCID	RILL	10.1.98	RIG INE	EST DU	N		9.1,98	1: N	TI ITI SA PTW efety M	eting		Held we	akty on	rw mic			
Casing					- (P	ump	Data		44							
CSG	LOT	PHASE			8G BHO	- 1	II.		P	umo Da			72			Slow	Руппо)	lata
(000)		<u> </u>	M	אן ס	/D (mBR	밀		אַד וי	PE	LNR	SPM	EFF (%)	Flow (gpm	9PP (psl)	8РМ	(psl)	DEP	
171	PE	LNGT		- -	GRD T	HREAD											±	
'ersonr	76} : O	n Site	= 83				S	oilde	Dat	a					£	and		clean
JOB TI		NAN		COMPAN	MAN YE	- 4	N	nesh 1	l	c)		RUN CARD R	ATE (o	pm)	0.0 0.0	0.0 0.0	0.0 0.0
Drig Bupe		Wastmer		RBT	T (NI-MV)	2	l M	AESH 2	2	C	1	DISC	ARD V	VT (pgg	i.	0.00	0.00	0.00
OlM		Preidell Walker/A	1	Santa Fe		1	N	IESH 3	3		1	RET	URN W	T (ppg)		0.00	0.00	0.00
Mud Engl	neer	Douet	}	Barold		1												
Comentar ROV Ope		Donlan Lobe/Wh]	Hibtn Contract (oldna Ba	1 2	1											
Rig Crew		FORBIANI	110	Santa Fe	Pidiuā Qe	47												
Sub Cont Catering			1	Senta Fe		19 B												

Survey	MO	TVD	INCL		CORR.	~	DOGLEG	N/S	EW	TOOL TYPE
Last Tool Type :	(mRT)	(m RT)	DEG	(deg)	AZ (deg)	BECT (m)	(m/30m)	(m)	(m)	
Magnetic Declination: 0.00	<u> </u>									
Survey method: Min Curvature										

PARAMESWARA SANTA FE 18/31/1998 07:10 015853285

AMITY OIL NL

DAILY DRILLING REPORT

Report Date: 17.01.98

FROM: Westman / Jackson.

BROADBILL -1

Well Data

DRILL CO.: SANTA FE PARAMESWARA RIG:

MUD CQ: BAROID 30.7 RT ABOVE MSL (m): WATER DEPTH @MSL (m): 21.7 RT TO SEABED (m): 52.4

TO: M. Lanzer DEPTH (m RT): 110

PROGRESS (m): 68 DAYS FROM SPUD: 0.33 DAYS +/- CURVE :

CSG OD ("): SHOE TVD (m RT); LEAK-OFF EMW(ppg)

CUR, HOLE SIZE ("): 38.00 | DAILY COST S: 0.00 CUM COST 5: AFE COST & : ٥ AFE BASIS : 0.00

\$0

CURRENT OF @ 0400 : Running 30" Casing

PLANNED OP .:

Run and coment 30" casing.

UNKNOWN

Summary of period 00:00 to 24:00 hrs:

Finish offloading boat and rigging up ROV. Jump ROV for Inspection. Spud well and drill to 110m. POOH to run casing.

Formation Topa - This report only FORMATION TOP(MBRT)

ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 17.01.98

P	HSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
[3]	6	PD	RU	00:00	06:00	6,00	0	Offload Pacific Commander - 9-5/8" & 30" casing strings, drill tools, bulk gal, barite & cmt. Rig fir pick up drill pipe, HWT, DC's/36" HO, and stand in derrick. Mix spud mud.
3	16	PD	RU	06;00	13:00	7.00		Spot and rig up ROV for operation. Welder secure ROV and electrician supply power. Rov personnel prepare unit for operation. Drill crew assemble Texas deck and swing under floor. Suspend on chains. Deck crew continue to unload Commander and Supporter.
3	6	PD	RU	13:00	14:00	1.00	o	Strap casing. Jump ROV for wet test. Survey port leg spud can. No scouring. Difficulty maintaining station due to strong ourrent and weed choking thrusters.
3	6	PD	RU	14:00	14:30	.50	٥	Recover ROV and clean thrusters. Check electricals,
3	6	PD	RU	14:30	15:00	.50		Jump ROV and check spud at slack water. RKB to Mud line 52.4m. Collect bottom sample and survey bottom. ROV lost control due to weed choking.
3	6	PD	RU	15:00	16:00	1.00	٥	Recover ROV.
- 3	6	PD	D	16:00	20:30	4.50	110	Spud well. Drill 26x36" hole from mud line at 52m to 110m. Pump 35 bbl hivis sweep every 10m.
. 3	6	PD	CIR	20:30	21:30	1.00	110	Circ hivis to sweep hole and displace hole with unflocculated pre-hydrated gel.
المركب أ	6	PD	то	21:30	22:15	.75	110	POOH to mud line. Drag on first std. Back ream with out pump to clean up.
3	6	PD	TI	22:15	22:30	.25	110	Run back to bottom. No fill, no drag.
3	6	PD	CIR	22:30	23:00	.50		Circ hole to fresh unflocculated pre-hydrated gel.
3	В	PD	ТО	23:00	24;00	1.00		Drop totco survey and POOH to run casing. Hole good. Lay out 1x8", 1x9-1/2" DC and retrieve Totco.

ACTIVITY FOR PERIOD 00:00 HRS TO 08:00 HRS ON 18:01.98

PHSE	CLS	OP	FROM	07	HRS	DEPTH	ACTIVITY DESCRIPTION
36	PD	HT	00:00	01:30	1.50	110	Lay out hole opener and bit.
3 6		RU	01:30	03:00	1.50		Lay out bales and rig up floor to run casing. Hold prejob safety mtg and review JSA. High winds slowing down crans work.
36		RC	03:00	06:00	3.00	110	Pick up shoe jt & check .Run 5 jts X52 30" casing, SF60 couplings, 311ppf.

ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 17.01,98

REMARK / OBSERVATION	SOLUTION / RECOMMENDATION
Held weekly fire and abandon drill. ROV inspected port spud can and took bim sample. Lot of weed getting tangled in thrusters. Pacific Commender dpt rig 23:00hrs for Geelong.	Held life boat embarkation instruction.

PARAMFSWARA SANTA FE

P. 005

PAGE 01

AMITY OIL NL

DAILY DRILLING REPORT

Report	Date: 17	.01.98		ROM : Wee O : M.L	itman / anzor	Jackson	l .				BROADB	LL -1
Mud Pro	perties	MUD	OST FOR T	ODAY: \$4,0	43		С	UMULATIVE	MUD COST	TO DAT	TE: \$4,043	
Type: Gal 8war FROM: TIME: WEIGHT (F)	13.4 Ppg): B.6	PY (0 YP (1h 18 GEL 1 (1b/10)	95(TY(sec / 6 ps] : (10,pq,17): (10,pq(17): (10,pq(17): (13,0)(10)	1 0	(cm3 API (32nd (32nd HTHI (om3	FI UID LO JORNIO AKE LOSS	MBT (-	0 0 0,0 0,0 0.0	SOLIDB (%vol): HZO (%vol): OIL (%vol): BAND: PH: FHPA.	0.0 0.0 0.0	
SIZE ("): MANUFA TYPE: SERIAL 1 DEPTH II	COTURER:	28,00 VA L3AB 295478 52	ADC # AVE WOB (# AVE RPM : FLOW (gpm) PUMP PRES HBI (hp/sqi) :) : IS. (pel):	1 70 900 650	4 x	LE8 22 17 F	Drilled over to the control of the c	HR9:	8 CUM CUM	eligulated over the M.FOOTAGE (m): M. ON BOT, HRS: M.IADC UKILL HR	58
7	MOTOR: AR(K-lbs): (-lbs); 10: CRIPTION:	PICK	IG WT(k-lha) UP WT(k-lba) FF WT(k-lba)	: 100 T	RQE O RQE O O), bit s	AX (amp N (ampa) FF (ampa sub, 4x8-1	: 20 s); 10	0 DC(2) A.V. 0 D.P. A.V.	/. (mpm) : .V. (mpm):	5.6 8/N 5.3 HR: 5.3 8/N	8 ON JARS : JARS : S ON STABS : I STABS :	
(kips)	Tension		A6:	A7			A5:		AB;		A10:	
Workbo	ommand Dpt R	(kltr)	Barito DAMO (ex) (bbl)			ant Hell (kill)	WIN WIN PRE	eathor & R ID SP. (kto): ID DIR (deg) ES.(mbars): TEMP (C):	: 360 CEILIN	nm); () (m); 8 (m);	VDL (kips	3: n): g):
ICOINME.	419 11111111	. Э рах о	I BIIC E OII									
Bulk Sto	POT WA	ATER (bb)		FUEL (BARITI		1,540.0 1,543		GEL (RY) : CEMENT (SX	363): 2,438	HEL	.l-FUEL (ktr) :	0.0
perills, P	ermits & ins	pection	1									
	DRILL TYPE	DATE		ECTIONS	\dashv	DATE		BAFETY	 	DE	ETAILS	
	TRIP DRILL FIRE PIT DRILL INCIDENT	17.01.80	NEXT TEST NEXT TEST RIG INSPE DAYS SINC	CTION	E	9.1 .98 173	LTI MTI JSA #PTW		ideld week	u Elea =	Abandon	

DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
TRIP DRILL FIRE PIT DRILL INCIDENT	17.01.80	BOF TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA	9.1,98	LTI MTI JSA #PTW	

Casing						Pu	ımp Data		<u> </u>	-						
CSG LOT	PHAGE	CSG 8HC	DE	SG SHOE	l		P	ить Ол	in - (a)	t 24 h	73			Slow P	ume Date	
מחמ		MD	T	VD (mBRT)	- 1		TYPE	LNR	SPM	EFF	Flow	SPP	SPM	8PP	DEPTH	WW
								Ö	, i	(%)	(gpm	(psi)		(laq)	(m RT)	(ppg)
TYPE	LNGT	1 C30	WT	GRO THRE	10	╟┯	Ideco - Ti	6.50	90	100	450	650				
1	(m)	10(7)	be/ft		-	2	Ide00 - T1	6.50		100	450	550			1 1	
					_						اتنسا		لسسما			

Personnel : on Site =

Solids Data		•	agnd	elit	clean
l		HRS RUN	0.0	0.0	ט,ט
MESH 1	0	DISCARD RATE (com)	0.0	0.0	0.0
MESH 2	0	DISCARD WT (pgg)	0,00	0.06	0.00
MESH 3	Q	RETURN WT (ppg;	0.00	0.00	0.00

P. 006 PAGE 03

18/01/1998 07:10

015853285

PARAMESWARA SANTA FE

DAILY DRILLING REPORT #

Report Date: 17.01.98

AMITY OIL NL

PROM: Westman/Jeckson. TO: M. Lanzer

BROADBILL-1

	88		
JOB TITLE	NAME	COMPANY NAME	#
Ong Supervisors	Westmart/Jack	RAT	2
Geologist	Patton	Amby	1
OIM	Freidell	Santa Fo	1
Toolpushers	Walker/Abrams	Sente Fe	2
Mud Engineer	Douet	Berold	1
Cementer	Donion	Hibtn	1
Well Head	Chain	Kvaemer	1
ROV Operators	Eller/McNell	Contract DMng Ser	2
Mud Loggers		HML	3
Rip Crews		Santa Fe	48
Sub Contractors	ľ	Senta Fe	16
Catering		P&O	8

Survey		MD	TVD	INCL	AZ	CORR.	^	DOGLEG	N/S	EW	TOOL TYPE
ast Tool Type :	totoo	(m RT)	(m RT)	DEG	(deg)	AZ (deg)	SECT (m)	(m/30m)	(m)	(m)	
ridagnetic Declination:	0.00	110	110	0.50	0	0.0	(117)	-			totco
Survey method: Min Cu	Irvature	-									

JAN. 98 (MON) 09:09 19/01/1998 06:46

015853285

R. B. T. PETROLEUM

PARAMESWARA SANTA FE

P. 003 PAGE 02

AMITY OIL NL

DAILY DRILLING REPORT

Report Date: 18.01.98

FROM: Westman / Jackson. M. Lanzer TO:

BROADBILL-1

Bit Data for Bit # 1 IADC #					Wear		21	NO NO	 	B	<u>G</u>	NO NO	R CP
SIZE ("): MANUFACTURER: TYPE: SERIAL #: DEPTH IN (m RT): DEPTH OUT (m RT):	26,00 VA L3AB 295478 52	AVE WOB (I AVE RPM : FLOW (gpm) PUMP PRES	1 70 900 860	NOZZLE8 3 x22 4 x17 x x x	FOOT ON BO IADC	d over the AGE (many of AGE) and the AGE (many of AGE) and the AGE (many);	ne last 2) : HRS :	4 hrs 58 4.5 1.0	CUM.F	OOTAC OB NC	over the b SE (m) : I. HRS :	okt run 88 4.5	
Anchor Tension (klps)		A1: A8:	-	2 : 7:	A3 A8	•	-	A4:			A5: A10;		
Workboats Loos	don. Fuel	Berite D/wtr		Cmt Ban		Veath	or & R	ig det	a @ 2	4:00 h		TI (blane	6 000 0

Pacific Command Gaeloni

COG SHOE

TVD (mBRT)

VDL (kips: 8,082.0 WIND SP. (kb): 25.0 VISIB.(nm): WIND DIR (deg): 270 CEILING (m): RIS.TENS: HEAVE (m): PRES.(mbars): 1013 | WAVES (m) : ROLL (deg): AIR TEMP (C): SWELL (m): 2.0 PITCH (deg):

COMMENTS: No flighte

Casing

CSG

000

Bulk Stocks DRILL WATER (bb): 3,862.0

PHASE

FUEL (klb): 1,512,0

GEL (sx): 353 HELI-FUEL (ktr): 0,0

POT WATER (bbl): BARITE (ex): 1,543 CEMENT (ex): 1,887 854.0

Drills, Permits & Inspections

DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
TRIP DRILL FIRE PIT DRILL INCIDENT	17.01.91	BOP TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA	9.1,98	LT? MTI JSA #PTW Safety Meeting	Pre tour mtgs

30.00			108		106
TYPE	LNGTH (m)	C8G ID (")	WT lbe/ft	GRD	THREAD
Shoe It	124	28.0	3110	Y62	SERO

CSG SHOE

Pump Data											
	P	ıma Da	Slow Pumo Data								
W	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm	SPP (psl)	GPM	SPP (pai)	DEPTH (m RT)	MW (ppg)	
1 2	ldeco - T1 Ideco - T1	6.50 6.60	90 90	100 100	450 450	880 650					

JOB TITLE	NAME	COMPANY NAME	*
Orlo Supervisore	Westmen/Jeck	RBT	
Geologiet	Patton	Amity	
O(M	Freidell	Sente Fe	
Toolpushers	Walker/Abrams	Santa Fe	;
Mud Engineer	Dayet	Barold	
Cementer	Donlon	Hippy	
Well Head	Chain	Kvaemer	
ROV Operators	Eller/McNell	Contract Diving Scr	
Mud Loggers		HML	;
Electric Line		Schlum	
Rig Crews		Senta Fe	4
Sub Contractors		Santa Fe	1
Catering		P&O	

Solids Data			sand	silt	clean
		HR3 RUN	0.0	0.0	0.0
MESH 1	0	DISCARD RATE (gpm)	0,0	0,0	0.0
MESH 2	0	DISCARD WT (pgg)	0,00	0.00	0.00
MESH 3	0	RETURN WT (ppg.	0.00	0.00	0.00

Survey	MD	TVD	INCL		CORR.	٧	DOGLEG	N/8	EW	TOOL TYPE
Last Tool Type: total	o (m RT)	(m RT)	DEG	(deg)	AZ (deg)	SECT (m)	(m/30m)	(m)	(m)	
Magnetic Dacilnation: 0.0	110	110	0.50	0	0.0					totco
Survey method: Min Curvett	re		•							

THUE UI

19/01/1998 06:46

015053205

DAILY DRILLING REPORT#

AMITY OIL NL

Report Date: 18.01,98 FROM: Westman / Jackson. TO:

BROADBILL -1

Well Data DEPTH (m RT): 110 CUR. HOLE SIZE ("): 35,00 DAILY COST S: PROGRESS (m): 58 C8G QD ("); 30.00 CUM COST \$: \$0 DRILL CO.: SANTA FE AFE COST \$: PARAMESWARA 106 RIG: DAY8 FROM SPUD: 1.33 SHOE TVD (m RT): MUD CO: AFE BASIS: UNKNOWN BAROID LEAK-OFF EMW(ppg) DAYS +/- CURVE ; 0.00 RT ABOVE MBL (m): 30,7 CURRENT OP @ 0400: Fill conductor and function test diverter system.

WATER DEPTH @MSL (m): 21.7

M. Lanzer

PLANNED OP .: Clean out shoe, Pick up extra DP for this hole section. Drill shead. RT TO SEABED (m): 52.4

Summary of period 00:00 to 24:00 hrs:

Run 30" conductor casing, run Inner string and cmt osg, rig down landing its and install A section.

Formation Tops - This	report only
FORMATION	TOP(mBRT)
Sandetone	

ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 18.01.98

PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
,36	PD	нт	00:00	01:30	1.50	110	Lay out hole opener and bit.
36		RU	01:30	03;00	1.50	110	Lay out bales and rig up floor to run casing. Hold prejob safety mtg and review JSA. High winds slowing down crans work.
36	PM	RRC	03:00	11:30	8.50	110	Pick up shoe jt & check . Run 10 jts X 30" casing, SF60 couplings, 311ppf, to 108m. Run grout line from mud line to surface.
36	PM	RRC	11:30	16:45	5.25	110	Cut and L/d csg. R/u "C" plate and RIH w/ stinger on drilipipe. R/u texas deck. R/u tension ring.
36	PD	RRC	16:45	17:15	.50	110	Howco pump 10 bbls seawater and test line 2000psi.
36	PD	CMC	17:15	16:00	.75	110	Mix and pump 760sx "G" cmt using seawater w/ 2% CaCl. Av wt 15.9 ppg. Displace w/ 5 bbls seawater. Weather too rough for ROV launch. Monitor Dp / csg annulus.
36	PD	CMC	18:00	18:30	.50	110	Pull stinger from shoe. POOH 10m. Circulate 10bbls seawater to clear pipe.
36	PD	CMC	18:30	19:00	.50	110	POOH w/ camenting string.
17	PD	WH	19:00	23:30	4.50		Rig up and lay out 30" landing its. Make up silings and prepare tensioner system for conductor support ring. Complete weld out on riser extension it for diverter system.
17	PD	WH	23:30	24:00	.50	110	Install Kvaemer 30x20" A section adaptor spool.

ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 18.01.98

PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
17	PD	WH	00:00	02:00	2.00	110	Install 30" riser extension on A Section. Re-hang texas deck
[_]							work platform for access to make up flange connection.
17	PD	BOP	02:00	04:00	2.00	110	Inetall diverter and overshot pkr and nipple up
17	PD	BOP	04:00	06:00	2,00		Energise diverter system and function test.

ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 18.01.98

REMARK / OBSERVATION	SOLUTION / RECOMMENDATION
Set 30" at 106m and cement with 760sks 15.9ppg.Too rough to jump ROV so returns not monitored. Make up riser extension jt on 21-1/4" 2k flange to space out for diverter.	

Mud Properties		MUD COST FOR TO	YAC	: \$27	CUMULATIVE MUD COST TO DATE: \$4,319						
Type: FROM: TIME: WEIGHT (ppg):	Pit 0.00	YP (lb/100aq.ft):): 	0 1 0	API FLUID LOSS (cm3/30min) API FILTER CAKE (32nds inch HTHP FLUID LOSS	0	Cl - (ppm) : K+ (ppm) ; HARD/Cs (ppm) ; MBT (ppb eq) :	0 0 0.0	- C.D. (1010)	0,D	
TEMP (C);	0	(ib/100eqtt): 0	0	0	(om3/30mln)	0	PM:	۵,۵	PH:	0.0	
_ , , ,		FANN 3/6/100 0	0	0	HTHP FILTER CAKE (32nds Inch)	o	PF:	0.0	PHPA:	0,0	

20/01/1998 05:27 015853285

PARAMESWARA SANTA FE

PAGE 84

AMITY OIL NL

DAILY DRILLING REPORT#

FROM; Westman / Jackson. TO; M. Lanzer Report Date: 19.01.98

BROADBILL-1

Well Data DRILL CO.: SANTA FE RIG: PARAMESWARA MUD GO: BAROID	DEPTH (m RT): PROGRESS (m): DAYS FROM SPUD: DAYS */- CURVE.	110 2.33	CUR. HOLE SIZE (*): CSG OD (*): 8HOE TVD (m RT): LEAK-OFF EMW(ppg)	17.50 30.00 108 0.00	DAILY COST \$: LUM COST \$: AFE COST \$: AFE BASIS :	\$0 UNKNOWN
RT ABOVE M3L (m): 30.7 WATER DEPTH @MSL (m): 21.7 RT TO SEADED (m): 62.4	CURRENT OF @ 0400: PLANNED OP.:		to drill ahead. With 12-1/4" drilling assy a	nd dnii a	head.	

Summary of period 00:00 to 24:00 hrs:

Rig up diverter system and test, cmt top up on 30" annulas, pick up DP for hole section, drill out cmt and shoe, displace hole to mud, pick up 12-1/4" drig assy.

Formation Tops - This report only FORMATION TOP(INBRT)

ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 19.01.98

	ACTIVITY DECORPORATION						
PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
17	PD	BOP	00:00	05:00	5.00	110	Land 30" riser extension on A section. Re-hang Texas dock
							work platform for access to make up flango connection. Install diverter and overshot pkr and nipple up.
17	TD	RR	05:00	07:00	2.00	110	Energise diverter and attempt to function test. Found in line
17	טו	rere	03.00	07.00	2.00		test guage blocking pressure to flow line seals.
17	PD	BOP	07:00	07:30	.50	110	Function test diverter - flowline scals, overeshot &
	_						averboard lines.
17	PD	WH	07:30	08:30	1.00		Run and set wear hughling.
17		TU	08:30	06:30	1.00	110	Rig up to do top up cement job on 30" casing annulas thru 2-7/8" grout string.
17	PD	LDP	09:30	14:00	4.50	110	Rig to and pick up 5" drill pipe to drill 12-1/4" hole section and stand back in drk.
17		гυ	14:00	15:00	1.00	110	Rig down from cament top up job
17	PD	вор	15:00	16:00	1.00	110	Instell diverter pkr and test diverter, A section and risers against cag and cmt plug to 250psi - Ok.
17	PD	TI	16:00	17:30	1.50		Make up 17-1/2" drig assy. RiH. Tag cmt @ 63m.
17	PD	DC	17:30	19:00 `	1.50	110	Drill cmt from 63m to shoe at 106m. Clean out rat hole to 110m. Harder cmt helow 90m.
17	PD	CIR	19:00	19:30	.50	110	Circ and displace hole with S-W/Gel mud.
17	PD	CIR	19:30	20:00	.50		Loosing mud at shakers on bims up. Clear shakers and transfer mud.
17	PD	CIR	20:00	20:30	.60	_	Circulate cmt cuttings clean.
17	PU	LDP	20:30	22:00	1.50		POOH. Lay out 9-1/2" DC;s and bit.
12	PD	TI	22:00	24:00	2.00	110	Make up 12-1/4" drilling assy.

ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 20.01.98

ACTION 1 FOR FERIOD COLOR TIRES TO COLOR TIME OF ESCAPE								
PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION	
12 12 12	PD PD PD	TI D TI	01:30	01:30 02:00 03:30	1.50 .50 1.50	117 117	Continue pick up DC's to 108m. Drill down to 117m. Std back 1 std HWT and pick up 1 std jars & DC's. Make up TDS to drill and found bit plugged, Unable to clear.	
12	TD	то	03:30	06:00	2.50	117	POOH wet to clear bit. Found formation cuttings packed on top of DP float - bit nozzles olear. Float & seals in good condition. Replace and RIH.	

ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 18.01.98

WHITE IN THE PARTY OF THE PARTY	
REMARK / OBSERVATION	SOLUTION / RECOMMENDATION
Jump ROV on slack water. Can see open hole around 30" conductor. Rig up and grout 30 annules thru 2-7/8" tog with 40 hbls 15.9ppg slurry. ROV confirm hole full and take sample.	

20/01/1998 06:27 015053205

POT WATER (000 : 797.0

PARAMESWARA SANTA FE

PAGE US

AMITY OIL NL

DAILY DRILLING REPORT # 4

Report Date: 19.01.98

FROM: Westman / Jackson. TO: M. Lanzer

BROADBILL-1

RE	MARK/OBSERV	ATION		SOLUTION / REC	OMMENDATION						
ROV carry out spud of Found 2 sections of incomparis	can survey and bit adder cage and hi	n Inspection. ose poe fur									
Mud Properties	MUD COST FOR TO	DDAY: \$9,606		CUMULATIVE MUD COST T	O DATE: \$14,124						
Type: S-W/GEL/PAC FROM: p TIME: 20:4 WEIGHT (ppg): 8.9 TEMP (C):	5 GEL 109/10m/30m (Ib/100sqH):	1 (cm3/30 API FILT (32ndc) HTHP F (om3/30	TER CAKE Inch LUID LOSS Imin) JUTER GAKE	12 CI - (ppm); K+ (ppm); HARU/Ca (ppm); MBT (ppb eq); PM: 0 PF:	0 SOLIDS (%vol): 100.0 H2D (%vol): 100.0 OIL (%vol): 0.0 SAND: 0.0 PH: 0.0 O.0 PHA: 0.0 O.0 PHA: 0.0 O.0	Bit Data for Bit #2 SIZE (*):	IADC #		Woar	1 01 D L 1 1 NO A	B G O2 R 1 I NO BHA
MANUFACTURER : TYPE : SERIAL # : Y DEPTH IN (M RT) : DEPTH OUT (M RT) .	SM AVE WOB (k. R-1 AVE RPM : V52CK FLOW (cpm) FUMP PRES 110 HSI (hp/sql) :	85	×	Prilled over the last 24 hrs FOOTAGE (m); 47 ON BOTTOM HRS: 2.0 IADC DRILL, HRS: 1,0 ROP (m/hr); 47.0	Celculated over the bit run CUM.FOOTAGE (m). 4 CUM. ON DOT. HRB: 2. CUM.IADC DRILL HRB: 1.4 ROP (m/hr): 47 (
Bit Data for Bit # 3	MOG #		Wear L		BGGR						
• •	12,28 HU AVE WOB (k. X GT-1 AVE RPM : S25CX FLOW (gpm) 110 PUMP PRES! HS((hp/eqi) :	(bs) :	X 1	Ornica over the last 24 km FOOTAGE (m): 0 ON BOTTOM HRS: 0.0 ADC DRILL. HRS: 0.0 ROP (m/hr):	Oalculated over the bit run CUM.FOOTAGE (m): CUM. ON BOT. HRS: 0.0 CUM.IADC DRILL HRS: 0.0 RUP (m/hr):						
HRS ON MOTOR : WI BW JAR(K-lbs): BHA WT(k-lbs): 90	(m) :110.0 STRING WT(K-lbs) : PICK UP WT(K-lbs) : SLK DEF WT(K-lbs) : 171/2" Bit , bit sub, 3x3	90 THOE OFF	emps): 17 (amps): 12	00 UC(2) A.V. (mpm): 31.1 18 HWDP A.V. (mpm): 23.1	Hrs on Jars: Sm Jars: Hrs on Stabs: Jan Stabs:						
HRS ON MOTOR : WT BW .!AR(k-lbe): BHA WT(k-lbe) :	(m) :230,8 GTRING W [(k-lbs): PICK UP WT(k-lbs): SLK OFF WT(k-lbs): 12-1/1" Bit, bit sub(floa	TROE OFF	(ewbs):	HWDP A.V. (mpm); 38.6 D.P. A.V. (mpm); 38.6	SIN JARS: DAH 01163						
Anchor Tension (klps)	A1: A8:	A2: A7:	A3: A0:	A4 : A0 :	A6: A10:						
Workboats Location Pacific Command Rid [COMMENTS: 1 filant.]	. Fuel Barite DAvir (kitr) (cr) (bbl)	PANT GIT BERT (bbf) (9x) (9x)	(km) WiN PRE	D SP. (km): 20.0 VISIB. (nm D DIR (deg): 180 CEILING SS. (mbaro): 1013 WAVES (TEMP (C): DWELL (VDL (kips: 5,952.0 RIS.TENO: (m): HEAVE (m): ROLL (dog):						
Bulk Stocks DRILL WA	TER (bbn : 3.554.0	FUEL (Mb): 1,4	193.0 (GEL (1001): 363	HELL-FUEL (KILL) 0.0						

BARITE (m): 1,543

OEMENT (EX): 1,668

20/01/1990 06:27

015853285

PARAMESWARA SANTA FE

PAGE 06

AMITY OIL NL

DAILY DRILLING REPORT # 4

Report Date: 19.01,98

FROM; Wastman / Jackson. TO: M. Lanzer **BROADBILL-1**

Drille, I	Pormite	e ins	nection	II .													
	DRILL	TYPE	DATE		INSPE	CTIONS		DATE	SA	ETY				DET	AILS		
	TRIP DE FIRE PIT DE	ULL	17.01.91	RIG I			1	1-1-90	LTI MTI JSA SPTW Sofety M	eoting		e tou	mipe				
Cosing	2		·- ·- ·-				Pi	ımp Da	la								
COG	LOT	PHASE	C80 8		080 8				Pumo De	_						ump (
30.00			MC	106	TVD (m)	106	*	TYPE	LNR (7)	8PM	EFF (%)	Flow (gpm	(pel)	SPM	(D0)	OEPT (m R	
D	/PE	LNGT (m)			ORD	THREAD	1 2	ideco - T ideco - T									
Shae Jt Casing i				311.0			8	olids Di	ata			5111/		В	and		clean
Casing j	t #3 t #4	1 8	.3 28.0	311.0	X-52	SF80	11	ESH 1 EGH 2	150 160		DISC		ATE (g VT (pag		0.0 0.0 00.0	0.0 0.0 0.00	0,0 0.0 00.0
Casing it Casing it Casing it		11	.6 28.0	311.0 311.0 311.0	X-52	3F60	11	E6H 3	160				T (ppg)		0,00	0.00	0.00
Casing 30"x 20"		11 11		311.0							~						-

Personnel: o	n Site = 83		
JOB TITLE	NAME	COMPANY NAME	1
Drig Supervisore	Westman/Jack	RET	2
Geologies	Patton	Amity	- 1
OIM	Freidell	Santa Fe	. 1
Toolpushers	Walker/Abrams	Santa Fe	2
Mud Engineer	Doust	Barold	1
Consenter	Donlon	Hibm	1
Well Head	Chain	Kvaamer	1
ROV Operators	Eller/MoNell	Contract Diving San	2
Surveyor	Haffmeler	HOP	t
Mud Longers		HML	` ∢
Electric Line		Schlom	e
Rig Crowa		Banta Fo	48
JUL CONTROTOR		Sants Fe	8
Caterina		PRO	7

Rig Crawa Jub Contractors Catering	Banta Fo Santa Fe P&O		46 8 7									
Survey Last Tool Type :	totco	MD (m RT)	TVU (m RT)	INCL	AZ (deg)	CORR. AZ (dep)	SECT (m)	DOGLEG (m/30m)	N/S (m)	E/W (m)	TOOL TYP	E
Magnetic Declination : Survey method : Min	0.00 Curvature	110	110	0.50	0	0.0					lotoo	

DAILY DRILLING REPORT

Report Date: 20,01.98

FROM: Westman / Jackson.
TO: M. Lanzar

BROADBILL-1

Well Data DRILL CO.: 9ANTA FE RIG: PARAMESWARA MUD CO: BAROID	DEPTH (m RT): PROGRESS (m): DAYS FROM SPUD: DAYS +/- CURVE:	546 435 3,33	CUR, HOLE SIZE ("): CBG OD ("): BHOE TVD (m RT): LEAK-OFF EMW(ppg)	12.25 30.00 108 0.00	DAILY COST \$: CUM COST \$: AFE COST 5: AFE BASIS:	UNKNOWN \$0
RT ABOVE MSL (m): 30.7 WATER DEPTH @MSL (m): 21.7 RT TO BEABED (m): 62.4	CURRENT OF @ 0400 PLANNED OP.:		lets prior to rurning agle s to 780m, Wiper trip,POOI		-	_

Summary of period 00:00 to 24:00 hrs:

Pick up BHA, POOH to clear float blockage, Drill ahead to 545m.

Formation Tops - This re	part only
FORMATION	TOP(mBRT)
Limestone	255

ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 20.01.98

PHSE	CLS	QP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
2	PD	71	00:00	01:30	1.50	110	Continue pick up DC's to 106m.
12	PD	D	01:30	02:00	.50	117	Drill down to 117m.
12	PD	TI	02:00	03:30	1.50	117	Std back 1 std HWT and pick up 1 std jars & DC's, Make up TDS to drill and found bit plugged. Unable to clear,
12	TD	то	03:30	06:30	3.00	117	POOH wet to clear bit, Found formation cuttings packed on top of DP float - bit nozzles clear. Float & seals in good condition. Replace and RIH.
12	PD	۵	06:30	09:00	2.60	117	Drill 12-1/4" hole from 117m to 230m. Losses increased to 70 bbls/hr.
12	TD	LC	09:00	10:45	1,75	117	Pump 25 bbl Hi-vis pill w/ LCM. Work pipe and circulate out at reduced pump rate.
12	PD	D	10:45	19:00	8.25	413	Drlii 12-1/4 hale f/ 230m to 413m.
12	PD	CIR	19:00	19:30	.50	413	Cric bims up. Spot 100 bbis LCM pill accross open hole.
12	PD	S	19:30	20:00	.50	413	Run sgle shot survey on slick line to 398m.
12	PD	S	20:00	24:00	4.00	413	Continue drill from 413m to 545m

ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 21.01.98

PHSE	CLS	QP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
12	PD	۵	00:00	05:30	5.50	413	Continue drill 12-1/4" hole from 545m to 701m.
,12	PD_	CIR	05:30	06:00	.50	701	Circulate for survey.

ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 20.01.98

REMARK / OBSERVATION	SOLUTION / RECOMMENDATION
ROV recover ladder cage from bow leg. Hole taking mud thru coarse sends. At 230m pump 50 bbl LCM pill (Baracerb 25 &100,Barofibre,Gel) and losses reduced. At 398m spotted LCM pill in open hole while running survey and let soak.	·

Mud Properties		MUD COST FOR T	ODAY	1: \$12,	296	CUMU	LATIVE MUD COS	T TO DAT	re: \$26,420	
Type: S-W/Gel/Poly FROM: TIME: WEIGHT (ppg): TEMP (C):	FL 20:00 8.00 44		15 21	44 17 26 1 0 5 28	API FLUID LOSS (cm3/30mln) API FILTER CAKE (32nds Inch HTHP FLUID LOSS (cm3/30mln) HTHP FILTER CAK (32nds Inch)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CI - (ppm): K+ (ppm): HARD/Ca (ppm): MBT (ppb eq): PM: Pff:	620	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA:	4.1 94.7 0.6 8.5 0.0

DAILY DRILLING REPORT

Report Date: 20.01.98 FROM: Westman / Jackson.

Neetman / Jackson. BROADBILL -1

Bit Data for Bit # 3		IADC &	 -			West	口	T o	П	D		6	G	62	R
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DEPTH DUT (MIKI):							1,,,,,	Į ituri	<u>'-</u>		3	NOT ((14th).		41.
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BHA DESCRIPTION:				**********						. ,,,,					
BAN DESCRIPTION:															
BHA #2 Length HRS ON MOTOR: WT BW JAR(C-lbs): 37 BHA WT(k-lbs); 50	STRI	30.8 NG WT(k UP WT(k SFF WT(k	MDE); 136	TRO	SE ON	(emps)!	175	DC(Z) HWDF	A.V.	(mam)	: 0.0 : 47.6	HR9	NTB NO	D/ 468:	14.0 14.0116 14.7 14.7
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DRILL TYPE TRIP DRILL FIRE PIT DRILL INCIDENT Casing Casing Casing TYPE LNGTI (m) Show it Casing it 22 11 Casing it 22 11	Cag 8i MC MC Cag 8i MC Cag 8i MC 3.2 25.0 .8 26.0 .3 25.0 .5 26.0 .5 26.0	HOE CI 105 WT C 1011.0	EST DUE DE PECTION SINGE LTA SQ SHOE D (MBRT) 105 GRD THR X62 X-52 X-52 X-52 X-52	DATE	Pum 1 16 2 16	ATE .98 LT .98 JBA .1 JBA .2 JBA .	SAF Me My Me My My My My My My My My My My My My eting	100 100 100 HRB DIBC	Flow (cpm 400 400	3PP (pei) 2350 2350 2360 ATE (g	8PM (Pm)	Blow SPP (psl)	DEPT	H MW	

Personnel : on Site #

Page Number: 2

pph 29.30 High Grav, vol 1 0.0 ppb 0.00 ASG 2.58 Drill Cuttings 12 Dilution Rate 16.83 Sids Control Fff 0.00	Whole Mud Barite Chemicals Loses Dumped Lose Vol GAIM/LOSS	O Press Drop. DP O Press Drop, BIT 39 Press Drop, AMM bbl Actual Circ. Press 40 AV, DP 5/min 1244 AV, DC W/min -703 AV, Riser m/min	3319 6069 DEVIATION 31 MD 2420 TVD 15.8 Angle 139.5 Direction Horix, Displ	N INFO 545.0 b 545.0 b 0.15 354	Cure Back Ream Praning Testing Other Aver: Ge Rop	0.00 0.00 0.00 0.75 0.75
ELECTO PEPRESENTATIVE	OPPICE/HOHE	Kelbourge Ti	LEPHONE (03) 9621 33		iệu (com) y	TIVE COST
Alcholas Doust	WAREHOUSE		CYPHONE (03) 56 881			26420.96
	HOTE	: ALL COSTS AND REPORTED I	A AUSTRALIA'S HOLLAR		442.44	20120150

The recommendations made berson shall not be construed as authorizing the infringement of any valid patent, and are made without assumption of any liability by BAROID DRILLING FIDIOS, INC. or its agents, and are statements of opinion only.

DAILY DRILLING REPORT # 6

Report Date: 21.01.98

FROM: Westman (Jackson /Rootal TO: Lanzer / Searles **BROADBILL-1**

(CPO.1																		
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Casing OGG OD(") Shoa Jt Casing it Casing it Casing it Casing it	PE LOT	RILL WAY OT WAT LIVE LNGTH (m) 12 11 11 12 12 11	TER (bb) ER (b	BOP T NEXT RIG IN DAYS 108 VIT [be/ft 311.0 311	03.0 00.0 INSPECT EST TEST I ISPECT SINCE CSQ SINCE X52 X-52 X-52 X-52 X-52 X-62	BAR CTIONS DUE DA TION LTA TOE BRT) 106 THRE 81 81 81 81 81	AD	9.1 1-1 177 Pum # 1 ld 2 ld	2,028 ATE .98 .98 .7 .9 .7 .9 .7 .9 .7 .9 .7 .7 .7 .7 .7 .7 .7 .7	SAIR TE GE CE SAI TI ATI BA PTW LNR C) 6.50 6.50	MP (C	(sx): (sx): EFF (%) 100 100 HRSS DISC	573 1,665 1,665 Plow (gpm 326 326 RUN CARD F	9PP (psl) 1700 1700	DET.	1:5 PI FUEL (k AIL8 BPP (psl)	Pump II DEFT (m R1 20.0 0.0	gita H MW) (ppg
Casing Casing Casing Ty Shoa Jt Casing it Casing it Casing it Casing it Casing it Casing it	PE PE PE PE PE PE PE PE PE PE PE PE PE P	RILL WATOT WAT & Insp TYPE RILL NT PHASE LNGTH (m) 12 11 11 11 11	CSG 80 MC C8G 10 (7) 4 28.0.8 28.0.8 28.0.9 28.0.0.9 28.0.0 28.0.	BOP T NEXT RIG IN DAYS 106 VVT [be/ft 311.0 311.0 311.0 311.0 311.0 311.0 311.0	GRD CSQ SirVD (ml CSQ X-52 X-52 X-52 X-52 X-62 X-62 X-62	BAR CTIONS DUE DA TION LTA HOE BRT) 106 THRE 81 81 81 81 81 81	AD	9.1 1-1 177 Pum # 1 ld 2 ld	2,028 ATE .98 .98 .7 .9 .7 .9 .7 .9 .7 .9 .7 .7 .7 .7 .7 .7 .7 .7	SAIR TE GE CE SAII TI ATI BA PTW LNR C) 6.50 6.50	MP (C	(sx): (sx): EFF (%) 100 100 HRSS DISC	573 1,665 1,665 Plow (gpm 326 326 RUN CARD F	9PP (pst)) 1700 1700	DET.	1:5 PI FUEL (k AIL8 Slow SPP (psi) 20.0 0.0 0.00	TCH (d	gits H MW) (ppg
Casing Casing it	PE PE PE PE PE PE PE PE PE PE PE PE PE P	PHASE LNGTA (m) 12 11 11 11	CSG 80 MC C8G 10 (7) 4 28.0.8 28.0.8 28.0.9 28.0.0.9 28.0.0 28.0.	BOP T NEXT RIG IN DAYS 108 108 108 108 11.0 311.0 311.0 311.0 311.0	GRD CSQ SirVD (ml CSQ X-52 X-52 X-52 X-52 X-62 X-62 X-62	BAR CTIONS DUE DA TION LTA HOE BRT) 106 THRE 81 81 81 81 81 81	AD	9.1 1-1 177 Pum # 1 ld 2 ld	2,028 ATE .98 .98 .7 .9 .7 .9 .7 .9 .7 .9 .7 .7 .7 .7 .7 .7 .7 .7	SAIR TE GE CE SAII TI ATI BA PTW LNR C) 6.50 6.50	MP (C	(sx): (sx): EFF (%) 100 100 HRSS DISC	573 1,665 1,665 Plow (gpm 326 326 RUN CARD F	9PP (pst)) 1700 1700	DET.	1:5 PI FUEL (k AIL8 Slow SPP (psi) 20.0 0.0 0.00	TCH (d	gits H MW) (ppg

Personnel: on Site =

106

0.00

50

UNKNOWN

AMITY OIL NL

DAILY DRILLING REPORT

AFE COST \$:

AFE BASIS:

Report Date: 21.01,98

FROM: Westman /Jackson /Roots!

BROADBILL-1

Well Data

DRILL CO.: SANTA FE RIG: PARAMESWARA

MUD CO: BAROID RT ABOVE MSL (m): 30.7

WATER DEPTH @MSL (m): 21.7 RT TO SEABED (m): 52.4 10: Lanzer / Souries

DEPTH (m RT):

PROGRESS (m):

785 | CUR, HOLE SIZE ("): 12.25 | DAILY COST \$: 240 | CSG OD ("): 30.00 | CUM COST \$:

DAYS FROM SPUD: 4,33 SHOE TVD (m RT):
DAYS +/- CURVE: LEAK-OFF EMW(ppg)

CURRENT OP @ 0400 : Rig down Logging Tools.

PLANNED OF.: Retrieve Wear bushing, Rig up & run 9.525 cag

Summary of period 00:00 to 24:00 hrs:

Drill from 545m to 785m. Circ, drop MSS and make wiper trip to shoe. RIH, circ clean and POOH for logging.

Formation Tops - This report only								
FORMATION	TOP(mBRT)							
Sandstone	365							
Limstone	420							
Limestone	780							
Lakes Entrance	775							

...TIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 21.01.98

ш.									
	HSE	CLS	o O	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION	
_	12	PD	ם	00:00	05:30	5.60	701	Continue drill 12-1/4" hole from 545m to 701m.	
	12	PD	CIR	05:30	08:15	.75	701	Circulate for survey,	
•	12	מק	S	06:15	07:00	.75	701	Run survey on slickline @ 686.82m.	
_	12	PD	Q	07:00	12:30	5.50	785	Drill from 701m to 785m	
	12	PD	CIR	12:30	13:00	.50	788	Cira bims up.	
S į	12	PD	TO	13:00	15:30	2.50	785 Drop multi shot, pump slug & POOH to shoe. Retrieve M.		
								Drag to 30k and trying to awab first 5 stds then pulled clean.	
P	12	PD	R\$	15:30	16:00	.60		Rig service.	
	12	מק	TI	16:00	18:00	2,00		RIH to bim. Hale good no fill.	
	12	. –	CIR	18:00	19:30	1.50	785	Ciro hole clean.	
	12	PD	TO	19:30	22:30	3.00	785	Pump slug and POOH, No drag. Steand back DC's & lay dn	
1							_	blt.	
•	12	PD	LOG	22:30	24:00	1.50	785	Rig up Schlumb. Hold pre-job mtg and review JSA	
ļ			<u> </u>					procedure. Rig up tools.	

ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 22.01.98

	HSE	CLS	QP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
	2			00:00			785	Schlumb contine pick up tools and load source.
۱	2	PD	LOG	01:15	04:15	3.00	785	Schlum RIH with BHC-LDL-CNL-DLL-MSFL-GR-CALI. Tag
ĺ	_			- 4 4 9				btm @783m and log out.
U	2	PD	LOG	04:15	05:00	1.76	785	Remove source, lay out tools and and rig down.

ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 21.01.98

REMARK / OBSERVATION	SOLUTION / RECOMMENDATION
Ran multi shot survey from 785m to sursce.	

Mud Properties		MUD COST FOR TODAY: \$4,716					CUMULATIVE MUD COST TO DATE: \$31,135				
Type: 9-W/Gel/Pac FROM: TIME: WEIGHT (ppg); TEMP (C):	FL 13:00 9.20 46	(fb/100eqft):	m 17	70 15 21 29 0 15 25	API FLUID LOSS (cm3/30min) API FILTER CAKE (32nds Inch HTHP FILTER CAK (cm3/30min) HTHP FILTER CAK (32nds Inch)	21	CI - (ppm): K+ (ppm): HARD/Cs (ppm): MBT (ppb eq): PM: PF:	21,000 0 600 5.5 .5	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA:	4.4 93.4 0 tr 8.2 0.0	

DAILY DRILLING REPORT# 6

Report Date: 21.01.98

FROM: Westman (Jackson (Roots) TO: Lanzer / Searles

BROADBILL-1

	77		
ILE	NAME	COMPANY NAME	
rvisors V	Vestman/Jack	RBT	3
Į₽	atton	Amity	1
F	raidell	Santa Fe	1
ns V	Valker/Abrame	Santa Fe	2
neer D	Douat.	Beroid	1 (
C	Donion	Hibtn	1
1 0	Chein	Kvaerner	1
o F	hither	BAE	1
	ioffmeler	HOF	1
era		HML	4
		Schlum	7
.		Santa Fe	48
actors		Santa Fe	- 1
1		P&O	8
	re Vineer C	rvisore Westman/Jack Patton Freideli Walker/Abrams Douet Donion Chain Fisher Hoffmeler	rvisors WestmarvJack Patton Amity Freidell Santa Fe WalkariAbrams Barta Fe Douat Berold Donlon Hibtn Chain Kvaernar Fisher BAE Hoffmeler HOF HML Schlum Santa Fe Santa Fe

Cast Tool Type:

Survey method:

sgle shot

Magnetic Declination:

13.00 Min Curvature

ŧ	MD (m RT)	(m RT)	DEG	(deg)	CORR. AZ (deg)	SECT (m)	(m/30m)	(m)	(m)	TOOL TYPE
7	110	110	0.50	0	0.0					tatoa
	389		0.15	354	7.0		• 1		ĺ	egle shot
_	687	686	0.30	53	85,0		<u> </u>			agle shot

7

AMITY OIL NL

DAILY DRILLING REPORT#

Report Date: 22.01.98

FROM: Westman / Roots

BROADBILL-1

Well Data

DRILL CO. :

RIG: MUD CO:

RT ABOVE MSL (m): WATER DEPTH @MSL (m):

SANTA FE PARAMESWARA BAROID

> 30.7 217 52.4

Lanzer / Searles TO: DEPTH (m RT): 785

PROGRESS (m): 0 DAYS FROM SPUD: 5.33 DAYS +/- CURVE:

CSG OD ("): SHOE TVD (m RT):

779 LEAK-OFF EMW(ppg) 0.00

CUR, HOLE SIZE ("): 12.25

DAILY COST \$: CUM COST \$: AFE COST \$:

AFE BASIS:

\$2,473,328

UNKNOWN

CURRENT OP @ 0400: Nipple up well head

PLANNED OP .:

Nipple up BOP, Pick up drlll plpe, M/up 8.5" BHA, Drill 8.5" hole

9.63

Summary of period 00:00 to 24:00 hrs:

Run 9.63 casing

RT TO SEABED (m):

Formation Tops - This report only TOP(mBRT) **FORMATION**

ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 22.01.98

PHSE	CLS	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
12	PD	LOG	00:00	01:15	1.25	785	Schlumb contine pick up tools and load source.
12	PD	LOG	01:15	04:15	3.00	785	Schlum RIH with BHC-LDL-CNL-DLL-MSFL-GR-CALI. Tag btm @783m and log out.
12	PD	LOG	04:15	06:30	2.25		Remove source, lay out tools and and rig down.
12	PD	LOG	06:30	07:30	1.00		Pull diverter bag, retrieve wear bushing, and lay down running tool.
12	PD	RRC	07:30	09:00	1.50	785	R/u to run to run 9-5/8" csg. Hold Job Safety Analysis.
12	PD	RRC	09:00	16:00	7.00	785	M/u shoe track. Run casing, Tag Mud Line Hanger.
12	PD	CIC	16:00	18:45	2.75		Circulate casing. Prepare Gel water for cementing.
12	PD	CMC	18:45	19:00	.25		Pre-job meeting. Line up Howco.
12	PD	CMC	19:00	19:45	.75		Pump 40 bbls seawater 20 bbls freshwater, preflush.
12	PD	СМС	19:45	22:30	2.75	785	Mix & Pump Lead: 800 sk @ 12.5 ppg, w/ 2.5% bentonite BWOW, Tail: 200 sk & 15.8 ppg, w/ 1% CaCl, Release plug, HCS Displace 20 bbl
12	PD	СМС	22:30	24:00	1.50	785	Rig pumps displace cement w/ 9.2 ppg mud, Bump plug w/1500 psi @ 1390 stk, Maintain pressure f/ 10 min, Bleed off 2.5 bbl (0 psi) Float holding, Flush surface equipment, Nipple down cement head, Remove insert packer.

ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 23.01.98

PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
12	PD	CMC	00:00	03:30	3.50		Flush surface equipment, Nipple down cement head, Remove insert packer, Lift riser, Install well head spider, Set
12	PD	СМС	05:00	06:00	1.00	785	slips w,40k o/pull, Rough cut casing & L/out excess Final cut & Dress casing, Install seals, Nipple up "B" section

ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 22:01.98

Mud Properties	MUD COST FOR TODAY	r: \$717	CUMULATIVE MUD COST TO DATE: \$31,852				
Type: S-W/Gel/Pac FROM: F TIME: 15:3 WEIGHT (ppg): 9.2 TEMP (C): 4	GEL 10s/10m/30m (lb/100sqft): 15 23	44 API FLUID LOSS 14 (cm3/30min) 20 API FILTER CAKE (32nds inch HTHP FLUID LOSS (cm3/30min) 4 25 HTHP FILTER CAK (32nds inch)	22 PM:	0 580 5.5 5.	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA:	5.4 93.4 0 tr 8.2 0.0	

Blt Data for Bit # 3	IADC#	Wear	01 01		B G O2	R
SIZE ("): 0.00 MANUFACTURER: OT TYPE: SERIAL #: DEPTH IN (m RT): 785 DEPTH OUT (m RT): 0	AVE WOB (k-lbs): 0 AVE RPM: 0 FLOW (gpm): 0	NOZZLES 0 x 0 0 x x x	Drilled over the Information of	0.0 S: 0.0	Calculated over the CUM.FOOTAGE (m) CUM. ON BOT. HRS CUM.IADC DRILL HE ROP (m/hr):	: 675 : 21.6

DAILY DRILLING REPORT

Report Date: 22.01.98 FROM: Westman / Roots
TO: Lanzer / Searles

BROADBILL-1

A4: A5: **Anchor Tension** A2: A3: A1: A10: (kips) A6: A7: A8: A9: Weather & Rig data @ 24:00 hrs Location, Fuel Barite D/wtr Cmt Bent Hell P/wtr Workboats (bbl) (bbl) (5x) (sx) (kltr) VDL (kips 6,162.0 (kltr) (sx) WIND SP. (kts): 25.0 VISIB.(nm): good WIND DIR (deg): 45 CEILING (m): 1.696 RIS.TENS: Pacific Command @ Rig HEAVE (m): PRES.(mbars): 1009 WAVES (m): ROLL (deg): PITCH (deg): SWELL (m): AIR TEMP (C):

COMMENTS: 1 Flight - 8 pax in 9 pax out

Bulk Stocks DRILL WATER (bbl): 4,493.0 FUEL (kltr): 1,363.0 GEL (sx): 573 HELI-FUEL (kltr): 0.0
POT WATER (bbl): 823.0 BARITE (5x): 2,028 CEMENT (sx): 703

Drills, Permits & Inspections

DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
TRIP DRILL FIRE PIT DRILL INCIDENT	17.01.9	BOP TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA	9.1,98 1-1-98 177	LTI MTI JSA #PTW Safety Meeting	Pre tour mtgs

Casing	J			
CSG OD(")	LOT	PHASE	CSG SHOE	CSG SHOE TVD (mBRT)
30.00 9.63			106 779	106 779

TYPE	LNGTH (m)	CSG (")	lbs/ft	GRD	THREAD
Shoe Jt Shoe Jt Shoe Jt Casing It #2 Casing It #3 Casing It #3 Casing It #4 Casing It #4 Casing It #4 Casing It #6 Casing It #6 Casing It #7 Casing It #7 Casing It #8 Casing It #7 Casing It #7 Casing It #7 Casing It #7 Casing It #7 Casing It #7 Casing It #7 Casing It #7 Casing It #7 Casing It #7 Casing It #7 Casing It #7 Casing It #7 Casing It #7 Casing It #7 Casing It #6 Casing It #6 Casing It #6 Casing It #6 Casing It #6 Casing It #6 Casing It #7 Casing It #8 Casing It #7 Casing It #8 Casing	12.1 11.6 11.9 11.9 11.5 11.5 1.4 12.4 6.0 6.0	28.0 28.0 28.0 28.0 28.0 28.0 28.0 28.0	311.0 311.0 311.0 311.0 311.0 311.0 311.0 311.0 47.0	X-52 X-52 X-52 X-52 X-52 X-52 X-52 X-52	SF60 SF60 SF60 SF60 SF60 SF60 SF60 SF60

Personnel : on Site = 76

JOB TITLE	NAME	COMPANY NAME	#
Drlg Supervisor	Westman/Root	RBT	2
Geologist	Patton	Amity	1
OIM	Reece	Santa Fe	1
Toolpushers	Walker/Wilkie	Santa Fe	2
Mud Engineer	Doust	Baroid	1
Cementer	Donion .	Hlbtn	1
Well Head	Chain	Kvaerner	1
Casing	Winter/Pendelb	Weatherford	2
Mud Loggers		HML	4
Electric Line		Schlum	7
Rig Crews		Santa Fe	46
Sub Contractors		Santa Fe	
Catering		P&O	6

Pump Data

	P	ump Da	la - la:	Slow Pump Data						
#	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm		SPM	SPP (psl)	DEPTH (m RT)	MW (ppg)
1 2	ldeco - T Ideco - T	6.50 6.50	60 60	100 100	325 325	900 900				

-		_		
		sand	silt	clean
	HRS RUN	0.0	0.0	0.0
0	DISCARD RATE (gpm)	0.0	0.0	0.0
0	DISCARD WT (pgg)	0.00	0.00	0.00
0	RETURN WT (ppg)	0.00	0.00	0.00
	0	0 DISCARD RATE (gpm) 0 DISCARD WT (pgg)	HRS RUN 0.0 0 DISCARD RATE (gpm) 0.0 0 DISCARD WT (pgg) 0.00	HRS RUN 0.0 0.0 0 DISCARD RATE (gpm) 0.0 0.0 0 DISCARD WT (pgg) 0.00 0.00

DAILY DRILLING REPORT #

BROADBILL-1

Report Date: 22.01.98

FROM: Westman / Roots
TO: Lanzer / Searles

Survey Last Tool Type: sgle shot	MD (m RT)	TVD (m RT)	INCL DEG	AZ (deg)	CORR. AZ (deg)	'V' SECT (m)	DOGLEG (m/30m)	N/S (m)	E/W	TOOL TYPE
Magnetic Declination: 13.00 Survey method: Min Curvature	110 399 687	110 398 686	0.15	0 354 53	7.0					tolco sgle shot sgle shot

\$0

BROADBILL-1

Report Date: 23.01.98

FROM: Westman/Roots

Well Data

DRILL CO.: SANTA FE PARAMESWARA RIG:

MUD CO:

BAROID RT ABOVE MSL (m): 30.7 WATER DEPTH @MSL (m): 21.7 RT TO SEABED (m): 52.4 TO: Lanzer / Searles

PROGRESS (m): 0 DAYS FROM SPUD: DAYS +/- CURVE :

6.33 LEAK-OFF EMW(ppg)

CUR. HOLE SIZE ("): 12.25 CSG OD ("): 9.63 SHOE TVD (m RT): 779 0.00

DAILY COST \$: CUM COST \$: AFE COST \$:

UNKNOWN AFE BASIS:

CURRENT OP @ 0400: Pick up 8.5" Drilling assembly

785 1

PLANNED OP .:

DEPTH (m RT):

Pick up 5" DP req.d to TD, Drill float equipment, Perform FIT, Drill 8.5"

Summary of period 00:00 to 24:00 hrs:

Set 9.63 Casing, Nipple up BOP & Test same

Formation Tops - This report only TOP(mBRT) **FORMATION**

ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 23.01.98

PHSE	CLS	OP	FROM	то	HRS	DEPTH	ACTIVITY DESCRIPTION	
12	PD	CMC	00:00	05:00	5.00	785	Flush surface equipment, Nipple down cement head, Remove insert packer, Lift riser, Install well head spider slips w,40k o/pull, Rough cut casing & L/out excess, Landown Overshot packer & Riser	
12	PD	CMC	05:00	06:00	1.00	785	Final cut & Dress casing, Install seals, Nipple up "B" section	
<i>!</i> 2	PD	ВОР	06:00	09:00	3.00	785	Continue to nipple up "B" section, Pressure test seals to 2000 psi/15 min, Install Adapter	
12	PD	BOP	09:00	11:30	2.50	785	Prepare Texas Deck work platform to nipple up BOP	
8	PD	BOP	11:30	18:00	6.50	785	Nipple up BOP & Riser	
8	PD	BOP	18:00	19:00	1.00	785	Lay down handling equipment	
8	PD .	ВОР	19:00	23:00	4.00	785	Pressure test BOP : All Rams 500/3500 psi 5/10 min, Annular : 500/2000 psi 5/10 min	
8	PD	0	23:00	23:30	.50	785	Set Wear Bushing	
8	PD	LDP	23:30	24:00	.50	785	Lay down excess 8" Drill Collars	

ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 24.01.98

PHSE	CLS	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
8	TD	LDP	00:00	02:00	2.00	785	Continue to lay down excess 8" DC & Stabilisers
8	PD	0	02:00	06:00	4.00	785	Pick up 8.5" Drilling assembly

ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 23.01.98

Mud Properties	MUD COST FOR TODAY:	: \$24,484	CUMULATIVE MUD COST TO DATE: \$56,336				
FROM: FL TIME: 20:00 WEIGHT (ppg): 8.90 TEMP (C): 0	VISCOSITY(sec / qt): PV (cps): YP (tb/100sq.ft): GEL 10s/10rt/30m (lb/100sqft): 4 8 FANN 3/6/100 3 6	55 API FLUID LOSS (cm3/30min) 15 (cm3/30min) 15 (32nds inch HTHP FLUID LOSS (cm3/30min) 14 (32nds inch)	30 PM:	43,000 SOLIDS (%vol) : 10	1.7 95.8 0 8.2 0.0		

Bit Data for Bit # 4	IADC # 4 4 7	Wear		01	۵	L	В	G	02	R
TYPE: ATMGT SERIAL#: L8418D65	AVE WOB (k-lbs): AVE RPM: FLOW (gpm): PUMP PRESS. (psl): HSI (hp/sqi):	NOZZLES 2 x16 1 x14	FOOT ON BO	AGE (m OTTOM DRILL.	HRS:	4 hrs	CUM.	culated of COTACON BOTADC DF	3E (m) : T. HRS	:

d	BHA#4 Leng	gth (m) :258.9		DC(1) A.V. (mpm) ;	0.0 HRS ON JARS :
H	HRS ON MOTOR:	STRING WT(k-lbs):	RQE MAX (amps):	(-) () -	0.0 S/N JARS: DAH 103309
ŀ	WT BW JAR(k-lbs):			HWOP A.V. (mpm):	0.0 HRS ON STABS:
1	BHA WT(k-lbs):	42 SLK OFF WT(k-lbs):	RQE OFF (amps):	D.P. A.V. (mpm):	0.0 S/N STABS : D-9-89-13, 4811
	BHA DESCRIPTION :	Bit, NB Stab, NMDC, Stab, DC, S	Stab, 11 DC, Jar, DC, HWI	OP	

DAILY DRILLING REPORT#

Report Date: 23.01.98

FROM: Westman / Roots Lanzer / Searles TO:

BROADBILL-1

Anchor Tension

A1:

A2:

A4:

A5:

(kips)

A6:

A7:

A3:

A9:

Weather & Rig data @ 24:00 hrs

A10:

Workboats

Location. Fuel Barite (kttr) (sx)

D/wtr P/wtr Cmt Bent Heli (bbl) (ppl) (sx) (sx) (ktt)

VDL (kips: 6,194.0 RIS.TENS:

Pacific Command Rig

WIND SP. (kts): 20.0 VISIB.(nm): good WIND DIR (deg): 210 CEILING (m):

HEAVE (m):

PRES.(mbars): 1010 WAVES (m): AIR TEMP (C):

SWELL (m):

ROLL (deg): PITCH (deg):

COMMENTS:

Helicopter Movements:3 on & 5 off P/Commander:Standby

Bulk Stocks DRILL WATER (bbl): 4,033.0

FUEL (kltr): 1,344.0

882

POT WATER (bbl):

BARITE (sx): 2,028 GEL (sx): CEMENT (sx): 1,524 HELI-FUEL (kitr):

DETAILS

0.0

Drills, Permits & Inspections

DRILL TYPE DATE INSPECTIONS SAFETY DATE TRIP DRILL **BOP TEST** 23-1-98 FIRE 17.01.98 **NEXT TEST DUE DATE** 06-2-98 MTI PIT DRILL 1-1-98 RIG INSPECTION **JSA** INCIDENT DAYS SINCE LTA 135 #PTW

Safety Meeting

Held weekly meeting

Casing

CSG OD(")	LOT	PHASE		CSG SHOE TVD (mBRT)	
9.63	-		779	779	

TYPE	LNGTH (m)	CSG ID (*)	WT lbs/ft	GRD	THREAD
Shoe Jt	12.0	8.7	47.0	L-80	LTC
Casing jt #2	12.0	8.7	47.0	L-80	LTC
Float jt	11.9	8.7	47.0	L-80	LTC
57 jt csg	681.9	8.7	47.0	L-80	LTC
Pup (MSL)	6.1	8.7	47.0	L-80	LTC
Pup (MSL)	6.6	8.7	47.0	L-80	LTC
1 jt csg	11.9	8.7	47.0	L-80	LTC
Pup	3.0	8.7	47.0	L-80	LTC
Pup	3.6	8.7	47.0	L-80	LTC
II 1 jt csg	12.0	8.7	47.0	L-80	LTC
itump	6.0	8.7	47.0	L-80	LTC
, fop of "B" Section	.7				

Pump Data

Н	_	7117										
l	匚	P	ump Da	ta - le	st 24 h	rs		Slow Pump Data				
	#	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm	SPP (psi)	SPM	SPP (psi)	DEPTH (m RT)	MW (ppg)	
	1 2	ideco - T1 Ideco - T1			100 100							

Solids Data			sand	silt	clean
1		HRS RUN	0.0	0.0	0.0
MESH 1	150	DISCARD RATE (gpm)	0.0	0.0	0.0
MESH 2	80	DISCARD WT (pgg)	0.00	0.00	0.00
MESH 3	80	RETURN WT (ppg)	0.00	0.00	0.00

Personnel: on Site = 74

JOB TITLE	NAME	COMPANY NAME	#
Drig Supervisors	Westman/Root	RBT	2
Geologist	Patton	Amity	1
OIM	Reece	Santa Fe	1
Toolpushers	Walker/Wilkie	Santa Fe	2
Mud Engineer	Doust	Baroid	1
Cementer	Donion	Hibtn	1
Well Head	Chain	Kvaerner	1
Mud Loggers		HML	4
Electric Line		Schlum	4
Rig Crews		Santa Fe	46
Sub Contractors		Santa Fe	
Catering		P&O	8
Well Test	Kassim/farley	Expo	2
Managing Direct	Allchurch	Amity	1

Survey

Last Tool Type: sgle sho Magnetic Declination: 13.00 Survey method: Min Curvatur

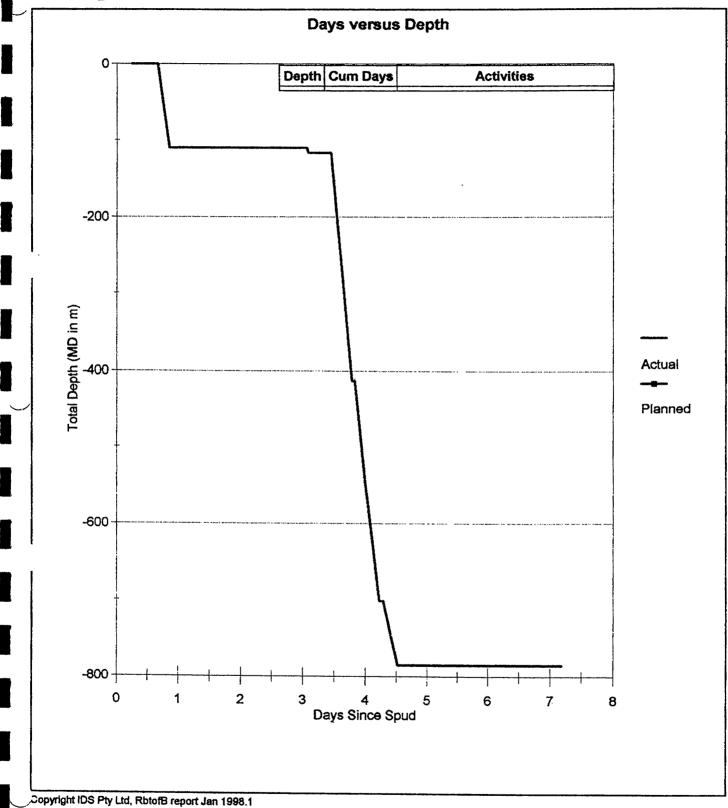
									_	
ot	MD (m RT)	TVD (m RT)	INCL DEG	AZ (deg)	CORR. AZ (deg)	SECT (m)	DOGLEG (m/30m)	N/S (m)	E/W (m)	TOOL TYPE
re	110 399	110 398	0.50 0.15		0.0 7.0					totco sgle shot
	687	686	0.30		66.0					safe shot

BROADBILL-1

Report Date: 23.01.98

FROM: Westman / Roots TO: Lanzer / Searles

DEPTH @ 24:00 = 785.0 m after 6.33 days since spud



Report Date: 24.01.98

FROM: Westman/Roots

BROADBILL -1

Lanzer/Searles TO:

Well Data

DRILL CO.: RIG: MUD CO:

RT ABOVE MSL (m): WATER DEPTH @MSL (m):

RT TO SEABED (m):

SANTA FE PARAMESWARA BAROID

30.7 21.7

52.4

DEPTH (m RT): PROGRESS (m):

PLANNED OP. :

285 DAYS FROM SPUD: 7.33

DAYS +/- CURVE:

1,070 CUR. HOLE SIZE ("): CSG OD ("):

SHOE TVD (m RT): LEAK-OFF EMW(ppg)

CUM COST \$: 8.63 779

\$2,473,328

AFE COST \$: AFE BASIS:

0.00

CURRENT OP @ 0400: Partial returns: Re-establish returns and clean hole, raise mud weight to 9.2+ whilst drilling ahead

8.50

Drill 8.5" hole

Summary of period 00:00 to 24:00 hrs:

Drill 8.5" hole, Wiper trip.

Formation Tops - This report only

DAILY COST \$:

FORMATION TOP(mBRT)

ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 24.01.98

PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
8	TD	LDP	00:00	02:00	2.00	785	Continue to lay down excess 8" DC & Stabilisers
8	PD]HT	02:00	05:30	3.50	785	Pick up 8.5" Drilling assembly
8	PD	TI		08:00	2.50	785	P/u 50 jts of drill pipe.
8	PD	TI	08:00	08:30	.50	785	POOH w/ 11 stds drill pipe. Stand in derrick.
8	PD	TI	08:30	10:15	1.75		RIH w/ 34 jts drill pipe.
8	PD	RW	10:15	11:15	1.00	785	Tag cmt at 745m. Drill out cmt, float, and shoe track to 775m.
A	PD	CIC	11:15	12:00	.75	785	Pump 100 bbl sweep of old mud. Displace hole w/ KCL/PHPA mud.
0	PD	D	12:00	12:15	.25	788	Drill Shoe, Clean rathole & Drill new formation F/778 to 788mt
8	PD	CIR	12:15	12:45	.50	788	Circulate prior to FIT
8	PD			13:15	.50		Perform FIT @ 788mt w/ 8.8 ppg, Leak off @ 564 psi, EMW : 13 ppg
8	PD	D	13:15	24:00	10.75	1,070	Drill 8.5" hole f/788 to 1070 mt

ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 25.01.98

PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
8 8 8	PD PD PD PD	D CIR S WT	00:00 01:15 01:30 01:45	01:15 01:30 01:45 03:30	1.25 .25 .25 1.75	1,095 1,095 1,095	Continue to drill 8.5" hole f/ 1070 to 1095 mt Circulate bottoms up Drop MSS survey & pump slug Pull back to shoe to recover survey: 30/50k over pull f/ 1079 to 1008 mt, 75k over pull f/1008 to 979 mt, work thru came good, 30/40k f/ 979 to 893, no drag f/ 893 to shoe.
8	PD	S	03:30	04:00	.50	1,095	Retrieve survey @ shoe: inclination 2.25 deg, azimuth 32
8 8 8	PD PD TD	RS WT WT	04:00 05:00 05:45	05:00 05:45 06:00	1.00 .75 .25	1,095 1,095	Service TDS & change pipe handler dies RIH to 1095, No drag Attempt to wash last stand to bottom, f/ 1065 to 1095 mt, Hole packing off, Zero to partial returns, work pipe w/ 150 rpm, reduced pump rate 200 gpm f/ 1065 to 1075, Esablish partial returns.

ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 24.01.98

Mud Properties	MUD COST FOR TODA	Y:\$7,160	CUMULATIVE MUD COS	T TO DATE: \$63,496	
Type: KCL/Ezy Mud/Poly FROM: FL TIME: 22:30 WEIGHT (ppg): 9.10 TEMP (C): 40	(lb/100sqft): 4	40 API FLUID LOSS 14 (cm3/30min) API FILTER CAKE (32nds inch HTHP FLUID LOSS 7 11 (cm3/30min) 6 20 HTHP FILTER CAN (32nds inch)	MBT (ppb eq): 11 PM:	23,000 SOLIDS (%vol) : 0 H2O (%vol) : 225 OIL (%vol) : .2 SAND : .3 PH : .1 PHPA :	3.2 95.5 0 .5 9.2 11.0

BROADBILL -1

Report Date: 24.01.98

FROM: Westman/Roots Lanzer/Searles TO:

Bit Data for Bit #	4	IADC# 4	4	7	Wear		01	D		B	G	OS	R
SIZE (") :	8.50				NOZZLES								
MANUFACTURER:	HU	AVE WOB (k-lbs) :	15	2 x16	Drille	d over	the last	24 hrs	Cal	culated	over the bl	t run
TYPE:	ATMGT	AVE RPM :		130	1 X14	FOOT	AGE (m) :	317	сим.	FOOTA	GE (m):	317
SERIAL#:	L8418D65	FLOW (gpm)):	500	×	ON B	, AOTTO	HRS:	9.0	CUM.	ON BC	T. HRS :	9.0
DEPTH IN (m RT):	785	PUMP PRES	SS. (psi):	1,240	×	IADC	DRILL.	. HRS :	12.5	CUM.	IADC D	RILL HRS:	12.5
DEPTH OUT (m RT)	•	HSI (hp/sqi)	:	5	×	ROP ((m/hr):		25.4	ROP	(m/hr):		25.4
BHA #4 Len	gth (m) :2	58.9						.V. (mpn	., .	-	AL NO		13.5
HRS ON MOTOR:		NG WT(k-lbs)			(.V. (mpn	., .	OS/N.		DAH 1	
WT BW JAR(k-lbs):		UP WT(k-lbs			(1.V. (mp			ON ST		12.5
BHA WT(k-lbs):	42 SLK	OFF WT(k-lbs)): 150	TRQE OF	F (amps):	200 0	.P. A.V	(. (mpm)	; 0.	0 2/14	SIADS	:D-9-69-13	9, 4011
BHA DESCRIPTION:	Bit, NB	Stab, NMDC,	Stab, Do	C, Stab. 11	DC, Jar, DC,	, HWDF							
Anchor Tension	· 	A1:		A2:	A3	3:		A4	:		A5 :		
(lalma)													

A10: (klps) A8: A9: A6: A7: Weather & Rig data @ 24:00 hrs Bent Hell (sx) (kltr) Location. Fuel Barite D/wtr P/wtr Cmt Workboats (kltr) (sx) (bbl) (bbl) (sx) VDL (kips 5,920.0 WIND SP. (kts): 12.0 VISIB.(nm): good WIND DIR (deg):110 CEILING (m): RIS.TENS: Pacific Command Rig HEAVE (m): PRES.(mbars): 1010 WAVES (m): ROLL (deg): AIR TEMP (C): SWELL (m): 1.0 PITCH (deg):

Helicopter Movements:0 on & 3 off P/Commander:Standby COMMENTS:

Bulk Stocks DRILL WATER (bbl): 3,924.0 HELI-FUEL (kitr): FUEL (kltr): 1,939.0 GEL (5x): 882 **CEMENT (sx): 1,524**

POT WATER (bbl): BARITE (sx): 792.0

Drills, Permits & Inspections SAFETY DETAILS INSPECTIONS DATE DRILL TYPE | DATE BOP TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA 23-1-98 06-2-98 1-1-96 136 LTI MTI JSA #PTW TRIP DRILL FIRE PIT DRILL 25-1-98 17.01.9 Survey 24-1-98 INCIDENT Safety Meeting

P	Pump Data											
$I\Gamma$	Pump Data - last 24 hrs Slow Pump Data											
#	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm	SPP (psl)	SPM	SPP (psi)	DEPTH (m RT)	MW (ppg)		
	1 Ideco - T 2 Ideco - T	6.50 6.50	50 50	100 100	250 250	1240 1240	40 50	290 430	950 950	9.1 9.1		

Solids Data	1		sand	silt	clean
		HRS RUN	0.0	13.0	0.0
MESH 1	150	DISCARD RATE (gpm)	0.0	0.0	0.0
MESH 2	150	DISCARD WT (pgg)	0.00	13.50	0.00
MESH 3	80	RETURN WT (ppg)	0.00	0.00	0.00

BROADBILL -1

Report Date: 24.01.98

FROM: Westman/Roots
TO: Lanzer/Searles

	•								
	Casing	9							
4	CSG OD(")	LOT	PHASE	C	SG SH MD	OE	CSG S TVD (m		
	30.00 9.63					106 779		106 779	
	T	YPE	LNGT (m)		CSG ID (*)	WT lbs/l		THR	EAD
	Shoe Jt Shoe Jt Casing		12	2.4	28.0		X52 X52 X-52		SF60 SF60 SF60
1	Casing Casing Casing Casing Casing	t #3 t #3 t #4	11	8,6,6,3,3	28.0 28.0		X-52 X-52 X-52 X-52 X-52 X-52		SF60 SF60 SF60 SF60 SF60
Ì	Casing Casing Casing Casing Casing	t #5 (ML) t #6 t #6 t #7	5 12 1 11 1 11	2.1 1.6 1.6 1.9	28.0 28.0 28.0 28.0		X-52 X-52 X-52 X-52 X-52		SF60 SF60 SF60 SF60
I	Casing Casing 30"x 20 30"x 20 RKB to	it #8 t #8 " A sectio " A section A Section	1 1	1.5 1.4 1.4 2.4	28.0 28.0 21.0 21.0		X-52 X-52	21-1	SF60 SF60 /4"2k /4"2k
	np Soump Top of "	A Section B" Section B" Section		2.4 5.0 5.0 .7 .7	8.7	47. 47.			LTC LTC

Personnel: o	п Site = 71		
JOB TITLE	NAME	COMPANY NAME	#
Drig Supervisors	Westman/Root	RBT	2
Geologist	Patton	Amity	1
OIM	Reece	Santa Fe	1
Toolpushers	Walker/Wilkle	Santa Fe	2
Mud Engineer	Doust	Barold	1
Cementer	Donlon	Hibtn	1
Well Head	Chain	Kvaerner	1
Mud Loggers		HML	4
Electric Line		Schlum	4
Rig Crews		Santa Fe	45
Sub Contractors		Santa Fe	
Catering		P&0	8
Managing Direct	Allchurch	Amity	1

vey ast Tool Type : MSS	MD (m RT)	TVD (m RT)	INCL DEG	AZ (deg)	CORR. AZ (deg)	SECT (m)	DOGLEG (m/30m)	N/S (m)	(m)	TOOLITPE	
agnetic Declination: 13.00 urvey method: Min Curvatur	200	398 686 780		354 53 320						totco sgle shot sgle shot MMS MSS	

.

Report Date: 24.01.98

FROM: Westman/Roots
TO: Lanzer/Searles

BROADBILL-1

Total move time (hrs)
Total time on well
excluding move (hrs)

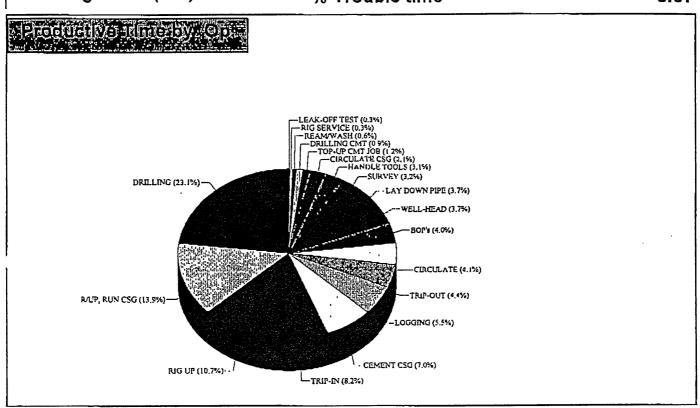
0.00 Total prod. time since spud (hrs)

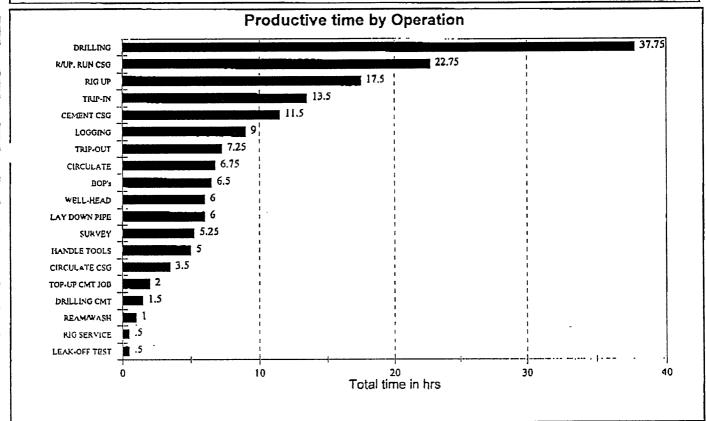
Total Trouble time since spud (hrs)

172.50 % Trouble time

8.75 5.07

163.75



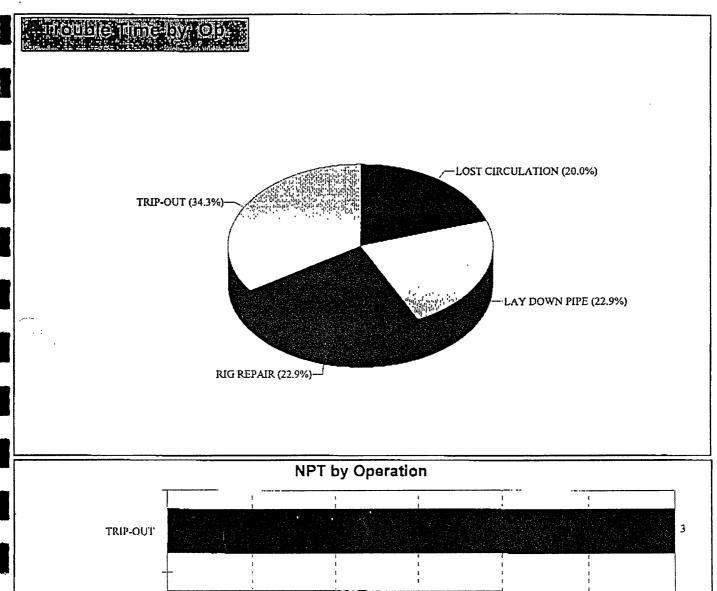


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Report Date: 24.01.98

FROM: Westman/Roots
TO: Lanzer/Searles

BROADBILL-1



TRIP-OUT

RIG REPAIR

2

LAY DOWN PIPE

2

LOST CIRCULATION

1.75

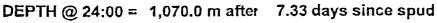
Total time in hrs

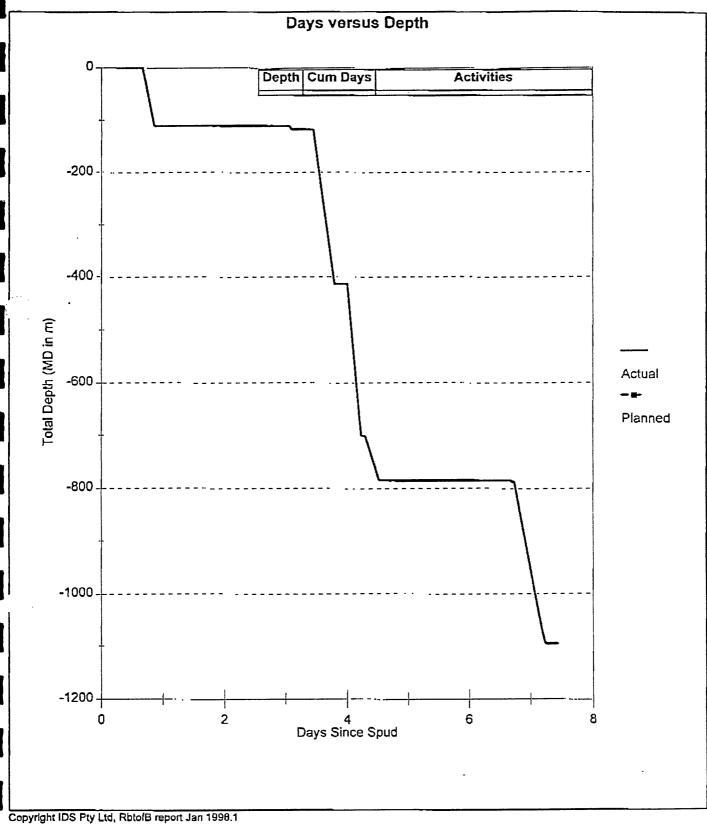
DUITE DIVIDENCE OVER A 1/1 11

Report Date: 24.01.98

FROM: Westman/Roots
TO: Lanzer/Searles

BROADBILL-1





50

AMITY OIL NL

DAILY DRILLING REPORT # 10

Report Date: 25.01.98

FROM : Westmen/Roots

BROADBILL-1

۱۸	le	11	D	8	ta	

SANTA FE DRILL CO. : RIG: MUD CO. BAROID 30,7 RT ABOVE MGL (m): WATER DEPTH @MEL (m): 21.7 TO: Lanzer/Searles

DEPTH (m RT):

PLANNED OF .:

PROCRESS (m):

DAYS FROM SPUD:

1,435 | CUR. HOLE SIZE (): DAILY COSTS: 8.50 CUM COST S: 9.63 CSG OD (7) . AFE COST \$! 778 SHOE TVD (m RT): AFE BASIS : LEAK OFF EMW(ppg) 13.00

DAYS +/- OURVE: CURRENT OF @ 0400 : Buck ream out of hole, Hole pecking off, Lasses to hole @ 05:00 hrs = 80

386

8,33

Pull to shoc, Rothovo eurvey, Maxing receive mud & weighted HI-Vio eweep, RIH, POOH to Log

Summary of period 00:00 to 24:00 hrs:

Drill 8.5" hole

RT TO BEABED (m) !

Formation Tops - This report only TOP(mBRT) FORMATION

ACTIVITY FOR REPION MIND HRS TO 24:00 HRS ON 25.01.98

52.4

W 1141		(() =				,00,11100	
PHSE	CLS	ØΡ	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
8	PD	D	00:00	01:15	1.26		Continue to drill 8.5" hale f/ 1070 to 1095 mt
a	PD	CIR	01:15	01:30	.25		Circulate bottoms up
8	PD	s	01:30	01:45	.25	1,095	Drop MSS aurvey & pump alug
8	PD	WT	01:46	03:30	1.75	•	Pull back to shoo to recover survey: 30/50k over pull f/ 1079 to 1008 mt, /5k over pull f/1008 to 979 mt, work thru came good, 30/40k f/ 079 to 893, no drag f/ 893 to shoe.
8	PD	S	03:30	04:00	.50		Retrieve survey @ shoe: inclination 2.25 deg, azimuth 32 deg
le	PD	RS	04:00	05:00	1.00		Service TDS & change pipe handler dies
8	PD	WT	05:00	05:45	.75	1,095	RIH to 1095, No drag
8	TD	WT	05:45	07:00	1.25		Attempt to wash last stand to bottom, f/ 1066 to 1095 mt, Hole packing off, Zero to partial returns, work pipe w/ 150 rpm, reduced pump rate 200 gpm f/ 1065 to 1075, Establish partial returns. Lost 45 bbls. Regained full returns. Coal over shakers
8	PD	D	07:00	24:00	17.00	1,005	Drill 8-1/2" Hole f/ 1095m - 1335 mt

ACTIVITY FOR REPIOR 00:00 HRS TO 08:00 HRS ON 26 01 98

PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
8 8 8	PO PD PD	s	02:00 02:30	02:00 02:30 08:00 06:00	2,00 ,50 ,50 3,00	1,345 1,345	Continue to drill 8.5" hole f/ 1335 to 1345 mt TD Circulate bottoms up Drop MSS survey, Flow check, Pump slug PUOH, 50k over pull (not free) Attempt to pump out of hole 50k o/pull & packing off, Back ream out of hole, Slow progress f/ 1288 to 1249 mt with hole packing off, Partial to zero returns, Losses to hole = 80 bbl,Depth @ 08:00 1153 mt

ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 25.01.98

REMARK / OBSERVATION	SOLUTION / RECOMMENDATION
Port burner boom, aft stay wire came loose. Buildog clips apparently not tight, as cable slipped through clip. Burner boom awing along side of rig at an angle of approximatly 25 deg. Arrested by guy wire from King post to boom, contacting hand rall of port leg, jacking gear work platform. No apparent damage, further investigation to follow when weather abotes, at present Boom secured.	Change out Guy wires to .G25 (min) presently .430 (approx)

DAILY DRILLING REPORT # 10

BROADBILL -1

Report Date: 25.01.98 FROM

FROM: Westman/Roots TO: Lanzer/Searles

Mud Properties	MUD COST FOR TODAY	: \$7,425	CUMULATIVE MUD COB	TO DATE:	\$76,921	
Type: KCL/Ezy Mud/Poly FROM: FL	(Ib/100aqff): 5 9	42 API FLUID LOSS 14 (cm3/30mh) API FILTER CAKE (32ndk krch HTHP FLUID LOSS (cm3/30min) HTHP FILTER CAK (32nds Inoh)	MBT (ppb aq):	0 H2 300 OI .5 84 2 Pt	OLIDE (%vel): 20 (%vel); IL (%vel): AND: H: HPA:	4.3 84.4 0 .25 8.5 1.0

Bit Data for Bit #	5.50	1		NOZZLES		احريب		
MANUFACTURER:	HU	AVE WOB (k-lbs):	20	2 x15	Drilled over the last 24	hra	Calculated over the bit	ΛŧΠ
TYPE.	ATMGT	AVE RPM:	130	1 x 14	FOOTAGE (m):		CUM.FOOTAGE (m):	567
SERIAL #:	L8418D65	FLOW (gpm):	500	×	ON BOTTOM HRS :	16.3	CUM. ON BOT. HRS:	25,3
DEPTH IN (m RT):	785	PUMP PRESS. (psi):	1,375	X	LADO DRILL. HRS:	17.0	CLIM.IADC DRILL HRS:	29,5
DEPTH OUT (m RT)	•	Hal (hb/ed):	8	X	ROP (m/hr):	14.7	ROP (m/hr):	10.2

Workboata Lo	catan.	Fuel (kltr)	Bartte (ex)	D/wtr (bbl)	(PPI)	Cmt (5x)	Bent (ox)	Heil (ktb)		ther & Rig data &	_	, vi	DL (Nps: 1	
Anchor Tension (kipe)			A1: A6:			A2: A7:			A3 : A8 ;	A4 , A9 ;		A5 : A10 :		
BHA DESCRIPTION:		K, NO	Stab, N	MDC, 3	tab, Do	C, 8(ab	,11 DO), Jar, D	o, Hwi	OF		===	***************************************	
HRE ON MOTOR: WT BW JAR(k-lbs): BHA WT(k-lbs):	42	PICK SUK	NG WT(UP WT	(k-lbe) : (k-lbe) :	170	TRO	ON ((samps);	200 190	DC(2) A.V. (mpm) : HWDP A.V. (mpm): D.P. A.V. (mpm) :	0.0 3/N 3 0.0 HRS 0.0 S/N S	ONSI	BS:	103309 29.5 3, 4811

Padific Command Rig

WIND 8P. (kts): 35.0 VISIB.(nm): Fair RIS.TENS:
WIND DIR (deg): 110 PRES.(mbars): 1010 WAVES (m): 2.0 PITCH (deg):
AIR TEMP (C): 16.0 SWELL (m): 3.0 PITCH (deg):

[COMMENTS: Helicopter Movements: 7 on £ 3 off P/Commandar;Standby

Bulk Stocks DRILL WATER (bbl): 3.885.0 FUEL (ktt): 1,898.0 GEL (m): 882 HELI-FUEL (ktt): 0.0
POT WATER (bbl): 792.0 BARITE (m): 1,674 CEMENT (m): 1,524

Selety Meeting

Drills, Permits & Inspections DETAILS DRILL TYPE DATE INSPECTIONS DATE SAFETY LTI TRIP DRILL 25-1-98 BOP TEST 23-1-68 17.01.91 NEXT TEST DUE DATE 24-1-88 RIG INSPECTION DAYS SINCE LTA FIRE 06-2-98 PIT DRILL INCIDENT 1-1-98 137 JSA #PTW Survey

Pu	mp Data									
_	Pι	IMP Da	ta - les	t 24 h	78			Slow P	ump Dag	ì
*	TYP€	LNR	8PM	· '	Flow (gpm	(b.t) 855	SPM	(0 sl)	(m KJ)	WW (ppq)
- N	Ideoc - T1 Ideoc - T1		1			1375 1375	40 50	240 360	1181 1181	9.3 9.3

Solida Data			sand	5/it	clean
		HRS RUN	0.0	0.0	0.0
MESH 1	Q	DISCARD RATE (gpm)	0,0	0,0	0.0
MESH 2	0	DISCARD WT (pgg)	0.00	0.00	0.00
MESH 3	٥	RETURN WT (PPS)	0.00	0.00	0.00

DAILY DRILLING REPORT # 10
BROADBILL -1

Report Date: 25.01.98

FROM: Westman/Roots
TO: Lanzer/Searles

Caeing	J								
CSQ	LOT	PHASE	HARE CSG SHOE CSG SHO						
9.63	13.00				778			778	
, n	PE	(m)	H	ID (f)	W)		GRD	THR	EAD
Shoe Jt. Casing it Float it		12	0 0 0	8,7 8.7 8,7	47. 47. 47.	0	L-80 L-80		רוכ הוכ הוכ
57 jt czg Pup (MS Pup (MS	iL)	(.6	8.7 8.7 8.7 8.7	47. 47. 47.	0	L-80 L-80 L-80		1000
T JE OSG PUD PUD 1 JE OSG		3	.6	8.7	47. 47. 47.	0	L-80 L-80		355
Strium	B" Sactio	6	.0	8,7	47.	- 1	L-80		LTC

JOB TITLE	NAME	COMPANY NAME	F
Drig Supervisore	Westman/Root	RBT	
Geologist	Petton	Amity	
OIM	Reese	Santa Fo	
Tooloughers	Welker/Wilkle	Santa Fe	
Mud Engineer	Doubt	Barold	
Camenter	Donlon/Seizer	Hibbit	
Wall Head	Chain	Kvaemer	
Mud Loggere		HML	
Electric Line		Schlum	
Rig Craws	•	Senta Fe	4
Sub Contractors		Santa Fe	
Catoring		P&O	

Survey	MD	TVD	INCL	A2	CORR.	٧	DOGLEG	NE	EW	TOOL TYPE
Last Tool Type: MS	S (m RT)	(m RT)	DEG	(dag)	AZ (deg)	OECT (m)	(mOEvm)	(m)	(m)	
Magnetic Declination: 13.0	110	110	0.50	Q	0.0					tonco
Survey method: Min Curvatu	re 399			354 53	7.0 68.0					sale shot
	780 1,074				333.0 45.0					MMS M33

DAILY DRILLING REPORT#

Report Date: 26.01.98

FROM: Westman/Roots

BROADBILL-1

Well Data

DRILL CO.: RIG: MUD CO:

SANTA FE PARAMESWARA BAROID

RT ABOVE MSL (m): 30.7 WATER DEPTH @MSL (m): 21.7 52.4 RT TO SEABED (m):

TO: Lanzer/Searles

DEPTH (m RT): PROGRESS (m): 0 DAYS FROM SPUD: 9.33 DAYS +/- CURVE:

9.63 CSG OD ("): 779 SHOE TVD (m RT): 0.00 LEAK-OFF EMW(ppg)

CUR. HOLE SIZE ("):

DAILY COST \$: CUM COST \$: AFE COST S:

AFE BASIS:

UNKNOWN

\$2,473,328

1,340

CURRENT OP @ 0400: Wiper trip

POOH to Log. P & A PLANNED OP. :

1,345

Formation Tops - This report only FORMATION TOP(mBRT)

Summary of period 00:00 to 24:00 hrs:

Wiper trip, POOH, Attempt to Log

11	POUNTION	. •
	Strezlecki	
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ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 26.01.98

CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
PD PD PD TD PD PD PD PD PD PD	D CIR S WT CIC S RS TI CIR TO	00:00 02:00 02:30 03:00 09:30 10:00 10:30 11:00 12:30 14:30	02:00 02:30 03:00 09:30 10:00 10:30 11:00 12:30 14:30 15:30	2.00 .50 .50 6.50 .50 .50 .50 1.50 2.00 1.00	1,345 1,345 1,345 1,345 1,345 1,345 1,345 1,345 1,345	Continue to drill 8.5" hole f/ 1335 to 1345 mt TD Circulate bottoms up Drop MSS survey, Flow check, Pump slug POOH, 50k over pull (not free) Attempt to pump out of hole 50k o/pull & packing off, Back ream out of hole, Slow progress f/ 1268 to 1249 mt with hole packing off, Partial to zero returns, Losses to hole = 80 bbl. Circulate hole clean from shoe. Retrieve survey. Service TDS. RIH to bottom. Wash and ream 1018m - 1124m, Sweep hole clean w/ 70 bbl Hi-Vis, Displace hole with Hi-Vis POOH to shoe, No problems
PD	CIR	15:30	16:00	.50	1.345	Circulate hole clean, Pump slug
PD PE	TO	16:00 18:00	18:00 24:00	2.00	1 345	Continue to POOH Rig up Schlumberger Log #1: BHC-LDL-CNL-DLL-MSFL-GR-AMS-SP, Log in hole @ 20:00 hrs, Encountered problems passing: 860 to 897 mt, 960 mt, 1004 to 1030 mt, Unable to pass 1030 mt, POOH & Rig down Logging tools
	PD PD PD PD PD PD PD PD PD PD PD PD PD P	PD D CIR S WT CIC S S TI CIR TO CIR PD PD PD PD PD PD PD PD PD PD PD PD PD	PD	PD	PD	PD D 00:00 02:00 2.00 1,345 PD CIR 02:00 02:30 .50 1,345 PD S 02:30 03:00 .50 1,345 TD WT 03:00 09:30 6.50 1,345 PD S 10:00 .50 1,345 PD S 10:00 10:30 .50 1,345 PD RS 10:30 11:00 .50 1,345 PD TI 11:00 12:30 1.50 1,345 PD TI 11:00 12:30 1.50 1,345 PD TO 14:30 15:30 1.00 1,345 PD TO 15:30 16:00 .50 1,345 PD TO 16:00 18:00 2.00 1.345

ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 27.01.98

	PHSE			FRO	М	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
)	8 8 8	PE TE TE	LOG WT WT	00:00 00:30 03:00	ן כ	00:30 03:00 06:00	.50 2.50 3.00	1,345	Continue to rig down Schlumberger Make up bit (RR #4) & RIH to 880 mt Work through Ledges @ 880 & 982 mt, Work through tight section f/ 1027 to 1036 mt, Came good, Continue to RIH no

ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 26.01.98

Mud Properties M	UD COST FOR TODAY: \$6,410	CUMULATIVE MUD COST TO DATE: \$77,332
Type: KCL/Ezy Mud/Poly FROM: FL TIME: 14:00 WEIGHT (ppg): 9.40	/ISCOSITY(sec / qt): 44 API FLUIL V (cps): 16 (cm3/30m API FILTE (32nds inc HTHP FLUIL (32nds inc) (32nds inc) (32nds inc) (32nds inc) (32nds inc) (32nds inc) (32nds inc) (32nds inc) (32nds inc) (32nds inc) (32nds inc) (32nds inc) (32nds inc) (32nds inc) (32nds inc) (32nds inc)	n) 4 K+ (ppm): 0 H2O (%vol): 94.6 R CAKE 1 HARD/Ca (ppm): 300 OIL (%vol): 0.1 JID LOSS MBT (ppb eq): .6 SAND: In) 11 PM: .2 PH: 8.8 TER CAKE 2 PF: .0 PHPA: 1.0

Bit Data for Blt # 4	IADC# 4 4 7	Wear 01 01 2 2	B L FC A	B G O2 F	R D
SIZE ("): 8	50	OZZLES			
MANUFACTURER:	OT AVE WOB (k-lbs): 20	2 X16 Drilled over	the last 24 hrs	Calculated over the bit	run
TYPE: ATM	GT AVE RPM: 130	1 X14 FOOTAGE (CUM.FOOTAGE (m):	577
SERIAL #: L8418D	65 FLOW (gpm): 500	X ON BOTTOM		CUM. ON BOT, HRS :	27.1
T	85 PUMP PRESS. (psi): 1,375	X IADC DRILL	, HRS : 2.0	CUM.IADC DRILL HRS:	
DEC TOTAL CONTRACT.	45 HSI (hp/sqi): 6	X ROP (m/hr):	5.0	ROP (m/hr):	18.3

DAILY DRILLING REPORT # 11

Report Date: 26.01.98 FROM: Westman/Roots TO: Lanzer/Searles BROADBILL -1

BHA #4 Length (m):258.9 0.0 HRS ON JARS: DC(1) A.V. (mpm); 44.0 HRS ON MOTOR: STRING WT(k-lbs): 172 TRQE MAX (amps): 250 DC(2) A.V. (mpm): PICK UP WT(k-lbs): 175 TRQE ON (amps): 200 HWDP A.V. (mpm): 0.0 S/N JARS : DAH 103309 WT BW JAR(k-lbs): HWDP A.V. (mpm): 0.0 HRS ON STABS: 31.5 42 SLK 0FF WT(k-lbs): 170 TRQE OFF (amps): BHA WT(k-lbs): 190 D.P. A.V. (mpm): 0.0 S/N STABS : D-9-89-13, 4811 BHA DESCRIPTION: BIL, NB Stab, NMDC, Stab, DC, Stab, 11 DC, Jar, DC, HWDP

Anchor Tension A2: A1: A4: A5: A3: (kips) A6: A7: A8: A9: A10: Weather & Rig data @ 24:00 hr Workboats Location, Fuel **Barite** D/wtr P/wtr Cmt Bent Heli (kltr) (sx) (bbl) (bbl) VDL (kips: 5,647.0

 (kltr)
 (sx)
 (bbl)
 (sx)
 (sx)
 (kltr)

 Pacific Command To Rig
 W/Pool To Rig
 WIND SP. (kts): 20.0 WISIB.(nm): O/Cast WIND DIR (deg): 110
 VDL (kips 5,0 WIND SP. (kts): 20.0 WISIB.(nm): O/Cast WIND DIR (deg): 110
 RIS.TENS: HEAVE (m): 0.0 WIND SP. (kts): 20.0 WIND SP

PRES.(mbars): 1010 WAVES (m): 1.5 ROLL (deg): AIR TEMP (C): 17.0 SWELL (m): 2.0 PITCH (deg):

COMMENTS: Hellcopter Movements: 9 on & 13 off P/Commander:Standby @ Rig 03:00 hrs

Bulk Stocks DRILL WATER (bbl): 3,635.0 FUEL (kltr): 1,846.0 GEL (sx): 882 HELI-FUEL (kltr): 0.0
POT WATER (bbl): 797.0 BARITE (sx): 1,554 CEMENT (sx): 1,524

POT WATER (BDI): 797.0 BARITE (SX): 1,554 CEMENT

Drills, Permits & Inspections

DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
TRIP DRILL FIRE PIT DRILL INCIDENT	17.01.9 24-1-98	BOP TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA	23-1-98 06-2-98 1-1-98 137	LTI MTI JSA #PTW Safety Meeting	Logging

Casing	3								
CSG OD(")	LOT	PHASE	CSG SHO		CSG SI				
30.00 9.63				106 779		106 779			
TYPE LNGTH CSG WT GRD THREA									

	(m)	(D) (II)	lbs/ft		,,,,,
Shoe Jt Shoe Jt Shoe Jt Shoe Jt T#2 Casing t#3 Casing t#4 Casing t	12.4 11.8 11.6 9.3 12.1 11.6 11.9 11.5 11.5 11.5 12.4 12.4 12.4 12.4 12.4	28.0 28.0 28.0 28.0 28.0 28.0 28.0 28.0	311.0 311.0 311.0 311.0 311.0 311.0 311.0 311.0 311.0	X-52 X-52 X-52 X-52 X-52 X-52 X-52 X-52	SF60

Pump Data												
II		Р	ump Da	ta - la:	Slow Pump Data							
	#	TYPE	LNR (°)	SPM	EFF (%)	Flow (gpm	SPP (psi)	SPM	SPP (psi)	DEPTH (m RT)	MW (PPg)	
	1 2	Ideco - T Ideco - T	6.50 6.50	50 50	100 100	250 250	1375 1375	40 50	240 360	1181 1181	9.3 9.3	
ш												

Solids Data			sand	silt	clean
		HRS RUN	0.0	0.0	0.0
MESH 1	150	DISCARD RATE (gpm)	0.0	0.0	0.0
MESH 2	150	DISCARD WT (pgg)	0.00	0.00	0.00
MESH 3	80	RETURN WT (ppg)	0.00	0.00	0.00

Personnel: on Site =

DAILY DRILLING REPORT # 11

Report Date: 26.01.98

FROM: Westman/Roote
TO: Lanzer/Searles

BROADBILL-1

NAME	COMPANY NAME	#
Westman/Root	RBT	2
Patton	Amity	1
Reece	Santa Fe	1
Walker/Wlikie	Santa Fe	2
Doust	Barold	1
Donion/Seizer	Hibtn	2
Chain	Kvaerner	1
	HML	4
	Schlum	6
	Santa Fe	43
	Santa Fe	
	P&O	8
	Westman/Root Patton Reece Walker/Wlikie Doust Donlon/Selzer	Westman/Root RBT Patton Amity Resce Santa Fe Walker/Wlikie Santa Fe Doust Barold Donlon/Selzer Hibtn Kvaerner HML Schlum Santa Fe Santa Fe

Survey

ast Tool Type :
Magnetic Declination :

MSS 13.00

Survey method:

Min Curvature

(m RT)	(m RT)	DEG	(deg)	CORR. AZ (deg)	SECT (m)	(m/30m)	N/S (m)	E/W	TOOL TYPE
110 399 687 780 1,074 1,340	398 686 780 1,074	0.15 0.30 0.25 2.25	354 53 320 32	66.0					totco sgle shot sgle shot MMS MSS MSS

Drac Numbers

DAILY DRILLING REPORT # 12

DAILY GOST \$:

Report Date: 27.01.98

FROM: Westmenikoots
TO: Lanzer/Sewics

BROADBILL-1

Well Data

DRILL CO.: SANTA FE RIG: PARAMESWARA

MUD CO: BAROID RT ABOVE MSL (m): 30.7

WATER DEPTH @MSL (m); 21.7 RT TO SEABED (m); 52.4 DEPTH (m RT): 1,345 | CUR. HOLE SIZE ("):

DEPTH (m RT): 1,345
PROGRESS (m): 0
DAYS FROM SPUD: 10.33
DAYS +/- CURVE:

| C92 OD (7): 9.83 | SHQETVO (m RT): 779 | LEAK-OFF EMW(ppg) 13.00

9.83 CUM COST 5: 779 AFE COST 5: 3.00 AFE BASIS:

UNKNOWN

\$0

CURRENT OP @ 0400 : Setting Plug #1

PLANNED OP .:

Run EZSV, Set plug #2, Nipple down BOP, Cut cooling

Summary of period 00:00 to 24:00 hrs:

Wiper trip, Attempt to Log, Lay down excess tubulers, RIH to P & A

Formation Tops - This report only

FORMATION TOP(mBRT)

ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 27.01.98

PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
6,	PE	LOG	00:00	00:30	.50	1,345	Continue to rig down Schlumberger
В	TE	WT	00:30	03:00	2.50	1,345	Make up bit (RR #4) & RiH to 880 mt
8	TE	WT	03:00	08:15	3.25	1,345	Work through Ledges @ 880 & 982 mt, Work through tight section if 1027 to 1036 mt, Came good, Continue to RIH no problems
В	TE	CIR	06:15	07:30	1.25	1,345	Circulate hole clean, Displace open hole to HI-Vis mud
8	TE	WT	07:30	11:15	3,75	1,345	POOH (Pump slug at shoe)
8	TE	LOG	11:15	17:30	6.25	1,345	Rig up schlumberger: Log #2; BHC-LDL-CNL-DLL-MSFL-GR-SP, Unable to pass 870 mt , POOH to reconfigure tool (lay out LDL-CNL) RIH with log #3; BHC-DLL-MSFL-GR-SP, Unable to pass 867 mt, POOH & abandon logging program.
8	PA	LDP	17:30	18:30	1.00	1,345	RIH excess DP & lay down same
8	PA	RS	18:30	19:00	.50		Service TDS
В	PA	LDP	19:00	24:00	5.00	1,345	Ley down Excess BHA

ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 28.01.98

PHSE	CL8	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
1 - 1			00:00 02:30		2.50 3,50	•	Continue to lay down excess BHA Pick up 2.875" tubing, cement stinger & RIH to 930 mt

ANNOTATIONS FOR PERIOD 00:00 HR8 TO 24:00 HR8 ON 27.01.98

Mud Properties	MUD COST FOR TODA	ky: \$ 913	CUMULATIVE MUD COST TO DATE: \$78,245						
Type: KCL/Ezy Mud/Poly FROM: FL TIME: 13:00 WEIGHT (ppg): 9.60 TEMP (C): 0	(R-11000-06) 1 7	43 API FLUID LOSS (om3/30min) API FILTER CAKE (32nds inch HTHP FLUID LOSS (cm3/30min) 7 24 (32nds inch)	11 PM: .1 PH; 8.0						

BHA#5 Lengt	th (m) :57.9		, DC(1) A.V. (mpm) :	0.0 HRS ON JARS :
HR8 ON MOTOR: VVT BW JAR(k-lbs); BHA WT(k-lbs);	STRING WT(k-lbs): PICK UP WT(k-lbs): SLK OFF WT(k-lbs):	TRQE MAX (amps): TRQE ON (amps): TRQE OFF (amps):	DC(2) A.V. (mpm): HWDP A.V. (mpm): D.P. A.V. (mpm):	0.0 S/N S/N S/N S/N S/N S/N S/N S/N S/N S/N
BHA DESCRIPTION :	8 Jt TBQ, XQ,			

DAILY DRILLING REPORT

Report Date: 27.01.98

Padific Commend To Base

FROM: Westman/Roots Lanzer/Baurice TO:

BROADBILL-1

A5: A4: A3: A2: AI: **Anchor Tension** A10: AB: AB: A6: A7: (kips)

Location, Fuel Barita PANT Cmt Bent Hell DIMIT Workboate

(bbl) (ax) (ex) (kitr) (ppl) (kltr) (sx)

Weather & Rig date @ 24:00 hrs VDL (kips: 5,547.0

WIND SP. (kts): 10.0 VISIB.(nm): dear RIS.TENB: WIND DIR (deg): 110 CEILING (m): 2,000 HEAVE (m) PRES.(mbars): 1009 WAVES (m): .8 ROLL (deg) AIR TEMP (C): 18.0 SWELL (m): 1.0 PITCH (deg) HEAVE (m): ROLL (deg): 1.0 PITCH (deg):

Helicopter Movements: 1 on & 3 off P/Commander:Departed rig @ 24:00 hrs Bound for Gaelong beas COMMENTS:

Bulk Stocks Drill WATER (bbi): 3,877.0

FUEL BBE 1,800.0

GEL (8x):

882

HEU-FUEL (kit):

POT WATER (bbi):

746.0

BARITE (sx):

CEMENT (50): 1,324

0.0

Jrills, Permits & Inspections

Casing

Top of "B" Section

Demonnel . on Cite - CO

DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
TRIP DRILL FIRE PIT DRILL INCIDENT	17.01.91	BOP TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA	23-1-98 06-2-98 1-1-98 138	LTI MTI J9A #PTW Selecty Meeting	Lay out BHA

			_		_	_		_	
080 000	LOT	PHASE	C	90 5H MD	OE	_	HB DBC		
9.63	13.00				779				
J.	PE	LNOT		() (I)	WT load		GRD	THR	EAD
Shoe Jt Caeing J Float Jt 57 Jt cag Pup (Mis 1 Jt cag Pup Pup 1 Jt cag	I BL)	12 11 681 6	000000000000000000000000000000000000000	8.7 8.7 8.7 8.7 6.7 8.7 8.7 8.7	47. 47. 47. 47. 47. 47. 47. 47.	00000000	20000000000000000000000000000000000000		35555555555555555555555555555555555555
Stime			0.1	87	47		1-80		LTC

I	Pп	Pump Data											
1		P	una De	10 - 141	Blow Pumo Data								
	•	TYPE	LNR ()	SPM	EFF (%)	Flow (gpm	8PP (pcl)	SPM	SPP (pel)	DEPTH (m RT)	(BPB)		
	1 2	Ideco - T1 Ideco - T1	5,50 8,50	50 50		250 250	1375 1375	40 50	240 380	1181 1181	E.9 E,9		

Solids Data			sand	silt	clean
		HRS RUN	0.0	0.0	۵,۵
MESH 1	180	DISCARD RATE (gpm)	0.0	0.0	0.0
MEBH 2	160	DISCARD WT (pgg)	0.00	0,00	0.00
MESH 1 MESH 2 MESH 3	80	RETURN WT (pps)	0.00	0.00	0.00

JOB TITLE	NAME	COMPANY NAME	
Drig Supervisors	Westman/Root	RBT	2
Geologist	Patton	Amity	1
OIM	Reace	Senta Fe	1
Toolpushers	WalkerWilde	Sunta Fe	2
Mud Engineer	Doust	Beroid	1
Cementer	Donlon	Hibtn	1
Mud Loggere		HML	2
Electric Line		8chlum (7
Rig Craws		Senta Fe	44
Sub Contractors		Santa Fe	
Catering		P&O	E

Survey	MD	TVD	INCL	AZ	CORR.	~	DOGLEG	NG	EW	TOOL TYPE
Last Tool Type: MSS	(m RT)	(m RT)	DEG	(deg)	AZ (deg)	SECT (m)	(m/30m)	(m)	(m)	}
Magnetic Declination: 13.00	110	110	0.50	0	0.0					totoo
Survey method: Min Curvature	399 567	386 888		354 63	7.0 0.58					egle shot
	780	780		320	333.0		1 1			MMB
	1,074		2,25 3 3D	32	45.0 53.0	•				MSS

DAILY DRILLING REPORT # 13

Report Date: 28.01.98

BROADBILL -1

Wall	Data

SANTA FE DRILL CO. : RIG: PARAMEBWARA

MUD CO: BAROLD RT ABOVE MSL (m): 30.7 WATER DEPTH @MSL (m): 21,7 RT TO BEABED (m): 52.4 FROM: Westman / Roots Lanzer / Searles TO:

DEPTH (m RT): 710 L PROGRESS (m): -635 DAYS FROM SPUD: 11.33 DAYS +/- CURVE :

CUR. HOLE SIZE ("): 8.50 | 2,63 C8G OD (7: SHOE TVD (m RT): 779 LEAK-OFF EMW(ppg) 13.00

CUM COST 8: AFE COST 5: AFE BASIS:

DAILY COST \$: \$0

CURRENT OP @ 0400 : Nipple down BOP

PLANNED OP .:

Plug & Abandon: Cut & Retrieve 9.625" & 30" casing, Bat plug #4, Sea

bed survey

Summary of period 00:00 to 24:00 hrs:

Plug and Abandon

Formation Tops - This report only FORMATION TOP(mBRT)

ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 28.01.98

ASE	CL8	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
8	PA	LDP	00:00	02:30	2.50	1,345	Continue to lay down excess BHA
8	PA	CMP	02:30	06:00	3.50	1,345	Pick up 2.875" tubing, cament stinger & RIH to 930 mt
8	PA		08:00	08:45	.75	1,345	Circulate bottoms up.
В	PA		06:45	07:00	.25		POOH to 875 mt.
8	PA	CMP	07:00	07:46	.75	1,345	Head up Howco and set balanced plug 183ex "G" w/ 1%
8	PA	CNAD	07:45	08:15	.50	705	CaCl at 15.8 ppg. POOH to 746m.
8	1.	2					-
	PA		08:15	08:45	.50	- 1	Circulate bottoms up. Trace of cement.
8	PA		08:45	10:30	1.75		POOH w/ drill pipe and 2-7/8" tbg stinger.
OTH	PA	CMP	10:30	13:15	2.76	795	R/u Schlumberger. Run 8.4" Gauge ring and junk basket to
1		ſ	•				745m. Held up at 340m but ran free on second try. R/u
							hose and pressure test 30" x 9-6/8" annulus w/ Howco 50 psi 5 mins OK
нто	PA	CMP	13:15	15:15	2.00	795	Schlumberger run EZSV. Check collar positions w/ CCL. Set at 745m. Tag packer. POOH.
OTH	PA	CMP	15:16	16:45	1.50	795	RIH w/ cement stinger to 740 mt
ОТН	PA	CMP	16:45	17:15	.50		Ciculate @ 740 mt
HTO	PA	CMP	17:15	17:45	.50		Set Plug #2 1/ 740 to 710, HCS mix, pump & displace 7 bbl
отн	PA	CMD	17:45	20:00	2.25	740	slurry @ 15.8 ppg
		CMIL	17.45	20.00	2.25	710	Pull back 5 std & Reverse circulate 2 x cap of string,
							Displace well to Inhibited mud, Pressure test plug 1000 psi/15 mln
ОТН	PA	LDP	20:00	24:00	4.00	710	Lay down excess drill pipe

ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 29.01.98

PHSE		OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
ОТН			00:00		1.25		Set cement plug #3 f/ 110 to 65 mt, HCS mix,pump & displace 10.6 bbl slurry @ 15.8 ppg, Pull back to 65 mt, Reverse circulate 2 x capacity of string
ОТН			01:15 02:45		1.50 1.25	85 65	Lay down excess drill pipe & coment stinger Retrieve wear bushing, Pick up jetting tool & wash BOP and Wellhood, Lay down same
НТО	PA	BOP	04:00	00:00	2.00	1,345	Nipple down diverter system & BOP

ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 28.01.98

Mud Properties	MUD COST FOR TODAY	JLATIVE MUD COST	TO DATE: \$78,838			
Type: KCL/Ezy Mud/Poly FROM: FL TIME: 13:00 WEIGHT (ppg): 9.50 TEMP (C): 0	VIBCOSITY(sec/qt): PV (ops): YP (lb/100eq.ft): GEL 10s/10m/30m (lb/100=qft): 0 (FANN-3/6/100 0 ((FLUID LOSS n3/30min) 0	CI - (ppm): K+ (ppm): HARD/Ca (ppm): MBT (ppb eq): PM: PF:	0 80LIDS (%vol): 0 H2O (%vol): 0 OIL (%vol): 0.0 SAND: 0.0 PH: 0.0 PHPA:	0.0 0.0 0.0 0.0

DAILY DRILLING REPORT # 13

BROADBILL-1

Report Date: 28,01.98

FROM: Westman / Rocts
TO: Lanzer / Bearles

A8: AA: A3: A2: Anchor Tension A1: A10: A9 : A8: A7: : BA (kips) Weather & Rig data @ 24:00 hrs Lasston, Fuel Barter Diver Piver Cret Bent Hall VDL (kipe: 5,455.0 (ax) (bbl) (bbl) (ax) (ax) (klt) **Workboats** WIND SP. (kts): 30.0 VISIB.(nm): ctear WIND DIR (dog): 210 CEILING (m): 2,000 PRES.(mbars): 1005 WAVES (m): 1.0 AIR TEMP (C): 18.0 SWELL (m): 2.0 (Ma) RIB.TENS: HEAVE (m): Padify Command @ Pass ROLL (deg): PITCH (deg) :

OOMMENTS: Hellcopter Movements: 14 on & 23 uff

POT WATER (bb) :

Bulk Stooks DRILL WATER (bbi): 3,286.0 745.0

FUEL (No): 1,791,0 BARITE (EX): 1,313

582 GEL (ax): CEMENT (mx): 1,524 HELI-FUEL (MT):

Drille, Permits & Inspections

DETAILS SAFETY INSPECTIONS DATE DRILL TYPE DATE 23-1-98 08-2-98 1-1-96 138 25-1-09 DOP TEST 17.01.84 NEXT TEST DUE DATE 24-1-88 RIG INSPECTION LTI TRIP DRILL FIRE PIT DRILL Lay out BHA معد DAYS BINCE LTA INCIDENT Safety Meeting

Casing	1			
CSO	LOT	PHASE	CSG SHOE	CSG SHOE TVD (mBRT)
9,83	13.00		779	779
		LINOT	ul coal w	GRD THE

9.83 13.00			119		-110
TYPE	LNGTH (m)	C86 ID (7)	WT both	GRD	THREAD
Shoe Jt Casing it #2 Float it 57 jt @g Pup (MSL) 1 jt @g Pup Pup Pup 1 jt @g Stump Top of "B" Section	12,0 12,0 11,9 691,9 6,1 6,6 11,9 3,0 3,0 12,0	5.7 8.7 8.7 6.7 6.7	47.0 47.0 47.0 47.0	L-80 L-80 L-80 L-80 L-80	LTC LTC LTC

1	Pu	mp Data									
1	`~		лпр 🖭		Slow P	Unite Date					
	#	TYPE	LNR ()	SPM		Flow (gpm	(led)	SPM	SPP (psl)	(m RT)	(DDG)
1	1 2	ideco - T1 Ideco - T1		50 50	100 100	250 250	1375 1375	40 50	240 360	1181	9.3 9.3

Solida Deta			sand	allt	clean
SOUGS DEC		HRS RUN	0.0	ត ត	0.0
MESH 1	0	DISCARD KATE (gpm)	0.0	0.0	Q.Q
MESH 2	8	DISCARD WT (PRO)	0.00	0.00	0.00
MESH 3	ň	RETURN WT (ppg)	0.00	0.00	0.00

Personnel : on Site = 60

JOB TITLE	NAME	COMPANY NAME	*
Drig Supervisors	Westman/Root	RET	2
OW	Recoo	Santa Fe	1
Toolpushers	Walker/Wilde	Senta Pe	•
Mud Engineer		Barold	
Ортина	Donlon	Hitch	· '
Mud Loggers		HML	
Electric Line	1	Senium	;
Rip Grows	Į	Santa Fé	4:
Sub Contractors	}	Santa Fe	
Cataring	ł	P&0	
Fishing Hand	Willoox	Austoli	l

Survey	MD	170	INCL	AZ	CORR.	V SECT	DOGLEG (m/26m)	N/S (m)	FAV (m)	TOOL TYPE
Last Tool Type: M85	(m RT)	(m RT)	DEG	(deg)	AZ (deg)	(m)	(moon)	(111)	(111)	
Magnetic Declination: 13.0					0.0					inico
Survey method: Min Curvatur	887	566	0.30	53	7.0 68.0	ļ				egle enat
	780 1,074				333.0 45.0					MMG MSS
:	1.340					l			1	MSE

Summary of period 00:00 to 24:00 hrs:

AMITY OIL NL

DAILY DRILLING REPORT # 14

Report Date: 29.01.98 FROM: Westman / Roots
TO: Lanzer / Searles

BROADBILL -1

Well Data DEPTH (m RT): 65 CUR. HOLE SIZE ("): DAILY COST \$: PROGRESS (m): CSG OD ("): CUM COST \$: DRILL CO.: SANTA FE -645 9.63 AFE COST \$: RIG: PARAMESWARA DAYS FROM SPUD: 12.33 SHOE TVD (m RT): 779 MUD CO: BAROID AFE BASIS: DAYS +/- CURVE: P&A LEAK-OFF EMW(ppg) 0.00 RT ABOVE MSL (m): 30.7 CURRENT OP @ 0400 : Lay down excess tubulars WATER DEPTH @MSL (m): 21.7 PLANNED OP .: Set plug #4, Sea bed survey, Prepare to sid in & jack down RT TO SEABED (m): 52.4

Set cement plug #3, Cut & Retrieve 9 5/8" & 30" casing, Lay down tubulars

Formation Tops - This report only
FORMATION TOP(mBRT)

ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 29.01.98

PHS	SE CL	S OF	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
OTI	l PA	СМ	00:00	01:15	1.25	65	Set cement plug #3 f/ 110 to 65 mt, HCS mix.pump & displace 10.6 bbl slurry @ 15.8 ppg, Pull back to 65 mt, Reverse circulate 2 x capacity of string
■ OT⊦		LDF			1.50	65	Lay down excess drill pipe & cement stinger
OTH		WH		04:00	1.25	65	Retrieve wear bushing, Pick up jetting tool & wash BOP and Wellhead, Lay down same
OTH		BOI	04:00	11:15	7.25		Nipple down diverter system & BOP, wellhead "B" section. Land BOP on test stump.
OTH	I PA	0	11:15	13:30	2.25	65	Make up 9-5/8" csg cutting assembly, cut casing @ 63 mt, Lay out cutting assembly & make up spear assembly, Retrieve and lay down 9 5/8" casing
TOTH		3	13:30	15:15	1.75	65	Remove casing spider, Layout pup joints & MLS
		1 -	15:15	17:00	1.75	65	Rig up slings to support 30" conductor
OTH		0	17:00	19:30	2.50	65	Layout spear assembly, Make up 30" cutting assembly, Open knives & tag MLS support ring, Pull back 0.5 mt
OTH	i PM	0	19:30	21:30	2.00	65	Cut 30" conductor below seabed, Pull back & lay put cutting assembly
OTH	I PM	0	21:30	24:00	2.50	65	Rig up 30" handling equipment, Make up landing joint to conductor, Remove suspension ring

ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 30.01,98

٠.								
	PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
) } !	∩TH.	PM	0	00:00	02:00	2.00		Pull 30" conductor, 2 7/8" grout line stuck on bottom, Attempt to pull grout line, No success, Support grout line on BOP
	ОТН	РМ	0	02:00	04:30	2.50	65	Pull 30" conductor & Backload to Pacific Commander

ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 29.01.98

Mud Properties	MUD COST FOR TODAY:	\$0 (CUMULATIVE MUD COST	TO DATE: \$0	
Type: FROM: TIME: WEIGHT (ppg): 0.00 TEMP (C): 0	VISCOSITY(sec / qt): PV (cps): YP (lb/100sq.ft) GEL 10s/10m/30m (lb/100sqft): 0 0 FANN 3/6/100 0 0	O API FLUID LOSS (cm3/30min) API FILTER CAKE (32nds Inch HTHP FLUID LOSS (cm3/30min) HTHP FILTER CAKE (32nds Inch)	O CI - (ppm) : K+ (ppm) : HARD/Ca (ppm) : MBT (ppb eq) : PM: PF:	0 SOLIDS (%vol): 0 H2O (%vol): 0 OIL (%vol): 0.0 SAND: 0.0 PH: 0.0 PHPA:	0.0 0 0.0 0.0

Anchor Tension (kips)	on		A1 : A6 :			A2: A7:				44 : 49 :	A5 A1	0:
Workboats	Location.	Fuel (kltr)	Barite (sx)	D/wtr (bbl)	P/wtr (bbl)	Cmt (sx)		Hell (kltr)	Weather & Rig o	jata @ 24:00	hrs	VDL (kips 5,720.
Pacific Command	To Bas				, ,	•	•		WIND SP. (kts): 10.0 WIND DIR (deg): 210 PRES.(mbars): 1010 AIR TEMP (C): 18.0	CEILING (m) :: WAVES (m) :	2,000 5.	RIS.TENS: HEAVE (m) : ROLL (deg) :

Dann Blumbur

DAILY DRILLING REPORT

BROADBILL -1

Report Date: 29.01.98

FROM: Westman / Roots Lanzer / Searles TO:

Bulk Stocks DRILL WATER (bbl): 3,949.0

FUEL (bbl): 1,744 GEL (sx):

HELI-FUEL (kitr):

POT WATER (bbl):

777.0

BARITE (sx): 1,243

CEMENT (sx): 1,524

Drills, Permits & Inspections

	DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
P	IRE	17.01.9 24-1-98	BOP TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA	23-1-98 06-2-98 1-1-98 140	LTI MTI JSA #PTW Safety Meeting	Layout casing

Casing

CSG	107	DHASE	CSG SHOE	CSG SHOE
OD(")	201	111202	MD	TVD (mBRT)
30.00			106	106
9.63			779	779

١	9.63					779		779	
	TY	(PE	LNGT	. 1	CSG ID (")	WT lbs/ft	GRD	THRE	AD
	Casing Ca	t #2 t #3 t #4 t #4 t #5 (MLS t #6 t #6 t #7 t #8 t #8 t #8 t #8 t #8 C A section	9 12 12 11 11 11 11 11 11 11 11	40000000000000000000	28.0 28.0 28.0 28.0 28.0 28.0 28.0 28.0		X52 X-52 X-52 X-52 X-52 X-52 X-52 X-52 X	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	
	Stump Stump Top of "	A Section: B" Sectic B" Sectic.	6	0.07	8.7 8.7	47.0 47.0	L-80 L-80		LTC LTC

Į	Ρ	11	m	n	n	а	ts

	P	ump Da	ta - las	<u> </u>	Slow P	ump Dat	3			
#	TYPE	LNR (*)	SPM	EFF (%)	Flow (gpm	SPP (psi)	SPM	SPP (psl)	DEPTH (m RT)	MW (ppg)
1 2	ideco - T ideco - T	6.50 6.50	50 50	100 100	250 250	1375 1375	40 50	240 360	1181 1181	9.3 9.3

Solids Data			sand	silt	clean
		HRS RUN	0.0	0.0	0.0
MESH 1	0	DISCARD RATE (gpm)	0.0	0.0	0.0
MESH 2	0	DISCARD WT (pgg)	0.00	0.00	0.00
MESH 3	0	RETURN WT (ppg	0.00	0.00	0.00

١	JOB TITLE	NAME	COMPANY NAME	#
1	Drlg Supervisor	Westman/Root	RBT	2
۱	OIM	Reece	Santa Fe	1
۱	Toolpushers	Walker/Wilkie	Santa Fe	2
	Mud Engineer	ł	Baroid	
1	Cementer	Donion	Hibtn	1
l	Mud Loggers	1	HML	
١	Electric Line		Schlum	
ı	Rig Crews		Santa Fe	42
1	Sub Contractors		Santa Fe	
l	Catering		P&O	8
١	Fishing Hand	Willcox	Austoil	1
ı	ROV Operator	Simmons/Mc		2
۱	Insurance Surve	Bredderman	Noble Denton	1

Survey

Last Tool Type: MSS Magnetic Declination: 13.00

rsonnel: on Site = 61

Survey method:

Seman (Brute Ti Schell

Min Curvature

Tide Water

	MD (m RT)	TVD (m RT)	INCL DEG	AZ (deg)	CORR. AZ (deg)	SECT (m)	DOGLEG (m/30m)	N/S (m)	(m)	TOOL TYPE
е	110 399 687 780 1,074 1,340	110 398 686 780 1,074 1,340	0.50 0.15 0.30 0.25 2.25 3.30	0 354 53 320 32 40	0.0 7.0 66.0 333.0 45.0 53.0				-	totco sgle shot sgle shot MMS MSS MSS

DAILY DRILLING REPORT # 15

Report Date: 30.01.98 FROM: Westman / Roots TO: Lanzer / Searles

BROADBILL-1

Well Data	DEPTH (m RT):	0 , CUR. HOLE SIZE ("):		DAILY COST S:	
DRILL CO.: SANTA FE RIG: PARAMESWARA MUD CO: BAROID	PROGRESS (m): DAYS FROM SPUD: 13. DAYS +/- CURVE:	.65 CSG OD ("): .33 SHOE TVD (m RT): LEAK-OFF EMW(ppg)	9.63 779 0.00	CUM COST \$: AFE COST \$: AFE BASIS:	\$4,095,302 P&A
RT ABOVE MSL (m): 30.7 WATER DEPTH @MSL (m): 21.7 RT TO SEABED (m): 52.4	CURRENT OP @ 0400 : S PLANNED OP. :	Securing Rig for tow Jump ROV, Secure for tow, Ja	ick dowi	n. Attach tow bridle, L	Inpin legs

Summary of period 00:00 to 24:00 hrs: Plug & Abandon, Prepare Rig for move Formation Tops - This report only

FORMATION TOP(mBRT)

ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 30.01.98

PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
отн	PM	Ō	00:00	02:00	2.00	65	Pull 30" conductor, 2 7/8" grout line stuck on bottom, Attempt to pull grout line, No success, Support grout line on BOP winch.
ОТН	PM	0	02:00	04:30	2.50	65	Pull 30" conductor & Backload to Pacific Commander. Grout string would not pull with conductor. Secure w/ BOP winch.
OTH	PM	0	04:30	06:30	2.00	65	Lay down excess BHA.
ОТН	PA	0	06:30	09:00	2.50	65	Pull 2-7/8" grout string.
OTH	PA	CMP	09:00	09:30	.50	65	RIH w/ OEDP to 61m. Jump ROV to observe entry to well.
ОТН	PA	CMP	09:30	10:30	1.00	0	Howco set balanced plug 61m to mud line. 52sx "G" at 15.8 ppg 1% CaCl.
OTH	PA	CMP	10:30	11:00	.50	0	L/d remaining tubulars.
ОТН	PM	RM	11:00	24:00	13.00		Prepare for move. Pull shaker hose, rig down conductor guide. Secure deckload. Skid cantilever into tow position @ 20:30 hrs, Jump ROV & obtain seabed sample. Problems manouvering ROV due to current.

ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 31.01.98

PF	ISE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
O	ГН	PM	RM	00:00	06:00	6.00	0	Prepare to jack down

ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 30.01.98

Mud Properties	MUD COST FOR TODAY:	CUMULATIVE MUD COST TO DATE: \$0	
rype: FROM: TIME: WEIGHT (ppg): 0.00 TEMP (C): 0	VISCOSITY(sec / qt): PV (cps) : YP (ib/100sq.ft) GEL 10s/10m/30m (ib/100sqft) : 0 0 FANN 3/6/100 0 0	0 API FLUID LOSS (cm3/30mln) 0 K+ (ppm) : 0 SOLIDS (%vol) : 0 H2O (%vol) : 0 H4O (%vol) : 0 H4D	0.0 0 0.0 0.0

	Anchor Tension (kips)	A1 : A6 :	A2 : A7 :			4: 9:	A5: A10:
1	Workboats Location, F	uel Barite kltr) (sx)	D/wtr P/wtr Cmt (bbl) (bbl) (sx)	Bent Heli (sx) (kltr)	Weather & Rig d	ata @ 24:00 h	rs VDL (kips 4,281.0
	Pacific Command @ 8æ Brute Tide @ BBM				WIND SP. (kts): 10.0 WIND DIR (deg):210 PRES.(mbars): 1016 AIR TEMP (C): 18.0	CEILING (m) :2,1 WAVES (m) :	lear RIS.TENS:

 Bulk Stocks
 DRILL WATER (bbl): 3,933.0
 FUEL (bbl): 1,735
 GEL (sx): 852
 HELI-FUEL (kltr): 0.0

 POT WATER (bbl): 746.0
 BARITE (sx): 1,521
 CEMENT (sx): 1,032

DAILY DRILLING REPORT # 15

Report Date: 30.01.98

FROM: Westman / Roots
TO: Lanzer / Searles

BROADBILL-1

Drills, Pern	nits & Insp	ection	E			
Di	RILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
FIF	RE	17.01.9 24-1-98	BOP TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA	23-1-98 06-2-98 1-1-98 141	LTI MTI JSA #PTW Safety Meeting	Skid Rig

Ł				_				
ĺ	Casing	3						
	CSG OD(")	LOT	PHASE	CSG SHOE			CSG SI TVD (m	
	30.00 9,63				106 779		106 779	
	T)	TYPE L			CSG ID (")	WT lbs/ft	GRD	THREAD
	Casing Ca	Shoe Jt Shoe Jt Shoe Jt Casing It #2 Casing It #3 Casing it #3 Casing it #4 Casing it #5 (MLS Casing it #5 Casing it #6 Casing it #6 Casing it #7 Casing it #7 Casing it #8 Casing it #6 Casing it #7 Casing it #6 Casing it #6 Casing it #7 Casing it #6 Casing it #7 Casing it #6 Casing it #7 Casing it #7 Casing it #8 Casing it #8 Casing it #8 Casing it #8 Casing it #8 Casing it #8 Casing it #7 Casing it #7 Casing it #6 Ca		448866331166995544440077	28.0 28.0 28.0 28.0 28.0 28.0 28.0 28.0	311.0 311.0 311.0 311.0 311.0 311.0 311.0	X-52 X-52 X-52 X-52 X-52 X-52 X-52 X-52	SF60 SF60 SF60 SF60 SF60 SF60 SF60 SF60

Pu	mp vata	!								
	P	ump Da		Slow Pump Data						
#	TYPE	LNR ()	SPM	EFF (%)	Flow (gpm	SPP (psl)	SPM	SPP (psi)	DEPTH (m RT)	MW (ppg)
1 2	Ideco - T Ideco - T	6.50 6.50	50 50	100 100	250 250	1375 1375	40 50	240 360	1181 1181	9.3 9.3

Sollds Data			sand	silt	clean
		HRS RUN	0.0	0.0	0.0
MESH 1	0	DISCARD RATE (gpm)	0.0	0.0	0.0
MESH 2	٥	DISCARD WT (pgg)	0.00	0.00	0.00
MESH 3	0	RETURN WT (ppg)	0.00	0.00	0.00

Person	nel : on	Site = 66		
JOB	TITLE	NAME	COMPANY NAME	#
Orlg Su	ervisor V	Nestman/Root	RBT	2
λM	F	Resce	Santa Fe	1
Toolpus	hers V	Nalker/Wilkle	Santa Fe	2
Mud En	gineer		Barold	l
Cement	er		Hibtn	}
Mud Log	gers		HML	
Electric	Line		Schlum	
Rig Cres	NS		Sante Fe	42
Sub Cor	itractors		Santa Fe	
Catering	1		P&O	8
ROV OF	erator S	Simmons/Mc		2
Insurance	e Surve E	Bredderman	Noble Denton	1
Seamen			Tide Water	В

Survey	MD	TVD	INCL	AZ	CORR.	'V'	DOGLEG	N/S	EW	TOOL TYPE
Last Tool Type : MSS	(m RT)	(m RT)	DEG	(deg)	AZ (deg)	SECT (m)	(m/30m)	(m)	(m)	
Magnetic Declination: 13.00	110	110	0.50	0	0.0		 			totco
Survey method : Min Curvature	399 687	398 686	0.15 0.30	354 53	7.0 66.0		İ			sgle shot
	780 1,074 1,340	780 1,074 1,340	0.25 2.25 3.30	320 32 40	333.0 45.0 53.0		1			MMS MSS MSS

AMITY OIL NL

DAILY DRILLING REPORT# 16

Report Date: 31.01.98 FROM: Westman / Roots BROADBILL -1

Well Data DEPTH (m RT): CUR. HOLE SIZE (7): DAILY COSTS: 0 . CUM COST 5: CSG OD (7: 9.63 \$0 PROGRESS (m); -65 DRILL CO. : SANTA FE AFE COST 5: 779 SHOE TVO (m RT): **PARAMESWARA** DAYS FROM SPUD: 14.33 RIG: MUD CO: DAYS +/- CURVE: LEAK-OFF EMW(ppg) 13.00 APE BASIS: P&A BAROID RT ABOVE MSL (m): 30,7 CURRENT OF @ 0400: Under tow to new location. Passing lighthouse Wilsone Promontory at WATER DEPTH @MSL (m): 21.7 08:00. Speed 5.1 lorts. RT TO SEABED (m): 52.4 PLANNED OP .: Tow to new location. Summary of period 00:00 to 24:00 hrs: Formation Tops - This report only **FORMATION** TOP(mBRT) Secure deck load and machinery spaces for ocean tow. Jack down and go afloat. ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 31.01.98 PHSE CLS OP FROM TO HRS DEPTH **ACTIVITY DESCRIPTION** PM OTH RM 00:00 18:15 18.25 Secure deck load and machinery spaces for ocean tow. Prepare to Jack down. MV PM ٥ 18:15 20:30 2.25 1,345 Disconnect and raise raw water pump on bow leg. Jack down to 7ft draught. MV PM 0 20:30 21:15 .75 1,345 Check hull integrity. PM MV RM 21:15 21:30 .25 O Jack down and go affoat. MV PM RM 22:00 O One kliometer from location. 21:30 .50 ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 00,00.0000 PHSE CLS OP FROM TO HRS DEPTH **ACTIVITY DESCRIPTION** ANNOTATIONS FOR PERIOD 00:00 HRS TO 24:00 HRS ON 31,01.98 REMARK / OBSERVATION SOLUTION / RECOMMENDATION Fuel on board rig at 1km from Broadbill #1 location, 1688 bbla. Fuel on board Brute Tide. 291,083 lins Bulk on board Brute Tide. Drill water 184 ton. Pot water Fuel on board Pacific Commmander, 246,900 ltrs. Bulk on board Pacific Commander, 660 sx Bentonite, Pot water 300 ton. Mud Properties MUD GOST FOR TODAY: \$0 CUMULATIVE MUD COST TO DATE: 80 Type: VIBCOBITY(sec / et): API FLUID LOSB (om3/30min) CI - (ppm): SOLIDS (%vol) ; PV (cps): ٥ FROM: K+ (ppm): 0 H20 (%vol): 0.0 API FILTER CAKE YP (lb/100aq.ft); 0 TIME: HARO/Ca (ppm): 0 OIL (%val): 0 GEL 101/10m/30m WEIGHT (ppg): HTHP FLUID LOSS MBT (ppb eq): 0.0 SAND: (lb/100aqit); 0 0 TEMP (C): Đ (om3/30min) PM: ٥ 0.0 PH: 0,0 HTHP FILTER CAKE (32nds Inch) FANN 3/8/100 0 0 0 PF: 0.0 PHPA: 0.0 0 Anchor Tension A1: A2 : A3: A4: A5: (kipe) AB: A7: A8: A8: A10 : Workboats Location, Fuel Sarite Weather & Rig data @ 24:00 hrs Divit PMO Cmt Bent Hell (kitr) (ex) (ppl) (ppl) (xc) (sx) (kftr) VDL (kips: WIND SP. (kts): VISIB.(nm): RIS TENS: WIND DIR (ded): CEILING (m): HEAVE (m): PRES.(mbars): WAVES (m): ROLL (deg) . AIR TEMP (C): SWELL (m): PITCH (deg): COMMENTS:

DAILY DRILLING REPORT # 16

Report Date: 31.01.98

FROM: Westman / Roots Lanzer / Bearies

BROADBILL-1

Bulk Stocks Drill Water (66): 3,931.0

POT WATER (66):

FUEL (bbf) : 1,659 BARITE (m): 1,521 GEL (ax): CEMENT (ex): 1,032 HELLFUEL (NIt):

Drille, Permits & Inspections

-	•••••					
	DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
	TRIP DRILL FIRE PIT DRILL INCIDENT	17.01.94	BOP TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA	1-1-98 142	LTI MTI JSA #PTW Safety Macting	Skld Rig

Casing CSG OD(7) CSG SHOE TVD (mBRT) LOT PHASE CSG SHOE MD 9.83 13,00 779 779

TYPE ·	LNGTH (m)	10 (°)	WT Ros/It	GRD	THREAD
Shoe Jt Casing it #2 Float it 67 it cag Pup (MSL) 1 it cag Pup Fup Fup 1 it cag Bump	12.0 12.0 11.9 681,9 6.1 6.6 11.9 3.0 3.0 12.0	8.7	47.0 47.0 47.0 47.0 47.0 47.0 47.0 47.0	99999999999999999999999999999999999999	110 110 110 110 110 110 110
Top of "B" Section	.7				

I	Pump Data													
Pumo Data - last 24 hrs Slow Pumo Data														
	•	TYPE	LNR ()	SPN	(%) EFF	Flow (gpm	(pal)	8PM	SPP (psl)	DEPTH (m RT)	MW (ppg)			
	1 2	ideco - Ti i deco - Ti	6.50 6:50			250 250	1375 1375		240 360		9.3 9.3			

Solide Data			sand	silt	clean
		HRS RUN	0.0	0.0	0.0
MESH 1	٥	DISCARD RATE (gpm)	0.0	0.0	0.0
MESH 2	Ð	DISCARD WT (pgg,	0.00	0.00	0.00
MESH 3	0	RETURN WT (ppg)	0.00	0.00	0.00

Personnel: on Site = 58

JOB TITLE	NAME	COMPANY NAME	#
One Supervisors	Westman	RET	1
OlM / Towmaste	Reege /	Santa Fe	2
Taalpushers	WalkerWilkle	Santa Fe	2
Mud Engineer		Berold	1
Cementer		Hilban	
Mud Loggers		HML	1
Electric Una		Schlum	1
Rig Crews		Sente Fe	35
Sub Contractors		Santa Fe	1
Catering		PAO	7
ROV Operator	Simmon Mc	1	2
Insulance Sulve	Breddermen	Noble Demon	1
Seaman		Tide Water	a

Survey	MD	TVD	INCL	AZ	CORR.	"V	DOGLEG	N/S	EW	TOOL TYPE
Last Tool Type : MS8	(m RT)	(m RT)	DEG	(deg)		8ECT (m)	(m/30m)	(m)	(m)	70021175
Magnetic Declination: 13.00 Survey method: Min Curvature	110	,	0.50 0.16	0 354	0.D 7.0					totco
our col motion , intil col fattill	687 780	685	0.30	53 320	89.0 333.0					egle shot egle shot MMB
	1,074 1,340	1,074 1,340	2.25	32 40	45.0 53.0					M68 M8s



DAILY REPORT FOR AMITY OIL NL

WELL: BROADBILL-1

REPORT/DAY NO:

7 (No report submitted for Day 6)

DATE:

23 JANUARY 1998

MIDNIGHT HOLE DEPTH:

785 m MDRT

CURRENT RIG ACTIVITY:

RIH NB4 BR4

PROGRESS last 24 hrs:

0 m

FORMATION TOPS:

(PROVISIONAL)

1 Children (Children)							
FORMATION	PROGNOSED MDRT (m)	PROGNOSED TVDRT (m)	ACTUAL MDRT (m)	ACTUAL TVDRT (m)			
MIOCENE SST.	358	358					
LAKES ENTRANCE	760	760					
LATROBE GROUP	. 800	800					
STREZLECKI GROUP	1330	1330					
TOTAL DEPTH	1600	1600					

LITHOLOGY/S:

<u>LIMESTONE 240-786m</u>; light to medium grey, off white to yellow, calcarenite grading to occassionally calcilutite, trace of glauconite, common fossil fragments, moderately hard.

<u>CLAYSTONE 755-786m</u>: medium to dark grey, olive grey in part, slightly silty, trace carbonaceous material & streaks, trace glauconite, elight to moderately calcereous, soft to occassionally firm, sub-blocky.

GAS DATA:

	TG (units)	C1 (ppm)	C2	C3	C4's	C5			
Background	-		-	-	•	•		ROP	
MAX								m/hr	DEPTH
							Max		
TRIP GAS		•					Min		1
Wiper TG		-					Avg		1

(NOTE: 1% GAS = 50 API Units, 1 API Unit = 200 ppm)

BIT DATA:	PRESENT BIT	PREVIOUS BIT
BIT NO. / HOLE SIZE	New Bit 4 8.5"	New Bit 3 12.25"
TYPE	HTC ATM -GT18D	HTC MAX-GT1
JETS:	2X16, 1x14	3X 16
MUD MOTOR (Rev/gal)	-	-
DEPTH IN:	785	110
METRES LAST 24hrs	0	240
METRES TOTAL:	0	675
RHOB LAST 24hrs	0	9.0
RHOB TOTAL BITRUN	0	21.6
RPM (Surface)	-	80-105

COMMENTS:

9 5/8"shoe set at 777.58m.

APPENDIX 2b DAILY GEOLOGICAL REPORTS

DAILY GEOLOGICAL REPORT

ACN 009 230 835

WELL: BROADBILL-1

TIME: 2400 HRS

DATE: 16 JAN 1998

REPORT NO: LAST SURVEY:

DEPTH: DEVIATION: **PROGRESS:**

GEOLOGIST: 1. PATON

CURRENT OPERATION:

LITHOLOGY:

HYDROCARBON SHOWS:

OIL SHOWS:

GAS PEAKS:

ROP* AND GAS READINGS:

(*Rate of Penetration)

Interval (m MDRT)

ROP range (min/m)

ROP average (min/m)

Max Gas (units)

Total Gas average (units)

CHROMATOGRAPH READINGS (PPM)

Interval (m)

C1

C2

C3

C4

C5

REMARKS:

SPUD WELL.

DAILY GEOLOGICAL REPORT

ACN 009 230 83

WELL: BROADBILL-1

REPORT NO: 2. LAST SURVEY:

TIME: 2400HRS
DEPTH: //OWLFTED
DEVIATION:

DATE: 17 JAN, 1998 PROGRESS: 57M (S.S.). GEOLOGIST: 1. PATON

CURRENT OPERATION:

P.O.O.H to run conductor 36"

T	IT	Ή	O	L	O	G	Y	

53-110M	No	returns
	,	
		,
HYDROCARBON	SHOWS:	
OIL SHOWS:		
OIL SHOWS.		
	L	
CAC DE ATO		
GAS PEAKS:	,	

ROP* AND GAS READINGS:

(*Rate of Penetration)

Interval (m MDRT)	ROP range (min/m)	ROP average (min/m)	Max Gas (units)	Total Gas average (units)
		 		

CHROMATOGRAPH READINGS (PPM)

Interval (m)	C1	C2	C3	C4	C5	

DAILY GEOLOGICAL REPORT

ACN 009 230 835

WELL: BROADBILL -1

REPORT NO: 3

LAST SURVEY: CURRENT OPERATION:

TIME: 2400 HRS

DEPTH: 110 metres

DEVIATION:

DATE:

18 JANUARY 1998

PROGRESS:

GEOLOGIST: 1 PATON

LITHOLOGY:

HYDROCARBON SHOWS: OIL SHOWS:

GAS PEAKS:

ROP* AND GAS READINGS:

(*Rate of Penetration)

Interval (m MDRT)

ROP range (min/m)

ROP average (min/m)

Max Gas (units)

Total Gas average (units)

CHROMATOGRAPH READINGS (PPM)

Interval (m)

C1

C2

C3

C4

C5

DAILY GEOLOGICAL REPORT

ACN 009 230 835

BROAD BILL-1 **WELL:**

TIME: 2400

19 JANUARY 1958 DATE:

REPORT NO:

4

DEPTH: NO ~ **DEVIATION:**

PROGRESS: NIL

LAST SURVEY:

GEOLOGIST: 14N PATON

CURRENT OPERATION: @ 0600 RUN IN HOLE TO OPICE ATTERD @ T.D. 117m

LITHOLOGY:

HYDROCARBON SHOWS: OIL SHOWS:

GAS PEAKS:

ROP* AND GAS READINGS:

(*Rate of Penetration)

Interval (m MDRT) **ROP** range (min/m)

ROP average (min/m)

Max Gas (units)

Total Gas average (units)

CHROMATOGRAPH READINGS (PPM)

Interval (m)

C1

C2

C3

C4

C5

DAILY GEOLOGICAL REPORT

WELL: BROADBILL -1

REPORT NO: 5 LAST SURVEY: 399 M

CURRENT OPERATION:

TIME: 2400 HRS

DEPTH: 545 M

DEVIATION: 0./5°

DATE: 20 JANUARY, 1998

PROGRESS: 435M GEOLOGIST: Julle

@ 0600 HOURS - RUNNING SURVEY

LITHOLOGY:

110 - 255M	SANDSTONE - translucent, vf to mgn, rounded, mod scrted abundant fossils, loose quart 2 gns, good vis Ø.
	abundant fossils, loose quartz gns, good vis &.
255 -385	LIMESTONE - Lt grey to cream, calcarente to calcisiltite, fossiliterous, trace glauconite.
	fossiliterous trace glaucanite.
	· ·
385-420	SANDSTONE (80%) - c/r to transfucent, fyned, subang, mod well sorted,
	quatrose loose gns, good of. LIMESTONE (20%) a.a.
420 - 545	SANDSTONE (80%) - clr to translucent, figned, subang, mod well sorted, quatrose loose gns, good b. LIMESTONE (20%) a.a. LIMESTONE (80%) Lt gy to milky, calcarenite to calcilutite trylane, abund fossil frags. SANDSTONE (20%) a.a.
	abund fossil frags. SANDSTONE (20%) a.a.

HYDROCARBON SHOWS:

Ω II	SHOW	C
1711	SHUVY	•

GAS PEAKS:

_	
- 1	
- 1	
-	
- 1	
L	
- 1	
- 1	
- 1	

ROP* AND GAS READINGS:

(*Rate of Penetration)

Interval (m MDRT)	ROP range (min/m)	ROP average (min/m)	Max Gas (units)	Total Gas average (units)
110 -255M	2-197 M/hr	12 m/hr		_
255 - 385M	8-208 m/hr	36 m/hr		
385 - 420 M	14-76 m/hr	44m/hr		
420 - 545 M	18-153 M/hr	28m/hr		
i				

CHROMATOGRAPH READINGS (PPM)

_	

REMARKS: TOP MIOCENE SANDSVONE @ 385m (4 metres Low to prognosis)

DAILY GEOLOGICAL REPORT

WELL: BROADBILL -1

REPORT NO: 6 LAST SURVEY: 779 M

TIME: 2400 HRS

DEPTH: 785 M

DEVIATION: 0.25°

DATE: 21 JANUARY ,1998

PROGRESS: 240 M

GEOLOGIST: CURRENT OPERATION: @ 0600 HARS RIGGING DOWN SCHLUMBERGER.

LITHOLOGY:

545-760m	LIMESTONE - It gy to cream, calcurente to calcisitite, trace glauconite, abundant foss fragments
	glauconite, abundant foss fragments
	, o
760 - 785	LIMESTONE (80%) - It gy to cream calcarenite to calcilutite.
	trace glaucquite abun foss frags
	CLAUSTONE (20%) - ned goky-olive grey, slightly silty, calcareous,
	soft to firm to carponaceous mater
	CLAUSTONE (20%) - nied gaby-olive grey, slightly silty, calcareous, soft to firm, to carbonaceous mater [in creases from 0% at 760m to 20% at 785m]

HYDROCARBON SHOWS:

OIL	SHOWS :	:

GAS PEAKS:

 	
1	

ROP* AND GAS READINGS:

(*Rate of Penetration)

		ROP average (min/m)		Max Gas (units)	Total Gas average (units)	
5-128	M/hr	29	M/hr			
6-39	M/hr	7	m/h=	0.4	0.3	
_	120	5-128 M/hr 6-39 M/hr				

CHROMATOGRAPH READINGS (PPM)

Interval (m)	C1	C2	C3	C4	C5
71 - 00					
760-785	50				
				<u>. </u>	

REMARKS: TOP OF LAKES ENTRANCE ESTIMATED AT 775 Metres (6M High).

ACN 009 230 835

DAILY GEOLOGICAL REPORT

WELL: BROADBILL - 1

REPORT NO: 7

LAST SURVEY: CURRENT OPERATION:

TIME: 2400 HRJ

DEPTH: 785~ DEVIATION:

RUN LOSS

DATE: 22

22 JANUARY 1998

PROGRESS:

GEOLOGIST: 1. PATON

LITHOLOGY:

HYDROCARBON SHOWS: OIL SHOWS:

GAS PEAKS:

ROP* AND GAS READINGS:

(*Rate of Penetration)

Interval (m MDRT)

ROP range (min/m)

ROP average (min/m)

Max Gas (units)

Total Gas average (units)

CHROMATOGRAPH READINGS (PPM)

Interval (m)

C1

C2

C3

C4

C5

DAILY GEOLOGICAL REPORT

ACN 009 230 835

WELL:

BRUADTICC -1

2400 TIME: 785m DEPTH:

DATE: 23 JANUARY 1998

REPORT NO: LAST SURVEY:

8

DEVIATION:

PROGRESS:

GEOLOGIST: 1. PATON

CURRENT OPERATION:

RUN CASING

LITHOLOGY:

HYDROCARBON SHOWS: OIL SHOWS:

GAS PEAKS:

ROP* AND GAS READINGS:

(*Rate of Penetration)

Interval (m MDRT) **ROP** range (min/m)

ROP average (min/m)

Max Gas (units)

Total Gas average (units)

CHROMATOGRAPH READINGS (PPM)

Interval (m)

C1

C2

C3

C4

C5

DAILY GEOLOGICAL REPORT

WELL: BROADBILL-1

REPORT NO: LAST SURVEY: 1074 M TIME: 2400 HRS DEPTH: 1070 metres

2. **DEVIATION:**

DATE: 24 JANUARY, 1998

PROGRESS: 285M GEOLOGIST: 1. PATON

CURRENT OPERATION: COGOO RIH HO DRILL AHEAD AFTER SURVEY & RIG SERVICE

LITHOLOGY:

785-850M	CLAYSTONE - It grey to green grey, soft to V. soft, tr glauconite
850-875m	COAL - dull black, mod hard, bitumenous.
875-880 m	SANDSTONE - clear, f-medgned subrolled, loose gus, quartzose, good of
880 -890 M	SILTSTONE - brown -gy, to carbonaceous fragments and soft
890 - 930 m	
	with miner SILTSTONE & COAL.
930 - 950 M	COAL (40%) - black dull mad hard; SILTSTONE (30%) - L+bwn, soft; SST (30%)
950 -980M	
	pyrite good perosity, loose gns.
980 - 990 m	SANDSTONE (30%)-a.a; SILTSTONE (30%)-bwngya.a; COAL (20%) a.a
990-1070M	SANDSTONE - clear, medge, subrolled, good & with COAL at 1020-1030 M.

HYDROCARBON SHOWS:

OIL SHOWS:

OLD DITO WD.	_
	NO FLUORESCENCE OVER INTERVALS DRIVED 875M -1070M

GAS PEAKS:

80	68m 11	0500 ppm CI	1 940 M - 1814 ppm C1
8	93m 4	1374 ppm C.	<u>1</u>
9	yym 1	726 PPMC	1.

ROP* AND GAS READINGS:

(*Rate of Penetration)

Interval ROP range (m MDRT) (min/m)		ROP average (min/m)	Max Gas (units)	Total Gas average (units)
785-850	11-14/ M/hr	26 m/hr	1.8	0.5
850 -875	19-187m/hr	38 m/hr	54	12.9
875 -950	11-139m/hr	32 m/hr	22.1	7
950 - 1070	10-124m/hr	17 m/hr	10.3	3
		-		

CHROMATOGRAPH READINGS (PPM)

Interval (m)	C1	C2	С3	C4	C5	
785-850	335					
850-875 &75-950 950-1070	10518					
875-950	4375					
950-1070	1775					

REMARKS:

- TOP LATROBE GROUP - 850M (RKB) - HIGH SUSTAINED CI GAS READINGS tO 966M.

DAILY GEOLOGICAL REPORT

WELL: BROADBILL - 1

REPORT NO: /O

CURRENT OPERATION:

LAST SURVEY: 1074 M

TIME: 2400 4RS

DEPTH: /335M **DEVIATION:** 2° DATE: 25 JANUARY

PROGRESS: 265M GEOLOGIST: /. PATON

(a) 0600 HRS P.O.H to RUN WIPER TRIP

LITHOLOGY:

1070-1090M	SANDSTONE - CIT, OCC transl, Med to warse gold, subrided, fair of loose
	9tz gns.
1090-1100m	COAL (30%) - black, dull bitummous; SANDSTONE (70%) a.a
1100 -1290m	COAL (30%) - black, dull bitummous; SANDSTONE (70%) a.a. SANDSTONE - Clr to translucent, f-medgned, subsided, transil matrix
	fair d.
1290-13354	SANDSTONE (80%) - transt to milky 9 t2 overgrowths, subangular,
10.10	med to course ghed, to ghilithic tragments,
	V. pocr vis perosity
	CLAYSTONE (10%) - ligy fold boon to mica, vsoft
	SILTSTONE (10%) - Ut bown argill, soft blky.

HYDROCARBON SHOWS:

OIL SHOWS:

NIL

GAS PEAKS:

OLIO I BILLIO.	
1129m	3.2 units.

ROP* AND GAS READINGS:

(*Rate of Penetration)

Interval (m MDRT)	ROP range (min/m)	ROP average (min/m)	Max Gas (units)	Total Gas average (units)
1070-1090 M	6-75 m/h	26 m/h	1.4@1070m	0.7
1090-1100 m	12-73 m/h	41m/h	3 @ 1099m	1.8
1100 - 1290 m	3-127 m/h	17m/6	3.20 1129m	0.6
1290 -1335M	3-36 m/h	11 m/h	1.2 (1330m	0.6

CHROMATOGRAPH READINGS (PPM)

Interval (m)	C1	C2	C3	C4	C5	
1070-1090 m	280					
1090-1100M	600					
1100-129cm	640					
1290-1335 m	240					
	7		-			

REMARKS:

POSSIBLE BASE LATROBE @ 1290 metres - noticeable short decrease in drilling rate of low of Sandstone, 9+2 overgrowths, lithic tragments.

DAILY GEOLOGICAL REPORT

DATE: 26 JANUARY WELL: BROADBILL-1 TIME: 2400 HRS REPORT NO: //
LAST SURVEY: /340 M PROGRESS: 10m DEPTH: /345 M DEVIATION: 340 GEOLOGIST: 1. PATON CURRENT OPERATION: RUMING WIPER TRIP LITHOLOGY: SANDSTONE - clear to milky white, f-medge, subang, to lithic (30%) fragunts pour vis of. 1335-1340M (30%) fragunts poer vis B.
SILTSTONE (70%) - Lt bin to lt gy, soft, b/ky. SILTSTONE - dk brn gy to pink, trace lithic fragment, soft 1340-1345M **HYDROCARBON SHOWS:** OIL SHOWS: **GAS PEAKS: ROP* AND GAS READINGS:** (*Rate of Penetration) ROP range ROP average Max Gas Total Gas average **Interval** (m MDRT) (min/m) (min/m) (units) (units) 1335-1345M 1.5 7-5 M/hr 0.7 6M/hr **CHROMATOGRAPH READINGS (PPM) C5** Interval (m) **C2 C3** C4 C1 1335-1345 300

REMARKS:

TOP STREZLECKI FORMATION AT 1340 metres - (pink, bun mothed SILTSTONE INDICATES THIS FORMATION).

T.D. AT 1345 metres.

APPENDIX 3

WELLSITE LITHOLOGY SAMPLE DESCRIPTION

APPENDIX 3

WELLSITE LITHOLOGY SAMPLE DESCRIPTION

	0-110m	No returns to surface.	
	110-255m	SANDSTONE 100%	translucent, fine to medium grained, rounded, moderately sorted, abundant fossils, good visible porosity.
	255-385m	LIMESTONE 100%	light grey to cream, calcarenite to calcisiltite, fossiliferous, trace glauconite.
	385-420m	SANDSTONE 80%	clear to translucent, fine grained, subangular, moderately well sorted, quartzose loose grains, good porosity.
		LIMESTONE 20%	light grey to cream, calcarenite to calcisiltite, fossiliferous, trace glauconite
	420-545m	LIMESTONE 80%	light grey to milky, calcarenite to calcilutite, trace glauconite, abundant fossil fragments.
		SANDSTONE 20%	clear to translucent, fine grained, subangular, moderately well sorted, quartzose loose grains, good porosity
	545-760m	LIMESTONE 100%	light grey to cream, calcarenite to calcisiltite, trace glauconite, abundant fossil fragments.
•	760-785m	LIMESTONE 80%	light grey to cream, calcarenite to calcilutite, trace glauconite, abundant fossil fragments.
		CLAYSTONE 20%	medium grey to olive grey, slightly silty, calcareous, soft to firm, trace carbonaceous matter. [increases from 0% at 760m to 20% at 785m].
	785-850m	CLAYSTONE 100%	light grey to green grey, soft to very soft, trace glauconite.
I	850-875m	COAL 100%	dull black, moderately hard, bituminous.
	875-880m	SANDSTONE 100%	clear, fine-medium grained, subrounded, loose grains, quartzose, good porosity.
.	880-890m	SILTSTONE 100%	brown-grey, trace carbonaceous fragments, moderately soft.
	890-930m	SANDSTONE 100%	clear, fine-medium grained, subrounded, trace pyrite, good porosity with minor SILTSTONE and COAL.
]]	930-950m	COAL 40% SILTSTONE 30% SANDSTONE 30%.	black, dull moderately hard; light brown; clear, fine-medium grained, subrounded, trace pyrite, good porosity
} 	950-980m	SANDSTONE 100%	clear to frosted, medium grained, well sorted, subrounded, trace pyrite, good porosity, loose grains.
! !	980-990m	SANDSTONE 30%	clear to frosted, medium grained, well sorted, subrounded, trace pyrite, good porosity, loose.
		SILTSTONE 30% COAL 20%	brown grey, trace carbonaceous fragments, moderately soft grains dull black, moderately hard

	990-1070m	SANDSTONE 100%	clear, medium grained, subrounded, good porosity with COAL at 1020-1030m.
	1070-1090m	SANDSTONE 100%	clear, occasionally translucent, medium to coarse grained, subrounded, fair porosity, loose quartz grains.
I	1090-1100m	COAL 30% SANDSTONE 70%	black, dull bituminous; clear, occasionally translucent, medium to coarse grained, subrounded, fair porosity, loose quartz grains.
	1100-1290m	SANDSTONE 100%	clear to translucent, fine-medium grained, subrounded, trace argillaceous matrix, fair porosity.
	1290-1335m	SANDSTONE 80%	translucent to milky, quartz overgrowths, subangular, medium to coarse grained, trace lithic fragments, very poor visible porosity.
I		CLAYSTONE 10% SILTSTONE 10%	light grey to light brown, trace mica, very soft. light brown, argillaceous, soft, blocky.
I	1335-1340m	SANDSTONE 30%	clear to milky white, fine to medium grained, subangular, trace lithic fragments, poor visible porosity.
_		SILTSTONE 70%	light brown to light grey, soft, blocky.
	1340-1345m	SILTSTONE 100%	dark brown grey to pink siltstone, trace lithic fragments, soft.

APPENDIX 4 MUD ENGINEERING REPORT

AMITY OIL NL DRILLING FLUID RECAP BROADBILL 1 BASS STRAIT, VICTORIA



Prepared by :

Date :

Nicholas Doust January 1998

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 DAILY OPERATIONS LOG
- 10. DAILY MUD REPORTS

WELL SUMMARY

1.1 Well Data

:	Broadbill 1
:	Amity Oil NL
:	Vertical
:	0 - 2°
:	68° C
:	VIC P/36, Bass Strait, Victoria
:	Santa Fe / Paramaswara
:	16/01/98
:	17/01/98
:	52.4 m
:	1345 m
:	26/01/97
:	6 days
:	31/01/97
:	16
	:

1.2 Formation Tops

Formation	MD	TVD	Inclination
Seabed	52.4	52.4	0
Miocene Sand	385	385	0
Lakes Entrance	775	775	0.25
Latrobe	850	850	0.25
Strezelecki Group	1340	1340	2.25
TD	1345	1345	3.25

1.3 Casing Program

30"	Conductor	@	106 m	
9 ⁵ / ₈ "	Intermediate Casing	<u>@</u>	779 m	

1.4 Personnel

Drilling Supervisors	:	Wally Westman	Murray Jackson	Chris Roots
Baroid Field Service Rep.	:	Nicholas Doust		

COST SUMMARY

2.1 Drilling Fluid Costs

	Drilling Fluid	Hole Size	MD From	MD To	Cost (A\$)
1.	Seawater/ Hi-vis sweeps	36"	52.4 m	110 m	\$4,306.30
2.	Seawater/AQUAGEL/Polymer	12-1/4"	110 m	785 m	\$26,877.49
3.	KCI/EZ-MUD/Polymer	8-1/2"	785 m	1345 m	\$46,956.64
Mu	d Materials Used For Drilling			Total A\$	78,140.44
Μι	ud Materials Not Used For Drilling	g (Cei	menting, P & A)	A\$	698.40
Tot	al Materials			A\$	78,838.83

2.2 Engineering Costs

Service Representatives	From (date)	To (date)	Days
Nicholas Doust	16/01/98	28/01/98	13
Total Days			
Service Cost @	\$650 per day	Total (A\$)	\$8,450.00
Total Cost of Drilling Material 8	& Engineering	A\$	87,288.83

PERFORMANCE SUMMARY

3.1 Comments

Most of the performance indicators were not met in Broadbill 1. The overall cost of the well was higher than programmed because of unanticipated problems with seepage losses and coal sloughing.

3.2 Performance Indicators

	Programmed	Actual	Achieved
Interval 1. 36" Hole (54.2 - 110 m)			(± 10 %)
 Volume Used, bbl 	850	900	Yes
 Dilution Rate, bbl/m 	5	6.28	No
 Consumption Rate, bbl/m 	14.12	15.63	No
 Cost per bbl, A\$ 	\$4.55	\$4.78	Yes
Cost per m, A\$	\$64.19	\$74.76	No
 Interval Mud Cost, A\$ 	\$4,089.58	\$4,306.3	Yes
Interval 2. 12 ¹ / ₄ " Hole (110 - 785 m)			
 Volume Used, bbl 	2321	2905	No
 Dilution Rate, bbl/m 	2.0	2.83	No
 Consumption Rate, bbl/m 	3.32	4.30	No
Cost per bbl, A\$	\$6.51	\$9.03	No
Cost per m, A\$	\$21.57	\$38.84	No
 Interval Mud Cost, A\$ 	\$15,761.45	\$26,218.4	No
Interval 3. 8 ¹ / ₂ " Hole (785 - 1345 m)			
 Volume Used, bbl 	1462	1668	No
Dilution Rate, bbl/m	0.9	1.7	No
Consumption Rate, bbl/m	1.78	2.98	No
Cost per bbl, A\$	\$25.72	\$27.81	Yes
 Cost per m, A\$ 	\$45.80	\$82.84	No
Interval Mud Cost, A\$	\$34,669.89	\$46,392.8	No
Entire Well			
 Total Drilling Fluid Cost, A\$ 	\$54,520.92	\$76,917.47	No

^{*} Programmed costs have been adjusted to reflect the material prices ex Geelong.

3.3 Explanation of Non-Conformance

- Interval 1: Consumption rate, dilution rate and mud cost per metre were extremely close to programmed values. More frequent sweeps were pumped, resulting in a slightly higher cost, and consumption rates.
- Interval 2: Mud costs and dilution/consumption rates were higher than programmed for the following reasons: (1) More mud was required due to seepage losses through coarse sands and contingency lost circulation material was used which was not programmed; (2) Less mud making formation clays were drilled through than expected. This meant that extra mud material was required to maintain mud properties such as mud weight, viscosity and wall cake, subsequently raising costs; (3) More PAC was required to maintain API filtrate at programmed levels.
- Interval 3: Mud costs were higher as more volume was required. This was due to the significant losses that occurred, both downhole and over the shakers. Extra costs were also incurred with the use of contingency lost cirulation material which was not programmed.

INTERVAL - 1

4.1 SUMMARY

36"

Hole

From 52.4 m

To 110

In 1

Days

Drilling Fluid

Seawater/Hi-Vis AQUAGEL sweeps

Formations

Gippsland Marl

Maintenance

• Built 400 bbls of hi-vis AQUAGEL spud mud for sweeps.

- Drilled with seawater with returns to the seabed, pumping 40 bbl hi-vis sweeps every 5 10 metres.
- Pumped an 80 bbl hi-vis sweep followed by a 35 bbl hi-vis sweep after reaching section TD.
- The hole was displaced to unflocculated pre-hydrated AQUAGEL prior to a wiper trip at TD, and again prior to POOH to run 30" conductor.

Solids Control Equipment

This section was drilled riserless.

Page

4.2 EVALUATION

Comments

• No hole problems were experienced and the 30" conductor was successfully run to bottom.

Problems, Causes, Remedial Action Taken or Recommended Hole Conditions

1) Problem

No cement in casing annulus at the seabed.

Cause

Valve on stinger leaking.

Action

Perform remedial cement job on casing annulus via 2-7/8" tubing.

Drilling Fluid

1) Problem No drilling fluid problems.

Cause

Action

Solids Control and Mud Mixing Equipment

1) Problem No solids control equipment required.

Cause

Action

4.3 RECOMMENDATIONS FOR IMPROVEMENT

Hole Conditions

No recommendations.

Drilling Fluid

• No recommendations.

Solids Control and Mud Mixing Equipment.

• No recommendations.

INTERVAL - 2

5.1 SUMMARY

121/4" Hole From 110 m

To 785 m

In 2 Days

Drilling Fluid

Seawater/AQUAGEL/Polymer

Formations

Gippsland Marl, Miocene Sand, Lakes Entrance

Properties	Programmed		Actual		
	Min	Max	Min	Max	Conformance
Mud Weight, ppg		9.3	8.9	9.2	Yes
Funnel Viscosity, sec/qt	35	45	39	85	No
API Filtrate, ml		8.0	7.8	12	No
Residual Sulphite, mg/l	100	150	100	120	Yes

Explanation of Non-Conformance

- Funnel viscosity increased with PAC-R additions and incorporation of mud making clays towards the end of the interval. The funnel viscosity was allowed to stay high to ensure effective hole cleaning.
- The API filtrate was initially high but was reduced to specification as soon as drilling commenced.

Maintenance

- Built initial volume of 1430 bbls of seawater/AQUAGEL/Polymer mud.
- Direct additions of PAC-R to the active system were required to maintain the API filtrate at less than 8 ml/30 min.
- BARACOR-129 oxygen scavenger was added directly to the active system to maintain residual sulphites at 100 - 150 mg/l.
- The active system volume was maintained with addition of Seawater/AQUAGEL/PAC mud.
- Seepage losses occurred while drilling very coarse sands after drilling out of the 30" conductor.
 Approximately 700 bbls were lost downhole while further losses occurred over the shakers as the coarse sands blinded the scalper screens.
- Drilling continued at a reduced pump rate but downhole losses were still evident. A 25 bbl hivis sweep (viscosified with PAC-R) was pumped. A 50 bbl LCM pill (enough to cover the 12¹/₄" open hole) was also pumped prior to making a connection. The LCM pill consisted of: AQUAGEL: 20 ppb, BARACARB-25: 18 ppb, BARACARB-100: 20 ppb, BAROFIBRE: 4.5 ppb.
- Downhole losses were reduced as a result of pumping the LCM pill along with the formation becoming more clayey.
- A 100 bbl LCM pill (formulation as above) was spotted on bottom as a precaution prior to conducting a survey at 399 m.
- Both LCM pills were retained in the system.
- As more mud making clays were drilled and the mud became more viscous, seawater with 0.5 ppb PAC-L was used to maintain viscosity and filtration control. PAC-L was used instead of PAC-R to prevent excessive mud viscosity.

7

Solids Control Equipment

- The two scalper screens were initially fitted with 20 mesh screens. However, one scalper was reduced to 10 mesh to reduce mud losses caused by blinding of the screens by coarse sands.
- The four Sweco LM3 shakers were fitted with 150 mesh screens for the entire interval.
- The Crestex desander and desilter were run for the entire interval.

5.2 **EVALUATION**

Comments

Apart from seepage losses, no other hole problems occurred. Logs reached bottom. The caliper log showed that the hole was washed out to over 18" in the coarse sands from 200 to 235 m and 360 to 410 m. The hole was almost gauge from 410 m onwards. The 95/8" casing was successfully run to bottom.

Problems, Causes, Remedial Action Taken or Recommended **Hole Conditions**

Problem

Seepage losses.

Cause

Very coarse sands.

Action

Reduce pump strokes. Pump 25 bbl hi-vis sweep. Pump 50 bbl LCM sweep (containing BARACARB 25 : 18 ppb, BARACARB 100 : 20 ppb, BAROFIBRE : 4.5ppb, AQUAGEL: 20 ppb) before connection. Pump 100 bbl LCM pill (formulation as above) before conducting survey.

Problem

Tight hole upon POOH at section TD, 70 K overpull.

Cause

Gauge hole. No fill recorded from multishot survey.

Action POOH.

Drilling Fluid

Problem No drilling fluid problems.

Cause

Action

Solids Control and Mud Mixing Equipment

Problem No solids control problems.

Cause

Action

5.3 RECOMMENDATIONS FOR IMPROVEMENT

Hole Conditions

No recommendations.

Drilling Fluid

Program 0.75 ppb PAC for improved API filtration control.

Solids Control and Mud Mixing Equipment.

No recommendations.

INTERVAL - 3

6.1 SUMMARY

 $8^{1}I_{2}$ " Hole From 785 To 1345 m In 3 Days

Drilling Fluid KCI/EZ-MUD/Polymer

Formations Lakes Entrance, Latrobe, Strezeleki Group

Properties	Programmed		Actual		
	Min	Max	Min	Max	Conformance
Mud Weight, ppg	9.0	9.5	8.9	9.5	No
Plastic Viscosity, cP		30	10	16	Yes
6 rpm, lb/100 ft ²	6	10	6	7	Yes
API Filtrate, ml		6.0	3.6	5.0	Yes
HPHT Filtrate, ml		15.0	10.6	12.5	Yes
pH	8.5	9.2	8.2	9.2	No
KCI Content, % vol	3	5	3	4	Yes
Excess PHPA, ppb	1	1.5	1	1	Yes
Low Gravity Solids, %		10.0	1.7	2.8	Yes
Residual Sulphites, mg/l	100	150	100	100	Yes

Explanation of Non-Conformance

- Initial mud weight (premix) was 8.9 ppg. The mud weight was allowed to remain at 8.9 ppg until approximately 865 m, when there was evidence that a coal seam appeared to be sloughing and mud losses occurred.
- The pH was purposely kept low to allow for any increase from cement. It was raised with caustic potash additions as soon as drilling commenced.

Maintenance

- Built initial volume of 1418 bbls of KCI/EZ-MUD/Polymer mud.
- Initial premixes were built with 4 % KCl to allow for some depletion while drilling through the Lakes Entrance Formation.
- To prevent mud losses over the shakers upon displacement, only half the programmed concentration of EZ-MUD DP was added to the initial premixes. As soon as drilling began, the full complement of EZ-MUD DP was mixed into the active. No mud losses over the shakers occurred.
- BARACOR-129 oxygen scavenger was added directly to the active system to maintain residual sulphites at 100 - 150 mg/l.
- The active system was weighted up from 8.9 to 9.1 ppg at 865 m after induced losses occurred as a result of coal sloughing.
- BARAZAN-D Plus additions were made directly to the active system to maintain the specified low end rheology and combat the effects of the coal thinning the mud.
- Induced seepage losses occurred while reaming the last stand to bottom at 1095 m after a
 wiper trip to the 9⁵/₈" shoe. Approximately 40 bbls was squeezed into the formation due to coal
 pack off. Mud was also lost over the shakers due to the copious amounts of coal that covered
 the scalper screens. To help stabilise the coals, the mud weight was increased to 9.3 ppg.
- To prevent further losses, the active system was treated with 5 ppb each of BARACARB-25 and BARACARB-100.
- A 70 bbl hi-vis 10 ppg sweep was pumped after reaming to bottom on a wiper trip at TD.
- Approximately 100 bbls of hi-vis mud was spotted on bottom at TD.
- Mud left in the 9⁵/₈" casing was treated with 0.2 ppb ALDACIDE and 1 ppb BARACOR-129.

Solids Control Equipment

- The two scalper screens were dressed with 10 mesh screens for the entire section.
- The four Sweco LM3 shakers were initially dressed with 80 mesh screens. As the mud sheared, three shakers were downsized to 150 mesh screens.
- The Crestex desander and desilter were run intermittently. They were switched off once BARACARB was added to the mud system.

6.2 EVALUATION

Comments

Broadbill 1 proved to be a dry well so 7" production casing was not run. Two attempts at logging were unable to get to bottom due to apparent coal caving or ledges. The caliper log showed severe washout over 16" in the coal sections. The mud system performed well. The mud properties were kept within specification with minimal maintenance required. The unanticipated problems experienced such as seepage losses which were able to be controlled and coal sloughing which was not able to be completely controlled, resulted in a failure of logging tools to reach bottom.

The addition of BARABLOK was included as a contingency in the original mud program and load out list submitted, it was decided not to proceed with this recommendation.

Problems, Causes, Remedial Action Taken or Recommended Hole Conditions

1) Problem Coal sloughing caused annulus packoff while drilling at 865 m causing mud losses.

Cause Mud squeezed into formation when coal packed off, blocking annulus.

Action Raised mud weight from 8.9 ppg to 9.1 ppg to help stabilise coals.

2) Problem Coal packing off while reaming last stand to bottom during wiper trip @ 1095 m.

Approximately 40 bbls lost down hole.

Cause Mud squeezed into formation when coal packed off, blocking annulus.

Action Raised mud weight from 9.1 ppg to 9.3 ppg to help stabilise coals.

Treat active system with 5 ppb each of BARACARB 25 and BARACARB 100.

3) Problem Tight hole on wiper trip out of hole at 1345 m TD.

Cause Coals packing off.

Action Circulate coal out of hole. Backream out of hole. Ream to TD. Circulate hole &

pump approximately 100 bbls of 10 ppg hi-vis sweep. Spot 100 bbls of hi-vis mud

on bottom prior to POOH.

4) Problem Logs at TD unable to get past 1029 m.

Cause Logging tool apparently hanging up on coal ledge.

Action Perform wiper trip. Ream coal ledge.

5) Problem Logging tool unable to get past 869 m on second run after wiper trip.

Cause Logging tool apparently hanging up on coal ledges.

Action Reconfigure logging tools - still could not get any further. Plug and abandon as a

dry well.

Drilling Fluid

1) Problem No problems maintaining specified fluid properties.

Cause Action

Solids Control and Mud Mixing Equipment

1) Problem No solids control problems.

Cause Action

6.3 RECOMMENDATIONS FOR IMPROVEMENT

Hole Conditions

- Control drill coal beds to reduce sloughing and caving.
- Begin with an initial mud weight of 9.2 9.3 ppg to enhance borehole and coal stability.

Drilling Fluid

 In future wells we recommend adding a microfracture plugging agent such as BARABLOK or BARATROL to help reduce pore pressure penetration into coals. The BARABLOK blocking agent works by plugging microfractures and minimising filtration invasion into the coals, thereby stabilising the coal.

Solids Control and Mud Mixing Equipment.

• No solids control recommendations.

APPENDIX-A

CALIPER DATA

Depth m	Hole Size (in⊱)	Depth m	Hole Size (ins
110	14.25	525	12.25
125	14.35	550	12.25
150	14.25	575	12.00
175	14.25	600	12.00
200	15.00	625	12.25
225	16.50	650	12.25
250	14.00	675 ·	12.00
275	12.25	700	12.25
300	12.25	725	12.00
325	12.25	750	12.25
350	12.25	800	8.50
375	13.50	825	11.00
400	18.50	850	12.25
425	13.00	875	8.50
450	12.50	900	8.50
475	12.00	925	8.25
500	12.25	950	8.00

APPENDIX-B

DEVIATION DATA

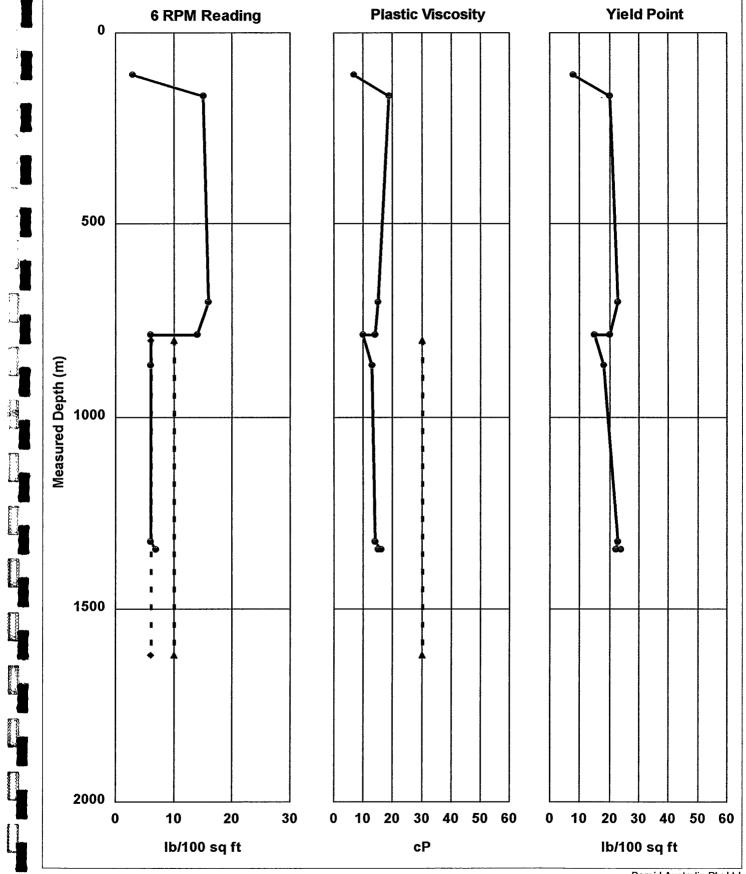
Depth MD (m)	Depth TVD (m)	Inclination (deg)	Direction (deg)	Displacement (m)
113.1	113.1	0.15	100.0	0.00
142.1	142.1	0.00	0.0	-0.01
170.3	170.3	0.00	0.0	-0.01
198.3	198.3	0.30	63.0	0.03
226.4	226.4	0.10	51.0	0.07
255.3	255.3	0.35	47.0	0.15
284.1	284.1	0.35	112.0	0.18
312.9	312.9	0.15	75.0	0.15
341.8	341.8	0.30	126.0	0.12
370.6	370.6	0.25	142.0	0.03
399.4	399.4	0.10	348.0	0.00
428.3	428.3	0.15	330.0	0.06
457.1	457.1	0.20	27.0	0.14
485.9	485.9	0.25	32.0	0.23
514.7	514.7	0.20	33.0	0.33
543.6	543.6	0.25	91.0	0.37
572.4	572.4	0.30	101.0	0.35
601.2	601.2	0.35	103.0	0.32
630.1	630.1	0.35	149.0	0.23
658.9	658.9	0.30	97.0	0.14
687.7	687.7	0.25	88.0	0.13
716.6	716.6	0.40	54.0	0.20
745.4	745.4	0.30	28.0	0.32
774.2	774.2	0.25	1.00	0.45
779.6	779.6	0.25	320.0	0.47

DRILLING FLUID PERFORMANCE Operator: Amity Oil NL Well: Broadbill 1 **Drilling Progress** Measured Depth (m) 2000 20 10 0 Days **Fluid Cost** Measured Depth (m) 1000 2000 100000 50000 0 Cost (A\$)

DRILLING FLUID PROPERTIES (Page - 1)

Operator : Amity Oil NL Well : Broadbill 1

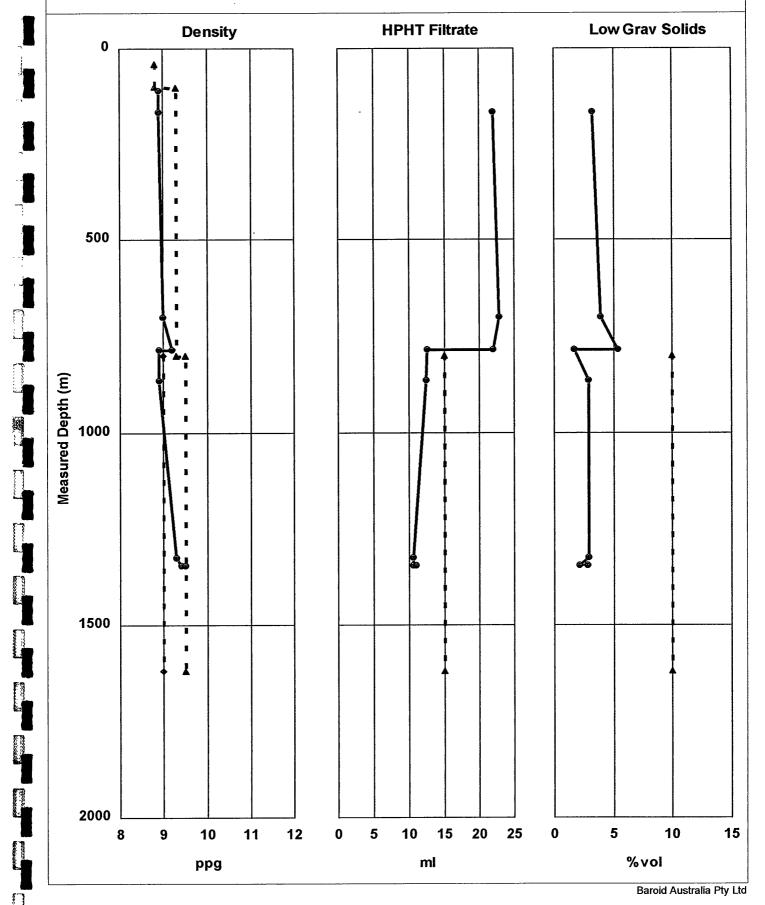




DRILLING FLUID PROPERTIES (Page - 2)

Operator: Amity Oil NL Well: Broadbill 1







Postwell Audit

Amity Oil NL

Broadbill 1

Drilling Contractor

Santa Fe Drilling

Rig

Paramswara

Prepared by

JAMES GALLAGHER

Date

05/02/98

Internal Well Number

M0300280

Company: Well Name: Contractor: Amity Oil NL Broadbill 1 Santa Fe Drilling Country: Geo Area: AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



Well Summary

Well data

Spud date

: 17/01/98

TD date

: 26/01/98

Days on well

: 12

Drilling days

: 6

Water depth (RKB to seabed) : 22

(52) meters

Total measured depth

: 1,345 meters

True vertical depth

: 1,345 meters

Distance Drilled

: 1,293 meters

Maximum deviation

: 3.25°

BHT

: 68

Total mud cost

: \$A 78,140.43

Deg C

Mud cost per meters

,

: \$A 60.45

Total cost

: \$A 78,838.83

Baroid Engineers

NICHOLAS DOUST

Casing Program	Casing size in.		Shoe depth meters	
	30 30 9 5/8 9 5/8		106 106 779 779	
Mud type	Interval meters		Hole size in.	Mud cost, \$A
No Mud Gel/Seawater Seawater	52 то	110		4,306.30
Gel/Polymer	110 то	785	12.25	26,877.49
KCI/Polymer	785 то	1345	8.5	46,956.64

Company:

Amity Oil NL

Well Name: Contractor: Broadbill 1 Santa Fe Drilling Paramswara

Country: Geo Area: AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



Total Material Consumption

Waterial	Unit siz	е		Quantity	Total cost (\$A)
ALDACIDE G	25	L.	CAN	4	815.84
AQUAGEL	25	KG.	BAG	56	659.12
AQUAGEL	1000	KG.	TON	40.200	19,074.90
BARACARB 100	25	KG.	SACK	144	2,073.60
BARACARB 25	25	KG.	BAG	144	1,663.20
BARACOR 129	25	KG.	CAN	47	2,849.02
BARAZAN-D PLUS	25	KG.	BAG	40	14,399.20
barite	1000	KG.	TON	24.300	7,829.95
BAROFIBRE	25	LB.	BAG	27	1,606.50
caustic soda	25	KG.	PAIL	7	302.47
DEXTRID LT	25	KG.	BAG	123	6,464.61
EZ-MUD DP	50	LB.	BAG	51	5,846.04
lime	20	KG.	BAG	5	42.15
PAC-L	25	KG.	BAG	41	6,034.86
PAC-R	25	KG.	BAG	25	3,680.25
potassium chloride	1000	KG.	BAG	10	4,312.10
potassium hydroxide	20	KG.	PAIL	9	397.53
soda ash	25	KG.	BAG	6	89.10
Miscellaneous Items					
Cacl2					698.40

Total mud cost

\$A 78,140.44

Total miscellaneous cost

\$A 698.40

Total cost

\$A 78,838.84

Programmed mud cost

\$A 41,456.17

Variance

\$A 36,684.27

Company: Well Name:

Amity Oil NL

Contractor:

Broadbill 1

Santa Fe Drilling

Paramswara

Country: Geo Area: **AUSTRALIA** BASS STRAIT

Field: Region: VIC P/36

Victoria



Interval #

Bit Size

in.

Mud type(s)

No Mud Gel/Seawater

Seawater

Top of interval

52.4 meters

Bottom of interval

110.0 meters

Maximum density

8.30 ppg

Interval start date

16/01/98

Interval end date

18/01/98

Interval days

3

Drilling days

1

Interval TD date

17/01/98

Rotating hours

3.00

Average penetration rate

19.2 meters

Bottomhole static temperature

40° Deg C

Maximum flowline temperature

0° Deg C

Casing size

30 in.

Major lithology

Marl

Interval mud cost

\$A 4,306.30

Mud cost per (bbl)

\$A 4.78

Mud cost per meters

\$A 74.76

Total Interval Cost

\$A 4,597.30



Amity Oil NL Broadbill 1

Well Name:

Santa Fe Drilling

Contractor:

Paramswara

Country: Geo Area: AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



Interval Summary

Interval # 02

Bit Size

12.25 in.

Mud type(s)

Gel/Polymer

Top of interval

110.0 meters

Bottom of interval

785.0 meters

Maximum density

9.20 ppg

Interval start date

19/01/98

Interval end date

22/01/98

Interval days

4

Drilling days

2

Interval TD date

21/01/98

Rotating hours

25.75

Average penetration rate

26.2 meters

Bottomhole static temperature

68° Deg C

Maximum flowline temperature

46° Deg C

Casing size

9 5/8 in.

Major lithology

Claystone, Marl, Sands

Maximum deviation

0.25°

Interval mud cost

\$A 26,877.49

Mud cost per (bbl)

\$A 9.03

Mud cost per meters

\$A 39.82

Total Interval Cost

\$A 27,255.79

Amity Oil NL

Well Name: Contractor: Broadbill 1 Santa Fe Drilling

Country: Geo Area: AUSTRALIA BASS STRAIT

Field: Region: VIC P/36





Interval #

03

Bit Size

8.5 in.

Mud type(s)

KCI/Polymer

Top of interval

785.0 meters

Bottom of interval

1,345.0 meters

Maximum density

9.50 ppg

Interval start date

23/01/98

Interval end date

28/01/98

Interval days

6

Drilling days

3

Interval TD date

26/01/98

Rotating hours

29.75

Average penetration rate

18.8 meters

Bottomhole static temperature

68° Deg C

Maximum flowline temperature

42° Deg C

Casing size

9 5/8 in.

Major lithology

Claystone, Sands, Coal

Maximum deviation

3.25°

Interval mud cost

\$A 46,956.64

Mud cost per (bbl)

\$A 27.81

Mud cost per meters

\$A 83.85

Total Interval Cost

\$A 46,985.74

Company: Well Name: Amity Oil NL

me: Broadbill 1

Contractor:

Santa Fe Drilling

Ria:

Paramswara

Country: Geo Area: AUSTRALIA

Field:

BASS STRAIT VIC P/36

Region:

Victoria



\$A 455.14

Interval Material Consumption

Interval #01 in. Hole Section			Top of Interval Bottom of Interval	52 meters 110 meters
Material	Unit size	~	Quantity	Total cost (\$A)
AQUAGEL	1000 KG.	TON	8.500	4,033.25
caustic soda	25 KG.	PAIL	5	216.05
lime	20 KG.	BAG	5	42.15
soda ash	25 KG.	BAG	1	14.85
Miscellaneous Items				
Cacl2				291.00
		Inter	rval mud cost	\$A 4,306.30
		Inter	val miscellaneous cos	st \$A 291.00
		Tota	l interval cost	\$A 4,597.30
		Prog	rammed mud cost	\$A 3,851.16

Variance

Amity Oil NL

Well Name:

Broadbill 1 Santa Fe Drilling

Contractor:

Paramswara

Country: Geo Area: **AUSTRALIA**

Field:

BASS STRAIT VIC P/36

Region:

Victoria



Interval Material Consumption

Interval #02 12.25 in. Hole Sec	tion		Top of Interval 110 meters Bottom of Interval 785 meters					
Material	Unit size		Quantity	Total cost (\$A)				
AQUAGEL	25 KG.	BAG	56	659.12				
AQUAGEL	1000 KG.	TON	31.700	15,041.65				
BARACARB 100	25 KG.	SACK	48	691.20				
BARACARB 25	25 KG.	BAG	48	554.40				
BARACOR 129	25 KG.	CAN	21	1,282.05				
parite	1000 KG.	TON	2.400	773.33				
BAROFIBRE	25 LB.	BAG	27	1,606.50				
caustic soda	25 KG.	PAIL	2	86.42				
PAC-L	25 KG.	BAG	17	2,502.57				
PAC-R	25 KG.	BAG	25	3,680.25				
Miscellaneous Items								
Cacl2				378.30				

Interval mud cost

\$A 26,877.49

Interval miscellaneous cost

\$A 378.30

Total interval cost

\$A 27,255.79

Company: Well Name: Amity Oil NL Broadbill 1

Contractor:

Santa Fe Drilling

Country: Geo Area: AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



Interval Material Consumption

Interval #03 8.5 in. Hole Section			Top of Interva Bottom of Interva	al 785 meters al 1,345 meters
Material	Unit size		Quantity	Total cost (\$A)
ALDACIDE G	25 L.	CAN	4	815.84
BARACARB 100	25 KG.	SACK	96	1,382.40
BARACARB 25	25 KG.	BAG	96	1,108.80
BARACOR 129	25 KG.	CAN	26	1,566.97
BARAZAN-D PLUS	25 KG.	BAG	40	14,399.20
barite	1000 KG.	TON	21.900	7,056.62
DEXTRID LT	25 KG.	BAG	123	6,464.61
EZ-MUD DP	50 LB.	BAG	51	5,846.04
PAC-L	25 KG.	BAG	24	3,532.29
potassium chloride	1000 KG.	BAG	10	4,312.10
potassium hydroxide	20 KG.	PAIL	9	397.53
soda ash	25 KG.	BAG	5	74.25
Miscellaneous Items				
Cacl2				29.10
		Inte	rval mud cost	\$A 46,956.65
		Inte	rval miscellaneous co	st \$A 29.10
		Tot	al interval cost	\$A 46,985.75
		Pro	grammed mud cost	\$A 37,605.01

Variance

\$A 9,351.64

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Rig:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field: Region: VIC P/36 Victoria

HOLE SI	ZE:in.											M	JD TYPE	E:No Mu	d			_
DATE	INITIAL VOLUME bbi	I MUD I RECEIVED	OIL ADDED bbi	WATER ADDED bbl	BARITE ADDED Bbi	CHEMICAL ADDED BBI	S DAILY TOTAL bbt	CUMLATIVE TOTAL	MUD LOST SURFACE	MUD LOST DOWNHOLE	TOTAL DAILY LOSSES bbl	CUMLATIVE LOSSES bbi	MUD RETURNED	FINAL VOLUME bbl	HOLE	ACTIVE PITS bbi	RESERVE PITS bbi	1
16/01/98		ه ا	0	0	٥١	0	ه ا	<u>, </u>	0 0	1 0	0	0			0	0	0	٥

Company:

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

BASS STRAIT

Geo Area: Field:

VIC P/36

Region:

Victoria



HOLE S	IZE:in.											Μ	JD TYPE	:Gel/Sea	water			
DATE	INITIAL VOLUME	MUD RECEIVED	OIL ADDED	WATER ADDED	BARITE		TOTAL	CUMLATIVE	MUD LOST SURFACE		TOTAL DAILY LOSSES	LOSSES	RETURNED	VOLUME		ACTIVE PITS	RESERVE PITS	-
L	ЬЫ	ЬЫ	j bbi	l bbl	bbl	ЬЫ	bbl	bbl	l ppi	bbl] bbl	bbl	ЬЫ	ј ъы	bbl	bbl	bbi	_!
17/01/98		0	٥	0 87	9	0 21	900	900	662		662	662	0	238	238	,	، ار	0

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field:

VIC P/36 Victoria

Н	OLE SI	ZE:in.										IVI	UD TYPE	::Seawa	cer			_
	ATE	INITIAL VOLUME	MUD RECEIVED	I OIL I ADDED	WATER	BARITE ADDED	CHEMICAL	S DAILY TOTAL	CUMLATIVE	MUD LOST SURFACE	MUD LOST DOWNHOLE	CUMLATIVE	MUD RETURNED bbl	FINAL VOLUME bbl	HOLE VOLUME bbl	ACTIVE PITS bbi	RESERVE PITS bbl	1
	8/01/98	23	8	0	0	0	0	0	o	ه ا		 (0 28	28	1	٥	_0

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field:

VIC P/36 Victoria



HOLE S	IZE:12.2	5 in.										IVI	JD TYPE	::Gel/Poly	mer		
DATE	I INITIAL I VOLUME	MUD RECEIVED bbl	OIL ADDED bbl	WATER ADDED bbl	BARITE ADDED ьы	CHEMICALS ADDED bbi	DAILY TOTAL bbi	CUMLATIVE TOTAL bbi	MUD LOST SURFACE ьы	MUD LOST DOWNHOLE			MUD RETURNED bbi	FINAL VOLUME bbi	HOLE VOLUME	ACTIVE PITS bbi	RESERVE PITS bbi
19/01/98	281		0	1,390	0	40	1,430	1,430	340	0	340	340	0	1,371	281	572	518
20/01/98	1,371			1,042	0	39	1,081	2,511	584	700	1,284	1,624	0	1,168	441	419	308
21/01/98	1,168	a (385		9	394	2,905	217	24	241	1,865		1,321	590	523	208
22/01/98	1,321			0	0	o	0	2,905	1,015	0	1,015	2,880	0	306	190	0	116

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country: Geo Area: AUSTRALIA BASS STRAIT

Field:

VIC P/36

gion: Victoria



HOLE S	IZE:8.5 ir	١.											MU	JD TYPE	::KCI/Pol	ymer			
DATE	INITIAL VOLUME BB	MUD RECEIVED вы	OIL ADDED bы	WATER ADDED ыы	BARITE ADDED bbi	CHEMICA ADDED btsl				MUD LOST SURFACE	MUD LOST DOWNHOLE bbl	TOTAL DAILY LOSSES bbl	CUMLATIVE LOSSES bbi	MUD RETURNED bbi	FINAL VOLUME bbi	I PPI I HOTE	ACTIVE PITS bbi	į P	ESFRVE ITS bbl
23/01/98	306		(1,37	,	اه	47	1,418	1,418	0	0	0	0	0	1,724	1 190		٥	1,534
24/01/98	1,724	.) ((11	5	3	18	1,438	450	70	629	529	0	1,210	21!	5	467	531
25/01/98	1,213) ,	1	12	23	1,459	273	40	313	842	0	923	3 27	اا	542	111
26/01/98	923	. .) (194	. [7	6	207	1,666	149	100	249	1,091		881	31	,	446	118
27/01/98	881	<u> </u>) (2	0	2	1,668	67	(57	1,148	<u> </u>	820	31	,	609	0
28/01/98	826	.	<u> </u>			0	0	0	1,668		1		1,148	0	820	31	,	509	0

Amity Oil NL Broadbill 1 Santa Fe Drilling Paramswara Country:

AUSTRALIA BASS STRAIT

Geo Area: Field: Region:

VIC P/36 Victoria



DATE	DEPTH meters	OPERATION
16/01/98	52	OFFLOADING BOAT
		Baroid Engineer arrived on rig.
		Offloading boats.
17/01/98	110	POOH TO RUN 30" CSG
		Built 400 bbls of flocculated spud mud for î hi-vis sweeps and 500 bbls of pre-hydrated î AQUAGEL for filling hole. Built 1066 bbls of î pre-hydrated AQUAGEL for 12-1/4" section - î will charge of 12-1/4" mud costs tomorrow. Total mud built : 1966 bbls.
		Actual AQUAGEL stock remaining: 16.4 MT. Initial Barite on board: 19.64 MT (432 sxs) All material ordered in loadout 1 rec'd.
		Continue to offload boat. Make up 36" BHA. î RIH. Tag seabed @ 52.4 m. Drill ahead with î seawater pumping 40 bbl hi-vis AQUAGEL î sweeps every 5 - 10 m. Drill to 110.4 m. î Pump 80 bbl hi-vis sweep. Circulate out î sweep. Pump 35 bbl hi-vis mud. Displace hole î to unflocculated pre-hydrated AQUAGEL. POOH. î RIH. Displace hole to unflocculated î pre-hydrated AQUAGEL. POOH to run 30" î conductor.
18/01/98	110	INSTALL DIVERTER
		Calcium Chloride used for cementing. To be i charged as non-drilling cost.
		Will charge off 12-1/4" mud costs tomorrow.
		Total 12-1/4" mud built to date : 1182 bbls.
		Rig up and run 30" conductor to 106 m. Pick î up 2-7/8" tubing and run with 30" conductor. î Cut conductor joint. Cement casing. Install î 12-1/4" diverter.
19/01/98	110	PICK UP 12-1/4" BHA
		Calcium chloride used for cementing to be charged as 'non-drilling cost'.
		Built total of 1430 bbls of seawater/AQUAGEL/Polymer mud for 12-1/4" hole.
		Expect API filtrate to decrease with incorporation of drill solids and more PAC-R once drilling commences.
		Continue to install diverter and riser. Function flowline, seals and overboard i lines. Run wear bushing. Cement top of 30" i conductor via 2-7/8" tubing. Pick up 5" i drill pipe. Make up 17-1/2" BHA to drill i cement out. RIH. Drill cement, shoe track i and rathole. Displace hole to i seawater/AQUAGEL/PAC mud system. POOH. Pick i up and make up 12-1/4" BHA.

Well Name:

Amity Oil NL Company: Broadbill 1 Santa Fe Drilling Contractor:

Country:

Geo Area: BASS STRAIT VIC P/36 Region:

Victoria

AUSTRALIA



Daily Operations Log

-	DATE	DEPTH	OPERATION
-	DATE	DEFILI	OFENATION
		meters	
		meters	

545 DRILLING 20/01/98

Paramswara

Built 1070 bbls of new mud. Heavy mud losses experienced through coarse sands (approx 700 bbls). Adding PAC-R to maintain API filtrate and BARACOR-129 to maintain Excess Sulfite.

LCM Sweeps : BARACARB 25 : 18 ppb BARACARB 100: 21 ppb AQUAGEL : 20 ppb Running all BAROFIBRE : 4.5 ppb solids control equipment. Building 30 bbls pumpable KCl/EZ-MUD/Polymer mud for spotting across Lakes Entrance.

: Seepage losses

Seepage losses occuring through coarse sands. Pumped LCM pill/sweep of : BARACARB 25 : 18 ppb BARACARB 100 : 20 ppb BAROFIBRE (reg): 4.5 ppb ppb AQUAGEL

Continue to pick up 8" drill collars. Drill 7 m of 12-1/4" hole. Pick up last 8" drill collar. Unable to circulate plugged above float. POOH. Unblock float. RIH. Drill ahead ì to 117 m - Incurring downhole losses. Pump ì 25 bbl hi-vis sweep. Circulate bottoms up. ì Pump 25 bbl hi-vis. Drill ahead to 227 m at i reduced pump strokes (120 spm). Pump 50 bbl i LCM pill (as above) before connection - i losses halted/red'd. Drill to 399 m. Circ i b/u. Spot 100 bbl LCM pill (as precaution) i before conducting survey. Drill ahead.

21/01/98 785 R/U TO LOG / LOG

Maintained treatment of active system with PAC-R to hold API filtrate. Diluted active with seawater/PAC-L to control mud viscosity increase from drilling claystone. BARACOR-129 used to maintain excess sulfites. Building KCl/EZ-MUD/Polymer mud for 8-1/2" hole. Ran desander and desilter i non-stop.

Reports have been cost modified to reflect updated mud material prices. No new shakers screens used to date.

: Seepage losses

Hole not taking correct volume when POOH. Slight seepage losses of 4-6 bbl/hr prior to i logging.

Continue to drill ahead to 701 m. Circulate bottoms up. Conduct Hofco survey. Drill ahead to 785 m. Circulate bottoms up. Conduct multishot survey. POOH. Some tight hole on first 6 stands (hole took 6 bls). ì POOH to 30" conductor @ 110 m. Conduct top i drive service (hole took 12 bbls). RIH. Hole i good. Circulate hole clean. POOH. Rig up to i run Schlumberger logs. Hole drink rate i currently 4-6 bbls/hr.

Amity Oil NL Broadbill 1 Santa Fe Drilling

Paramswara

il NL

Country: Geo Area: AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



DATE	DEPTH meters	OPERATION
22/01/98	785	woc
		Mixing 3% KCl/EZ-MUD/Polymer mud. Costs/volume to be included tomorrow.
		Three shakers changed to coarser 80 mesh size screens to prevent/reduce initial losses of unsheared mud. Scalpers changed to 10 mesh. No new screens used to date.
		Dumping and cleaning pits at report time.
		AQUAGEL and Calcium Chloride used in cement job - to be charged as non-drilling cost.
		Rig up Schlumberger. Log 12-1/4" hole -BHC-LDL-CNL-DLL-MSPL-GR-CALI-SP. Rig down Schlumberger. Pull diverter bag. Retrieve wear bushing & laydown running tool. Rig up & run 9-5/8" casing to 779 m. Circulate casing while waiting on chemicals. Cement as per program. WOC.
23/01/98	785	RUN WEAR BUSHING
		Built total of 1418 bbls of KCl/EZ-MUD/Poly for 8-1/2" section. Mud built contains only 0.75 ppb EZ-MUD to reduce mud losses over shakers upon dispacement.
		Mud check is on reserve mud. Mud mixed with \hat{i} KCl content of 4 % to allow for depletion \hat{i} through Lakes Entrance Formation.
		WOC. Cut off 9-5/8" casing. Rig up & pull diverter. o/shot & riser & lay don. Install adapter ring. Test flange to 2000 psi. Lower BOP's & nipple up. Pressure test BOP's. Run ì wear bushing.
24/01/98	1,070	DRILLING
		Mud dumped is gel mud in hole & pit. Raised EZ-MUD concentration to programmed value after displacing. Adding BARACOR-129 to î maintain excess sulphites. Weighed up mud to î 9.1 ppg @ 865 m for extra hole stabilty î while drilling coal seams. Lost approx 70 î bbls downhole while drilling coal seams. î Treated active with additional BARAZAN î D-Plus to combat thinning of the mud from î coal. Running desander/desilter.Changed î shakers to finer 150 mesh screens. No new screens used to date. KCl content : 3 % Lay down 8" drill collars. Pick up & make up î 8-1/2" BHA. Pick up 5 " drill pipe. RIH. Tag î cement @ 745 m. Drill out cement & float to î 775 with seawater. Pump 100 bbl sweep of old î mud. Displace hole to KCl/EZ-MUD/Polymer î mud. Perform LOT @ 788 m to 13 ppg EMW (564 psi). Drill ahead to 865 m. Circulate î out coal. Drill ahead to 1070 m.

Amity Oil NL

Broadbill 1 Santa Fe Drilling

Paramswara

Country: Geo Area: AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



			3
	DATE	DEPTH meters	OPERATION
B	25/01/98	1,335	DRILLING .
			Maintain volume & properties with addition of premix. Lost approx 40 bbls downhole (squeezed into formation after coal pack off) while reaming last stand to bottom during wiper trip. Raised mud weight to 9.3 ppg to help stabilise coals. Treated active with 5 ppb each of BARACARB 25 & BARACARB 100 to prevent further seepage losses. î Maintaining BARACARB concentrations with î regular additions. Maintaining excess î sulfites with BARACOR-129. BARAZAN D-Plus î used to maintain 6 rpm. KCl Content : 3.2 %
			Drill from 1070 - 1095 m. Circulate bottoms up, working pipe. Drop Single shot survey. POOH to shoe @ 779 m. Retrieve survey. Service TDS. RIH. Lose circulation 1 std off bottom. Work pipe. Begin to increase mud weight to 9.3 ppg. Drill ahead to 1335 m.
•	26/01/98	1,345	LOGGING
ļ			Lost approximately 100 bbls downhole when backreaming out of hole due to coal sloughing.
			Built 200 bbls of new premix to maintain mud volume.
,			BARAZAN-D Plus used to make hi-vis sweeps.
			No new shakers screens used on Broadbill 1.
			KCl content: 3 %
			Drill ahead from 1335 to 1345 m. Circulate î bottoms up. Drop survey. POOH 1 stand. î Backream out of tight hole (coal sloughing, î mud losses occuring) from 1326 to 9-5/8" î casing shoe @ 779 m. Circulate bottoms up. î Retreive survey. Service TDS. RIH to 1018 m î & ream to TD. Circulate & work pipe. Pump 70 î bbl 10 ppg hi-vis sweep. Circulate hole î clean, some downhole losses. Spot 100 bbls î hi-vis on bottom. POOH - no problem. Rig up î & log 8-1/2" hole.
	27/01/98	1,345	PREPARE TO P & A
			BARAZAN-D Plus used to build 100 bbls of hi-vis spotted on bottom prior to POOH.
			Barite used for slugs.
-			KCl content : 3 %
			Logs unable to get past 1029 m. Rig down Schlumberger. Pick up 8-1/2" BHA. RIH. Wash & ream from 880 - 982 m & 1027 - 1095 m. RIH. Circulate & condition mud @ 1191 m. RIH to TD. Circulate bottoms up. Pump hi-vis sweep. POOH - no problem. Rig up & log. Logs unable to get past 869 m. Change logging i tool configuration - still unable to get i further. Rig down. Break & laydown excess i drillpipe. Prepare to P & A.
		:	a repair to a repair to a result to the resu

Amity Oil NL Broadbill 1 Santa Fe Drilling

Paramswara

AUSTRALIA Country: BASS STRAIT Geo Area: Field: VIC P/36

Region:

Victoria

DEPTH meters	OPERATION
1,345	PLUG & ABANDON
	All chemicals used for P & A.
	Mud engineer leaves rig.
	Plug and abandon.
	meters

Contractor:

Rig:

Amity Oil NL

Well Name:

Broadbill 1

Santa Fe Drilling Paramswara

Country:

AUSTRALIA BASS STRAIT

Geo Area: Field:

VIC P/36

Region: Victoria



Bit and Hydraulic Record

DATE	BIT NO.	BIT SIZE in.	BIT MAKE	BIT TYPE	JETS or TFA	DEPTH OUT meters	DRILLED	HOURS RUN	HOURS	WEIGHT ON BIT Ib/1000	BIT RPM	PUMP OUTPUT gpm	ANN. VEL DP/DC m/min	PUMP PRESSURE psig	MUD WEIGHT PP9	BIT GRADING	MUD TYPE, LITHOLOGY, REMARKS
11		0.00									0		0/0				
17/01/98	1 1	36.00	VAREL	L3AB	3 X 22	110	58	1	1	1	0	924	0/0	[9	1-1-NO-A-0	Soswater/AQUAGEL sweeps, Mari
17/01/98	1 2	36.00	VAREL HUGHES	 	3 X 22 3 X 20	110	58	1	1	<u> </u>	0	924		<u> </u>	9	1-1-NO-A-0	Camani
	2	17.50	i	R1	 	110	675	1 22	22	20	0	-j	0/0	2420	9	1-1-NO-A-0	Camani

Amity Oil NL

Well Name:

Contractor:

Broadbill 1

Santa Fe Drilling Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field:

VIC P/36

Victoria



Mud Property Recap: Water-Based Mud

DATE	DEPTH	F/L TEMP	DENSITY	FUN VIS	RHEOLO	ogy @	120°F		рН	FILTRATIO	N			FILTRATE A	NALYSIS				SAND	RETORT A	NALYSIS			MBT	RHEOMETE DIAL READ	R ··	
				V.5	PV	YP	GELS			API	нтнр	Cake	Temp	Pm	Pf	МІ	CI	Total Hardness		Corr Solids	LGS	Oil	Water		DIAL NEAD		
	meters	Deg C	PPG	sec/qt	сР	1	lbs/100 ft	2	1	ml/30 ml	ml/30 min	32nd in	Deg C	ml	mt	ml	mg/L	mg/L	% by vol	% by vol	% by vot	% by vol	% by vol	me/ml mud	600/300	200/100	6/3
16/01/98	52		8.3	28	1.0		1 ,		1			2/0	121						1	1	1				,	,	1 ,
17/01/98	110	1	0.0		1.0	1	,					2/0	121								1				,	,	١,,
18/01/98	110		0.0		1.0	1	,					2/ 0	121								1	1			,	,	,
19/01/98	110		8.9	38	7.0	8	.0 3.0/	4.0	<u> </u>	12.0		1/0	121						1	1		-	1		22 / 15	11 / 7	3 / 2
20/01/98	645	36	8.9	39	19.0	20	.0 17.0/	21.0	8.50	8.2	22.00	1/0	121	0.30	0.01	0.05	20,500	6,000	0.6	3.22	3.22	1	96.60	4.00	68 / 39	31 / 24	1 15 / 14
21/01/98	785	46	9.0	85	16.0	23	.0 17.0/	30.0	8.20	8.0	22.80	1/ 2	121	0.40	0.02	0.08	21,000	600.0	tr	3.90	3.90	1	94.90	5.00	53 / 38	32 / 26	3 16 / 13
22/01/98	785	46	9.2	44	14.0	20	.0 15.0/	23.0	8.20	7.8	22.00	1/2	121	0.30	0.01	0.08	21,000	580.0	tr	5.41	5.41	1	93.40	5.50	48 / 34	29 / 25	5 14 / 12
23/01/98	785		8.9	66	10.0	15	.0 4.0/	8.0	8.20	5.0	12.50	1/1	121	0.20	0.07	0.11	43,000	380.0		1.67	1.67		95.80		35 / 25	20 / 14	6/3
24/01/98	1070	40	8.0	44	13.0	18	.0 4.0/	8.0	9.00	4.7	12.40	1/2	121	0.22	0.02	0.18	24,000	320.0	1.0	2.91	2.91	1	95.70	0.20	44 / 31	25 / 18	8 6 1 4
25/01/98	1335	42	9.3	42	14.0	23	.0 5.0/	8.0	8.50	3.6	10.60	1/2	121	0.20	0.01	0.16	22,000	300.0	0.25	4.34	2.87		94.40	0.60	61 / 37	30 / 21	1 6 / 4
26/01/98	1345	42	9.4	14	18.0	22	.0 8.0/	9.0	8.50	3.6	10.50	1/2	121	0.16	0.01	0.16	22,000	300.0	0.5	4.34	2.12		94.40	0.60	64 / 38	31 / 2	3 7 / 5
27/01/98	1345		9 5	43	15.0	24	.0 7.0/	9.0	8.00	4.0	11.00	1/2	121	0.10	0.01	0.18	22,000	300.0	0.25	5.05	2.78		93.70	0.60	54 / 39	32 / 20	4 7 / 5
28:01/98	1346		9.6	28	1.0		,					2/0	121				1	1			1				,	,	,

	MUD MAN	AGEMENT	RHEOLOGY AND	FRA	CTURE GRA	DIENT	TIME	
MUD VOLU	ЈМЕ ьы	MUD TYPE	HYDRAULICS	Water	Depth	21.7	DRLG	0.00
Hole	Pits	No Mud	600 rpm	Calc	. F. Grad	0.0	CIRC	0.00
00	0	MUD CONSUMPTION	300 rpm	Leak	Off Test	0.0	TRIPS	0.00
Active V	Volume	ADDITIONS bbl	200 rpm	ECD	pr	eg (SERV. RIG	0.00
0		Oil C	100 rpm	Co	g. Shoe	0.0	SURVEY	0.00
Reserve	Total	Brine Water 0	6 rpm	TD		0.0	FISHING	0.00
	0	Drill Water 0	3 rpm	Max.	Diff. Press	0	LOGGING	0.00
Low Grav, vol	l % 0.0	Sea Water 0	Pressure Units: ps	ig			RUN CSG	0.00
ppb	0.00	Whole Mud 0	Press Drop. DP	٥ ـــــــ		1	CORE	0.00
High Grav, vo	0.0	Barite 0	Press Drop, BIT	• DE	VIATION I	NFO	BACK REAM	0.00
ppb	0.00	Chemicals 0	Press Drop, ANN	O MD	\$2.	4 m	REAMING	0.00
ASG	2.60	LOSSES bbl	Actual Circ. Press	0 TVD	\$2.	4 m	TESTING	0.00
Drill Cutting	35 O	Dumped 0	AV, DP m/min	0.0 Ang	le	0.00	OTHER	0.00
Dilution Rate	0.00	Lost 0	AV, DC m/min	0.0 Dire	ection	1	AVERAGE ROP	0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS 0	AV, Riser m/min	Hor	iz. Displ 0.0	,		
BAROID REPRES	ENTATIVE	OFFICE/HOMB	Melbourne TELEP	IONE (3) 9621 3311	DAILY CO	ST CUMUL	ATIVE COST
Nicholas Dous	st	WAREHOUSE	Welshpool TELEP	ione (d	3) 56 881 445	SA	0.00 SA	0.00

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

REPORT NUMBER: Date Depth 17/01/98 110.0 m IMDI Present Activity

DAILY COST

4306.3d

CUMULATIVE COST

(03) 9621 3311

(Cost Modified) Spud Date 17/01/98 POOH TO RUN 30" CSG RIG NUMBER CONTRACTOR OPERATOR Amity Oil Santa Fe Drilling Paramswara NL REPORT FOR REGION REPORT FOR Santa Fe Drilling Victoria Wally Westman/Murray Jackson GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER FIELD OR BLOCK Broadbill 1 VIC P/36 Bass Strait Austral CIRCULATION DATA DRILLING STRING CASING BIT DATA in. Pump Make/Model Ideco T-1600 Size Pipe CD ID Len Eff. 97.00 V/st Pipe OD ID Len Size 6.5 X 12 Туре bbl/min ID Len. Set @ apm 0 0.0 No. Jets Pipe OD Ideco T-1600 Pump Make/Model Jets 32nd inch Collar OD ID Len. Set 🏟 Eff. 97.00 V/st Collar OD τn Len. Set @ Size 6.5 X 12 0.120 OPEN HOLE bbl/min 0.0 Set 🔅 in. apm Tot Not Area Size 36 Len. 57.6 Set & Pump Make/Model Eff. V/st Size Len Set ® Size TFA bbl/min Size Len. Set @ spm Size Len. Set @ Tot. Vol./min 0 0.0 bbl BU Time 0 TC Time Size Set @ Len. MUD PROPERTIES MUD TREATMENTS Primary Built 400 bbls of flocculated spud mud for Flowline Program Essential Source hi-vis sweeps and 500 bbls of pre-hydrated Time 10:57 Targets Program *=Excep AQUAGEL for filling hole. Built 1066 bbls of FL Temp Deg C Properties pre-hydrated AQUAGEL for 12-1/4" section -2 110.0 Depth 0.0 will charge of 12-1/4" mud costs tomorrow. Weight ppg FV & 16 Deg C Total mud built : 1966 bbls. sec/qt 0 PV 🏗 49 Deg C сP 1 lbs/100 ft2 Actual AQUAGEL stock remaining : 16.4 MT. ΥP 0 Gels lbs/100 ft2 0/0 Initial Barite on board: 19.64 MT (432 sxs) API Filt. m1/30 min 0.0 All material ordered in loadout 1 rec'd. HTHP 121 Deg C ml/30 min 0.0 Cake API/HTHP 32nd in 2/0 RIG ACTIVITY Corr.Solids % by vol 0.0 Oil/Water & by vol Continue to offload boat. Make up 36" BHA. 0.0/0.0 Sand & by vol RIH. Tag seabed @ 52.4 m. Drill ahead with MBT 0.0 seawater pumping 40 bbl hi-vis AQUAGEL pH STRIP 0.0 sweeps every 5 - 10 m. Drill to 110.4 m. Alk. Mud (Pm) 0.00 Pump 80 bbl hi-vis sweep. Circulate out sweep. Pump 35 bbl hi-vis mud. Displace hole Alk. Filtr. (Pf/Hf) 0.00/0.00 Chlorides mg/l to unflocculated pre-hydrated AQUAGEL. FOOH. 0 RIH. Displace hole to unflocculated Hard. Ca mg/l 0 Low Gravity Solids ppb 0.00 pre-hydrated AQUAGEL. POOH to run 30" conductor. MATERIALS USED SOLIDS EQUIPMENT Product Used Device Make Sz/Sern HR AQUAGEL - 1000 KG. TON 8.500 4033.25 Shkr #1 Scalper caustic soda - 25 K.G. PAIL 216.05 Shkr #2 Scalper lime - 20 KG. BAG 5 42.15 Shkr #3 Sweco LM3 soda ash - 25 KG. BAG Shkr #4 Sweco LM3 Shkr #5 Sweco LM3 Shkr #6 Sweco LM3 dSndr Crestex 3 x 10 dSlt #1 Crestex 16 x 5 MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME VOLUME MUD TYPE HYDRAULICS bbl Water Depth 21.7 DRLG 3.00 00 rpm SEAWATER/HI VIS SWEEPS Calc. F. Grad 0.0 2.90 300 rpm NUD CONSUMPTION Leak Off Test TRIPS 238 0.0 2.50 Active Volume ADDITIONS 200 rpm SERV. RIG bbl ECD 0.00 ppg 238 Oil 100 rpm SURVEY Csq. Shoe 0.0 0.00 0 Total Brine Water 6 rpm FISHING TD 0.00 0.0 Drill Water 3 rpm Max. Diff. Press LOGGING 238 629 0.00 Low Grav, vol 1 0.0 Sea Water Pressure Units: RUN CSG 250 0.00 psig 0.00 Whole Mud ppb CORE Press Drop. DP 0.00 0 0 DEVIATION INFO High Grav, vol \$ 0.0 Barite BACK REAM Press Drop, BIT 0.00 Chemicals ppb 0.00 21 Press Drop, ANN 0 110.0 REAMING 0.00 MD ASG Actual Circ. Press 0 TVD TESTING 0.00 110.0 m Drill Cuttings Dumped AV, DP 662 0.0 OTHER m/min Angle 0.00 16.50 Dilution Rate Lost AV. DC m/min 0.0 Direction AVERAGE ROP 0.00 Slds Control Eff 0.00 VOL GAIN/LOSS Horiz. Displ 238 AV, Riser m/min 0.0

> WAREHOUSE Welshoool TELEPHONE (03) 56 881 445 \$A NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

Melbourne

OFFICE/HOME

The recommendations made hereon shall not be construed as authorizing the infringement of any valid patent, and are made without assumption of any liability by BAROID DPILLING FLUIDS, INC. or its agents, and are statements of opinion only.

TE. EDHONE

BAROID REPRESENTATIVE

Nicholas Doust

Present Activity
INSTALL DIVERTER 17/01/98 OPERATOR CONTRACTOR RIG NUMBER Santa Fe Drilling Amity Oil NL Paramswara REPORT FOR REPORT FOR REGION Wally Westman/Murray Jackson Santa Fe Drilling Victoria GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER FIELD OR BLOCK Broadbill 1 VIC P/36 Bass Strait Austral in. DRILLING STRING CIRCULATION DATA BIT DATA CASING Size Pipe OD Pump Make/Model Ideco T-1600 Pipe OD ID Size 6.5 X 12 Eff. 97.00 V/st Type Len. in. No. Jets Pipe OD ID Len. 30 Set @ 106.0 spm bbl/min 0.0 Jets 32nd inch Pump Make/Model Ideco T-1600 Collar OD ID Len. Set @ Eff. 97.00 V/st Collar OD Size 6.5 X 12 0.120 Len. Set @ OPEN HOLE in. Set @ abw bbl/min 0.0 Tot Noz Area 36 Len. 4.0 Set 🥺 Pump Make/Model Eff. Size V/st TFA Len. Set @ Size Site Len. Set @ apm bb1/min Size Len. Tot. Vol./min Set @ 0 0.0 bbl gpm 0 TC Time Size Len. Set @ BU Time 0 MUD PROPERTIES MUD · TREATMENTS Primary Flowline Essential Calcium Chloride used for cementing. To be Source Program Time 19:37 Targets Program charged as non-drilling cost. *=Excep FL Temp Deg C Properties Depth m 110.0 2 Will charge off 12-1/4" mud costs tomorrow. 0.0 Weight ppg FV @ 16 Deg C sec/qt Total 12-1/4" mud built to date : 1182 bbls. 0 PV 2 49 Deg C cP lbs/100 ft2 ΥP 0 Gels 1bs/100 ft2 0/0 API Filt. m1/30 min 0.0 HTHP 2 121 Deg C ml/30 min 0.0 Cake API/HTHP 32nd in 2/0 RIG ACTIVITY Corr.Solids & by vol 0.0 Rig up and run 30" conductor to 106 m. Pick Oil/Water % by vol 0.0/0.0 Sand % by vol up 2-7/8" tubing and run with 30" conductor. MBT 0.0 Cut conductor joint. Cement casing. Install pH STRIP 0.0 12-1/4" diverter. Alk. Mud (Pm) 0.00 Alk. Filtr. (Pf/Mf) 0.00/0.00 Chlorides mg/l Hard. Ca mg/l 0 Low Gravity Solids ppb 0.00 MATERIALS USED SOLIDS EQUIPMENT

NO INVENTORY USED ON THIS REPORT

Device	Make	Sz/Sern	HF
Shkr #1	Scalper	20	
Shkr #2	Scalper	20	
Shkr #3	Sweco LM3	150 x 3	
Shkr #4	Sweco LM3	150 x 3	
Shkr #5	Sweco LM3	150 x 3	
Shkr #6	Sweco LM3	150 x 3	
dSndr	Crestex	3 x 10"	
dslt #1	Crestex	16 x 5"	

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		NAGEMENT	RHEOLOGY AND	FRACTURE GRADIENT	TIME
MUD VOLU	JME bb1	MUD TYPE	HYDRAULICS	Water Depth 21.7	DRLG 0.00
Hole	Pits	Seawater	600 rpm	Calc. F. Grad 0.0	CIRC 0.00
281	0	MUD CONSUMPTION	300 rpm	Leak Off Test 0.0	TRIPS 0.00
Active '	Volume	ADDITIONS bbl	200 rpm	ECD ppg	SERV. RIG 0.00
281		Oil 0	100 rpm	Cog. Shoe 0.0	SURVEY 0.00
Reserve	Total	Brine Water 0	6 rpm	TD 0.0	FISHING 0.00
	281	Drill Water 0	3 rpm	Max. Diff. Press 0	LOGGING 0.00
Low Grav, vo.	1 \$ 0.0	Sea Water 0	Pressure Units: psig		RUN CSG 14.00
ppb	0.00	Whole Mud 0	Press Drop. DP 0		CORE 0.00
High Grav, v	ol % 0.0	Barite 0	Press Drop, BIT 0	DEVIATION INFO	BACK REAM 0.00
ppb	0.00	Chemicals 0	Press Drop, ANN 0	MD 110.0 m	REAMING 0.00
ASG		LOSSES bbl	Actual Circ. Press 0	TVD 110.0 m	TESTING 0.00
Drill Cutting	gs 0	Dumped 0	AV, DP m/min 0.0	Angle 0.00	OTHER 10.00
Dilution Rate	e 0.00	Lost 0	AV, DC m/min 0.0	Direction	AVERAGE POP 0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS 0	AV, Riser m/min	Horiz, Displ 0.0 m	İ
BAROID REPRES	SENTATIVE	OFFICE/HOMB	Melbourne TELEPHONE	(03) 9621 3311 DAILY C	OST CUMULATIVE COST
Nicholas Dous	st	WAREHOUSE	Welshpool TELEPHONE	(03) 56 881 445 SA	0.00 \$8 4306.30

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

REPORT NUMBER: 4

Date Depth
19/01/98 110.0 m [MD]

Spud Date Present Activity

17/01/98 PICK UP 12-1/4" BHA RIG NUMBER CONTRACTOR OPERATOR Amity Oil NL Santa Fe Drilling Paramswara REGION REPORT FOR REPORT FOR Wally Westman/Murray Jackson Santa Fe Drilling Victoria FIELD OR BLOCK WELL NAME AND NUMBER GEOGRAPHIC AREA COUNTRY Bass Strait Austral Broadbill VIC P/36 CASING CIRCULATION DATA BIT DATA DRILLING STRING in. Ideco T-1600 Pump Make/Model Pipe OD Len. Size Eff. 97.00 V/st in. Size 6.5 X 12 Pipe OD Len. Type ID bbl/min 106.0 0 No. Jets Pipe OD ID Len. 30 Set @ spm 0.0 Jets 32nd inch Collar OD ID Len. Set @ Pump Make/Model Ideco T-1600 Eff. 97.00 V/st Size 6.5 X 12 ID Set @ Collar OD Len. OPEN HOLE in. Set @ spm 0 bbl/min Len. Pump Make/Model Size Set @ Tot Noz Area Eff. V/st Size Size TFA Len. Set @ Size Len. Set @ apm bbl/min bbl Set @ Tot. Vol./min 0 Size gpm Len. 0 TC Time Size Len. Set @ BU Time 0 MUD TREATMENTS MUD PROPERTIES Primary Essential Calcium chloride used for cementing to be Pits, Circ Program Source charged as 'non-drilling cost'. Time 20:45 Targets Program *=Excep Properties Deg C FL Temp Depth m 110.0 Built total of 1430 bbls of seawater/AQUAGEL/Polymer mud for 12-1/4" Weight ppg FV 2 18 Deg C sec/qt 38 PV @ 49 Deg C cP Expect API filtrate to decrease with 1bs/100 ft2 8 ΥP incorporation of drill solids and more PAC-R lbs/100 ft2 3/4 Gels m1/30 min once drilling commences. API Filt. 12.0 HTHP 9 121 Deg C m1/30 min 0.0 Cake API/HTHP 1/0 32nd in RIG ACTIVITY 0.0

Corr.Solids & by vol Continue to install diverter and riser. Oil/Water % by vol 0.0/0.0 Function flowline, seals and overboard Sand % by vol lines. Run wear bushing. Cement top of 30* MBT 0.0 pH STRIP conductor via 2-7/8" tubing. Pick up 5" 0.0 Alk. Mud (Pm) 0.00 drill pipe. Make up 17-1/2" BHA to drill cement out. RIH. Drill cement, shoe track Alk. Filtr. (Pf/Mf) 0.00/0.00 Chlorides mg/l 0 and rathole. Displace hole to seawater/AQUAGEL/PAC mud system. POOH. Pick Hard. Ca mg/l ٥ Low Gravity Solids ppb up and make up 12-1/4" BHA. 0.00 Excess sulfite

MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Used Cost Device Make Sz/Sern HR AOUAGEL - 1000 KG. TON 17,100 8113.95 Shkr #1 Scalper 20 PAC-L - 25 KG. BAG 14 2060.94 Shkr #2 | Scalper 20 1 PAC-P - 25 KG. BAG 2 294.42 Shkr #3 Sweco LM3 | 150 x Shkr #4 | Sweco LM3 | 150 x 3 Shkr #5 | Sweco LM3 150 x Shkr #6 Sweco LM3 | 150 x 3 Crestex dSndr 3 x 10 dSlt #1 Crestex 16 x 5

	MUD MAN	JAGEMENT		RHE	OLOGY	AND	FRACTURE GRA	DIENT	TIME		
MUD VOLU	ЈМЕ ьь1	MUD TYPE		HY	DRAUL:	ICS	Water Depth	21.7	DRLG		0.00
Hole	Pits	GEL/SEAWATER/POLYM	ER	600 rpm	22		Calc. F. Grad	0.0	CIRC		0.75
281	572	MUD CONSUMP	TION	300 rpm	15		Leak Off Test	0.0	TRIPS		0.00
Active V	Volume	ADDITIONS	bbl	200 rpm	11		ECD	pg	SERV. R	IG	0.00
953		oil	0	100 rpm	7		Csg. Shoe	0.0	SURVEY		0.00
P.eserve	Total .	Brine Water	0	6 rpm	3	ì	TD	0.0	FISHING		0.00
518	1371	Drill Water	1026	3 rpm	2		Max. Diff. Press	0	LOGGING		0.00
Low Grav, vol	1 % 0.0	Sea Water	364	Pressure	Units:	psig			RUN CSG		0.00
ррь	0.00	Whole Mud	0	Press Dr	op. DP	0			CORE		0.00
High Grav, vo	0.0	Barite	0	Press Dr	op, BIT	0	DEVIATION .	NFO	BACK RE	AM	0.00
ppb	0.00	Chemicals	40	Press Dr	op, ANN	0	MD 1:	.0.0 m	REAMING		0.00
ASG	1	LOSSES	bbl	Actual C	irc. Pre	35 0	TVD 1:	.0.0 m	TESTING		0.00
Drill Cutting	gs 0	Dumped	281	AV, DP	m/min	0.0	Angle	0.00	OTHER		23.25
Dilution Rate	e 0.00	Lost	59	AV, DC	m/min	0.0	Direction		AVERAGE	ROP	0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS	1090	AV, Rise	r m/min		Horiz. Displ 0	_m 0			
BAROID REPRES	SENTATIVE	OFFICE/HOME		Melbourn	e	TELEPHONE	(03) 9621 3311	DAILY C	OST	CUMULAT	IVE COST
Nicholas Dous	st	WAREHOUSE		Welshpoo	1	TELEPHONE	(03) 56 881 445	\$A	10469.31	\$A	14775.61

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

MUD PROPERTIES

Primary

REPORT NUMBER: 5

Date Depth
20/01/98 545.0 m [MD]

Spud Date Present Activity
17/01/98 DRILLING

MUD

TREATMENTS

CONTRACTOR RIG NUMBER OPERATOR Santa Fe Drilling Paramswara Amity Oil NL REPORT FOR REGION REPORT FOR Santa Fe Drilling Victoria Wally Westman/Murray Jackson GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER FIELD OR BLOCK

Bass Strait Broadbill VIC P/36 Austral CIRCULATION DATA BIT DATA DRILLING STRING CASING in. m ID 4.276 Len. 314.2 Pump Make/Model Ideco T-1600 Size 12.25 Pipe OD Type MAX GT1 Eff. 97.33 V/8€ Pipe OD Size ID 3.000 Len. 112.4 in. 6.5 X 12 0.120 No. Jets Pipe OD ID Len. Set @ spm 80 bbl/min Ideco T-1600 118.4 Pump Make/Model Jets 32nd inch Collar OD ΪĎ 2.75 Len. Set @ 16 Collar OD τD Set & Size 6.5 X 12 Eff. 97.30 V/st 0.120 16 16 Len OPEN HOLE bbl/min во in. Set @ spm Tot Noz Area Size 12.25 Len. 439.0 Set @ Pump Make/Model Size Set @ Size Bff. V/st TFA Len. bbl/min Size Len. Set @ spm Size Len. Set @ Tot. Vol./min 803 19.1 bbl 22 TC Time Size Set @ BU Time Len.

Program Source its, Circ Flowline Essential Built 1070 bbls of new mud. Heavy mud losses 08:00 20:00 Targets Program experienced through coarse sands (approx 700 Time FL Temp Deg C 36 44 *=Excep Properties bbls). Adding PAC-R to maintain API filtrate 784.9 165.0 420.0 110.0 and BARACOR-129 to maintain Excess Sulfite. Depth 8.9 9.0 9.3 Weight ppg 45 FV 6 44 Deg C sec/qt 39 44 35 LCM Sweeps : BARACARB 25 : 18 ppb 49 Deg C сP 19 17 BARACARB 100: 21 ppb lbs/100 ft 20 26 BAROFIBRE : 4.5 ppb lbs/100 ft: 17/21 16/21 AQUAGEL 20 ppb Gels Running all solids control equipment. API Filt. m1/30 min 8.2 в.0 Building 30 bbls pumpable KCl/EZ-MUD/Polymer HTHP 2 121 Deg C ml/30 min 22.0 21.0 mud for spotting across Lakes Entrance. Cake API/HTHP 1/0 32nd in 1/0 Corr.Solids \ by vol 3.2 4.1 RIG ACTIVITY 0.0/95. Oil/Water % by vol 0.0/94 Continue to pick up 8" drill collars. Drill Sand & by vol 0.5 0.5 7 m of 12-1/4" hole. Pick up last 8" drill MBT 4.0 4.2 collar. Unable to circulate - plugged above pH METER & 20 Deg C 8.5 8.5 float, POOH, Unblock float, PIH, Drill ahead Alk. Mud (Pm) 0.30 0.36 to 117 m - Incurring downhole losses. Pump Alk. Filtr. (PE/Mf) 0.01/0.05 0.01/0.07 25 bbl hi-vis sweep. Circulate bottoms up. Chlorides mg/l 20500 21000 Pump 25 bbl hi-vis. Drill ahead to 227 m at Hard. Ca mg/l 600 620 reduced pump strokes (120 spm). Pump 50 bbl Low Gravity Solids ppb 29.30 37.31 LCM pill (as above) before connection -Excess sulfite 100 losses halted/red'd. Drill to 399 m. Circ b/u. Spot 100 bbl LCM pill (as precaution) before conducting survey. Drill ahead.

MATERIALS USED SOLIDS EQUIPMENT Product Product Used Make Sz/Scrn HR Device 5883.80 AOUAGEL - 1000 KG. TON Scalper 12.400 Shkr #1 10 BARACARB 100 - 25 KG. SACK 48 691.20 Shkr #2 | Scalper 20 BARACARB 25 - 25 Kg. BAG 48 554.40 Shkr #3 Sweco LM3 150 x 3 17 BARACOR 129 - 25 KG. DRUM 19 1159.95 Shkr #4 Sweco LM3 150 x 3 BARGFIERE - 25 LB. SACK 27 1606.50 Shkr #5 Sweco LM3 150 x 3 PAC-R - 25 KG. BAG 19 2796.99 Shkr #6 Sweco LM3 150 x 3 17 caustic soda - 25 KG. PAIL 86.42 Crestex 3 x 10 dslt #1 Crestex 16 x 5" 17

FRACTURE GRADIENT MUD MANAGEMENT RHEOLOGY AND TIME MUD VOLUME HYDRAULICS MUD TYPE bbl Water Depth 21.7 DPT.C 15 00 Hole Pits GEL/SEAWATER/POLYMER 600 rpm 58 60 Calc. F. Grad 0.0 CIRC 3.00 419 MUD CONSUMPTION 300 rpm 39 43 Leak Off Test 0.0 TRIPS 4.75 Active Volume ADDITIONS bbl 200 rpm 31 37 ECD SERV. RIG 0.00 PPg Oil 860 100 rpm 24 29 Csq. Shoe 9.0 SURVEY 0.50 Total Brine Water 6 rpm 15 TD FISHING 16 9.2 0.00 308 Drill Water Max. Diff. Press 1168 759 3 rpm 14 15 LOGGING 0.00 Sea Water Low Grav, vol \$ 3.2 283 Pressure Units: psig RUN CSG 0.00 ppb 29.30 Whole Mud 0 Press Drop. DP 953 CORE 0.00 High Grav, vol 🕯 DEVIATION INFO 0.0 Barite Press Drop, BIT 1512 BACK REAM 0.00 ppb 0.00 Chemicals 39 Press Drop, ANN 28 MD 545.0 REAMING 0.00 m ASG 2.58 LOSSES bbl Actual Circ. Press 2420 סעד 545.0 TESTING 0.00 m Drill Cuttings 12 Dumped 40 AV. DP m/min 7.9 Angle 0.15 OTHER 0.75 Dilution Pate 16.83 Lost 1244 AV. DC m/min 69.7 Direction 354 AVERAGE ROP 0.00 Slds Control Eff 0.00 VOL GAIN/LOSS -203 AV, Riser m/min Horiz. Displ 0.0 BAROID REPRESENTATIVE OPFICE/HOME Melbourne TELEPHONE (03) 9621 3311 DAILY COST CUMULATIVE COST Nicholas Doust WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 \$A 12779.26

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

REPORT NUMBER: Depth Date [MD] 21/01/98 785.0 m Spud Date Present Activity R/U TO LOG / LOG 17/01/98

hole on first 6 stands (hole took 6 bls).

POOH to 30" conductor @ 110 m. Conduct top drive service (hole took 12 bbls). RIH. Hole

good. Circulate hole clean. POOH, Rig up to

run Schlumberger logs. Hole drink rate

currently 4-6 bbls/hr.

CONTRACTOR RIG NUMBER OPERATOR Santa Fe Drilling Paramswara Amity Oil NL REPORT FOR REGION REPORT FOR Santa Fe Drilling Victoria Wally Westman/Murray Jackson GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER FIELD OR BLOCK

Austral VIC P/36 Bass Strait Broadbill 1 DRILLING STRING CIRCULATION DATA CASING BIT DATA in. Pump Make/Model Ideco T-1600 Size Pipe OD ID Len. 97.00 V/st Eff. Pipe OD τD in. Size 6.5 X 12 0.120 Type Len Pipe OD ID Len. Set @ mqe 0 bbl/min No. Jets Pump Make/Model Ideco T-1600 Jets 32nd inch Collar OD ID Len. Set @ 97.00 V/st Collar OD ID Set @ Size 6.5 X 12 Eff. 0.120 Len OPEN HOLE 0 bbl/min Set @ mqe in. Pump Make/Model Tot Noz Area Size 12.25 Len. 679.0 Set @ Size Len. Set 🕏 Size RFF. ⊽/st TFA bbl/min Size mga Len. Set @ Size Len. Set @ Tot. Vol./min 0 0.0 bbl 0 TC Time BU Time Size Set @ Len.

MUD PROPERTIES Primary MUD TREATMENTS 2 Maintained treatment of active system with Source Pits, Circ Flowline Program Essential Targets PAC-R to hold API filtrate. Diluted active Time 06:00 13:00 Program with seawater/PAC-L to control mud viscosity FL Temp Deg C 46 46 *=Excep Properties 110.0 784.9 increase from drilling claystone. Depth 701.0 785.0 BARACOR-129 used to maintain excess 9.0 9.2 Weight ppg sulfites. Building KCl/EZ-MUD/Polymer mud FV @ 46 Deg C sec/qt 85 70 35 45 for 8-1/2" hole. Ran desander and desilter ₩ 49 Deg C сP 15 15 lbs/100 ft2 non-stop. ΥP 23 21 17/29 lbs/100 ft2 17/30 Reports have been cost modified to reflect 7.8 API Filt. m1/30 min 8.0 HTHP 2 121 Deg C ml/30 min 22.8 21.0 updated mud material prices. Cake API/HTHP 32nd in 1/2 No new shakers screens used to date 1/2 RIG ACTIVITY Corr.Solids & by vol 3.9 5.4 Oil/Water 1 by vol 0.0/94 0.0/93 Continue to drill ahead to 701 m. Circulate Sand & by vol bottoms up. Conduct Hofco survey. Drill tr tr MBT 5.0 5.5 ahead to 785 m. Circulate bottoms up. 8.2 Conduct multishot survey. POOH. Some tight PH METER @ 20 Deg C 8.2 Alk. Mud (Pm)

0.40

21000

600

35.49

120

0.02/0.06 0.02/0.07

Alk. Filtr. (Pf/Mf)

Low Gravity Solids ppb

mg/l

Chlorides mg/l

Hard. Ca mg/l

Excess sulfite

0.45

21000

600

49.23 100

SOLIDS EQUIPMENT MATERIALS USED Product Used Cost Product Used Device Make Sz/Sern HR AOUAGEL - 1000 KG. TON 2.200 1043.90 Shkr #1 Scalper 10 13 13 BARACOR 129 - 25 KG. DRUM 2 122.10 Shkr #2 | Scalper 20 PAC-L - 25 KG. BAG 3 441.63 Shkr #3 Sweco LM3 150 x 3 13 PAC-R - 25 KG. BAG 588.84 Shkr #4 | Sweco LM3 150 x 3 13 barite - 1000 KG. TON 2,400 773.33 Shkr #5 | Sweco LM3 150 x 3 13 Shkr #6 Sweco LM3 150 x 3 13 Crestex 3 x 10" 13 dSndr dSlt #1 Crestex 16 x 5" 13

MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS 10.75 bbl Water Depth 21.7 DRLG GEL/SEAWATER/POLYMER Hole Pits 600 rpm 53 51 Calc. F. Grad 0.0 CIRC 2.25 590 523 MUD CONSUMPTION 300 rpm 38 36 Leak Off Test 0.0 TRIPS 7.00 Active Volume ADDITIONS ECD SERV. RIG bbl 200 rpm 32 31 9.00 ppg SURVEY 1113 Oil 100 rpm 26 0 25 Csq. Shoe 9.1 1.25 Reserve Total Brine Water FISHING 6 rpm 16 15 TD 9.3 0.00 208 Drill Water Max. Diff. Press LOGGING 1321 3 rpm 13 13 0 0.00 Low Grav, vol Sea Water RUN CSG Pressure Units: psig 0.00 ppb 35.49 Whole Mud CORE Press Drop. DP 0.00 High Grav, vol 1 DEVIATION INFO Barite Press Drop, BIT BACK REAM 0.00 785.0 ppb 0.00 Chemicals Press Drop, ANN ИD REAMING 0.00 ASG 2.60 LOSSES 785.0 TESTING Actual Circ. Press TVD 0.00 Drill Cuttings Dumped 62 m/min AV, DP 0.0 Angle 0.25 OTHER 2.75 Dilution Rate Lost 179 AV, DC m/min 0.0 Direction 320 AVERAGE ROP 0.00 Slds Control Eff 0.00 VOL GAIN/LOSS Horiz. Displ 153 AV, Riser m/min BAROID REPRESENTATIVE TELEPHONE (03) 9621 3311 DAILY COST CUMULATIVE COST OFFICE/HOME Melbourne Nicholas Doust WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 \$A 2969.80 30524.67

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

17/01/98 WOC CONTRACTOR RIG NUMBER OPERATOR Amity Oil NL Santa Fe Drilling Paramswara REPORT FOR REPORT FOR REGION Mike Walker/ Blain Wilkie Wally Westman/Chris Roots Victoria GEOGRAPHIC AREA WELL NAME AND NUMBER FIELD OR BLOCK COUNTRY Broadbill 1 VIC P/36 Bass Strait Austral CIRCULATION DATA DRILLING STRING CASING BIT DATA in. Ideco T-1600 Pipe OD Pump Make/Model Size ID Len in. Eff. 97.00 V/st Pipe OD ID Len. Size 6.5 X 12 0.120 Туре No. Jets Pipe OD ID Set @ 106.0 bbl/min Len. mge Ideco T-1600 Collar OD 779.0 Jets 32nd inch ID Len. 9 5/8 Set @ Pump Make/Model Eff. 97.00 V/st Collar OD TD Len. Set @ Size 6.5 X 12 OPEN HOLE bbl/min in. Set @ 0.0 mqe Tot Not Area Size 12.25 Len. 6.0 Set @ Pump Make/Model TFA Size Len. Set @ Size Eff. V/st bbl/min Size Len. Set @ spm 0 Size Len. Set @ Tot. Vol./min 0.0 bbl gpm Size 0 TC Time Len. Set @ BU Time MUD PROPERTIES MUD TREATMENTS Primary Pits, Circ Essential Mixing 3% KC1/BZ-MUD/Polymer mud. Program 15:30 Costs/volume to be included tomorrow. Time Targets FL Temp Deg C 46 *=Excep Properties 785.0 Three shakers changed to coarser 80 mesh Depth 784.9 1654.1 9.2 9.0 size screens to prevent/reduce initial Weight ppg FV 9 46 Deg C sec/qt 44 losses of unsheared mud. Scalpers changed to PV @ 49 Deg C cP 10 mesh. No new screens used to date. ΥP lbs/100 ft2 20 Gels lbs/100 ft2 15/23 Dumping and cleaning pits at report time. ml/30 min 7.8 6.0 HTHP 9 121 Deg C ml/30 min 22.0 15.0 AOUAGEL and Calcium Chloride used in cement Cake API/HTHP 32nd in 1/2 job - to be charged as non-drilling cost. Corr.Solids & by vol RIG ACTIVITY 5.4 Rig up Schlumberger. Log 12-1/4" hole Oil/Water % by vol 0.0/93.4 Sand % by vol -BHC-LDL-CNL-DLL-MSPL-GR-CALI-SP. Rig down tr MBT 5.5 Schlumberger. Pull diverter bag. Retrieve pH METER 2 20 Deg C 8.2 8.5 9.2 wear bushing & laydown running tool. Rig up Alk. Mud (Pm) 0.30 & run 9-5/8" casing to 779 m. Circulate Alk. Filtr. (Pf/Mf) 0.01/0.06 casing while waiting on chemicals. Cement as Chlorides mg/l 21000 per program. WOC. Hard. Ca mg/l 580 Low Gravity Solids ppb 49.23 91.00 6 rpm 6.00 14 10.00 KCl Content 11.00 14.00 MATERIALS USED SOLIDS EQUIPMENT Product

Used AQUAGEL - 25 KG. BAG

Cost Product 56 659.12

Used

Device Make Sz/Sern HR Shkr #1 Scalper 10 5 Shkr #2 Scalper 10 Shkr #3 | Sweco LM3 | 150 x 3 5 Shkr #4 | Sweco LM3 | 80 x 3 | 5 Shkr #5 | Sweco LM3 80 x 3 S Shkr #6 | Sweco LM3 | 80 x 3 | 5 dSndr Crestex 3 x 10* dSlt #1 Crestex 16 x 5"

	MUD MAN	AGEMENT	DUDOLOGY AND	I DD A COULD D. CD A D	T TO TOTAL	- TARRETT	
MIID TIOT F			RHEOLOGY AND	FRACTURE GRAD	IENT	TIME	
MUD VOLU	JME bb1	MUD TYPE	HYDRAULICS	Water Depth	21.7	DRLG	0.00
Hole	Pits	GEL/SEAWATER/POLYMER	600 rpm 48	Calc. F. Grad	0.0	CIRC	5.00
190	00	MUD CONSUMPTION	300 rpm 34	Leak Off Test	0.0	TRIPS	0.00
Active V	Volume	ADDITIONS bbl	200 rpm 29	ECD ppg	. 1	SERV. RIG	0.00
190		Oil	100 rpm 25	Cag. Shoe	0.0	SURVEY	0.00
Reserve	Total	Brine Water (6 rpm 14	TD	0.0	FISHING	0.00
116	306	Drill Water 0	3 rpm 12	Max. Diff. Press	0	LOGGING	6.50
Low Grav, vol	l \$ 5.4	Sea Water 0	Pressure Units: psig			RUN CSG	9.50
Ьbр	49.23	Whole Mud 0	Press Drop. DP 0		1	CORE	0.00
High Grav, vo	0.0	Barite 0	Press Drop, BIT 0	DEVIATION IN	FO	BACK REAM	0.00
ppb	0.00	Chemicals 0	Press Drop, ANN 0	MD 785.	O m	REAMING	0.00
ASG	2.60	LOSSES bbl	Actual Circ. Press 0	TVD 785.	o m	TESTING	0.00
Drill Cutting	gs 0	Dumped 1015	AV, DP m/min 0.0	Angle	0.25	OTHER	3.00
Dilution Rate	2 0.00	Lost	AV, DC m/min 0.0	Direction	320	AVERAGE ROP	0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS -1015	AV, Riser m/min	Horiz. Displ 0.5			
BAROID REPRES	SENTATIVE	OFFICE/HOME	Melbourne TELEPHONE		DAILY CO	ST CUM	JLATIVE COST
Nicholas Dous	st.	WAREHOUSE	Welshpool TELEPHONE		SA	659.12 SA	31183.79

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

17/01/98 RUN WEAR BUSHING CONTRACTOR RIG NUMBER OPERATOR Santa Fe Drilling Paramswara Amity Oil NL REPORT FOR REGION REPORT FOR Mike Walker/ Blain Wilkie Victoria Wally Westman/Chris Roots WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY Broadbill VIC P/36 Bass Strait Austral CIRCULATION DATA DRILLING STRING BIT DATA CASING in. Pump Make/Model Ideco T-1600 Size Pipe OD ID Eff. 97.00 V/st in. Size 6.5 X 12 Pipe OC ID Туре 0_ bbl/min No. Jets ĬD Set @ 106.Q Pipe OD 30 spm Len Jets 32nd inch Collar OD ID Len 9 5/8 Set @ 779.0 Pump Make/Model Ideco T-1600 Eff. 97.00 V/st Collar OD Len. Set @ Size 6.5 X 12 OPEN HOLE bbl/min in. Set @ apm Size 12.25 Len. 6.0 Set @ Pump Make/Model Tot Noz Area TFA Size Size V/st Set @ Len. Size Len. Set @ spm bbl/min Size Len. Set @ Tot. Vol./min gpm Size Len. Set @ **BU Time** MUD PROPERTIES MUD TREATMENTS Primary Pits, Circ Essential Built total of 1418 bbls of KCl/EZ-MUD/Poly Program Source Time 20:07 Targets Program for 8-1/2" section. Mud built contains only 0.75 ppb EZ-MUD to reduce mud losses over FL Temp Deg C *=Excep Properties 784.9 1654.1 shakers upon dispacement. 785.0 Depth m 8.9 9.0 Weight ppg FV 4 20 Deg C sec/qt Mud check is on reserve mud. Mud mixed with KCl content of 4 % to allow for depletion PV % 49 Deg C cP 10 30 ΥP lbs/100 ft2 15 through Lakes Entrance Formation. 1bs/100 ft3 4/8 Gels API Filt. m1/30 min 5.0 6.0 HTHP % 121 Deg C ml/30 min 12.5 32nd in Cake API/HTHP 1/1 RIG ACTIVITY Corr.Solids & by vol 1.7 Cil/Water % by vol 0.0/95.8 WOC. Cut off 9-5/8" casing. Rig up & pull Sand & by vol diverter, o/shot & riser & lav don. Install MBT 0.0 adapter ring. Test flange to 2000 psi. Lower pH METER @ 20 Deg C 8.2 BOP's & nipple up. Pressure test BOP's. Run 8.5 Alk. Mud (Pm) 0.20 wear bushing. Alk. Filtr. (Pf/Mf) 0.07/0.11 Chlorides mg/l 43000 Hard. Ca mg/l 380 Low Gravity Solids ppb 15.20 91.00 6 rpm 6 6.00 10.00 KCl Content 11.00 14.00 ррь KCl % by vol MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Used Device Make Sz/Scrn HR ALDACIDE G - 25 L. CAN 3 611.88 Shkr #1 Scalper

BARAZAN-D PLUS - 25 KG. BAG 23 8279.54 Shkr #2 Scalper DEXTRID LT - 25 KG. BAG Shkr #3 Sweco LM3 | 150 x 107 5631.49 EZ-MUD DP - SO LB. BAG 24 2754.96 Shkr #4 Sweco LN3 80 x 3 PAC-L - 25 F.G. BAG 22 3238.62 Shkr #5 Sweco LM3 80 x 3 potassium chloride - 1000 KG. Shkr #6 Sweco Lii3 dSndr Crestex 3892.89 80 x 3 soda ash - 25 KG. BAG 74.25 dSlt #1 Crestex 16 x 5

		IAGEMENT		RHE	OLOGY	AND	FRACTURE	GRAI	DIENT	TIME		
MUD VOLU	ЈМЕ ььі	MUD TYPE		HY	DRAUL	ICS	Water Depth		21.7	DRLG		0.00
Hole	Pits	F.CL/EZ MUD/PO	YMER	600 rpm	35		Calc. F. Grad		0.0	CIRC		0.00
190	0	MUD CO	SUMPTION	300 rpm	25		Leak Off Test		0.0	TRIPS		0.00
Active V	Volume	ADDITIONS	bbl	200 rpm	20		ECD	pp	g	SERV. F	IG	0.00
190		Oil	0	100 rpm	14		Cog. Shoe		0.0	SURVEY		0.00
Reserve	Total	Brine Wate:	. 0	6 rpm	6		TD		0.0	FISHING	;	0.00
1534	1724	Drill Water	1371	3 rpm	. 3		Max. Diff. Pre	:30	0	LOGGING	;	0.00
Low Grav, vol	1 1.7	Sea Water	0	Pressur	e Units:	psig				RUN CSC	:	0.00
ppb	15.20	Whole Mud	0	Press D	rop. DP	0				CORE		0.00
High Grav, vo	0.0	Barite	0	Press D	rop, BIT	0	DEVIATION	II NO	1FO	BACK R	NAS	0.00
ppb	0.00	Chemicals	47	Press D	rop, Alm	0	MD	785	.0 m	REAMING	;	0.00
ASG	2.57	LOSSES	bbl	Actual	Circ. Pre	ກສ 0	TVD	785	.0 m.	TESTING	;	0.00
Drill Cutting	g 3 0	Dumped	0	AV, DP	m/min	0.0	Angle		0.25	OTHER		24.00
Dilution Rate	e 0.00 į	Lost	0	AV, DC	m/min	0.0	Direction		320	AVERAGE	ROP	0.00
Slds Control	Eff 0.00	VOL GAIN/LOS:	1418	AV, Ris	er m/min		Horiz. Displ	0.5	m]		
BAROID REPRES	SENTATIVE	OFFICE/	OME	Melbour	ne	TELEPHONE	(03) 9621 3	311	DAILY C	OST	CUMUL	ATIVE COST
Nicholas Dous	3t	WAREHOUS	BE	Welshpo	ol	TELEPHONE	(03) 56 881	445	\$A	24483.63	ŞA_	\$5667.42

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

Nec

Drill Cuttings

Dilution Rate

Nicholas Doust

Slds Control Eff

BAROID REPRESENTATIVE

LOSSES

0.00

0.00

Dumped

VOL GAIN/LOSS

OFFICE/HOME

Lost

bbl

223

306 AV, DP

AV, DC

-511 AV, Riser m/min

Melbourne

Present Activity Spud Date 17/01/98 DRILLING OPERATOR CONTRACTOR RIG NUMBER Amity Oil NL Santa Fe Drilling Paramswara REPORT FOR REPORT FOR REGION Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria GEOGRAPHIC AREA WELL NAME AND NUMBER FIELD OR BLOCK COUNTRY Broadbill 1 VIC P/36 Bass Strait Austral CIRCULATION DATA DRILLING STRING CASING BIT DATA in. S12e 8.5 Pipe OD ID 4.276 Len. Pump Make/Model Ideco T-1600 Type ATMGTISD ID 3.000 Len. Eff. 97.00 V/st Pipe CD 112.5 in. m Size 6.5 X 12 No. Jets 106.0 spm 50 Pipe CD ID Len 30 Set @ bbl/min Jets 32nd inch Collar OD ID Len. 146.5 9 5/8 Set @ 779.0 Pump Make/Model Ideco T-1600 16 Rff. 97.00 V/sr 16 Collar OD Len. Set @ Size 6.5 X 12 OPEN HOLE bbl/min in Set @ apm 50 Size Tot Noz Area 291.0 Len Set e Pump Make/Model TFA Site Len Set @ Size Bff. V/st Size Len. bbl/min Set @ spm Size Len Set @ Tot. Vol./min 502 12.0 bbl Size Len Set @ BU Time TC Time MUD PROPERTIES MUD TREATMENTS Primary 2 Source Pits, Circ Flowline Program Eggential Mud dumped is gel mud in hole & pit. Raised Time 17:00 22:30 EZ-MUD concentration to programmed value Deg C FL Temp 40 40 *=Excep after displacing. Adding BARACOR-129 to Properties Depth 865.0 1032.0 784.9 1654.1 maintain excess sulphites. Weighed up mud to m Weight 8.9 9.1 9.0 9.1 ppg @ 865 m for extra hole stabilty ppg 9.5 FV 4 40 Deg C sec/qt 44 40 while drilling coal seams. Lost approx 70 PV & 49 Deg C cP 13 14 bbls downhole while drilling coal seams. ΥP 18 Treated active with additional BARAZAN lbs/100 ft2 Gels 4/6 4/7 D-Plus to combat thinning of the mud from API Filt m1/30 min 4.7 4.2 coal. Running desander/desilter.Changed HTHP @ 121 Deg C m1/30 min 12.4 11.2 15.0 shakers to finer 150 mesh screens. No new Cake API/HTHP 32nd in 1/2 1/2 screens used to date. KCl content : 3 % Corr.Solids & by vol RIG ACTIVITY 2.9 3.2 Oil/Water % by vol 0.0/95 0.0/95. Lay down 8" drill collars. Pick up & make up Sand & by vol 1.0 0.5 8-1/2" BHA. Pick up 5 " drill pipe. RIH. Tag 0.2 ивт 0.2 cement & 745 m. Drill out cement & float to pH METER @ 20 Deg C 9.0 9.2 8.5 9.2 775 with seawater. Pump 100 bbl sweep of old Alk. Mud (Pm) 0.22 0.28 mud. Displace hole to KCl/EZ-MUD/Polymer Alk. Filtr. (Pf/Mf) 0.02/0.18 0.05/0.18 mud. Perform LOT @ 788 m to 13 ppg EMW Chlorides mq/l 24000 23000 (564 psi). Drill ahead to 865 m. Circulate Hard. Ca mg/l 320 out coal. Drill ahead to 1070 m. Low Gravity Solids ppb 26.48 19.20 91.00 _ 6_rpm 6 6 10.00 KCl Content 11 ppb 11.00 14.00 Excess sulfite mg/1100 100 MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Device Make Shkr #1 Scalper Sz/Sern HR BARACOR 129 - 25 KG. DRUM 487.33 10 10 BAPAZAN-D PLUS - 25 KG. BAG 5 1799.90 Shkr #2 | Scalper 10 10 DEXTRID LT - 25 KG. BAG 1 52.07 Shkr #3 Sweco LM3 150 x 3 10 EZ-MUD DP - 50 LB. BAG 14 1607.06 Shkr #4 Sweco LM3 150 x 3 10 barite - 1000 KG. TON 9.700 3125.53 Shkr #5 | Sweco LM3 150 x 3 potassium hydroxide - 20 KG. 2 88.34 Shkr #6 Sweco LM3 80 x 3 10 Crestex dSndr 3 x 10 dSlt #1 Crestex 6 16 x 5 MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bbl Water Depth 21.7 Pits KCL/EZ MUD/POLYMER 600 rpm 44 Calc. F. Grad 0.0 CIRC 215 457 MUD CONSUMPTION 300 rpm 31 36 Leak Off Test 13.0 TRIPS Active Volume ADDITIONS bbl 200 rpm 25 30 SCD SERV. RIG 0.00 ppg 582 Oil 100 rpm 18 20 SURVEY Cog. Shoe Total Brine Water 6 rpm 6 6 TD FISHING 0.00 531 Drill Water 1213 3 rpm 4 Max. Diff. Press LOGGING 0.00 Low Grav, vol 🕻 2.9 Sea Water Pressure Units: psig RUN CSG 0.00 ppb 26.48 Whole Mud Press Drop. DP 524 COPE 0.00 High Grav, vol 🕻 DEVIATION INFO Barite 15 Press Drop. BIT 695 BACK PELM 0.00 ppb 0.00 Chemicals 1070.0 m 3 Press Drop, AM 116 MD REAMING 0.00

WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 SA
NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

m/min

m/min

1200

74.5

125.1

TELEPHONE

TVD

Angle

Direction

Horiz. Displ

Actual Circ. Press

1070.0 m

(03) 9621 3311 DAILY COST

0.25

320

TESTING

AVERAGE ROP

OTHER

2.00

6.50

0.00

CUMULATIVE COST

REPORT NUMBER: 10

Date Depth
25/01/98 1335.0m [MD]

Spud Date Present Activity
17/01/98 DRILLING

17/01/98 CONTRACTOR RIG NUMBER OPERATOR Paramswara Amity Oil NL Santa Fe Drilling REPORT FOR REGION REPORT FOR Mike Walker/ Blain Wilkie Victoria Wally Westman/Chris Roots GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER FIELD OR BLOCK Broadbill 1 Bass Strait Austral VIC P/36 DRILLING STRING CIRCULATION DATA CASING BIT DATA in. Pipe OD Fump Make/Model Ideco T-1600 Size 8.5 ID 4.276 Len. 1076.0 97.00 V/st 6.5 X 12 Eff. Type ATMGTI8D Pipe OD ID 3.000 Len. 112.5 in. Size 106.0 50 bbl/min No. Jets Pipe OD ID Len. Set w apm Set 2 779.0 Ideco T-1600 146.5 9 5/8 Pump Make/Model Jets 32nd inch Collar OD 6.5 ID 2.75 Len. Collar OD ID Set @ Size 6.5 X 12 Eff. 97.00 V/st 0.120 16 Len. OPEN HOLE bbl/min Set @ apm in. Size Len. 556.0 Set 2 Pump Make/Model Tot Noz Area Len. Eff. V/st Size Set 🔅 Size TFA bbl/min Size Len. Set @ mac Set 🌣 Tot. Vol./min 502 12.0 bbl Size Len. Set (9 Size **BU** Time 68 Len. MUD TREATMENTS MUD PROPERTIES Primary Flowline Program Essential Maintain volume & properties with addition Source Pito, Circ of premix. Lost approx 40 bbls downhole Program 22:00 13:00 Targets Time Deg C 42 42 *=Excep Properties (squeezed into formation after coal pack FL Temp off) while reaming last stand to bottom 1323.0 1230.0 784.9 1654.1 Depth during wiper trip. Raised mud weight to 9.3 Weight 9.3 9.3 9.0 9.5 ppg FV & 42 Deg C sec/qt 42 ppg to help stabilise coals. Treated active 42 with 5 ppb each of BARACARB 25 & BARACARB PV 4 49 Deg C cP 14 15 ΥP lbs/100 ft2 23 20 100 to prevent further seepage losses. Maintaining BARACARB concentrations with lbs/100 ft2 5/8 4/7 Gels API Filt. regular additions. Maintaining excess m1/30 min 3.6 3.8 6.0 sulfites with BARACOR-129. BARAZAN D-Plus HTHP № 121 Deg C ml/30 min 10.6 10.8 used to maintain 6 rpm. KCl Content : 3.2 % Cake API/HTHP 1/2 1/2 32nd in RIG ACTIVITY Corr.Solids % by vol 4.3 4.1 Drill from 1070 - 1095 m. Circulate bottoms Oil/Water & by vol 0.0/94.4 0.0/94.6 Sand & by vol 0.25 0.25 up, working pipe. Drop Single shot survey. POOH to shoe @ 779 m. Retrieve survey. MBT 0.6 0.6 pH METER @ 20 Deg C 8.5 8.5 8.5 9.2 Service TDS, RIH, Lose circulation 1 std off Alk. Mud (Pm) 0.20 0.10 bottom. Work pipe. Begin to increase mud Alk. Filtr. (Pf/Mf) weight to 9.3 ppg. Drill ahead to 1335 m. 0.01/0.16 0.01/0.1 22000 Chlorides mg/l 22000 Hard. Ca mg/l 300 320 91.00 Low Gravity Solids ppb 26,12 22.48 6 rpm 6.00 10.00 6 KCl Content ppb 11 12 11.00 14.00 Excess sulfite 100 mg/l 100 MATERIALS USED SOLIDS EQUIPMENT Product Product Used Device Make Shkr #1 Scalper Sz/Scrn HR Used Cost 1382.40 BAPACARB 100 - 25 KG. SACK 20 10 BAPACARB 25 - 25 KG. BAG 96 1108.80 Shkr #2 | Scalper 10 20 BARACOR 129 - 25 KG. DRUM Shkr #3 Sweco LM3 539.82 150 x 3 20 BARAZAN-D PLUS - 25 KG. BAG 1439.92 Shkr #4 | Sweco LM3 150 x 3 20 EZ-MUD DP - 50 LB. BAG Shkr #5 Sweco LM3 457.66 150 x 3 20 barite - 1000 KG. TON 7.200 2319.98 Shkr #6 Sweco LM3 80 x 3 20 Crestex potassium hydroxide - 20 KG. 176.68 dSndr 3 x 10" 4 dSlt #1 Crestex 16 x 5" 9

			·			-1		
		NAGEMENT	RHEOLOGY	AND	FRACTURE GRAI) IENT	TIME	
MUD VOLU	ЈМЕ ьы	MUD TYPE	HYDRAULI	CS	Water Depth	21.7	DRLG	18.50
Hole	Pits	KCL/EZ MUD/POLYMER	600 rpm 51 50		Calc. F. Grad	0.0	CIRC	1.50
270	542	MUD CONSUMPTION	300 rpm 37 35		Leak Off Test	13.0	TRIPS	2.00
Active \	Volume	ADDITIONS bbl	200 rpm 30 29		ECD pp	3	SERV. RIG	0.00
812		Oil 0	100 rpm 21 20		Csg. Shoe	10.0	SURVEY	1.00
Reserve	Total	Brine Water 0	6 rpm 6 6		TD	10.1	FISHING	0.00
111	923	Drill Water 0	3 rpm 4 4		Max. Diff. Press	0	LOGGING	0.00
Low Grav, vol	1 1 2.9	Sea Water 0	Pressure Units:	psig			RUN CSG	0.00
ррь	26.12	Whole Mud 0	Press Drop. DP	606			CORE	0.00
High Grav, vo	ol % 1.5	Barite 11	Press Drop, BIT	726	DEVIATION IN	IFO	BACK REAM	0.00
ppb	22.05	Chemicals 12	Press Drop, ANN	173	MD 133	5.0 m	REAMING	0.00
ASG	3.25	LOSSES bbl	Actual Circ. Pres	s 1350	TVD 133	5.0 m	TESTING	0.00
Drill Cutting	gs 2	Dumped 0	AV, DP m/min	74.5	Angle	2.25	OTHER	1.00
Dilution Rate	0.00	Lost 313	AV, DC m/min	125.1	Direction	320	AVERAGE POP	0.54
Slds Control	Bff 0.00	VOL GAIN/LOSS -290	AV, Riser m/min		Horiz. Displ 0.0	m		
BAROID REPRES	SENTATIVE	OFFICE/HOME	Melbourne	TELEPHONE	(03) 9621 3311	DAILY CO	OST CUMU	LATIVE COST
Nicholas Dous	st	WAREHOUSE	Welshpool	TELEPHONE	(03) 56 881 445	\$A	7425.26 \$A	70252.91

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

Excess sulfite

mg/1

100

Date Depth
26/01/98 1345.0m [MD]
Spud Date Present Activity
17/01/98 LOGGING

RIG NUMBER CONTRACTOR OPERATOR Santa Fe Drilling Paramswara Amity Oil NL REGION EPORT FOR REPORT FOR Mike Walker/ Blain Wilkie Victoria Wally Westman/Chris Roots COUNTRY GEOGRAPHIC AREA WELL NAME AND NUMBER FIELD OR BLOCK Austral Broadbill VIC P/36 Bass Strait 1 CIRCULATION DATA BIT DATA DRILLING STRING CASING in.

Pump Make/Model Ideco T-1600 Pipe OD Len. Size 97.00 V/st Pipe OD Eff. in. Size 6.5 X 12 ID Len m Type bbl/min Len. Set @ 106.0 apm n No. Jets Pipe OD ΙD Ideco T-1600 Set @ 779.0 Pump Make/Model 9 5/8 Jets 32nd inch Collar OD ID Len. Set @ Size 6.5 X 12 Eff. 97.00 V/st 0.120 Collar OD ΙĐ OPEN HOLE bbl/min Set @ spm in. Size 0 5 566.0 Set @ Pump Make/Model Tot Noz Area Len. Eff. V/st Size Set @ Size Len. TFA bbl/min Size Len Set @ spm Set @ Tot. Vol./min 0 0.0 bbl Size Len. 0 TC Time BU Time Set @ Size Len.

MUD PROPERTIES Primary 2 Pits, Circ Program Source 14:00 Targets Program Time Deg C *=Excep Properties FL Temp 784.9 1654. 1345.0 Depth 9.4 9.0 Weight ppg FV @ 42 Deg C sec/qt 44 PV @ 49 Deg C cP 16 30 lbs/100 ft 22 1bs/100 ft2 6/9 API Filt. m1/30 min 3.6 6.0 HTHP @ 121 Deg C ml/30 min 10.5 Cake API/HTHP 32nd in 1/2 Corr.Solids & by vol 4.3 Oil/Water % by vol 0.0/94 Sand & by vol 0.5 ивт 0.6 pH METER @ 20 Deg C 8.5 8.5 9.2 Alk. Mud (Pm) 0.15 Alk. Filtr. (Pf/Mf) 0.01/0.16 Chlorides mg/l 22000 Hard. Ca mg/l 300 91.00 Low Gravity Solids ppb 19.29 6.00 7 10.00 6 rpm KCl Content 11 11.00 14.00

MUD TREATMENTS

Lost approximately 100 bbls downhole when backreaming out of hole due to coal sloughing.

Built 200 bbls of new premix to maintain mud volume.

BARAZAN-D Plus used to make hi-vis sweeps.

No new shakers screens used on Broadbill 1.

KCl content : 3 %

RIG ACTIVITY

Drill ahead from 1335 to 1345 m. Circulate bottoms up. Drop survey. POOH 1 stand.

Backream out of tight hole (coal sloughing, mud losses occuring) from 1326 to 9-5/8" casing shoe @ 779 m. Circulate bottoms up.

Retreive survey. Service TDS. RIH to 1018 m & ream to TD. Circulate & work pipe. Pump 70 bbl 10 ppg hi-vis sweep. Circulate hole clean, some downhole losses. Spot 100 bbls hi-vis on bottom. POOH - no problem. Rig up & log 8-1/2" hole.

MATERIALS USED SOLIDS EQUIPMENT Product Product Used Sz/Sern HR Used Cost Device Make BARACOR 129 - 25 KG. DRUM Shkr #1 Scalper 179.94 3 10 13 BARAZAN-D PLUS - 25 KG. BAG 6 2159.88 Shkr #2 | Scalper 10 13 DEXTRID LT - 25 Kg. BAG 781.05 15 Shkr #3 | Sweco LM3 150 x 3 13 EZ-MUD DP - 50 LB. BAG 1026.36 Shkr #4 | Sweco LM3 9 150 x 3 13 PAC-L - 25 KG. BAG 2 293.67 Shkr #5 | Sweco LM3 150 x 3 13 barite - 1000 KG. TON 4.400 1417.77 Shkr #6 Sweco LM3 80 x 3 13 potassium chloride - 1000 KG. 1 419.21 dSndr Crestex 3 x 10* potassium hydroxide - 20 KG. 3 132.51 dSlt #1 Crestex 16 x 5"

MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bb1 DRLG 2.00 Water Depth 21.7 CIRC Hole Pits KCL/EZ MUD/POLYMER 600 rpm 54 Calc. F. Grad 0.0 3.00 MUD CONSUMPTION Leak Off Test TRIPS 317 446 300 rpm 38 13.0 4.00 SERV. RIG Active Volume ADDITIONS ECD bbl 200 rpm 31 ppq 0.50 SURVEY Oil 763 100 rpm 23 Cog. Shoe 9.3 1.00 FISHING Reserve Total Brine Water 6 rpm 7 TD 9.3 0.00 Drill Water 3 rpm Max. Diff. Press LOGGING 0.00 118 5 881 194 RUN CSG Low Grav, vol 1 2.1 Sea Water 0.00 Pressure Units: psig ppb Whole Mud CORE 19.29 Press Drop. DP 0.00 DEVIATION INFO High Grav, vol 🕻 BACK REAM 2.2 Barite Press Drop, BIT 0 7.50 Chemicals 1345.0 m REAMING 0.00 ppb 32.34 Press Drop. ANN MD ASG LOSSES TVD TESTING 0.00 3.52 bbl Actual Circ. Press 0 1345.0 m Drill Cuttings Dumped AV. DP m/min 0.0 Angle 3.25 OTHER 6.00 Dilution Rate 0.00 0.0 Direction AVERAGE ROP Lost 249 AV, DC m/min 45 0.00 Slds Control Eff VOL GAIN/LOSS 0.00 -42 AV, Riser m/min Horiz. Displ 0.0 DAILY COST CUMULATIVE COST BAROID REPRESENTATIVE OFFICE/HOME Melbourne TELEPHONE (03) 9621 3311 Nicholas Doust WAREHOUSE TELEPHONE (03) 56 881 445 ŞA 76663.30 Welshpool 6410.39 ŞA

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

REPORT NUMBER: Depth Date 27/01/98 1345.0m Spud Date Present Activity PREPARE TO P & A 17/01/98

CONTRACTOR RIG NUMBER Santa Fe Drilling Paramswara REPORT FOR REGION Mike Walker/ Blain Wilkie Victoria Wally Westman/Chris Roots GEOGRAPHIC AREA COLINTRY WELL NAME AND NUMBER FIELD OR BLOCK Broadbill 1 VIC P/36 Bass Strait Austral

DRILLING STRING CIRCULATION DATA CASING BIT DATA in. Ideco T-1600 Pipe OD Pump Make/Model Size in. Len. Eff. 97.00 V/st Pipe OD in. Size 6.5 X 12 0.120 Type ID Len No. Jets Pipe OD ID Len. 30 Set @ 106.0 mqe bbl/min Ideco T-1600 779.0 Pump Make/Model Jets 32nd inch Collar OD ID Len. 9 5/8 Set @ Size 6.5 X 12 Eff. 97.00 V/st Collar OD ID Set @ 0.120 Len. OPEN HOLE bbl/min in. Set @ spm 0 Size Tot Noz Area 566.0 Set @ Pump Make/Model 8.5 Len Set A Size Eff. V/st Size TFA Len. Size Len Set @ spm bb1/min Size Len. Set @ Tot. Vol./min 0 bbl gρπ Size O TC Time Len. Set 9 BU Time

MUD PROPERTIES MUD TREATMENTS Primary 3 2 Pits. Uncr Program Essential BARAZAN-D Plus used to build 100 bbls of Source Time 13:00 Targets Program hi-vis spotted on bottom prior to POOH. *=Excep FL Temp Deg C 0 Properties 784.9 1654.1 Barite used for slugs. Depth m 1345.0 Weight 9 5 9.0 9.5 ppg FV & 28 Deg C sec/qt 43 KCl content : 3 % PV № 49 Deg C cP 15 30 lbs/100 ft2 ΥP 24 Gels lbs/100 ft2 7/9 API Filt. ml/30 min 4.0 6.0 HTHP @ 121 Deg C ml/30 min 11.0 15.0 Cake API/HTHP 32nd in 1/2 Corr.Solids & by vol 5.1 Oil/Water % by vol 0.0/93 Sand 1 by vol 0.25 MBT 0.6 pH METER @ 20 Deg C 8.0 8.5 9.2 Alk. Mud (Pm) 0.10 Alk. Filtr. (Pf/Mf) 0.01/0.18 Chlorides mg/l 22000 Hard. Ca mg/l 300 Low Gravity Solids ppb 25.30 91.00 6 rpm drillpipe. Prepare to P & A. 6.00 10.00 KCl Content ppb 11 11.00 14.00

Product

RIG ACTIVITY Logs unable to get past 1029 m. Rig down Schlumberger. Pick up 8-1/2" BHA. RIH. Wash & ream from 880 - 982 m & 1027 - 1095 m. RIH. Circulate & condition mud @ 1191 m. RIH to TD. Circulate bottoms up. Pump hi-vis sweep. POOH - no problem. Rig up & log. Logs unable to get past 869 m. Change logging tool configuration - still unable to get further. Rig down. Break & laydown excess

Used

Used Cost BARAZAN-D PLUS - 25 KG. 719.96 barite - 1000 KG. TON 193.33

mg/1

80

MATERIALS USED

Excess sulfite

SOLIDS EQUIPMENT Device | Make Sz/Scrn HR Shkr #1 Scalper 10 Shkr #2 | Scalper 10 Shkr #3 | Sweco LM3 150 x 3 4 Shkr #4 | Sweco LM3 150 x 3 Shkr #5 | Sweco LM3 150 x 3 Shkr #6 Sweco LM3 dSndr Crestex 80 x 3 3 x 10 dSlt #1 Crestex 16 x 5

MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE bbl HYDRAULICS Water Depth 21.7 DRLG 0.00 Hole Pits KCL/EZ MUD/POLYMER 600 rpm 54 Calc. F. Grad 0.0 CIRC 1.50 MUD CONSUMPTION 509 300 rom 39 Leak Off Test 13.0 TRIPS 7 25 Active Volume ADDITIONS bbl 200 rpm 32 ECD SERV. RIG 0.00 ppg Oil 826 100 rpm 24 Csq. Shoe 0.0 SURVEY 0 00 Total Brine Water 7 0 6 rpm TD FISHING 0.0 0.00 Drill Water 826 3 rpm Max. Diff. Press LOGGING 7.25 Sea Water Low Grav, vol % Pressure Unito: RUN CSG psig 0.00 ppb 25.30 Whole Mud Press Drop. DP CORE 0.00 DEVIATION INFO High Grav, vol % Barite Press Drop, BIT 0 BACK REAM 0.00 ppb 33.81 Chemicals Press Drop, ANN 0 MD 1345.0 m REAMING 2.00 ASG 3.41 LOSSES bbl Actual Circ. Press 0 TVD 1345.0 m TESTING 0.00 Drill Cuttings Dumped AV, DP 38 m/min 0.0 Angle 3.25 OTHER 6.00 Dilution Rate Lost AV, DC 19 m/min 0.0 Direction 45 AVERAGE ROP 0.00 Slds Control Eff 0.00 VOL GAIN/LOSS -55 AV, Riser m/min Horiz. Displ 0.0 BAROID REPRSSENTATIVE OFFICE/HOME Melbourne TELEPHONE (03) 9621 3311 DAILY COST CUMULATIVE COST Micholas Doust WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 ŞA

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

REPORT NUMBER:

Depth Date 28/01/98 1345.0m [MD] (Cost Modified) Spud Date Present Activity PLUG & ABANDON 17/01/98 CONTRACTOR RIG NUMBER OPERATOR Amity Oil NL Santa Fe Drilling Paramswara REPORT FOR REPORT FOR REGION Blain Wilkie Wally Westman/Chris Roots Mike Walker/ Victoria WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY Broadbill 1 VIC P/36 Bass Strait Austral BIT DATA DRILLING STRING CASING CIRCULATION DATA in. Size in. Pipe OD Len. Pump Make/Model Ideco T-1600 Pipe OD Size Eff. 97.00 V/st Туре ID Len. in. 6.5 X 12 ID bbl/min No. Jets Pipe OD Len. 0 30 Set @ 106.0 spm Jets 32nd inch Collar OD ID Len. 9 5/8 Set @ 779.0 Pump Make/Model Ideco T-1600 Eff. 97.00 V/st ID Len. Size 6.5 X 12 Collar OD 0.120 Set @ OPEN HOLE Set @ n bbl/min in spm Size Set @ Tot Noz Area Len. Pump Make/Model TFA Size Len. Set @ Size Eff. V/st Size Len. Set @ mga bbl/min Size Tot. Vol./min Len. Set @ 0 0.0 bbl Size Len. Set @ BU Time TC Time MUD PROPERTIES MUD TREATMENTS 2 Primary Source Pits, Uncr Program Essential All chemicals used for P & A. Time 22:36 Targets Program FL Temp Deg C 0 *=Excep Properties Mud engineer leaves rig. Depth 1345.0 2 784.9 1654.1 9.5 Weight ppg 9.0 9.5 FV @ 16 Deg C sec/qt 28 PV @ 49 Deg C cP 1 3 (ΥP lbs/100 ft2 0 Gels lbs/100 ft2 0/0 API Filt. m1/30 min 0.0 6.0 HTHP @ 121 Deg C ml/30 min 0.0 15.0 Cake API/HTHP 32nd in 2/0 Corr.Solids & by vol 0.0 RIG ACTIVITY Oil/Water & by vol 0.0/0.0 Plug and abandon. Sand & by vol MBT 0.0 PH METER @ 20 Deg C 0.0 8.5 9.2 Alk. Mud (Pm) 0.00 Alk. Filtr. (Pf/Mf) 0.00/0.00 Chlorides mg/l 0 Hard. Ca mg/l Low Gravity Solids ppb 0.00 91.00 6 rpm 0 6.00 10.00 KCl Content ppb 11.00 14.00 Excess sulfite mg/l MATERIALS USED SOLIDS EQUIPMENT Product Cost Product Used Device | Make Sz/Scrn HR ALDACIDE G - 25 L. CAN 203.96 Shkr #1 Scalper 10 BARACOR 129 - 25 KG. DRUM Shkr #2 | Scalper 10 Shkr #3 | Sweco LM3 150 x Shkr #4 Sweco LM3 150 x 3 Shkr #5 Sweco LM3 150 x 3 Shkr #6 Sweco LM3 80 x 3 dSndr Crestex 3 x 10' dSlt #1 Crestex 16 x 5' MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME VOLUME MUD bbl MUD TYPE HYDRAULICS Water Depth 21.7 DRLG 0.00 Hole Pits KCL/EZ MUD/POLYMER 600 rpm Calc. F. Grad 0.0 CIRC 0.00 509 MUD CONSUMPTION 300 rpm Leak Off Test 13.0 TRIPS 0.00 Active Volume ADDITIONS bbl ECD 200 rpm ppg SERV. RIG 0.00 Oil 826 0 100 rpm Csg. Shoe 0.0 SURVEY 0.00 Brine Water 6 rpm TD 0.0 FISHING 0.00 826 Drill Water 3 rpm Max. Diff. Press LOGGING 0.00 Low Grav, vol % 0.0 Sea Water Pressure Units: psig RUN CSG 0.00 ppb 0.00 Whole Mud 0 Press Drop. DP 0 CORE 0.00 High Grav, vol 1 0.0 DEVIATION INFO Barite 0 Press Drop, BIT ٥ BACK REAM 0.00 ppb 0.00 Chemicals 1345.0 m 0 Press Drop, ANN 0 MD REAMING 0.00 ASG 2.60 LOSSES bbl Actual Circ. Press 0 TVD 1345.0 m TESTING 0.00 Drill Cuttings O AV. DP Dumped m/min 0.0 Angle 3.25 OTHER 24.00 Dilution Rate 0.00 Lost O AV. DC m/min 0.0 Direction 45 AVERAGE ROP 0.00 Slds Control Eff 0.00 VOL GAIN/LOSS 0 AV, Riser m/min Horiz. Displ 0.0 BAROID REPRESENTATIVE OFFICE/HOME Melbourne TELEPHONE (03) 96:1 3311 DAILY COST CUMULATIVE COST Nicholas Doust WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 \$A 563.84

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

Company: Well Name: Amity Oil NL Broadbill 1

Contractor:

Santa Fe Drilling Paramswara Country: Geo Area: AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



Interval Summary

Interval # 03

Bit Size

8.5 in.

Mud type(s)

KCI/Polymer

Top of interval

785.0 meters

Bottom of interval

1,345.0 meters

Maximum density

9.50 ppg

Interval start date

23/01/98

Interval end date

28/01/98

Interval days

6

Drilling days

3

Interval TD date

26/01/98

Rotating hours

29.75

Average penetration rate

18.8 meters

Bottomhole static temperature

68° Deg C

Maximum flowline temperature

42° Deg C

Casing size

9 5/8 in.

Major lithology

Claystone, Sands, Coal

Maximum deviation

3.25°

Interval mud cost

\$A 46,956.64

Mud cost per (bbl)

\$A 27.81

Mud cost per meters

\$A 83.85

Total Interval Cost

\$A 46,985.74

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Country: Geo Area:

AUSTRALIA BASS STRAIT

Field:

VIC P/36

Programmed mud cost

Variance

Victoria



\$A 3,851.16

\$A 455.14

Interval Material Consumption

Interval #01 in. Hole Section			Top of Interval Bottom of Interval	
Material	Unit size		Quantity	otal cost (\$A)
AQUAGEL	1000 KG.	TON	8.500	4,033.25
caustic soda	25 KG.	PAIL	5	216.05
lime	20 KG.	BAG	5	42.15
soda ash	25 KG.	BAG	1	14.85
Miscellaneous Items				
Cacl2				291.00
		Inte	rval mud cost	\$A 4,306.30
		Inte	rval miscellaneous cos	t \$A 291.00
			al interval cost	\$A 4,597.30

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country: Geo Area: AUSTRALIA BASS STRAIT

Field:

VIC P/36

Region: Vi

Victoria



Interval Material Consumption

Interval #02 12.25 in. Hole Section

Top of Interval 110 meters
Bottom of Interval 785 meters

Material	Unit size		Quantity	Total cost (\$A)
AQUAGEL	25 KG.	BAG	56	659.12
AQUAGEL	1000 KG.	TON	31.700	15,041.65
BARACARB 100	25 KG.	SACK	48	691.20
BARACARB 25	25 KG.	BAG	48	554.40
BARACOR 129	25 KG.	CAN	21	1,282.05
barite	1000 KG.	TON	2.400	773.33
BAROFIBRE	25 LB.	BAG	27	1,606.50
caustic soda	25 KG.	PAIL	2	86.42
PAC-L	25 KG.	BAG	17	2,502.57
PAC-R	25 KG.	BAG	25	3,680.25
Miscellaneous Items				
Cacl2				378.30

Interval mud cost

\$A 26,877.49

Interval miscellaneous cost

\$A 378.30

Total interval cost

\$A 27,255.79

Amity Oil NL Broadbill 1 Santa Fe Drilling Country: Geo Area: AUSTRALIA BASS STRAIT

Field:

VIC P/36 Victoria



Interval Material Consumption

Interval #03 8.5 in. Hole Section		Top of Interva Bottom of Interva	l 785 meters I 1,345 meters			
Material	Unit size		Quantity	Total cost (\$A)		
ALDACIDE G	25 L.	CAN	4	815.84		
BARACARB 100	25 KG.	SACK	. 96	1,382.40		
BARACARB 25	25 KG.	BAG	96	1,108.80		
BARACOR 129	25 KG.	CAN	26	1,566.97		
BARAZAN-D PLUS	25 KG.	BAG	40	14,399.20		
barite	1000 KG.	TON	21.900	7,056.62		
DEXTRID LT	25 KG.	BAG	123	6,464.61		
EZ-MUD DP	50 LB.	BAG	51	5,846.04		
PAC-L	25 KG.	BAG	24	3,532.29		
potassium chloride	1000 KG.	BAG	10	4,312.10		
potassium hydroxide	20 KG.	PAIL	9	397.53		
soda ash	25 KG.	BAG	5	74.25		
Miscellaneous Items						
Cacl2				29.10		
		Inte	rval mud cost	\$A 46,956.65		
		Inte	rval miscellaneous co	st \$A 29.10		
		Tota	al interval cost	\$A 46,985.75		
		Prog	grammed mud cost	\$A 37,605.01		

Variance

\$A 9,351.64

Amity Oil NL

Well Name: B

Broadbill 1

Contractor:

Santa Fe Drilling Paramswara Country:

AUSTRALIA BASS STRAIT

Geo Area: Field:

VIC P/36

gion: Victoria



HOLES	SIZE:in.								MUD TYPE:No Mud									
DATE	INITIAL VOLUME bbi	I MUD I RECEIVED	OIL ADDED bbi	WATER ADDED bbl	BARITE ADDED ьы	CHEMICALS ADDED bbl·	DAILY TOTAL bbl	CUMLATIVE TOTAL bbi		MUD LOST DOWNHOLE bbi		CUMLATIVE LOSSES bbl	MUD RETURNED bbl	FINAL VOLUME bbi	HOLE VOLUME BBI	I ACTIVE PITS bbl	RESERVE PITS bbi	1
16/01/98		ه ا			0	0 0	() .) 0) 0	0		0	١	= o

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Rig:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area: Field:

BASS STRAIT VIC P/36

Region: Victoria



HOLE SIZE:in.											MUD TYPE:Gel/Seawater							
DATE	I INITIAL I VOLUME	MUD RECEIVED bbl	OIL ADDED bu	WATER ADDED bbi	BARITE ADDED bbi	CHEMICALS ADDED bbl		CUMLATIVE TOTAL bbi	MUD LOST SURFACE bbl	MUD LOST DOWNHOLE	TOTAL DAILY LOSSES bbi	LOSSES bbl		FINAL VOLUME bbl	HOLE VOLUME bbi	ACTIVE PITS bbi	RESERVE PITS bbi	- -
17/01/98		ol	0	0 8	379	0 21	900	900	0 662	0	662	662	0	238	238		0	。

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field: Region: VIC P/36 Victoria

H	HOLE SI	ZE:in.										M	JD TYPE	:Seawa	ter			_
. [DATE	INITIAL VOLUME bbi	MUD RECEIVED bbl	OIL ADDED bbl	WATER ADDED bbl	BARITE ADDED bbl	CHEMICALS ADDED bbi	DAILY TOTAL bbi	CUMLATIVE TOTAL	MUD LOST	MUD LOST DOWNHOLE bbi	CUMLATIVE LOSSES bbl		FINAL VOLUME bbi	HOLE	ACTIVE	RESERVE PITS bbl	1
Ì	18/01/98	23	38	0	0	o	0 0	(0 0	0		0	28	1 28		ol d	<u>.</u>

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field: Region: VIC P/36

Victoria



HOLE S	IZE:12.28	ō in.										M	JD TYPE	::Gel/Poly	ymer		
DATE	I INITIAL I VOLUME I БЫ	MUD RECEIVED bbi	OIL ADDED bbl	WATER ADDED bbl	BARITE ADDED Bbi	CHEMICAL ADDED bы	S DAILY TOTAL bbi	CUMLATIVE	MUD LOST SURFACE	MUD LOST DOWNHOLE bbl		CUMLATIVE LOSSES bbi	MUD RETURNED bbi	FINAL VOLUME bbl	HOLE VOLUME bbl	ACTIVE PITS bbi	RESERVE PITS ЫЫ
19/01/98	281	(0 1,3	00	0 4	0 1,430	1,430	340	0	340	340	0	1,371	281	572	518
20/01/98	1,371	(0	0 1,0	42	0 3	9 1,081	2,511	584	700	1,284	1,624	0	1,168	441	419	308
21/01/98	1,168	(اه	0 3	85	0	9 394	2,905	217	24	241	1,865	0	1,321	590	523	208
22/01/98	1,321	(0	o	0	0	0 0	2,906	1,015	0	1,015	2,880	0	306	190	0	116

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Company:

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling Paramswara Country:

AUSTRALIA

Geo Area: Field: BASS STRAIT VIC P/36

Region:

Victoria



HOLE S	IZE:8.5 iı	n.										ML	D TYPE	:KCI/Poly	/mer		
DATE	INITIAL VOLUME bbl	MUD RECEIVED bы	OIL ADDED bbl	WATER ADDED bbi	BARITE ADDED bbl	CHEMICALS ADDED bbl		CUMLATIVE TOTAL bbl	MUD LOST SURFACE		TOTAL DAILY	CUMLATIVE LOSSES bbl	MUD RETURNED , bbi				RESERVE PITS bbl
23/01/98	300	3	0	1,371	0	47	1,418	1,418	0	0	· 0	0	0	1,724	100	0	1,634
24/01/98	1,724	1	0 0	0	15	3	18	1,436	459	70	529	529	0	1,213	215	467	531
25/01/98	1,210	3	0 0		11	12	23	1,459	273	40	313	842	0	923	270	542	111
26/01/98	92:	3	0 0	194	7		207	1,660	140	100	240	1,091	0	881	317	146	118
27/01/98	88	1	0		2	0	2	1,868	67		67	1,148	0	826	317	509	
28/01/98	82	6	0		0	0	0	1,668	0	0	.	1,148	0	826	317	500	١٥

Amity Oil NL Broadbill 1 Contractor:

Santa Fe Drilling

Paramswara

Country: Geo Area: AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



Daily Operations Log

	DATE	DEPTH meters	OPERATION
	16/01/98	52	OFFLOADING BOAT
#			Baroid Engineer arrived on rig.
			Offloading boats.
	17/01/98	110	POOH TO RUN 30" CSG
			Built 400 bbls of flocculated spud mud for î hi-vis sweeps and 500 bbls of pre-hydrated î AQUAGEL for filling hole. Built 1066 bbls of î pre-hydrated AQUAGEL for 12-1/4" section - î will charge of 12-1/4" mud costs tomorrow. Total mud built : 1966 bbls.
			Actual AQUAGEL stock remaining : 16.4 MT. Initial Barite on board: 19.64 MT (432 sxs) All material ordered in loadout 1 rec'd.
			Continue to offload boat. Make up 36" BHA. î RIH. Tag seabed @ 52.4 m. Drill ahead with î seawater pumping 40 bbl hi-vis AQUAGEL î sweeps every 5 - 10 m. Drill to 110.4 m. î Pump 80 bbl hi-vis sweep. Circulate out î sweep. Pump 35 bbl hi-vis mud. Displace hole î to unflocculated pre-hydrated AQUAGEL. POOH. î RIH. Displace hole to unflocculated î pre-hydrated AQUAGEL. POOH to run 30" î conductor.
	18/01/98	110	INSTALL DIVERTER
			Calcium Chloride used for cementing. To be i charged as non-drilling cost.
			Will charge off 12-1/4" mud costs tomorrow.
Ì			Total 12-1/4" mud built to date : 1182 bbls.
			Rig up and run 30" conductor to 106 m. Pick ì up 2-7/8" tubing and run with 30" conductor. ì Cut conductor joint. Cement casing. Install ì $12-1/4$ " diverter.
Ì	19/01/98	110	PICK UP 12-1/4" BHA
;			Calcium chloride used for cementing to be charged as 'non-drilling cost'.
			Built total of 1430 bbls of seawater/AQUAGEL/Polymer mud for 12-1/4" hole.
			Expect API filtrate to decrease with incorporation of drill solids and more PAC-R once drilling commences.
			Continue to install diverter and riser. Function flowline, seals and overboard î lines. Run wear bushing. Cement top of 30" î conductor via 2-7/8" tubing. Pick up 5" î drill pipe. Make up 17-1/2" BHA to drill î cement out. RIH. Drill cement, shoe track î and rathole. Displace hole to î seawater/AQUAGEL/PAC mud system. POOH. Pick î up and make up 12-1/4" BHA.

Amity Oil NL Broadbill 1

Contractor:

Paramswara

Santa Fe Drilling

Drilling

Country: Geo Area: AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



Daily Operations Log

	DATE	DEPTH	OPERATION	
		meters		
_				

20/01/98

545 DRILLING

Built 1070 bbls of new mud. Heavy mud losses experienced through coarse sands (approx 700 bbls). Adding PAC-R to maintain API filtrate and BARACOR-129 to maintain Excess Sulfite.

LCM Sweeps: BARACARB 25: 18 ppb BARACARB 100: 21 ppb BAROFIBRE: 4.5 ppb AQUAGEL: 20 ppb Running all solids control equipment. Building 30 bbls pumpable KCl/EZ-MUD/Polymer mud for spotting across Lakes Entrance.

PROBLEM

: Seepage losses

Seepage losses occuring through coarse sands. Pumped LCM pill/sweep of: BARACARB 25 : 18 ppb BARACARB 100 : 20 ppb AQUAGEL : 20 ppb BAROFIBRE (reg): 4.5 ppb

Continue to pick up 8" drill collars. Drill 7 m of 12-1/4" hole. Pick up last 8" drill collar. Unable to circulate - plugged above float. POOH. Unblock float. RIH. Drill ahead î to 117 m - Incurring downhole losses. Pump î 25 bbl hi-vis sweep. Circulate bottoms up. î Pump 25 bbl hi-vis. Drill ahead to 227 m at î reduced pump strokes (120 spm). Pump 50 bbl î LCM pill (as above) before connection - î losses halted/red'd. Drill to 399 m. Circ î b/u. Spot 100 bbl LCM pill (as precaution) î before conducting survey. Drill ahead

21/01/98

785 R/U TO LOG / LOG

Maintained treatment of active system with PAC-R to hold API filtrate. Diluted active with seawater/PAC-L to control mud viscosity increase from drilling claystone. BARACOR-129 used to maintain excess sulfites. Building KCl/EZ-MUD/Polymer mud for 8-1/2" hole. Ran desander and desilter i non-stop.

Reports have been cost modified to reflect updated mud material prices. No new shakers screens used to date.

PROBLEM

: Seepage losses

Hole not taking correct volume when POOH. Slight seepage losses of 4-6 bbl/hr prior to i logging.

Continue to drill ahead to 701 m. Circulate bottoms up. Conduct Hofco survey. Drill ahead to 785 m. Circulate bottoms up. Conduct multishot survey. POOH. Some tight hole on first 6 stands (hole took 6 bls). ì POOH to 30" conductor @ 110 m. Conduct top ì drive service (hole took 12 bbls). RIH. Hole ì good. Circulate hole clean. POOH. Rig up to ì run Schlumberger logs. Hole drink rate ì currently 4-6 bbls/hr.

Amity Oil NL Broadbill 1

Contractor:

Paramswara

Santa Fe Drilling

Country: Geo Area:

AUSTRALIA BASS STRAIT

Field: Region: VIC P/36



Daily Operations Log

Daliy	Ohei	ations Log
DATE	DEPTH meters	OPERATION
22/01/98	785	woc
		Mixing 3% KCl/EZ-MUD/Polymer mud. Costs/volume to be included tomorrow.
		Three shakers changed to coarser 80 mesh size screens to prevent/reduce initial losses of unsheared mud. Scalpers changed to 10 mesh. No new screens used to date.
		Dumping and cleaning pits at report time.
		AQUAGEL and Calcium Chloride used in cement job - to be charged as non-drilling cost.
		Rig up Schlumberger. Log 12-1/4" hole -BHC-LDL-CNL-DLL-MSPL-GR-CALI-SP. Rig down Schlumberger. Pull diverter bag. Retrieve wear bushing & laydown running tool. Rig up & run 9-5/8" casing to 779 m. Circulate casing while waiting on chemicals. Cement as per program. WOC.
23/01/98	785	RUN WEAR BUSHING
		Built total of 1418 bbls of KCl/EZ-MUD/Poly for 8-1/2" section. Mud built contains only 0.75 ppb EZ-MUD to reduce mud losses over shakers upon dispacement.
		Mud check is on reserve mud. Mud mixed with \hat{i} KCl content of 4 % to allow for depletion \hat{i} through Lakes Entrance Formation.
		WOC. Cut off 9-5/8" casing. Rig up & pull diverter. o/shot & riser & lay don. Install adapter ring. Test flange to 2000 psi. Lower BOP's & nipple up. Pressure test BOP's. Run ì wear bushing.
24/01/98	1,070	DRILLING
		Mud dumped is gel mud in hole & pit. Raised EZ-MUD concentration to programmed value after displacing. Adding BARACOR-129 to i maintain excess sulphites. Weighed up mud to i 9.1 ppg @ 865 m for extra hole stabilty i while drilling coal seams. Lost approx 70 i bbls downhole while drilling coal seams. i Treated active with additional

BARAZAN î D-Plus to combat thinning of the mud from î coal. Running desander/desilter.Changed î shakers to finer 150 mesh screens. No new screens used to date. KCl content : 3 %

Lay down 8" drill collars. Pick up & make up î 8-1/2" BHA. Pick up 5 " drill pipe. RIH. Tag î cement @ 745 m. Drill out cement & float to î 775 with seawater. Pump 100 bbl sweep of old i mud. Displace hole to KCl/EZ-MUD/Polymer i mud. Perform LOT @ 788 m to 13 ppg EMW (564 psi). Drill ahead to 865 m. Circulate i out coal. Drill ahead to 1070 m.

Company: Well Name: Contractor: Amity Oil NL Broadbill 1 Santa Fe Drilling

Paramswara

Country: Geo Area:

AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



Daily Operations Log

DATE	DEPTH meters	OPERATION
25/01/98	1,335	DRILLING .
		Maintain volume & properties with addition of premix. Lost approx 40 bbls downhole (squeezed into formation after coal pack off) while reaming last stand to bottom during wiper trip. Raised mud weight to 9.3 ppg to help stabilise coals. Treated active with 5 ppb each of BARACARB 25 & BARACARB 100 to prevent further seepage losses. ì Maintaining BARACARB concentrations with ì regular additions. Maintaining excess ì sulfites with BARACOR-129. BARAZAN D-Plus ì used to maintain 6 rpm. KCl Content : 3.2 %
		Drill from 1070 - 1095 m. Circulate bottoms up, working pipe. Drop Single shot survey. POOH to shoe @ 779 m. Retrieve survey. Service TDS. RIH. Lose circulation 1 std off bottom. Work pipe. Begin to increase mud weight to 9.3 ppg. Drill ahead to 1335 m.
26/01/98	1,345	LOGGING
		Lost approximately 100 bbls downhole when backreaming out of hole due to coal sloughing.
		Built 200 bbls of new premix to maintain mud volume.
		BARAZAN-D Plus used to make hi-vis sweeps.
		No new shakers screens used on Broadbill 1.
		KCl content: 3 %
		Drill ahead from 1335 to 1345 m. Circulate ì bottoms up. Drop survey. POOH 1 stand. ì Backream out of tight hole (coal sloughing, ì mud losses occuring) from 1326 to 9-5/8" ì casing shoe @ 779 m. Circulate bottoms up. ì Retreive survey. Service TDS. RIH to 1018 m ì & ream to TD. Circulate & work pipe. Pump 70 ì bbl 10 ppg hi-vis sweep. Circulate hole ì clean, some downhole losses. Spot 100 bbls ì hi-vis on bottom. POOH - no problem. Rig up ì & log 8-1/2" hole.
27/01/98	1,345	PREPARE TO P & A
		BARAZAN-D Plus used to build 100 bbls of hi-vis spotted on bottom prior to POOH.
		Barite used for slugs.
		KCl content: 3 %
		Logs unable to get past 1029 m. Rig down Schlumberger. Pick up 8-1/2" BHA. RIH. Wash & ream from 880 - 982 m & 1027 - 1095 m. RIH. Circulate & condition mud @ 1191 m. RIH to TD. Circulate bottoms up. Pump hi-vis sweep. POOH - no problem. Rig up & log. Logs unable to get past 869 m. Change logging i tool configuration - still unable to get i further. Rig down. Break & laydown excess i drillpipe. Prepare to P & A.

Amity Oil NL

Contractor:

Broadbill 1 Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area: Field:

BASS STRAIT VIC P/36

Region:

Victoria



Operations Log

DATE DEPTH meters **OPERATION** 28/01/98 1,345 **PLUG & ABANDON** All chemicals used for P & A. Mud engineer leaves rig. Plug and abandon.

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

dbill 1

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field:

VIC P/36

Region: Victoria

Bit and Hydraulic Record

DATE	BIT NO.	BIT SIZE in.	BIT MAKE	BIT	JETS or TFA	OUT	DRILLED	HOURS	WEIGHT ON BIT Ib/1000	BIT RPM	PUMP OUTPUT gpm		PUMP PRESSURE psig	MUD WEIGHT PPg	BIT GRADING	MUD TYPE, LITHOLOGY, REMARKS
11		0.00								0		0/0				

17/01/98	1	36.00	VAREL	L3AB	3 X 22	110	58	1	1	}	٥	924	. 0/0		9	1-1-NO-A-0	Seawater/AQUAGEL sweeps, Mari
20/01/97	2	17.50	HUGHES	R1	3 X 20						0	924	0/0		9	1-1-NO-A-0	Cement
20/01/97	3	12.25	HUGHES	MAX-GT1	3 X 16	785	675	22	22	20	0	840	16/140	2420	9	1-2-NO-A-2	Seawater/AQUAGEL/Polymer, Miscene i Sand, sittstone, claystone,
24/01/97	4	8.50	HUGHES	ATM GT18	2 X 16, 14	1345	560	27	43	15	140	504	74/125	1350	9	4-5-IN GAU	KCI/EZ-MUD/Polymer, Sansstone, Coal

Amity Oil NL

Well Name: Broadbill 1

Contractor: Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field:

VIC P/36

Victoria

Mud Property Recap: Water-Based Mud

DATE	DEP	TH F/	L	DENSITY	FUN	RHI	EOLOG	Y @ 12	O°F	pH	FILTRAT	ION			FILTRATE	NALYSIS				SAND	RETORT A	NALYSIS			MBT	RHEOMETE DIAL READ	R	
		- ["			V10	PV	1:	ΥP	GELS	_ (API	нтнр	Cake	Temp	Pm	Pf	Mf	CI	Total Hardness		Corr Solids	LGS	Oil	Water	İ	DIAL NEAD		
· · · · · · · · · · · · · · · · · · ·	mete	ers D	eg C	PPg	sec/qt	сР		lb	s/100 ft2		m1/30 m	ml/30 min	32nd in	Deg C	mi	mt	mt	mg/L	mg/L	% by vol		% by vol	% by vol	% by vol	me/ml mud	600/300	200/100	6/3
16/01/98		52		8.3	28		1.0	-	,			1	2/0	121	1]			,	1 ,	,
17/01/98	1	10		0.0			1.0		,				2/ 0	121]					1	,	,
18/01/98	1	10		0.0			1.0		,			1	2/0	121	1							1		1		,	,	,
19/01/98	1	10		8.9	38		7.0	8.0	3.0/	.0	12.0	1	1/0	121										1		22 / 15	11 / 7	3 / 2
20/01/98	6	545	36	8.9	39	1	19.0	20.0	17.0/ 2	.о в	50 8.2	22.00	1/0	121	0.30	0.01	0.05	20,500	0.00	0.6	3.22	3.22		95.60	4.00	58 / 39	31 / 24	15 / 14
21/01/98	7	785	46	9.0	85	1	15.0	23.0	17.0/ 30	.о в	20 8.0	22.80	1/2	121	0.40	0.02	0.06	21,000	600.0	tr	3.90	3.90		94.90	5.00	53 / 38	32 / 26	16 / 13
22/01/98	7	785	46	9.2	44	1	14.0	20.0	15 0/ 2:	.0 8	.20 7.8	22.00	1/2	121	0.30	0.01	0,08	21,000	680.0	tr	5.41	5.41	1	93.40	5.50	48 / 34	29 / 25	14 / 1:
23/01/98	7	785		8.9	66	1	10.0	15.0	4.0/	.0 8	20 5.0	12.50	1/ 1	121	0.20	0.07	0.11	43,000	380.0	1	1.67	1.67	1	95.80	1	35 / 25	20 : 14	6 / :
24/01/98	10	070	40	8.9	44	,	13.0	18.0	4.0/	.o 9	.00 4.7	12.40	1/2	121	0.22	0.02	0.18	24,000	320.0	1.0	2.91	2.91	1	95.70	0.20	44 / 31	25 / 18	6 /
25/01/98	13	335	42	9.3	42	,	14.0	23.0	5.0/	.о в	50 3.6	10.60	1/2	121	0.20	0.01	0.18	22,000	300.0	0.25	4.34	2.87		94.40	0.60	51 / 37	30 / 21	6 /
26/01/98	13	345	42	0.4	44		160	22.0	6.0/	.0 8	50 3.6	10.50	1/2	121	0.10	0.01	0.16	22,000	300.0	0.5	4.34	2.12		94.40	0.60	64 / 38	31 / 23	7 /
27/01/98	13	345		9 5	43	,	15.0	24.0	7.0/	.о в	.00 4.0	11.00	1/2	121	0.10	0.01	0.18	22,000	300.0	0.25	5.05	2.78		93.70	0.60	64 / 30	32 / 24	, ,
28:01/98	13	345		9.5	28		1.0		,	1	1		2/0	121	1		1	1								,	1 ,	,

NO INVENTORY USED ON THIS REPORT

MATERIALS USED

SOLIDS EQUIPMENT
Device Make Sz/Scrm HR

		NAGEMENT	RHEOLOGY	AND	FRACTURE GRA	DIENT	TIME	
MUD VOLU	ЈМЕ ььі	MUD TYPE	HYDRAUL:	ICS	Water Depth	21.7	DRLG	0.00
Hole	Pits	No Mud	600 rpm		Calc. F. Grad	0.0	CIRC	0.00
0	0	MUD CONSUMPTION	300 rpm		Leak Off Test	0.0	TRIPS	0.00
Active V	/olume	ADDITIONS bbl	200 rpm		ECD bi	g	SERV. RIG	0.00
0		Oil 0	100 rpm		Csg. Shoe	0.0	SURVEY	0.00
Reserve	Total	Brine Water 0	6 rpm		TD	0.0	FISHING	0.00
	0	Drill Water 0	3 rpm		Max. Diff. Press	0	LOGGING	0.00
Low Grav, vol	L % 0.0	Sea Water 0	Pressure Units:	psig			RUN CSG	0.00
þēp	0.00	Whole Mud 0	Press Drop. DP	0			CORE	0.00
High Grav, vo	0.0	Barite 0	Press Drop, BIT	0	DEVIATION I	NFO	BACK REAM	0.00
рър	0.00	Chemicals 0	Press Drop, ANN	0	HD 52.	4 m	REAMING	0.00
ASG	2.60	rosses pp1	Actual Circ. Pres	99 O	T/D 52.	4 m	TESTING	0.00
Drill Cutting	. 1	Dumped 0	AV, DP m/min	0.0	Angle	0.00	OTHER	0.00
Dilution Rate	0.00	Lost 0	AV, DC m/min	0.0	Direction		AVERAGE ROP	0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS 0	AV, Riser m/min		Horiz. Displ 0.0	m		
BAROID REPRES	SENTATIV-	OFFICE/HOME	Melbourne	TELEPHONE	(03) 9621 3311	DAILY CO	OST CUMULAT	IVE COST
Nicholas Dous	t	WAREHOUSE	Welshpool	TELEPHONE	(03) 56 881 445	\$A	0.00 \$A	0.00
		NOTE: ALL	COSTS ARE REPORTED	IN AUSTRA	ALIA'S DOLLAR			

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	IATERIA	LS USE	D				SOLI	DS EQUI	PMENT	
Product	Used	Cost	Product		Used	Cost	Device	Make	Sz/Scrn	HF
AQUAGEL - 1000 KG. TON	8.500	4033.25					Shkr #1	Scalper		
caustic soda - 25 KG. PAIL	5	216.05					Shkr #2	Scalper		
lime - 20 KG. BAG	5	42.15					Shkr #3	Sweco LM3		
soda ash - 25 KG. BAG	1	14.85					Shkr #4	Sweco LM3		_
							Shkr #5	Sweco LM3		_
							Shkr #6	Sweco LM3	ll	
							dSndr	Crestex	3 × 10"	

dSlt #1 Crestex

16 x 5"

	NATIO NATION	TA CIEDADAM		TED A COUNTY OF A DATE OF	TO LOT ME
		VAGEMENT	RHEOLOGY AND	FRACTURE GRADIEN	NT TIME
MUD VOLU	МЕ ыы	MUD TYPE	HYDRAULICS	Water Depth 21	.7 DRLG 3.00
Hole	Pits	SEAWATER/HI VIS SWEEPS	600 rpm	Calc. F. Grad 0.0	CIRC 2.00
238	0	MUD CONSUMPTION	300 rpm	Leak Off Test 0.0	TRIPS 2.50
Active V	olume	ADDITIONS bbl	200 rpm	ECD ppg	SERV. RIG 0.00
238		Oil	100 rpm	Cog. Shoe 0.0	SURVEY 0.00
Reserve	Total -	Brine Water	6 rpm	TD 0.0	FISHING 0.00
	238	Drill Water 62	3 rpm	Max. Diff. Press	0 LOGGING 0.00
Low Grav, vol	1 0.0	Sea Water 25	Pressure Units: psig	1	RUN CSG 0.00
bèp	0.00	Whole Mud	Press Drop. DP 0		CORE 0.00
High Grav, vo	0.0	Barite	Press Drop, BIT 0	DEVIATION INFO	BACK REAM 0.00
bbp	0.00	Chemicals 2	Press Drop, AMN 0	MD 110.0	m REAMING 0.00
A.SG		LOSSES bbl	Actual Circ. Press 0	TVD 110.0	m TESTING 0.00
Drill Cutting	35 O	Dumped 66	AV. DP m/min 0.0	Angle 0.0	0 OTHER 16.50
Dilution Rate	0.00	Lost	AV, DC m/min 0.0	Direction	AVERAGE ROP 0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS 23	AV, Riser m/min	Horiz. Displ 0.0	m
BAROID REPRES	SENTATIVE	OFFICE/HOME	Melbourne TELEPHONE	(03) 9621 3311 DAIL	Y COST CUMULATIVE COST
Nicholas Doug	st	WAREHOUSE	Welshpool TELEPHONE	(03) 56 881 445 \$A	4306.30 \$A 4306.30

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

REPORT NUMBER: 3

Date Depth
18/01/98 110.0 m [MD]
Spud Date Present Activity

Spud Date Present Activity INSTALL DIVERTER 17/01/98 CONTRACTOR OPERATOR RIG NUMBER Paramswara Amity Oil NL Santa Fe Drilling REPORT FOR REGION REPORT FOR Wally Westman/Murray Jackson Santa Fe Drilling Victoria WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY Broadbill 1 VIC P/36 Bass Strait Austral in. DRILLING STRING CIRCULATION DATA CASING BIT DATA Len. Size in. Pipe OD Pump Make/Model Ideco T-1600 Size 6.5 X 12 Eff. 97.00 V/st Pipe OD ID Len. in. Type bbl/min No. Jeta Pipe OD ID Len. 30 Set @ 106.0 apm 0 0.0 Collar OD Pump Make/Model Ideco T-1600 Jets 32nd inch ID Len. Set @ Eff. 97.00 V/st Collar OD Size 6.5 X 12 Len. Set @ OPEN HOLE Set 🗈 0 bbl/min 0.0 Size Pump Make/Model 4.0 Tot No: Area Len. Set @ V/st TFA Size Len. Set @ Size Eff. Set 🖗 Size bbl/min Len. spm Size Tot. Vol./min bbl Len. Set @ 0 gpm 0.0 Size 0 TC Time Len. Set @ BU Time MUD PROPERTIES MUD TREATMENTS Primary Calcium Chloride used for cementing. To be Flowline Program Source Essential Time 19:37 Targets Program charged as non-drilling cost. FL Temp Deg C *=Excep Properties 110.0 Will charge off 12-1/4" mud costs tomorrow. Depth m Weight 0.0 ppg FV @ 16 Deg C sec/qt Total 12-1/4" mud built to date : 1182 bbls. 0 PV 2 49 Deg C cP 1 ΥP lbs/100 ft2 0 Gels 1bs/100 ft2 0/0 API Filt. m1/30 min 0.0 HTHP 2 121 Deg C ml/30 min 0.0 Cake API/HTHP 32nd in 2/0 RIG ACTIVITY Corr.Solids & by vol 0.0 Oil/Water % by vol 0.0/0.0 Rig up and run 30" conductor to 106 m. Pick Sand & by vol up 2-7/8" tubing and run with 30" conductor. MBT 0.0 Cut conductor joint. Cement casing. Install pH STRIP 12-1/4" diverter. Alk. Mud (Pm) 0.00 Alk. Filtr. (Pf/Mf) 0.00/0.00 Chlorides mg/l 0 Hard. Ca mg/l 0 Low Gravity Solids ppb 0.00 MATERIALS USED SOLIDS EQUIPMENT

NO INVENTORY USED ON THIS REPORT

	LOOD 11	70 HQ 0 F 1	- 1 1 T T A T	_
	Device	Make	Sz/Scrn	н
	Shkr #1	Scalper	20	
	Shkr #2	Scalper	20	_
	Shkr #3	Sweco LM3	150 x 3	
	Shkr #4	Sweco LM3	150 x 3	_
	Shkr #5	Sweco LM3	150 x 3	
	Shkr #6	Sweco LM3	150 x 3	
i	dSndr	Crestex	3 x 10"	
	dslt #1	Crestex	16 x 5"	
1				

				1	, , , , ,
	MAM GUM	NAGEMENT	RHEOLOGY AND	FRACTURE GRADIEN	TIME
MUD VOLU	UME bb1	MUD TYPE	HYDRAULICS	Water Depth 21.7	DRLG 0.00
Hole	Pits	Seawater	600 rpm	Calc. F. Grad 0.0	CIRC 0.00
281	0	MUD CONSUMPTION	300 rpm	Leak Off Test 0.0	TRIPS 0.00
Active 1	Volume	ADDITIONS bbl	200 rpm	ECD ppg	SERV. RIG 0.00
281		Oil	100 rpm	Cog. Shoe 0.0	SURVEY 0.00
Reserve	Total	Brine Water	6 rpm	TD 0.0	FISHING 0.00
	281	Drill Water	3 rpm	Max. Diff. Press 0	LOGGING 0.00
Low Grav, vo	1 \$ 0.0	Sea Water	Pressure Units: psig		RUN CSG 14.00
ppb	0.00	Whole Mud	Press Drop. DP 0		CORE 0.00
High Grav, vo	ol \$ 0.0	Barite	Press Drop, BIT 0	DEVIATION INFO	BACK REAM 0.00
ppb	0.00	Chemicals	Press Drop, ANN 0	MD 110.0 m	PEAMING 0.00
ASG		Losses bbl	Actual Circ. Press 0	TVD 110.0 m	TESTING 0.00
Drill Cutting	gs 0	Dumped	AV, DP m/min 0.0	Angle 0.00	OTHER 10.00
Dilution Rate	e 0.00	Lost	AV, DC m/min 0.0	Direction	AVERAGE ROP 0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS	AV, Riser m/min	Horiz. Displ 0.0 m	1
BAROID REPRES	SENTATIVE	OFFICE/HOME	Melbourne TELEPHONE	(03) 9621 3311 DAILY	COST CUMULATIVE COST
Nicholas Dous	st	WAREHOUSE	Welshpool TELEPHONE	(03) 56 881 445 SA	0.0d SA 4306.30

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

REPORT NUMBER: Date Depth 19/01/98 110.0 m [MD] Spud Date Present Activity

PICK UP 12-1/4" BHA 17/01/98 OPERATOR CONTRACTOR RIG NUMBER Amity Oil NL REPORT FOR Santa Fe Drilling Paramswara REPORT FOR REGION Wally Westman/Murray Jackson Santa Fe Drilling Victoria WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY VIC P/36 Broadbill Bass Strait Austral BIT DATA DRILLING STRING CASING CIRCULATION DATA in. Pipe OD Pump Make/Model Ideco T-1600 Size Len Pipe OD ID Len Size 6.5 X 12 Eff. 97.00 V/st Type in. No. Jets Pipe OD ΙD Len 30 Set @ 106.0 spm 0 bbl/min 0.0 Pump Make/Model Ideco T-1600 Jets 32nd inch Collar OD ID Len. Set 9 Eff. 97.00 V/st Collar OD Size ID Len. Set @ 6.5 X 12 0.120 OPEN HOLE in. Set @ spm n bbl/min Len. Size 36 Pump Make/Model 4.0 Set @ Tot Noz Area TFA Size Len. Set @ Size Rff. V/st Size Len. Set @ apm bbl/min Size Tot. Vol./min Len. Set @ 0 0.0 bbl Size Len. Set @ BU Time 0 TC Time MUD PROPERTIES MUD TREATMENTS Primary Source Pits, Circ Program Essential Calcium chloride used for cementing to be 20:45 charged as 'non-drilling cost'. Time Targets *=Excep FL Temp Deg C 0 Properties Depth m 110.0 , Built total of 1430 bbls of Weight 8.9 seawater/AQUAGEL/Polymer mud for 12-1/4" PP9 FV 2 18 Deg C sec/qt 38 PV @ 49 Deg C cP 7 1bs/100 ft2 В Expect API filtrate to decrease with Ϋ́Р Gels lbs/100 ft2 3/4 incorporation of drill solids and more PAC-R API Filt. ml/30 min once drilling commences. 12.0 HTHP 9 121 Deg C ml/30 min 0.0 Cake API/HTHP 32nd in 1/0 RIG ACTIVITY Corr.Solids % by vol 0.0 Continue to install diverter and riser. Oil/Water % by vol 0.0/0.0 Sand % by vol Function flowline, seals and overboard MBT 0.0 lines. Run wear bushing. Cement top of 30° pH STRIP 0.0 conductor via 2-7/8" tubing. Pick up 5" Alk. Mud (Pm) 0.00 drill pipe. Make up 17-1/2" BHA to drill Alk. Filtr. (Pf/Mf) 0.00/0.00 cement out. RIH. Drill cement, shoe track Chlorides mg/l and rathole. Displace hole to seawater/AQUAGEL/PAC mud system. POOH. Pick Hard. Ca mg/l 0 Low Gravity Solids ppb 0.00 up and make up 12-1/4" BHA. Excess sulfite mq/l MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Used Cost Device Make Sz/Sern HR AQUAGEL - 1000 KG. TON 17.100 8113.95 Shkr #1 | Scalper PAC-L - 25 KG. BAG 14 2060.94 Shkr #2 Scalper 20 PAC-R - 25 KG. BAG 2 294.42 Shkr #3 | Sweco LM3 150 x 3 Shkr #4 Sweco LM3 150 x 3 Shkr #5 | Sweco LM3 | 150 x 3 Shkr #6 Sweco LM3 150 x 3 dSndr Crestex 3 x 10' dSlt #1 Crestex 16 x 5 MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME VOLUME MUD TYPE bbl HYDRAULICS Water Depth 21.7 DRLG 0.00 600 rpm 22 GEL/SEAWATER/FOLYMER Calc. F. Grad 0.0 CIRC 0.75 MUD CONSUMPTION 300 rpm 15 Leak Off Test 0.0 TRIPS 0.00 Active Volume ADDITIONS bbl 200 rpm 11 ECD SERV. RIG 0.00 ppq 853 Oil 100 rpm 7 Csg. Shoe 0.0 SURVEY 0.00 Peserve Brine Water 6 rpm 3 FISHING TD 0.0 0.00 1371 Drill Water 1026 3 rpm 2 Max. Diff. Press LOGGING 0.00 Low Grav, vol % Sea Water Pressure Units: psiq RUN CSG 0.00 ppb 0.00 Whole Mud Press Drop. DP 0 CORE 0.00 DEVIATION INFO High Grav, vol % Barite Press Drop, BIT BACK REAM 0.00

> Melbourne WAREHOUSE TELEPHONE (03) 56 881 445 \$A Welshpool NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

AV. DP 281

AV, DC 59

1090 AV, Riser m/min

40

Press Drop, ANN

Actual Circ. Press

Chemicals

VOL GAIN/LOSS

OFFICE/HOME

Dumped

LOSSES

0.00

The recommendations made hereon shall not be construed as authorizing the infringement of any valid patent, and are made without assumption of any liability by BAROID DRILLING FLUIDS. INC. or its agents, and are statements of opinion only.

m/min

m/min

0

0.0

0.0

TELEPHONE

MD

TЛ

Angle

Direction

Horiz. Displ

110.0

110.0

0.0

(03) 9621 3311 DAILY COST

m

m

0.00

REAMING

TESTING

AVERAGE ROP

OTHER

10469.31

0.00

0.00

23.25

0.00

CUMULATIVE COST

ppb

Drill Cuttings

Slds Control Bff

BAROID REPRESENTATIVE

Dilution Rate

Nicholas Doust

ASG

REPORT NUMBER: Date Depth 20/01/98 545.0 m

> b/u. Spot 100 bbl LCM pill (as precaution) before conducting survey. Drill ahead.

GEOGRAPHIC AREA

[MD]

COUNTRY Austral

Spud Date Present Activity 17/01/98 DRILLING RIG NUMBER CONTRACTOR **OPERATOR** Amity Oil NL Santa Fe Drilling Paramswara REPORT FOR REGION REPORT FOR Wally Westman/Murray Jackson
WELL NAME AND NUMBER Santa Fe Drilling Victoria

FIELD OR BLOCK

VIC P/36 Bass Strait Broadbill 1 DRILLING STRING CASING CIRCULATION DATA BIT DATA in. Ideco T-1600 Size 12.25 Pipe OD ID 4.276 Len. 314.2 Pump Make/Model Eff. 97.00 V/st Type MAX GT1 Pipe OD ID 3.000 Len. 112.4 in. 6.5 X 12 80 bbl/min No. Jets Pipe OD ID Len. 30 Set @ 106.0 mge Jets 32nd incl Collar OD ID 2.75 Len. 118.4 Set @ Pump Make/Model Ideco T-1600 Eff. 97.00 V/st Size 6.5 X 12 16 16 Collar OD ID Len. Set @ OPEN HOLE Set @ apm 80 bbl/min 9.6 in. Size 12.25 Set @ Pump Make/Model Len. Tot Noz Area V/st Size Bff. TFA Size Len Set @ Size Len. Set @ apm bbl/min Tot. Vol./min 803 bbl Size Len. Set @ ābw 19.1

Size Len. Set @ BU Time TC Time 45 MUD TREATMENTS MUD PROPERTIES Primary Built 1070 bbls of new mud. Heavy mud losses Source Pits. Circ Flowline Program Essential 08:00 20:00 Targets Program experienced through coarse sands (approx 700 bbls). Adding PAC-R to maintain API filtrate FL Temp Deg C 36 44 *=Excep Properties Depth and BARACOR-129 to maintain Excess Sulfite. 165.0 420.0 110.0 784.9 Weight 9.0 ББā FV & 44 Deg C BARACARB 25 : sec/qt 39 44 35 LCM Sweeps : 18 ppb BARACARB 100: 21 ppb PV 2 49 Deg C cP 19 17 20 26 4.5 ppb ïΡ lbs/100 ft: : Gels 20 ppb lbs/100 ft2 17/21 16/21 AOUAGEL m1/30 min Running all solids control equipment. 8.2 8.0 8.0 Building 30 bbls pumpable KCl/EZ-MUD/Polymer HTHP & 121 Deg C ml/30 min 22.0 21.0 Cake API/HTHP 32nd in 1/0 1/0 mud for spotting across Lakes Entrance. RIG ACTIVITY Corr.Solids 1 by vol 3.2 4.1 Oil/Water & by vol 0.0/95. 0.0/94 Continue to pick up 8" drill collars. Drill Sand & by vol 0.5 7 m of 12-1/4" hole. Pick up last 8" drill HBT 4.0 4.2 collar. Unable to circulate - plugged above pH METER € 20 Deg C 8.5 8.5 float. POOH. Unblock float. RIH. Drill ahead Alk. Mud (Pm) 0.30 0.36 to 117 m - Incurring downhole losses. Pump Alk. Filtr. (Pf/Mf) 0.01/0.05 0.01/0.07 25 bbl hi-vis sweep. Circulate bottoms up. Chlorides mg/l 20500 21000 Pump 25 bbl hi-vis. Drill ahead to 227 m at Hard. Ca mg/l 600 620 reduced pump strokes (120 spm). Pump 50 bbl Low Gravity Solids ppb 29.30 37.31 LCM pill (as above) before connection losses halted/red'd. Drill to 399 m. Circ Excess sulfite 100 100

MATERIALS USED SOLIDS EQUIPMENT Product Used Product Used Cost Device Make Sz/Scrn HR AOUAGEL - 1000 KG. TON 12.400 5283.80 Scalper Shkr #1 10 BARACARB 100 - 25 KG. SACK 691.20 48 Shkr #2 | Scalper 20 17 BARACARE 25 - 25 KG. BAG 554.40 48 Shkr #3 | Sweco LM3 150 x 3 17 BARACOR 129 - 25 KG. DRUM 19 1159.95 Shkr #4 | Sweco LM3 150 x 3 17 BAROFIBRE - 25 LB. SACK 27 1606.50 Shkr #5 Sweco LM3 150 x 3 17 PAC-R - 25 KG. BAG 2796.99 19 Shkr #6 | Sweco LM3 150 x 3 17 caustic soda - 25 KG. PAIL 86.42 3 x 10" 17 dSndr Crestex dslt #1 Crestex 16 x 5" 17

MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE bbl HYDRAULICS Water Depth DRLG 15.00 21.7 500 rpm GEL/SEAWATER/POLYMER Calc. F. Grad CIRC 3.00 0.0 MUD CONSUMPTION 300 rpm 39 Leak Off Test TRIPS 4.75 0.0 Active Volume ADDITIONS 200 zpm 31 SERV. RIG 0.00 ppg 860 Oil 100 rpm 24 SURVEY Csg. Shoe 0.50 Reserve Total Brine Water 6 rpm 15 TD FISHING 9.2 308 Drill Water 1168 3 rpm 14 15 Max. Diff. Press LOGGING Low Grav, vol & Sea Water 3.2 RUN CSG psig ppb 29.30 Whole Mud Press Drop. DP CORE High Grav, vol \$ 0.0 Barite DEVIATION INFO BACK REAM Press Drop, BIT 1512 ppb 0.00 Chemicals Press Drop, ANN 28 545.0 REAMING ASG 2.58 LOSSES Actual Circ. Press 2420 TVD 545.0 TESTING 12 Drill Cuttings Dumped 40 AV. DP m/min 7.9 Angle OTHER Dilution Rare 16.83 Lost AV. DC 1244 m/min 69.7 Direction AVERAGE ROP 3lds Control Eff VOL GAIN/LOSS 0.00 -203 AV. Riser m/min Horiz. Displ DAILY COST BAROID REPRESENTATIVE OFFICE/HOME Melbourne TELEPHONE (03) 9621 3311 CUMULATIVE COST TELEPHONE Nicholas Doust Welshpool (03) 56 881 445 \$A 12779.24 \$A 27554.87

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

CONTRACTOR RIG NUMBER Santa Fe Drilling Amity Oil NL Paramswara REPORT FOR REPORT FOR REGION Santa Fe Drilling Victoria Wally Westman/Murray Jackson GEOGRAPHIC AREA COUNTRY FIELD OR BLOCK WELL NAME AND NUMBER Broadbill 1 VIC P/36 Bass Strait Austral

CASING CIRCULATION DATA BIT DATA DRILLING STRING in. Pump Make/Model Ideco T-1600 Size Pipe OD ID Len. Size 6.5 X 12 Eff. 97.00 V/st Pipe OD ΙD Len. in. Type Set 🏺 0 bbl/min No. Jets Pipe OD Len. 30 106.0 spm 0.0 Pump Make/Model Ideco T-1600 Collar OD ΙD Set @ Jets 32nd inch Len. Collar OD ΤD Len. Set @ Size 6.5 X 12 Eff. 97.00 V/st OPEN HOLE bbl/min in. Set @ 0 apm Pump Make/Model Tot Noz Area Site 12.25 Len. 679.0 Set @ V/st Set & Size Rff. TFA Size Len. bbl/min Size Set @ Len. spm Size Set @ Tot. Vol./min 0 0.0 bbl Len.

Size BU Time Len. Set @ MUD TREATMENTS MUD PROPERTIES Primary 2 Maintained treatment of active system with Source Pits, Circ Flowline Essential PAC-R to hold API filtrate. Diluted active Targets 13:00 Program Time 06:00 Deg C 46 46 *=Excep Properties with seawater/PAC-L to control mud viscosity FL Temp increase from drilling claystone. 701.0 785.0 110.0 784.9 Depth m BARACOR-129 used to maintain excess Weight 9.0 9.2 ppg FV & 46 Deg C 85 70 35 sulfites. Building KCl/EZ-MUD/Polymer mud sec/qt 45 for 8-1/2" hole. Ran desander and desilter PV * 49 Deg C cP 15 15 ΥP lbs/100 ft2 23 21 non-stop. lbs/100 ft2 17/30 17/29 Gels API Filt. m1/30 min 8.0 7.8 8.0 Reports have been cost modified to reflect HTHP 2 121 Deg C m1/30 min updated mud material prices. 22.8 21.0 Cake API/HTHP 1/2 No new shakers screens used to date. 32nd in 1/2 RIG ACTIVITY Corr.Solids & by vol 3.9 5.4 Oil/Water & by vol 0.0/94. 0.0/93. Continue to drill ahead to 701 m. Circulate Sand & by vol tr tr bottoms up. Conduct Hofco survey. Drill MBT 5.0 ahead to 785 m. Circulate bottoms up. 5.5 PH METER @ 20 Deg C 8.2 8.2 Conduct multishot survey. POOH. Some tight Alk. Mud (Pm) 0.40 0.45 hole on first 6 stands (hole took 6 bls). Alk. Filtr. (Pf/Mf) 0.02/0.06 0.02/0.0 POOH to 30" conductor @ 110 m. Conduct top Chlorides mq/l drive service (hole took 12 bbls). RIH. Hole 21000 21000 Hard. Ca mg/l 600 600 good. Circulate hole clean. POOH. Rig up to Low Gravity Solids ppb 35.49 run Schlumberger logs. Hole drink rate 49.23 Excess sulfite 120 100 currently 4-6 bbls/hr.

MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Used Device Make Sz/Sern HR ACUAGEL - 1000 KG. TON 2.200 1043.90 Shkr #1 Scalper 10 13 BARACOR 129 - 25 KG. DRUM 2 122.10 Shkr #2 | Scalper 20 PAC-L - 25 KG. BAG 3 441.63 Shkr #3 | Sweco LM3 150 x 3 13 PAC-R - 25 KG. BAG 588.84 Shkr #4 | Sweco LM3 150 x 3 13 barite - 1000 KG. TON 2.400 773.33 Shkr #5 Sweco LM3 150 x 3 13 Shkr #6 | Sweco LM3 150 x 3 13 dSndr Crestex 3 × 10" 13 dSlt #1 Crestex 16 x 5" 13

MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bbl Water Depth 21.7 DRLG 10.75 Hole Pits GEL/SEAWATER/POLYMER 600 rpm 53 Calc. F. Grad 0.0 CIRC 2.25 590 52 MUD CONSUMPTION 300 rpm 38 36 Leak Off Test 0.0 TRIPS 7.00 Active Volume ADDITIONS bb1 200 rpm 32 31 ECD SEPV. PIG 0 00 1113 Oil 100 rpm 26 25 Cag. Shoe 9.1 SURVEY 1.25 Peser:e Total Brine Water 6 rpm 16 15 TD 9.3 FISHING 0.00 Drill Water 208 1321 3 rpm 13 13 Max. Diff. Press ٥ LOGGING 0.00 Low Grav, vol & Sea Water 3.9 385 Pressure Units: psiq RUN CSG 0.00 ppb 35.49 Whole Mud Press Drop. DP CORE 0.00 High Grav, vol \$ 0.0 DEVIATION INFO Barite Press Drop, BIT 0 BACK REAM 0.00 ppb 0.00 Chemicals Press Drop, ANN 0 MD 785.0 REAMING 0.00 ASG 2.60 LOSSES Actual Circ. Press TVD bbl 0 785.0 TESTING 0.00 Drill Cuttings Dumped AV. DP 62 m/min 0.0 Angle 0.25 OTHER 2.75 Dilution Rate Lost AV. DC Direction 179 m/min 0.0 320 AVERAGE ROP 0.00 Slds Control Eff 0.00 VOL GAIN/LOSS Horiz. Displ 153 AV, Riser m/min 0.5 BAROID REPRESENTATIVE OFFICE/HOME TELEPHONE (03) 9621 3311 DAILY COST CUMULATIVE COST Melbourne Nicholas Doust WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 \$A 30524.67 2969.80

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

ppb

Drill Cuttings

Dilution Rate

Nicholas Doust

Slds Control Eff

BAROID REFRESENTATIVE

ASG

0.00

2.60

0.00

0.00

Chemicals

VOL GAIN/LOSS

OFFICE/HOME

Dumped

Lost

LOSSES

REPORT NUMBER: Date Depth 22/01/98 785.0 m Present Activity

785.0 m

0.25

DAILY COST

320

785.0

0.5

Angle

Direction

Horiz. Displ

(03) 9621 3311

0.0

TELEPHONE

REAMING

TESTING

659.13

AVERAGE ROP

OTHER

0.00

0.00

3.00

0.00

CUMULATIVE COST

31183.79

(Cost Modified) Spud Date WOC 17/01/98 **OPERATOR** CONTRACTOR RIG NUMBER Santa Fe Drilling Paramswara Amity Oil NL PEPORT FOR REPORT FOR REGION Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY VIC P/36 Broadbill Bass Strait Austral CIRCULATION DATA BIT DATA DRILLING STRING CASING in. Size Pipe OD ID Len Pump Make/Model Ideco T-1600 Туре Pipe OD ID Len. Site 6.5 X 12 Eff. 97.00 V/st No. Jets bbl/min Pipe OD Set @ ID Len. 30 106.0 spm 0.0 Jets 32nd inch Collar OD ΙD Len. 9 5/8 Set @ 779.0 Pump Make/Model Ideco T-1600 97.00 V/st Collar OD Len. Size 6.5 X 12 OPEN HOLE bbl/min in. Set @ spm 0.0 Tot Not Area Size 12.25 Len. 6.0 Set @ Pump Make/Model TFA Size V/st Size Eff. Len. Set @ Size Len Set @ apm bbl/min Len. Size Set @ Tot. Vol./min 0 0.0 bbl gpm Size Len. Set @ BU Time 0 TC Time ٥ MUD PROPERTIES MUD TREATMENTS Primary Essential Mixing 3% KCl/BZ-MUD/Polymer mud. ito, Ciro Source Program Time 15:30 Targets Program Costs/volume to be included tomorrow *=Excep FL Temp 46 Deg C Properties Depth 785.0 784.9 1654.1 2 Three shakers changed to coarser 80 mesh m Weight 9.2 9.0 9.5 size screens to prevent/reduce initial FV & 46 Deg C losses of unsheared mud. Scalpers changed to sec/qt PV @ 49 Deg C cP 14 10 mesh. No new screens used to date. ΥP lbs/100 ft2 20 lbs/100 ft2 15/23 Gels Dumping and cleaning pits at report time. API Filt. m1/30 min 7.8 6.0 HTHP @ 121 Deg C ml/30 min 22.0 15.0 AQUAGEL and Calcium Chloride used in cement Cake API/HTH? 32nd in 1/2 job - to be charged as non-drilling cost. Corr.Solids \ by vol 5.4 RIG ACTIVITY Oil/Water & by vol 0.0/93. Rig up Schlumberger. Log 12-1/4" hole Sand & by vol -BHC-LDL-CNL-DLL-MSPL-GR-CALI-SP. Rig down tr MBT 5.5 Schlumberger. Pull diverter bag. Retrieve pH METER & 20 Deg C 8.2 8.5 wear bushing & laydown running tool. Rig up Alk. Mud (Pm) 0.30 & run 9-5/8" casing to 779 m. Circulate Alk. Filtr. (Pf/Mf) 0.01/0.0 casing while waiting on chemicals. Cement as Chlorides mg/l 21000 per program. WOC. Hard. Ca mg/l 580 Low Gravity Solids ppb 49.23 91.00 6 грт 14 6.00 10.00 KCl Content 11.00 14.00 MATERIALS USED SOLIDS EQUIPMENT Used Cost Product Used Make Sz/Sern HR Device AQUAGEL - 25 KG. BAG 56 659.12 Shkr #1 Scalper 10 Shkr #2 Scalper 10 150 x 3 5 Shkr #3 Sweco LM3 80 x 3 5 Shkr #4 | Sweco LM3 80 x 3 5 Shkr #5 Sweco LM3 80 x 3 5 Shkr #6 | Sweco LM3 dSndr Crestex 3 x 10* dSlt #1 | Crestex 16 x 5" MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE bb1 HYDRAULICS Water Depth 21.7 DRLG 0.00 GEL/SEAWATER/POLYMER 600 rom 48 Calc. F. Grad 0 0 CIRC 5 00 MUD CONSUMPTION 300 rpm 34 Leak Off Test 0.0 TRIPS 0.00 Active Volume ADDITIONS bbl 200 rpm 29 ECD ppg SERV. RIG 0.00 190 oil 100 rpm 25 Csq. Shoe 0.0 SURVEY 0.00 Reserve Total Brine Water 6 rpm 14 TD FISHING 0.0 0.00 116 306 Drill Water 3 rpm Max. Diff. Press LOGGING 6.50 Low Grav, vol & 5.4 Sea Water Pressure Units: psig RUN CSG 9.50 dag 49 23 Whole Mud Press Drop. DP CORE 0.00 High Grav. vol \$ 0.0 Barite DEVIATION INFO Press Drop, BIT BACK REAM 0.00

> (03) 56 881 445 \$A WAREHOUSE TELEPHONE Welshpool NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

m/min

Press Drop, ANN

AV, Riser m/min

AV. DP

AV, DC

Melbourne

Actual Circ. Press

Chlorides mg/l

Hard. Ca mg/l

6 rpm

KC1

KCl Content

Low Gravity Solids ppb

23/01/98 [MD] 785.0 m Spud Date Present Activity 17/01/98 RUN WEAR BUSHING

Tot. Vol./min

0.0 bbl

OPERATOR CONTRACTOR RIG NUMBER Santa Fe Drilling Paramswara Amity Oil NL REPORT FOR REPORT FOR REGION Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY

Broadbill VIC P/36 Bass Strait Austral CIRCULATION DATA BIT DATA DRILLING STRING CASING in. Pipe OD Pump Make/Model Ideco T-1600 Len. Pipe OD Size Eff. 97.00 V/st Len. Type No. Jets Pipe OD ID Len. 30 Set @ 106.Q spm bbl/min Len. Jets 32nd inch Collar OD ID 9 5/8 Set @ 779.0 Pump Make/Model Ideco T-1600 Collar OD Set @ Size 6.5 X 12 Eff. 97.00 V/st Len. OPEN HOLE in. Set @ apm bbl/min 0.0 Tot Nor Area Size 12.25 Set @ Pump Make/Model Len. 6.0 Size TFA Len Set 👳 Size Eff. V/st Size Len. Set @ apm bbl/min

Len.

43000

380

15.20

6

% by vol

Size Set @ gpm Size TC Time Len. Set @ BU Time MUD PROPERTIES MUD TREATMENTS Primary Pits, Circ Built total of 1418 bbls of KCl/EZ-MUD/Poly Source Program Essential for 8-1/2" section. Mud built contains only Time 20:07 Targets Program FL Temp 0 0.75 ppb EZ-MUD to reduce mud losses over Deg C *=Excep Properties 785.0 Depth 2 784.9 1654.1 shakers upon dispacement. Weight 8.9 9.0 9.5 FV 4 20 Dag C sec/qt Mud check is on reserve mud. Mud mixed with PV % 49 Deg C cP 10 KCl content of 4 % to allow for depletion Ϋ́Р lbs/100 ft2 15 through Lakes Entrance Formation. Gels lbs/100 ft: 4/8 API Filt. m1/30 min 5.0 6.0 HTHP \$ 121 Deg C ml/30 min 12.5 15.0 Cake API/HTHP 32nd in 1/1 RIG ACTIVITY Corr.Solids & by vol 1 7 Cil/Water & by vol 0.0/95.8 WOC. Cut off 9-5/8" casing. Rig up & pull Sand & by vol diverter. o/shot & riser & lay don. Install MBT adapter ring. Test flange to 2000 psi. Lower pH METER ₽ 20 Deg C 8.2 8.5 9.2 BOP's & nipple up. Pressure test BOP's. Run Alk. Mud (Pm) 0.20 Alk. Filtr. (Pf/Mf) 0.07/0.1

MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Used Device Make Sz/Scrn HR ALDACIDE G - 25 L. 611.88 CAN 3 Shkr #1 Scalper BARAZAN-D PLUS - 25 KG. BAG 23 8279.54 Shkr #2 Scalper 10 DEXTRID LT - 25 KG. BAG 5631.49 107 Shkr #3 Sweco LM3 150 x 3 EZ-MUD DP - 50 LB. BAG 2754.96 24 Shkr #4 Sweco LM3 80 x 3 PAC-L - 25 Mg. BAG 3238.62 22 Shkr #5 Sweco LM3 80 x 3 potassium chloride - 1000 KG. 3892.89 Shkr #6 Sweco LM3 80 x 3 soda ash - 25 KG. BAG 74.25 dSndr Crestex 3 x 10" dSlt #1 Crestex 16 x 5

91.00

10.00

14.00

6.00

11.00

MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bbl Water Depth 21.7 DRLG 0.00 Hole Pits KCL/EZ MUD/POLYMER 600 rpm 35 Calc. F. Grad 0.0 CIRC 0.00 MUD CONSUMPTION 190 300 rpm 25 Leak Off Test 0.0 TRIPS 0.00 Active Volume ADDITIONS bb1 200 rpm 20 ECD SERV. RIG 0.00 Oil 190 100 rpm 14 Cog. Shoe 0.0 SURVEY 0.00 Brine Water 6 rpm TD 0.0 FISHING 0.00 1534 Drill Water 1724 3 rpm 3 Max. Diff. Press 0 LOGGING 0.00 Sea Water Low Grav, vol V Pressure Units: psiq RUN CSG 0.00 ppb Whole Mud Press Drop. DP CORE 0.00 High Grav, vol 1 0.0 Barite DEVIATION INFO Press Drop, BIT BACK REAM 0 0.00 ppb Press Drop, ANN 0 MD 785.0 REAMING 0.00 A S.C. 2.57 LOSSES Actual Circ. Press TVD 0 785.0 m TESTING 0.00 Drill Cuttings Dumped AV, DP m/min 0.0 Angle 0.25 OTHER 24.00 Dilution Rate 0.00 Lost O AV. DC m/min Direction 0.0 AVERAGE ROP 320 0.00 Slds Control Eff VOL GAIN/LOSS 0.00 1418 AV, Riser m/min Horiz. Displ 0.5 BAROID REPRESENTATIVE OFFICE/HOME Melbourne TELEPHONE (03) 9621 3311 DAILY COST CUMULATIVE COST WAREHOUSE TELEPHONE (03) 56 881 445 55667.42 Welshpool \$A 24483.6

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

531

ppb

ppb

λsg

Low Grav, vol 1

High Grav, vol 1

Drill Cuttings

Dilution Rate

Nicholas Doust

Slds Control Eff

BAROID REPRESENTATIVE

1213

2.9

26.48

0.0

2.61

0.00

0.00

0.00

Drill Water

Sea Water

Whole Mud

Chemicals

VOL GAIN/LOSS

OFFICE/HOME

Barite

Dumped

Lost

LOSSES

0

0

15

3

306

-511

bbl

3 rpm

AV. DP

Melbourne

223 AV, DC

Pressure Units:

Press Drop. DP

Press Drop, BIT

Press Drop, AIRI

AV. Riser m/min

Actual Circ. Press

4

524

695

116

74.5

125.1

TELEPHONE

1200

ИD

TVD

Angle

Direction

Horiz. Displ

(03) 9621 3311

Max. Diff. Press

DEVIATION INFO

1070.0

1070.0 m

320

ŞA

0.25

DAILY COST

LOGGING

RUN CSG

REAMING

TESTING

OTHER

BACK REAM

AVERAGE ROP

7160.23 \$A

CORE

0.00

0.00

0.00

2.00

0.00

CUMULATIVE COST

Depth Date <u>24/</u>01/98 1070.0m Spud Date Present Activity

17/01/98 DRILLING OPERATOR CONTRACTOR RIG NUMBER Santa Fe Drilling Paramswara Amity Oil NL REPORT FOR REPORT FOR REGION Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria GEOGRAPHIC AREA WELL NAME AND NUMBER FIELD OR BLOCK COUNTRY Broadbill VIC P/36 Bass Strait Austral BIT DATA DRILLING STRING CASING CIRCULATION DATA in. S12e 8.5 Pipe OD ID 4.276 Len. Pump Make/Model Ideco T-1600 Len. Type ATMGTI8D ID 3.000 Size Eff. 97.00 V/st Pipe OD 112.5 bbl/min No. Jets Pipe OD ID Len. 30 Set @ 106.0 apm 50 ID 2.75 Pump Make/Model Jets 32nd inch Collar OD Len. 146.5 9 5/8 Set @ Ideco T-1600 16 Collar OD ID 6.5 X 12 Б£Е. 97.00 V/st Len. Set () Size OPEN HOLE in. Set @ abu 50 bbl/min Pump Make/Model Size 291.0 Tot Noz Area 8.5 Len. Set & Size BEE. V/st Set 🤋 Size TFA Len. Size Len. Set @ spm bbl/min Len. Size Set @ Tot. Vol./min 502 12.0 bbl gpm Size 13 TC Time Len. Set @ BU Time 57 MUD PROPERTIES MUD TREATMENTS Primary 2 its, Circ Flowline Program Essential Source Mud dumped is gel mud in hole & pit. Raised EZ-MUD concentration to programmed value Time 17:00 22:30 Targets Program FL Temp 40 40 *=Excep after displacing. Adding BARACOR-129 to Deg C Properties Depth 865.0 1032.0 784.9 1654. maintain excess sulphites. Weighed up mud to m Weight 8.9 9.1 9.0 9.1 ppg @ 865 m for extra hole stabilty ppg FV @ 40 Deg C 40 while drilling coal seams. Lost approx 70 sec/qt 44 PV & 49 Deg C СP 13 14 30 bbls downhole while drilling coal seams. ΥP lbs/100 ft: 18 22 Treated active with additional BARAZAN Gels 1bs/100 ft2 4/6 4/7 D-Plus to combat thinning of the mud from API Filt. m1/30 min 4.7 4.2 6.0 coal. Running desander/desilter.Changed HTHP @ 121 Deg C ml/30 min 12.4 11.2 shakers to finer 150 mesh screens. No new 15.0 Cake API/HTHP 32nd in 1/2 1/2 screens used to date. KCl content : 3 % RIG ACTIVITY Corr.Solids & by vol Oil/Water % by vol 0.0/95 0.0/95 Lay down 8" drill collars. Pick up & make up Sand & by vol 1.0 0.5 8-1/2" BHA. Pick up 5 " drill pipe. RIH. Tag MBT 0.2 0.2 cement @ 745 m. Drill out cement & float to pH METER @ 20 Deg C 9.0 9.2 8.5 9.2 775 with seawater. Pump 100 bbl sweep of old Alk. Mud (Pm) 0.22 0.28 mud. Displace hole to KCl/EZ-MUD/Polymer Alk. Filtr. (Pf/Mf) mud. Perform LOT @ 788 m to 13 ppg EMW 0.02/0.18 0.05/0.10 23000 Chlorides mg/l 24000 (564 psi). Drill ahead to 865 m. Circulate Hard. Ca mg/l 320 225 out coal. Drill ahead to 1070 m. Low Gravity Solids ppb 26.48 19.20 91.00 6 rpm 6.00 10.00 KCl Content ppb 12 11 11.00 14.00 Excess sulfite mg/1 100 100 TER IALS USED SOLIDS EQUIPMENT Product Cost Product Used Sz/Sern HR Device Make BARACOR 129 - 25 KG. DRUM 487 33 В Shkr #1 Scalper 10 10 BAPAZAN-D PLUS - 25 KG. BAG 1799.90 Shkr #2 Scalper 10 10 DEXTRID LT - 25 KG. BAG 52 07 1 Shkr #3 | Sweco LM3 150 x 3 10 EZ-MUD DP - 50 LB. BAG 14 1607.06 Shkr #4 | Sweco LM3 150 x 3 10 barite - 1000 KG. TON 9.700 3125.53 Shkr #5 Sweco LM3 150 x 3 10 potassium hydroxide - 20 KG. 88.34 2 Shkr #6 Sweco LM3 80 x 3 10 Crestex dSndr 3 × 10 5 dSlt #1 Crestex 16 x 5 6 MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bbl Water Depth 21.7 DRLG 9.25 600 rpm Calc. F. Grad Hole Pits KCL/EZ MUD/POLYMER 0.0 215 467 MUD CONSUMPTION 300 rpm 31 Leak Off Test 36 13.0 TRIPS 4.75 Active Volume ADDITIONS 200 mpm 25 **SCD** 30 SERV. RIG 0.00 ppg 682 Oil 100 rpm 18 20 Cag. Shoe SURVEY 0.00 Reserve Total Brine Water 6 rpm TD 6 9.5 FISHING 0.00

> WAREHOUSE TELEPHONE Welshpool (03) 56 881 445 NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

m/min

m/min

REPORT NUMBER:

Date Depth 25/01/98 1335.0m

10

[MD] Spud Date Present Activity 17/01/98 DRILLING

RIG NUMBER CONTRACTOR OPERATOR Santa Fe Drilling Paramswara Amity Oil NL REPORT FOR REPORT FOR REGION Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY

VIC P/36 Broadbill 1 Bass Strait Austral DRILLING STRING CASING CIRCULATION DATA BIT DATA in. Size 8.5 Pipe OD ID 4.276 Len. 1076.0 Pump Make/Model Ideco T-1600 5 6.5 X 12 Type ATMGTI8D Pipe OD ID 3.000 Len. in. Size Eff. 97.00 V/st bbl/min No. Jets Pipe OD ID Len. 30 Set @ 106.0 apm 50 Len. Jets 32nd inch Collar OD 9 5/8 Set @ 779.0 Pump Make/Model Ideco T-1600 ID 2.75 146.5 Size 6.5 X 12 16 Collar OD Eff. 97.00 V/st Len Set @ OPEN HOLE in. Set @ mge 50 bbl/min 6.0 Size Tot Noz Area Len. 556.0 Set 2 Pump Make/Model Size Eff. Set @ Size V/st TFA Len. Size Set @ bbl/min Len apm Tot. Vol./min Size Set 🕫 502 bbl Len. 12.0 gpm Size Len. Set () BU Time TC Time

68 MUD PROPERTIES MUD TREATMENTS Primary Maintain volume & properties with addition Source Pits, Circ Flowline Program Essential Time 22:00 13:00 Targets Program of premix. Lost approx 40 bbls downhole 42 42 *=Excep Properties (squeezed into formation after coal pack FL Temp Deg C off) while reaming last stand to bottom Depth 1323.0 1230.0 784.9 1654.1 Weight 9.3 9.3 9.0 during wiper trip. Raised mud weight to 9.3 FV @ 42 Deg C sec/qt 42 42 ppg to help stabilise coals. Treated active PV 4 49 Deg C with 5 ppb each of BARACARB 25 & BARACARB СP 14 15 lbs/100 ft2 23 20 100 to prevent further seepage losses. ΥP lbs/100 ft2 5/8 4/7 Maintaining BARACARB concentrations with Gels API Filt. regular additions. Maintaining excess m1/30 min 3.6 3.8 6.0 HTHP @ 121 Deg C ml/30 min 10.6 10.8 15.0 sulfites with BARACOR-129. BARAZAN D-Plus Cake API/HTHP 32nd in 1/2 1/2 used to maintain 6 rpm. KCl Content : 3.2 % RIG ACTIVITY Corr.Solids & by vol 4.3 4.1 Oil/Water % by vol 0.0/94 0.0/94. Drill from 1070 - 1095 m. Circulate bottoms Sand % by vol 0.25 0.25 up, working pipe. Drop Single shot survey. MBT 0.6 0.6 POOH to shoe 2 779 m. Retrieve survey. pH METER 2 20 Deg C 8.5 8.5 8.5 9.2 Service TDS. RIH. Lose circulation 1 std off Alk. Mud (Pm) 0.20 0.10 bottom. Work pipe. Begin to increase mud Alk. Filtr. (Pf/Mf) 0.01/0.16 0.01/0.19 weight to 9.3 ppg. Drill ahead to 1335 m. Chlorides mg/l 22000 22000 Hard. Ca mg/l 300 320 Low Gravity Solids ppb 26.12 22.48 91.00 6 rpm 6.00 10.00 KCl Content ppb 11 12 11.00 14.00 Excess sulfite 100 100

MATERIALS USED SOLIDS EQUIPMENT Product Cost Used Device Make Sz/Sern HR 1382.40 BARACARB 100 - 25 KG. SACK 96 Shkr #1 Scalper 10 20 BAPACARB 25 - 25 KG. BAG 1108.80 96 Shkr #2 Scalper 10 20 BARACOP 129 - 25 KG. DRUM 539.82 9 Shkr #3 Sweco LM3 150 x 3 20 BARAZAN-D PLUS - 25 KG. BAG 1439.92 Shkr #4 Sweco LM3 150 x 3 20 EZ-MUD DP - 50 LB. BAG 457.66 150 x 3 20 Shkr #5 Sweco LM3 barite - 1000 KG. TON 7.200 2319.98 Shkr #6 Sweco LM3 80 x 3 20 potassium hydroxide - 20 KG. 176.68 dSndr 3 x 10" 4 Crestex dSlt #1 Crestex 16 x 5" 9

MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME bbl MUD TYPE <u>HYDRAULICS</u> Water Depth 21.7 DRLG Calc. F. Grad Hole Pits KCL/EZ MUD/POLYMER 500 rpm 51 CIRC 270 542 MUD CONSUMPTION 300 rpm 37 35 Leak Off Test TRIPS 13.0 2.00 Active Volume ADDITIONS 200 rpm 30 29 ECD SERV. RIG Csg. Shoe 812 Oil 100 rpm 21 20 SURVEY 10.0 Reserve Total Brine Water 6 rpm 6 6 TD FISHING 3 rpm 111 Drill Water Max. Diff. Press LOGGING 923 0.00 Low Grav, vol % 2.9 Sea Water Pressure Units: RUN CSG Press Drop. DP daa 26.12 Whole Mud 606 CORE 0.00 DEVIATION INFO High Grav, vol 1 1.5 Barite 11 Press Drop, BIT 726 BACK REAM 0.00 Press Drop, All ppb 22.05 Chemicals 12 173 MD 1335.0 REAMING 0.00 ASG 3.25 LOSSES Actual Circ. Press 1350 TVD 1335.0 m TESTING bbl Drill Cuttings Dumped AV, DP 74.5 Angle OTHER m/min 2.25 Dilution Rate 0.00 Lost 313 AV, DC m/min 125.1 Direction 320 AVERAGE POP Horiz. Displ Slds Control Eff 0.00 VOL GAIN/LOSS 290 AV, Riser m/min BAROID REPRESENTATIVE OFFICE/HOMB Melbourne TELEPHONE (03) 9621 3311 CUMULATIVE COST Welshpool Nicholas Doust WAREHOUSE TELEPHONE (03) 56 881 445 \$A 7425.24

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

Date Depth
26/01/98 1345.0m [MD]
Spud Date Present Activity
17/01/98 LOGGING

17/01/98 LOGGING RIG NUMBER CONTRACTOR OPERATOR Amity Oil NLSanta Fe Drilling Paramswara REPORT FOR REPORT FOR REGION Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY VIC_P/36 Austral Broadbill 1 Bass Strait BIT DATA ın. DRILLING STRING CASING CIRCULATION DATA Size Pipe OD ID Len. Pump Make/Model Ideco T-1600 Pipe OD ID Len. Site 6.5 X 12 Eff. 97.00 V/st Туре in. m Set 0 0.0 No. Jets Pipe OD ΙD Len. 106.0 spm bbl/min 9 S/8 Set @ Ideco T-1600 Jets 32nd inch Collar OD ID Len. 779.0 Pump Make/Model Collar OD τn Len. Set @ Size 6.5 X 12 Eff. 97.00 V/st OPEN HOLE in. Set @ bbl/min mga 0.0 Len. Tot Noz Area Size 8.5 566.0 Set @ Pump Make/Model TFA Size Len. Set @ Site V/st Size bbl/min Len. Set @ spm Size Len. Set @ Tot. Vol./min 0 0.0 bbl gpm 0 TC Time Size BU Time Len. Set @ MUD PROPERTIES MUD TREATMENTS Primary 2 Program Pits, Circ Essential Lost approximately 100 bbls downhole when Source Time backreaming out of hole due to coal 14:00 Targets Program FL Temp Deg C 42 *=Excep Properties sloughing. 1345.0 784.9 1654.1 Depth 2 Weight 9.4 9.0 9.5 Built 200 bbls of new premix to maintain mud ppg FV 5 42 Deg C sec/qt 44 PV & 49 Deg C cP 16 30 Y P lbs/100 ft2 22 BARAZAN-D Plus used to make hi-vis sweeps. lbs/100 ft2 6/9 Gels API Filt. m1/30 min 3,6 6.0 No new shakers screens used on Broadbill 1. HTHP - 121 Deg C ml/30 min 10.5 15.0 Cake API/HTHP 32nd in 1/2 KCl content : 3 % RIG ACTIVITY Corr.Solids % by vol 4.3 Oil/Water & by vol 0.0/94. Drill ahead from 1335 to 1345 m. Circulate Sand % by vol 0.5 bottoms up. Drop survey. POOH 1 stand. MBT 0.6 Backream out of tight hole (coal sloughing, pH METER 9 20 Deg C 8.5 8.5 mud losses occuring) from 1326 to 9-5/8" Alk. Mud (Pm) 0.15 casing shoe @ 779 m. Circulate bottoms up. Alk. Filtr. (Pf/Mf) 0.01/0.16 Retreive survey. Service TDS. RIH to 1018 m Chlorides mg/l 22000 & ream to TD. Circulate & work pipe. Pump 70 Hard. Ca mg/l 300 bbl 10 ppg hi-vis sweep. Circulate hole Low Gravity Solids ppb 19.29 91.00 clean, some downhole losses. Spot 100 bbls 6 rpm 7 6.00 10.00 hi-vis on bottom. POOH - no problem. Rig up KCl Content 11 & log 8-1/2" hole. 11.00 ppb 14.00 Excess sulfite mg/l 100 MATERIALS _USED SOLIDS EQUIPMENT Product Used Cost Product Device Make Sz/Scrn HR BARACOR 129 - 25 KG. DRUM 3 179.94 Shkr #1 Scalper 10 13 BAPAZAN-D PLUS - 25 KG. BAG 2159.88 Shkr #2 | Scalper 10 13 DEXTRID LT - 25 KG. BAG 15 781.05 Shkr #3 Sweco LM3 150 x 3 13 EZ-MUD DP - 50 LB. BAG 9 1026.36 Shkr #4 Sweco LM3 150 x 3 13 PAC-L - 25 Kg. BAG 2 293.67 Shkr #5 | Sweco LM3 150 x 3 13 4.400 barite - 1000 KG. TON 1417.77 Shkr #6 Sweco LM3 80 x 3 13 potassium chloride - 1000 KG. 419.21 Crestex 3 x 10 dSndr potassium hydroxide - 20 KG. 132.51 dSlt #1 Crestex 16 x 5

					1 1
	MUD MAN	VAGEMENT	RHEOLOGY AND	FRACTURE GRADIENT	TIME
MUD VOLU	ЈМЕ ьь1	MUD TYPE	HYDRAULICS_	Water Depth 21.7	DRLG 2.00
Hole	Pits	KCL/EZ MUD/POLYMER	600 rpm 54	Calc. F. Grad 0.0	CIRC 3.00
317	446	MUD CONSUMPTION	300 rpm 38	Leak Off Test 13.0	TRIPS 4.00
Active 7	Volume	ADDITIONS bbl	200 rpm 31	ECD ppg	SERV. RIG 0.50
763		Oil 0	100 rpm 23	Cog. Shoe 9.3	SURVEY 1.00
Reserve	Total	Brine Water 0	6 rpm 7	TD 9.3	FISHING 0.00
118	881	Drill Water 194	3 rpm 5	Max. Diff. Press 0	LOGGING 0.00
Low Grav, vol	1 \$ 2.1	Sea Water 0	Pressure Units: psig		RUN CSG 0.00
Pbp	19.29	Whole Mud 0	Press Drop. DP 0		CORE 0.00
High Grav, vo	ol % 2.2	Barite 7	Press Drop, BIT 0	DEVIATION INFO	BACK REAM 7.50
bbp	32.34	Chemicals 6	Press Drop, AMM 0	MD 1345.0 m	REAMING 0.00
ASG	3.52	LOSSES bbl	Actual Circ. Press 0	TVD 1345.0 m	TESTING 0.00
Drill Cutting	s 0	Dumped 0	AV, DP m/min 0.0	Angle 3.25	OTHER 6.00
Dilution Rate	e 0.00	Lost 249	AV, DC m/min 0.0	Direction 45	AVERAGE ROP 0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS -42	AV, Riser m/min	Horiz. Displ 0.0 m	1
BAROID REFRES	SENTATIVE	OFFICE/HOME	Melbourne TELEPHONE	(03) 9621 3311 DAILY	COST CUMULATIVE COST
Nicholas Doug	st	WAREHOUSE	Welshpool TELEPHONE	(03) 56 881 445 \$A	6410.39 SA 76663.30

BAROID REPRESENTATIVE

OFFICE/HOMB

REPORT NUMBER: Depth Date 27/01/98 1345.0m Present Activity

Spud Date 17/01/98 PREPARE TO P & A RIG NUMBER CONTRACTOR **OPERATOR** Santa Fe Drilling Paramswara Amity Oil NL REPORT FOR REGION REPORT FOR Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER FIELD OR BLOCK VIC P/36 Austral Bass Strait Broadbill 1 CIRCULATION DATA BIT DATA DRILLING STRING CASING in. Ideco T-1600 Len. Pump Make/Model Pipe OD ID Size Eff. 97.00 ∵/st 6.5 X 12 ID Len. Pipe OD Type 106.0 bbl/min 30 Set @ spm No. Jets Pipe OD ID Len. Ideco T-1600 Jets 32nd inch Pump Make/Model Collar OD ID Len. 9 5/8 Set @ 779.0 Eff. 97.00 7/st Collar OD ID Len. Set a Size 6.5 X 12 OPEN HOLE bbl/min 0.0 in. Set @ spm 566.0 Set @ 8.5 Len. Pump Make/Model Tot Noz Area Size Set @ TFA Size Len. bbl/min Size Len. Set 9 mge Size Len. Set @ Tot. Vol./min 0 0.0 bbl gpm 0 TC Time BU Time Size Len. Set 9 MUD TREATMENTS MUD PROPERTIES Primary Essential BARAZAN-D Plus used to build 100 bbls of Pits, Uncr Program Source hi-vis spotted on bottom prior to POOH. 13:00 Targets Program FL Temp Deg C *=Excep Properties Barite used for slugs. 784.9 1654.1 Depth m 1345.0 9.5 9.0 9.5 Weight ppg FV & 28 Deg C sec/qt 43 KCl content : 3 % ભ 49 Deg C c₽ 15 30 lbs/100 ft: ΥP 24 Gels lbs/100 ft: 7/9 API Filt. m1/30 min 4.0 HTHP @ 121 Deg C ml/30 min 11.0 15.0 Cake API/HTHP 32nd in 1/2 RIG ACTIVITY Corr.Solids & by vol 5.1 0.0/93. Logs unable to get past 1029 m. Rig down Oil/Water & by vol Sand & by vol Schlumberger. Pick up 8-1/2" BHA. RIH. Wash 0.25 мвт 0.6 & ream from 880 - 982 m & 1027 - 1095 m. pH MSTER @ 20 Deg C 8.0 RIH. Circulate & condition mud @ 1191 m. RIH 9.2 Alk. Mud (Pm) 0.10 to TD. Circulate bottoms up. Pump hi-vis Alk. Filtr. (Pf/Mf) 0.01/0.18 sweep. POOH - no problem. Rig up & log. Logs Chlorides mg/l 22000 unable to get past 869 m. Change logging Hard. Ca mg/l 300 tool configuration - still unable to get Low Gravity Solids ppb further. Rig down. Break & laydown excess 25.30 91.00 drillpipe. Prepare to P & A. 5 rpm 7 6.00 10.00 KCl Content 11 11.00 14.00 Excess sulfite mg/l 80 MATERIALS USED SOLIDS EQUIPMENT Product Used Used Cost Product Device Make Sz/Sern HR BARAZAN-D PLUS - 25 KG. BAG 719.96 Shkr #1 Scalper 2 10 barite - 1000 KG. TON 193.33 0.600 Shkr #2 | Scalper 10 4 Shkr #3 Sweco LM3 150 x 3 4 Shkr #4 | Sweco LM3 150 x 3 4 Shkr #5 Sweco LM3 150 x 3 4 4_ Shkr #6 Sweco LM3 80 x 3 dSndr Crestex 3 x 10 dSlt #1 Crestex 16 x 5" MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bbl Water Depth 21.7 DRLG 0.00 Hole Pits KCL/EZ MUD/POLYMER 600 rpm 54 Calc. F. Grad 0.0 CIRC 1.50 317 509 MUD CONSUMPTION 300 rpm 39 Leak Off Test 13.0 TRIPS 7.25 SERV. RIG Active Volume ADDITIONS bbl 200 rpm 32 ECD 0.00 ppg 826 Oil 100 rpm 24 Csq. Shoe 0.0 SURVEY 0.00 Reserve Total FISHING Brine Water 6 rpm 7 TD 0.0 0.00 Drill Water Max. Diff. Press 826 3 rom s 0 LOGGING 7.25 Low Grav, vol % 2.8 Sea Water 0 Pressure Units: psig RUN CSG 0.00 ccb 25.30 Whole Mud 0 Press Drop. DP 0 CORE 0.00 DEVIATION INFO High Grav, vol 1 2.3 Barite Press Drop, BIT 0 BACK REAM 0.00 ppb 33.81 Chemicals Press Drop, ANN Ω 1345.0 m REAMING 2.00 0 ASG 3.41 LOSSES Actual Circ. Press 0 TVD 1345.0 m TESTING 0.00 Drill Cuttings Dumped 3.8 AV. DP m/min 0.0 Angle 3.25 OTHER 6.00 Dilution Rate 0.00 Lost 19 AV, DC m/min 0.0 Direction 45 AVERAGE ROP 0.00 Slds Control Eff 0.00 VOL GAIN/LOSS -55 AV, Riser m/min Horiz. Displ DAILY COST

WAREHOUSE TELEPHONE (03) 56 881 445 \$A Welshpool NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

TELEPHONE

(03) 9621 3311

CUMULATIVE COST

913.29

77576.59

Melbourne

Shkr #4 Sweco LM3 Shkr #5 | Sweco LM3 150 x 3 Shkr #6 Sweco LM3 80 x 3 3 x 10" dSndr Crestex 16 x 5 dSlt #1 | Crestex

								_L	<u> </u>
	MUD MAN	IAGEMENT		RHEOLOGY	AND	FRACTURE GRA	DIENT	TIME	
MUD VOLU	ЈМЕ ьы	MUD TYPE		HYDRAUL:	ICS	Water Depth	21.7	DRLG	0.00
Hole	Pits	KCL/EZ MUD/POLT	1ER	500 rpm		Calc. F. Grad	0.0	CIRC	0.00
317	509	MUD CONST	MPTION	300 rpm		Leak Off Test	13.0	TRIPS	0.00
Active V	Volume	ADDITIONS	bbl	200 rpm		ECD P	pg	SERV. RIG	0.00
826		Oil	0	100 rpm		Csg. Shoe	0.0	SURVEY	0.00
Reserve	Total	Brine Water	0	6 грт		TD	0.0	FISHING	0.00
	826	Drill Water	0	3 rpm		Max. Diff. Press	0	LOGGING	0.00
Low Grav, vo	1 \$ 0.0	Sea Water	0	Pressure Units:	psig			RUN CSG	0.00
ppb	0.00	Whole Mud	0	Press Drop. DP	0			CORE	0.00
High Grav, vo	0.0	Barite	0	Press Drop, BIT	0	DEVIATION I	NFO	BACK RBAM	0.00
ppb	0.00	Chemicals	0	Press Drop, ANN	0	MD 13	45.0 m	REAMING	0.00
ASG	2.60	LOSSES	bbl	Actual Circ. Pre	ss 0	TVD 13	45.0 m	TESTING	0.00
Drill Cutting	gs 0	Dumped	0	AV, DP m/min	0.0	Angle	3.25	OTHER	24.00
Dilution Rate	e 0.00	Lost	0	AV, DC m/min	0.0	Direction	45	AVERAGE ROE	0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS		AV, Riser m/min		Horiz. Displ 0.	O m		
BAROID REPRES	SENTATIVE	OFFICE/HO	18	Melbourne	TELEPHONE	(03) 9621 3311	DAILY C	OST CUM	ULATIVE COST
Nicholas Dous	st	WAREHOUSE		Welshpool	TELEPHONE	(03) 56 881 445	\$A	563.84 \$7	78140.43

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

Amity Oil NL

Well Name: Contractor: Broadbill 1 Santa Fe Drilling

Paramswara

Country:

AUSTRALIA BASS STRAIT

Geo Area: Field:

VIC P/36

Region:

Victoria



Interval Summary

Interval #

03

Bit Size

Mud type(s)

Top of interval

Bottom of interval

Maximum density

Interval start date

Interval end date

Interval days

Drilling days

Interval TD date

Rotating hours

Average penetration rate

Bottomhole static temperature

Maximum flowline temperature

Casing size

Major lithology

Maximum deviation

Interval mud cost

Mud cost per (bbl)

Mud cost per meters

Total Interval Cost

8.5 in.

KCI/Polymer

785.0 meters

1,345.0 meters

9.50 ppg

23/01/98

28/01/98

6

3

26/01/98

29.75

18.8 meters

68° Deg C

42° Deg C

9 5/8 in.

Claystone, Sands, Coal

3.25°

\$A 46,956.64

\$A 27.81

\$A 83.85

\$A 46,985.74

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Interval #01 in. Hole Section

Paramswara

Country:

AUSTRALIA BASS STRAIT

Geo Area: Field: Region:

VIC P/36

Victoria

Top of Interval

52



meters

Interval Material Consumption

		Bottom of Inte	rval 110 meters
Material	Unit size	Quantity	Total cost (\$A)
AQUAGEL	1000 KG. TON	8.500	4,033.25
caustic soda	25 KG. PAII	5	216.05
lime	20 KG. BAG	5	42.15
soda ash	25 KG. BAG	1	14.85
Miscellaneous Items			
Cacl2			291.00
	·		•

Interval mud cost

\$A 4,306.30

Interval miscellaneous cost

\$A 291.00

Total interval cost

\$A 4,597.30

Programmed mud cost

\$A 3,851.16

Variance

\$A 455.14

Amity Oil NL

Weil Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA BASS STRAIT

Geo Area: Field: Region:

VIC P/36 Victoria



Interval Material Consumption

Interval #02 12.25 in. Hole Section			Top of Interva Bottom of Interva	
Material	Unit size		Quantity	Total cost (\$A)
AQUAGEL	25 KG.	BAG	56	659.12
AQUAGEL	1000 KG.	TON	31.700	15,041.65
BARACARB 100	25 KG.	SACK	48	691.20
BARACARB 25	25 KG.	BAG	48	554.40
BARACOR 129	25 KG.	CAN	21	1,282.05
barite	1000 KG.	TON	2.400	773.33
BAROFIBRE	25 LB.	BAG	27	1,606.50
caustic soda	25 KG.	PAIL	2	86.42
PAC-L	25 KG.	BAG	17	2,502.57
PAC-R	25 KG.	BAG	25	3,680.25
Miscellaneous Items				
Cacl2				378.30

Interval mud cost

\$A 26,877.49

Interval miscellaneous cost

\$A 378.30

Total interval cost

\$A 27,255.79

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT VIC P/36

Field: Region:

Victoria



Interval Material Consumption

Interval #03 8.5 in. Hole Section		Top of Interva Bottom of Interva					
Material	Unit size		Quantity	Fotal cost (\$A)			
ALDACIDE G.	25 L.	CAN	4	815.84			
BARACARB 100	25 KG.	SACK	96	1,382.40			
BARACARB 25	25 KG.	BAG	96	1,108.80			
BARACOR 129	25 KG.	CAN	26	1,566.97			
BARAZAN-D PLUS	25 KG.	BAG	40	14,399.20			
barite	1000 KG.	TON	21.900	7,056.62			
DEXTRID LT	25 KG.	BAG	123	6,464.61			
EZ-MUD DP	50 LB.	BAG	51	5,846.04			
PAC-L	25 KG.	BAG	24	3,532.29			
potassium chloride	1000 KG.	BAG	10	4,312.10			
potassium hydroxide	20 KG.	PAIL	9	397.53			
soda ash	25 KG.	BAG	5	74.25			
Miscellaneous Items							
Cacl2				29.10			

Interval mud cost	\$A	46,	956.65
Interval miscellaneous cost		\$A	29.10
Total interval cost	\$A	46,9	985.75
Programmed mud cost	\$A	37,6	605.01
Variance	\$.	A 9,3	351.64

Amity Oil NL

Well Name:

Broadbill 1

Contractor: Rig:

Paramswara

Santa Fe Drilling

Country:

AUSTRALIA BASS STRAIT

Geo Area: Field:

VIC P/36

Region: Victoria



HOLE S	SIZE:in.											M	UD TYPE	:No Mu	d			
DATE	INITIAL VOLUME	MUD RECEIVED	OIL ADDED BBI	WATER ADDED bbl	BARITE ADDED	CHEMICA ADDED bbl	LS DAILY TOTAL	CUMLATIVE TOTAL bbi	MUD LOST SURFACE bbl	MUD LOST DOWNHOLE bbi	TOTAL DAILY LOSSES bbi	CUMLATIVE LOSSES bbi	MUD RETURNED bbl	FINAL VOLUME bbl	HOLE VOLUME	ACTIVE PITS bbl	RESERVE PITS bbl	
16/01/98		٥١	0	0	٥١	ol	ol	o	ol	0	0			,	o	٥	0	o

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Rig:

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT VIC P/36

Field: Region:

Victoria



HOLE S	SIZE:in.											M	UD TYPI	E:Gel/Se	awater		
DATE	INITIAL VOLUME	MUD RECEIVED	OIL ADDED	WATER ADDED	BARITE ADDED ьы	CHEMICALS ADDED	DAILY TOTAL	CUMLATIVE TOTAL	MUD LOST SURFACE	MUD LOST DOWNHOLE	TOTAL DAILY LOSSES bbi	CUMLATIVE LOSSES bbl	MUD RETURNED bbl	FINAL VOLUME bbl	HOLE VOLUME ыы	ACTIVE PITS bbl	RESERVE PITS bbl
17/01/98		0 0		٥	879	0 21	900	00	0 663		66	2 66	2	0 23	18 2	38	0 0

Amity Oil NL

Well Name:

Broadbili 1

Contractor:

Rig:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field: Region: VIC P/36

Victoria



HOLE S	SIZE:in.											M	UD TYPE	:Seawa	ter		
DATE	INITIAL VOLUME bbi	MUD RECEIVED	OIL ADDED	WATER ADDED bbl	BARITE ADDED bbl	CHEMICA ADDED БЫ	LS DAILY TOTAL bbi	CUMLATIVE		MUD LOST DOWNHOLE bbi		CUMLATIVE LOSSES bbl	MUD RETURNED bbi	FINAL VOLUME bbi	HOLE VOLUME ьы	ACTIVE PITS bbl	RESERVE PITS bbl
18/01/98	23	8	0	٥١	ol	o	0	0	0 0	, ,	0			28	1 28	1	0 0

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

22/01/98

Santa Fe Drilling

Rig:

Paramswara

1,321

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field:

0

VIC P/36

0

Region: Victoria



0

116

MUD TYPE:Gel/Polymer

٥

306

190

Daily Mud Volume Record

0

0

HOLE S	IZE:12.2	5 in.														M	UD	TYPE	:Gel/Po	lynد	ner				
DATE	INITIAL VOLUME ьы	MUD RECEIVED bbi	OIL ADDED bbl		WATER ADDED bbl	BARITE ADDED bbl	CHE	LS DA TO	ILY TAL bbi	CUMLATIVE		MUD LOST SURFACE bbl	MUD LOST DOWNHOLE	: jLoss		CUMLATIVE LOSSES bbi		UD TURNED 661	FINAL VOLUME bbl		HOLE BBI	ACTIV PITS bt	į F	RESERVE PITS bbl	
19/01/98	28	81	0	0	1,390		0	 40	1,430	1,4	130	340		0	340	34	٥١	0	1,3	371	281		572		518
20/01/98	1,37	11	ol	0	1,042		٥١	 39	1,081	2,5	511	584	70	00	1,284	1 1,62	4	0	1,1	168	441	1	419		308
21/01/98	1.16	38	ما	ار	385		ام	9	394	2,	905	217		24	24	1,86	Б .	0	1,3	321	590	اد	523		208

1,015

2,905

0

1,015

2,880

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Rig:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area: BASS STRAIT

Field:

VIC P/36

Region: Victoria



HOLE S	IZE:8.5 ii	า.													IVI	OD TYPE	::KCI/Pol	ymer			
DATE	INITIAL I VOLUME	MUD RECEIVED BB	OIL ADDED bbi	WAT		BARITE ADDED bbl	CHEMIC ADDED	ALS DAIL'		CUMLATIVE TOTAL bbl	MUD LOS SURFACE bbl	T MUD LO		TOTAL DAILY LOSSES	CUMLATIVE	MUD RETURNED bbl	FINAL VOLUME bbl	HOLE VOLUME БЫ	ACTIVE PITS bbl	RESER PITS bi	i
23/01/98	30	3	0	0	1,371	. (,	47	1,418	1,4	8	٥	0	0	1 .)	1,724	190		o	1,534
24/01/98	1,72	4	0	0	o	19	,	3	18	1,4	36 4	59	70	529	529	1 0	1,213	21!	5 4	67	531
25/01/98	1,21	3	0	0	اه	1		12	23	1,4!	59 2	73	40	313	84:	2 0	923	270	5	42	111
26/01/98	92	3	0	0	194		,	6	207	1,6	58 1	49	100	249	1,09		881	31	7 4	46	118
27/01/98	88	1	0	٥١	0		2	0	2	1,6	88	67	0	57	1,14	3	826	31	7 6	09	0
28/01/98	82	6	0	0	0		<u> </u>	اه	0	1,6	38	0	0	0	1,14	в	826	31	7 5	09	0

Company: Well Name: Contractor: Amity Oil NL Broadbill 1 Santa Fe Drilling

Paramswara

IL Co Ge

Country: Geo Area: Field:

Region:

AUSTRALIA BASS STRAIT VIC P/36

Victoria



Daily Operations Log

<u> </u>	<u> </u>	ations Log
DATE	DEPTH meters	OPERATION
16/01/98	52	OFFLOADING BOAT
		Baroid Engineer arrived on rig.
		Offloading boats.
17/01/98	110	POOH TO RUN 30" CSG
		Built 400 bbls of flocculated spud mud for i hi-vis sweeps and 500 bbls of pre-hydrated i AQUAGEL for filling hole. Built 1066 bbls of i pre-hydrated AQUAGEL for 12-1/4" section - i will charge of 12-1/4" mud costs tomorrow. Total mud built : 1966 bbls.
		Actual AQUAGEL stock remaining: 16.4 MT. Initial Barite on board: 19.64 MT (432 sxs) All material ordered in loadout 1 rec'd.
		Continue to offload boat. Make up 36" BHA. î RIH. Tag seabed @ 52.4 m. Drill ahead with î seawater pumping 40 bbl hi-vis AQUAGEL î sweeps every 5 - 10 m. Drill to 110.4 m. î Pump 80 bbl hi-vis sweep. Circulate out î sweep. Pump 35 bbl hi-vis mud. Displace hole î to unflocculated pre-hydrated AQUAGEL. POOH. î RIH. Displace hole to unflocculated î pre-hydrated AQUAGEL. POOH to run 30" î conductor.
18/01/98	110	INSTALL DIVERTER
		Calcium Chloride used for cementing. To be i charged as non-drilling cost.
		Will charge off 12-1/4" mud costs tomorrow.
		Total 12-1/4" mud built to date : 1182 bbls.
		Rig up and run 30" conductor to 106 m. Pick î up $2-7/8$ " tubing and run with 30" conductor. ì Cut conductor joint. Cement casing. Install ì $12-1/4$ " diverter.
19/01/98	110	PICK UP 12-1/4" BHA
		Calcium chloride used for cementing to be charged as 'non-drilling cost'.
		Built total of 1430 bbls of seawater/AQUAGEL/Polymer mud for $12\text{-}1/4$ hole.
		Expect API filtrate to decrease with incorporation of drill solids and more PAC-R once drilling commences.
		Continue to install diverter and riser. Function flowline, seals and overboard i lines. Run wear bushing. Cement top of 30" i conductor via 2-7/8" tubing. Pick up 5" i drill pipe. Make up 17-1/2" BHA to drill i cement out. RIH. Drill cement, shoe track i and rathole. Displace hole to i seawater/AQUAGEL/PAC mud system. POOH. Pick i up and make up 12-1/4" BHA.

Amity Oil NL Well Name: Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area: Field: Region:

BASS STRAIT VIC P/36 Victoria



Operations Log Daily

DATE **OPERATION** meters

20/01/98 545 DRILLING

Built 1070 bbls of new mud. Heavy mud losses experienced through coarse sands (approx 700 bbls). Adding PAC-R to maintain API filtrate and BARACOR-129 to maintain Excess Sulfite.

LCM Sweeps : BARACARB 25 : 18 ppb BARACARB 100: 21 ppb AQUAGEL : 20 ppb Running all BAROFIBRE : 4.5 ppb solids control equipment. Building 30 bbls pumpable KCl/EZ-MUD/Polymer mud for spotting across Lakes Entrance.

PROBLEM : Seepage losses

Seepage losses occuring through coarse sands. Pumped LCM pill/sweep of : BARACARB 25 : 18 ppb BARACARB 100 : 20 ppb BAROFIBRE (reg): 4.5 ppb ppb AOUAGEL

Continue to pick up 8" drill collars. Drill 7 m of 12-1/4" hole. Pick up last 8" drill collar. Unable to circulate plugged above float. POOH. Unblock float. RIH. Drill ahead ì to 117 m - Incurring downhole losses. Pump ì 25 bbl hi-vis sweep. Circulate bottoms up. ì Pump 25 bbl hi-vis. Drill ahead to 227 m at i reduced pump strokes (120 spm). Pump 50 bbl i LCM pill (as above) before connection - i losses halted/red'd. Drill to 399 m. Circ ì b/u. Spot 100 bbl LCM pill (as precaution) i before conducting survey. Drill ahead.

21/01/98 785 R/U TO LOG / LOG

Maintained treatment of active system with PAC-R to hold API Diluted active with seawater/PAC-L to control mud viscosity increase from drilling claystone. BARACOR-129 used to maintain excess sulfites. Building KCl/EZ-MUD/Polymer mud for 8-1/2" hole. Ran desander and desilter i non-stop.

Reports have been cost modified to reflect updated mud material prices. No new shakers screens used to date.

PROBLEM : Seepage losses

Hole not taking correct volume when POOH. Slight seepage losses of 4-6 bbl/hr prior to i logging.

Continue to drill ahead to 701 m. Circulate bottoms up. Conduct Hofco survey. Drill ahead to 785 m. Circulate bottoms up. Conduct multishot survey. POOH. Some tight hole on first 6 stands (hole took 6 bls). i POOH to 30" conductor @ 110 m. Conduct top ì drive service (hole took 12 bbls). RIH. Hole ì good. Circulate hole clean. POOH. Rig up to ì run Schlumberger logs. Hole drink rate i currently 4-6 bbls/hr.

Amity Oil NL

Well Name: Contractor:

Paramswara

Broadbill 1 Santa Fe Drilling Country:

AUSTRALIA

Geo Area: Field: Region:

BASS STRAIT VIC P/36

Victoria



Operations Log Daily

DATE **OPERATION** meters

22/01/98 785 WOC

> Mixing 3% KCl/EZ-MUD/Polymer mud. Costs/volume to be included tomorrow.

Three shakers changed to coarser 80 mesh size screens to prevent/reduce initial losses of unsheared mud. Scalpers changed to 10 mesh. No new screens used to date.

Dumping and cleaning pits at report time.

AQUAGEL and Calcium Chloride used in cement job - to be charged as non-drilling cost.

Rig up Schlumberger. Log 12-1/4" hole -BHC-LDL-CNL-DLL-MSPL-GR-CALI-SP. Rig down Schlumberger. Pull diverter bag. Retrieve wear bushing & laydown running tool. Rig up & run 9-5/8" casing to 779 m. Circulate casing while waiting on chemicals. Cement as per program. WOC.

23/01/98 785 **RUN WEAR BUSHING**

> Built total of 1418 bbls of KCl/EZ-MUD/Poly for 8-1/2" section. Mud built contains only 0.75 ppb EZ-MUD to reduce mud losses over shakers upon dispacement.

Mud check is on reserve mud. Mud mixed with i KCl content of 4 % to allow for depletion i through Lakes Entrance Formation.

WOC. Cut off 9-5/8" casing. Rig up & pull diverter. o/shot & riser & lay don. Install adapter ring. Test flange to 2000 psi. Lower BOP's & nipple up. Pressure test BOP's. Run ì wear bushing.

24/01/98 1.070 **DRILLING**

> Mud dumped is gel mud in hole & pit. Raised EZ-MUD concentration to programmed value after displacing. Adding BARACOR-129 to i maintain excess sulphites. Weighed up mud to i 9.1 ppg @ 865 m for extra hole stabilty i while drilling coal seams. Lost approx 70 i bbls downhole while drilling coal seams. i Treated active with additional BARAZAN i D-Plus to combat thinning of the mud from i coal. Running desander/desilter.Changed \bar{i} shakers to finer 150 mesh screens. No new screens used to date. KCl content : 3 %

> Lay down 8" drill collars. Pick up & make up ì 8-1/2" BHA. Pick up 5 " drill pipe. RIH. Tag î cement @ 745 m. Drill out cement & float to i 775 with seawater. Pump 100 bbl sweep of old i mud. Displace hole to KCl/EZ-MUD/Polymer i mud. Perform LOT @ 788 m to 13 ppg EMW (564 psi). Drill ahead to 865 m. Circulate i out coal. Drill ahead to 1070 m.

Amity Oil NL Broadbill 1

Contractor:

Santa Fe Drilling Paramswara

Rig:

Country: Geo Area: AUSTRALIA BASS STRAIT

Field: Region:

VIC P/36 Victoria



Daily Operations Log

	- p -	
DATE	DEPTH meters	OPERATION
25/01/98	1,335	DRILLING
		Maintain volume & properties with addition of premix. Lost approx 40 bbls downhole (squeezed into formation after coal pack off) while reaming last stand to bottom during wiper trip. Raised mud weight to 9.3 ppg to help stabilise coals. Treated active with 5 ppb each of BARACARB 25 & BARACARB 100 to prevent further seepage losses. ì Maintaining BARACARB concentrations with ì regular additions. Maintaining excess ì sulfites with BARACOR-129. BARAZAN D-Plus ì used to maintain 6 rpm. KCl Content: 3.2 %
		Drill from 1070 - 1095 m. Circulate bottoms up, working pipe. Drop Single shot survey. POOH to shoe @ 779 m. Retrieve survey. Service TDS. RIH. Lose circulation 1 std off bottom. Work pipe. Begin to increase mud weight to 9.3 ppg. Drill ahead to 1335 m.

26/01/98 LOGGING 1,345

Lost approximately 100 bbls downhole when backreaming out of hole due to coal sloughing.

Built 200 bbls of new premix to maintain mud volume.

BARAZAN-D Plus used to make hi-vis sweeps.

No new shakers screens used on Broadbill 1.

KCl content : 3 %

Drill ahead from 1335 to 1345 m. Circulate i bottoms up. Drop survey. POOH 1 stand. i Backream out of tight hole (coal sloughing, i mud losses occuring) from 1326 to 9-5/8" i casing shoe @ 779 m. Circulate bottoms up. i Retreive survey. Service TDS. RIH to 1018 m i & ream to TD. Circulate & work pipe. Pump 70 ì bbl 10 ppg hi-vis sweep. Circulate hole i clean, some downhole losses. Spot 100 bbls i hi-vis on bottom. POOH - no problem. Rig up i & log 8-1/2" hole.

27/01/98 1,345 PREPARE TO P & A

BARAZAN-D Plus used to build 100 bbls of hi-vis spotted on bottom prior to POOH.

Barite used for slugs.

KCl content : 3 %

Logs unable to get past 1029 m. Rig down Schlumberger. Pick up 8-1/2" BHA. RIH. Wash & ream from 880 - 982 m & 1027 -1095 m. RIH. Circulate & condition mud @ 1191 m. RIH to TD. Circulate bottoms up. Pump hi-vis sweep. POOH - no problem. Rig up & log. Logs unable to get past 869 m. Change logging ì tool configuration - still unable to get ì further. Rig down. Break & laydown excess i drillpipe. Prepare to P & A.

Company: Well Name: Amity Oil NL

Contractor:

Broadbill 1 Santa Fe Drilling

Rig:

Paramswara





Daily Operations Log

DATE DEPTH OPERATION meters

28/01/98

1,345

PLUG & ABANDON

All chemicals used for P & A.

Mud engineer leaves rig.

Plug and abandon.

Company:

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling Paramswara Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field:

VIC P/36

Region:

Victoria

Bit and Hydraulic Record

DATE	BIT NO.	BIT	BIT MAKE	BIT TYPE	JETS or TFA	DEPTH OUT meters	DRILLED meters	HOURS	CUM HOURS	WEIGHT ON BIT Ib/1000		PUMP OUTPUT gpm	ANN. VEL DP/DC m/min	PUMP PRESSURE psig	ppg	BIT GRADING	MUD TYPE, LITHOLOGY, REMARKS
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17/01/98	1	36.00	VAREL	L3AB	3 X 22	110	58	1	1	1	۱۰	924	. 0/0		9	1-1-NO-A-0	Soawator/AQUAGEL swoops. Mari
20/01/97	2	17.50	HUGHES	R1	3 X 20						0	924	0/0		9	1-1-NO-A-0	
20/01/97	3	12.25	HUGHES	MAX-GT1	3 X 16	785	675	22	22	20	0	840	16/140	2420	9	1-2-NO-A-2	Seawater/AQUAGEL (Polymer, Miocene i Sand, allistone, Claystone
24/01/97	4	8.50	HUGHES	ATM GT18	2 X 16, 14	1345	560	27	43	15	140	504	74/125	1350	9	4-5-IN GAU	KCI/EZ-MUD/Polymer, Sandstone, coal

Company:

Rig:

Amity Oil NL

Well Name: Broadbill 1

Contractor: Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field:

VIC P/36

egion: Victoria



Mud Property Recap: Water-Based Mud

DATE I	DEPT	TH F/	L	DENSITY	FUN	RHE	EOLOG	Y @ 12	0°F	ī	pН	FILTRATIC	N			FILTRATE	ANALYSI	s				SAND	RETORT A	NALYSIS			MBT	RHEOMETE DIAL READ	R NGS	
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ASG

Drill Cuttings

Nicholas Doust

Slds Control Eff

BAROID REPRESENTATIVE

Dilution Rate

2.60

0.00

0.00

LOSSES

Dumped

VOL GAIN/LOSS

OFFICE/HOME

WAREHOUSE

Lost

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NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR The recommendations made hereon shall not be construed as authorizing the infringement of any valid patent, and are made without assumption of any liability by BAROID DRILLING FLUIDS, INC. or its agents, and are statements of opinion only.

m/min

m/min

0

0.0

0.0

TELEPHONE

TELEPHONE

TVD

Angle

Direction

Horiz. Displ

52.4

(03) 9621 3311 DAILY COST

(03) 56 881 445 \$A

m

0.00

TESTING

AVERAGE ROP

OTHER

0.00

0.00

0.00

CUMULATIVE COST

Actual Circ. Press

0 AV, Riser m/min

AV, DP

Melbourne

Welshpool

0 AV, DC

ppb

Drill Cuttings

Slds Control Eff

BAROID REPRESENTATIVE

Dilution Rate

Nicholas Doust

0.00

0.00

0.00

Chemicals

VOL GAIN/LOSS

OFFICE/HOME

LOSSES

Dumped

Lost

REPORT NUMBER: 2

Date Depth
17/01/98 110.0 m [MD]

Spud Date Present Activity

POOH TO RUN 30" CSG 17/01/98 CONTRACTOR RIG NUMBER OPERATOR Santa Fe Drilling Paramswara Amity Oil NL REPORT FOR REPORT FOR REGION Santa Fe Drilling Victoria Wally Westman/Murray Jackson COUNTRY GEOGRAPHIC AREA WELL NAME AND NUMBER FIELD OR BLOCK VIC P/36 Bass Strait Austral Broadbill 1 DRILLING STRING CASING CIRCULATION DATA BIT DATA in. Pipe CD Pump Make/Model Ideco T-1600 ΙD Size Len. 97.00 V/st Sff. 0.120 Туре Pipe OD ID Len. in. Size 6.5 X 12 bbl/min No. Jets Pipe OD ID Len. mqc 0 Ideco T-1600 Pump Make/Model Jets 32nd inch Collar OD ID Len. Set @ Set @ Size 6.5 X 12 Eff. 97.00 V/st 0.120 Collar OD ΙĐ Len. OPEN HOLE 0 bbl/min in. Set # spm Tot Noz Area Size Len 57 6 Set @ Pump Make/Model V/st Size Set @ Size Eff. TFA Len. bbl/min Size Len. Set @ mge Tot. Vol./min 0 0.0 hh1 Size Len Set @ Size Set @ BU Time 0 TC Time Len. MUD PROPERTIES MUD TREATMENTS Primary Built 400 bbls of flocculated spud mud for Flowline Program Source hi-vis sweeps and 500 bbls of pre-hydrated Time 10:57 Targets Program FL Temp *=Excep Deg C n Properties AQUAGEL for filling hole. Built 1066 bbls of Depth 110.0 pre-hydrated AQUAGEL for 12-1/4" section will charge of 12-1/4" mud costs tomorrow. Weight 0.0 ppg FV % 16 Deg C sec/qt 0 Total mud built : 1966 bbls. PV 3 49 Deg C cP 1 ΥP lbs/100 ft: 0 Actual AQUAGEL stock remaining : 16.4 MT. lbs/100 ft2 Initial Barite on board: 19.64 MT (432 sxs) Gels 0/0 API Filt. m1/30 min 0.0 All material ordered in loadout 1 rec'd. HTHP 3 121 Deg C ml/30 min Cake API/HTHP 32nd in 2/0 RIG ACTIVITY Corr.Solids & by vol 0.0 Oil/Water % by vol Continue to offload boat, Make up 36" BHA. 0.0/0.0 Sand % by vol RIH. Tag seabed @ 52.4 m. Drill ahead with MBT 0.0 seawater pumping 40 bbl hi-vis AQUAGEL pH STRIP sweeps every 5 - 10 m. Drill to 110.4 m. 0.0 Alk. Mud (Pm) 0.00 Pump 80 bbl hi-vis sweep. Circulate out Alk. Filtr. (Pf/Mf) sweep. Pump 35 bbl hi-vis mud. Displace hole 0.00/0.00 Chlorides mg/1 0 to unflocculated pre-hydrated AQUAGEL, FOOH. Hard. Ca mg/l RIH. Displace hole to unflocculated Low Gravity Solids ppb pre-hydrated AQUAGEL. POOH to run 30" 0.00 conductor. MATERIALS USED SOLIDS EQUIPMENT Product Cost Device Make Sz/Sern HR AOUAGEL - 1000 KG. TON 4033.25 Shkr #1 Scalper 8 500 caustic soda - 25 KG. PAIL 216.05 5 Shkr #2 | Scalper Shkr #3 Sweco LM3 lime - 20 KG. BAG 5 42.15 soda ash - 25 K.G. BAG 14.85 Shkr #4 Sweco LM3 1 Shkr #5 Sweco LM3 Shkr #6 Sweco LM3 dSndr Crestex 3 x 10 dslt #1 Crestex MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME ьы MUD TYPE Water Depth HYDRAULICS 21.7 DRLG 3.00 Hole Pits SEAWATER/HI VIS SWEEPS 600 rpm Calc. F. Grad 0.0 CIRC 2.00 300 rpm 238 NUD CONSUMPTION Leak Off Test 0.0 TRIPS 2 50 Active Volume ADDITIONS bbl 200 rpm ECD SERV. RIG 0.00 0 100 rpm 238 Oil Csg. Shoe 0.0 SURVEY 0.00 Reserve Total Brine Water 0 6 rpm TD 0.0 FISHING 0.00 Drill Water 238 629 3 rpm Max. Diff. Press LOGGING 0.00 Low Grav, vol % 0.0 Sea Water 250 Pressure Units: paig PIN CSG 0.00 ppb 0.00 Whole Mud O Press Drop. DP 0 CORR 0.00 High Grav, vol % 0.0 DEVIATION INFO Barite 0 Press Drop, BIT 0 BACK REAM 0.00

WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 \$A

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

0

0

0.0

0.0

TELEPHONE

MD

TVD

Angle

Direction

Horiz. Displ

110.0

110.0 m

0.0

(03) 9621 3311 DAILY COST

0.00

REAMING

TESTING

4306.30

AVERAGE ROP

OTHER

0.00

0.00

16 50

0.00

CUMULATIVE COST

The recommendations made hereon shall not be construed as authorizing the infringement of any valid patent, and are made without assumption of any liability by BAROID DRILLING FLUIDS, INC. or its agents, and are statements of opinion only.

m/min

m/min

21 Press Drop, ANN

238 AV, Riser m/min

Melbourne

Actual Circ. Press

bbl

0 AV, DC

662 AV. DP

Spud Date Present Activity 17/01/98 INSTALL DIVERTER RIG NUMBER OPERATOR CONTRACTOR Amity Oil NL Paramswara Santa Fe Drilling REPORT FOR REGION REPORT FOR Wally Westman/Murray Jackson Santa Fe Drilling Victoria WELL NAME AND NUMBER GEOGRAPHIC AREA COUNTRY FIELD OR BLOCK VIC P/36 Bass Strait Austral Broadbill 1 DRILLING STRING CASING CIRCULATION DATA BIT DATA in. Pipe OD Pump Make/Model Ideco T-1600 Size Size 6.5 X 12 Rff. 97.00 V/st Len. Pipe OD ID in. Type bbl/min No. Jeta Pipe OD TD Len 30 Set @ 106.0 spm 0 Pump Make/Model Ideco T-1600 Jets 32nd inch Collar OD ID Len. Set 0 Rff. 97.00 V/st Collar CD Len. Set @ Size 6.5 X 12 OPEN HOLE Set ® o bbl/min 0.0 m mga Pump Make/Model Set @ Size Tot Noz Area Len. 4.0 V/st TFA Size Len. Set @ Size Bff. bb1/min Size Set @ spm Len. Set @ Tot. Vol./min 0 bbl Size Len. gpm 0.0 0 TC Time Size BU Time Len. Set @ MUD PROPERTIES MUD TREATMENTS Primary Calcium Chloride used for cementing. To be Source Flowline Program Essential 19:37 charged as non-drilling cost. Time FL Temp *=Excep Properties Deg C 0 Depth m 110.0 Will charge off 12-1/4" mud costs tomorrow. 0.0 Weight ppg FV 3 16 Deg C sec/qt Total 12-1/4" mud built to date : 1182 bbls. 0 PV 1 49 Deg C cP ΥP lbs/100 ft2 0 Gels lbs/100 ft: 0/0 API Filt. ml/30 min 0.0 HTHP \$ 121 Deg C ml/30 min 0.0 Cake API/HTHP 32nd in 2/0 RIG ACTIVITY Corr.Solids % by vol 0.0 Oil/Water % by vol 0.0/0.0 Rig up and run 30" conductor to 106 m. Pick Sand % by vol up 2-7/8" tubing and run with 30" conductor. MBT 0.0 Cut conductor joint. Cement casing. Install 12-1/4" diverter. pH STRIP 0.0 Alk.. Hud (Pm) 0.00 Alk. Filtr. (Pf/Mf) 0.00/0.00 Chlorides mg/1 0 Hard. Ca mg/l 0 Low Gravity Solids ppb 0.00 MATERIALS USED SOLIDS EQUIPMENT Sz/Sern HR Device | Make Shkr #1 Scalper NO INVENTORY USED ON THIS REPORT 20 Shkr #2 Scalper 20 Shkr #3 Sweco LM3 150 x 3 Shkr #4 Sweco LM3 150 x 3 Shkr #5 Sweco LM3 150 x 3 Shkr #6 Sweco LM3 150 x 3 dSndr Crestex 3 x 10" dSlt #1 Crestex

	MUD MAN	JAGEMENT	RHEOLOGY AND	FRACTURE GRAL	IENT	TIME	
MUD VOLU	ЈМЕ ы	MUD TYPE	HYDRAULICS	Water Depth	21.7	DRLG	0.00
Hole	Pits	Seawater	600 rbw	Calc. F. Grad	0.0	CIRC	0.00
281	0	MUD CONSUMPTION	300 rpm	Leak Off Test	0.0	TRIPS	0.00
Active V	Volume	ADDITIONS bbl	200 rpm	ECD ppg	.	SERV. RIG	0.00
281	,	Oil	100 rpm	Cog. Shoe	0.0	SURVEY	0.00
Reserve	Total	Brine Water 0	6 rpm	TD	0.0	FISHING	0.00
	281	Drill Water 0	3 rpm	Max. Diff. Press	0	LOGGING	0.00
Low Grav, vol	1 % 0.0	Sea Water 0	Pressure Units: psig	(RUN CSG	14.00
ppb	0.00	Whole Mud 0	Press Drop. DP 0			CORE	0.00
High Grav, vo	0.0	Barite 0	Press Drop, BIT 0	DEVIATION IN	FO	BACK REAM	0.00
ppb	0.00	Chemicals 0	Press Drop, AMN 0	MD 110.	O m	REAMING	0.00
ASG		LOSSES bb1	Actual Circ. Press 0	TVD 110.	0 m	TESTING	0.00
Drill Cutting	30 0	Dumped 0	AV, DP m/min 0.0	Angle	0.00	OTHER	10.00
Dilution Rate	0.00	Lost 0	AV, DC m/min 0.0	Direction		AVERAGE ROP	0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS 0	AV, Riser m/min	Horiz. Displ 0.0	m		
BAROID REPRES	BUITATIVE	OFFICE/HOUB	Melbourne TELEPHONE	(03) 9621 3311	DAILY CO	ST CUMUL	ATIVE COST
Nicholas Dous	st	WAREHOUSE	Welshpool TELEPHONE	(03) 56 881 445	\$A	0.od \$A	4306.30

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

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Nicholas Doust

PICK UP 12-1/4" BHA 17/01/98 CONTRACTOR RIG NUMBER OPERATOR Paramswara Santa Fe Drilling Amity Oil NL REPORT FOR REGION REPORT FOR Wally Westman/Murray Jackson Santa Fe Drilling Victoria FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER VIC P/36 Bass Strait Austral Broadbill 1 CIRCULATION DATA BIT DATA DRILLING STRING CASING ın. Pump Make/Model Ideco T-1600 Len Size Pipe OD 0.120 Pipe OD Size 6.5 X 12 Eff. 97.00 V/st Type ID Len. 106.0 bbl/min No. Jets Pipe OD Set @ spm Ideco T-1600 Jets 32nd inch Collar OD ΙD Len. Set 9 Pump Make/Model Eff. 97.00 V/st Collar OD Len. Set @ 6.5 X 12 OPEN HOLE bbl/min in. Set @ spm 0 Tot Noz Area Len. Set @ Pump Make/Model Eff. V/st Set @ Size TFA Size Len. Size Set @ apm bbl/min Len. Size Len. Set @ Tot. Vol./min gbw Size 0 TC Time Len. Set @ BU Time MUD PROPERTIES MUD TREATMENTS Primary Essential Calcium chloride used for cementing to be Pits, Circ Program Source Time 20:45 Targets Program charged as 'non-drilling cost'. Properties FL Temp Deg C *=Excep Built total of 1430 bbls of Depth m 110.0 Weight 8.9 seawater/AQUAGEL/Polymer mud for 12-1/4" ppg FV 9 18 Deg C sec/qt hole. 38 PV @ 49 Deg C cP 7 Expect API filtrate to decrease with lbs/100 ft2 ΥP 8 lbs/100 ft2 3/4 incorporation of drill solids and more PAC-R Gels API Filt. m1/30 min 12.0 once drilling commences. HTHP 9 121 Deg C ml/30 min 0.0 Cake API/HTHP 32nd in 1/0 Corr.Solids % by vol RIG ACTIVITY 0.0 Oil/Water % by vol 0.0/0.0 Continue to install diverter and riser. Sand % by vol Function flowline, seals and overboard MBT 0.0 lines. Run wear bushing. Cement top of 30" pH STRIP 0.0 conductor via 2-7/8" tubing. Pick up 5" Alk. Mud (Pm) 0.00 drill pipe. Make up 17-1/2" BHA to drill Alk. Filtr. (Pf/Mf) 0.00/0.00 cement out. RIH. Drill cement, shoe track Chlorides mg/l 0 and rathole. Displace hole to Hard. Ca mg/l seawater/AQUAGEL/PAC mud system. POOH. Pick Low Gravity Solids ppb 0.00 up and make up 12-1/4" BHA. Excess sulfite MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Used Device Make Sz/Sern HR AQUAGEL - 1000 KG. TON Shkr #1 Scalper 17.100 8113.95 20 PAC-L - 25 KG. BAG 2060.94 14 Shkr #2 | Scalper 20 PAC-P. - 25 KG. BAG 294.42 Shkr #3 Sweco LM3 | 150 x 3 Shkr #4 Sweco LM3 150 x 3 Shkr #5 Sweco LM3 Shkr #6 Sweco LM3 Crestex dSndr 3 x 10 dslt #1 Crestex MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bbl Water Depth 21.7 0.00 600 rpm 22 Hole Pits GEL/SEAWATER/POLYMER Calc, F. Grad 0.0 CIRC 0.75 281 572 MUD CONSUMPTION 300 rpm 15 Leak Off Test 0.0 TRIPS 0.00 200 rpm 11 ECD Active Volume ADDITIONS bbl SERV. RIG 0.00 ppg 853 Oil 0 100 rpm 7 Csg. Shoe 0.0 SURVEY 0.00 Reserve Total Brine Water 6 грт 3 TD FISHING 0.00 518 1371 Drill Water 1026 3 rpm 2 Max. Diff. Press LOGGING 0.00 Low Grav, vol % 0.0 Sea Water 354 Pressure Units: RUN CSG 0.00 psig ppb 0.00 Whole Mud 0 Press Drop. DP COPE 0.00 DEVIATION INFO High Grav, vol % 0.0 Barite Press Drop, BIT 0 BACK REAM 0.00 ььр 0.00 Chemicals Press Drop, ANN REAMING 0.00 110.0 TVD ASG LOSSES bbl Actual Circ. Press 0 110.0 TESTING 0.00 Drill Cuttings Dumped 281 AV, DP m/min 0.0 Angle 0.00 OTHER 23.25 Dilution Rate 0.00 Lost 59 AV, DC m/min 0.0 Direction AVERAGE ROP 0.00 Slds Control Eff 0.00 VOL GAIN/LOSS 1090 AV, Riser m/min Horiz. Displ 0.0 BAROID REPRESENTATIVE (03) 9621 3311 DAILY COST CUMULATIVE COST OFFICE/HOME Melbourne TELEPHONE

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TELEPHONE

(03) 56 881 445 \$A

10469.31

Welshpool

WAREHOUSE

BAROID REPRESENTATIVE

REPORT NUMBER: Depth Date 20/01/98 [MD] 545.0 m Spud Date Present Activity

17/01/98 DRILLING CONTRACTOR RIG NUMBER OPERATOR Santa Fe Drilling Paramswara Amity Oil NLREPORT FOR REGION REPORT FOR Wally Westman/Murray Jackson Santa Fe Drilling Victoria GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER FIELD OR BLOCK VIC P/36 Austral Bass Strait Broadbill BIT DATA DRILLING STRING CASING CIRCULATION DATA in. Size 12.25 Ideco T-1600 Pipe OD ID 4.276 Len. 314.2 Pump Make/Model Len. ΙD 3.000 Size 6.5 X 12 Eff. 97.00 V/st Type MAX GT1 Pipe OD in. 106.0 bbl/min 9.6 No. Jets Pipe OD ID Len. 30 Set @ spm 80 Pump Make/Model Ideco T-1600 Jets 32nd inch Collar OD ID 2.75 Len. 118.4 Set @ 6.5 X 12 Eff. 97.00 V/st Collar OD ID Set @ Size 16 16 Len. OPEN HOLE in. Set @ mge 80 bbl/min Len. Size 12.25 439.0 Set @ Pump Make/Model Tot Noz Area Size Bff. V/st TFA Size Len. Set @ Set @ bbl/min Size Len. spm Tot. Vol./min 803 19.1 bbl Size Set @ Len. gpm Size 22 TC Time Len. Set @ BU Time MUD PROPERTIES MUD TREATMENTS Primary Built 1070 bbls of new mud. Heavy mud losses its, Circ Flowline Program Essential Source experienced through coarse sands (approx 700 Time 08:00 20:00 Targets Program =Excep Properties bbls). Adding PAC-R to maintain API filtrate 36 FL Temp Deg C 44 Depth 165.0 420.0 2 110.0 784.9 and BARACOR-129 to maintain Excess Sulfite. 8.9 9.0 Weight ppg BARACARB 25 : FV @ 44 Deg C sec/qt 39 44 35 45 LCM Sweeps : 18 ppb 21 ppb PV 2 49 Deg C сP 19 17 BARACARB 100: BAROFIBRE : 4.5 ppb lbs/100 ft: ΥP 20 26 : 20 ppb 17/21 16/21 AQUAGEL lbs/100 ft2 API Filt. m1/30 min 8.0 Running all solids control equipment. 8.2 8.0 HTHP @ 121 Deg C ml/30 min 22.0 21.0 Building 30 bbls pumpable KCl/EZ-MUD/Polymer Cake API/HTHP 32nd in 1/0 mud for spotting across Lakes Entrance. 1/0 RIG ACTIVITY Corr.Solids & by vol 3.2 4.1 Continue to pick up 8° drill collars. Drill Oil/Water % by vol 0.0/95 0.0/94. 7 m of 12-1/4" hole. Pick up last 8" drill Sand % by vol 0.5 0.5 4.0 4.2 collar. Unable to circulate - plugged above MBT pH METER & 20 Deg C float. POOH. Unblock float. RIH. Drill ahead 8.5 8.5 Alk. Mud (Pm) 0.30 0.36 to 117 m - Incurring downhole losses. Pump Alk. Filtr. (Pf/Mf) 0.01/0.05 0.01/0.07 25 bbl hi-vis sweep. Circulate bottoms up. Chlorides mg/l Pump 25 bbl hi-vis. Drill ahead to 227 m at 20500 21000 Hard. Ca mg/l 600 620 reduced pump strokes (120 spm). Pump 50 bbl Low Gravity Solids ppb LCM pill (as above) before connection -29.30 37.31 losses halted/red'd. Drill to 399 m. Circ Excess sulfite 100 100 mg/l b/u. Spot 100 bbl LCM pill (as precaution) before conducting survey. Drill ahead. MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Device Make Sz/Scrn HR AQUAGEL - 1000 KG. TON 12.400 Shkr #1 Scalper 10 BARACARB 100 - 25 KG. SACK 691.20 Shkr #2 48 Scalper 20 BARACARB 25 - 25 KG. BAG 554.40 Shkr #3 | Sweco LM3 150 x 3 17 BARACOR 129 - 25 KG. DRUM 1159.95 Shkr #4 Sweco LM3 150 x 3 17 BAROFIBRE - 25 LB. SACK 27 1606.50 Shkr #5 Sweco LM3 150 x 3 PAC-P. - 25 KG. BAG 2796.99 Shkr #6 Sweco LM3 150 x 3 17 caustic soda - 25 KG. PAIL dSndr Crestex 3 x 10" 17 dSlt #1 Crestex 16 x 5 17 MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME bbl MUD TYPE HYDRAULICS Water Depth 21.7 15.00 Pits GEL/SEAWATER/POLYMER Calc. F. Grad rpm MUD CONSUMPTION 300 rpm Leak Off Test TRIPS 4.75 Active Volume ADDITIONS ECD 200 rpm 31 SERV. RIG 0.00 ppg Oi1 100 rpm 9.0 SURVEY 24 Cag. Shoe 0.50 Peserve Total Brine Water FISHING 0.00 6 rpm 15 TD Max. Diff. Press Drill Water LOGGING 0.00 308 1168 759 3 rpm 14 15 Sea Water Low Grav, vol 🕻 3.2 Pressure Units: RUN CSG 0.00 ppb 29.30 Whole Mud Press Drop. DP 953 CORB 0.00 High Grav, vol % 0.0 DEVIATION INFO BACK REAM 0.00 Barite Press Drop, BIT 1512 0.00 ppb 0.00 Chemicals Press Drop, ANN 28 545.0 REAMING ASG 2.58 LOSSES Actual Circ. Press מעד TESTING 0.00 Drill Cuttings Dumped AV, DP m/min Angle OTHER 0.75 Dilution Rate 16.83 Lost AV, DC m/min 69.7 Direction 354 AVERAGE ROP 0.00 Slds Control Eff 0.00 VOL GAIN/LOSS -203 AV, Riser m/min Horiz. Displ

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TELEPHONE

TELEPHONE

(03) 9621 3311

(03) 56 881 445

DAILY COST

12779.26

\$A

CUMULATIVE COST

Melbourne

Welshpool

OFFICE/HOME

WAREHOUSE

High Grav,

Drill Cuttings

Slds Control Eff

BAROID REPRESENTATIVE

Dilution Rate

Nicholas Doust

0.00

2.60

0.00

ppb

ASG

Barite

Dumped

Lost

LOSSES

Chemicals

VOL GAIN/LOSS

OFFICE/HOME

WAREHOUSE

REPORT NUMBER: Baroid Australia Pty Ltd Date Depth 21/01/98 785.0 m Spud Date Present Activity 17/01/98 R/U TO LOG / LOG OPERATOR CONTRACTOR RIG NUMBER Santa Fe Drilling Paramswara Amity Oil NL REPORT FOR REPORT FOR REGION Wally Westman/Murray Jackson Santa Fe Drilling Victoria GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER FIELD OR BLOCK Broadbill 1 VIC P/36 Bass Strait Austral in. DRILLING STRING CIRCULATION DATA BIT DATA CASING Size Pipe OD Len Pump Make/Model Ideco T-1600 Size 6.5 X 12 Eff. 97.00 V/st ID Туре Pipe OD Len. in. bbl/min No. Jets Pipe OD ID Len 30 Set 🕏 106.0 mge 0 0.0 Set & Pump Make/Model Ideco T-1600 Jets 32nd inch Collar OD ID Len Size Set @ 6.5 X 12 Eff. 97.00 V/st ΙD Collar OD Len. OPEN HOLE in. Set @ mge 0 bbl/min 0.0 Tot Nor Area Size Len. Pump Make/Model Eff. V/st Size TFA Size Len. Set @ Len. Size Set. @ mga bbl/min Size Len. Set @ Tot. Vol./min 0 0.0 gρm 0 TC Time Size Len. Set @ BU Time MUD PROPERTIES MUD TREATMENTS Primary Maintained treatment of active system with Source its, Circ Flowline Program Essential Time 06:00 13:00 Targets Program PAC-R to hold API filtrate. Diluted active with seawater/PAC-L to control mud viscosity FL Temp Deg C 46 46 *=Excep Properties increase from drilling claystone. 701.0 784.5 Depth m 785.0 110.0 9.0 9.2 9.3 BARACOR-129 used to maintain excess Weight ppg 70 sulfites. Building KCl/BZ-MUD/Polymer mud FV @ 46 Deg C sec/qt 85 35 45 PV * 49 Deg C cP 15 15 for 8-1/2" hole. Pan desander and desilter YР lbs/100 ft2 23 21 lbs/100 ft2 17/30 Gels 17/29 API Filt. Reports have been cost modified to reflect ml/30 min 8.0 7.8 8.0 updated mud material prices. HTHP @ 121 Deg C ml/30 min 21.0 22.8 Cake API/HTHP 32nd in 1/2 1/2 No new shakers screens used to date RIG ACTIVITY Corr.Solids % by vol 5.4 3.9 Oil/Water % by vol 0.0/94. 0.0/93. Continue to drill ahead to 701 m. Circulate bottoms up. Conduct Hofco survey. Drill Sand % by vol tr tr MBT 5.0 5.5 ahead to 785 m. Circulate bottoms up. pH MSTER @ 20 Deg C 8.2 8.2 Conduct multishot survey. POOH. Some tight Alk. Mud (Pm) 0.40 0.45 hole on first 6 stands (hole took 6 bls). Alk. Filtr. (Pf/Mf) 0.02/0.06 0.02/0.0 POOH to 30" conductor @ 110 m. Conduct top Chlorides mg/l 21000 drive service (hole took 12 bbls). RIH. Hole 21000 Hard. Ca mg/l 600 600 good, Circulate hole clean. POOH. Rig up to Low Gravity Solids ppb 35.49 49.23 run Schlumberger logs. Hole drink rate 120 Excess sulfite mg/l currently 4-6 bbls/hr. 100 MATERIALS USED SOLIDS EQUIPMENT Product Used Used Make Cost Product Device Sz/Sern HR AOUAGEL - 1000 KG. TON 2.200 1043 90 Shkr #1 Scalper BARACOR 129 - 25 KG. DRUM 2 122.10 20 Shkr #2 Scalper PAC-L - 25 KG. BAG 3 441.63 Shkr #3 Sweco LM3 150 x 3 13 PAC-R - 25 KG. BAG 588.84 Shkr #4 Sweco LM3 150 x 3 13 barite - 1000 KG. TON 2.400 773.33 Shkr #5 | Sweco LM3 150 x 3 13 Shkr #6 Sweco LM3 150 x 3 13 dSndr Crestex 3 × 10" 13 dslt #1 Crestex 16 x 5" 13 MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bbl 10.75 Water Depth 21.7 DRLG Hole Pits GEL/SEAWATER/POLYMER 600 rpm 53 51 Calc. F. Grad 0.0 CIRC 2.25 590 MUD CONSUMPTION 300 rpm 38 Leak Off Test 523 36 0.0 TRIPS 7.00 Active Volume ADDITIONS bbl 200 rpm 32 31 ECD PPg SERV. PIG 0.00 oil 1113 0 100 rpm 26 25 Csg. Shoe 9.1 SURVEY 1,25 Reserve Total Brine Water 6 rpm 16 15 TD 9.3 FISHING 0.00 208 Drill Water Max. Diff. Press 1321 3 rpm 13 13 LOGGING 0.00 Sea Water Low Grav, vol % 3.9 385 Pressure Units: RUN CSG psig 0.00 ppb 35.49 Whole Mud 0 Press Drop. DP CORE 0.00

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m/min

m/min

0

0

0

0.0

0.0

TELEPHONE

TELEPHONE

MD

TVD

Angle

Direction

Horiz. Displ

(03) 9621 3311

(03) 56 881 445 | \$A

DEVIATION INFO

785.0

785.0

0.5

m

DAILY COST

0.25

320

BACK REAM

AVERAGE ROP

REAMING

TESTING

OTHER

2969.80

0.00

0.00

0.00

2.75

0.00

30524.67

CUMULATIVE COST

Press Drop, BIT

Press Drop, ANN

62 AV. DP

179

AV, DC

153 AV, Riser m/min

Melbourne

Welshpool

Actual Circ. Press

Baroid Australia Pty Ltd DRILLING MUD REPORT (Cost Modified)

REPORT NUMBER: Depth Date 22/01/98 785.0 m Present Activity Spud Date

17/01/98 WOC RIG NUMBER OPERATOR CONTRACTOR Amity Oil NL Santa Fe Drilling Paramswara REGION REPORT FOR REPORT FOR Mike Walker/ Blain Wilkie Wally Westman/Chris Roots Victoria WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY VIC <u>P/36</u> Bass Strait <u>Broadbill</u> Austral CIRCULATION DATA BIT DATA DRILLING STRING CASING in. Ideco T-1600 Pump Make/Model Size Pipe OD Pipe OD Size 6.5 X 12 Eff. 97.00 V/st T, pe 106.0 bbl/min ID 30 Set @ spm No. Jets Pipe OD Len. Ideco T-1600 Jets 32nd inch Collar OD ID Len 9 5/8 Set @ 779.0 Pump Make/Model Size 6.5 X 12 Rff. 97.00 V/st 0.120 Collar OD Len. Set @ OPEN HOLE bbl/min 0 in. Set @ spm Size 6.0 Set @ Pump Make/Model Tot Noz Area Len. Set @ Size V/st Size TFA Len. Size Len. Set @ πgε bbl/min 0.0 Tot. Vol./min 0 bb1 Size Len. Set @ gpm Size 0 TC Time BU Time Set @ Len. MUD TREATMENTS MUD PROPERTIES Primary 3 Essential Mixing 3% KCl/EZ-MUD/Polymer mud. Source its, Circ Program Time 15:30 Targets Program Costs/volume to be included tomorrow. *=Excep FL Temp 46 Properties Deg C 784.9 Three shakers changed to coarser 80 mesh 785.0 1654.1 Depth m Weight 9.2 9.0 9.5 size screens to prevent/reduce initial ppg losses of unsheared mud. Scalpers changed to FV % 46 Deg C sec/qt 44 PV 4 49 Deg C cP 14 30 10 mesh. No new screens used to date. ΥP lbs/100 ft2 20 lbs/100 ft2 15/23 Dumping and cleaning pits at report time. Gels API Filt. m1/30 min 7.8 6.0 HTHP @ 121 Deg C ml/30 min 15.0 AQUAGEL and Calcium Chloride used in cement 22.0 Cake API/HTHP 32nd in job - to be charged as non-drilling cost. 1/2 RIG ACTIVITY Corr.Solids % by vol 5.4 Oil/Water % by vol 0.0/93 Rig up Schlumberger. Log 12-1/4" hole Sand & by vol -BHC-LDL-CNL-DLL-MSPL-GR-CALI-SP. Rig down tr MBT 5.5 Schlumberger. Pull diverter bag. Retrieve pH METER @ 20 Deg C wear bushing & laydown running tool. Rig up 8.2 8.5 9.2 Alk. Mud (Pm) 0.30 & run 9-5/8" casing to 779 m. Circulate Alk. Filtr. (Pf/Mf) 0.01/0.06 casing while waiting on chemicals. Cement as Chlorides mg/l 21000 per program. WOC. Hard. Ca mg/l 580 Low Gravity Solids ppb 49.23 91.00 6 rpm 14 6.00 10.00 KCl Content 11.00 ppb MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Used Device Make Sz/Scrn AQUAGEL - 25 Kg. BAG 56 659.12 Shkr #1 Scalper Shkr #2 Scalper 10 Shkr #3 Sweco LM3 150 x 3 Shkr #4 | Sweco LM3 80 x 3 Shkr #5 | Sweco LM3 | 80 x 3 | 5

Shkr #6 Sweco LM3 80 x 3 5 dSndr Crestex 3 x 10" dslt #1 Crestex 16 x 5"

		AGEMENT	RHEOLOGY A	AND	FRACTURE GRAI	DIENT	TIME	
MUD VOLU	ME bbl	MUD TYPE	HYDRAULIC	CS	Water Depth	21.7	DRLG	0.00
Hole	Pits	GEL/SBAWATER/POLYMER	600 rpm 48		Calc. F. Grad	0.0	CIRC	5.00
190	0	MUD CONSUMPTION	300 rpm 34		Leak Off Test	0.0	TRIPS	0.00
Active V	/olume	ADDITIONS bbl	200 rpm 29	ľ	ECD pp	g	SERV. RIG	0.00
190		Oil 0	100 rpm 25		Cag. Shoe	0.0	SURVEY	0.00
Reserve	Total	Brine Water 0	6 rpm 14		TD	0.0	FISHING	0.00
116	306	Drill Water 0	3 rpm 12		Max. Diff. Press	0	LOGGING	6.50
Low Grav, vol	. % 5.4	Sea Water 0	Pressure Units:	psig			RUN CSG	9.50
ppb	49.23	Whole Mud 0	Press Drop. DP	0			CORE	0.00
High Grav, vo	1 % 0.0	Barite 0	Press Drop, BIT	0	DEVIATION IN	1FO	BACK REAM	0.00
ppb	0.00	Chemicals 0	Press Drop, ANN	0	MD 785	.0 m.	REAMING	0.00
ASG	2.60	LOSSES bbl	Actual Circ. Press	0	TVD 785	.0 m	TESTING	0.00
Drill Cutting	ta 0	Dumped 1015	AV, DP m/min	0.0	Angle	0.25	OTHER	3.00
Dilution Rate	0.00	Lost 0	AV, DC m/min	0.0	Direction	320	AVERAGE ROP	0.00
Slds Control	Bff 0.00	VOL GAIN/LOSS -1015	AV, Riser m/min		Horiz. Displ 0.5	m		
BAROID REPRES	BVITATIVE	OFFICE/HOME	Melbourne T	ELEPHONE	(03) 9621 3311	DAILY CO	OST CUM	ULATIVE COST
Nicholas Dous	t	WAREHOUSE	Welshpool T	ELEPHONE	(03) 56 881 445	\$A	659.13 \$A	31183.79

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Date Depth
23/01/98 785.0 m [MD]
Spud Date Present Activity

RUN WEAR BUSHING 17/01/98 CONTRACTOR RIG NUMBER OPERATOR Paramswara Santa Fe Drilling Amity Oil NL REPORT FOR REPORT FOR REGION Mike Walker/ Blain Wilkie Victoria Wally Westman/Chris Roots GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER FIELD OR BLOCK Bass Strait Austral Broadbill 1 VIC P/36 CIRCULATION DATA DRILLING STRING CASING BIT DATA in. Pump Make/Model Ideco T-1600 Pipe OD Size ID Len. Bff. 97.00 V/St Pipe OD ΙD Len. in. m Size 6.5 X 12 Туре 106.0 apm 0 bbl/min ID Set @ Pipe OD Len No. Jets Pump Make/Model Ideco T-1600 9 5/8 Set @ 779.0 Jets 32nd inch Collar OD ID Len. Eff. 97.00 V/st 0.120 ID Len. Set @ Size 6.5 X 12 Collar OD OPEN HOLE Set @ apm 0 bbl/min in. Pump Make/Model Tot Noz Area Size 6.0 Set @ Size Rff V/st Size Set @ Len. TFA bbl/min Size Len. Set @ πge Set @ Tot. Vol./min 0 0.0 bbl Size Len. Size Set @ 0 TC Time Len. MUD TREATMENTS MUD PROPERTIES Primary 2 3 Built total of 1418 bbls of KCl/EZ-MUD/Poly its, Circ Source for 8-1/2" section. Mud built contains only Time 20:07 Targets Program 0 *=Excep Properties 0.75 ppb EZ-MUD to reduce mud losses over FL Temp Deg C 784.9 1654.1 shakers upon dispacement. 785.0 Depth m Weight ppg 8.9 9.0 9. Mud check is on reserve mud. Mud mixed with FV 4 20 Deg C sec/qt 55 KCl content of 4 % to allow for depletion PV 9 49 Deg C cP 10 ΥP 1bs/100 ft2 15 through Lakes Entrance Formation. Gels lbs/100 ft2 4/8 6.0 API Filt. m1/30 min 5.0 HTHP & 121 Deg C m1/30 min 12.5 15.0 1/1 Cake API/HTHP 32nd in RIG ACTIVITY Corr.Solids % by vol 1.7 WOC. Cut off 9-5/8" casing. Rig up & pull Oil/Water % by vol 0.0/95.0 diverter, o/shot & riser & lay don. Install Sand % by vol 0.0 adapter ring. Test flange to 2000 psi. Lower MBT pH METER @ BOP's & nipple up. Pressure test BOP's. Run 20 Deg C 8.2 8.5 9.2 Alk. Mud (Pm) 0.20 wear bushing. Alk. Filtr. (Pf/Mf) 0.07/0.1 Chlorides mg/l 43000 Hard. Ca mg/l 380 Low Gravity Solids ppb 15.20 91.00 10.00 6 rpm 6 6.00 KCl Content ppb 14.00 KCl % by vol MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Used Cost Device Make Sz/Scrn HR ALDACIDE G - 25 L. Shkr #1 | Scalper CAN 3 611.88 10 BARAZAN-D PLUS - 25 KG. BAG 8279.54 23 Shkr #2 | Scalper 10 DEXTRID LT - 25 KG. BAG 5631.49 107 Shkr #3 Sweco LM3 150 x 3 EZ-MUD DP - 50 LB. BAG 2754.96 Shkr #4 Sweco LM3 24 80 x 3 PAC-L - 25 KG. BAG 3238.62 Shkr #5 Sweco LM3 80 x 3 22 potassium chloride - 1000 KG. 3892.89 Shkr #6 | Sweco LM3 80 x 3 soda ash - 25 KG. BAG 74.25 dSndr Crestex 3 x 10" dSlt #1 Crestex 16 x 5

	MUD MAN	VAGEMENT	RHEOLOGY AND	FRACTURE GRA	DIENT	TIME	
MUD VOLU	ME ьы	MUD TYPE	HYDRAULICS	Water Depth	21.7	DRLG	0.00
Hole	Pits	KCL/EZ MUD/POLYMER	600 rpm 35	Calc. F. Grad	0.0	CIRC	0.00
190	00	MUD CONSUMPTION	300 rpm 25	Leak Off Test	0.0	TRIPS	0.00
Active :	/olume	ADDITIONS bbl	200 rpm 20	ECD PE	pg .	SERV. RIG	0.00
190		Oil 0	100 rpm 14	Cog. Shoe	0.0	SURVEY	0.00
Peserve	Total	Brine Water 0	6 rpm 6	TD	0.0	FISHING	0.00
1534	1724	Drill Water 1371	3 rpm 3	Max. Diff. Press	0	LOGGING	0.00
Low Grav, vol	l 1.7	Sea Water 0	Pressure Units: psic	}		RUN CSG	0.00
ppb	15.20	Whole Mud 0	Press Drop. DP			CORE	0.00
High Grav, vo	1 % 0.0	Barite 0	Press Drop, BIT	DEVIATION I	NFO	BACK REAM	0.00
ppb	0.00	Chemicals 47	Press Drop, Athi	MD 785	.0 m	REAMING	0.00
ASG	2.57	LOSSES bbl	Actual Circ. Press (TVD 789	5.0 m	TESTING	0.00
Drill Cutting	js 0	Dumped 0	AV, DP m/min 0.	0 Angle	0.25	OTHER	24.00
Dilution Rate	0.00	Lost 0	AV, DC m/min 0.	0 Direction	320	AVERAGE ROP	0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS 1418	AV, Riser m/min	Horiz. Displ 0.5	m_		
BAROID REPRES	BNTATIVE	OFFICE/HOME	Melbourne TELEPHO	NE (03) 9621 3311	DAILY CO	OST CUMULA	TIVE COST
Nicholas Dous	st	WAREHOUSE	Welshpool TELEPHO	NE (03) 56 881 445	\$A	24483.63 \$A	55667.42

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

The recommendations made hereon shall not be construed as authorizing the infringement of any valid patent, and are made without assumption of any liability by BAROID DRILLING FLUIDS, INC. or its agents, and are statements of opinion only.

DRILLING 17/01/98 OPERATOR CONTRACTOR RIG NUMBER Amity Oil NL Santa Fe Drilling Paramswara REPORT FOR REPORT FOR REGION Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER Broadbill 1 VIC P/36 Bass Strait Austral DRILLING STRING CIRCULATION DATA BIT DATA CASING in. m Size 8.5 Pipe OD ID 4.276 Len 811 0 Pump Make/Model Ideco T-1600 Type ATMGTI8D Pipe OD ID 3.000 Len. 112.5 Size 6.5 X 12 Eff. 97.00 V/st ID bbl/min No. Jets Pipe OD Len 30 Set @ 106.0 50 mae Jets 32nd inch Collar OD ID 2.75 Len. 146.5 9 5/8 Set @ 779.0 Pump Make/Model Ideco T-1600 Collar OD Len. Set @ Size 6.5 X 12 Eff. 97.00 V/st OPEN HOLE bbl/min Set @ 50 apm 6.0 Tot Noz Area Size 291.0 Set 🕹 Pump Make/Model Len Size Size Rff V/st TFA Len. Set @ Size Len. Set @ spm bbl/min Size Len. Set @ Tot. Vol./min 502 12.0 gpm Size 13 TC Time Len. Set @ MUD PROPERTIES MUD TREATMENTS Primary Source its, Circ Flowline Mud dumped is gel mud in hole & pit. Raised EZ-MUD concentration to programmed value 17:00 22:30 Targets Time Program *=Excep FL Temp Deg C 4.0 40 Properties after displacing. Adding BARACOR-129 to Depth 865.0 1032.0 784.9 1654.1 maintain excess sulphites. Weighed up mud to m Weight 8.9 9.1 9.0 9.1 ppg @ 865 m for extra hole stabilty FV @ 40 Deg C sec/qt 44 40 while drilling coal seams. Lost approx 70 PV @ 49 Deg C bbls downhole while drilling coal seams. СP 13 14 30 ΥP lbs/100 ft2 18 22 Treated active with additional BARAZAN lbs/100 ft2 4/6 4/7 D-Plus to combat thinning of the mud from API Filt. m1/30 min 4.7 4.2 6.0 coal. Running desander/desilter.Changed 11.2 HTHP @ 121 Deg C ml/30 min 12.4 shakers to finer 150 mesh screens. No new Cake API/HTHP screens used to date. KCl content : 3 % 32nd in 1/2 1/2 RIG ACTIVITY Corr.Solids % by vol 2.9 3.2 Oil/Water % by vol 0.0/95 0.0/95 Lay down 8" drill collars. Pick up & make up Sand % by vol 1.0 0.5 8-1/2" BHA. Pick up 5 " drill pipe. RIH. Tag MBT 0.2 0.2 cement @ 745 m. Drill out cement & float to pH METER @ 20 Deg C 775 with seawater. Pump 100 bbl sweep of old 9.0 9.2 8.5 9.2 Alk. Mud (Pm) 0.22 0.28 mud. Displace hole to KCl/EZ-MUD/Polymer Alk. Filtr. (PF/ME) 0.02/0.18 05/0.1 mud. Perform LOT @ 788 m to 13 ppg EMW Chlorides mq/1 24000 23000 (564 psi). Drill ahead to 865 m. Circulate Hard. Ca mg/l 320 225 out coal. Drill ahead to 1070 m. Low Gravity Solids ppb 26.48 91.00 19.20 6 6 rpm 6 6.00 10.00 KCl Content 12 11.00 14.00 Excess sulfite mg/1100 100 MATERIALS USED SOLIDS EQUIPMENT Used Cost Product Used Device Make Sz/Sern HR BARACOR 129 - 25 KG. DRUM 487.33 Shkr #1 Scalper BAPAZAN-D PLUS - 25 KG. BAG 1799.90 5 Shkr #2 Scalper 10 DEXTRID LT - 25 KG. BAG 52.07 1 Shkr #3 Sweco LM3 150 x 3 EZ-MUD DP - 50 LB. BAG 1607.06 14 Shkr #4 Sweco LM3 150 x 3 10 barite - 1000 KG. TON 3125.53 9.700 150 x 3 Shkr #5 | Sweco LM3 potassium hydroxide - 20 KG. 88.34 Shkr #6 | Sweco LM3 80 x 3 10 dSndr Crestex 3 × 10" 5 dSlt #1 | Crestex 16 x 5" 6 MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE bbl HYDRAULICS Water Depth 21.7 DRLG KCL/BZ MUD/POLYMER 00 rpm 44 50 Calc. F. Grad 0.0 CIRC MUD CONSUMPTION 467 300 rpm 31 Leak Off Test 36 13.0 TRIPS Active Volume ADDITIONS bb1 200 rpm 25 30 ECD ppg SERV. RIG

9.25 1.50 4.75 0.00 682 Oil 100 rpm 18 20 Csq. Shoe 9.4 SURVEY 0.00 Reserve Total Brine Water 6 rpm 6 6 TD 9.5 FISHING 0.00 531 1213 Drill Water 3 rpm Max. Diff. Press LOGGING 0.00 Low Grav, vol % Sea Water Pressure Units: psig RUN CSG 0.00 dgg 26.48 Whole Mud Press Drop. DP 524 CORE 0.00 High Grav, vol % 0.0 Barite DEVIATION INFO Press Drop, BIT 695 BACK REAM 0.00 ppb 0.00 Chemicals Press Drop, Aini 116 MD 1070.0 m REAMING 0.00 ASG LOSSES Actual Circ. Press 1200 TVD 1070.0 m TESTING 2.00 Drill Cuttings Dumped 306 AV, DP 74.5 m/min OTHER Angle 0.25 6.50 Dilution Rate 0.00 223 AV, DC m/min 125.1 Direction AVERAGE ROP 320 0.00 Slds Control Eff 0.00 VOL GAIN/LOSS -511 AV, Riser m/min Horiz. Displ 0.5 BAROID REPRESENTATIVE OFFICE/HOME TELEPHONE DAILY COST (03) 9621 3311 CUMULATIVE COST Melbourne WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 SA 7160.23 62827.65 NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

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ASG

Drill Cuttings

Dilution Rate

Nicholas Doust

Slds Control Eff

BAROID REPRESENTATIVE

3.25

0.00

0.00

LOSSES

Dumped

VOL GAIN/LOSS

OFFICE/HOMB

Lost

REPORT NUMBER: 10 Baroid Australia Pty Ltd Depth Date 25/01/98 1335.0m (Cost Modified) Present Activity Spud Date DRILLING 17/01/98 CONTRACTOR RIG NUMBER OPERATOR Santa Fe Drilling Paramswara Amity Oil NL REGION REPORT FOR REPORT FOR Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria GEOGRAPHIC AREA COUNTRY FIELD OR BLOCK WELL NAME AND NUMBER Bass Strait Austral Broadbill 1 VIC P/36 BIT DATA DRILLING STRING CASING CIRCULATION DATA in. m Size 8.5 Len. Pipe OD ID 4.276 1076 0 Pump Make/Model Ideco T-1600 Type ATMSTISD Pipe OD ID 3.000 Len. 112.5 Size 6.5 X 12 Eff. 97.00 V/st 0.120 ID 50 bbl/min 30 Set ω 106.0 No. Jets Pipe OD Len. spm Jets 32nd inch Collar OD ID Len. 146.5 9 5/8 Set @ 779.n Pump Make/Model Ideco T-1600 Eff. 97.00 V/st 14 Collar OD Len. Set @ Size 6.5 X 12 16 OPEN HOLE 50 bb1/min in. m Set @ mqe Tot Noz Area Size Len 556.0 Set 3 Pump Make/Model Size V/st Set 🔅 Size TFA Len. Size Len. Set @ apm bbl/min Size Len. Set () Tot. Vol./min 502 12.0 gpm 17 TC Time Size Set 🕫 Len. BU Time MUD PROPERTIES MUD TREATMENTS Primary 2 its, Circ Flowline Program Maintain volume & properties with addition Source of premix. Lost approx 40 bbls downhole Time 22:00 13:00 Targets Program *=Excep 42 42 Properties (squeezed into formation after coal pack FL Temp Deg C 784.9 1323.0 1230.0 1654.1 off) while reaming last stand to bottom Depth m 9.3 9.3 9.0 9. during wiper trip. Raised mud weight to 9.3 Weight ppg ppg to help stabilise coals. Treated active FV @ 42 Deg C sec/qt 42 with 5 ppb each of BARACARB 25 & BARACARB PV 3 49 Deg C cP 14 15 30 100 to prevent further seepage losses. 20 lbs/100 ft: 23 Maintaining BARACARB concentrations with lbs/100 ft2 5/8 4/7 Gels API Filt. m1/30 min 3.6 3.8 6.0 regular additions. Maintaining excess HTHP 9 121 Deg C ml/30 min 10.8 15.0 sulfites with BARACOR-129. BARAZAN D-Plus 10.6 Cake API/HTHP 32nd in 1/2 1/2 used to maintain 6 rpm. KCl Content: 3.2 % RIG ACTIVITY Corr.Solids % by vol 4.3 4.1 0.0/94 Drill from 1070 - 1095 m. Circulate bottoms Oil/Water % by vol 0.0/94. up, working pipe. Drop Single shot survey. Sand % by vol 0.25 0.25 POOH to shoe @ 779 m. Retrieve survey. MBT 0.6 0.6 pH METER @ 20 Deg C 8.5 8.5 8.5 9.2 Service TDS. RIH. Lose circulation 1 std off Alk. Mud (Pm) 0.20 bottom. Work pipe. Begin to increase mud 0.10 Alk. Filtr. (Pf/Mf) 0.01/0.16 0.01/0.1 weight to 9.3 ppg. Drill ahead to 1335 m. Chlorides mg/l 22000 22000 Hard. Ca mg/l 300 320 Low Gravity Solids ppb 26.12 22.48 91.00 6 rpm 6 6 6.00 10.00 KCl Content 11 12 11.00 14.00 dgg Excess sulfite 100 100 mg/1 MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Device Make Sz/Sern HR BARACARB 100 - 25 Kg. SACK Shkr #1 | Scalper 10 BARACARB 25 - 25 KG. BAG 1108.80 96 hkr #2 | Scalper 10 BARACOR 129 - 25 KG. DRUM 539.82 Shkr #3 | Sweco LM3 | 150 x 3 20 BARAZAN-D PLUS - 25 KG. BAG 1439.92 Shkr #4 | Sweco LM3 | 150 x 3 EZ-MUD DP - 50 LB. BAG 457.66 Shkr #5 | Sweco LM3 | 150 x 3 20 barite - 1000 KG. TON 7.200 2319.98 Shkr #6 Sweco LM3 80 x 3 20 potassium hydroxide - 20 KG. 176.6B dSndr Crestex 3 x 10" 4 dslt #1 Crestex MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bbl Water Depth 18.50 Pits KCL/EZ MUD/POLYMER Calc. F. Grad CIRC Hole 600 rpm 51 0.0 1.50 270 Leak Off Test MUD CONSUMPTION 300 rpm 37 TRIPS 542 13.0 2.00 Active Volume ADDITIONS 200 rpm 30 29 ECD SERV. RIG 0.00 bbl ppg Oil SURVEY 812 0 100 rpm 21 Cag. Shoe 10.0 1.00 Total Reserve Brine Water TD FISHING 6 rpm 10.1 0.00 111 Max. Diff. Press Drill Water 3 rpm LOGGING 0.00 Low Grav, vol Sea Water RUN CSG 2.9 Pressure Units: psig 0.00 ppb 26.12 Whole Mud CORE Press Drop. DP 606 0.00 High Grav, DEVIATION INFO vol % 1.5 Barite 726 0.00 11 Press Drop, BIT BACK REAM 22.05 Chemicals 173 0.00 ppb Press Drop, ANN 1335.0 REAMING

> WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

1350

74.5

125.1

TELEPHONE

TVD

Angle

Direction

Horiz. Displ

(03) 9621 3311

TESTING

AVERAGE ROP

OTHER

7425.26

1335.0 m

0.0

320

ŞA

DAILY COST

0.00

1.00

0.54

CUMULATIVE COST

70252.91

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m/min

m/min

Actual Circ. Press

AV, DP

AV, DC

-290 AV, Riser m/min

Melbourne

313

REPORT NUMBER: Depth Date 1345.0m [MD] 26/01/98 Present Activity Spud Date

LOGGING 17/01/98 RIG NUMBER CONTRACTOR OPERATOR Paramswara Santa Fe Drilling Amity Oil NL REPORT FOR REGION REPORT FOR Mike Walker/ Blain Wilkie Victoria Wally Westman/Chris Roots COUNTRY GEOGRAPHIC AREA FIELD OR BLOCK WELL NAME AND NUMBER Austral Bass Strait VIC P/36 Broadbill 1 CIRCULATION DATA CASING DRILLING STRING BIT DATA ın. Pump Make/Model Ideco T-1600 Pipe OD ID Len. Size Eff. 97.00 V/st 0.120 Size 6.5 X 12 Pipe OD ID Len. Type bbl/min 0.0 Set @ 106.0 spm Pipe OD ID Len 30 No. Jets 9 5/8 Set @ 779.0 Pump Make/Model Ideco T-1600 Len. ΙD Jets 32nd inch Collar OD 97.00 V/st 0.120 Rff. Size 6.5 X 12 Collar OD Set @ ID Len. bbl/min OPEN HOLE Set @ mge Pump Make/Model Set @ Size 566.0 Len Tot Noz Area V/st Size Size Set @ Len TFA mge bbl/min Set @ Size Len. Tot. Vol./min 0.0 bbl 0 Set @ Len Size 0 TC Time BU Time Set @ Size Len. MUD TREATMENTS MUD PROPERTIES Primary Lost approximately 100 bbls downhole when Essential Program its, Cir Source backreaming out of hole due to coal Program Targets 14:00 Time *=Excep Properties sloughing. FL Temp Deg C 42 784.9 1654.3 1345.0 Depth Built 200 bbls of new premix to maintain mud 9.0 Weight ppg 9.4 volume. FV 9 42 Deg C sec/qt 44 30 PV @ 49 Deg C cP 16 BAPAZAN-D Plus used to make hi-vis sweeps. 22 ΥP 1bs/100 ft2 1bs/100 ft2 6/9 Gels No new shakers screens used on Broadbill 1. m1/30 min 3.6 API Filt. 15.0 HTHP @ 121 Deg C ml/30 min 10.5 KCl content : 3 % Cake API/HTHP 32nd in 1/2 RIG ACTIVITY Corr.Solids & by vol 4.3 Drill ahead from 1335 to 1345 m. Circulate Oil/Water % by vol 0.0/94. bottoms up. Drop survey. POOH 1 stand. Sand % by vol Backream out of tight hole (coal sloughing, мвт 0.6 mud losses occuring) from 1326 to 9-5/8" 8.5 9.2 pH METER 9 20 Deg C 8.5 casing shoe @ 779 m. Circulate bottoms up. Alk. Mud (Pm) 0.15 Retreive survey. Service TDS. RIH to 1018 m 0.01/0.16 Alk. Filtr. (Pf/Mf) & ream to TD. Circulate & work pipe. Pump 70 22000 Chlorides mg/l bbl 10 ppg hi-vis sweep. Circulate hole Hard. Ca mg/l 300 clean, some downhole losses. Spot 100 bbls 91.00 Low Gravity Solids ppb 19.29 hi-vis on bottom. POOH - no problem. Rig up 10.00 6 rpm & log 8-1/2" hole. 14.00 11 11.00 KCl Content Excess sulfite 100 mg/l SOLIDS EQUIPMENT MATERIALS USED Sz/Sern HR Device Make Product Product Used Cost Shkr #1 | Scalper 13 10 BARACOR 129 - 25 KG. DRUM 3 179.94 13 10 Shkr #2 | Scalper BAPAZAN-D PLUS - 25 KG. BAG 6 2159.88 Shkr #3 Sweco LM3 150 x 3 13 781.05 DEXTRID LT - 25 KG. BAG 15 150 x 3 13 Shkr #4 Sweco LM3 EZ-MUD DP - 50 LB. BAG 9 1026.36 Shkr #5 Sweco LM3 150 x 3 13 PAC-L - 25 KG. BAG 293.67 80 x 3 13 Shkr #6 Sweco LM3 barite - 1000 KG. TON 4.400 1417.77 3 x 10" dSndr Crestex potassium chloride - 1000 KG. 419.21 1 16 x 5 dSlt #1 Crestex potassium hydroxide - 20 KG. 132.51 FRACTURE GRADIENT TIME MUD MANAGEMENT RHEOLOGY AND 2.00 MUD VOLUME MUD TYPE HYDRAULICS Water Depth DRIG bbl CIRC 3.00 Calc. F. Grad 0.0 600 rpm 54 Hole Pits KCL/EZ MUD/POLYMER TRIPS 4.00 Leak Off Test 13.0 MUD CONSUMPTION 300 rpm 38 SERV. RIG 0.50 ECD Active Volume ADDITIONS bbl 200 rpm 31 ppg SURVEY 1.00 Cag. Shoe 763 Oil 0 100 rpm 23 FISHING 0.00 9.3 Reserve Total Brine Water 0 6 rpm TD LOGGING 0.00 Max. Diff. Press Drill Water 118 881 194 3 rpm - 5 RUN CSG 0.00 0 Pressure Units: Low Grav, vol % 2.1 Sea Water psig CORE 0.00 ppb 19.29 Whole Mud 0 Press Drop. DP DEVIATION INFO 7.50 BACK REAM High Grav, vol % 2.2 Barite 7 Press Drop, BIT 0 0.00 1345.0 m REAMING Chemicals 6 Press Drop, ANN 0 MD ppb TESTING 0.00 LOSSES Actual Circ. Press 0 TVD 1345.0 m ASG 6.00 OTHER

> (03) 56 881 445 TELEPHONE WAREHOUSE Welshpool NOTE: ALL COSTS ARE REPORTED IN AUSTPALIA'S DOLLAR

m/min

m/min

0.0

0.0

TELEPHONE

Angle

Direction

Horiz. Displ

(03) 9621 3311

3.25

DAILY COST

45

\$A

0.0

AVERAGE ROP

\$A

6410.39

0.00

CUMULATIVE COST

76663.30

O AV, DP

-42 AV, Riser m/min

Melbourne

249 AV. DC

Dumped

VOL GAIN/LOSS

OFFICE/HOMB

Lost

0.00

Drill Cuttings

Dilution Pate

Nicholas Doust

Slds Control Eff

BAROID REPRESENTATIVE

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2.8

3.41

0.00

Whole Mud

Chemicals

VOL GAIN/LOSS

OFFICE/HOMB

Barite

Dumped

Lost

ppb

ppb

Drill Cuttings

Dilution Rate

Nicholas Doust

Slds Control Eff

BAROID REPRESENTATIVE

ASG

High Grav, vol % 2.3

REPORT NUMBER: Date Depth 27/01/98 1345.0m Present Activity Spud Date

17/01/98 PREPARE TO P & A RIG NUMBER CONTRACTOR OPERATOR Paramswara Santa Fe Drilling Amity Oil NL REGION REPORT FOR REPORT FOR Mike Walker/ Blain Wilkie Victoria Wally Westman/Chris Roots COUNTRY GEOGRAPHIC AREA WELL NAME AND NUMBER FIELD OR BLOCK VIC P/36 Austral Bass Strait Broadbill 1 CIRCULATION DATA DRILLING STRING CASING BIT DATA in. Pump Make/Model Ideco T-1600 Pipe OD Size Size Eff. 97.00 V/st Pipe OD ID Len. in. Туре bbl/min Pipe OD ΙĐ Len 30 Set @ 106.0 mqe 0 No. Jets Pump Make/Model Ideco T-1600 ID Len. 9 5/8 Set @ 779.0 Jets 32nd inch Collar OD 97.00 V/st Size Set @ Collar OD ΙD Len. OPEN HOLE bbl/min Set a 0.0 spm Set @ Pump Make/Model 566.0 Tot Noz Area Size Len. Eff. V/st TFA Size Set @ Size bbl/min Set @ spm Size Len Tot. Vol./min 0.0 bbl 0 Size Len Set @ gpm 0 TC Time Set @ BU Time Size Len. MUD TREATMENTS MUD PROPERTIES Primary Program BARAZAN-D Plus used to build 100 bbls of Essential its, Unc Source Program hi-vis spotted on bottom prior to POOH. Targets 13:00 Time FL Temp Deg C n *=Excep Properties Barite used for slugs. 784.9 1654.3 1345.0 Depth m 9 5 9.0 9.5 Weight ppg KCl content : 3 % FV @ 28 Deg C 43 sec/qt PV 19 49 Deg C cP 15 30 lbs/100 ft2 24 ΥP Gels lbs/100 ft2 7/9 m1/30 min 6.0 API Filt. 4.0 15.0 HTHP @ 121 Deg C ml/30 min 11.0 Cake API/HTHP 32nd in 1/2 RIG ACTIVITY Corr.Solids % by vol 5.1 Logs unable to get past 1029 m. Rig down Oil/Water % by vol 0.0/93. Schlumberger. Pick up 8-1/2" BHA. RIH. Wash 0.25 Sand & by vol & ream from 880 - 982 m & 1027 - 1095 m. MBT 0.6 9.2 RIH. Circulate & condition mud @ 1191 m. RIH pH METER @ 20 Deg C 8.0 8.5 to TD. Circulate bottoms up. Pump hi-vis Alk. Mud (Pm) 0.10 sweep. POOH - no problem. Rig up & log. Logs Alk. Filtr. (Pf/Mf) unable to get past 869 m. Change logging Chlorides mg/l 22000 tool configuration - still unable to get Hard. Ca mg/l 300 further. Rig down. Break & laydown excess Low Gravity Solids ppb 25.30 drillpipe. Prepare to P & A. 6 rpm 6.00 10.00 11.00 14.00 KCl Content 11 Excess sulfite 80 mg/l SOLIDS EQUIPMENT MATERIALS Sz/Sern HR Device Make Product Used Cost Product Shkr #1 Scalper BARAZAN-D PLUS - 25 KG. BAG 10 2 719.96 Shkr #2 Scalper 10 barite - 1000 KG. TON 0.600 193.33 Shkr #3 Sweco LM3 150 x 3 4 Shkr #4 Sweco LM3 150 x 3 4 Shkr #5 Sweco LM3 150 x 3 4 Shkr #6 | Sweco LM3 80 x 3 Crestex dSndr 3 x 10' 16 x 5" dSlt #1 Crestex MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bb1 Water Depth 21.7 DRLG 0.00 CIRC 1.50 Hole Dita KCL/EZ MUD/POLYMER 600 rpm 54 Calc. F. Grad 0.0 TRIPS 7.25 MUD CONSUMPTION 300 rpm 39 Leak Off Test 13.0 Active Volume ADDITIONS bb1 200 rpm 32 RCD ppg SERV. RIG 0.00 Oil 100 rpm 24 Csq. Shoe 0.0 SURVRY 0.00 826 0.00 Reserve Total Brine Water 0 6 rpm TD 0.0 FISHING 3 rpm LOGGING Drill Water 0 5 Max. Diff. Press 7.25 826 Low Grav, vol % Sea Water Pressure Units: RUN CSG 0.00

> WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 SA NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

Press Drop. DP

Press Drop, BIT

Press Drop, ANN

AV. DC

-55 AV, Riser m/min

Melbourne

38 AV, DP

Actual Circ. Press

m/min

m/min

psig

TELEPHONE

0

0

TVD

Angle

Direction

Horiz. Displ

(03) 9621 3311

DEVIATION INFO

1345.0 m

1345.0 m

45

3.25

DAILY COST

CORB

BACK RRAM

AVERAGE ROP

913.29 \$A

REAMING

TESTING

OTHER

0.00

0.00

2.00

0.00

6 00

0.00

77576.59

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REPORT NUMBER: 13

Date Depth
28/01/98 1345.0m [MD]

Present Activity Spud Date 17/01/98 PLUG & ABANDON RIG NUMBER CONTRACTOR OPERATOR Santa Fe Drilling Paramswara Amity Oil NL REGION REPORT FOR REPORT FOR Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria GEOGRAPHIC AREA COUNTRY FIELD OR BLOCK WELL NAME AND NUMBER Austral VIC P/36 Bass Strait Broadbill 1 DRILLING STRING CIRCULATION DATA CASING BIT DATA in. Pump Make/Model Ideco T-1600 Pipe OD Size Size 97.00 V/st Pipe OD ID Len. Type bbl/min No. Jets Pipe OD ΙD Len. Set @ 106.0 apm Pump Make/Model Ideco T-1600 9 5/8 Set @ 779.0 Jets 32nd inch ĮD Len. Collar OD Eff. 97.00 V/sc 6.5 X 12 Collar OD ΤD Len. Set @ Size OPEN HOLE apm bbl/min Set @ Pump Make/Model 566.0 Set @ Tot Noz Area Size Len Bff. V/st TFA Size Set @ Size bbl/min apm Size Tot. Vol./min 0.0 bbl 0 Size Len Set @ gpm 0 TC Time Set @ BU Time Size Len. MUD TREATMENTS MUD PROPERTIES Primary All chemicals used for P & A. Pits, Unci Program Essential Source Targets Program 22:36 Time Mud engineer leaves rig. FL Temp Deg C 0 *=Excep Properties 784.9 1654.1 1345.0 Depth m 9.5 9.0 Weight ppg FV @ 16 Deg C 28 sec/qt PV 9 49 Deg C cP lbs/100 ft2 0 ΥP Gels lbs/100 ft2 0/0 6.0 API Filt. ml/30 min 0.0 HTHP @ 121 Deg C ml/30 min 0.0 15.0 Cake API/HTHP 32nd in 2/0 RIG ACTIVITY Corr.Solids % by vol 0.0 Oil/Water % by vol 0.0/0.0 Plug and abandon. Sand % by vol MBT 0.0 8.5 9.2 pH METER @ 20 Deg C Alk. Mud (Pm) 0.00 Alk. Filtr. (Pf/Mf) · 0.00/0.0 Chlorides mg/l 0 Hard. Ca mg/l 0 Low Gravity Solids ppb 0.00 6 трт 0 6.00 10.00 KCl Content 11.00 14.00 Excess sulfite mg/l SOLIDS EQUIPMENT MATERIALS USED sz/scrn HR Product Used Cost Product Used Device Make Shkr #1 Scalper ALDACIDE G - 25 L. CAN 1 203.96 10 Shkr #2 Scalper BARACOR 129 - 25 KG. DRUM 10 359.88 Shkr #3 Sweco LM3 150 x 3 Shkr #4 Sweco LM3 150 x 3 Shkr #5 Sweco LM3 150 x 3 80 x 3 Shkr #6 | Sweco LM3 Crestex 3 x 10 dSndr 16 x 5" dslt #1 Crestex MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME

MUD VOLU	ЈМЕ ььі	MUD	TYPE		H.	DRAUL:	ICS	Water De	pth	21.7	DRLG		0.00
Hole	Pits	KCL/EZ	MUD/POLYMER		600 rpt	n		Calc. F.	. Grad	0.0	CIRC		0.00
317	509		MUD CONSUMP	TION	300 rps	n	:	Leak Off	Test	13.0	TRIPS		0.00
Active V	Volume	ADDIT	TONS	bbl	200 rpt	π		ECD		ppg	SERV.	RIG	0.00
826		Oil		0	100 rpt	n		Csg. S	Shoe	0.0	SURVEY		0.00
Reserve	Total	Bri	ne Water	0	6 rpr	n		TD		0.0	FISHIN	G	0.00
	826	Dri	ll Water	0	3 rps	n		Max. Dif	f. Press	0	LOGGIN	G	0.00
Low Grav, vol	1 % 0.0	Sea	Water	0	Pressui	re Units:	psig				RUN CS	G	0.00
ppb	0.00	Who	le Mud	0	Press I	Orop. DP	0				CORE		0.00
High Grav, vo	ol % 0.0	Bar	ite	0	Press I	Orop, BIT	0	DEVI	ATION	INFO	BACK R	BAM	0.00
ppb	0.00	Che	micals	0	Press I	Prop, ANN	0	MD	1	.345.0 m	REAMIN	3	0.00
ASG	2.60	LOSSE	s	bbl	Actual	Circ. Pre	ss O	TVD	1	.345.0 m	TESTIN	S	0.00
Drill Cutting	gs 0	Dum	ped	0	AV, DP	m/min	0.0	Angle		3.25	OTHER		24.00
Dilution Rate	∍ 0.00	Los	t	0	AV, DC	m/min	0.0	Directi	ion	45	AVERAG	E ROP	0.00
Slds Control	Eff 0.00	VOL G	AIN/LOSS	0	AV, Ris	ser m/min		Horiz.	Displ C).0 m	<u> </u>		
BAROID REPRES	SENTATIVE		OFFICE/HOME		Melbour	me	TELEPHONE	(03)	9621 3311	DAILY	COST	CUMU	LATIVE COST
Nicholas Dous	at.		WAREHOUSE		Welshoo	nol	TELEPHONE	(03)	56 881 445	SA	563.8	4 SA	78140.43

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

The recommendations made hereon shall not be construed as authorizing the infringement of any valid patent, and are made without assumption of any liability by BAROID DRILLING FLUIDS, INC. or its agents, and are statements of opinion only.

APPENDIX 5 PETROPHYSICAL LOG ANALYSIS

CROCKER DATA PROCESSING PTY LTD

Company : AMITY OIL NL

Well Name : BROADBILL-1
Field : WILDCAT
Country : AUSTRALIA

Latitude : 038 35' 25.600" S DMS Longitude : 147 01' 17.900" E DMS

Permanent Datum : MSL

Elevation of PD : .00 M

Software by Crocker Data Processing Pty Ltd Program revision no. 6.20 1 Apr 1998 Software Licensed to CROCKER DATA PROCESSING PTY LTD

Hole depth M Temperature C Gradient Deg C / 100 M 1000.0 45.33 1.8666

.0 26.67

Log data

18 19 20

Column	Logs	Logs
Position	Available	Used
1	DEPT	DEPT
2	GR	GR
3	DΤ	DΤ
4	TNPH	NPHI
5	CALI	CALI
6	PEF	PEF
7	DRHO	DRHO
8	RHOB	RHOB
9	CALS	
10	MSFL	MSFL
11	LLS	LLS
12	LLD	LLD
13	SP	SP
14		
15		
16		
17		

BROADBILL-1 AMITY OIL NL

Interpretation Results 28-01-98

Caliper recorded in : Inches Mud weight units : g/cc Density log units : g/cc DRHO log units : g/cc Sonic log units : Us/ft Neutron log units : LS POR Density tool type : LDT RHO (H, MA, f) units : g/cc Dens. X-plots units : g/cc

Log scaling data

Scaling Coeff. Coeff. Log Mnemonic Option Α В PEF 1 -.60000 1.00000

BROADBILL-1 AMITY OIL NL Complex Lithology Results 28-01-98

COMPLEX LITHOLOGY RESULTS

Mineral table

Zo	ne no	•	1	2	3
Format		ame			
Top de	-		779.983	850.087	779.983
Bottom			849.935	963.016	849.935
USER L					
Salt	RHOB		~INF	-INF	-INF
Salt	RHOB		2.150	2.150	2.150
Salt	PHIN	min	-INF	-INF	-INF
Salt	PHIN	max	.020	.020	.020
Salt	GR	min	-INF	-INF	-INF
Salt	GR	max	30.000	30.000	30.000
Salt	t	min	65.000	65.000	65.000
Salt	t	max	70.000	70.000	70.000
Salt	RT	min	100.000	100.000	100.000
Salt	RT	${\tt max}$	+INF	+INF	+INF
Salt	USER	min	-INF	-INF	-INF
Salt	USER	max	.000	.000	.000
Trona	RHOB	min	2.050	2.050	2.050
Trona	RHOB	${\tt max}$	2.150	2.150	2.150
Trona	PHIN	min	.350	.350	.350
Trona	PHIN	max	+INF	+INF	+INF
Trona	GR	min	-INF	-INF	-INF
Trona	GR	max	20.000	20.000	20.000
Trona	t	min	62.000	62.000	62.000
Trona	t	max	68.000	68.000	68.000
Trona	RT	min	100.000	100.000	100.000
Trona	RT	${\tt max}$	+INF	+INF	+INF
Trona	USER	min	-INF	-INF	-INF
Trona	USER	max	.000	.000	.000
Anhydr	RHOB	min	2.920	2.920	2.920
Anhydr	RHOB	max	+INF	+INF	+INF
Anhydr	PHIN	min	-INF	-INF	-INF
Anhydr	PHIN	max	.020	.020	.020
Anhydr	GR	min	-INF	-INF	-INF
Anhydr	GR	max	20.000	20.000	20.000
Anhydr	t	min	48.000	48.000	48.000
Anhydr	t	max	52.000	52.000	52.000
Anhydr	RT	min	100.000	100.000	100.000
Anhydr	RT	max	+INF	+INF	+INF
Anhydr	USER	min	-INF	-INF	-INF

Anhydr	USER	max	.000	.000	.000
Gypsum	RHOB	min	2.300	2.300	2.300
Gypsum	RHOB	max	2.400	2.400	2.400
Gypsum	PHIN	min	.450	.450	.450
Gypsum	PHIN	max	+INF	+INF	+INF
Gypsum	GR	min	-INF	-INF	-INF
Gypsum	GR	max	20.000	20.000	20.000
Gypsum	t	min	50.000	50.000	50.000
Gypsum	t	max	55.000	55.000	55.000
Gypsum	RT	min	100.000	100.000	100.000
Gypsum	RT	max	+INF	+INF	+INF
Gypsum	USER	min	-INF	-INF	-INF
Gypsum	USER	max	.000	.000	.000
Coal	RHOB	min	-INF	-INF	-INF
Coal	RHOB	max	2.000	2.000	2.000
Coal	PHIN	min	.500	.500	.500
Coal	PHIN	max	+INF	+INF	+INF
Coal	GR	min	-INF	-INF	-INF
Coal	GR	max	+INF	+INF	+INF
Coal	t	min	100.000	100.000	100.000
Coal	t	max	+INF	+INF	+INF
Coal	RT	min	20.000	20.000	20.000
Coal	RT	max	+INF	+INF	+INF
Coal	USER	min	-INF	-INF	-INF
Coal	USER	max	.000	.000	.000

Permeability equation used

a) SWirrcutoff <1.0

Koil = Kcoef * PHIE ** Kexp / SW**2 Kcoef Kexp Computed if SW<=SWirrcutoff Coates 62500 6.0 Timur 8581 4.4

b) SWirrcutoff >=1
 Koil = Kcoef * 10**(PHIE * Kexp)

Lithology models

1.	Sand-Dolomite	2.62 to	2.89
2.	Sand-Limestone	2.62 to	2.75
3.	Sand	2.63 to	2.69
4.	Limestone	2.67 to	2.75
5.	Dolomite	2.75 to	2.89
6.	Limestone-Dolomite	2.68 to	2.89

CPX flag values

1. VCL greater than 0.95

- 2. VN greater than 0.75
- 3. VS greater than 0.75
- 4. Bad hole condition
- 5. Matrix density greater than Lithological model
- 6. Matrix density less than Lithological model
- 7. Porosity derived from Sonic Log
- 8. Porosity derived from or limited by PHIMAX
- 9. Porosity derived from Density Log
- \$. Pay zone

Water saturation equations

- 1. Indonesia
- 2. Simandoux
- 3. Fertl & Hammock
- 4. Laminar
- 5. Bussian
- 6. User defined
- 7. Single Sonic

VGRTYPE : Vclay from GR Equations used

0. Not Used

IGR=(GR-GRmin)/(GRmax-GRmin)

- 1. Linear VGR=IGR
- 2. Asymmetric (S shaped)

Defined by 2 sets of intermediate points through which the S bend passes through. GR1, VGR1 and GR2, VGR2.

Steiber equation: VGR = IGR/(A + (A-1.0)*IGR)

- 3. Steiber 1 A = 2.0
- 4. Steiber 2 A = 3.0
- 5. Steiber 3 A = 4.0
- 6. Steiber 50%

A is computed to give VGR= 0.5 when GR = GR50%)

- 7. Larinov Old Rocks: VGR= (2**(2*IGR)-1.0)/3.0
- 8. Larinov Tertiary: VGR= 0.083*(2.0*(3.7058*IGR)-1.0)
- 9. Clavier : VGR= 1.7-SQRT(3.38-(IGR+0.7)**2.0)

Cementation factor m

- 1. Linear m = m
- 2. Shell formula m = 1.87 + 0.019/PHI
- 3. Borai formula m = 2.2 0.035/(PHI + 0.042)

BROADBILL-1 AMITY OIL NL Complex Lithology Results 28-01-98

Logging Company	Mud type	Neutron log type	Flag	Determination gs by priority
0. Schlumberger 1. HLS 2. Dresser 3. BPB 4. Sperry MWD 5. Baker MWD 6. Anadril MWD Formation Water 0=NaCl 1=NaHCO3		4. HLS DSN2 5. CNL PRE 86 6. APLU	3. 10. 11. 8. 17. 18. 4. CN 5. CN 6. 7. 13. 19. 14.	DIL-SFL DIL-LL3 ILD & 16 inch Normal LLD-LLS ID PHASOR ILD LLD LLD LL3 or LL7 Dual Laterolog
Zone no.	1	2	12. 22. 16.	SFL ERT (external RT) RXO No RT logs
Formation Name Top depth Bottom depth Logging Company Mud type Formation Water Neutron Log Typ	779.9 849.9	983 850.087 935 963.016	779.983	

BROADBILL-1 AMITY OIL NL Complex Lithology Results 28-01-98

,	Zone no.	1	2	3
	Formation			
1.	Top depth	779.983	850.087	779.983
2.	Bottom depth	849.935	963.016	849.935
3.	No logs			
4.	RM	.201	.201	.201
5.	Temp. RM	21.000	21.000	21.000
6.	RMF	.183	.183	.183
7.	Temp. RMF	20.000	20.000	20.000
8.	RMC	.351	.351	.351
9.	Temp. RMC	20.000	20.000	20.000
10.	Bit size	12.250	8.500	12.250
11.	Mud wt	1.100	1.100	1.100
12.	SSP	.000	.000	.000
13.	RW (SP)	.076	.075	.076
14.	FT=Form temp	41.879	43.589	41.879
15.	RW @ FT	.416	3.564	.219
16.	RW@75F(23.9C	.581	5.110	.306
17.	KPPM (RW)	10.000	1.000	20.000
18.	RMF @ FT	.120	.117	.120
19.	KPPM (RMF)	39.138	39.138	39.138
20.	RM @ FT	.135	.131	.135
21.	RHO H	.800	.800	.800
22.	RHO F	1.026	1.025	1.026
23.	t F	188.990	188.990	188.990
24.	RHOMA	2.650	2.650	2.650
25.	PHIN min	035	035	035
26.	t MA	55.500	55.500	55.500
27.	t MA min	48.000	48.000	48.000
28.	Sonic option	.000	.000	.000
29.	Compact/Over	1.300	1.300	1.300
30.	CAL cut off	12.000	12.000	12.000
31.	RUGO.cut off	1.000	1.000	1.000
	DRHO cut off	.060	.040	.060
33.		SP	SP	SP
55.	NO CLAY	MN	MN	MN
		SD	SD	SD
21	Vclay Flag	.000	.000	.000
34.	-	.000	.000	.000
35.	Vclay type	.200	.200	.200
36.	Vclay inp1	.150	.150	.150
37.	Vclay out1	.130	.800	.800
38.	Vclay inp2	.800	.800	.800
39.	Vclay out2		.500	.500
40.	Vclay 50%	.500		1.000
41.	VclayGR type	1.000	1.000	
42.	GR clean	30.448	18.765	30.448
43.	GR clay	101.258	112.942	101.258

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44.	GR1	44.610	37.809	44.610
45.	VGR1	.100	.100	.100
46.	GR2	87.096	91.238	87.096
47.	VGR2	.800	.800	.800
48.	GR50%	70.000	70.000	70.000
49.	R clay	7.645	53.769	7.645
50.	R limit	1000.000	1000.000	1000.000
51.	Rclay1 flag	.000	.000	.000
	Rclay1	1.000	1.000	1.000
53.	Vcl @ Rclay1	.150	.150	.150
54.	RHOB clay	2.007	2.134	2.007
55.	PHIN clay	.440	.432	.440
56.	t clay	134.260	125.311	134.260
57.	M clay	.558	.574	.558
58.	N clay	.571	.512	.571
59.	PHIN 2.2	.235	.235	.235
60.	t 2.2	90.000	90.000	90.000
61.	COER (a)	.620	.620	.620
62.	MXP (m)	2.150	2.150	2.150
63.	m Function	1.000	1.000	1.000
64.	SXP (n)	2.000	2.000	2.000
	Lithomod	1.000	1.000	1.000
66.	SXO limit	.200	.200	.200
67.	P.II max	.495	.410	.495
68.	PHI min c.o.	.0010000	.0010000	.0010000
69.	EXPX	1.500	1.500	1.500
70.	Clay cut off	.300	.300	.300
71.	Por. cut off	.050	.050	.050
72.	SV cut off	.500	.500	.500
73.	Sat Equation	1.000	1.000	1.000
74.	Glauconite	.000	.000	.000
75.	SWirr.cutoff	.300	.300	.300
76.	Perm Expon.	6.000	6.000	6.000
77.		62500.000	62500.000	62500.000
78.	RHOMA 1	2.650	2.650	2.650
79.	RHOMA 2	2.742	2.723	2.742
80.	RHOMA 3	2.850	2.850	2.850
81.	UMA 1	4.800	4.800	4.800
82.	UMA 2	24.987	25.817	24.987
83.	UMA 3	8.970	8.970	8.970
84.	UF	.400	.400	.400
85.	UMACL	8.000	8.000	8.000
93.	PHINmat1	.200	.200	.200
		.240		.240
94.	PHIDmat1	.350	.350	.350
95. 96.	PHINmat2 PHIDmat2	.200	.200	.200
	PHIDMat2 PHINmat3			
97. 98.		.050	.050	.050 .000
	PHIDmat3	.200		
99. 100.	PHINmat4	100	.200 100	.200
TOO.	PHIDmat4	100	100	100

28-01-98 AMITY OIL NL DEPTH M GR RT RXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO PHIE RHOMA POR-M HC-M FLAGS 779.98 38 1.5 50.0 1.931 -3.1 2.9 75.0 53.0 37.9 10.7 GR 2.768 75.0 75.0 43.4 2.765 .00 .00 1.3 780.14 38 1.6 1.7 47.7 1.918 -3.14.7 70.1 50.6 35.6 11.1 GR 2.718 70.1 70.1 42.6 2.721 .00 .00 1.9 45.5 1.905 -3.194.7 69.7 33.4 11.6 GR 2.650 29.5 2.660 .00 .00 4 7 780.29 39 1.8 94.7 94.7 4 7 780.44 2.2 .5 44.6 1.633 -1.978.9 124.4 37.5 13.9 GR 2.650 95.4 78.9 32.3 2.663 .00 .00 40 780.59 42 7 2.1 .4 45.3 1.577 -.3 71.2 122.2 42.4 16.0 GR 2.650 93.4 71.2 35.6 2.665 .00 .00 4 780.75 43 2.1 .3 46.0 1.521 1.3 68.4 130.0 47.2 17.8 GR 2.650 92.7 68.4 36.9 2.666 .00 .00 4 78 7 780.90 43 2.9 .3 43.8 1.654 62.0 144.8 42.7 18.4 GR 2.650 90.9 62.0 34.9 2.667 .00 .00 4 1.4 781.05 44 .3 41.5 1.787 38.3 18.9 GR 7 3.4 1.5 63.8 172.2 2.650 91.4 63.8 31.1 2.667 .00 .00 4 781.20 47 .5 40.2 1.682 1.5 63.6 126.5 40.5 23.3 GR 2.650 91.3 63.6 31.1 2.671 .00 .00 4 7 3.3 781.35 51 .4 43.3 1.569 4 78 2.9 3.2 68.7 145.2 44.6 28.7 GR 2.650 92.8 68.7 29.8 2.676 .00 .00 781.51 .3 46.4 1.456 78 55 2.4 5.0 80.4 184.9 48.7 34.1 GR 2.650 95.7 80.4 26.5 2.681 .00 .00 4 4 78 781.66 54 .3 51.7 1.566 4.1 76.1 162.6 47.7 33.0 GR 2.650 94.7 76.1 27.2 2.680 .00 .00 2.6 781.81 53 2.8 .4 56.9 1.676 3.3 72.3 145.6 46.7 31.9 GR 2.650 93.7 72.3 27.9 2.679 .00 .00 4 78 7 781.96 45 1.0 45.9 2.043 59.3 86.3 40.2 20.3 GR 2.650 86.3 59.3 32.1 2.668 .00 .00 4 3.6 1.0 1.3 45.5 2.068 .8 38.0 17.8 GR .00 .00 4 7 782.12 43 4.6 54.5 77.6 2.650 77.6 54.5 31.2 2.666 782.27 41 1.6 45.1 2.093 48.4 72.3 35.8 15.3 GR 2.650 72.3 30.3 2.664 .02 4 7 6.4 . 6 48.4 .05 7 782.42 43 4.9 1.3 44.3 2.022 1.1 57.0 84.3 35.1 17.6 GR 2.650 84.3 57.0 28.9 2.666 .05 .02 4 62.4 101.7 34.5 20.0 GR .05 .02 4 7 782.57 45 4.4 1.0 43.5 1.951 1.6 2.650 91.0 62.4 27.6 2.668 1.9 782.73 50 3.5 .5 40.4 1.732 62.2 129.3 41.7 28.2 GR 2.650 90.9 62.2 30.0 2.676 .05 .02 4 7 7 782.88 51 3.4 .5 45.0 1.730 2.2 65.1 129.3 40.3 29.1 GR 2.650 91.8 65.1 28.6 2.676 .05 .02 4 .6 49.7 1.728 783.03 52 3.4 2.5 68.2 129.8 39.0 30.0 GR 2.650 92.6 68.2 27.3 2.677 .05 .02 4 7 1.1 51.5 1.578 783.18 50 2.8 . 4 67.8 83.2 45.9 27.1 GR 2.650 83.2 67.8 30.8 2.675 .05 .02 4 78 783.34 .7 48.7 1.556 78.9 113.0 49.2 32.3 GR 27.6 2.679 .05 4 78 53 2.4 . 4 2.650 95.4 78.9 .02 783.49 57 2.2 .3 46.0 1.533 .5 89.1 182.2 52.4 37.5 GR 2.650 97.7 89.1 24.5 2.684 .05 .02 4 78 37.6 GR .05 78 783.64 57 2.5 .5 45.1 1.678 -.9 83.3 147.2 46.1 2.650 96.4 83.3 24.5 2.684 .02 4 783.79 .7 44.3 1.821 77.9 125.5 39.8 37.1 GR 2.650 77.9 24.7 2.684 .05 .02 78 57 2.8 -2.3 95.1 4 783.95 56 2.6 1.5 37.0 2.048 -3.1 .0 86.4 88.4 41.6 36.8 GR 2.668 88.4 86.4 22.9 2.690 .05 .02 784.10 58 1.2 38.4 2.039 .0 83.9 99.2 42.1 39.3 GR 2.677 96.6 22.7 2.697 .05 .02 2.7 -3.5 83.9 784.25 .9 39.8 2.032 60 -3.8 .0 84.7 115.3 42.6 41.6 GR 2.689 84.7 22.4 2.706 .05 .02 2.7 96.7 1.1 42.4 2.003 -3.6 .0 77.0 95.7 42.4 41.9 GR 2.702 77.0 24.3 2.716 .05 .02 784.40 60 2.8 94.9 784.56 60 2.8 1.4 45.0 1.975 -3.3 .0 72.6 81.3 42.2 42.2 GR 2.721 81.3 72.6 26.2 2.730 .05 .02 784.71 .7 42.9 1.893 -3.2 72.8 102.7 41.5 42.6 GR 2.586 28.4 2.653 .05 .02 6 8 61 2.4 .0 93.8 72.8 .7 45.0 1.901 -3.3 784.86 59 2.3 .0 73.3 98.9 42.3 40.1 GR 2.640 94.0 73.3 29.7 2.680 .05 .02 8 785.01 57 2.1 .8 47.2 1.912 -3.5 .0 74.1 95.3 43.2 37.5 GR 2.692 94.2 74.1 31.0 2.708 .05 .02 785.16 2.2 .8 46.1 1.943 75.7 29.3 2.718 .05 .02 58 -3.2.0 75.7 97.0 45.5 38.7 GR 2.705 94.6 785.32 59 .9 45.1 1.972 -2.9 .0 76.8 100.1 47.7 39.9 GR 94.9 76.8 27.3 2.727 .05 .02 2.4 2.718 .0 785.47 62 2.1 .9 46.9 1.962 -3.3 81.8 99.4 50.7 44.7 GR 2.749 96.1 81.8 26.4 2.745 .05 .02 785.62 62 1.9 .8 48.1 1.984 -3.3 .0 86.0 102.4 53.1 44.5 GR 2.813 97.0 86.0 26.4 2.780 .05 .02 785.77 62 1.7 .8 49.3 2.005 -3.3 .0 90.5 105.7 55.5 44.2 GR 2.876 98.0 90.5 26.3 2.814 .05 .02 785.93 54 2.1 1.0 44.8 2.089 -2.8 .0 86.2 97.2 53.8 32.8 GR 2.852 97.1 86.2 26.6 2.815 .05 .02 786.08 50 2.3 1.1 42.8 2.125 -2.9 74.9 84.4 54.6 27.3 GR 2.650 84.4 74.9 30.7 2.675 .05 .02 78 4 78 786.23 46 2.5 1.1 40.9 2.160 -2.9 66.9 75.5 55.3 21.7 GR 2.650 75.5 66.9 34.3 2.670 .05 .02 4 786.38 46 55.7 22.6 GR 33.7 2.670 .05 .02 78 2.7 1.1 38.9 2.173 -3.164.4 76.0 2.650 76.0 64.4 1.1 36.9 2.184 -3.356.1 23.4 GR 62.7 33.2 2.671 .05 .02 78 786.54 47 2.9 62.7 76.5 2.650 76.5 4 1.7 33.4 2.209 -3.6.0 92.6 49.6 24.2 GR 2.770 92.6 21.6 2.762 .05 .02 786.69 48 3.0 95.1 95.1

.0 88.8 110.7 48.4 26.2 GR

2.789 97.7 88.8

20.8 2.775

.05

.02

Complex Lithology Results

BROADBILL-1

Zone No. 1

786.84 49

3.4

1.3 33.8 2.218

-3.4

						-											
786.99	50	3.6	.9 34.3	2.227	-3.3	.0	87.2	134.3	47.3	28.2 GR	2.809	97.3	87.2	20.0 2.	788 .05	.02	
787.15	47	4.4	2.5 32.3	2.288	-3.5	.0	84.6	86.0	43.0	24.1 GR	2.838	86.0	84.6	19.3 2.	313 .05	.02	
787.30	45	4.6	4.2 30.3	2.349	-3.8	.0	88.0	70.7	38.7	20.0 GR	2.865	88.0	88.0	18.7 2.8	338 .05	.02	
787.45	48	3.6	2.4 27.3	2.142	-3.7	.0	86.0	82.1	45.7	25.2 GR	2.636	86.0	86.0	20.8 2.	658 .05	.02	
787.60	53	3.5	1.5 31.4	2.089	-3.5	.0	80.0	96.3	44.4	31.2 GR	2.638	95.6	80.0	21.8 2.	664 .05	.02	
787.76	57	3.2	.6 35.5	2.036	-3.3	.0	78.8	139.0	43.2	37.2 GR	2.637	95.4	78.8	22.8 2.	670 .05	.02	
787.91	56	3.7	1.9 36.0	2.138	-3.5	.0	83.6	91.3	40.2	36.7 GR	2.738	91.3	83.6	19.4 2.	738 .05	.02	
788.06	56	3.8	3.3 36.6	2.239	-3.7	.0	89.0	75.9	37.2	36.3 GR	2.887	89.0	89.0	17.7 2.	831 .05	.02	
788.21	64	3.6	2.0 33.3	2.119	-3.8	.0	98.5	107.0	36.5	47.8 GR	2.667	99.7	98.5	14.2 2.	695 .05	.02	
788.37	65	3.6	1.5 34.1	2.042	-3.7	.0	85.5	106.9	39.2	48.6 GR	2.603	96.9	85.5	17.2 2.	661 .05	.02	6

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Complex Lithology Results 28-01-98

Zone No. 1

BROADBILL-1

AMITY OIL NL

SXO SW PHIE RHOMA POR-M HC-M FLAGS RXO PHIN SWU SXOU PHIS VCL FVCL RHOMAU DEPTH M GR RHOB DD SPI .02 6 1.0 34.9 1.964 95.0 77.2 20.3 2.623 .05 788.52 65 3.4 -3.5 .0 77.2 115.9 41.8 49.4 GR 2.522 .02 6 72.0 23.9 2.636 .05 -3.543.1 44.1 GR 2.561 93.6 788.67 62 3.2 1.2 37.3 1.950 .0 72.0 95.3 38.7 GR 2.596 80.1 27.5 2.649 .05 .02 6 788.82 3.2 1.3 39.7 1.936 -3.5 .0 66.4 80.1 44.4 66.4 58 .0 788.97 58 2.6 .8 42.1 1.931 -3.0 71.1 98.7 47.7 39.2 GR 2.626 93.4 71.1 28.2 2.669 .05 .02 .02 .05 .9 41.3 1.946 -2.9 .0 74.2 99.1 51.4 39.0 GR 2.630 94.2 74.2 27.5 2.671 789.13 58 2.5 4 78 23.7 2.685 .05 .02 789.28 .9 40.5 1.961 -2.8 85.9 111.0 55.2 38.8 GR 2.650 97.0 85.9 58 2.4 71.8 96.2 48.7 38.1 GR 2.647 93.6 71.8 29.4 2.681 .05 .02 57 2.4 .8 43.5 1.927 -2.5789.43 .0 .02 789.58 54 3.0 1.1 43.2 1.985 -3.0 .0 67.4 84.3 47.4 32.7 GR 2.701 84.3 67.4 29.2 2.712 .05 .02 1.4 42.8 2.041 -3.5.0 63.9 75.8 46.1 27.4 GR 2.755 75.8 63.9 29.4 2.751 .05 789.74 50 3.4 .0 70.6 68.8 42.6 26.6 GR 2.728 70.6 70.6 26.7 2.731 .05 .02 2.1 38.9 2.081 -3.5 789.89 49 3.4 2.8 35.1 2.121 39.1 25.8 GR 2.705 78.8 78.8 24.0 2.711 .05 .02 790.04 -3.5 .0 78.8 66.4 49 3.3 79.0 24.4 2.644 .05 .02 6 790.19 54 2.9 1.0 33.7 2.017 -2.8 .0 79.0 103.0 45.6 33.7 GR 2.603 95.4 46.5 34.3 GR 2.578 93.5 74.6 26.4 2.629 .05 .02 6 1.1 35.0 1.972 -2.8 74.6 93.5 790.35 55 2.8 .0 .02 6 70.5 85.4 47.3 35.0 GR 2.549 85.4 70.5 28.3 2.633 .05 790.50 55 2.8 1.1 36.3 1.928 -2.8 .0 1.3 37.5 1.918 -2.9 .0 66.2 78.0 45.4 33.4 GR 2.558 78.0 66.2 29.8 2.617 .05 .02 6 790.65 54 2.9 31.2 2.622 .02 6 1.4 38.6 1.908 .0 63.3 71.7 43.6 31.8 GR 2.568 71.7 63.3 .05 790.80 53 3.0 -2.9 64.2 80.8 33.8 2.615 .05 .02 6 1.0 38.3 1.903 -3.4 45.9 25.9 GR 2.572 80.8 64.2 790.96 49 2.7 . 0 83.5 48.7 30.0 GR 2.582 83.5 67.9 32.0 2.629 .05 .02 6 1.0 39.1 1.911 -3.267.9 791.11 52 2.5 .0 34.1 GR 2.591 86.3 71.8 30.3 2.641 .05 .02 6 791.26 55 2.4 1.0 40.0 1.917 -2.9.0 71.8 86.3 51.6 .05 .02 50.3 34.7 GR 2.644 88.8 71.5 29.6 2.675 55 2.5 1.0 42.0 1.943 -3.3 .0 71.5 88.8 791.41 35.3 GR 2.698 91.6 71.8 28.9 2.710 .05 .02 1.0 43.9 1.971 -3.7 .0 71.8 91.6 48.9 791.57 55 2.6 31.6 GR 25.2 2.687 .05 .02 791.72 53 2.7 1.0 36.9 2.045 -3.8 .0 80.4 101.2 45.1 2.669 95.7 80.4 33.4 GR 2.639 98.9 94.8 24.3 2.668 .05 .02 1.0 35.3 2.036 -3.5 .0 94.8 103.2 45.9 791.87 54 2.0 35.2 GR 23.4 2.649 .05 .02 6 1.1 33.7 2.026 .0 114.0 105.3 46.8 2.609 100.0 100.0 792.02 -3.3 55 1.5 1.2 38.0 2.040 -3.5 79.6 93.4 44.1 32.0 GR 2.679 93.4 79.6 25.6 2.695 .05 .02 792.18 53 2.7 .0 31.9 GR 2.691 92.3 83.3 24.6 2.703 .05 .02 .0 83.3 92.3 45.2 792.33 53 2.6 1.3 37.6 2.064 -3.2 87.2 91.5 46.3 31.7 GR 2.702 91.5 87.2 23.6 2.711 .05 .02 792.48 1.4 37.1 2.086 -3.0 .0 53 2.6 1.3 37.4 2.043 -3.0 84.4 92.3 49.0 35.7 GR 2.670 92.3 84.4 23.7 2.691 .05 .02 792.63 56 2.6 .0 .0 81.8 93.5 51.7 39.7 GR 2.631 93.5 81.8 23.9 2.669 .05 .02 792.78 59 2.6 1.2 37.8 1.999 -3.0 23.5 2.668 .05 .02 6 .7 40.4 1.955 84.7 121.8 51.8 46.8 GR 2.611 96.7 84.7 792.94 2.3 -2.5 .0 64 87.7 117.0 46.7 GR 97.4 87.7 22.1 2.687 .05 .02 793.09 .9 40.2 1.990 -2.2 49.9 2.648 64 2.4 .0 20.7 2.704 .05 .02 793.24 63 2.5 1.0 40.0 2.025 -2.0 .0 90.4 114.3 48.0 46.6 GR 2.682 98.0 90.4 89.3 22.0 2.706 .05 .02 .9 40.7 2.017 -2.2 .0 89.3 113.9 50.4 44.9 GR 2.687 97.8 793.39 62 2.4 23.2 2.708 .05 .02 2.2 52.8 43.1 GR 2.691 97.8 89.4 .9 41.4 2.010 -2.5 .0 89.4 114.0 793.55 61 .0 81.6 98.5 52.1 32.1 GR 2.681 96.0 81.6 29.1 2.697 .05 .02 .8 41.8 1.984 -2.9 793.70 53 2.0 .05 .02 793.85 2.3 .8 40.4 2.053 -3.0 .0 82.0 105.1 49.0 28.7 GR 2.724 96.1 82.0 27.4 2.728 51 .05 .02 82.2 110.7 2.774 96.2 82.2 26.2 2.765 794.00 48 2.6 .9 39.0 2.122 -3.0 .0 45.9 25.4 GR 24.0 2.819 .05 .02 1.3 37.5 2.211 -3.2.0 78.6 96.8 41.9 23.7 GR 2.846 95.3 78.6 794.16 47 3.4 1.8 36.1 2.298 2.915 90.2 78.6 22.1 2.874 .05 .02 794.31 46 -3.5 .0 78.6 90.2 37.8 22.0 GR 4.1 .02 3.1 2.8 34.6 2.253 -3.8 .0 93.2 76.1 39.3 25.1 GR 2.842 93.2 93.2 20.9 2.815 .05 794.46 48 2.723 84.0 84.0 .05 .02 .0 84.0 82.6 41.7 32.5 GR 22.7 2.728 794.61 53 3.0 1.9 37.2 2.105 ~3.3 40.0 GR 2.623 94.4 75.2 26.0 2.666 .05 .02 1.0 39.9 1.961 -2.9 75.2 96.8 44.1 794.77 59 2.7 .0 69.3 98.9 46.3 41.5 GR 2.604 92.9 69.3 28.2 2.660 .05 .02 6 794.92 2.7 .8 42.5 1.910 -3.0 .0 60 68.7 .05 .02 6 8 795.07 2.7 .6 45.2 1.860 -3.2.0 68.7 111.4 48.4 43.1 GR 2.581 92.8 28.2 2.654 61 38.5 GR 69.1 28.0 2.705 .05 .02 -2.4 .0 69.1 89.7 44.8 2.687 89.7 795.22 58 2.9 1.0 43.9 1.961 .0 62.4 90.2 43.3 35.5 GR 2.639 90.2 62.4 30.7 2.674 .05 .02 .9 43.3 1.919 -2.3 795.38 56 3.1

795.53 795.68 795.83 795.99 796.14 796.29 796.44 796.59 796.75	2.2 2.4 2.7	.6 46.7 1 .6 46.7 1 .7 46.7 1 .9 46.3 1 1.0 45.9 2 .9 43.9 2 .9 43.4 2 .8 42.9 2	.744 .791 .838 .939 .040 .048 .084	-2.7 -2.3 -2.0 -2.3 -2.7 -2.5 -2.5 -2.5	.0	63.5 107.4 67.7 108.6 72.6 111.0 73.6 98.9 80.3 100.0 90.5 113.8 90.1 120.1 88.0 126.5	45.7 46.9 48.0 47.9 47.8 50.2 47.8 45.3	34.6 GR 40.4 GR 46.2 GR 44.6 GR 43.1 GR 44.1 GR 43.2 GR 42.2 GR	2.474 2.519 2.568 2.701 2.834 2.797 2.835 2.873	91.3 92.5 93.8 94.1 95.7 98.0 97.9	63.5 67.7 72.6 73.6 80.3 90.5 90.1 88.0	32.4 2.625 29.6 2.621 26.7 2.655 27.0 2.718 24.2 2.794 22.6 2.772 21.8 2.793 21.0 2.815	.05 .05 .05 .05 .05 .05	.02 .02 .02 .02 .02 .02 .02 .02 .02	6 8 6 8 6 8 6 8
		2.7 2.7 2.6 2.5 2.6 2.2 2.4 2.7	2.7 .6 46.7 1. 2.7 .6 46.7 1. 2.6 .7 46.7 1. 2.5 .9 46.3 1. 2.6 1.0 45.9 2. 2.2 .9 43.9 2. 2.4 .9 43.4 2. 2.7 .8 42.9 2	2.7	2.7	2.7	2.7 .6 46.7 1.744 -2.7 .0 63.5 107.4 2.7 .6 46.7 1.791 -2.3 .0 67.7 108.6 2.6 .7 46.7 1.838 -2.0 .0 72.6 111.0 2.5 .9 46.3 1.939 -2.3 .0 73.6 98.9 2.6 1.0 45.9 2.040 -2.7 .0 80.3 100.0 2.2 .9 43.9 2.048 -2.5 .0 90.5 113.8 2.4 .9 43.4 2.084 -2.5 .0 90.1 120.1 2.7 .8 42.9 2.120 -2.5 .0 88.0 126.5	2.7 .6 46.7 1.744 -2.7 .0 63.5 107.4 45.7 2.7 .6 46.7 1.791 -2.3 .0 67.7 108.6 46.9 2.6 .7 46.7 1.838 -2.0 .0 72.6 111.0 48.0 2.5 .9 46.3 1.939 -2.3 .0 73.6 98.9 47.9 2.6 1.0 45.9 2.040 -2.7 .0 80.3 100.0 47.8 2.2 .9 43.9 2.048 -2.5 .0 90.5 113.8 50.2 2.4 .9 43.4 2.084 -2.5 .0 90.1 120.1 47.8 2.7 .8 42.9 2.120 -2.5 .0 88.0 126.5 45.3	2.7	3.2	3.2	3.2	3.2	3.2	3.2

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BROADBILL-1 Complex Lithology Results Zone No. 1 AMITY OIL NL 28-01-98 RXO PHIN RHOB SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS DEPTH M GR DD SPI RΤ .02 797.05 49 3.5 33.2 2.253 85.6 71.6 38.8 26.3 GR 2.819 85.6 85.6 19.6 2.796 .05 4.0 -3.6 .0 797.20 52 2.9 2.1 31.9 2.111 -3.7.0 90.2 83.9 40.3 31.1 GR 2.660 90.2 90.2 21.2 2.679 .05 .02 797.36 57 .05 .02 6 2.7 1.5 36.8 1.990 -3.2.0 78.9 82.8 45.2 37.3 GR 2.612 82.8 78.9 25.0 2.655 .9 41.7 1.867 -2.7.0 74.2 93.4 50.2 43.6 GR 2.525 93.4 74.2 28.0 2.623 .05 .02 6 8 797.51 61 2.4 .8 43.7 1.861 2.548 .05 6 8 797.66 62 2.3 -2.5 .0 76.8 102.2 51.8 45.1 GR 94.9 76.8 27.2 2.640 .02 797.81 .7 45.7 1.855 46.6 GR 2.573 95.6 79.7 .05 .02 6 8 63 2.2 -2.2.0 79.7 113.1 53.5 26.5 2.656 797.97 92.3 .05 .02 63 1.1 42.2 1.950 -2.6 .0 76.8 60.6 45.6 GR 2.638 92.3 76.8 24.8 2.682 2.6 798.12 65 2.6 1.1 41.8 1.953 -2.5 .0 79.7 98.7 59.8 48.5 GR 2.629 95.6 79.7 23.3 2.680 .05 .02 798.27 1.0 41.4 1.956 -2.5.0 82.6 105.9 59.1 51.4 GR 2.618 96.3 82.6 21.8 2.678 .05 .02 67 2.6 .9 43.0 1.967 -3.1 54.1 49.2 GR 2.667 95.3 78.8 22.9 2.699 .05 .02 ' 798.42 65 2.7 .0 78.8 107.7 .8 44.6 1.977 75.6 109.8 49.1 46.9 GR 2.711 94.6 75.6 24.0 2.725 .05 .02 798.58 2.8 -3.7.0 64 798.73 63 3.3 1.0 45.0 2.010 -3.9 .0 71.6 105.9 49.6 46.3 GR 2.773 93.5 71.6 23.3 2.758 .05 .02 .05 .02 798.88 65 2.5 .9 45.3 1.981 -3.8 .0 81.0 105.6 45.5 48.1 GR 2.736 95.9 81.0 23.6 2.738 799.03 66 .9 45.5 1.953 .0 89.3 105.0 41.4 49.9 GR 2.699 97.8 89.3 24.0 2.719 .05 .02 2.0 -3.8 799.19 .9 42.9 2.022 -3.2 .0 99.0 123.4 42.6 54.2 GR 2.735 99.8 99.0 18.6 2.738 .05 .02 69 2.2 1.2 41.5 2.112 .0 107.2 126.2 42.3 53.4 GR 2.852 100.0 100.0 15.8 2.790 .05 .02 799.34 68 2.4 -3.0 1.4 40.1 2.201 .0 113.1 129.8 42.1 52.5 GR 2.974 100.0 100.0 13.6 2.846 .05 .02 5 799.49 68 2.7 -2.9 5 799.64 2.8 37.3 2.276 98.0 91.1 38.2 41.9 GR 2.975 98.0 98.0 15.1 2.871 .05 .02 60 3.6 -3.3 .0 87.1 16.4 2.900 5 799.80 53 4.8 4.2 34.5 2.354 -3.8 .0 87.1 74.1 34.2 31.5 GR 2.981 87.1 .05 .02 5.6 26.8 2.432 38.3 13.6 GR 88.2 17.9 2.862 .05 .02 799.95 40 5.5 -3.8 .0 88.2 66.9 2.884 88.2 .02 800.10 38 7.2 5.0 25.9 2.446 -3.8 .0 77.8 70.9 34.9 10.9 GR 2.878 77.8 77.8 18.2 2.862 .05 4.4 24.9 2.460 .0 75.5 31.4 68.8 18.6 2.861 .05 .02 800.25 36 9.3 -3.8 68.8 8.1 GR 2.873 75.5 800.40 39 7.8 5.4 25.0 2.399 -3.8 .0 75.2 68.6 29.4 12.2 GR 2.818 75.2 75.2 17.8 2.807 .05 .02 17.1 2.754 .02 800.56 42 6.8 6.5 25.0 2.338 -3.8 .0 80.5 63.3 27.3 16.3 GR 2.757 80.5 80.5 .05 36.0 .05 800.71 52 1.1 28.4 2.044 -3.7 .0 73.1 106.0 30.7 GR 2.570 93.9 73.1 22.9 2.615 .02 6 4.0 800.86 54 3.8 1.2 32.4 2.032 ~3.7 .0 71.5 100.6 38.6 32.7 GR 2.601 93.5 71.5 23.8 2.641 .05 .02 6 1.2 36.3 2.020 .05 801.01 55 -3.6 .0 70.0 95.7 41.2 34.8 GR 2.637 93.1 70.0 24.7 2.668 .02 3.6 2.2 33.7 2.034 ~3.6 .0 72.6 72.5 39.1 33.7 GR 2.617 72.6 72.6 23.7 2.653 .05 .02 801.17 54 3.6 3.3 31.1 2.048 .0 77.3 62.1 36.9 32.6 GR 2,600 77.3 77.3 22.8 2.639 .05 .02 6 801.32 54 3.5 -3.5 1.1 27.4 2.025 -3.1 .0 73.8 108.2 36.6 30.7 GR 2.544 94.1 73.8 23.3 2.616 .05 .02 6 801.47 52 3.8 .0 801.62 48 1.6 26.7 2.162 -3.4 82.4 104.0 33.8 24.5 GR 2.644 96.2 82.4 20.2 2.664 .05 .02 4.2 2.1 26.1 2.301 -3.8 .0 91.3 105.9 31.0 18.3 GR 2.735 98.2 91.3 17.6 2.736 .05 .02 801.78 43 4.9 .05 .02 801.93 43 5.0 1.7 23.2 2.334 -3.8 .0 104.0 135.8 29.3 18.2 GR 2.719 100.0 100.0 15.1 2.723 1.7 26.9 2.300 92.9 125.1 28.7 22.6 GR 2.749 98.5 92.9 16.3 2.747 .05 .02 802.08 46 5.0 -3.8 .0 84.6 17.4 2.770 .05 .02 1.6 30.6 2.266 -3.7.0 84.6 117.0 28.1 27.1 GR 2.783 96.7 802.23 50 4.9 802.39 50 4.9 3.4 32.5 2.273 -3.7.0 81.2 76.7 31.4 27.3 GR 2.829 81.2 81.2 18.4 2.803 .05 .02 .05 .02 802.54 50 4.5 5.2 34.4 2.280 -3.7.0 81.4 59.2 34.6 27.5 GR 2.875 81.4 81.4 19.2 2.835 83.5 36.7 .05 .02 802.69 55 4.2 2.4 33.6 2.138 -3.8 .0 80.3 34.7 GR 2.697 83.5 80.3 19.1 2.707 .02 802.84 57 3.7 2.1 34.2 2.088 -3.8.0 80.5 85.1 41.0 37.3 GR 2.664 85.1 80.5 20.2 2.687 .05 803.00 59 3.1 1.7 34.9 2.038 -3.8 .0 82.2 88.3 45.3 39.9 GR 2.626 88.3 82.2 21.3 2.666 .05 .02 803.15 59 1.4 34.7 1.998 -3.2.0 80.0 91.6 45.0 40.2 GR 2.585 91.6 80.0 22.7 2.642 .05 .02 6 3.0 1.1 34.5 1.957 2.539 24.3 2.615 .05 .02 6 803.30 -2.7 .0 78.4 96.9 44.6 40.4 GR 95.3 78.4 59 2.8 .9 34.3 2.062 .0 74.9 116.2 40.6 2.650 94.4 74.9 23.9 2.673 .05 .02 803.45 52 3.5 -3.3 31.1 GR .02 803.61 52 3.7 3.2 32.4 2.212 -3.6 .0 91.9 77.9 37.4 30.3 GR 2.754 91.9 91.9 18.3 2.749 .05 .02 5 29.5 GR 2.904 100.0 100.0 14.8 2.852 .05 803.76 51 3.8 5.5 30.5 2.362 -3.8 .0 108.2 71.0 34.1 5 .05 .02 -3.8 .0 101.1 84.8 30.4 26.8 GR 2.905 100.0 100.0 14.1 2.857 803.91 49 5.0 4.4 28.4 2.400

							E								
804.06	48	6.1	3.3 26.4 2.439	-3.8	.0	97.6 105.0	26.7	24.1 GR	2.906	99.5	97.6	13.3 Z.862	∵∴ 05	2	الريسا
804.21	42	7.3	9.5 20.2 2.456	-3.9	.0 1	08.4 74.4	26.2	17.0 GR	2.798 1	100.0	100.0	11.7 2.787	.05	.02	
804.37	43	6.8	6.5 20.7 2.392	-3.8	.0 1	04.0 82.5	28.2	17.3 GR	2.736 1	100.0	100.0	12.8 2.737	.05	.02	
804.52	43	6.2	3.7 21.2 2.328	-3.8	.0	96.2 97.0	30.2	17.7 GR	2.692	97.0	96.2	14.6 2.698	.05	.02	
804.67	45	5.5	3.9 25.0 2.278	-3.8	.0	87.6 80.8	31.8	20.1 GR	2.699	87.6	87.6	16.8 2.705	.05	.02	
804.82	46	4.9	4.1 28.8 2.228	-3.9	.0	81.5 68.8	33.5	22.6 GR	2.707	81.5	81.5	19.1 2.713	.05	.02	
804.98	46	5.2	3.4 32.7 2.206	-3.8	.0	69.1 65.5	32.7	21.4 GR	2.752	69.1	69.1	22.4 2.749	.05	.02	
805.13	43	6.2	4.3 32.7 2.285	-3.8	.0	65.4 60.1	30.1	17.7 GR	2.833	65.4	65.4	22.3 2.816	.05	.02	
805.28	40	7.3	5.2 32.6 2.363	-3.8	.0	62.0 56.0	27.5	14.1 GR	2.908	62.0	62.0	22.2 2.883	.05	.02	5
805.43	43	6.6	10.0 24.9 2.386	-3.8	.0	87.9 55.3	27.9	18.2 GR	2.808	87.9	87.9	15.5 2.795	.05	.02	

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BROADBILL-1 Complex Lithology Results Zone No. 1 AMITY OIL NL 28-01-98 DEPTH M GR RXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS 805.59 46 6.7 25.5 2.316 -3.8 .0 66.7 29.3 22.5 GR 2.742 84.4 15.1 2.742 .05 .02 6.8 84.4 84.4 805.74 7.0 3.5 26.1 2.247 -3.8 .0 78.1 87.7 30.7 26.9 GR 2.689 87.7 78.1 15.5 2.699 .05 .02 49 805.89 4.4 27.8 2.234 -3.8 .0 78.1 74.7 30.6 27.8 GR 2.699 78.1 78.1 16.3 2.707 .05 .02 50 6.4 806.04 51 5.3 29.6 2.222 -3.8 .0 78.3 65.0 30.4 28.8 GR 2.711 78.3 78.3 17.0 2.720 .05 .02 5.9 4.0 29.1 2.226 806.20 -3.8 .0 76.5 72.4 31.3 25.7 GR 2.708 76.5 76.5 17.9 2.716 .05 .02 49 5.9 806.35 46 7.0 5.3 29.4 2.267 -3.8 .0 69.6 62.3 28.4 22.6 GR 2.760 69.6 69.6 18.6 2.755 .05 .02 806.50 44 6.6 29.7 2.308 -3.8 .0 55.0 25.6 19.5 GR 2.810 64.6 19.3 2.795 .05 .02 8.0 64.6 64.6 806.65 6.9 27.4 2.340 25.4 20.2 GR .02 45 -3.8 .0 72.0 60.0 2.804 72.0 72.0 17.0 2.790 .05 8.0 806.81 7.3 25.1 2.372 -3.8 .0 81.5 66.5 25.3 21.0 GR 2.799 81.5 81.5 14.7 2.785 .05 .02 45 8.0 806.96 53 6.3 3.4 26.4 2.236 -3.8 .0 86.0 93.6 28.1 32.1 GR 2.682 93.6 86.0 13.8 2.696 .05 .02 807.11 53 3.2 29.8 2.195 32.4 GR .02 -3.8 .0 78.5 82.9 29.5 2.694 82.9 78.5 16.5 2.704 .05 5.7 807.26 54 3.1 33.3 2.155 -3.9 .0 72.5 75.0 30.9 32.8 GR 2.706 75.0 72.5 19.2 2.715 .05 .02 5.3 807.42 50 6.1 3.3 32.4 2.188 -3.8 .0 67.4 71.2 30.2 27.1 GR 2.726 71.2 67.4 20.2 2.730 .05 .02 807.57 7.0 3.5 31.5 2.221 -3.8 .0 62.3 67.5 29.4 21.5 GR 2.746 67.5 21.3 2.745 .05 .02 46 62.3 .0 807.72 41 8.3 5.8 27.6 2.335 -3.8 65.8 59.9 24.9 15.1 GR 2.797 65.8 65.8 19.4 2.788 .05 .02 807.87 44 6.1 27.0 2.320 -3.8 .0 72.7 62.9 24.6 19.5 GR 2.775 72.7 72.7 17.4 2.767 .05 .02 7.7 .05 808.02 47 7.0 6.4 26.5 2.306 -3.8 .0 81.2 66.6 24.2 23.9 GR 2.749 81.2 81.2 15.4 2.746 .02 3.3 30.6 2.258 808.18 48 7.1 -3.8 .0 68.0 77.6 27.0 24.6 GR 2.772 77.6 68.0 18.7 2.763 .05 .02 .02 808.33 45 6.1 4.1 29.3 2.297 -3.8 .0 76.1 71.3 28.8 21.2 GR 2.791 76.1 76.1 18.6 2.779 .05 808.48 43 5.0 5.0 28.0 2.336 -3.8 .0 86.7 66.8 30.6 17.8 GR 2.808 86.7 86.7 18.5 2.795 .05 .02 3.6 26.3 2.337 -3.7.0 95.7 83.3 32.1 18.2 GR 808.63 43 4.6 2.779 95.7 95.7 17.2 2.771 .05 .02 2.3 24.6 2.338 .02 808.79 44 4.3 -3.7.0 106.9 111.7 33.7 18.7 GR 2.750 100.0 100.0 15.8 2.748 .05 4.3 27.1 2.341 .0 87.4 73.5 37.1 16.9 GR 2.796 87.4 87.4 18.2 2.786 808.94 42 5.1 -3.7.05 .02 809.09 41 5.7 4.5 27.0 2.351 -3.7.0 82.1 70.5 35.4 14.9 GR 2.804 82.1 82.1 18.8 2.794 .05 .02 .0 77.4 77.4 19.5 2.802 4.6 27.0 2.361 -3.6 67.8 33.8 12.8 GR .05 .02 809.24 40 6.2 2.812 77.4 809.40 42 5.3 4.9 25.8 2.304 -3.6 .0 85.9 68.2 31.5 16.0 GR 2.734 85.9 85.9 18.4 2.735 .05 .02 .0 90.0 65.0 29.2 19.2 GR 809.55 44 4.6 5.2 24.6 2.247 -3.6 2.678 90.0 90.0 18.3 2.688 .05 .02 809.70 53 2.4 28.8 2.192 -3.4.0 97.4 95.7 39.1 31.2 GR 3.7 2,680 97.4 97.4 16.8 2.695 .05 .02 1.8 29.4 2.174 -3.5.0 91.0 103.9 39.1 30.4 GR 91.0 18.1 2.691 .02 809.85 52 3.8 2.675 98.1 .05 810.01 51 1.2 30.1 2.155 -3.6.0 87.5 119.3 39.1 29.6 GR 2.670 97.4 87.5 19.4 2.687 .05 .02 3.7 810.16 52 3.0 30.4 2.149 -3.6 89.4 75.7 38.8 30.8 GR 89.4 19.2 2.686 .05 .02 3.5 .0 2.669 89.4 .02 810.31 53 4.9 30.7 2.143 -3.6.0 95.5 59.6 38.5 32.0 GR 95.5 95.5 19.1 2.686 .05 3.1 2.667 .9 35.6 2.094 -2.9.0 88.1 123.5 38.7 34.4 GR .05 .02 810.46 55 2.8 2.688 97.5 88.1 21.6 2.702 810.62 51 3.1 1.1 36.3 2.102 -3.2.0 80.9 103.8 38.7 28.8 GR 2.705 95.8 80.9 23.9 2.713 .05 .02 1.3 37.0 2.108 -3.5 .0 74.0 88.7 38.6 23.3 GR 2.724 74.0 26.4 2.728 .05 .02 810.77 47 3.3 88.7 1.5 36.9 2.141 810.92 46 -3.772.9 84.2 36.7 21.9 GR 2.757 84.2 72.9 26.1 2.753 .05 .02 3.5 .0 811.07 45 1.7 36.8 2.174 72.0 25.8 2.779 .05 3.7 -3.8 .0 72.0 80.6 34.8 20.5 GR 2.790 80.6 .02 811.23 47 4.2 1.4 33.4 2.288 -3.6 70.7 94.1 31.5 23.0 GR 2.650 93.3 70.7 24.2 2.671 .05 .02 4 7 2.7 31.0 2.284 811.38 47 4.2 -3.768.2 65.0 33.0 23.5 GR 2.650 68.2 68.2 25.2 2.671 .05 .02 4 7 4.0 28.6 2.280 51.2 34.5 24.0 GR 4 7 811.53 47 3.9 -3.8 68.1 2.650 68.1 68.1 26.2 2,672 .05 .02 5.2 29.9 2.231 59.5 37.9 811.68 46 3.6 -3.7.0 92.7 22.5 GR 2.729 92.7 92.7 19.7 2.732 .05 .02 811.83 46 4.2 3.6 30.3 2.257 -3.5 .0 86.4 72.6 36.2 22.2 GR 2.764 86.4 86.4 19.5 2.758 .05 .02 98.7 34.5 811.99 46 4.8 2.0 30.7 2.282 -3.4 .0 82.2 21.9 GR 2.800 96.1 82.2 19.4 2.786 .05 .02 86.1 33.7 .05 812.14 45 4.6 2.9 29.2 2.303 -3.6 .0 87.7 21.1 GR 2.795 87.7 87.7 18.4 2.782 .02 812.29 45 3.8 27.7 2.323 -3.8 .0 95.3 79.2 32.8 20.3 GR .05 .02 4.4 2.790 95.3 95.3 17.5 2.779 812.44 44 4.5 1.8 26.7 2.293 -3.6 .0 93.1 115.7 32.8 19.3 GR 2.738 98.6 93.1 17.7 2.738 .05 .02

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812.60	42	5.2	2.9 29.4 2	.322	-3.7	.0	78.9	81.7	32.4	16.5 GR	2.816	81.7	78.9	20.1 2.803	.05	.02
812.75	40	5.8	4.0 32.2 2	.351	-3.8	.0	69.5	63.5	32.0	13.7 GR	2.889	69.5	69.5	22.4 2.867	.05	.02
812.90			5.5 28.7 2											21.1 2.825	.05	.02
813.05			7.0 25.1 2								2.788	79.3	79.3	19.6 2.783	.05	.02
813.21			1.7 23.1 2								2.737	97.4	87.7	17.7 2.738	.05	.02
813.36			3.4 23.9 2								2.748	86.7	86.6	17.9 2.747	.05	.02
813.51			5.1 24.6 2								2.759	91.6	91.6	18.1 2.757	.05	.02
813.66			5.3 24.9 2								2.694	89.9	89.9	18.2 2.700	.05	.02
813.82			5.6 25.2 2								2.647	84.3	84.3	19.3 2.665	.05	.02
813.97			3.0 31.2 2								2.703	70.4	68.9	22.0 2.708	.05	.02
013.3.	10	0	0.0 02.2 2													

Complex Lithology Results BROADBILL-1 Zone No. 1 AMITY OIL NL 28-01-98 RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS DEPTH M GR RXO PHIN 74.9 .02 5.1 29.9 2.209 -3.8 .0 74.9 57.6 32.9 20.8 GR 2.707 74.9 20.9 2.713 .05 814.12 45 5.1 .02 51.3 31.2 19.7 GR 2.713 80.8 80.8 19.9 2.719 .05 7.1 28.6 2.238 -3.8 .0 80.8 814.27 44 4.9 .05 .02 29.4 19.6 GR 2.750 92.8 68.7 21.0 2.748 814.43 44 1.9 30.4 2.243 -3.3 .0 68.7 94.6 6.1 4.0 30.6 2.245 -3.6 .0 67.9 62.8 29.6 17.3 GR 2.755 67.9 67.9 22.0 2.752 .05 .02 5.9 814.58 43 .05 .02 48.9 29.9 15.1 GR 2.759 71.5 71.5 23.1 2.756 814.73 41 5.0 6.2 30.8 2.246 -3.8 .0 71.5 72.2 22.1 2.711 .05 .02 66.4 20.6 GR 2.706 72.2 814.88 45 3.4 30.9 2.191 -3.6 .0 72.2 30.9 4.9 94.2 74.1 22.0 2.685 .05 .02 .0 74.1 136.2 31.9 26.2 GR 2.671 815.04 49 4.4 .8 31.1 2.135 -3.5.05 .02 4.3 36.3 2.162 .0 77.2 62.2 36.5 36.2 GR 2.776 77.2 77.2 19.2 2.762 815.19 56 4.4 -3.7 .05 .02 2.773 78.8 19.4 2.761 815.34 55 4.2 2.8 35.8 2.169 -3.6.0 78.8 76.3 36.6 34.5 GR 78.8 82.7 19.7 2.760 .05 .02 1.4 35.3 2.176 -3.5.0 82.7 107.7 36.7 32.8 GR 2.771 96.3 815.49 54 3.9 73.1 21.3 2.762 .05 .02 2.5 34.3 2.195 -3.6 73.1 78.2 36.0 26.8 GR 2.771 78.2 815.64 49 .0 4.7 3.6 33.3 2.214 -3.6 .0 65.9 62.9 35.3 20.7 GR 2.772 65.9 65.9 22.9 2.765 .05 .02 815.80 45 5.6 .05 .02 28.7 17.5 GR 2.816 70.3 70.3 20.0 2.802 815.95 43 6.6 5.0 29.7 2.316 -3.7 .0 70.3 61.7 29.2 17.4 GR 2.794 74.2 74.2 18.8 2.784 .05 .02 4.6 28.0 2.325 -3.7 .0 74.2 68.3 816.10 43 6.6 76.4 29.6 17.3 GR 2.772 78.7 78.7 17.6 2.766 .05 .02 4.2 26.2 2.333 -3.8 .0 78.7 816.25 43 6.7 67.2 22.2 2.671 .05 .02 4.6 27.5 2.164 -3.7.0 67.2 57.2 30.7 20.1 GR 2.658 67.2 816.41 45 5.7 22.9 GR 2.554 58.1 28.3 2.632 .05 .02 6 5.0 28.9 1.996 42.8 31.7 58.1 816.56 47 4.7 -3.7 .0 58.1 79.4 37.8 32.6 GR 2.106 79.4 53.8 33.4 2.620 .05 .02 6 8 1.0 34.2 1.637 -2.9.0 53.8 816.71 53 3.6 37.2 GR 2.219 77.4 57.4 31.1 2.626 .05 .02 6 8 816.86 57 3.5 1.1 37.8 1.690 -2.6 .0 57.4 77.4 40.0 76.5 42.2 41.8 GR 2.348 76.5 61.6 28.8 2.630 .05 .02 6 8 817.02 60 3.3 1.3 41.5 1.744 -2.3.0 61.6 77.5 39.6 39.1 GR 2.607 77.5 61.6 26.6 2.656 .05 .02 6 817.17 58 3.9 1.5 39.4 1.952 -2.7.0 61.6 75.0 19.7 2.772 .05 .02 96.3 36.9 36.3 GR 2.793 94.4 817.32 56 4.5 1.7 37.2 2.159 -3.2.0 75.0 .05 .02 817.47 4.4 30.1 2.228 -3.7 .0 81.7 66.4 31.4 24.7 GR 2.727 81.7 81.7 18.9 2.731 48 4.8 76.0 19.1 2.697 .05 .02 79.1 31.5 26.1 GR 2.687 79.1 817.63 49 5.3 3.0 29.2 2.191 -3.4 .0 76.0 .05 .02 94.3 74.7 19.6 2.674 817.78 50 5.2 1.6 28.3 2.157 -3.1 .0 74.7 105.6 31.6 27.5 GR 2.654 4.8 30.7 2.252 -3.6 .0 73.5 63.8 32.5 24.7 GR 2.767 73.5 73.5 18.8 2.760 .05 .02 817.93 48 6.0 .05 .02 32.8 23.8 GR 2.776 75.0 74.5 19.3 2.767 818.08 47 5.7 3.4 30.9 2.256 -3.6 .0 74.5 75.0 .02 97.0 33.1 22.8 GR 2.785 95.2 78.1 19.8 2.774 .05 1.9 31.2 2.260 -3.6 .0 78.1 818.24 47 5.0 1.8 31.9 2.142 .0 79.3 96.5 37.1 32.7 GR 2.680 95.5 79.3 19.2 2.695 .05 .02 818.39 54 4.4 -3.4 73.3 21.5 2.689 .05 4 78 73.3 85.9 41.1 42.8 GR 2.650 85.9 .02 818.54 61 3.8 1.7 32.6 2.026 -3.1 95.3 16.0 2.698 .05 .02 4 78 1.1 33.6 1.979 -2.1 95.3 127.1 41.7 52.9 GR 2.650 99.0 818.69 68 3.0 2.635 90.7 16.7 2.677 .05 .02 818.85 64 3.4 1.3 34.4 2.066 -2.9 .0 90.7 117.3 39.7 47.8 GR 98.1 92.1 16.1 2.740 .05 .02 819.00 61 3.7 1.5 35.3 2.152 -3.6 .0 92.1 116.5 37.7 42.7 GR 2.740 98.4 .0 93.8 100.8 35.5 42.9 GR 2.784 98.7 93.8 14.2 2.764 .05 .02 4.2 2.4 34.0 2.202 -3.6 819.15 61 .05 .02 3.4 32.7 2.252 .0 96.2 94.3 33.4 43.0 GR 96.2 12.4 2.788 819.30 61 4.8 -3.6 2.830 96.2 .6 31.3 2.007 78.6 160.3 35.5 49.1 GR 2.650 95.3 78.6 18.0 2.695 .05 .02 4 78 819.45 65 3.9 -3.189.5 15.0 2.700 .02 .05 4 78 819.61 69 3.6 .8 31.4 1.953 -2.189.5 160.6 38.4 54.9 GR 2.650 97.8 60.7 GR 2.650 100.0 100.0 12.2 2.705 .05 .02 4 78 .9 31.4 1.899 -1.0102.8 164.2 41.4 819.76 73 3.3 6 8 61.2 GR 2.312 94.9 76.9 19.2 2.620 .05 .02 1.0 33.7 1.826 -1.0.0 76.9 112.9 42.2 819.91 74 3.3 .0 77.2 108.5 43.0 61.6 GR 1.825 95.0 77.2 19.0 2.623 .05 .02 6 8 1.1 36.0 1.753 -1.0820.06 74 3.3 96.4 83.2 15.6 2.699 .05 .02 4 78 820.22 68 4.0 .6 40.3 1.670 -1.383.2 178.9 39.7 53.7 GR 2.650 78 75.9 16.7 2.697 .05 .02 2.0 39.9 1.765 75.9 93.1 38.9 51.6 GR 2.650 93.1 4 820.37 67 4.6 -2.3 .05 .02 78 76.2 76.2 17.9 2.695 4 3.5 39.5 1.859 -3.376.2 67.7 38.1 49.3 GR 2.650 820.52 65 4.2 89.3 147.4 39.2 97.8 89.3 14.8 2.700 .05 .02 4 78 .9 40.5 1.892 -2.155.4 GR 2.650 820.67 70 3.7 6 1.1 41.8 1.915 -2.3 .0 66.6 100.0 40.6 54.6 GR 2.555 92.2 66.6 22.3 2.656 .05 .02 820.83 69 3.8 2.623 92.2 66.6 22.2 2.684 .05 .02 .0 66.6 94.4 42.0 53.8 GR 820.98 69 3.8 1.2 43.2 1.937 -2.5

822.35 76 3.9 1.0 42.7 1.946 -2.5 .0 74.6 119.8 39.0 64.0 GR 2.392 94.3 74.6 1710 1710 1710 1710 1710 1710 1710 171		58 54 54 65 63 65 66 67 73	3.6 4.8 6.4 7.8 6.7 5.8 4.0 3.9	1.1 38.0 1.6 41.1 3.2 38.4 4.9 35.7 5.1 34.2 5.4 32.8 1.1 41.2 1.0 42.7	1.936 1.936 2.016 2.176 2.335 2.260 2.186 1.957 1.946	-2.4 -2.3 -2.4 -3.1 -3.7 -3.7 -3.6 -2.6 -2.5	.0 68.9 .0 71.6 .0 64.3 .0 69.7 .0 76.6 .0 83.3 .0 91.3	98.1 102.0 89.7 80.4 80.6 80.6 87.2 150.0 5119.8	38.9 35.7 34.3 30.0 25.7 26.5 27.2 38.4 39.0	53.1 GR 52.4 GR 47.8 GR 47.1 GR 46.2 GR 48.3 GR 50.5 GR 59.8 GR 64.0 GR	2.570 2.522 2.689 2.862 3.054 2.898 2.650 2.650 2.592	93.5 89.7 80.4 80.6 83.3 78.0 98.2 94.3	71.6 64.3 69.7 76.6 83.3 78.0 91.3 74.6	21.7 2.658 21.2 2.633 20.8 2.709 15.4 2.802 11.6 2.901 11.0 2.817 13.5 2.696 12.6 2.704 17.3 2.684 15.8 2.693	.05 .05 .05 .05 .05 .05	.02 .02 .02 .02 .02 .02 .02 .02	5 5 4 7 4 78 6 8		
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Complex Lithology Results 28-01-98

HC~M FLAGS SWU SXOU PHIS VCL FVCL RHOMAU SXO PHIE RHOMA POR-M DEPTH M GR RT RXO PHIN RHOB DD SPI SW .02 81.5 129.2 39.4 65.0 GR 2.616 96.0 81.5 15.3 2.692 822.66 76 3.8 1.0 41.6 1.976 -2.1 .0 .05 .02 4 78 1.1 39.0 2.017 -1.997.2 153.8 39.1 61.8 GR 2.650 99.4 97.2 11.7 2.706 822.81 74 3.8 .05 .02 .0 80.9 159.8 33.3 51.6 GR 2.834 95.8 80.9 15.2 2.783 822.96 67 4.6 .8 39.7 2.132 -2.8 5 .05 .02 2.1 36.0 2.237 -3.3 .0 84.8 118.5 30.9 50.2 GR 2.913 96.7 84.8 11.7 2.821 823.11 5.9 66 .05 .02 5 823.26 65 6.3 3.5 32.3 2.346 -3.7.0 98.8 113.9 28.5 48.8 GR 2.997 99.8 98.8 8.5 2.864 .05 .02 823.42 68 5.6 2.5 32.1 2.178 -3.5 .0 98.0 125.0 31.3 53.6 GR 2.698 99.6 98.0 9.0 2.717 .05 78 85.6 119.6 34.2 58.5 GR 2.650 85.6 13.3 2.703 .02 4 1.6 31.9 2.011 -3.2 96.9 823.57 72 4.4 4 78 1.4 37.7 1.828 -1.5 92.3 129.3 40.7 58.9 GR 2.650 98.4 92.3 13.1 2.703 .05 .02 823.72 72 3.8 6 8 .0 67.7 97.9 40.3 56.9 GR 2.464 92.5 67.7 21.4 2.625 .05 .02 823.87 71 3.8 1.2 39.8 1.895 -2.2 88.0 140.6 39.9 54.9 GR 15.0 2.700 .05 .02 4 78 824.03 69 3.7 1.0 42.0 1.962 -2.8 2.650 97.5 88.0 87.7 .02 4 78 87.7 139.7 37.3 53.4 GR 2.650 97.4 15.8 2.698 .05 68 3.6 1.0 36.0 1.955 -3.3 824.18 .05 .02 6 .0 74.2 121.3 39.3 52.5 GR 2.411 94.2 74.2 21.4 2.622 824.33 68 3.3 .8 34.7 1.902 -2.6 .02 6 824.48 3.0 .6 33.5 1.847 -1.9.0 72.1 125.3 41.3 51.3 GR 2.299 93.7 72.1 23.7 2.633 .05 67 6 8 .02 .7 34.7 1.850 -1.5 .0 75.1 129.5 41.1 55.6 GR 2.279 94.4 75.1 22.0 2.626 .05 824.64 70 3.0 .05 .02 6 8 2.253 824.79 73 3.0 .7 36.0 1.852 -1.1 .0 79.6 136.5 40.9 60.0 GR 95.5 79.6 19.8 2.619 824.94 1.0 37.8 1.899 -1.4 76.4 105.5 41.3 53.8 GR 2.451 94.7 76.4 22.0 2.628 .05 .02 6 3.0 .0 69 6 .02 825.09 66 3.0 .9 39.3 1.935 -1.6 .0 75.6 108.6 41.6 50.6 GR 2.553 94.6 75.6 22.4 2.646 .05 .02 74.9 112.1 41.9 47.4 GR 2.636 94.4 74.9 22.8 2.681 .05 825.25 3.1 .9 40.9 1.971 -1.7.0 64 75.0 109.2 41.5 47.7 GR 2.653 75.0 21.5 2.690 .05 .02 1.0 40.3 1.995 -2.0.0 94.4 825.40 64 3.4 3.6 1.2 39.7 2.019 -2.2 .0 75.6 107.6 41.1 48.1 GR 2.670 94.6 75.6 20.2 2.698 .05 .02 825.55 64 .05 .02 .0 81.9 98.1 37.0 49.0 GR 2.682 96.1 81.9 16.3 2.704 825.70 65 4.2 1.9 36.6 2.081 -2.3.02 2.669 98.4 92.1 13.3 2.700 .05 1.7 35.3 2.095 .0 92.1 120.0 37.3 53.8 GR 825.86 69 4.1 -2.4 .0 103.8 151.6 37.6 58.5 GR 2.653 100.0 100.0 10.2 2.695 .05 .02 826.01 72 4.0 1.4 34.0 2.109 -2.5 .02 4 78 .05 826.16 74 4.1 1.4 35.4 2.094 -1.8 93.2 135.7 37.5 61.9 GR 2.650 98.6 93.2 11.6 2.706 .02 4 78 96.7 10.1 2.709 .05 826.31 77 1.4 36.9 2.079 -1.096.7 143.3 37.4 65.3 GR 2.650 99.3 4.2 4 78 1.8 38.6 2.017 -1.6 87.6 118.1 40.2 61.3 GR 2.650 97.4 87.6 11.9 2.706 .05 .02 826.47 74 4.6 .02 1.7 38.8 2.040 -1.9.0 83.6 118.2 38.2 63.6 GR 2.655 96.5 83.6 12.4 2.701 .05 826.62 75 4.7 .02 88.3 134.2 36.3 65.7 GR 2.688 97.5 88.3 10.6 2.717 .05 826.77 77 4.8 1.5 38.9 2.063 -2.2.0 .0 81.4 105.2 35.8 11.7 2.701 .05 .02 2.3 37.5 2.060 -2.8 62.5 GR 2.657 96.0 81.4 826.92 75 5.3 79.3 87.1 35.3 59.4 GR 2.629 87.1 79.3 12.8 2.686 .05 .02 827.07 72 5.3 3.1 36.1 2.055 -3.4 .0 58.4 GR 2.388 15.9 2.623 .05 .02 827.23 72 .8 31.3 1.949 -2.7 .0 80.5 149.3 42.4 95.8 80.5 4.0 79.2 136.3 40.9 55.7 GR 2.455 95.4 79.2 16.5 2.624 .05 .02 6 .9 32.2 1.970 -2.9 .0 827.38 70 4.1 .05 .02 6 77.3 125.8 39.4 52.9 GR 2.513 95.0 17.1 2.623 827.53 1.1 33.0 1.991 -3.1.0 77.3 68 4.2 .02 1.4 36.9 2.058 83.5 115.7 36.2 53.2 GR 2.658 96.5 83.5 15.5 2.694 .05 827.68 68 4.1-3.3 .0 .02 16.3 2.667 .05 827.84 71 3.9 1.4 37.1 2.005 -3.0 .0 80.8 110.5 37.3 56.6 GR 2.590 95.8 80.8 .02 17.1 2.637 .05 827.99 73 3.8 1.4 37.4 1.951 -2.8 .0 78.3 105.6 38.3 60.1 GR 2.495 95.2 78.3 .02 1.0 35.5 1.917 -2.5.0 76.4 123.2 38.5 61.0 GR 2.384 94.8 76.4 17.4 2.619 .05 828.14 74 3.8 .6 33.6 1.884 -2.1.0 73.8 156.9 38.7 61.9 GR 2.260 94.1 73.8 17.8 2.620 .05 .02 828.29 74 3.9 .02 1.7 32.1 1.933 .0 77.1 99.1 38.7 59.4 GR 2.365 94.9 77.1 16.4 2.620 .05 828.45 73 4.1 -2.977.7 17.1 2.633 .05 .02 6 1.2 32.9 1.943 77.7 115.8 38.6 57.3 GR 2.415 95.1 828.60 71 3.9 -2.5 .0 .0 77.0 148.5 38.4 55.0 GR 2.460 94.9 77.0 18.0 2.626 .05 .02 6 .7 33.7 1.953 -2.0828.75 69 3.8 .05 .02 6 828.90 69 4.2 1.3 35.2 1.996 -1.9 .0 76.9 114.6 43.0 55.0 GR 2.547 94.9 76.9 16.7 2.644 .02 4 78 2.650 77.1 15.0 2.700 .05 1.9 36.7 2.038 77.1 102.3 47.5 55.0 GR 94.9 829.06 69 4.9 -1.7.02 4 78 82.7 126.0 40.6 58.6 GR 2.650 96.3 82.7 13.2 2.703 .05 1.4 38.2 2.096 -2.2 829.21 72 4.7 4 78 1.1 37.6 2.036 84.8 143.9 40.8 59.0 GR 2.650 96.7 84.8 13.0 2.703 .05 .02 -1.9829.36 72 4.6 4 78 2.650 97.3 87.3 12.8 2.704 .02 829.51 73 4.4 .8 37.0 1.975 -1.5 87.3 170.7 41.0 59.4 GR .05

Zone No. 1

BROADBILL-1

AMITY OIL NL

			.8 36.1			1 (_	_	_		-		
829.67	74	4.1	.8 36.1	1.949	-1.6		91.8	180.9	40.6	61.1 GR	2.650	98.3	91.8	12.0	2.705	.05	. 52	1	78
829.82	75	3.9	.7 35.2	1.923	-1.6		96.7	192.0	40.3	62.9 GR	2.650	99.3	96.1	11.2	2.101	.05	.02	4	78
829.97	73	4.4	1.6 36.3	2.007	-3.1		87.5	121.8	38.8	59.8 GR	2.650	97.4	87.5	12.6	2.704	.05	.02	4	78
830.12	73	4.0	1.4 37.5	1.979	-3.0		92.1	130.8	41.6	59.8 GR	2.650	98.4	92.1	12.7	2.704	.05	.02	4	78
830.28	73	3.7	1.2 38.8	1.951	-2.9	.0	77.4	112.3	44.4	59.7 GR	2.526	95.0	77.4	17.7	2.650	.05	.02		6
830.43	71	3.3	.9 43.8	1.948	-2.9	.0	75.0	112.9	42.7	57.2 GR	2.644	94.4	75.0	20.5	2.696	.05	.02		
830.58	70	3.2	1.1 43.1	1.965	-2.8	.0	77.3	108.6	43.0	55.8 GR	2.657	95.0	77.3	20.2	2.699	.05	.02		
830.73	69	3.1	1.2 42.4	1.983	-2.8	.0	79.8	105.2	43.2	54.4 GR	2.668	95.6	79.8	19.8	2.703	.05	.02		
830.88	71	3.2	1.0 42.2	1.993	-2.4	.0	82.3	121.4	41.9	57.1 GR	2.675	96.2	82.3	18.2	2.707	.05	.02		
831.04	73	3.3	.8 42.1	2.003	-2.1	.0	85.3	143.2	40.6	59.9 GR	2.683	96.9	85.3	16.6	2.712	.05	.02		

Zone No. 1 BROADBILL-1 Complex Lithology Results AMITY OIL NL 28-01-98

		AMII	II OIL NL			20-01-90									
DEPTH M	GR	RT	RXO PHIN RHOB	DD	SPI	SWU SXOU	PHIS	VCL FVCL	RHOMAU	SXO	SW	PHIE RHOMA	POR-M	HC-M	FLAGS
831.19	76	3.5	1.1 38.2 2.003	-1.9	.0	92.5 139.1	40.1	64.4 GR	2.581	98.4	92.5	13.4 2.675	.05	.02	6
831.34	76	3.6	1.3 37.7 1.978	-1.4	.0	87.7 120.7	40.6	64.7 GR	2.525	97.4	87.7	14.1 2.657	.05	.02	6
831.49	76	4.0	1.6 37.2 1.953	9	.0	81.2 106.7	41.2	65.0 GR	2.463	95.9	81.2	14.9 2.637	.05	.02	6
831.65	79	3.5	1.1 36.8 1.957	5		91.0 134.9	42.6	68.3 GR	2.435	98.1	91.0	13.2 2.636	.05	.02	6
831.80	81	3.2	.7 36.5 1.961	1		121.4 234.3	44.1	71.7 GR		100.0		7.5 2.715	.05	.02	4 78
831.95	82	3.4	1.2 36.4 1.966	-1.5		118.8 182.0	46.3	72.3 GR		100.0		7.2 2.715	.05	.02	4 78
832.10	79	3.4	1.1 38.9 2.009	-2.1	.0		45.2	68.3 GR	2.595	99.6	98.2	11.7 2.685	.05	.02	6
832.26	76	3.4	1.1 41.5 2.052	-2.7	.0	96.3 145.4	44.0	64.3 GR	2.748	99.3	96.3	12.7 2.742	.05	.02	
832.41	76	4.0	1.4 41.6 2.098	-2.7		98.9 141.5	42.5	65.0 GR	2.650	99.8	98.9	10.3 2.709	.05	.02	4 78
832.56	77	4.5	1.8 41.7 2.143	-2.6		93.8 127.2	41.0	65.6 GR	2.650	98.7	93.8	10:0 2.709	.05	.02	4 78
832.71	78	4.2	1.3 40.9 2.101	-2.4		101.3 159.3	37.2	67.8 GR	2.650	100.0	100.0	9.0 2.711	.05	.02	4 78
832.87	77	4.1	1.5 41.2 2.081	-2.2		100.0 140.2	38.4	66.3 GR	2.650	100.0	100.0	9.7 2.710	.05	.02	4 78
833.02	76	4.0	1.8 41.6 2.061	-2.1		98.5 125.3	39.7	64.8 GR	2.650	99.7	98.5	10.3 2.709	.05	.02	4 78
833.17	77	3.9	1.6 40.8 1.985	-1.7		99.9 136.2	41.0	65.1 GR	2.650	100.0	99.9	10.2 2.709	.05	.02	4 78
833.32	77	3.9	1.3 40.0 1.908	-1.2		101.1 149.9	42.3	65.3 GR	2.650	100.0	100.0	10.1 2.709	.05	.02	4 78
833.48	76	3.7	.6 39.2 1.850	-1.1	.0	75.6 152.6	41.2	64.7 GR	2.370	94.6	75.6	17.5 2.629	.05	.02	6 8
833.63	74	3.7	.8 39.5 1.878	-1.4	.0	72.7 128.8	40.0	61.9 GR	2.373	93.8	72.7	18.9 2.630	.05	.02	6 8
833.78	72	3.8	1.0 39.7 1.905	-1.7		93.3 154.3	38.8	59.2 GR	2.650	98.6	93.3	12.9 2.704	.05	.02	4 78
833.93	75	3.6	.6 37.5 1.946	7		100.0 216.3	39.7	62.5 GR		100.0		11.4 2.707	.05	.02	4 78
834.09	75	3.9	.8 37.7 1.968	6	.0		39.1	62.3 GR	2.521	95.8	80.7	15.5 2.651	.05	.02	6
834.24	74	4.2	1.0 37.9 1.990	4	. 0	80.0 137.7	38.4	62.1 GR	2.564	95.6	80.0	14.8 2.666	.05	.02	6
834.39	76	4.0	.8 37.5 1.939	6	.0	77.5 143.6	38.7	63.8 GR	2.450	95.0	77.5	16.0 2.631	.05	.02	6
834.54	77	3.9	.6 37.1 1.888	7	.0	75.0 154.9	39.1	65.5 GR	2.297	94.4	75.0	17.1 2.635	.05	.02	6 8
834.69	82	3.8	.5 36.9 1.832	1		114.2 288.6	40.5	73.1 GR		100.0		6.9 2.716	.05	.02	4 78
834.85	82	3.8	.5 37.8 1.903	.2		113.8 291.3	40.0	72.6 GR		100.0		7.1 2.716	.05	.02	4 78
835.00	81	3.7	.4 38.8 1.974	. 4		113.4 294.0	39.6	72.1 GR	2.650			7.3 2.715	.05	.02	4 78
835.15	83	3.7	.5 40.7 1.968	.6		117.2 279.0	41.1	74.6 GR	2.650			6.4 2.718 5.4 2.720	.05	.02	4 78 4 78
835.30	85	3.8	.6 42.7 1.962	.8		120.9 268.7	42.6 39.0	77.1 GR	2.650 2.650			7.2 2.715	.05 .05	.02 .02	4 78
835.46	82	4.0	.4 42.0 1.938 .8 40.1 1.985	1 7		110.2 319.1 102.8 202.7	38.5	72.2 GR 69.4 GR		100.0		8.4 2.713	.05	.02	4 78
835.61 835.76	80 78	4.2 4.4	1.3 38.2 2.031	-1.4		96.2 153.3	38.1	66.5 GR	2.650	99.2	96.2	9.6 2.710	.05	.02	4 78
835.76	78	4.4	1.4 39.2 2.031	-1.4		94.0 151.1	38.9	66.8 GR	2.650	98.8	94.0	9.5 2.711	.05	.02	4 78
836.07	78	4.9	1.4 40.2 2.115	-1.9		92.0 148.9	39.7	67.1 GR	2.650	98.4	92.0	9.4 2.711	.05	.02	4 78
836.22	74	6.3	4.1 38.5 2.234	-2.7		74.4 77.9	35.7	61.0 GR	2.650	77.9	74.4	12.1 2.705	.05	.02	4 78
836.37	74	6.3	3.8 35.6 2.207	-2.6		74.1 80.5	35.8	60.9 GR	2.650	80.5	74.1	12.1 2.705	.05	.02	4 78
836.52	73	6.4	3.5 32.7 2.179	-2.5		73.4 83.4	36.0	60.8 GR	2.650	83.4	73.4	12.2 2.705	.05	.02	4 78
836.68	73	4.8	.9 31.9 2.021	-2.3	.0	84.3 160.5	33.6	60.3 GR	2.501	96.6	84.3	12.4 2.631	.05	.02	6
836.83	76	4.8	1.0 33.7 2.001	-2.4	.0	83.3 152.3	35.0	64.4 GR	2.481	96.4	83.3	12.0 2.635	.05	.02	6
836.98	79	4.8	1.1 35.4 1.982	-2.5	.0	82.6 145.1	36.4	68.4 GR	2.453	96.2	82.6	11.7 2.638	.05	.02	6
837.13	79	5.1	1.9 36.5 2.034	-2.8	.0	88.1 125.7	36.0	69.1 GR	2.576	97.5	88.1	9.6 2.678	.05	.02	6
837.29	80	5.0	2.6 37.6 2.086	-3.1	.0	97.9 119.2	35.6	69.8 GR	2.684	99.6	97.9	7.6 2.718	.05	.02	-
837.44	77	4.6	1.6 37.3 2.047	-2.4	.0	89.2 129.0	37.9	65.3 GR	2.627	97.7	89.2	11.0 2.691	.05	.02	
837.59	77	4.5	1.3 37.8 2.045	-2.1	.0	89.9 141.1	37.0	65.9 GR	2.635	97.9	89.9	10.9 2.695	.05	.02	
837.74	78	4.4	1.1 38.3 2.043	-1.7	.0		36.1	66.5 GR	2.643	98.0	90.2	10.9 2.699	.05	.02	
837.90	76	4.6	1.3 37.9 2.097	-1.8		91.3 147.7	35.9	64.3 GR	2.650	98.2	91.3	10.6 2.708	.05	.02	4 78
838.05	74	4.8	1.5 37.5 2.152	-1.8			35.7	62.0 GR	2.650			11.6 2.706	.05	.02	4 78

X (X) = - ()

838.20	76	4.2	1.4 36.6 2.182	-1.3	96.5 145.4	38.1 64.7 GR	2.650 99.3 96.5	10.4 2.709	. 05	.02	4 78
838.35	78	3.8	1.0 38.7 2.035	-1.1	104.5 171.7	41.5 66.5 GR	2.650 100.0 100.0	9.6 2.710	.05	.02	4 78
838.50	79	3.4	.7 40.9 1.889	8	.0 83.0 149.5	44.9 68.4 GR	2.358 96.4 83.0	15.7 2.631	.05	.02	6 8
838.66	78	3.2	.6 42.7 1.788	-1.2	.0 83.3 163.6	47.4 66.6 GR	1.839 96.4 83.3	16.6 2.617	.05	.02	6 8
838.81	76	3.0	.4 44.5 1.686	-1.7	.0 83.8 185.7	50.0 64.7 GR	1.207 96.5 83.8	17.5 2.631	.05	.02	6 8
838.96	80	3.0	.6 47.9 1.731	-1.7	.0 123.8 243.8	51.9 70.6 GR	2.650 100.0 100.0	7.9 2.627	.05	.02	8
839.11	80	3.2	.8 49.6 1.823	-1.7	.0 120.2 217.4	53.3 70.3 GR	2.650 100.0 100.0	8.0 2.676	.05	.02	8
839.27	80	3.3	.9 51.4 1.914	-1.8	.0 116.4 197.5	54.7 70.0 GR	2.650 100.0 100.0	8.1 2.772	.05	.02	8
839.42	77	3.2	.8 47.3 1.874	-2.1	.0 82.9 136.8	48.1 66.2 GR	2.546 96.3 82.9	16.7 2.685	.05	.02	68
839.57	75	3.1	.7 43.1 1.833	-2.3	.0 80.4 136.1	41.5 62.5 GR	2.321 95.7 80.4	18.6 2.635	.05	.02	6 8

Complex Lithology Results Zone No. 1 BROADBILL-1 28-01-98 AMITY OIL NL FLAGS PHIE RHOMA POR-M HC-M SWU SXOU PHIS VCL FVCL RHOMAU SXO SW RXO PHIN RHOB DD SPI DEPTH M GR RT6 8 16.2 2.615 .05 .02 839.72 78 3.0 .8 44.8 1.784 -2.487.4 144.1 44.2 67.3 GR 1.774 97.3 87.4 .05 .02 6 8 45.6 15.5 2.639 -2.2 .0 90.0 136.7 68.7 GR 2.197 97.9 90.0 839.88 79 2.9 .9 44.6 1.846 .05 .02 8 .0 125.3 186.4 46.9 70.1 GR 2.650 100.0 100.0 8.1 2.678 1.0 44.4 1.909 -2.0 840.03 80 2.9 8 .0 128.8 236.7 44.9 72.4 GR 2.650 100.0 100.0 7.2 2.630 .05 .02 .7 38.8 1.887 -1.6840.18 82 2.9 2.650 100.0 100.0 .0 125.7 218.6 44.3 72.9 GR 7.0 2.621 .05 .02 840.33 .8 38.9 1.844 -2.0 82 3.1 8 .0 122.5 204.3 43.8 73.3 GR 6.9 2.629 .05 .02 2.650 100.0 100.0 .9 38.9 1.801 -2.4840.49 82 3.3 2.650 100.0 100.0 6.7 2.627 .05 .02 8 .0 121.1 181.4 42.6 73.6 GR 840.64 83 3.4 1.2 39.4 1.818 -2.3 8 6.6 2.624 .05 .02 .0 117.9 165.1 41.5 74.0 GR 2.650 100.0 100.0 840.79 83 3.6 1.5 39.9 1.834 -2.3.0 78.7 91.8 44.1 67.9 GR .05 .02 6 2.479 91.8 78.7 14.8 2.654 840.94 79 4.1 2.1 39.7 1.943 -2.2 .05 .02 6 75.2 17.0 2.656 42.9 65.0 GR 2.500 94.5 841.10 76 3.9 1.5 40.8 1.929 -2.2 .0 75.2 101.0 75.2 18.8 2.658 .05 .02 6 8 .9 41.9 1.916 .0 75.2 123.9 41.6 62.1 GR 2.519 94.4 841.25 74 3.5 -2.1 6 8 1.7 42.1 1.871 -1.6 .0 72.9 90.6 39.5 63.9 GR 2.399 90.6 72.9 17.9 2.631 .05 .02 841.40 76 3.9 .02 6 8 .0 76.0 .05 75.9 37.3 65.7 GR 2.161 76.0 76.0 17.0 2.622 841.55 77 3.8 2.6 42.3 1.826 ~1.0 2.650 100.0 100.0 .02 4 78 35.2 72.1 GR 7.3 2.715 .05 110.8 99.5 841.71 81 3.9 3.8 44.6 1.797 -.1 3.6 44.7 1.862 .0 70.9 63.7 27.9 64.7 S 2.452 70.9 70.9 17.5 2.651 .05 .02 6 8 -.9 841.86 80 4.2 .05 .02 57.4 24.7 2.693 842.01 79 3.3 44.8 1.927 -1.6 4.2 57.4 53.4 20.5 50.0 S 2.649 57.4 4.5 66.0 18.9 2.763 .05 .02 20.7 50.2 S 2.787 68.9 66.0 68.9 842.16 77 5.1 3.1 42.5 2.062 -2.3.0 74.2 14.5 2.842 .05 .02 5 .0 74.2 87.7 20.8 50.5 S 2.955 87.7 2.8 40.1 2.196 -2.9842.31 74 5.8 .05 .02 5 .5 39.4 2.242 -2.8 .0 85.5 225.6 21.4 51.7 S 3.024 96.9 85.5 12.8 2.870 842.47 73 5.1 5 78.0 14.1 2.898 .05 .02 20.7 3.073 95.1 842.62 72 5.5 .5 41.0 2.249 -2.8 .0 78.0 206.8 50.3 S 5 3.119 93.5 71.7 15.3 2.926 .05 .02 -2.8 .0 71.7 190.9 19.9 48.8 S .6 42.7 2.257 842.77 72 6.0 .02 -2.7 2.8 70.4 96.1 13.5 35.9 S 2.775 93.2 70.4 20.8 2.761 .05 842.92 61 1.6 37.9 2.136 4.7 2.734 60.5 24.8 2.736 .05 .02 843.08 53 34.1 39.1 2.083 -2.2 8.5 60.5 17.9 12.5 31.2 GR 60.5 5.0 .02 68.6 40.4 2.031 -1.8 17.6 51.8 10.3 11.5 18.8 GR 2.706 51.8 51.8 32.3 2.711 .05 843.23 44 48.0 29.1 2.781 .09 .05 \$ -2.5 20.848.0 11.8 2.9 12.3 GR 2.787 48.0 68.6 36.6 2.179 843.38 39 7.4 .13 .07 Ś 68.6 32.9 2.324 -3.3 27.442.6 12.5 .0 .0 S 2.853 42.6 42.6 29.0 2.853 843.53 35 10.8 36.1 5.4 GR 2.885 81.7 81.7 11.3 2.878 .13 .07 55.0 15.7 2.628 -3.6 3.9 81.7 . 4 843.69 34 18.9 2.901 78.5 78.5 9.7 2.886 .13 .07 5 24.6 27.3 15.6 2.638 .0 78.5 57.2 12.5 9.1 GR -3.6843.84 37 1.0 15.6 2.648 .0 96.3 336.9 24.7 12.9 GR 2.918 99.2 96.3 8.1 2.894 .13 .07 843.99 40 19.7 -3.6 5 .0 95.9 239.6 99.2 95.9 7.1 2.919 .13 .07 23.4 17.6 GR 2.959 844.14 43 20.0 2.1 16.9 2.653 -3.5 5 .0 96.3 198.6 22.2 22.3 GR 3.004 99.2 96.3 6.2 2.944 .13 .07 -3.5844.30 46 19.9 3.2 18.2 2.658 .0 100.0 100.0 22.9 41.4 GR 2.853 100.0 100.0 .0 2.786 .13 .07 2.1 17.2 2.503 -3.3 844.45 60 9.3 .3 2.677 .13 .07 6 .0 169.9 330.0 26.2 52.6 N 2.587 100.0 100.0 844.60 70 6.5 1.7 21.5 2.277 -3.0.07 2.650 99.6 98.1 11.3 2.706 .13 4 7 98.1 143.2 29.5 61.7 N 844.75 79 3.8 1.3 25.8 2.048 -2.72.650 100.0 100.0 9.4 2.687 .13 .07 4 7 132.9 191.4 15.8 40.6 S 844.91 83 1.3 34.5 1.968 -1.73.7 7 1.9 2.662 .13 .07 4 1.2 43.3 1.887 -.7 577.4 863.7 2.2 13.0 S 2.650 100.0 100.0 845.36 87 3.6 7 2.650 100.0 100.0 10.3 2.703 .13 .07 4 .0 110.1 161.9 24.6 58.1 S 845.21 84 3.6 1.2 42.6 1.966 .13 4 7 2.650 100.0 100.0 10.1 2.705 .07 111.4 181.1 26.1 61.1 S .9 45.3 1.946 -.1 845.36 87 3.4 7 113.7 211.5 27.6 64.2 S 2.650 100.0 100.0 9.9 2.708 .13 .07 4 -.2 .7 48.1 1.926 845.52 90 3.2 7.9 2.702 2.650 100.0 100.0 .13 .07 8 .8 45.3 1.935 -.3 .0 120.8 214.8 30.8 70.6 S 845.67 93 3.2 3 77.1 S 2.650 100.0 100.0 10.2 2.680 .13 .07 34.0 845.82 96 3.2 .9 42.5 1.944 -.5 .0 2.650 100.0 100.0 2.0 2.736 .07 1 4 95.1 N .13 1.0 41.7 2.063 45.6 3.6 -.1 845.97 100 .07 78 93.8 GR 2.650 100.0 100.0 .8 2.735 .13 4 1.1 43.2 2.063 -.1 141.0 258.5 47.0 846.12 97 3.8 1.6 2.732 78 2.650 100.0 100.0 .13 .07 4 1,2 44.7 2.062 -.1 134.6 240.0 48.4 90.0 GR 846.28 94 4.0

.0 116.6 200.1 48.2 88.9 GR

.0 133.8 252.4 46.5 93.0 GR

846.43 93

846.58 96

5.2

4.2

1.7 50.2 2.070

1.1 47.1 2.083

-.5

-.4

1.8 2.879

.9 2.843

2.650 100.0 100.0

2.650 100.0 100.0

.13

.13

.07

.07

8

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						- 1										_
846.73	99	3.8	.6 43.9	2.096	4	.0		44.8	97.1 GR	2.650	100.0 100.0	1.2 2.809	.13	7 1		1
846.89	99	3.9	.7 44.6	2.057	6	.0		45.7	96.6 GR	2.650	100.0 100.0	1.4 2.788	.13	.07 1		
847.04	99	4.0	.7 45.2	2.018	7	.0		46.6	96.1 GR	2.650	100.0 100.0	1.7 2.767	.13	.07 1		
847.19	94	4.4	1.1 51.4	1.995	8	.0		36.4	82.0 S	2.650	100.0 100.0	8.4 2.838	.13	.07	3	
847.34	93	5.7	1.9 50.2	2.046	-1.0	.0		34.4	77.8 S	2.650	100.0 100.0	9.8 2.860	.13	.07	3	
847.50	93	5.7	2.7 48.9	2.097	-1.2	.0	93.5 121.4	32.3	73.7 S	2.650	98.7 93.5	6.7 2.880	.13	.07		8
847.65	95	5.9	2.6 49.5	2.054	-1.3	.0		33.6	76.2 S	2.650	100.0 100.0			.07	3	
847.80	97	6.0	2.5 50.0	2.012	-1.3	.0		34.8	78.8 S	2.650	100.0 100.0		.13	.07	3	
847.95	102	5.4	2.8 42.9	2.039	8	.0		48.7	97.7 N		100.0 100.0			.07 1		
848.11	103	5.4	2.2 40.9	2.097	8	.0		46.4	93.4 N	2.650	100.0 100.0	2.5 2.770	.13	.07	2	

Zone No. 1		ADBILL-1 TY OIL NL					mplex -01-98		ogy Resul	ts							·
DEPTH M GR	RT	RXO PHIN	RHOB	DD	SPI	SWU	SXOU	PHIS	VCL FVCL	RHOMAU	SXO	SW	PHIE RHOMA	POR-M	HC-M	FLA	GS
848.26 103 848.41 103 848.56 102	5.4 5.4 4.4	1.6 38.8 3 1.4 41.9 3 1.2 45.0 3	2.099	8 7 7	.0			44.2 44.2 44.2	89.2 N 95.7 N 97.7 S	2.650 2.650	100.0 100.0 100.0	100.0 100.0	3.9 2.791 1.7 2.785 1.0 2.783	.13 .13	.07	1	
848.72 104 848.87 103 849.02 101	4.7 4.7 4.8	1.2 48.2 1.2 48.2 1.2 48.3	1.996	3 2 2	.0			44.8 44.7 44.6	98.8 S 98.6 S 98.4 S	2.650 2.650	100.0 100.0	100.0	.6 2.759 .6 2.739 .7 2.739	.13 .13	.07	L 4	
849.17 102 849.33 104 849.48 94	4.7 4.6 5.6	1.1 47.2 1.1 46.1 1.3 45.9	2.126 2.099	2 2 2				41.5 38.4 38.0 36.9	92.1 S 85.9 S 85.2 S 82.9 S	2.650 2.650	100.0 100.0 100.0	100.0	3.3 2.733 5.7 2.728 6.0 2.727 7.1 2.725	.13 .13 .13	.07 .07 .07	34 34 34 34	
849.63 91 849.78 89 849.93 92	6.9 9.4 10.1	1.8 47.0 2.2 48.1 2.5 48.7	2.074	1 .0 .0		67.6	118.6	35.7 30.7	80.6 S 70.5 S		100.0		8.3 2.723 7.9 2.714	.13	.07	34	78

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BROADBILL-1

AMITY OIL NL

Complex Lithology Results 28-01-98

Zone No. 1

Hydrocarbon Volume Report

Formation Name		
FROM	M	779.983
TO	M	849.935
INTERVAL	M	69.952
PHIE Cut off		.050
SW Cut Off		.500
Vclay Cut Off		.300
Net Pay	M	.000
Average PHIE	용	.000
Average SW	9	.000
Average Vclay	96	.000
Integrated PHI	M	.000
Sum PHT* (1-SW)	М	.000

Zone No. 2 BROADBILL-1 Complex Lithology Results AMITY OIL NL 28-01-98

DEPTH M	GR	RT	RXO PHIN	RHOB	DD	SPI	swu	SXOU	PHIS	VCL FVCL	RHOMAU	SXO	SW	PHIE RHOMA	POR-M	HC-M	FLA	.GS
850.09	94	10.3	2.5 46.5 2	.177	3.7	2	225.0	279.4	32.8	79.9 GR	2.650	100.0	100.0	3.7 2.794	.00	.00	4	78
850.24	96	10.5	2.5 44.2 2		3.6			299.7	34.8	81.8 GR	2.650	100.0	100.0	3.2 2.798	.00	.00	4	78
850.39	97	8.4	1.9 47.3 1		3.7			355.4	37.6	83.2 GR	2.650	100.0	100.0	2.8 2.800	.00	.00	4	78
850.54	98	7.8	1.4 50.3 1		3.8			437.8	40.4	84.6 GR		100.0		2.5 2.803	.00	.00	4	78
850.70	98	11.3	3.0 57.6 1		4.2	2	217.4	289.4	43.0	83.9 GR	2.650	100.0	100.0	2.6 2.802	.00	.00	4	78
850.85	98	12.6	3.3 61.5 1		3.9	2	206.1	274.8	41.9	83.6 GR	2.650	100.0	100.0	2.7 2.801	.00	.00	4	78
851.00	97	13.8	3.6 65.3 1		3.7	-	196.4	261.6	40.8	83.3 GR	2.650	100.0	100.0	2.8 2.801	.00	.00	4	78
851.15	95	11.1	2.1 69.0 1		3.8	2	217.6	315.8	43.3	81.0 GR		100.0		3.4 2.796	.00	.00	4	78
851.31	93	9.9	.7 72.6 1		3.8	2	228.3	511.2	45.9	78.7 GR	2.650	100.0	100.0	4.0 2.792	.00	.00	4	78
851.46	91	9.7	.3 80.8 1		4.7	2	228.7	711.4	46.8	77.2 GR		100.0		4.5 2.789	.00	.00	4	78
851.61	89	10.0	.4 79.4 1		5.1			617.9	44.6	74.8 GR	2.650	100.0	100.0	5.2 2.785	.00	.00	4	78
851.76	87	10.2	.4 78.0 1		5.4	2	217.9	539.7	42.4	72.3 GR	2.650	100.0	100.0	6.0 2.781	.00	.00	4	78
851.92	82	10.2	.4 81.8 1		5.5	2	212.4	456.7	48.2	66.9 GR	2.650	100.0	100.0	7.8 2.771	.00	.00	4	78
852.07	77	10.1	.4 85.7 1	.404	5.5	2	206.3	390.3	54.0	61.5 GR	2.650	100.0	100.0	9.8 2.761	.00	.00	4	78
852.22	72	9.9	.4 95.1 1	.299	6.5	2	201.7	359.8	66.2	56.5 GR	2.650	100.0	100.0	11.8 2.752	.00	.00	4	78
852.37	70	9.9	.4 99.4 1	.271	6.4		199.1	344.7	64.4	54.9 GR	2.650	100.0	100.0	12.4 2.749	.00	.00	4	78
852.53	69	9.9	.4 1	.243	6.3	:	196.6	330.5	62.7	53.3 GR		100.0		13.1 2.746	.00	.00	4	78
852.68	68	10.0	.3 90.4 1	.233	6.6		194.8	343.7	62.1	52.5 GR		100.0		13.4 2.745	.00	.00	4	78
852.83	66	10.3	.3 86.5 1		6.9	-	189.0	323.8	62.2	50.6 GR	2.650	100.0	100.0	14.2 2.741	.00	.00	4	78
852.98	65	10.7	.3 82.7 1	.256	7.2			305.3	62.4	48.7 GR	2.650	100.0	100.0	15.1 2.738	.00	.00	4	78
853.14	66	10.6	.3 83.6 1	.258	7.8		185.2	320.4	63.0	49.7 GR	2.650	100.0	100.0	14.6 2.740	.00	.00	4	78
853.29	66	10.5	.3 84.5 1	.260	8.3	:	187.2	336.6	63.6	50.6 GR		100.0		14.2 2.741	.00	.00	4	78
853.44	70	10.7	.4 88.1 1	.244	9.1		190.5	323.5	67.2	54.5 GR		100.0		12.6 2.748	.00	.00	4	78
853.59	68	10.5	.3 83.9 1	.237	9.7		189.5	345.9	69.5	52.4 GR		100.0		13.5 2.745	.00	.00	4	78
853.74	66	10.3	.2 79.6 1	.229 1	10.2			383.4	71.8	50.2 GR		100.0		14.4 2.741	.00	.00	4	78
853.90	65	10.2	.2 87.6 1		L1.8			390.0	73.7	49.2 GR		100.0		14.8 2.739	.00	.00	4	78
854.05	64	10.2	.2 95.6 1		L3.4			395.8	75.7	48.0 GR		100.0		15.4 2.737	.00	.00	4	78
854.20	61	10.3	.2 63.5 1		14.1			397.2	75.5	44.8 GR		100.0		16.8 2.731	.00	.00	4	78
854.35	60	10.3	.2 67.7 1		14.1			393.8	77.1	43.9 GR		100.0		17.2 2.729	.00	.00	4	78
854.51	59	10.4	.2 72.0 1		14.1			382.5	78.6	43.1 GR		100.0		17.6 2.728	.00	.00	4 4	78 78
854.66	56	10.8			L4.1			357.2	79.1	40.0 GR		100.0		19.1 2.722	.00	.00	4	78 78
854.81	53	11.2			L4.1			334.3	79.6	36.9 GR		100.0		20.6 2.717 22.6 2.709	.00	.00	4	78
854.96	50	11.4			14.1			308.3	81.3	32.7 GR		100.0		22.7 2.709	.00	.00	4	78
855.12	49	11.6			13.9			306.8	79.9	32.5 GR 32.3 GR		100.0		22.9 2.708	.00	.00	4	78
855.27	49	11.9			13.8			305.4	78.6 79.6	32.3 GR		100.0		22.8 2.708	.00	.00	4	78
855.42	49	12.0			L3.9			305.9	80.6	32.3 GR		100.0		22.8 2.708	.00	.00	4	78
855.57	49	12.1	.2 93.0 1		L4.1				78.9	30.8 GR		100.0		23.6 2.706	.00	.00	4	78
855.73	48	12.3	.2 65.8 1		L4.1			296.7	78.8	27.8 GR		100.0		25.2 2.700	.00	.00	4	78
855.88	45	12.3	.2 70.5 1		14.1			279.7		21.6 GR 24.7 GR		100.0		26.8 2.695	.00	.00	4	78
856.03	42	12.4	.2 75.3 1		L4.1 L4.1			264.1 251.7	78.7 78.7	24.7 GR 22.0 GR		100.0		28.3 2.690	.00	.00	4	78
856.18	39	12.9	.2 72.7 1						79.4	22.0 GR 21.7 GR		100.0		28.4 2.689	.00	.00	4	78
856.34	39	12.9	.2 80.0 1		L4.1			250.5 249.4	80.0	21.7 GR 21.4 GR		100.0		28.6 2.689	.00	.00	4	78
856.49	39	12.9	.2 87.2 1		14.1			249.4	80.2	19.7 GR		100.0		29.5 2.686	.00	.00	4	78
856.64	37 36	12.9	.2 98.2 1		L4.1 L4.1			234.3	80.4	19.7 GR 17.9 GR		100.0		30.5 2.682	.00	.00	4	78
856.79	36	13.0						234.3	80.4	17.9 GR 18.6 GR		100.0		30.1 2.684	.00	.00	4	78
856.95	36	13.4	.2 89.3 1	.10/]	L4.1		121.I	231.2	00.4	10.0 GK	2.000	100.0	100.0	JU. 1 2.004	.00	• 00	-	, 5

857.10	38	13.4	.2 81.1 1.188	14.1	129.2 244.1	80.4	20.2 GR	2.650 100.0 100.0	29.2 2.687	.00	0	4	78	- (
857.25	39	13.3	.2 72.9 1.190	14.1	131.4 251.3	80.4	21.9 GR	2.650 100.0 100.0	28.3 2.690	.00	.00	4	78	
857.40	39	13.3	.2 69.6 1.187	14.1	131.6 251.7	80.3	21.9 GR	2.650 100.0 100.0	28.3 2.690	.00	.00	4	78	
857.55	40	13.3	.2 66.2 1.184	14.1	131.8 252.1	80.3	22.0 GR	2.650 100.0 100.0	28.2 2.690	.00	.00	4	78	
857.71	41	13.4	.2 86.5 1.180	14.1	132.7 257.3	80.3	23.1 GR	2.650 100.0 100.0	27.6 2.692	.00	.00	4	78	
857.86	40	13.5	.2 1.181	14.1	131.1 254.0	80.7	22.4 GR	2.650 100.0 100.0	28.0 2.691	.00	.00	4	78	
858.01	39	13.7	.2 1.182	14.1	129.5 250.7	81.1	21.7 GR	2.650 100.0 100.0	28.4 2.689	.00	.00	4	78	
858.16	38	14.0	.2 1.183	14.1	126.5 244.6	80.7	20.4 GR	2.650 100.0 100.0	29.1 2.687	.00	.00	4	78	
858.32	37	14.3	.2 99.5 1.185	14.1	123.7 238.8	80.3	19.0 GR	2.650 100.0 100.0	29.9 2.684	.00	.00	4	78	
858.47	36	14.7	.2 70.8 1.189	14.1	120.5 234.4	80.7	18.0 GR	2.650 100.0 100.0	30.5 2.682	.00	.00	4	78	

Zone No. 2 BROADBILL-1 Complex Lithology Results AMITY OIL NL 28-01-98 DEPTH M GR RT RXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS 858.62 35 14.8 .2 69.1 1.187 14.1 119.7 232.7 80.6 17.5 GR 2.650 100.0 100.0 30.7 2.682 .00 .00 4 78 858.77 35 14.9 .2 67.4 1.186 14.1 118.9 231.1 80.6 17.1 GR 2.650 100.0 100.0 30.9 2.681 .00 .00 4 78 858.93 36 80.6 18.3 GR 4 78 15.0 .2 85.4 1.176 14.1 119.8 236.0 2.650 100.0 100.0 30.3 2.683 .00 .00 859.08 37 14.8 .2 79.6 1.179 14.1 121.8 240.5 80.9 19.5 GR 2.650 100.0 100.0 4 78 29.6 2.685 .00 .00 859.23 38 123.8 245.1 81.3 20.6 GR 14.7 .2 73.8 1.182 14.1 2.650 100.0 100.0 29.0 2.687 .00 .00 4 78 859.38 39 81.0 21.3 GR 14.5 .2 88.5 1.185 14.1 125.3 247.8 2.650 100.0 100.0 28.6 2.688 .00 4 78 .00 859.54 39 14.3 . 2 1.189 14.1 126.7 250.5 80.7 21.9 GR 2.650 100.0 100.0 4 78 28.3 2.690 .00 .00 859.69 40 14.3 . 2 1.187 14.1 127.8 254.2 81.0 22.7 GR 2.650 100.0 100.0 27.8 2.691 .00 4 78 .00 859.04 39 .2 96.6 1.185 14.1 127.1 249.4 80.9 21.6 GR 2.650 100.0 100.0 78 14.2 28.4 2.689 .00 .00 4 859.99 38 126.5 244.7 80.9 20.5 GR 4 14.0 .2 69.6 1.183 14.1 2.650 100.0 100.0 .00 78 29.1 2.687 .00 860.15 38 13.9 .2 68.8 1.184 14.1 126.9 243.6 79.3 20.2 GR 2.650 100.0 100.0 29.2 2.686 .00 4 78 .00 860.30 37 13.7 .2 68.1 1.186 14.1 127.2 242.4 77.6 19.9 GR 2.650 100.0 100.0 29.4 2.686 .00 .00 4 78 860.45 38 12.8 132.2 244.2 76.9 20.4 GR .2 83.5 1.194 14.1 2.650 100.0 100.0 29.1 2.687 .00 .00 4 78 860.€0 37 12.5 .2 81.5 1.196 14.1 132.5 239.9 77.2 19.3 GR 2.650 100.0 100.0 29.7 2.685 .00 .00 4 78 860.76 36 12.2 .2 79.5 1.197 14.1 132.9 235.8 77.6 18.3 GR 2.650 100.0 100.0 30.3 2.683 .00 4 78 .00 .2 83.4 1.196 14.1 860.91 36 12.1 133.1 235.1 78.2 18.1 GR 2.650 100.0 100.0 30.4 2.683 .00 .00 4 78 861.06 36 12.1 .2 87.2 1.195 14.1 133.3 234.4 78.8 18.0 GR 2.650 100.0 100.0 30.5 2.682 4 78 .00 .00 861.21 36 12.0 .2 74.7 1.194 14.1 134.3 236.8 80.3 18.7 GR 2.650 100.0 100.0 30.1 2.684 .00 4 78 .00 861.36 37 133.2 237.3 12.3 .2 80.9 1.196 14.1 80.3 18.8 GR 2.650 100.0 100.0 30.0 2.684 .00 .00 4 78 861.52 37 12.5 .2 87.0 1.198 14.1 132.0 237.7 80.3 19.0 GR 2.650 100.0 100.0 29.9 2.684 .00 .00 4 78 861.67 36 12.4 .2 88.5 1.197 14.1 131.7 234.2 80.6 18.2 GR 2.650 100.0 100.0 30.4 2.683 78 .00 .00 4 861.82 35 12.3 .2 89.9 1.196 14.1 131.4 230.7 80.9 17.3 GR 2.650 100.0 100.0 30.8 2.681 .00 .00 4 78 861.97 39 12.0 .2 64.3 1.189 14.1 137.9 247.4 79.6 21.5 GR 2.650 100.0 100.0 28.5 2.689 .00 .00 4 78 80.4 21.4 GR 862.13 39 12.1 .2 64.3 1.185 14.1 137.5 246.8 2.650 100.0 100.0 28.6 2.689 .00 .00 4 78 862.28 39 12.1 137.1 246.2 81.2 21.4 GR .2 64.2 1.181 14.1 2.650 100.0 100.0 28.6 2.689 .00 .00 4 78 862.43 32 13.1 .2 88.6 1.194 11.4 123.2 215.8 80.3 13.9 GR 2.650 100.0 100.0 32.7 2.675 .00 .00 4 78 862.58 32 111.7 157.9 79.6 13.7 GR 15.8 .3 80.9 1.211 2.650 100.0 100.0 32.9 2.675 .00 .00 78 8.4 4 862.74 31 19.6 .4 73.4 1.227 99.6 128.5 79.0 12.9 GR 2.650 99.9 99.6 33.4 2.673 5.4 .00 4 78 862.89 Coal 863.04 Coal 863.19 Coal 863.35 Coal 863.50 Coal 863.65 Coal 863.80 Coal 863.96 Coal 864.11 27 19.2 .7 94.4 1.243 -.4 .0 90.2 86.8 66.7 3.7 DN 1.485 90.2 90.2 39.5 2.629 .00 .00 6 8 864.26 25 .0 97.2 88.5 66.6 1.539 97.2 97.2 40.2 2.622 16.2 .7 93.5 1.248 -.4 1.9 DN .00 .00 6 8 864.41 25 15.8 .6 98.9 1.242 -.7 .0 98.4 89.8 67.7 1.5 DN 1.532 98.4 98.4 40.4 2.627 .00 .00 6 8 864.57 25 15.3 .6 1.236 -1.0 .0 99.6 91.2 68.7 1.2 DN 1.525 99.6 99.6 40.5 2.632 .00 .00 6 8 864.72 21 14.8 1.234 -1.5 .0 102.3 96.6 67.4 2.9 GR 1.481 100.0 100.0 39.8 2.627 .00 .00 6 8 . 6 864.87 21 1.225 .0 106.4 101.2 2.6 GR 1.466 100.0 100.0 40.0 2.626 13.6 -1.567.5 .00 .00 6 8 . 5 865.02 21 12.5 1.217 -1.5 .0 111.0 106.5 67.6 2.3 GR 1.452 100.0 100.0 .00 6 8 .5 40.1 2.624 .00 865.17 21 11.9 .5 84.3 1.215 -1.4.0 114.1 105.4 67.7 2.6 GR 1.439 100.0 100.0 40.0 2.619 .00 .00 6 8 1.8 GR 1.472 100.0 100.0 40.3 2.634 865.33 20 12.1 .5 85.9 1.221 -1.4 .0 112.5 99.9 67.8 .00 .00 6 8 865.48 20 .0 111.0 95.0 67.9 1.1 GR 1.505 100.0 100.0 40.6 2.629 12.3 .6 87.4 1.227 -1.4 .00 .00 6 8

865.63	20	13.2	.8 98.2 1.220	-1.5	.0 107.5 7	77.8 68	.2 1.2 GR	1.484 100.0 100.0	40.5 2.632	.00	00	8
865.78	20	14.3	1.1 1.213	-1.7	.0 103.1	67.3 68	.6 1.3 GR	1.463 100.0 100.0	40.4 2.634	.00	.00	6 8
865.94	20	12.5	.6 99.1 1.214	-2.0	.0 110.1 9	91.7 68	.3 1.1 GR	1.472 100.0 100.0	40.6 2.617	.00	.00	68
866.09	19	12.1	.5 94.3 1.221	-2.2	.0 111.5 9	95.9 68	.0 .0 GR	1.516 100.0 100.0	41.0 2.616	.00	.00	6 8
866.24	18	11.6	.5 89.4 1.229	-2.3	.0 113.8 10	02.0 67	.8 .0 GR	1.534 100.0 100.0	41.0 2.634	.00	.00	68
866.39	18	11.4	.4 87.6 1.229	-2.3	.0 114.9 11	L3.1 67	.7 .0 GR	1.534 100.0 100.0	41.0 2.634	.00	.00	6 8
866.55	19	11.2	.3 85.7 1.229	-2.3	.0 115.9 12	28.7 67	.5 .0 GR	1.534 100.0 100.0	41.0 2.634	.00	.00	6 8
866.70	22	11.4	.4 82.2 1.234	-2.3	.0 116.8 11	16.2 67	.7 3.2 GR	1.474 100.0 100.0	39.7 2.627	.00	.00	6 8
866.85	23	11.2	.4 80.7 1.234	-2.0	.0 116.0 10)5.1 67	.7 .0 DN	1.548 100.0 100.0	41.0 2.628	.00	.00	6 8
867.00	24	11.0	.5 79.2 1.235	-1.8	.0 116.8 9	98.8 67	.8 .0 DN	1.549 100.0 100.0	41.0 2.629	.00	.00	6 8

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Complex Lithology Results 28-01-98

Zone No. 2

BROADBILL-1

AMITY OIL NL

DEPTH M GR RТ RXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS 1.531 100.0 100.0 41.0 2.631 867.16 24 10.9 -1.7 .0 117.3 108.6 67.8 .0 DN .00 .00 6 8 .4 79.4 1.227 867.31 24 10.9 .3 79.5 1.220 -1.5.0 117.6 121.8 67.9 .O DN 1.512 100.0 100.0 41.0 2.632 .00 .00 6 8 1.472 100.0 100.0 41.0 2.632 867.46 25 10.9 .3 82.2 1.204 -1.7 .0 117.2 121.2 66.9 .0 DN .00 .00 6 8 1.453 100.0 100.0 41.0 2.633 867.61 23 11.8 .4 81.6 1.197 -2.2 .0 112.6 106.2 66.4 .0 DN .00 .00 6 8 .0 108.6 95.5 867.77 22 1.434 100.0 100.0 41.0 2.634 .00 12.7 .5 81.0 1.189 -2.6 65.8 .0 DN .00 6 8 1.443 100.0 100.0 41.0 2.623 .00 867.92 20 12.4 .4 83.9 1.192 -2.6 .0 110.2 109.6 65.8 .0 DN .00 6 8 1.452 100.0 100.0 41.0 2.632 868.07 19 12.0 .3 86.7 1.196 -2.6 .0 112.1 132.0 65.8 .0 GR .00 .00 6 8 1.517 100.0 100.0 41.0 2.617 868.22 18 10.7 .3 68.5 1.222 -2.7 .0 118.7 132.0 65.1 .0 DN .00 .00 6 8 1.528 100.0 100.0 41.0 2.628 868.38 20 11.0 .3 64.8 1.227 -2.8 .0 116.6 131.1 64.4 .0 DN .00 .00 6 8 868.53 .3 61.2 1.231 .0 114.7 130.3 63.7 .0 DN 1.539 100.0 100.0 41.0 2.619 .00 22 11.4 -2.9.00 6 8 868.68 23 15.4 .3 72.3 1.224 -3.0 16.0 98.8 121.9 25.0 .0 DN 1.522 99.8 98.8 41.0 2.622 .00 .00 6 8 -3.1 12.8 99.2 130.2 28.2 .0 DN 1.509 99.8 99.2 41.0 2.629 868.83 21 15.3 .3 73.7 1.219 .00 .00 6 8 1.497 99.9 99.6 41.0 2.617 868.98 20 15.1 -3.3 9.6 99.6 140.2 31.4 .0 DN .3 75.2 1.214 .00 .00 6 8 869.14 21 15.3 .2 76.1 1.221 -2.7 9.6 99.2 141.3 31.4 .0 DN 1.516 99.8 99.2 41.0 2.616 .00 .00 6 8 .2 77.0 1.229 132.5 194.0 31.5 2.8 GR 2.650 100.0 100.0 30.6 2.655 869.29 21 15.3 -2.0.00 .00 4 7 2.650 100.0 100.0 31.3 2.650 .4 61.0 1.283 130.7 155.9 31.3 .0 GR .00 869.44 18 15.7 -.9 .00 4 7 -.7 9.4 95.0 78.3 31.6 .0 DN 1.937 95.0 95.0 41.0 2.617 .00 869.59 16 16.6 .8 57.4 1.390 .00 6 8 -.6 9.1 93.1 62.6 869.75 15 17.3 1.3 53.9 1.497 31.9 .0 DN 2.204 93.1 93.1 41.0 2.624 .00 .00 6 8 -.5 10.1 97.0 62.3 30.9 .0 DN 2.606 97.0 97.0 41.0 2.626 869.90 16 16.0 1.3 49.4 1.733 .00 .00 6 8 2.724 100.0 100.0 41.0 2.724 870.05 17 1.3 45.0 1.968 -.4 8.4 101.2 62.0 29.9 .0 GR .00 .00 14.7 8 870.20 20 14.4 1.3 31.5 2.175 -.1 2.4 135.6 82.7 26.2 1.4 GR 2.707 100.0 100.0 31.2 2.708 .00 .00 2.698 100.0 100.0 29.8 2.700 .7 141.2 85.6 27.0 2.1 GR 870.36 21 14.4 1.3 29.7 2.187 .0 .00 .00 .0 147.3 88.7 27.7 2.9 GR 2.689 100.0 100.0 28.5 2.692 870.51 21 14.4 1.4 28.0 2.199 .1 .00 .00 .0 155.9 96.0 27.3 5.3 GR 2.686 100.0 100.0 27.5 2.691 .00 870.66 24 13.4 1.2 27.8 2.201 .00 7.7 GR 870.81 26 1.1 27.6 2.203 .0 165.3 104.3 26.9 2.683 100.0 100.0 26.4 2.690 .00 12.3 . 2 .00 .0 184.4 132.0 28.9 21.3 GR 2.664 100.0 100.0 21.6 2.689 870.97 39 10.9 1.0 27.8 2.197 .2 .00 .00 871.12 42 1.0 33.4 2.153 .1 .0 173.8 115.9 29.9 24.3 GR 2.690 100.0 100.0 24.2 2.714 .00 .00 9.6 871.27 45 .0 167.2 102.6 30.9 27.3 GR 2.724 100.0 100.0 26.8 2.754 8.3 1.1 39.0 2.108 .0 .00 .00 .0 153.4 93.0 33.4 29.2 GR 2.696 100.0 100.0 28.8 2.730 871.42 46 1.1 40.7 2.050 8.5 .00 .00 . 4 871.58 .0 152.2 92.6 35.9 31.0 GR 2.670 100.0 100.0 28.3 2.710 .00 48 8.6 1.1 42.4 1.996 .9 .00 8 2.656 100.0 100.0 25.6 2.706 871.73 54 8.4 .6 39.1 2.045 . 4 .0 159.9 144.2 37.1 37.1 GR .00 .00 2.701 100.0 100.0 22.5 2.756 871.88 .8 41.1 2.075 .0 159.0 133.0 36.1 44.0 GR 60 9.2 .5 .00 .00 .0 156.0 128.4 35.2 50.8 GR 2.779 100.0 100.0 19.9 2.805 872.03 67 10.2 1.1 43.2 2.103 .7 .00 .00 872.19 73 15.0 2.4 45.8 2.003 .0 132.3 96.8 34.7 57.1 GR 2.675 100.0 100.0 17.6 2.763 .00 . 6 .00 8 .0 134.8 103.2 37.5 50.8 GR 2.651 100.0 100.0 20.2 2.735 872.34 67 13.4 1.7 44.0 2.000 .3 .00 .00 8 164.2 163.3 40.3 44.7 GR 2.650 100.0 100.0 16.9 2.731 .00 872.49 61 12.5 1.0 42.2 1.999 . 1 .00 4 78 157.7 115.8 40.0 39.0 GR 872.64 55 12.4 1.5 37.5 2.047 . 2 2.650 100.0 100.0 19.5 2.720 .00 .00 78 4 872.79 50 12.1 2.0 32.8 2.096 . 2 152.5 88.2 39.7 33.3 GR 2.650 100.0 100.0 22.3 2.710 .00 .00 4 78 164.0 160.1 40.5 39.2 GR 2.650 100.0 100.0 19.4 2.721 872.95 56 11.5 .8 35.5 2.091 -.1 .00 .00 4 78 873.10 72 .0 123.6 80.8 41.6 19.2 DN 2.647 100.0 100.0 33.1 2.676 11.8 1.1 39.2 1.990 -.3 .00 .00 .00 873.25 88 .0 113.3 60.1 42.7 4.0 DN 2.642 100.0 100.0 39.4 2.649 12.2 1.5 42.9 1.888 -.6 .00 .0 115.5 60.8 42.7 7.1 DN 2.642 100.0 100.0 38.1 2.654 873.40 105 12.1 1.5 43.1 1.892 -1.1.00 .00 8 2.642 100.0 100.0 36.9 2.659 873.56 120 12.2 1.6 43.3 1.896 -1.5.0 116.6 61.5 42.6 10.1 DN .00 .00 8 .0 147.3 84.4 43.1 46.9 DN 2.652 100.0 100.0 19.8 2.719 873.71 110 12.2 2.7 37.6 2.088 -.9 .00 .00 873.86 95 11.8 1.9 34.6 2.122 -.7 .0 158.3 101.7 42.2 40.8 DN 2.655 100.0 100.0 19.7 2.708 .00 .00 .0 170.8 133.5 41.3 34.8 DN 2.657 100.0 100.0 19.6 2.700 .00 .00 874.01 79 11.41.1 31.7 2.155 -.5

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874.17	78	11.3	1.0 33.0 2.154	4	.0 174.0	156.1	39.9	42.6 DN	2.657 100.0 100.0	17.2 2.710	.00	0	
874.32	76	11.2	.9 34.3 2.152	3	.0 177.8	185.8	38.5	50.5 DN	2.657 100.0 100.0	14.8 2.727	.00	.00	
874.47	86	11.3	1.0 33.8 2.094	3	.0 147.7	109.6	38.7	25.2 DN	2.653 100.0 100.0	26.3 2.687	.00	.00	
874.62	90	10.9	1.0 34.0 1.862	2	1.8 117.7	71.1	39.2	.O DN	2.549 100.0 100.0	41.0 2.629	.00	.00	6 8
874.78	94	10.4	1.0 34.2 1.629	2	1.4 120.4	71.1	39.6	.O DN	2.353 100.0 100.0	41.0 2.633	.00	.00	6 8
874.93	105	10.5	1.0 39.3 1.442	1	2.7 119.4	71.6	38.3	.O DN	2.067 100.0 100.0	41.0 2.627	.00	.00	6 8
875.08	103	12.4	.9 44.0 1.457	1	1.0 110.2	72.3	40.0	.O DN	2.103 100.0 100.0	41.0 2.623	.00	.00	6 8
875.23	102	14.2	9 48.7 1.471	1	.0 102.9	73.0	41.7	.0 DN	2.139 100.0 100.0	41.0 2.619	.00	.00	6 8
875.39	91	14.6	1.6 43.0 1.526	1	.0 101.3	55.4	45.1	.O DN	2.276 100.0 100.0	41.0 2.616	.00	.00	6 8
875.54	79		2.3 37.3 1.580		.0 99.4	46.3	48.4	.0 DN	2.412 99.4 99.4	41.0 2.632	.00	.00	6 8

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28-01-98 AMITY OIL NL SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS SPI DEPTH M GR RT RXO PHIN RHOB DD .00 .00 6 8 2.542 100.0 100.0 41.0 2.622 2.4 33.1 1.864 .0 103.3 45.6 41.5 .O DN 875.69 53 14.1 -.3 2.625 100.0 100.0 41.0 2.625 .00 .00 8 .O DN 12.7 1.6 34.9 1.967 -.3 .0 108.7 55.0 41.4 875.84 44 31.1 2.698 .00 .00 41.3 17.2 GR 2.679 100.0 100.0 876.00 35 11.3 .9 36.6 2.071 -.4 .0 135.9 97.0 29.6 2.706 .00 .00 40.5 19.1 GR 2.687 100.0 100.0 10.9 .8 36.4 2.090 -.4 .0 142.5 105.7 876.15 37 28.1 2.717 .00 .00 2.695 100.0 100.0 .8 36.2 2.109 .0 149.6 115.7 39.7 21.0 GR 10.6 876.30 39 -.4 .0 154.6 117.1 37.3 19.3 GR 2.684 100.0 100.0 27.5 2.704 .00 .00 .8 34.1 2.122 876.45 37 10.6 -.3 2.705 100.0 100.0 .0 154.8 115.8 36.4 19.3 GR .00 .00 .8 35.4 2.135 -.3 27.3 2.727 876.60 37 10.7 .00 2.737 100.0 100.0 27.5 2.755 .00 .0 153.1 113.1 35.5 19.4 GR 876.76 37 10.8 .8 36.6 2.149 -.3 2.743 100.0 100.0 27.6 2.763 .00 .00 .0 149.3 109.6 36.6 22.4 GR .9 38.1 2.133 876.91 40 10.7 -.3 -.3 .0 145.8 106.4 37.8 25.4 GR 2.750 100.0 100.0 27.6 2.770 .00 .00 10.7 .9 39.7 2.117 877.06 43 2.724 100.0 100.0 27.3 2.756 .00 .00 .0 138.5 111.8 42.7 30.5 GR 877,21 48 11.2 .9 40.8 2.081 -.4 .00 2.712 100.0 100.0 24.7 2.753 .00 .9 39.4 2.100 42.7 34.0 GR 11.3 -.4 .0 144.8 117.7 877.37 51 2.703 100.0 100.0 22.2 2.749 .00 .00 .0 151.6 125.0 42.6 37.5 GR 11.5 1.0 38.0 2.118 -.5 877.52 54 2.674 100.0 100.0 19.4 2.731 .00 .00 1.0 36.7 2.118 -.5 .0 158.5 141.3 42.3 43.9 GR 877.67 60 11.4 .00 2.654 100.0 100.0 19.0 2.712 .00 .0 161.4 144.6 41.9 43.7 DN 877.82 66 11.3 1.0 35.4 2.117 -.5 .0 160.7 142.0 38.0 44.4 DN 2.654 100.0 100.0 19.1 2.714 .00 .00 1.0 35.8 2.112 877.98 85 11.2 .00 .0 156.5 127.3 38.0 42.2 DN 2.654 100.0 100.0 20.2 2.710 .00 1.1 35.8 2.105 878.13 93 11.4 -.4 .00 38.1 40.1 DN 2.653 100.0 100.0 21.3 2.707 .00 878.28 102 11.5 1.3 35.9 2.099 -.4 .0 152.5 115.1 2.653 100.0 100.0 25.7 2.692 .00 .00 39.3 29.2 DN .0 143.5 97.0 878.43 94 11.7 1.3 35.1 2.084 -.4 2.653 100.0 100.0 24.5 2.697 .00 .00 39.6 32.6 DN 1.4 35.6 2.085 -.3 .0 145.4 96.7 878.59 87 11.6 2.652 100.0 100.0 23.4 2.701 .00 .00 1.5 36.1 2.085 -.3 .0 147.4 96.9 39.9 36.1 DN 11.5 878.74 80 2.653 100.0 100.0 19.7 2.717 .00 .00 .0 152.4 104.7 40.7 45.9 DN 878.89 80 11.7 1.7 37.1 2.095 -.3 2.653 100.0 100.0 16.0 2.738 .00 .00 .0 158.6 116.9 41.4 55.7 DN 2.0 38.0 2.104 -.3 879.04 80 11.9 1.3 37.0 2.144 64.4 DN 2.656 100.0 100.0 10.8 2.757 .00 .00 -.3 .0 186.0 195.9 41.4 879.20 85 10.9 2.650 100.0 100.0 8 .0 219.2 319.8 42.4 77.3 GR 4.4 2.788 .00 .00 1.6 39.0 2.150 -.3 879.35 92 10.6 8 2.7 2.820 .00 .00 .0 228.4 369.2 43.4 83.9 GR 2.650 100.0 100.0 1.9 41.0 2.156 879.50 98 10.2 -.3 48.6 87.5 GR 2.650 100.0 100.0 1.8 2.910 .00 .00 .0 226.5 437.4 10.6 1.7 49.6 2.124 -.3 879.65 101 .0 224.0 516.2 53.8 91.2 GR 2.650 100.0 100.0 1.1 3.017 .00 .00 8 -.3 879.81 105 11.0 1.5 58.1 2.093 2.650 100.0 100.0 2.6 2.958 .00 .00 8 .0 202.4 324.2 54.3 84.1 GR 879.96 98 13.1 2.4 57.4 2.030 -.2 2.650 100.0 100.0 2.9 2.911 .00 .00 8 51.4 83.0 GR 880.11 97 13.3 1.7 54.1 2.036 -.2 .0 200.0 377.4 3.1 2.866 .00 .00 8 .0 199.2 487.9 48.4 81.9 GR 2.650 100.0 100.0 13.3 .9 50.8 2.042 -.2 880.26 96 3.0 2.838 .00 .00 8 2.650 100.0 100.0 .0 191.7 297.3 47.3 82.4 GR 880.41 96 14.4 2.6 46.9 2.080 -.1 2.9 2.815 .00 .00 8 2.650 100.0 100.0 .0 179.1 234.2 46.2 82.8 GR 16.6 4.3 43.1 2.117 -.1 880.57 97 2.650 100.0 100.0 2.5 2.853 .00 .00 8 -.1 .0 187.0 290.9 44.1 84.3 GR 15.3 3.1 41.7 2.185 880.72 98 .00 .00 8 2.650 100.0 100.0 2.2 2.862 3.1 43.1 2.173 .0 188.3 302.3 43.8 85.7 GR 15.2 -.1 880.87 99 8 2.650 100.0 100.0 1.9 2.870 .00 .00 .0 189.5 314.0 43.4 87.1 GR 881.02 101 15.1 3.2 44.5 2.161 -.1 2.650 100.0 100.0 2.1 2.878 .00 .00 8 .0 169.4 266.1 43.6 86.3 GR 881.18 100 18.9 4.2 47.5 2.121 . 1 2.0 2.861 41.6 86.7 GR 2.650 100.0 100.0 .00 .00 8 15.7 2.8 45.6 2.134 -.1 .0 185.7 330.0 881.33 100 2.650 100.0 100.0 1.9 2.847 .00 .00 8 13.8 1.5 43.7 2.146 -.3 .0 198.5 464.2 39.6 87.2 GR 881.48 101 2.650 100.0 100.0 2.3 2.831 .00 .00 8 .0 215.3 481.6 39.6 85.1 GR 1.2 41.2 2.167 881.63 99 11.6 -.4 2.650 100.0 100.0 2.8 2.816 .00 .00 8 .0 237.2 511.7 39.5 83.1 GR .9 38.7 2.187 -.5 881.79 97 9.5 2.9 2.827 8 1.4 39.1 2.196 .0 234.1 407.7 39.6 82.7 GR 2.650 100.0 100.0 .00 .00 9.7 -.3 881.94 97 2.6 2.827 .0 235.3 427.2 39.6 84.0 GR 2.650 100.0 100.0 .00 .00 1.4 39.0 2.197 -.3 882.09 98 9.7 2.650 100.0 100.0 2.0 2.826 .00 .00 39.6 85.2 GR .0 238.2 461.8 882.24 99 9.7 1.4 38.9 2.198 -.3 2.650 100.0 100.0 2.7 2.839 .00 .00 8 .0 222.9 422.4 40.1 83.5 GR 1.4 39.8 2.198 -.3 10.7 882.40 97 2.650 100.0 100.0 3.2 2.852 .00 .00 8 1.3 40.7 2.199 .0 212.3 406.7 40.6 81.9 GR 11.7 -.3 882.55 96

Complex Lithology Results

BROADBILL-1

Zone No. 2

884.07 Coal

Complex Lithology Results Zone No. 2 BROADBILL-1 AMITY OIL NL 28-01-98 DEPTH M GR RXO PHIN RHOB SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO PHIE RHOMA DD POR-M HC-M FLAGS 884.22 97 17.5 2.4 57.8 2.092 .0 .0 174.2 312.3 45.0 82.9 GR 2.650 100.0 100.0 2.9 3.012 .00 .00 884.38 96 17.4 4.3 52.2 2.118 .0 .0 174.4 227.2 43.8 81.8 GR 2.650 100.0 100.0 3.2 2.945 .00 .00 8 884.53 95 .0 163.4 182.5 42.5 80.7 GR 2.650 100.0 100.0 19.6 6.2 46.7 2.144 3.5 2.883 -.1 .00 .00 884.68 109 45.8 95.8 GR 2.650 100.0 100.0 17.8 10.9 43.8 2.133 .0 1.6 2.837 -.1 .00 .00 1 884.83 110 15.7 7.5 46.3 2.119 .0 46.3 96.7 GR 2.650 100.0 100.0 1.3 2.859 -.1 .00 .00 1 884.99 111 12.7 4.1 48.7 2.106 46.8 97.6 GR 2.650 100.0 100.0 -.1 .0 1.0 2.884 .00 .00 1 885.14 108 12.4 3.9 52.2 2.086 47.1 95.2 GR 2.650 100.0 100.0 -.1 .0 2.0 2.921 .00 .00 1 885.29 106 12.4 3.7 55.7 2.067 .0 211.1 345.9 47.4 92.9 GR 2.650 100.0 100.0 -.1 .8 2.959 .00 .00 8 885.44 108 12.8 2.8 51.5 2.031 -.1 .0 48.2 95.2 GR 2.650 100.0 100.0 2.0 2.868 .00 .00 1 885.60 108 13.6 3.7 49.7 2.027 .0 48.8 95.2 GR 2.650 100.0 100.0 .0 1.9 2.838 .00 .00 1 885.75 109 .0 .0 191.8 260.1 49.3 87.3 DN 2.650 100.0 100.0 14.8 4.7 47.8 2.024 1.9 2.808 .00 .00 8 885.90 108 16.2 5.5 47.5 2.019 .0 181.3 211.4 49.4 83.4 DN 2.650 100.0 100.0 .0 2.8 2.800 .00 .00 .0 173.1 173.1 49.4 79.5 DN 886.05 107 17.3 6.4 47.2 2.014 .0 2.650 100.0 100.0 3.8 2.792 .00 .00 8 886.21 110 14.5 2.1 53.5 1.994 49.8 96.9 GR 2.650 100.0 100.0 .0 .0 1.3 2.869 .00 .00 1 886.36 111 51.2 97.9 GR 2.650 100.0 100.0 18.8 5.9 53.9 1.965 -.3 .0 .9 2.853 .00 .00 1 52.5 95.9 DN 886.51 112 19.0 9.9 54.4 1.937 -.6 .0 2.650 100.0 100.0 1.7 2.837 .00 .00 1 886.66 110 17.3 8.3 58.2 1.932 -.4 .0 52.3 96.6 GR 2.650 100.0 100.0 1.4 2.893 .00 .00 1 886.82 108 .0 188.7 264.4 52.1 94.5 GR 2.650 100.0 100.0 15.5 6.7 62.0 1.927 -.1 .5 3.279 .00 .00 886.97 103 11.7 2.1 62.0 1.910 .0 216.8 416.8 51.3 89.6 GR 2.650 100.0 100.0 1.4 3.237 -.1 .00 .00 887.12 116 14.3 51.6 100.0 GR 2.650 100.0 100.0 4.8 59.5 1.908 -.1 .0 .0 2.894 .00 .00 1 887.27 129 51.9 100.0 DN 16.2 7.5 57.0 1.905 -.1 .0 2.650 100.0 100.0 .0 2.851 .00 .00 1 887.43 138 52.9 100.0 DN 2.650 100.0 100.0 15.4 9.3 57.8 1.952 .0 .0 .0 2.904 .00 .00 1 887.58 130 16.6 6.0 56.6 1.996 .0 .0 52.6 100.0 GR 2.650 100.0 100.0 .0 2.919 .00 .00 1 887.73 122 52.3 100.0 GR 2.650 100.0 100.0 14.0 2.7 55.3 2.040 .0 .0 .0 2.934 .00 .00 1 2.650 100.0 100.0 887.88 116 15.6 .0 51.0 100.0 GR .0 2.951 4.5 55.7 2.056 .0 .00 .00 1 888.03 109 19.5 6.4 56.0 2.073 -.1 .0 49.8 96.3 GR 2.650 100.0 100.0 1.5 2.968 .00 .00 1 888.19 111 16.3 50.2 97.7 GR 2.650 100.0 100.0 4.3 48.7 2.053 .0 1.0 2.844 .0 .00 .00 1 888.34 111 19.7 51.6 95.7 DN 2.650 100.0 100.0 5.6 48.7 2.031 .0 .0 1.8 2.827 .00 .00 1 888.49 112 22.3 .0 156.2 213.5 53.0 87.2 DN 2.650 100.0 100.0 6.9 48.6 2.010 .0 1.9 2.809 .00 .00 8 888.64 Coal 888.80 Coal 888.95 103 19.3 8.7 47.5 1.840 .3 .0 94.9 27.9 52.3 15.3 DN 2.635 94.9 94.9 34.7 2.665 .00 .00 8 889.10 104 16.6 5.0 47.6 1.876 .5 182.2 278.9 52.4 90.8 GR 2.650 100.0 100.0 1.2 2.814 .00 .00 4 78 889.25 105 14.9 1.5 47.6 1.910 . 7 192.4 522.6 52.4 91.8 GR 2.650 100.0 100.0 1.0 2.816 .00 .00 4 78 889.41 107 14.4 2.3 48.9 1.913 195.7 444.8 52.9 93.5 GR 2.650 100.0 100.0 .7 2.819 1.1 .00 .00 4 78 889.56 108 53.4 95.2 GR 2.650 100.0 100.0 14.0 3.1 50.2 1.916 2.0 2.822 1.6 .00 .00 1 4 889.71 106 14.0 3.9 51.7 1.856 .6 .0 126.1 59.0 50.6 42.7 DN 2.638 100.0 100.0 23.5 2.725 .00 .00 8 889.86 111 13.4 .0 193.9 219.8 52.3 75.9 DN 2.650 100.0 100.0 3.1 55.0 1.875 .5 4.9 2.793 .00 .00 8 53.9 100.0 GR 2.650 100.0 100.0 890.02 116 2.3 58.3 1.896 .0 2.864 13.0 .3 .0 .00 .00 1 890.17 116 54.7 100.0 GR 2.650 100.0 100.0 13.3 2.5 61.4 1.911 .0 .0 3.239 . 4 .00 .00 1 890.32 116 13.6 2.7 64.5 1.928 55.4 100.0 GR 2.650 100.0 100.0 .0 3.282 .5 .0 .00 .00 1 890.47 108 .0 178.4 318.0 57.4 94.7 GR 2.650 100.0 100.0 17.3 4.7 60.4 1.846 . 2 .5 3.077 .00 .00 8 .0 122.8 58.3 56.2 30.7 DN 2.625 100.0 100.0 28.4 2.746 890.63 108 13.2 2.9 55.7 1.809 . 1 .00 .00 8 890.78 108 12.6 1.1 51.0 1.773 .0 .0 115.9 75.4 54.9 12.0 DN 2.629 100.0 100.0 36.1 2.655 .00 .00 8 890.93 Coal

891.08

Coal

							_				9						
891.24	Coa	1											_				
891.39	Coa	1															
891.54	110	19.1	6.3 53.8 1	1.921	.1	.0 168.3	215.8	52.5	86.1 DN	2.650	100.0	100.0	2.1	2.814	.00	.00	8
891.69	106	14.2	2.3 58.6 1	1.857	.5	.0 196.7	422.6	53.0	91.9 DN	2.650	100.0	100.0	. 9	2.835	.00	.00	8
891.84	102	14.0	2.0 56.0 1	1.875	.3	.0 194.4	342.3	51.8	82.4 DN	2.650	100.0	100.0	3.0	2.809	.00	.00	8
892.00		13.8	1.6 53.4 1	1.895	.1	.0 188.6	282.7	50.5	73.5 DN	2.650	100.0	100.0	5.6	2.786	.00	.00	8
892.15		14.2	1.9 53.3 1	1.888	. 4	.0 183.2	232.5	51.0	70.4 DN	2.650	100.0	100.0	6.6	2.778	.00	.00	8
892.30		14.6	2.3 53.3 1	1.882	. 6	.0 124.1	78.0	51.6	43.1 DN	2.689	100.0	100.0	23.3	2.773	.00	.00	8
892.45		16.5	4.9 50.2 1		. 0	.0 111.6	46.4	51.8	33.8 DN	2.626	100.0	100.0	27.1	2.696	.00	.00	8
892.61		14.4	3.0 50.2 1						49.9 DN	2.643	100.0	100.0	20.6	2.741	.00	.00	8

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Complex Lithology Results Zone No. 2 BROADBILL-1 28-01-98 AMITY OIL NL PHIE RHOMA POR-M HC-M **FLAGS** SWU SXOU PHIS VCL FVCL RHOMAU SXO RXO PHIN RHOB DD SPI DEPTH M GR RT8 .0 193.7 380.6 51.3 75.9 DN 2.650 100.0 100.0 4.8 2.787 .00 .0 1.0 50.3 1.953 892.76 110 13.4 3.7 2.796 .00 .00 8 .0 185.2 235.1 51.8 79.9 DN 2.650 100.0 100.0 3.5 50.5 1.960 892.91 109 15.2 893.06 Coal .0 117.9 61.3 53.2 36.8 DN 2.634 100.0 100.0 25.9 2.702 .00 .00 . 6 3.1 47.0 1.905 893.22 113 15.2 8 2.637 100.0 100.0 30.2 2.685 .00 .00 .0 112.7 63.0 53.3 26.3 DN 2.2 46.3 1.888 893.37 115 15.1 . 8 .00 .00 8 .0 108.5 71.3 53.5 15.8 DN 2.638 100.0 100.0 34.5 2.667 1.3 45.7 1.872 1.0 893.52 116 14.8 2.627 100.0 100.0 28.0 2.693 .00 .00 8 .0 115.1 75.3 53.7 31.6 DN .8 15.1 1.8 50.2 1.839 893.67 115 .0 112.1 64.0 53.9 27.6 DN 2.681 100.0 100.0 29.7 2.725 .00 .00 8 2.2 54.7 1.806 .6 893.83 113 15.4 2.650 100.0 100.0 .00 8 .0 185.7 260.5 53.9 75.6 DN 4.9 2.880 .00 893.98 118 14.6 2.2 61.4 1.767 . 8 .00 2.676 100.0 100.0 31.7 2.765 .00 8 .0 115.9 69.9 55.3 22.8 DN 1.6 58.1 1.788 .9 894.13 121 13.8 2.650 100.0 100.0 .0 2.831 .00 .00 1 4 56.6 100.0 GR 1.0 894.28 125 13.0 1.1 54.9 1.808 57.9 57.3 19.2 DN 2.629 100.0 100.0 33.1 2.670 .00 .00 2.2 50.6 1.798 .9 .0 117.1 894.44 122 13.1 2.619 100.0 100.0 29.6 2.685 .00 .00 8 .0 122.0 67.1 56.4 27.9 DN .8 894.59 120 13.1 2.0 53.0 1.782 2.646 100.0 100.0 30.1 2.701 .00 .00 8 .0 121.6 69.2 55.5 26.7 DN 894.74 118 13.0 1.8 55.4 1.765 .8 2.649 100.0 100.0 32.2 2.737 .00 .00 .0 116.3 70.2 54.4 21.6 DN 1.6 57.2 1.774 . 8 894.89 120 13.6 2.678 100.0 100.0 32.2 2.775 8 .0 113.9 76.5 53.3 21.5 DN .00 .00 1.3 59.0 1.783 .8 895.05 122 14.1 2.650 100.0 100.0 4.6 2.800 .00 .00 8 .0 183.0 340.2 53.5 76.8 DN 1.4 58.6 1.817 . 7 895.20 119 15.2 8 2.650 100.0 100.0 5.9 2.846 .00 .00 53.1 72.6 DN .0 169.8 229.7 895.35 114 16.9 2.3 61.7 1.753 .3 2.644 90.5 90.5 39.3 2.692 .00 .00 8 52.6 4.1 DN .0 90.5 40.7 895.50 110 19.1 3.2 64.9 1.692 .0 2.313 88.3 88.3 41.0 2.633 .00 .00 6 8 .0 88.3 36.2 51.1 .0 DN 3.8 60.8 1.541 895.65 113 19.3 .0 1.934 88.2 88.2 41.0 2.634 .00 .00 6 8 .0 DN 4.3 56.7 1.389 .0 .0 88.2 33.8 49.5 895.81 116 19.3 1.807 100.0 100.0 41.0 2.627 .00 .00 6 8 .0 105.2 53.5 47.1 .0 DN 895.96 123 13.6 1.7 49.7 1.338 . 1 .00 .00 6 8 2.119 100.0 100.0 41.0 2.619 .0 105.9 56.8 47.4 .0 DN 1.5 47.9 1.463 . 0 896.11 109 13.4 2.432 100.0 100.0 41.0 2.632 .00 .00 6 8 .0 106.8 60.7 47.7 .0 DN -.1 896.26 96 13.2 1.3 46.1 1.588 2.609 100.0 100.0 41.0 2.629 .00 .00 6 8 47.3 51.5 .0 DN 896.42 74 14.9 2.2 49.3 1.738 -.2 .0 100.5 .0 112.0 59.5 55.4 34.8 GR 2.726 100.0 100.0 26.7 2.767 .00 .00 8 16.5 3.1 52.5 1.888 -.2 896.57 52 3.544 89.0 89.0 34.9 3.582 .0 89.0 51.2 57.3 15.0 GR .00 .00 5 8 2.6 75.5 2.048 -.3 21.9 896.72 33 5 8 .0 87.5 40.6 53.8 19.3 GR 3.626 87.5 87.5 33.1 3.659 .00 .00 23.5 4.5 79.6 2.079 -.3 896.87 37 3.718 82.8 82.8 31.3 3.737 .00 .00 5 8 .0 82.8 35.6 50.2 23.5 GR 6.4 83.8 2.110 -.2 897.03 41 27.3 2.922 100.0 100.0 20.8 2.874 .00 .00 5 8 .0 115.6 108.6 45.4 49.3 GR -.2 1.4 48.1 2.104 897.18 65 17.9 2.651 100.0 100.0 20.7 2.718 .00 .00 .0 120.3 124.3 43.1 46.3 DN 1.1 38.3 2.075 -.2 897.33 101 17.4 2.617 100.0 100.0 35.9 2.617 .00 .00 .0 108.9 90.5 40.7 .0 DN 897.48 137 16.9 .8 28.5 2.046 -.2 .00 .00 .0 103.2 71.7 42.3 .0 DN 2.587 100.0 100.0 37.7 2.627 6 1.1 28.3 1.998 -.2 16.9 897.64 176 2.556 98.1 98.1 39.6 2.616 .00 6 .0 DN .00 .0 98.1 59.6 43.8 16.8 1.5 28.0 1.950 -.2 897.79 215 2.542 86.8 86.8 41.0 2.622 .00 .00 6 8 .0 86.8 47.4 51.9 .0 DN 20.0 2.2 42.5 1.747 . 1 897.94 192 898.09 Coal 898,25 Coal 898.40 Coal 898.55 Coal 898.70 Coal 8 2.652 92.8 92.8 36.1 2.739 .00 .0 92.8 36.3 61.6 11.9 DN 4.8 59.8 1.730 .0 898.86 100 19.6 2.632 94.3 94.3 37.1 2.655 .00 .00 8 9.6 DN .0 94.3 33.9 62.0 18.5 5.2 56.0 1.697 . 2 899.01 99 2.635 100.0 100.0 35.3 2.731 .00 .00 8 .0 107.7 45.4 58.2 13.8 DN 3.2 59.2 1.734 .2 899.16 99 14.8 2.650 100.0 100.0 2.8 2.887 .00 .00 8 .0 198.4 444.9 54.5 83.1 DN .2 899.31 100 13.5 1.2 62.4 1.770 2.650 100.0 100.0 .00 .00 8 .0 205.5 559.4 41.9 88.0 GR 1.7 2.868 12.9 1.1 53.5 1.993 . 1 899.46 102 .00 .00 .0 142.1 161.1 38.0 61.6 DN 2.650 100.0 100.0 15.1 2.750 1.1 40.0 2.087 14.4 899.62 86

899.77	70	15.8	1.2 26.6 2.181	2	.0	146.3	105.8	34.0	12.2 DN	2.657	100.0	100.0	25.2 Z.672	.00	0
899.92	56	19.2	1.4 25.2 2.217	2	.0	146.0	114.0	35.3	17.0 DN	2.657	100.0	100.0	21.5 2.678	.00	.00
900.07	4.3	22.7	1.6 23.8 2.252	3	.0	149.4	127.5	36.7	21.8 DN	2.657	100.0	100.0	17.8 2.684	.00	.00
900.23	37	35.1	1.3 25.9 2.213	3	.0	107.9	120.8	38.4	19.8 GR	2.657	100.0	100.0	20.9 2.681	.00	.00
900.38	37	39.3	1.2 27.1 2.196	~.3	.0	97.2	117.9	38.9	19.1 GR	2.660	99.4	97.2	22.2 2.683	.00	.00
900.53	36	43.3	1.1 28.3 2.179	3	.0	88.4	116.0	39.4	18.3 GR	2.663	97.6	88.4	23.6 2.684	.00	.00
900.68	36	40.6	1.0 28.9 2.167	3	.0	88.7	119.9	39.4	17.9 GR	2.663	97.6	88.7	24.5 2.683	.00	.00
900.84	38	41.5	.9 28.0 2.160	3	.0	86.3	116.0	39.4	13.3 DN	2.657	97.1	86.3	26.2 2.673	.00	.00
900.99	41	42.3	.9 27.1 2.153	3	.0	82.3	107.5	39.4	4.8 DN	2.656	96.2	82.3	29.3 2.662	.00	.00
901.14	38	42.2	.9 28.8 2.157	3	.0	85.7	120.8	39.2	17.0 DN	2.656	97.0	85.7	25.2 2.677	.00	.00
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Complex Lithology Results 28-01-98

BROADBILL-1

AMITY OIL NL

Zone No. 2

HC-M FLAGS SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M DEPTH M GR RTRXO PHIN RHOB DD SPI 96.7 84.6 25.6 2.693 .00 .00 38.9 16.8 GR 2.675 84.6 116.0 .9 30.5 2.161 -.3 .0 901.29 35 42.0 84.0 26.6 2.706 .00 .00 84.0 107.2 39.6 13.6 GR 2.694 96.6 1.0 31.4 2.173 -.3 32 42.0 901.45 .00 .00 84.7 25.4 2.689 2.671 96.7 1.1 29.7 2.166 -.3 .0 84.7 110.7 39.6 16.3 GR 901.60 34 43.0 83.2 26.5 2.672 .00 .00 .0 83.2 105.1 39.5 12.6 DN 2.656 96.4 1.1 28.0 2.158 -.3 901.75 44.1 .0 83.1 101.0 39.3 11.2 DN 2.656 96.4 83.1 27.2 2.670 .00 .00 901.90 43.2 1.1 28.0 2.155 -.3 38 2.656 96.3 83.0 27.8 2.668 .00 .00 83.0 97.1 39.1 9.9 DN 1.2 28.0 2.151 -.3 902.06 39 42.4 86.4 28.4 2.668 2.656 97.1 .00 .00 86.4 106.8 36.1 10.0 DN .9 28.6 2.141 -.3 .0 902.21 45 37.5 86.0 29.2 2.667 .00 .00 97.0 .0 86.0 104.8 36.8 9.0 DN 2.655 902.36 62 36.4 .9 29.0 2.133 -.3 2.655 97.0 85.7 30.0 2.665 .00 .00 .0 85.7 103.0 37.5 8.0 DN .9 29.3 2.124 902.51 80 35.2 -.3 .00 .00 .0 87.6 127.8 38.1 24.1 DN 2.656 97.4 87.6 23.7 2.686 .9 30.7 2.144 -.3 902.67 96 39.4 98.0 90.2 17.3 2.707 .00 .00 2.657 .0 90.2 167.7 38.6 40.2 DN .9 32.0 2.164 -.3 902.82 111 43.5 99.1 95.5 7.0 2.750 .00 .00 2.656 .0 95.5 285.1 38.1 61.1 DN 1.3 31.7 2.224 -.3 902.97 82 60.1 46.7 GR 2.674 97.8 89.4 11.5 2.735 .00 .00 .0 89.4 206.5 37.4 1.2 30.1 2.232 ~.2 62.0 903.12 63 .00 .00 96.3 82.6 18.3 2.720 1.1 28.6 2.240 .0 82.6 146.5 36.8 26.3 GR 2.692 -.2 903.27 43 63.9 89.2 22.3 2.708 .00 .00 .0 89.2 127.3 38.2 18.3 GR 2.691 97.7 47.2 1.0 28.9 2.218 -.2 903.43 .0 92.3 127.0 38.5 18.8 GR 2.687 98.4 92.3 22.2 2.704 .00 .00 1.1 28.7 2.214 -.2 903.58 36 43.9 99.2 95.9 22.1 2.701 .00 .0 95.9 126.7 38.7 19.3 GR 2.682 .00 903.73 1.1 28.5 2.210 -.2 37 40.6 98.8 94.3 21.8 2.698 .00 .00 .0 94.3 128.8 40.2 19.9 GR 2.678 1.1 28.2 2.210 -.2 42.5 903.88 37 2.674 98.5 92.9 21.5 2.696 .00 .00 .0 92.9 130.9 41.6 20.5 GR -.2 904.04 38 44.5 1.1 27.9 2.210 .00 .0 107.1 116.4 44.5 18.1 DN 2.657 100.0 100.0 23.4 2.679 .00 1.1 27.5 2.181 -.2 904.19 67 30.2 2.657 100.0 100.0 26.6 2.670 .00 .00 .0 104.7 105.4 45.2 11.4 DN -.2 1.1 27.5 2.163 904.34 90 28.3 2.656 100.0 100.0 29.8 2.662 .00 .00 .0 102.7 96.7 45.9 4.8 DN 904.49 113 26.4 1.0 27.5 2.146 -.2 2.655 100.0 100.0 23.5 2.691 .0 102.2 80.2 47.0 28.5 DN .00 .00 -.2 904.65 119 27.0 2.3 32.6 2.124 .0 102.9 82.8 48.1 52.3 DN 2.653 100.0 100.0 17.2 2.731 .00 .00 3.5 37.6 2.102 -.2 904.80 125 27.4 .0 137.1 296.8 47.4 85.7 GR 2.650 100.0 100.0 2.2 2.957 .00 .00 904.95 99 28.8 3.3 53.9 2.101 -.2 .00 .0 101.7 101.2 43.8 64.0 GR 3.033 100.0 100.0 14.8 2.899 .00 5 8 905.10 79 27.7 2.9 47.9 2.144 -.2 42.3 GR 2.874 100.0 100.0 20.3 2.856 .00 .00 -.3 .0 101.2 83.7 40.2 27.0 2.6 41.8 2.186 905.26 59 2.795 100.0 100.0 21.3 2.807 .00 .00 .0 109.6 83.1 39.3 31.4 GR 905.41 48 26.1 2.5 36.5 2.212 -.3 .0 121.0 83.7 38.4 20.5 GR 2.735 100.0 100.0 21.9 2.755 .00 .00 2.5 31.3 2.237 -.3 905.56 38 25.2 2.657 100.0 100.0 19.2 2.690 .00 .00 -.3 .0 131.5 116.0 38.2 26.6 DN 1.6 27.4 2.205 905.71 52 23.4 2.657 100.0 100.0 28.2 2.664 .00 .00 .0 107.1 83.9 38.7 6.1 DN 1.5 26.6 2.165 -.3 905.87 65 26.5 2.637 93.9 93.9 31.8 2.637 .00 .00 .0 93.9 77.0 39.2 .0 DN 1.4 25.8 2.125 -.3 906.02 78 29.5 2.654 82.7 82.7 33.3 2.655 .0 82.7 81.1 40.2 .5 DN .00 .00 78 34.0 1.2 29.1 2.109 -.3 906.17 .00 .00 .0 78.7 102.8 41.2 15.3 DN 2.654 95.3 78.7 29.6 2.674 38.1 .9 32.4 2.092 -.3 906.32 78 96.2 82.6 20.7 2.711 .00 .00 .0 82.6 140.7 43.2 42.8 DN 2.653 .9 36.6 2.094 -.3 906.48 75 39.1 96.9 85.3 21.8 2.703 .00 .00 .0 85.3 136.7 42.5 2.654 **-.**3 37.3 DN .9 35.0 2.106 906.63 83 37.4 2.655 97.5 88.3 22.8 2.696 .0 88.3 133.0 41.8 31.7 DN .00 .00 .9 33.4 2.118 -.3 906.78 35.8 90 .00 .00 2.656 99.5 97.5 17.7 2.711 .0 97.5 134.2 40.3 42.9 DN 1.3 33.6 2.144 -.3 906.93 113 34.5 .00 .00 .0 119.3 176.9 39.3 55.4 DN 2.657 100.0 100.0 12.5 2.738 1.3 34.4 2.163 -.3 907.08 109 27.1 2.657 100.0 100.0 7.4 2.765 .00 .00 .0 155.0 258.8 38.4 67.8 DN -.2 907.24 106 19.4 1.4 35.3 2.182 2.650 100.0 100.0 3.7 2.788 .00 .00 .0 163.9 342.2 38.7 78.7 DN -.2 907.39 93 19.7 1.7 36.7 2.188 .00 .0 145.8 186.1 39.1 66.3 GR 8.9 2.811 .00 2.769 100.0 100.0 2.0 38.0 2.193 -.2 907.54 81 20.0 .00 .00 8 2.650 100.0 100.0 5.3 2.778 .0 143.5 188.3 44.6 74.5 DN 3.8 44.0 2.054 -.2 907.69 90 24.1 2.650 100.0 100.0 6.3 2.774 .00 .00 8 .0 132.3 155.7 49.0 71.2 DN 4.6 47.1 1.994 907.85 96 27.5 -.1 908.00 Coal 8 -.1 .0 91.9 66.0 51.5 63.2 DN 2.622 91.9 91.9 15.1 2.758 .00 .00 908.15 97 33.6 6.7 47.9 1.960

92	38.4	8.1 45.5 1.986	1	.0 83.3 54.2	49.6	58.4 DN			.00	00
83	27.5	1.8 42.0 2.069	2	.0 104.9 141.4	44.1	67.8 DN	2.646 100.0 100.0	13.2 2.763	.00	.00
82	30.8	1.3 41.3 2.096	3	.0 100.2 166.4	41.0	67.6 GR	2.675 100.0 100.0	12.9 2.775	.00	.00
82	33.7	.9 40.5 2.124	3	.0 99.9 218.4	37.9	66.7 GR	2.702 100.0 99.9	11.9 2.787	.00	.00
85	34.2	.9 38.3 2.127	3	.0 102.0 236.1	37.6	66.4 DN	2.655 100.0 100.0	11.2 2.761	.00	.00
88	34.8	.8 36.2 2.130	3	.0 97.3 193.7	37.3	53.9 DN	2.655 99.4 97.3	15.0 2.734	.00	.00
87	35.8	.8 36.1 2.137	3	.0 97.9 203.6	38.7	55.9 DN	2.656 99.6 97.9	13.9 2.738	.00	.00
81	36.6	.9 35.9 2.140	3	.0 97.4 202.4	38.8	55.9 DN	2.656 99.5 97.4	13.8 2.738	.00	.00
75	37.4	.9 35.8 2.142	3	.0 97.0 201.3	39.0	55.8 DN	2.656 99.4 97.0	13.7 2.738	.00	.00
71	32.8	.9 38.6 2.147	3	.0 100.2 183.7	39.0	55.4 GR	2.717 100.0 100.0	14.6 2.781	.00	.00
	83 82 82 85 88 87 81 75	83 27.5 82 30.8 82 33.7 85 34.2 88 34.8 87 35.8 81 36.6 75 37.4	83 27.5 1.8 42.0 2.069 82 30.8 1.3 41.3 2.096 82 33.7 .9 40.5 2.124 85 34.2 .9 38.3 2.127 88 34.8 .8 36.2 2.130 87 35.8 .8 36.1 2.137 81 36.6 .9 35.9 2.140 75 37.4 .9 35.8 2.142	83 27.5 1.8 42.0 2.0692 82 30.8 1.3 41.3 2.0963 82 33.7 .9 40.5 2.1243 85 34.2 .9 38.3 2.1273 88 34.8 .8 36.2 2.1303 87 35.8 .8 36.1 2.1373 81 36.6 .9 35.9 2.1403 75 37.4 .9 35.8 2.1423	83 27.5 1.8 42.0 2.069 2 .0 104.9 141.4 82 30.8 1.3 41.3 2.096 3 .0 100.2 166.4 82 33.7 .9 40.5 2.124 3 .0 99.9 218.4 85 34.2 .9 38.3 2.127 3 .0 102.0 236.1 88 34.8 .8 36.2 2.130 3 .0 97.3 193.7 87 35.8 .8 36.1 2.137 3 .0 97.9 203.6 81 36.6 .9 35.9 2.140 3 .0 97.4 202.4 75 37.4 .9 35.8 2.142 3 .0 97.0 201.3	83 27.5 1.8 42.0 2.069 2 .0 104.9 141.4 44.1 82 30.8 1.3 41.3 2.096 3 .0 100.2 166.4 41.0 82 33.7 .9 40.5 2.124 3 .0 99.9 218.4 37.9 85 34.2 .9 38.3 2.127 3 .0 102.0 236.1 37.6 88 34.8 .8 36.2 2.130 3 .0 97.3 193.7 37.3 87 35.8 .8 36.1 2.137 3 .0 97.9 203.6 38.7 81 36.6 .9 35.9 2.140 3 .0 97.4 202.4 38.8 75 37.4 .9 35.8 2.142 3 .0 97.0 201.3 39.0	83 27.5 1.8 42.0 2.0692 .0 104.9 141.4 44.1 67.8 DN 82 30.8 1.3 41.3 2.0963 .0 100.2 166.4 41.0 67.6 GR 82 33.7 .9 40.5 2.1243 .0 99.9 218.4 37.9 66.7 GR 85 34.2 .9 38.3 2.1273 .0 102.0 236.1 37.6 66.4 DN 88 34.8 .8 36.2 2.1303 .0 97.3 193.7 37.3 53.9 DN 87 35.8 .8 36.1 2.1373 .0 97.9 203.6 38.7 55.9 DN 81 36.6 .9 35.9 2.1403 .0 97.4 202.4 38.8 55.9 DN 75 37.4 .9 35.8 2.1423 .0 97.0 201.3 39.0 55.8 DN	92 38.4 8.1 45.5 1.9861 .0 83.3 54.2 49.6 58.4 DN 2.635 83.3 83.3 83.3 27.5 1.8 42.0 2.0692 .0 104.9 141.4 44.1 67.8 DN 2.646 100.0 100.0 82 30.8 1.3 41.3 2.0963 .0 100.2 166.4 41.0 67.6 GR 2.675 100.0 100.0 82 33.7 .9 40.5 2.1243 .0 99.9 218.4 37.9 66.7 GR 2.702 100.0 99.9 85 34.2 .9 38.3 2.1273 .0 102.0 236.1 37.6 66.4 DN 2.655 100.0 100.0 88 34.8 .8 36.2 2.1303 .0 97.3 193.7 37.3 53.9 DN 2.655 99.4 97.3 87 35.8 .8 36.1 2.1373 .0 97.9 203.6 38.7 55.9 DN 2.656 99.6 97.9 81 36.6 .9 35.9 2.1403 .0 97.4 202.4 38.8 55.9 DN 2.656 99.5 97.4 75 37.4 .9 35.8 2.1423 .0 97.0 201.3 39.0 55.8 DN 2.656 99.4 97.0	92 38.4 8.1 45.5 1.9861 .0 83.3 54.2 49.6 58.4 DN 2.635 83.3 83.3 17.1 2.746 83 27.5 1.8 42.0 2.0692 .0 104.9 141.4 44.1 67.8 DN 2.646 100.0 100.0 13.2 2.763 82 30.8 1.3 41.3 2.0963 .0 100.2 166.4 41.0 67.6 GR 2.675 100.0 100.0 12.9 2.775 82 33.7 .9 40.5 2.1243 .0 99.9 218.4 37.9 66.7 GR 2.702 100.0 99.9 11.9 2.787 85 34.2 .9 38.3 2.1273 .0 102.0 236.1 37.6 66.4 DN 2.655 100.0 100.0 11.2 2.761 88 34.8 .8 36.2 2.1303 .0 97.3 193.7 37.3 53.9 DN 2.655 99.4 97.3 15.0 2.734 87 35.8 .8 36.1 2.1373 .0 97.9 203.6 38.7 55.9 DN 2.656 99.6 97.9 13.9 2.738 81 36.6 .9 35.9 2.1403 .0 97.4 202.4 38.8 55.9 DN 2.656 99.5 97.4 13.8 2.738 75 37.4 .9 35.8 2.1423 .0 97.0 201.3 39.0 55.8 DN 2.656 99.4 97.0 13.7 2.738	92 38.4 8.1 45.5 1.9861 .0 83.3 54.2 49.6 58.4 DN 2.635 83.3 83.3 17.1 2.746 .00 83 27.5 1.8 42.0 2.0692 .0 104.9 141.4 44.1 67.8 DN 2.646 100.0 100.0 13.2 2.763 .00 82 30.8 1.3 41.3 2.0963 .0 100.2 166.4 41.0 67.6 GR 2.675 100.0 100.0 12.9 2.775 .00 82 33.7 .9 40.5 2.1243 .0 99.9 218.4 37.9 66.7 GR 2.702 100.0 99.9 11.9 2.787 .00 85 34.2 .9 38.3 2.1273 .0 102.0 236.1 37.6 66.4 DN 2.655 100.0 100.0 11.2 2.761 .00 88 34.8 .8 36.2 2.1303 .0 97.3 193.7 37.3 53.9 DN 2.655 99.4 97.3 15.0 2.734 .00 87 35.8 .8 36.1 2.1373 .0 97.9 203.6 38.7 55.9 DN 2.656 99.6 97.9 13.9 2.738 .00 81 36.6 .9 35.9 2.1403 .0 97.4 202.4 38.8 55.9 DN 2.656 99.5 97.4 13.8 2.738 .00 75 37.4 .9 35.8 2.1423 .0 97.0 201.3 39.0 55.8 DN 2.656 99.4 97.0 13.7 2.738 .00

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BROADBILL-1 Complex Lithology Results
AMITY OIL NL 28-01-98

RT RXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHO

Zone No. 2

DEPTH M	GR	RT	RXO PHIN	RHOB	DD	SPI	SWU	SXOU	PHIS	VCL FVCL	RHOMAU	sxo	SW	PHIE	RHOMA	POR-M	HC-M	FLAGS
909.83	74	32.5	.9 39.3 2	.148	3	. 0	101.5	203.6	39.1	58.8 GR	2.731	100.0	100.0	13.6	2.791	.00	.00	
909.98	77	32.1	.8 40.0 2		3		103.0		39.2	62.2 GR		100.0			2.800	.00	.00	
910.13	81	33.4	.8 38.9 2		3		106.5		38.7	65.7 GR	2.714	100.0	100.0	10.5	2.792	.00	.00	
910.29	84	34.6	.9 37.8 2		2	.0	109.9	282.2	38.1	69.2 GR	2.689	100.0	100.0	8.5	2.784	.00	.00	
910.44	87	35.8	1.2 34.4 2	.171	2	.0	106.9	209.5	37.6	58.4 DN	2.657	100.0	100.0	11.1	2.744	.00	.00	
910.59	84	32.0	1.1 34.1 2	.167	2	.0	110.2	198.1	37.6	54.4 DN	2.657	100.0	100.0	12.6	2.735	.00	.00	
910.74	81	28.2	1.0 33.7 2	.162	2	.0	114.7	189.9	37.6	50.5 DN	2.657	100.0	100.0	14.2	2.727	.00	.00	
910.89	78	29.5	2.3 34.4 2	.170	2	.0	117.3	148.2	38.2	57.9 DN	2.657	100.0	100.0	11.3	2.743	.00	.00	
911.05	75	30.7	3.6 35.1 2	.179	2	.0	117.2		38.8	60.2 GR	2.673	100.0	100.0	10.3	2.759	.00	.00	
911.20	82	35.4	5.4 36.6 2		1	.0	82.5	50.1	42.7	35.9 DN	2.652	82.5	82.5	24.0	2.701	.00	.00	
911.35	82	30.4	5.0 37.5 1	.977	.0	.0	71.9	32.7	45.6	4.3 DN	2.648	71.9	71.9		2.655	.00	.00	8
911.50	82	26.6	4.6 38.5 1		. 2	.0	75.2	32.5	48.4	.0 DN	2.601	75.2	75.2		2.621	.00	.00	6 8
911.66	65	23.3	3.4 41.2 1		. 4	.0	80.2	37.9	51.6	.0 DN	2.619	80.2	80.2		2.619	.00	.00	8
911.81	47	20.5	2.2 43.9 1		.6	.0	85.6	47.1	54.8	.0 DN	2.640	85.6	85.6		2.640	.00	.00	8
911.96	24	23.1	5.2 40.4 2		.0	.0	82.8	32.5	51.7	5.1 GR	2.696	82.8	82.8		2.701	.00	.00	8
912.11	21	22.7	3.3 41.2 2		1	.0	86.4	41.8	47.2	2.7 GR	2.759	86.4	86.4		2.761	.00	.00	
912.27	19	23.4	1.4 42.0 2		3	.0	87.7	64.9	42.7	.2 GR	2.826	87.7	87.7		2.826	.00	.00	
912.42	19	26.6	1.2 39.2 2		3	.0	86.0	74.3	40.7	.7 GR	2.791	86.0	86.0		2.791	.00	.00	
912.57	20	29.6	.9 36.4 2		3	.0	85.4	87.1	38.7	1.1 GR	2.755	87.1	85.4		2.756	.00	.00	
912.72	18	36.4	1.0 31.7 2		3	.0	82.3	91.5	39.5	.0 GR	2.699	91.5	82.3		2.699	.00	.00	
912.88	18	39.0	.9 30.6 2		3	.0	80.2	94.3	40.7	.0 GR	2.689	94.3	80.2		2.689	.00	.00	
913.03	18	41.7	.9 29.4 2		3	.0	78.3	97.2	41.9	.0 GR	2.679	95.2	78.3		2.679	.00	.00	
913.18	23	44.4	1.0 28.2 2		3	.0	78.1	99.4 103.4	39.5	4.6 GR	2.660	95.2 94.9	78.1 76.8		2.666	.00	.00 .00	
913.33	24 25	46.8	.9 28.5 2 .9 28.7 2		3 3	.0		103.4	39.8 40.1	5.7 GR 6.8 GR	2.664 2.667	94.9	75.7		2.675	.00	.00	
913.49	24	49.1 50.0	.9 29.0 2		3	.0		107.7	39.9	5.5 GR	2.671	94.0	74.2		2.677	.00	.00	
913.64 913.79	23	51.0	.9 29.3 2		3	.0		100.0	39.7	4.2 GR	2.675	93.8	72.7		2.679	.00	.00	
913.94	23	48.7	.8 29.9 2		3	.0		102.7	39.8	4.2 GR	2.675	93.9	73.0		2.680	.00	.00	
914.10	22	49.7	.8 30.5 2		3	.0		102.8	39.8	3.9 GR	2.675	93.4	71.0		2.680	.00	.00	
914.25	22	50.6	.8 31.0 2		3	.0		103.0	39.9	3.7 GR	2.675	92.9	69.1		2.679	.00	.00	
914.40	23	53.3	.8 31.5 2		3	.0		101.1	39.2	4.3 GR	2.680	92.3	67.1		2.684	.00	.00	
914.55	23	56.0	.8 32.1 2		3	.0	65.3	99.4	38.4	5.0 GR	2.684	91.8	65.3		2.689	.00	.00	
914.70	22	60.1	.8 32.2 2		3	.0		103.9	37.9	3.5 GR	2.694	91.4	63.7		2.697	.00	.00	
914.86	22	59.4	.8 30.3 2		3	.0	65.4	104.8	37.9	3.0 GR	2.680	91.9	65.4		2.683	.00	.00	
915.01	21	58.8	.8 28.4 2		3	.0		105.8	37.9	2.5 GR	2.666	92.4	67.2	30.9	2.668	.00	.00	
915.16	24	60.0	.8 28.4 2	.145	3	.0	67.4	109.6	38.1	5.3 GR	2.662	92.4	67.4	29.9	2.668	.00	.00	
915.31	26	61.2	.8 28.3 2		3	.0	67.6	113.6	38.4	8.1 GR	2.657	92.5	67.6	28.8	2.667	.00	.00	
915.47	25	56.5	.8 28.8 2	.148	3	.0	69.9	111.8	38.6	6.7 GR	2.666	93.1	69.9	29.4	2.673	.00	.00	
915.62	24	57.4	.9 29.1 2	.149	3	.0	69.0	104.2	38.4	5.8 GR	2.669	92.8	69.0	29.7	2.676	.00	.00	
915.77	23	58.2	1.0 29.3 2	.150	3	.0	68.1	97.7	38.2	5.0 GR	2.673	92.6	68.1	30.1	2.678	.00	.00	
915.92	27	56.4	1.0 29.2 2		3	.0	69.5	100.4	38.4	8.9 GR	2.661	93.0	69.5		2.672	.00	.00	
916.08	28	54.2	.9 29.0 2		3	.0		104.7	38.7	9.5 DN	2.655	93.3	70.6		2.667	.00	.00	
916.23	29	52.0	.8 28.8 2		3	.0	70.5		38.9	5.9 DN	2.655	93.3	70.5		2.663	.00	.00	
916.38	30	51.6	.9 29.0 2		3	.0	69.8	99.3	39.5	5.0 DN	2.655	93.1	69.8		2.661	.00	.00	
916.53	30	51.2	.9 29.2 2		3	.0	69.0	94.7	40.1	4.0 DN	2.655	92.9	69.0		2.660	.00	.00	
916.69	30	50.1	.9 29.3 2	.099	3	.0	67.0	89.8	41.0	.0 DN	2.652	89.8	67.0	34.0	2.652	.00	.00	

917.14 31 50.7	00.00
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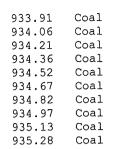
Complex Lithology Results Zone No. 2 BROADBILL-1 28-01-98 AMITY OIL NL SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS DEPTH M GR RTRXO PHIN RHOB DD SPI .00 31.9 2.662 2.654 92.9 69.1 .00 .0 69.1 104.6 40.5 6.4 DN .8 30.5 2.101 -.3 918.36 26 49.1 31.4 2.674 .00 .00 2.662 92.6 68.2 49.9 .8 31.9 2.100 -.3 .0 68.2 103.3 40.5 9.2 GR 918.51 27 .00 .00 40.6 10.7 GR 2.655 92.4 67.5 31.0 2.669 .0 67.5 104.7 918.67 29 51.1 .8 31.7 2.095 ~.3 65.8 32.0 2.665 .00 .00 2.654 92.0 .8 31.5 2.089 .0 65.8 101.6 40.6 8.3 DN -.3 918.82 30 52.2 .00 8.9 DN 2.653 91.5 64.0 32.2 2.665 .00 .0 64.0 99.0 40.7 918.97 31 53.8 .8 32.0 2.082 -.3 .00 91.5 64.2 31.5 2.668 .00 .0 64.2 101.9 41.3 10.9 DN 2.653 919.12 31 54.3 .8 32.2 2.083 -.3 .00 .00 12.9 DN 2.653 91.6 64.4 30.8 2.670 64.4 104.9 42.0 919.28 31 54.7 .8 32.5 2.084 -.3 .0 29.8 2.689 .00 .00 43.2 15.4 GR 2.672 91.8 65.0 .0 65.0 108.1 919.43 33 55.1 .8 33.8 2.099 -.3 41.8 15.1 GR 2.686 91.5 64.1 30.3 2.701 .00 .00 64.1 106.9 919.58 33 55.1 .8 35.2 2.099 -.3 .0 30.8 2.714 .00 .00 40.3 14.7 GR 2.700 91.2 63.2 919.73 33 .8 36.5 2.100 -.3 .0 63.2 105.7 55.1 64.0 30.7 2.708 .00 .00 40.2 14.7 GR 2.695 91.5 64.0 106.4 919.89 33 54.2 .8 36.0 2.099 -.2 .0 40.1 14.6 GR 2.690 91.7 64.8 30.6 2.704 .00 .00 .8 35.6 2.099 -.2 .0 64.8 107.0 920.04 32 53.2 29.2 2.699 .00 .00 67.2 106.2 41.3 17.0 GR 2.681 92.4 67.2 .9 34.7 2.104 -.3 .0 920.19 35 52.1 28.8 2.697 .00 .00 2.677 92.5 67.8 67.8 105.0 41.6 17.8 GR 920.34 36 52.0 .9 34.3 2.106 -.3 .0 68.5 28.3 2.694 .00 .00 68.5 104.0 41.9 18.7 GR 2.673 92.7 1.0 33.9 2.107 -.3 .0 920.50 36 51.9 .00 .00 69.0 110.1 41.8 18.9 GR 2.673 92.8 69.0 28.2 2.694 .9 33.9 2.107 .0 920.65 37 -.3 51.3 69.5 28.1 2.693 .00 .00 2.672 93.0 .8 33.8 2.107 -.3 .0 69.5 117.1 41.7 19.1 GR 920.80 37 50.6 93.3 70.8 27.8 2.696 .00 .00 70.8 116.5 41.4 19.1 GR 2.675 .0 920.95 37 49.6 .8 33.7 2.113 -.3 93.4 71.1 27.5 2.699 .00 .00 .0 71.1 117.7 41.4 20.6 GR 2.677 .8 34.3 2.111 -.3 921.11 38 49.0 .00 .00 2.680 93.5 71.3 27.2 2.703 .8 34.9 2.109 -.3 .0 71.3 119.0 41.4 22.1 GR 921.26 40 48.4 71.7 27.0 2.709 .00 .00 71.7 119.1 41.4 23.4 GR 2.685 93.6 -.3 .0 921.41 41 47.5 .8 35.6 2.108 2.690 93.6 72.0 26.8 2.717 .00 .00 72.0 119.2 41.5 24.8 GR .8 36.3 2.107 -.3 .0 921.56 42 46.7 2.699 95.4 78.9 23.7 2.735 .00 .00 78.9 136.2 42.0 30.4 GR .8 36.2 2.131 -.3 .0 921.72 47 43.3 16.3 2.726 .00 .00 42.0 50.2 DN 97.6 88.8 88.8 165.5 2.655 921.87 71 1.0 35.7 2.128 -.3 .0 40.5 90.7 17.8 2.717 .00 .00 42.0 46.1 DN 2.655 98.1 1.2 35.3 2.125 .0 90.7 139.3 922.02 94 37.4 -.4 .00 .00 91.3 148.8 42.5 53.8 DN 2.654 98.2 91.3 16.1 2.734 1.2 37.3 2.112 .0 922.17 126 36.5 -.4 .00 .00 .0 92.3 14.4 2.750 61.6 DN 2.652 98.4 35.7 1.2 39.3 2.099 -.4 92.3 160.1 42.9 922.32 159 2.651 97.5 88.0 18.4 2.732 .00 .00 88.0 134.3 43.0 52.7 DN 1.2 39.1 2.079 -.4 .0 922.48 180 34.2 .00 .00 90.3 135.4 44.5 56.7 DN 2.650 98.0 90.3 17.2 2.740 .0 1.3 39.7 2.079 -.3 922.63 170 33.2 15.9 2.748 .00 .00 2.649 98.6 93.0 1.4 40.4 2.078 -.3 .0 93.0 137.6 46.0 60.8 DN 922.78 161 32.1 2.650 100.0 100.0 2.7 2.798 .00 .00 46.0 83.8 DN .0 136.1 396.8 922.93 129 28.9 1.6 45.2 2.058 -.3 3.1 2.795 .00 .00 8 .0 136.4 371.1 46.6 82.2 DN 2.650 100.0 100.0 1.7 45.7 2.046 -.3 28.5 923.09 123 .00 .00 8 .0 136.5 347.0 47.2 80.6 DN 2.650 100.0 100.0 3.5 2.792 1.7 46.2 2.034 -.3 923.24 117 28.1 8 47.1 91.5 DN 2.650 100.0 100.0 1.0 2.819 .00 .00 .0 138.0 475.5 1.8 49.1 2.013 -.3 923.39 110 28.9 923.54 Coal 2.541 71.6 71.6 41.0 2.621 .00 .00 6 8 .0 DN .0 71.6 47.0 51.4 923.70 57 2.2 49.8 1.654 -.2 29.3 6 8 .0 DN 2.252 61.3 61.3 41.0 2.632 .00 .00 2.0 49.6 1.516 -.1 .0 61.3 49.5 53.5 40.0 923.85 46 .00 .00 6 8 1.907 54.6 54.6 41.0 2.627 1.8 49.4 1.378 .0 .0 54.6 52.4 55.7 .O DN 34 50.3 924.00 924.15 Coal 924.31 Coal 81.1 69.1 31.8 2.687 .00 42.5 16.5 GR 2.667 .00 -.2 .0 69.1 81.1 1.2 36.2 2.057 924.46 34 42.3 96.4 83.1 26.1 2.681 .00 .00 -.2 .0 83.1 100.1 40.8 20.5 DN 2.655 924.61 38 39.5 1.2 31.3 2.123 .00 .00 98.6 112.2 39.2 15.0 DN 2.657 99.7 98.6 23.8 2.675 -.2 924.76 42 36.7 1.2 26.5 2.190 .0 23.6 2.675 .00 .00 37.1 15.1 DN 2.657 99.9 99.7 .0 99.7 111.4 36.5 1.2 26.3 2.194 -.2 924.92 43 2.657 100.0 100.0 .0 100.8 110.7 35.0 15.1 DN 23.3 2.675 .00 .00 925.07 36.3 1.3 26.1 2.197 -.2 44 .00 .00 .0 101.4 91.0 27.8 22.1 DN 2.657 100.0 100.0 20.9 2.684 2.3 27.0 2.200 -.2 925.22 47 37.6

925.37 55	37.5	2.3 27.8 2.199	2	.0 102.3 97.2	27.6	27.0 DN	2.63/ 100.0 100.0			0	
925.53 63	37.4	2.3 28.7 2.197	 3	.0 103.2 104.2	27.4	32.0 DN	2.657 100.0 100.0	18.0 2.696	.00	.00	
925.68 103	40.9	2.2 27.5 2.192	2	.0 95.4 91.8	34.5	22.3 DN	2.657 95.4 95.4	21.4 2.684	.00	.00	
925.83 128	41.2	2.1 28.4 2.181	2	.0 93.0 91.4	37.3	23.9 DN	2.657 93.0 93.0	21.5 2.686	.00	.00	
925.98 153		2.1 29.3 2.170					2.657 91.0 90.7	21.6 2.688	.00	.00	
926.13 150	38.7	2.0 31.7 2.158	2	.0 93.4 102.2	39.5	35.9 DN	2.657 98.6 93.4	19.1 2.701	.00	.00	
926.29 147	36.0	2.0 34.0 2.146	2	.0 96.8 116.1	38.9	46.3 DN	2.656 99.3 96.8	16.5 2.718	.00	.00	
926.44 139	33.3	2.0 39.2 2.169	2	.0 127.9 405.1	38.2	87.6 DN	2.650 100.0 100.0	1.8 2.806	.00	.00	8
926.59 158		1.8 37.2 2.185		.0 127.2 350.7			2.650 100.0 100.0	3.1 2.793	.00	.00	
926.74 178		1.7 35.2 2.201		.0 128.2 322.0	38.9	74.4 DN	2.650 100.0 100.0	4.3 2.779	.00	.00	



																			1
Zone No.	. 2	BRO	ADBILL-1							ogy Resul	ts								
		AMI	LA OIF NE	į			28	3-01-98	i										
DEPTH M	GR	RT	RXO PHI	N RHOB	DD	SPI	SWU	sxou	PHIS	VCL FVCL	RHOMAU	SXO	SW	PHIE	RHOMA	POR-M	HC-M	FLAGS	3
926.90	184	32.5	1.6 33.	2 2.178	2	.0	112.0	165.5	39.5	53.0 DN	2.657	100.0	100.0	12.4	2.732	.00	.00		
927.05		31.9		2 2.155		.0	101.1	112.1	40.1	31.5 DN	2.657	100.0	100.0	20.7	2.696	.00	.00		
927.20		32.1		6 2.143			100.8		39.0	42.6 DN	2.656	100.0	100.0	17.8	2.710	.00	.00		
927.35		32.5		7 2.152			103.3		39.4	46.5 DN	2.657	100.0	100.0	16.0	2.718	.00	.00		
927.51		33.0		7 2.162		.0	106.2	159.0	39.8	50.5 DN	2.657	100.0	100.0	14.2	2.727	.00	.00		
927.66		33.9		7 2.168		.0	107.0	165.3	40.5	52.6 DN		100.0		13.1	2.731	.00	.00		
927.81		34.9		6 2.175		.0	107.9	172.8	41.3	54.8 DN		100.0		12.0	2.736	.00	.00		
927.96		33.6		7 2.177			122.0		43.3	75.0 DN	2.650	100.0	100.0		2.780	.00	.00		8
928.12		32.9		3 2.169		.0	116.4	293.9	51.1	69.6 DN	2.657	100.0	100.0	7.6	2.768	.00	.00		
928.27		32.2		9 2.162		.0	112.8	255.9	58.9	64.1 DN	2.657	100.0	100.0		2.756	.00	.00		
928.42		29.3		6 2.161		.0	114.1	197.2	59.6	55.4 DN	2.657	100.0	100.0	12.7		.00	.00		
928.57		26.2		3 2.159		.0	117.0	157.9	60.2	46.7 DN	2.657	100.0	100.0	15.6	2.719	.00	.00		
928.73		25.1		1 2.093		.0	107.4	103.1	63.0	58.0 DN		100.0		15.9		.00	.00		
928.88		24.0		0 1.950		.0	92.8	70.3	66.2	34.7 DN	2.641	92.8	92.8	26.8	2.699	.00	.00		8
929.03		23.4		9 1.809			139.4	209.3	69.4	66.3 GR		100.0			2.770	.00	.00		8
929.18		25.0		9 1.557			118.2	94.4	82.7	47.1 GR	2.650	100.0	100.0	15.8	2.735	.00	.00	4 7	8
929.34																			
929.49																			
929.64																			
929.79																			
929.94																			
930.10		al																	
930.25																			
930.40		a1																	
930.55		al																	
930.71	Coa	al																	
930.86	Coa	al																	
931.01	Coa	al																	
931.16	Coa	al																	
931.32		al																	
931.47																			
931.62																			
931.77																			
931.93																			
932.08																			
932.23																			
932.38																			
932.54																			
932.69																			
932.84																			
932.99																			
933.15																			
933.30																			
933.45																			
933.60																			
022 75	00.	- 1																	

933.75 Coal



Zone No.	2		DBILL-1 Y OIL NL					mplex -01-98	Lithol	ogy F	Results	5				
DEPTH M	GR	RT	RXO PHIN	RHOB	DD	SPI	SWU	sxou	PHIS	VCL	FVCL E	RHOMAU	SXO	SW	PHIE RHOMA	POR-M
935.43	Coal															
935.58	Coal															
935.74	Coal															
935.89	Coal															
936.04	Coal															
936.19	Coal															
936.35	Coal															
936.50	Coal															
936.65	Coal															
936.80	Coal															
936.96	Coal															
937.11	Coal															
937.26	Coal															
937.41	Coal															
937.56	Coal															
937.72	Coal															
937.87	Coal															
938.02	Coal															
938.17	Coal															
938.33	Coal									ļ						
938.48	Coal															
938.63	Coal															
938.78	Coal															
938.94	Coal															
939.09	Coal															
939.24 939.39	Coal															
939.55	Coal Coal															
939.70	Coal															
939.85	Coal															
940.00	Coal															
940.16	Coal															
940.31	Coal															
940.46	Coal															
940.61	Coal															
940.77	Coal															
940.92	Coal															
941.07	Coal															
941.22	Coal															
941.37	Coal															
941.53	Coal															
941.68	Coal															
0/1 03	Coal															

941.83 Coal 941.98 Coal 942.14 Coal 942.29 Coal

HC-M FLAGS

Coal
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AMITY OIL NL 28-01-98 SW PHIE RHOMA POR-M HC-M FLAGS DEPTH M GR DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO RXO PHIN RHOB 943.97 Coal 944.12 Coal 944.27 Coal 944.42 Coal 944.58 Coal 944.73 Coal 944.88 Coal 6 8 .0 70.0 39.0 61.6 .0 DN 2.117 70.0 70.0 41.0 2.617 .00 .00 945.03 33 30.7 3.2 48.2 1.462 -.8 2.650 100.0 100.0 17.9 2.727 4 78 124.2 241.8 55.2 42.4 GR .00 .00 945.18 59 21.1 .4 44.8 1.574 -1.22.650 100.0 100.0 12.5 2.749 .00 .00 4 78 .5 49.1 1.635 142.1 289.5 53.7 54.7 GR -2.4945.34 70 19.4 2.650 100.0 100.0 8.5 2.767 .00 .00 4 78 .6 53.4 1.696 159.8 349.7 52.2 64.9 GR 945.49 80 17.5 -3.74.4 2.790 78 169.0 547.6 52.5 77.5 GR 2.650 100.0 100.0 .00 .00 4 945.64 92 17.9 .6 55.0 1.632 -2.4.00 .00 4 78 174.3 883.2 52.8 90.6 GR 2.650 100.0 100.0 1.2 2.814 945.79 104 18.1 .5 56.6 1.568 -1.12.224 97.1 91.2 41.0 2.624 .00 .00 6 8 .0 91.2 97.1 55.8 .0 DN 945.95 94 18.1 .5 62.4 1.505 -.2 2.305 90.2 90.2 39:7 2.632 .00 .00 6 8 19.1 .7 63.4 1.556 .0 .0 90.2 83.9 55.5 3.1 DN 946.10 90 946.25 Coal 946.40 Coal 946.56 Coal 946.71 Coal 946.86 Coal Coal 947.01 947.17 Coal .00 1 .0 44.9 100.0 GR 2.650 100.0 100.0 .0 2.918 .00 947.32 121 37.1 .9 54.8 2.030 -.4 .0 2.915 .00 1 2.650 100.0 100.0 .00 1.3 51.7 2.088 -.2 .0 41.5 100.0 S 947.47 116 55.0 .0 2.937 .00 1 42.9 100.0 S 2.650 100.0 100.0 .00 1.2 54.0 2.070 -.2 .0 947.62 120 63.5 947.78 123 71.9 1.1 56.4 2.053 -.1 .0 44.2 100.0 S 2.650 100.0 100.0 .0 2.960 .00 .00 1 947.93 Coal .00 .0 64.0 196.2 47.6 62.8 DN 2.626 91.5 64.0 15.2 2.756 .00 8 .7 47.3 1.969 -.1 948.08 141 68.9 2.641 89.3 56.8 24.0 2.709 .00 8 56.8 135.7 47.5 41.5 DN .00 948.23 145 68.3 .7 43.9 1,969 .0 .0 2.733 72.0 19.4 31.5 2.756 8 .0 19.4 120.7 44.5 23.2 RT .05 .04 Ś 948.39 148 494.5 .6 44.2 2.021 . 2 66.5 13.0 39.9 2.653 .09 78 \$ 13.0 114.5 41.5 1.8 RT 2.650 .11 4 948.54 151 926.5 .4 44.5 2.074 . 4 15.1 131.4 33.9 2.650 68.5 15.1 33.9 2.650 .16 .14 4 7 \$ 948.69 136 997.4 .4 44.5 2.169 .3 .1 RT 67.5 14.0 35.7 2.650 7 2.650 .21 .18 \$ 948.84 123 1033.5 .4 42.1 2.074 .2 14.0 127.5 35.7 .0 RT 7 .27 .23 2.650 66.5 13.0 37.6 2.650 \$ 948.99 110 1069.6 .4 39.7 1.979 .2 13.0 124.3 37.6 .0 RT 2.592 64.7 11.3 41.0 2.632 .33 .29 6 8 \$.0 11.3 104.6 42.1 949.15 104 1167.0 .4 39.5 1.851 . 1 .0 DN .5 39.4 1.723 10.9 97.7 46.6 .0 DN 2.491 64.2 10.9 41.0 2.631 .40 .34 6 8 \$ 949.30 98 1263.8 .0 .0 .0 DN .40 8 \$ 949.45 64 1239.8 .5 46.2 1.805 . 1 .0 11.0 104.2 44.5 2.626 64.3 11.0 41.0 2.626 .46 .45 2.705 64.4 11.0 41.0 2.705 .52 8 \$ 949.60 55 1231.6 .0 .0 11.0 106.4 43.9 .0 RT .4 47.9 1.895 .58 .51 8 \$.0 11.1 108.8 43.3 .0 RT 2.804 64.4 11.1 41.0 2.804 .4 49.7 1.984 .0 949.76 46 1223.5 .0 12.5 95.9 43.3 .8 RT 2.808 66.0 12.5 40.7 2.808 .65 .56 8 \$.5 46.4 2.050 -.2 949.91 47 964.6 69.4 16.1 35.3 2.815 .70 .61 Ś .7 43.1 2.117 .0 16.1 99.1 43.2 9.6 RT 2.813 950.06 47 703.4 -.470.4 21.6 2.799 .70 2.783 93.2 .61 70.4 171.3 42.4 32.8 GR 950.21 50 60.0 .6 37.3 2.190 -.4 . 0 70.3 21.6 2.763 .70 .61 .0 70.3 171.2 39.6 33.6 GR 2.727 93.2 950.37 50 59.5 .6 36.4 2.161 -.5 .6 35.6 2.132 .0 34.4 GR 2.687 92.9 69.2 21.9 2.727 .70 .61 -.6 69.2 167.6 36.7 950.52 51 59.0 65.0 23.5 2.732 .70 .61 .5 37.0 2.114 -.5 . 0 65.0 165.1 36.4 33.5 GR 2.692 91.7 950.67 50 61.4

.0 61.1 164.1 36.1 32.6 GR

2.698 90.6 61.1 25.0 2.737

.70

.61

Complex Lithology Results

BROADBILL-1

Zone No. 2

950.82 49

63.8

.5 38.4 2.096

950.98 46 63.2 .4 36.8 2.0854 .0 60.7 165.7 36.0 28.7 GR 2.675 90.5 60.7 26.4 2.707 .70 951.13 42 63.1 .5 35.9 2.0955 .0 61.2 151.4 36.0 25.1 GR 2.677 90.7 61.2 27.0 2.705 .70 951.28 39 63.0 .5 35.1 2.104 - 6 .0 61.8 139.6 36.0 21.5 GR 2.679 90.8 61.8 27.7 2.702 .70	.61 .61
951.15 42 05.1 .5 55.9 2.095 .5 .0 01.2 151.1 50.0 25.1 01.2 17.0	.61
951.28 39 63.0 .5 35.1 2.1046 .0 61.8 139.6 36.0 21.5 GR 2.679 90.8 61.8 27.7 2.702 .70	
951.43 35 59.9 .8 32.1 2.1154 .0 65.4 117.3 35.3 17.6 GR 2.662 91.9 65.4 27.7 2.683 .70	.61
951.59 34 57.7 .9 31.0 2.1164 .0 67.0 110.6 35.7 15.4 DN 2.655 92.3 67.0 28.2 2.674 .7	.61
951.74 32 55.5 .9 29.8 2.1174 .0 67.4 99.2 36.1 8.6 DN 2.655 92.4 67.4 30.3 2.666 .70	.61
951.89 32 56.1 .9 30.2 2.1254 .0 69.0 108.5 35.7 14.0 GR 2.655 92.9 69.0 28.1 2.673 .70	.61
952.04 32 56.7 .9 30.7 2.1334 .0 69.0 110.8 35.2 13.6 GR 2.664 92.8 69.0 28.0 2.680 .70	.61
952.20 32 57.7 .8 29.0 2.1635 .0 72.8 126.3 30.0 14.2 GR 2.666 93.9 72.8 26.1 2.682 .70	.61
952.35 34 58.8 .8 27.8 2.1684 .0 74.1 128.6 29.7 15.0 DN 2.657 94.2 74.1 25.1 2.675 .70	.61

Zone No. 2 BROADBILL-1 Complex Lithology Results 28-01-98 AMITY OIL NL DEPTH M GR RT RXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS 29.4 952.50 35 .8 26.6 2.173 73.2 119.8 9.2 DN 93.9 73.2 26.7 2.668 .70 .61 59.8 -.4 .0 2.657 .9 26.2 2.168 55.3 109.5 4.8 DN .70 .61 952.65 36 99.7 -.6 .0 29.5 2.657 88.8 55.3 28.5 2.662 952.80 37 134.5 .9 25.8 2.162 -.8 .3 46.3 100.6 29.6 .4 DN 30.2 2.657 .75 .63 \$ 2.656 85.7 46.3 952.96 33 1301.9 .8 26.0 2.168 -.4 . 1 15.0 108.0 29.6 .0 RT 2.661 68.4 15.0 30.1 2.661 .79 . 67 \$ 953.11 33 1284.0 .8 26.5 2.169 15.0 108.6 .71 \$ -.4 .0 29.9 .0 RT 2.666 68.4 15.0 30.3 2.666 .84 953.26 33 1266.3 .8 27.1 2.170 -.4 .0 15.0 109.2 30.2 2.670 15.0 30.4 2.670 .88 .75 \$.0 RT 68.4 953.41 34 1199.5 .7 26.2 2.173 -.4 .0 15.6 115.5 30.1 .0 RT 2.665 69.0 15.6 30.0 2.665 .93 .79 953.57 35 1132.5 .7 25.2 2.175 -.3 .0 16.3 122.5 30.0 2.659 29.6 2.659 .98 .83 \$.0 RT 69.6 16.3 .0 953.72 31 1058.9 1.5 25.8 2.238 -.3 18.5 89.3 30.7 .0 RT 2.692 71.3 18.5 27.2 2.692 1.02 .86 953.87 31 1107.8 1.5 25.5 2.256 -.3 .0 18.6 91.5 26.2 .0 RT 2.699 71.5 18.6 26.5 2.699 1.06 .89 954.02 31 1157.5 1.5 25.3 2.274 -.4 1.3 18.8 93.9 21.7 .0 RT 2,706 71.6 18.8 25.7 2.706 1.10 .93 \$ 24.0 105.0 954.18 33 795.5 1.5 22.7 2.262 -.4 . 9 20.9 5.8 RT 2.673 75.2 24.0 23.0 2.680 1.13 .95 \$ 954.33 35 426.6 1.2 22.4 2.258 -.4 7.2 34.5 134.6 12.0 15.1 DN .97 \$ 2.657 80.8 34.5 19.6 2.675 1.16 954.48 36 66.4 1.0 22.1 2.254 -.4 17.485.6 143.2 3.1 11.6 DN 2.657 96.9 85.6 21.0 2.671 1.16 .97 954.63 41 65.6 .9 22.4 2.257 -.3 7.1 87.4 154.9 12.4 14.5 DN 2.657 97.3 87.4 19.9 2.675 1.16 .97 954.79 46 64.8 .9 22.7 2.259 -.3 .0 89.2 168.2 21.6 17.4 DN 2.657 97.7 89.2 18.8 2.678 1.16 .97 954.94 63.6 .6 22.6 2.256 -.2 .0 88.9 192.9 28.3 15.6 DN 2.657 97.7 88.9 19.6 2.676 1.16 .97 61 955.09 66 65.2 .7 21.9 2.259 -.3 .0 87.8 168.6 29.8 12.6 DN 2.657 97.4 87.8 20.4 2.672 1.16 .97 -.3 .97 955.24 71 66.2 .9 21.3 2.262 .0 87.1 149.9 31.3 9.5 DN 2.657 97.3 87.1 21.2 2.668 1.16 .9 21.7 2.269 .0 112.3 167.0 35.9 15.1 DN .97 955.40 68 42.7 -.3 2.657 100.0 100.0 18.9 2.675 1.16 955.55 66 .8 22.2 2.276 -.3 .0 177.7 188.0 40.5 20.7 DN 2.657 100.0 100.0 16.7 2.682 1.16 .97 18.3 .8 23.2 2.293 -.3 .0 187.5 273.6 43.2 33.6 DN 2.656 100.0 100.0 11.5 2.698 1.16 .97 955.70 68 19.5 955.85 78 21.1 .8 24.9 2.293 -.3 .0 185.9 352.5 44.8 44.3 DN 2.654 100.0 100.0 8.0 2.712 1.16 .97 956.01 .8 26.7 2.292 .0 186.5 500.5 55.2 DN 2.650 100.0 100.0 4.5 2.737 .97 89 22.6 -.3 46.3 1.16 956.16 95 25.1 .8 28.2 2.247 -.3 .0 149.4 282.5 44.9 47.2 DN 2.656 100.0 100.0 10.0 2.719 1.16 .97 956.31 101 .8 29.6 2.201 .0 123.5 195.2 43.6 39.3 DN 2.657 100.0 100.0 1.16 .97 27.6 -.3 15.3 2.705 956.46 95 31.6 .8 36.2 2.155 -.3 .0 111.7 254.8 52.0 63.4 DN 2.657 100.0 100.0 10.5 2.755 1.16 .97 956.61 95 32.6 .8 38.5 2.152 -.3 .0 124.9 445.1 50.5 76.9 DN 2.650 100.0 100.0 4.6 2.783 1.16 .97 33.5 .8 40.8 2.149 -.3 .0 125.4 534.5 49.1 81.7 GR 2.650 100.0 100.0 .97 8 956.77 96 3.2 2.811 1.16 956.92 97 33.9 .8 39.2 2.135 .0 121.2 419.5 49.0 74.6 DN 2.650 100.0 100.0 5.2 2.778 1.16 .97 8 -.3 957.07 99 34.2 .8 37.5 2.121 -.3 .0 97.8 207.5 48.8 58.9 DN 2.654 99.6 97.8 13.9 2.745 1.16 .97 957.22 98 34.1 .9 34.2 2.120 -.3 .0 92.0 140.1 47.0 37.7 DN 2.655 92.0 20.8 2.703 1.16 .97 98.4 957.38 105 32.4 1.0 34.0 2.124 -.3 .0 95.3 133.5 50.3 37.8 DN 2.655 99.0 95.3 20.5 2.704 1.16 .97 99.0 128.0 99.0 .97 957.53 112 30.7 1.2 33.7 2.129 -.3 .0 53.7 37.9 DN 2.655 99.8 20,2 2,704 1.16 957.68 134 36.6 7.9 37.3 2.022 -.2 . 0 71.3 31.4 58.1 19.9 DN 2.650 71.3 71.3 32.3 2.678 1.16 .97 957.83 132 35.5 8.5 38.9 1.895 -.1 .0 65.1 24.1 59.4 .0 DN 2.616 65.1 65.1 41.0 2.616 1.16 .97 8 6 8 957.99 130 34.3 9.1 40.5 1.767 .0 .0 66.1 23.3 60.7 .0 DN 2.539 66.1 66.1 41.0 2.619 1.16 .97 67.7 20.7 59.1 6 8 958.14 107 32.8 11.5 45.4 1.676 . 1 .0 .0 DN 2.513 67.7 67.7 41.0 2.633 1.16 .97 958.29 Coal 958.44 Coal 958.60 Coal 958.75 Coal 958,90 Coal 959.05

Coal

Coal

Coal

959.21

	959.51 Coal										
	959.66 Coal										
	959.82 Coal										
	959.97 Coal										
	960.12 143 27.3	5.5 47.6 1.995	4	.0 134.9 157.5	44.9 74.6 DN	2.650 100.0 100.0	5.2 2.782	1.16	.97	8	
	960.27 144 25.8	5.4 44.5 2.144	-1.0	.0	39.4 98.1 S	2.650 100.0 100.0	.7 2.855	1.16	.97 1		
	960.42 136 23.1	3.8 38.3 2.215	7		38.9 89.6 N	2.650 100.0 100.0	3.6 2.812	1.16	.97 2 4		
	960.58 133 24.8	2.3 37.2 2.200	5	.0 156.5 466.9	38.2 86.8 DN	2.650 100.0 100.0	.6 2.805	1.16	.97		
,	960.73 131 26.6	.9 36.1 2.184	4	.0 136.7 377.4	37.6 73.8 DN	2.650 100.0 100.0	5.4 2.777	1.16	.97		
	960.88 132 27.2	.9 37.0 2.195	4	.0 146.1 642.4	36.7 84.0 DN	2.650 100.0 100.0	1.6 2.799	1.16	.97		

Zone No. 2		ADBILL-1 TY OIL NL				Cor		Lithol	ogy Resul							
DEPTH M GR	RT	RXO PHIN	RHOB	DD	SPI	SWU	SXOU	PHIS	VCL FVCL	RHOMAU	sxo	SW	PHIE RHOMA	POR-M	HC-M	FLAGS
961.03 134	27.7	.8 37.9	2.207	4	.0			35.9	88.7 N	2.650	100.0	100.0	3.9 2.821	1.16	.97	2
961.19 133	26.3	3.1 38.4	2.245	2	.0			37.4	89.8 N	2.650	100.0	100.0	3.4 2.860	1.16	.97	2
961.34 132	26.2	3.6 40.6	2.240	1	.0			38.1	94.5 N	2.650	100.0	100.0	1.9 2.885	1.16	.97	2
961.49 130	26.4	4.1 42.8	2.236	.0	.0			38.7	96.7 S	2.650	100.0	100.0	1.2 2.910	1.16	.97	1
961.64 133	24.2	2.5 43.5	2.194	.2	.0			37.6	94.1 S	2.650	100.0	100.0	2.2 2.884	1.16	.97	3
961.80 137	21.9	.9 44.2	2.152	. 4	.0			36.5	91.5 S	2.650	100.0	100.0	3.3 2.858	1.16	.97	3
961.95 137	21.0	1.0 44.2	2.123	2				33.6	85.1 S	2.650	100.0	100.0	5.9 2.804	1.16	.97	34
962.10 132	20.4	.9 44.3	2.075	2				33.7	85.2 S	2.650	100.0	100.0	6.0 2.804	1.16	.97	34
962.25 127	19.7	.9 44.3	2.026	2				33.7	85.4 S	2.650	100.0	100.0	6.0 2.804	1.16	.97	34
962.41 131	19.5	.9 44.7	2.039	.2				35.2	88.8 S	2.650	100.0	100.0	4.6 2.810	1.16	.97	34
962.56 135	19.4	.9 45.2	2.055	.7				36.7	92.2 S	2.650	100.0	100.0	3.2 2.817	1.16	.97	34
962.71 131	19.2	1.1 43.8	2.157	. 4				35.8	90.0 S	2.650	100.0	100.0	3.8 2.813	1.16	.97	34
962.86 133	19.1	1.1 45.2	2.165	.2				35.3	89.0 S	2.650	100.0	100.0	4.2 2.811	1.16	.97	34
963.02 135	18.9	1.2 46.7	2.173	.0				34.9	88.1 S	2.650	100.0	100.0	4.7 2.809	1.16	.97	34

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BROADBILL-1

AMITY OIL NL

Complex Lithology Results 28-01-98

Zone No. 2

Hydrocarbon Volume Report

Formation Name		
FROM	M	850.087
TO	M	963.016
INTERVAL	M	112.928
PHIE Cut off		.050
SW Cut Off		.500
Vclay Cut Off		.300
Net Pay	M	.000
Average PHIE	ફ	.000
Average SW	બ	.000
Average Vclay	90	.000
Integrated PHI	M	.000
Sum PHT*(1-SW)	М	.000

28-01-98 AMITY OIL NL DEPTH M GR RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS RTRXO PHIN 779.98 38 53.0 37.9 75.0 43.4 2.765 .00 .00 1.5 50.0 1.931 -3.1 2.9 75.0 10.7 GR 2.768 75.0 1.3 42.6 2.721 780.14 38 1.6 1.7 47.7 1.918 -3.14.7 70.1 50.6 35.6 11.1 GR 2.718 70.1 70.1 .00 .00 780.29 39 94.7 29.5 2.660 .00 1.8 1.9 45.5 1.905 -3.194.7 69.7 33.4 11.6 GR 2.650 94.7 .00 4 7 780.44 40 2.2 .5 44.6 1.633 -1.978.9 124.4 37.5 13.9 GR 2.650 95.4 78.9 32.3 2.663 .00 .00 4 7 780.59 42 2.1 .4 45.3 1.577 -.3 71.2 122.2 42.4 16.0 GR 2.650 93.4 71.2 35.6 2.665 .00 .00 4 7 780.75 43 .3 46.0 1.521 68.4 130.0 47.2 17.8 GR 2.650 92.7 68.4 36.9 2.666 .00 78 2.1 1.3 .00 4 780.90 43 2.9 .3 43.8 1.654 1.4 62.0 144.8 42.7 18.4 GR 2.650 90.9 62.0 34.9 2.667 .00 .00 4 7 781.05 44 3.4 .3 41.5 1.787 1.5 63.8 172.2 38.3 18.9 GR 2.650 91.4 63.8 31.1 2.667 .00 .00 4 7 781.20 47 3.3 .5 40.2 1.682 1.5 63.6 126.5 40.5 23.3 GR 2.650 91.3 63.6 31.1 2.671 .00 .00 4 7 781.35 51 2.9 .4 43.3 1.569 3.2 68.7 145.2 44.6 28.7 GR 2.650 92.8 68.7 29.8 2.676 .00 .00 4 78 781.51 55 2.4 .3 46.4 1.456 5.0 80.4 184.9 48.7 34.1 GR 2.650 95.7 80.4 26.5 2.681 .00 .00 4 78 781.66 .3 51.7 1.566 76.1 162.6 47.7 33.0 GR 2.650 76.1 27.2 2.680 78 54 2.6 4.1 94.7 .00 .00 4 72.3 27.9 2.679 781.81 53 2.8 .4 56.9 1.676 3.3 72.3 145.6 46.7 31.9 GR 2.650 93.7 .00 .00 4 78 59.3 32.1 2.668 781.96 45 1.0 45.9 2.043 1.0 59.3 86.3 40.2 20.3 GR 2.650 86.3 .00 .00 4 7 3.6 7 782.12 1.3 45.5 2.068 54.5 77.6 38.0 17.8 GR 2.650 77.6 54.5 31.2 2.666 .00 .00 4 43 4.6 .8 72.3 35.8 15.3 GR 782.27 41 1.6 45.1 2.093 .6 48.4 2.650 72.3 48.4 30.3 2.664 .05 .02 4 7 \$ 6.4 .05 782.42 43 4.9 1.3 44.3 2.022 1.1 57.0 84.3 35.1 17.6 GR 2.650 84.3 57.0 28.9 2.666 .02 4 7 782.57 34.5 20.0 GR 2.650 91.0 62.4 27.6 2.668 .05 7 45 4.4 1.0 43.5 1.951 1.6 62.4 101.7 .02 4 62.2 129.3 41.7 62.2 30.0 2.676 782.73 50 .5 40.4 1.732 1.9 28.2 GR 2.650 90.9 .05 .02 4 7 3.5 782.88 51 .5 45.0 1.730 2.2 65.1 129.3 40.3 29.1 GR 2.650 91.8 65.1 28.6 2.676 .05 .02 4 7 3.4 68.2 129.8 39.0 30.0 GR 68.2 27.3 2.677 .05 7 783.03 52 .6 49.7 1.728 2.650 92.6 .02 4 3.4 2.5 783.18 50 1.1 51.5 1.578 67.8 83.2 45.9 27.1 GR 2.650 83.2 67.8 30.8 2.675 .05 4 78 2.8 . 4 .02 783.34 53 .7 48.7 1.556 78.9 113.0 49.2 32.3 GR 2.650 95.4 78.9 27.6 2.679 .05 .02 4 78 2.4 . 4 783.49 57 .3 46.0 1.533 89.1 182.2 52.4 37.5 GR 2.650 97.7 89.1 24.5 2.684 .05 .02 2.2 .5 4 78 783.64 57 .5 45.1 1.678 -.9 83.3 147.2 46.1 37.6 GR 2.650 96.4 83.3 24.5 2.684 .05 .02 4 78 2.5 .05 783.79 57 2.8 .7 44.3 1.821 -2.377.9 125.5 39.8 37.1 GR 2.650 95.1 77.9 24.7 2.684 .02 4 78 88.4 41.6 783.95 56 2.6 1.5 37.0 2.048 -3.1.0 86.4 36.8 GR 2.668 88.4 86.4 22.9 2.690 .05 .02 784.10 99.2 42.1 2.677 22.7 2.697 58 2.7 1.2 38.4 2.039 -3.5.0 83.9 39.3 GR 96.6 83.9 .05 .02 84.7 22.4 2.706 784.25 60 .9 39.8 2.032 -3.8 .0 84.7 115.3 42.6 41.6 GR 2.689 96.7 .05 .02 2.7 784.40 60 1.1 42.4 2.003 -3.6.0 77.0 95.7 42.4 41.9 GR 2.702 94.9 77.0 24.3 2.716 .05 .02 2.8 1.4 45.0 1.975 2.721 784.56 60 -3.3 72.6 81.3 42.2 42.2 GR 81.3 72.6 26.2 2.730 .05 .02 2.8 .0 784.71 61 .7 42.9 1.893 72.8 102.7 41.5 42.6 GR 2.586 93.8 72.8 28.4 2.653 .05 2.4 -3.2 .0 .02 6 8 784.86 59 .7 45.0 1.901 -3.3 .0 73.3 98.9 42.3 40.1 GR 2.640 94.0 73.3 29.7 2.680 .05 .02 2.3 8 785.01 57 .8 47.2 1.912 -3.5 74.1 95.3 43.2 37.5 GR 2.692 94.2 74.1 31.0 2.708 .05 .02 2.1 .0 8 785.16 58 .8 46.1 1.943 -3.2.0 75.7 97.0 45.5 38.7 GR 2.705 94.6 75.7 29.3 2.718 .05 .02 2.2 785.32 59 .9 45.1 1.972 -2.9.0 76.8 100.1 47.7 39.9 GR 2.718 94.9 76.8 27.3 2.727 .05 .02 2.4 785.47 62 .9 46.9 1.962 -3.3 .0 81.8 99.4 50.7 44.7 GR 2.749 96.1 81.8 26.4 2.745 .05 .02 2.1 785.62 62 .8 48.1 1.984 86.0 102.4 53.1 44.5 GR 2.813 97.0 86.0 26.4 2.780 .05 .02 1.9 -3.3 .0 785.77 .8 49.3 2.005 -3.390.5 105.7 55.5 44.2 GR 2.876 98.0 90.5 26.3 2.814 .05 .02 62 1.7 .0 785.93 54 2.1 1.0 44.8 2.089 -2.8 .0 86.2 97.2 53.8 32.8 GR 2.852 97.1 86.2 26.6 2.815 .05 .02 786.08 50 2.3 1.1 42.8 2.125 -2.9 74.9 84.4 54.6 27.3 GR 2.650 84.4 74.9 30.7 2.675 .05 .02 4 78 786.23 46 1.1 40.9 2.160 -2.966.9 75.5 55.3 21.7 GR 2.650 75.5 66.9 34.3 2.670 .05 .02 4 78 2.5 786.38 1.1 38.9 2.173 -3.164.4 76.0 55.7 22.6 GR 2.650 76.0 64.4 33.7 2.670 .05 .02 4 78 46 2.7 786.54 47 2.9 1.1 36.9 2.184 -3.362.7 76.5 56.1 23.4 GR 2.650 76.5 62.7 33.2 2.671 .05 .02 4 78 786.69 48 3.0 1.7 33.4 2.209 -3.6 .0 92.6 95.1 49.6 24.2 GR 2.770 95.1 92.6 21.6 2.762 .05 .02 786.84 49 .0 88.8 110.7 48.4 26.2 GR 2.789 97.7 88.8 20.8 2.775 .05 .02 3.4 1.3 33.8 2.218 -3.4

Complex Lithology Results

Zone No. 3

BROADBILL-1

				_															_	
78	6.99	50	3.6	.9	34.3	2.227	-3.3	.0	87.2	134.3	47.3	28.2 GR	2.809	97.3	87.2	20.0 2.788	.05	2		
78	7.15	47	4.4	2.5	32.3	2.288	-3.5	.0	84.6	86.0	43.0	24.1 GR	2.838	86.0	84.6	19.3 2.813	.05	.02		
78	7.30	4.5	4.6	4.2	30.3	2.349	-3.8	.0	88.0	70.7	38.7	20.0 GR	2.865	88.0	88.0	18.7 2.838	.05	.02		
	7.45		3.6	2.4	27.3	2.142	-3.7					25.2 GR	2.636	86.0	86.0	20.8 2.658	.05	.02		
	7.60											31.2 GR	2.638	95.6	80.0	21.8 2.664	.05	.02		
. •	7.76		3.2			2.036		. 0	78.8	139.0	43.2	37.2 GR	2.637	95.4	78.8	22.8 2.670	.05	.02		
. •	7.91		3.7									36.7 GR	2.738	91.3	83.6	19.4 2.738	.05	.02		
	8.06		3.8			2.239						36.3 GR	2.887	89.0	89.0	17.7 2.831	.05	.02		
	8.21		3.6			2.119						47.8 GR	2.667	99.7	98.5	14.2 2.695	.05	.02		
	8.37	65				2.042						48.6 GR	2.603	96.9	85.5	17.2 2.661	.05	.02	6	

Complex Lithology Results BROADBILL-1 Zone No. 3 28-01-98 AMITY OIL NL PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS SWU SXOU DD SPI DEPTH M GR RXO PHIN RHOB .02 6 95.0 77.2 20.3 2.623 .05 .0 77.2 115.9 41.8 49.4 GR 2.522 1.0 34.9 1.964 -3.5 788.52 65 3.4 93.6 72.0 23.9 2.636 .05 .02 6 43.1 44.1 GR 2.561 1.2 37.3 1.950 -3.5.0 72.0 95.3 788.67 62 3.2 2.596 80.1 66.4 27.5 2.649 .05 .02 6 -3.5 .0 66.4 80.1 44.4 38.7 GR 1.3 39.7 1.936 788.82 58 3.2 71.1 28.2 2.669 .05 .02 2.626 93.4 .0 71.1 98.7 47.7 39.2 GR .8 42.1 1.931 -3.0 788.97 58 2.6 .05 .02 74.2 27.5 2.671 94.2 74.2 99.1 51.4 39.0 GR 2.630 .9 41.3 1.946 -2.9.0 789.13 58 2.5 85.9 23.7 2.685 .05 .02 4 78 38.8 GR 2.650 97.0 85.9 111.0 55.2 .9 40.5 1.961 -2.8789.28 58 2.4 38.1 GR 2.647 93.6 71.8 29.4 2.681 .05 .02 71.8 96.2 48.7 789.43 57 2.4 .8 43.5 1.927 -2.5.0 .05 .02 2.701 84.3 67.4 29.2 2.712 .0 67.4 84.3 47.4 32.7 GR 789.58 54 3.0 1.1 43.2 1.985 -3.063.9 29.4 2.751 .05 .02 75.8 75.8 46.1 27.4 GR 2.755 789.74 50 1.4 42.8 2.041 -3.5 .0 63.9 3.4 2.728 70.6 70.6 26.7 2.731 .05 .02 42.6 26.6 GR 789.89 49 2.1 38.9 2.081 -3.5 .0 70.6 68.8 3.4 78.8 24.0 2.711 .05 .02 39.1 25.8 GR 2.705 78.8 2.8 35.1 2.121 -3.5.0 78.8 66.4 790.04 49 3.3 79.0 24.4 2.644 .05 .02 6 79.0 103.0 45.6 2.603 95.4 1.0 33.7 2.017 -2.8 .0 33.7 GR 790.19 54 2,9 .05 .02 6 93.5 74.6 26.4 2.629 2.578 -2.8 .0 74.6 93.5 46.5 34.3 GR 790.35 55 2.8 1.1 35.0 1.972 .02 2.549 85.4 70.5 28.3 2.633 .05 70.5 85.4 47.3 35.0 GR 1.1 36.3 1.928 -2.8 .0 790.50 55 2.8 66.2 29.8 2.617 .05 .02 1.3 37.5 1.918 -2.9 .0 66.2 78.0 45.4 33.4 GR 2.558 78.0 790.65 54 2.9 63.3 31.2 2.622 .05 .02 6 43.6 2.568 71.7 71.7 31.8 GR 790.80 53 3.0 1.4 38.6 1.908 -2.9 .0 63.3 64.2 33.8 2.615 .05 .02 6 80.8 45.9 25.9 GR 2.572 80.8 64.2 1.0 38.3 1.903 -3.4 .0 790.96 49 2.7 67.9 32.0 2.629 .05 .02 6 67.9 83.5 48.7 30.0 GR 2.582 83.5 1.0 39.1 1.911 -3.2 .0 791.11 52 2.5 71.8 30.3 2.641 .05 .02 6 51.6 34.1 GR 2.591 86.3 791.26 55 2.4 1.0 40.0 1.917 -2.9 .0 71.8 86.3 71.5 29.6 2.675 .05 .02 88.8 50.3 34.7 GR 2.644 88.8 .0 71.5 1.0 42.0 1.943 -3.3 791.41 55 2.5 .05 .02 35.3 GR 2.698 91.6 71.8 28.9 2.710 -3.7.0 71.8 91.6 48.9 55 2.6 1.0 43.9 1.971 791.57 .02 2.669 95.7 .05 80.4 101.2 45.1 31.6 GR 80.4 25.2 2.687 1.0 36.9 2.045 -3.8 .0 791.72 53 2.7 .05 .02 2.639 98.9 94.8 24.3 2.668 .0 94.8 103.2 45.9 33.4 GR 791.87 54 2.0 1.0 35.3 2.036 -3.5 46.8 35.2 GR 2.609 100.0 100.0 23.4 2.649 .05 .02 6 .0 114.0 105.3 1.1 33.7 2.026 ~3.3 792.02 55 1.5 2.679 93.4 79.6 25.6 2.695 .05 .02 -3.5.0 79.6 93.4 44.1 32.0 GR 2.7 1.2 38.0 2.040 792.18 53 83.3 24.6 2.703 .05 .02 2.691 92.3 45.2 31.9 GR 792.33 53 2.6 1.3 37.6 2.064 -3.2 .0 83.3 92.3 2.702 91.5 87.2 23.6 2.711 .05 .02 46.3 31.7 GR 1.4 37.1 2.086 -3.0 .0 87.2 91.5 2.6 792.48 53 23.7 2.691 .05 .02 .0 84.4 92.3 49.0 35.7 GR 2.670 92.3 84.4 1.3 37.4 2.043 -3.0792.63 56 2.6 81.8 23.9 2.669 .05 .02 2.631 93.5 .0 81.8 93.5 1.2 37.8 1.999 -3.051.7 39.7 GR 792.78 59 2.6 84.7 23.5 2.668 .05 .02 2.611 96.7 84.7 121.8 51.8 46.8 GR .7 40.4 1.955 -2.5.0 792.94 64 2.3 .05 .02 .0 87.7 117.0 49.9 46.7 GR 2.648 97.4 87.7 22.1 2.687 -2.2.9 40.2 1.990 793.09 64 2.4 20.7 2.704 .05 .02 2.682 98.0 90.4 1.0 40.0 2.025 -2.0 .0 90.4 114.3 48.0 46.6 GR 793.24 63 2.5 .02 89.3 22.0 2.706 .05 44.9 GR 2.687 97.8 89.3 113.9 50.4 793.39 62 2.4 .9 40.7 2.017 -2.2.0 23.2 2.708 .05 .02 .0 89.4 114.0 52.8 43.1 GR 2.691 97.8 89.4 2.2 .9 41.4 2.010 -2.5793.55 61 .05 .02 52.1 32.1 GR 2.681 96.0 81.6 29.1 2.697 81.6 98.5 .8 41.8 1.984 -2.9.0 793.70 53 2.0 82.0 27.4 2.728 .05 .02 2.724 96.1 .8 40.4 2.053 -3.0.0 82.0 105.1 49.0 28.7 GR 793.85 51 2.3 26.2 2.765 .05 .02 2.774 96.2 82.2 82.2 110.7 45.9 25.4 GR .9 39.0 2.122 -3.0 .0 794.00 48 2.6 78.6 24.0 2.819 .05 .02 2.846 95.3 78.6 96.8 41.9 23.7 GR 1.3 37.5 2.211 -3.2.0 794.16 47 3.4 22.1 2.874 .05 .02 5 90.2 37.8 22.0 GR 2.915 90.2 78.6 -3.5.0 78.6 1.8 36.1 2.298 794.31 46 4.1 20.9 2.815 .05 .02 2.842 93.2 93.2 .0 93.2 76.1 39.3 25.1 GR 2.8 34.6 2.253 -3.8 794.46 48 3.1 .02 .05 32.5 GR 2.723 84.0 84.0 22.7 2.728 82.6 41.7 794.61 53 3.0 1.9 37.2 2.105 -3.3.0 84.0 75.2 26.0 2.666 .05 .02 44.1 40.0 GR 2.623 94.4 .0 75.2 96.8 1.0 39.9 1.961 -2.9 794.77 59 2.7 69.3 28.2 2.660 .05 .02 6 98.9 46.3 41.5 GR 2.604 92.9 .8 42.5 1.910 -3.0 .0 69.3 794.92 60 2.7 68.7 28.2 2.654 .05 .02 6 8 2.581 92.8 .6 45.2 1.860 -3.2 .0 68.7 111.4 48.4 43.1 GR 2.7 795.07 61 .05 .02 28.0 2.705 69.1 89.7 44.8 2.687 89.7 69.1 .0 38.5 GR 795.22 58 2.9 1.0 43.9 1.961 -2.42.639 90.2 62.4 30.7 2.674 .05 .02 .0 62.4 90.2 43.3 35.5 GR .9 43.3 1.919 -2.3 795.38 56 3.1

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																	5 8	•
795.53	53	3.2	.7 42.7	1.877	-2.3	.0	56.8	92.7	41.7	32.4 GR	2.592	89.3	56.8	33.5 Z.041	.05	2	- 6 8	
795.68	55	2.7	.6 46.7	1.744	-2.7	. 0	63.5	107.4	45.7	34.6 GR	2.474	91.3	63.5	32.4 2.625	.05	.02	6 8	
795.83	59	2.7								40.4 GR	2.519	92.5	67.7	29.6 2.621	.05	.02	6 8	
795.03	63	2.6	.7 46.7								2.568	93.8	72.6	26.7 2.655	.05	.02	6 8	
	62	2.5	.9 46.3							44.6 GR	2.701	94.1	73.6	27.0 2.718	.05	.02		
796.14	~		1.0 45.9							43.1 GR				24.2 2.794		.02		
796.29	61	2.6								44.1 GR				22.6 2.772		.02		
796.44	62	2.2	.9 43.9							43.2 GR				21.8 2.793		.02		
796.59	61	2.4	.9 43.4								2.873					.02		
796.75	60	2.7	.8 42.9							42.2 GR						.02		
796.90	55	3.4	2.1 38.1	2.187	-3.1	.0	84.3	84.4	42.0	34.2 GR	2.844	84.4	84.3	20.4 2.807	.05	.02		

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i - Landa Bosse (Ching) - Ty

Zone No. 3 BROADBILL-1 Complex Lithology Results AMITY OIL NL 28-01-98 DEPTH M GR RXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS .02 797.05 49 4.0 3.5 33.2 2.253 -3.6 .0 85.6 71.6 38.8 26.3 GR 2.819 85.6 85.6 19.6 2.796 .05 .02 797.20 52 2.9 2.1 31.9 2.111 -3.7.0 90.2 83.9 40.3 31.1 GR 2.660 90.2 90.2 21.2 2.679 .05 797.36 57 2.7 1.5 36.8 1.990 -3.2 .0 78.9 82.8 45.2 37.3 GR 2.612 82.8 78.9 25.0 2.655 .05 .02 6 797.51 61 2.4 .9 41.7 1.867 -2.7. 0 74.2 93.4 50.2 43.6 GR 2.525 93.4 74.2 28.0 2.623 .05 .02 6 8 .02 6 8 797.66 2.3 .8 43.7 1.861 -2.5.0 76.8 102.2 51.8 45.1 GR 2.548 94.9 76.8 27.2 2.640 . 0.5 797.81 63 2.2 .7 45.7 1.855 -2.2 .0 79.7 113.1 53.5 46.6 GR 2.573 95.6 79.7 26.5 2.656 .05 .02 6 8 797.97 63 2.6 1.1 42.2 1.950 -2.6 .0 76.8 92.3 60.6 45.6 GR 2.638 92.3 76.8 24.8 2.682 .05 .02 798.12 65 2.6 1.1 41.8 1.953 -2.5.0 79.7 98.7 59.8 48.5 GR 2.629 95.6 79.7 23.3 2.680 .05 . 02 798.27 1.0 41.4 1.956 .05 .02 67 2.6 -2.5 . 0 82.6 105.9 59.1 51.4 GR 2.618 96.3 82.6 21.8 2.678 798.42 65 2.7 .9 43.0 1.967 -3.1 .0 78.8 107.7 54.1 49.2 GR 2.667 95.3 78.8 22.9 2.699 .05 .02 .02 798.58 64 2.8 .8 44.6 1.977 -3.7 .0 75.6 109.8 49.1 46.9 GR 2.711 94.6 75.6 24.0 2.725 .05 798.73 63 3.3 1.0 45.0 2.010 -3.9 . 0 71.6 105.9 49.6 46.3 GR 2.773 93.5 71.6 23.3 2.758 .05 .02 798.88 65 2.5 .9 45.3 1.981 -3.8 .0 81.0 105.6 45.5 48.1 GR 2.736 95.9 81.0 23.6 2.738 .05 .02 799.03 66 2.0 .9 45.5 1.953 -3.8 .0 89.3 105.0 41.4 49.9 GR 2.699 97.8 89.3 24.0 2.719 .05 .02 799.19 69 2.2 .9 42.9 2.022 -3.2.0 99.0 123.4 42.6 54.2 GR 2.735 99.8 99.0 18.6 2.738 .05 .02 799.34 68 2.4 1.2 41.5 2.112 -3.0 .0 107.2 126.2 42.3 53.4 GR 2.852 100.0 100.0 15.8 2.790 .05 .02 799.49 2.7 1.4 40.1 2.201 -2.9.0 113.1 129.8 42.1 52.5 GR 2.974 100.0 100.0 13.6 2.846 .05 .02 68 5 799.64 60 2.8 37.3 2.276 -3.3 .0 98.0 91.1 38.2 41.9 GR 2.975 98.0 98.0 15.1 2.871 .05 .02 3.6 799.80 53 4.8 4.2 34.5 2.354 -3.8 .0 87.1 74.1 34.2 31.5 GR 2.981 87.1 87.1 16.4 2.900 .05 .02 5 799.95 40 5.5 5.6 26.8 2.432 -3.8 .0 88.2 66.9 38.3 13.6 GR 2.884 88.2 88.2 17.9 2.862 .05 .02 5.0 25.9 2.446 -3.8 .0 77.8 .02 800.10 38 7.2 70.9 34.9 10.9 GR 2.878 77.8 77.8 18.2 2.862 .05 .0 800.25 36 9.3 4.4 24.9 2.460 -3.8 68.8 75.5 31.4 8.1 GR 2.873 75.5 68.8 18.6 2.861 .05 .02 800.40 39 7.8 5.4 25.0 2.399 -3.8 .0 75.2 68.6 29.4 12.2 GR 2.818 75.2 75.2 17.8 2.807 .05 .02 6.5 25.0 2.338 800.56 42 -3.8 .0 80.5 63.3 27.3 16.3 GR 2.757 80.5 80.5 17.1 2.754 .05 .02 6.8 800.71 1.1 28.4 2.044 36.0 30.7 GR .02 52 4.0 -3.7 .0 73.1 106.0 2.570 93.9 73.1 22.9 2.615 .05 800.86 54 3.8 1.2 32.4 2.032 -3.7.0 71.5 100.6 38.6 32.7 GR 2,601 93.5 71.5 23.8 2.641 .05 .02 6 801.01 55 3.6 1.2 36.3 2.020 -3.6 .0 70.0 95.7 41.2 34.8 GR 2.637 93.1 70.0 24.7 2.668 .05 .02 801.17 2.2 33.7 2.034 -3.6 .0 72.6 72.5 39.1 33.7 GR 2.617 72.6 72.6 23.7 2.653 .05 .02 54 3.6 801.32 54 3.5 3.3 31.1 2.048 -3.5 .0 77.3 62.1 36.9 32.6 GR 2.600 77.3 77.3 22.8 2.639 .05 .02 6 801.47 52 1.1 27.4 2.025 -3.1 .0 73.8 108.2 36.6 30.7 GR 2.544 94.1 73.8 23.3 2.616 .05 .02 3.8 801.62 48 4.2 1.6 26.7 2.162 -3.4.0 82.4 104.0 33.8 24.5 GR 2.644 96.2 82.4 20.2 2.664 .05 .02 2.1 26.1 2.301 .0 91.3 105.9 801.78 43 4.9 -3.8 31.0 18.3 GR 2.735 98.2 91.3 17.6 2.736 .05 .02 .02 801.93 43 5.0 1.7 23.2 2.334 -3.8 .0 104.0 135.8 29.3 18.2 GR 2.719 100.0 100.0 15.1 2.723 .05 46 .05 .02 802.08 5.0 1.7 26.9 2.300 -3.8 .0 92.9 125.1 28.7 22.6 GR 2.749 98.5 92.9 16.3 2.747 1.6 30.6 2.266 .02 802.23 50 4.9 -3.7.0 84.6 117.0 28.1 27.1 GR 2.783 96.7 84.6 17.4 2.770 .05 802.39 50 4.9 3.4 32.5 2.273 -3.7.0 81.2 76.7 31.4 27.3 GR 2.829 81.2 81.2 18.4 2.803 .05 .02 802.54 50 4.5 5.2 34.4 2.280 -3.7 .0 81.4 59.2 34.6 27.5 GR 2.875 81.4 81.4 19.2 2.835 .05 .02 80.3 802.69 55 4.2 2.4 33.6 2.138 -3.8 .0 83.5 36.7 34.7 GR 2.697 83.5 80.3 19.1 2.707 .05 .02 .05 .02 802.84 57 3.7 2.1 34.2 2.088 -3.8 .0 80.5 85.1 41.0 37.3 GR 2.664 85.1 80.5 20.2 2.687 803.00 1.7 34.9 2.038 -3.8 82.2 88.3 45.3 39.9 GR 2.626 82.2 21.3 2.666 .05 .02 59 3.1 .0 88.3 803.15 59 3.0 1.4 34.7 1.998 -3.2 .0 80.0 91.6 45.0 40.2 GR 2.585 91.6 80.0 22.7 2.642 .05 .02 6 803.30 59 1.1 34.5 1.957 -2.7 .0 78.4 96.9 44.6 40.4 GR 2.539 95.3 78.4 24.3 2.615 .05 .02 2.8 .02 803.45 52 .9 34.3 2.062 -3.3.0 74.9 116.2 40.6 31.1 GR 2.650 23.9 2.673 .05 3.5 94.4 74.9 -3.6 77.9 37.4 .05 .02 803.61 52 3.7 3.2 32.4 2.212 .0 91.9 30.3 GR 2.754 91.9 91.9 18.3 2.749 803.76 51 3.8 5.5 30.5 2.362 -3.8 .0 108.2 71.0 34.1 29.5 GR 2.904 100.0 100.0 14.8 2.852 .05 .02 5 4.4 28.4 2.400 -3.8 .05 .02 803.91 49 5.0 .0 101.1 84.8 30.4 26.8 GR 2.905 100.0 100.0 14.1 2.857

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804.06	48	6.1	3.3 26.4 2.439	-3.8	.0 97.6	105.0	26.7	24.1 GR	2.906	99.5	97.6	13.3 2.862	.05	2	
804.21	42	7.3	9.5 20.2 2.456	-3.9	.0 108.4	74.4	26.2	17.0 GR	2.798	100.0	100.0	11.7 2.787	.05	.02	
804.37	43	6.8	6.5 20.7 2.392	-3.8	.0 104.0	82.5	28.2	17.3 GR	2.736	100.0	100.0	12.8 2.737	.05	.02	
804.52	43	6.2	3.7 21.2 2.328	-3.8	.0 96.2	97.0	30.2	17.7 GR	2.692	97.0	96.2	14.6 2.698	.05	.02	
804.67	45	5.5	3.9 25.0 2.278	-3.8	.0 87.6	80.8	31.8	20.1 GR	2.699	87.6	87.6	16.8 2.705	.05	.02	
804.82	46	4.9	4.1 28.8 2.228	-3.9	.0 81.5	68.8	33.5	22.6 GR	2.707	81.5	81.5	19.1 2.713	.05	.02	
804.98	46	5.2	3.4 32.7 2.206	-3.8	.0 69.1	65.5	32.7	21.4 GR	2.752	69.1	69.1	22.4 2.749	.05	.02	
805.13	43	6.2	4.3 32.7 2.285	-3.8	.0 65.4	60.1	30.1	17.7 GR	2.833	65.4	65.4	22.3 2.816	.05	.02	
805.28	40	7.3	5.2 32.6 2.363	-3.8	.0 62.0	56.0	27.5	14.1 GR	2.908	62.0	62.0	22.2 2.883	.05	.02	5
805.43	43	6.6	10.0 24.9 2.386	-3.8	.0 87.9	55.3	27.9	18.2 GR	2.808	87.9	87.9	15.5 2.795	.05	.02	

28-01-98 AMITY OIL NL SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS DEPTH M GR RXO PHIN RHOB DD SPI RT 6.7 25.5 2.316 22.5 GR 84.4 84.4 15.1 2.742 .05 .02 29.3 2.742 805.59 46 6.8 -3.8 .0 84.4 66.7 78.1 15.5 2.699 .05 .02 3.5 26.1 2.247 -3.8 .0 78.1 87.7 30.7 26.9 GR 2.689 87.7 805.74 49 7.0 78.1 16.3 2.707 4.4 27.8 2.234 .0 78.1 74.7 30.6 27.8 GR 2.699 78.1 .05 .02 805.89 -3.8 50 6.45.3 29.6 2.222 28.8 GR 2.711 78.3 78.3 17.0 2.720 .05 .02 806.04 -3.8 .0 78.3 65.0 30.4 51 5.9 .02 .0 76.5 72.4 31.3 25.7 GR 2.708 76.5 76.5 17.9 2.716 .05 806.20 49 5.9 4.0 29.1 2.226 -3.8 2.760 69.6 69.6 18.6 2.755 .05 .02 .0 69.6 62.3 28.4 22.6 GR 806.35 46 7.0 5.3 29.4 2.267 -3.8 .02 6.6 29.7 2.308 -3.8 .0 64.6 55.0 25.6 19.5 GR 2.810 64.6 64.6 19.3 2.795 .05 806.50 8.0 44 6.9 27.4 2.340 -3.8 .0 72.0 60.0 25.4 20.2 GR 2.804 72.0 72.0 17.0 2.790 .05 .02 806.65 45 8.0 66.5 25.3 21.0 GR 2.799 81.5 81.5 14.7 2.785 .05 .02 7.3 25.1 2.372 .0 81.5 806.81 45 8.0 -3.8 3.4 26.4 2.236 93.6 28.1 32.1 GR 2.682 93.6 86.0 13.8 2.696 .05 .02 806.96 53 -3.8 .0 86.0 6.3 807.11 53 5.7 3.2 29.8 2.195 -3.8 .0 78.5 82.9 29.5 32.4 GR 2.694 82.9 78.5 16.5 2.704 .05 .02 .0 72.5 30.9 32.8 GR 2.706 75.0 72.5 19.2 2.715 .05 .02 807.26 54 3.1 33.3 2.155 -3.9 75.0 5.3 807.42 50 3.3 32.4 2.188 -3.8 .0 67.4 71.2 30.2 27.1 GR 2.726 71.2 67.4 20.2 2.730 .05 .02 6.1 2.746 67.5 807.57 7.0 3.5 31.5 2.221 -3.8 .0 62.3 67.5 29.4 21.5 GR 62.3 21.3 2.745 .05 .02 46 2.797 65.8 65.8 19.4 2.788 .05 .02 5.8 27.6 2.335 -3.8 .0 65.8 59.9 24.9 15.1 GR 807.72 41 8.3 .02 2.775 72.7 72.7 17.4 2.767 .05 807.87 44 7.7 6.1 27.0 2.320 -3.8 .0 72.7 62.9 24.6 19.5 GR 66.6 24.2 23.9 GR 2.749 81.2 81.2 15.4 2.746 .05 .02 808.02 47 7.0 6.4 26.5 2.306 -3.8 .0 81.2 24.6 GR 2.772 77.6 68.0 18.7 2.763 .05 .02 808.18 48 7.1 3.3 30.6 2.258 -3.8 .0 68.0 77.6 27.0 76.1 18.6 2.779 .05 .02 71.3 28.8 21.2 GR 2.791 76.1 808.33 45 6.1 4.1 29.3 2.297 -3.8 .0 76.1 30.6 17.8 GR 2.808 86.7 86.7 18.5 2.795 .05 .02 5.0 28.0 2.336 -3.8 .0 86.7 66.8 808.48 43 5.0 2.779 95.7 95.7 17.2 2.771 .05 808.63 43 3.6 26.3 2.337 -3.7.0 95.7 83.3 32.1 18.2 GR .02 4.6 2.750 100.0 100.0 15.8 2.748 .05 .02 .0 106.9 111.7 33.7 18.7 GR 2.3 24.6 2.338 808.79 44 4.3 -3.72.796 87.4 87.4 18.2 2.786 .05 .02 4.3 27.1 2.341 87.4 73.5 37.1 16.9 GR -3.7.0 808.94 42 5.1 4.5 27.0 2.351 -3.7.0 82.1 70.5 35.4 14.9 GR 2.804 82.1 82.1 18.8 2.794 .05 .02 809.09 41 5.7 67.8 33.8 12.8 GR 2.812 77.4 77.4 19.5 2.802 .05 .02 809.24 40 6.2 4.6 27.0 2.361 -3.6 .0 77.4 31.5 16.0 GR 2.734 85.9 85.9 18.4 2.735 .05 .02 4.9 25.8 2.304 -3.6.0 85.9 68.2 809.40 42 5.3 5.2 24.6 2.247 65.0 29.2 19.2 GR 2.678 90.0 90.0 18.3 2.688 .05 .02 809.55 44 -3.6 .0 90.0 4.6 2.680 97.4 97.4 16.8 2.695 .05 .02 809.70 53 3.7 2.4 28.8 2.192 -3.4 .0 97.4 95.7 39.1 31.2 GR 2.675 98.1 91.0 18.1 2.691 .05 .02 1.8 29.4 2.174 91.0 103.9 39.1 30.4 GR 809.85 52 -3.5 .0 3.8 87.5 19.4 2.687 .05 .02 810.01 51 1.2 30.1 2.155 -3.6 .0 87.5 119.3 39.1 29.6 GR 2.670 97.4 3.7 810.16 52 3.5 3.0 30.4 2.149 -3.6 .0 89.4 75.7 38.8 30.8 GR 2.669 89.4 89.4 19.2 2.686 .05 .02 32.0 GR 95.5 19.1 2.686 .05 .02 810.31 53 4.9 30.7 2.143 -3.6 .0 95.5 59.6 38.5 2.667 95.5 3.1 2.688 97.5 88.1 21,6 2,702 .05 .02 810.46 2.8 .9 35.6 2.094 -2.9.0 88.1 123.5 38.7 34.4 GR 55 80.9 103.8 38.7 28.8 GR 2.705 95.8 80.9 23,9 2.713 .05 .02 810.62 51 3.1 1.1 36.3 2.102 -3.2.0 .02 38.6 74.0 26.4 2.728 .05 810.77 47 3.3 1.3 37.0 2.108 -3.5 .0 74.0 88.7 23.3 GR 2.724 88.7 2.757 72.9 26.1 2.753 .05 .02 810.92 46 1.5 36.9 2.141 -3.7.0 72.9 84.2 36.7 21.9 GR 84.2 3.5 20.5 GR 2.790 80.6 72.0 25.8 2.779 .05 .02 811.07 45 3.7 1.7 36.8 2.174 -3.8 .0 72.0 80.6 34.8 93.3 70.7 24.2 2.671 .05 .02 4 7 811.23 47 4.2 1.4 33.4 2.288 -3.6 70.7 94.1 31.5 23.0 GR 2.650 2.650 68.2 68.2 25.2 2.671 .05 .02 4 7 811.38 47 4.2 2.7 31.0 2.284 -3.7 68.2 65.0 33.0 23.5 GR 51.2 34.5 4 7 24.0 GR 2.650 68.1 68.1 26.2 2.672 .05 .02 811.53 47 3.9 4.0 28.6 2.280 -3.8 68.1 .05 .02 22.5 GR 2.729 92.7 92.7 19.7 2.732 811.68 46 3.6 5.2 29.9 2.231 -3.7.0 92.7 59.5 37.9 .05 3.6 30.3 2.257 -3.5.0 86.4 72.6 36.2 22.2 GR 2.764 86.4 86.4 19.5 2.758 .02 811.83 46 4.2

21.9 GR

21.1 GR

20.3 GR

2.800

2.795 87.7

2.790 95.3

96.1

2.738 98.6 93.1 17.7 2.738

82,2 19,4 2,786

87.7 18.4 2.782

95.3 17.5 2.779

.05

.05

.05

.05

.02

.02

.02

.02

Complex Lithology Results

Zone No. 3

811.99 46

812.14 45

812.29 45

812.44 44

4.8

4.6

4.4

4.5

2.0 30.7 2.282

2.9 29.2 2.303

3.8 27.7 2.323

1.8 26.7 2.293

-3.4

-3.6

-3.8

-3.6

.0

.0

.0

82.2

87.7

98.7

95.3 79.2 32.8

34.5

86.1 33.7

.0 93.1 115.7 32.8 19.3 GR

BROADBILL-1

	_														
812.60	42	5.2	2.9 29.4 2.322	-3.7	.0	78.9	81.7	32.4	16.5 GR	2.816	81.7	78.9	20.1 z.o03	.05	
812.75			4.0 32.2 2.351							2.889	69.5	69.5	22.4 2.867	.05	.02
812.90			5.5 28.7 2.360							2.837	73.8	73.8	21.1 2.825	.05	.02
813.05			7.0 25.1 2.369						9.3 GR	2.788	79.3	79.3	19.6 2.783	.05	.02
813.21	Ŧ.		1.7 23.1 2.352							2.737	97.4	87.7	17.7 2.738	.05	.02
813.36	• •		3.4 23.9 2.350							2.748	86.7	86.6	17.9 2.747	.05	.02
813.51			5.1 24.6 2.348							2.759	91.6	91.6	18.1 2.757	.05	.02
813.66			5.3 24.9 2.268							2.694	89.9	89.9	18.2 2.700	.05	.02
813.82			5.6 25.2 2.188							2.647	84.3	84.3	19.3 2.665	.05	.02
813.97			3.0 31.2 2.181							2.703	70.4	68.9	22.0 2.708	.05	.02
013.97	40	J.4	J.U JI.Z Z.101	-5.0	• 0	00.5	,0.4	21.5	22.5 010	,,					

Complex Lithology Results 28-01-98

BROADBILL-1

Zone No. 3

Zone No.	. 3		ADBILL-I					omplex 3-01-98		ogy kesui	ts						
DEPTH M	GR	RT	RXO PHIN	RHOB	DD	SPI	SWU	SXOU	PHIS	VCL FVCL	RHOMAU	sxo	SW	PHIE RHOMA	POR-M	HC-M	FLAGS
814.12	45	5.1	5.1 29.9	2.209	-3.8	.0	74.9	57.6	32.9	20.8 GR	2.707	74.9	74.9	20.9 2.713	.05	.02	
814.27	44	4.9	7.1 28.6		-3.8	.0	80.8	51.3	31.2	19.7 GR	2.713	80.8	80.8	19.9 2.719	.05	.02	
814.43	44	6.1	1.9 30.4	2.243	-3.3	.0	68.7	94.6	29.4	19.6 GR	2.750	92.8	68.7	21.0 2.748	.05	.02	
814.58	43	5.9	4.0 30.6	2.245	-3.6	.0	67.9	62.8	29.6	17.3 GR	2.755	67.9	67.9	22.0 2.752	.05	.02	
814.73	41	5.0	6.2 30.8	2.246	-3.8	.0	71.5	48.9	29.9	15.1 GR	2.759	71.5	71.5	23.1 2.756	.05	.02	
814.88	45	4.9	3.4 30.9	2.191	-3.6	.0	72.2	66.4	30.9	20.6 GR	2.706	72.2	72.2	22.1 2.711	.05	.02	
815.04	49	4.4	.8 31.1	2.135	-3.5	.0	74.1	136.2	31.9	26.2 GR	2.671	94.2	74.1	22.0 2.685	.05	.02	
815.19	56	4.4	4.3 36.3		-3.7	.0	77.2	62.2	36.5	36.2 GR	2.776	77.2	77.2	19.2 2.762	.05	.02	
815.34	55	4.2	2.8 35.8	2.169	-3.6	.0	78.8	76.3	36.6	34.5 GR	2.773	78.8	78.8	19.4 2.761	.05	.02	
815.49	54	3.9	1.4 35.3		-3.5	.0		107.7	36.7	32.8 GR	2.771	96.3	82.7	19.7 2.760	.05	.02	
815.64	49	4.7	2.5 34.3		-3.6	.0	73.1	78.2	36.0	26.8 GR	2.771	78.2	73.1	21.3 2.762	.05	.02	
815.80	45	5.6	3.6 33.3		-3.6	.0	65.9	62.9	35.3	20.7 GR	2.772	65.9	65.9	22.9 2.765	.05	.02	
815.95	43	6.6	5.0 29.7		-3.7	.0	70.3	61.7	28.7	17.5 GR	2.816	70.3	70.3	20.0 2.802	.05	.02	
816.10	43	6.6	4.6 28.0		-3.7	.0	74.2	68.3	29.2	17.4 GR	2.794	74.2	74.2	18.8 2.784	.05	.02	
816.25	43	6.7	4.2 26.2		-3.8	.0	78.7	76.4	29.6	17.3 GR	2.772	78.7	78.7	17.6 2.766	.05	.02	
816.41	45	5.7	4.6 27.5		-3.7	.0	67.2	57.2	30.7	20.1 GR	2.658	67.2 58.1	67.2 58.1	22.2 2.671 28.3 2.632	.05 .05	.02 .02	6
816.56	47	4.7	5.0 28.9		-3.7	.0	58.1	42.8 79.4	31.7 37.8	22.9 GR 32.6 GR	2.554 2.106	79.4	53.8	33.4 2.620	.05	.02	6 8
816.71	53	3.6	1.0 34.2 1.1 37.8		-2.9 -2.6	.0	53.8 57.4	77.4	40.0	37.2 GR	2.219	77.4	57.4	31.1 2.626	.05	.02	6 8
816.86 817.02	57 60	3.5 3.3	1.3 41.5		-2.3	.0	61.6	76.5	42.2	41.8 GR	2.348	76.5	61.6	28.8 2.630	.05	.02	6 8
817.17	58	3.9	1.5 39.4		-2.7	.0	61.6	77.5	39.6	39.1 GR	2.607	77.5	61.6	26.6 2.656	.05	.02	6
817.32	56	4.5	1.7 37.2		-3.2	.0	75.0	96.3	36.9	36.3 GR	2.793	94.4		19.7 2.772	.05	.02	Ŭ
817.47	48	4.8	4.4 30.1		-3.7	.0	81.7	66.4	31.4	24.7 GR	2.727	81.7	81.7	18.9 2.731	.05	.02	
817.63	49	5.3	3.0 29.2		-3.4	.0	76.0	79.1	31.5	26.1 GR	2.687	79.1	76.0	19.1 2.697	.05	.02	
817.78	50	5.2	1.6 28.3		-3.1	.0		105.6	31.6	27.5 GR	2.654	94.3	74.7	19.6 2.674	.05	.02	
817.93	48	6.0	4.8 30.7	2.252	-3.6	.0	73.5	63.8	32.5	24.7 GR	2.767	73.5	73.5	18.8 2.760	.05	.02	
818.08	47	5.7	3.4 30.9	2.256	-3.6	.0	74.5	75.0	32.8	23.8 GR	2.776	75.0	74.5		.05	.02	
818.24	47	5.0	1.9 31.2		-3.6	.0	78.1	97.0	33.1	22.8 GR	2.785	95.2	78.1	19.8 2.774	.05	.02	
818.39	54	4.4	1.8 31.9		-3.4	.0	79.3	96.5	37.1	32.7 GR	2.680	95.5	79.3	19.2 2.695	.05	.02	
818.54	61	3.8	1.7 32.6		-3.1		73.3	85.9	41.1	42.8 GR	2.650	85.9	73.3	21.5 2.689	.05	.02	4 78
818.69	68	3.0	1.1 33.6		-2.1	_		127.1	41.7	52.9 GR	2.650	99.0	95.3	16.0 2.698	.05	.02	4 78
818.85	64	3.4	1.3 34.4		-2.9	.0		117.3	39.7	47.8 GR	2.635	98.1	90.7	16.7 2.677	.05	.02	
819.00	61	3.7	1.5 35.3		-3.6	.0		116.5	37.7	42.7 GR	2.740	98.4		16.1 2.740 14.2 2.764	.05	.02	
819.15	61	4.2	2.4 34.0		-3.6	.0		100.8	35.5	42.9 GR	2.784	98.7 96.2	93.8 96.2	12.4 2.788	.05	.02	
819.30	61	4.8	3.4 32.7		-3.6	.0		94.3	33.4 35.5	43.0 GR 49.1 GR	2.830 2.650	95.3	78.6	18.0 2.695	.05 .05	.02 .02	4 78
819.45	65	3.9	.6 31.3		-3.1			160.3	38.4		2.650			15.0 2.700	.05	.02	4 78
819.61		3.6	.8 31.4		-2.1			160.6 164.2	41.4	54.9 GR 60.7 GR		100.0		12.2 2.705	.05	.02	4 78
819.76		3.3	.9 31.4 1.0 33.7		-1.0			112.9	42.2	61.2 GR	2.312			19.2 2.620	.05	.02	6 8
819.91	74 74	3.3 3.3	1.0 33.7		-1.0 -1.0			108.5	43.0	61.2 GR 61.6 GR	1.825	95.0		19.0 2.623	.05	.02	6 8
820.06 820.22	68	4.0	.6 40.3		-1.3	• 0		178.9	39.7	53.7 GR	2.650	96.4	83.2	15.6 2.699	.05	.02	4 78
820.22	67	4.6	2.0 39.9		-2.3		75.9	93.1	38.9	51.6 GR	2.650	93.1	75.9	16.7 2.697	.05	.02	4 78
820.52	65	4.0	3.5 39.5		-3.3			67.7	38.1	49.3 GR	2,650	76.2	76.2	17.9 2.695	.05	.02	4 78
820.67	70	3.7	.9 40.5		-2.1			147.4	39.2	55.4 GR	2.650	97.8	89.3	14.8 2.700	.05	.02	4 78
820.83	69	3.8	1.1 41.8		-2.3	.0		100.0	40.6	54.6 GR	2.555	92.2	66.6	22.3 2.656	.05	.02	6
820.98	69	3.8	1.2 43.2		-2.5	.0		94.4	42.0	53.8 GR	2.623		66.6	22.2 2.684	.05	.02	

					-	' '												_
821.13	68	3.7	1.2 40.6	1.936	-2.4	.0	68.9	98.1	38.9	53.1 GR	2.570	92.8	68.9	21.7 2.058	.05	2	5	
821.28	68		1.1 38.0							52.4 GR	2.522	93.5	71.6	21.2 2.633	.05	.02	6	
821.44	64	4.8	1.6 41.1	2.016	-2.4	.0	64.3	89.7	34.3	47.8 GR	2.689	89.7	64.3	20.8 2.709	.05	.02		
821.59	64	6.4	3.2 38.4	2.176	-3.1	.0	69.7	80.4	30.0	47.1 GR	2.862	80.4	69.7	15.4 2.802	.05	.02		
821.74	63	7.8	4.9 35.7	2.335	-3.7	.0	76.6	80.6	25.7	46.2 GR	3.054	80.6	76.6	11.6 2.901	.05	.02	5	
821.89	65	6.7	5.1 34.2	2.260	-3.7	.0	83.3	80.0	26.5	48.3 GR	2.898	83.3	83.3	11.0 2.817	.05	.02	5	
822.05	66	5.8	5.4 32.8	2.186	-3.6		78.0	67.2	27.2	50.5 GR	2.650	78.0	78.0	13.5 2.696	.05	.02	4 7	
822.20	73	4.0	1.1 41.2	1.957	-2.6		91.3	150.0	38.4	59.8 GR	2.650	98.2	91.3	12.6 2.704	.05	.02	4 78	
822.35	76	3.9	1.0 42.7	1.946	-2.5	.0	74.6	119.8	39.0	64.0 GR	2.592	94.3	74.6	17.3 2.684	.05	.02	6	
822.50	79	3.8	1.0 44.3	1.936	-2.4	.0	78.9	127.7	39.6	68.2 GR	2.595	95.4	78.9	15.8 2.693	.05	.02	6 8	

Zone No. 3 BROADBILL-1 Complex Lithology Results AMITY OIL NL 28-01-98 SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M DEPTH M GR RXO PHIN RHOB DD SPI HC-M FLAGS .02 822.66 76 1.0 41.6 1.976 81.5 129.2 39.4 65.0 GR 2.616 96.0 81.5 15.3 2.692 .05 3.8 -2.1.0 -1.961.8 GR 2.650 99.4 97.2 11.7 2.706 .05 .02 822.81 74 3.8 1.1 39.0 2.017 97.2 153.8 39.1 4 78 822.96 67 4.6 .8 39.7 2.132 -2.8 80.9 159.8 33.3 51.6 GR 2.834 95.8 80.9 15.2 2.783 .05 .02 .0 823.11 66 5.9 2.1 36.0 2.237 -3.3 .0 84.8 118.5 30.9 50.2 GR 2.913 96.7 84.8 11.7 2.821 .05 .02 5 48.8 GR 3.5 32.3 2.346 -3.7 98.8 113.9 28.5 2.997 99.8 98.8 8.5 2.864 .05 5 823.26 65 6.3 .0 .02 823.42 68 2.5 32.1 2.178 -3.5 98.0 125.0 31.3 53.6 GR 2.698 99.6 98.0 9.0 2.717 5.6 .0 .05 .02 823.57 72 4.4 1.6 31.9 2.011 -3.2 85.6 119.6 34.2 58.5 GR 2.650 96.9 85.6 13.3 2.703 .05 .02 4 78 823.72 72 1.4 37.7 1.828 -1.558.9 GR 2.650 98.4 92.3 13.1 2.703 .05 .02 3.8 92.3 129.3 40.7 4 78 823.87 71 3.8 1.2 39.8 1.895 -2.2 .0 67.7 97.9 40.3 56.9 GR 2.464 92.5 67.7 21.4 2.625 .05 6 8 .02 54.9 GR 824.03 69 3.7 1.0 42.0 1.962 -2.8 88.0 140.6 39.9 2.650 97.5 88.0 15.0 2.700 .05 .02 4 78 824.18 68 3.6 1.0 36.0 1.955 ~3.3 87.7 139.7 37.3 53.4 GR 2.650 97.4 87.7 15.8 2.698 .05 .02 4 78 824.33 68 3.3 .8 34.7 1.902 -2.6 .0 74.2 121.3 39.3 52.5 GR 2.411 94.2 74.2 21.4 2.622 .05 .02 6 824.48 67 3.0 .6 33.5 1.847 -1.9.0 72.1 125.3 41.3 51.3 GR 2.299 93.7 72.1 23.7 2.633 .05 .02 6 824.64 70 3.0 .7 34.7 1.850 -1.575.1 129.5 41.1 55.6 GR 2.279 94.4 75.1 22.0 2.626 .05 .02 .0 6 8 824.79 73 3.0 .7 36.0 1.852 -1.1.0 79.6 136.5 40.9 60.0 GR 2.253 95.5 79.6 19.8 2.619 .05 .02 6 8 824.94 69 3.0 1.0 37.8 1.899 -1.4.0 76.4 105.5 41.3 53.8 GR 2.451 94.7 76.4 22.0 2.628 .05 .02 6 825.09 66 3.0 .9 39.3 1.935 -1.6.0 75.6 108.6 41.6 50.6 GR 2.553 94.6 75.6 22.4 2.646 .05 .02 825.25 3.1 .9 40.9 1.971 -1.774.9 112.1 41.9 47.4 GR 2.636 94.4 74.9 22.8 2.681 .05 .02 64 .0 825.40 64 1.0 40.3 1.995 -2.075.0 109.2 41.5 47.7 GR 2.653 94.4 75.0 21.5 2.690 .05 .02 3.4 .0 2.670 94.6 75.6 20.2 2.698 825.55 64 3.6 1.2 39.7 2.019 -2.2 .0 75.6 107.6 41.1 48.1 GR .05 .02 825.70 4.2 1.9 36.6 2.081 -2.3 81.9 98.1 37.0 49.0 GR 2.682 96.1 81.9 16.3 2.704 .05 65 .0 .02 825.86 69 4.1 1.7 35.3 2.095 -2.4.0 92.1 120.0 37.3 53.8 GR 2.669 98.4 92.1 13.3 2.700 .05 .02 1.4 34.0 2.109 .0 103.8 151.6 37.6 58.5 GR 2.653 100.0 100.0 10.2 2.695 .05 826.01 72 -2.5.02 4.0 826.16 74 1.4 35.4 2.094 -1.8 93.2 135.7 37.5 61.9 GR 2.650 98.6 93.2 11.6 2.706 .05 .02 4.1 4 78 826.31 77 4.2 1.4 36.9 2.079 -1.096.7 143.3 37.4 65.3 GR 2.650 99.3 96.7 10.1 2.709 .05 .02 4 78 .05 826.47 74 1.8 38.6 2.017 -1.6 87.6 118.1 40.2 61.3 GR 2.650 97.4 87.6 11.9 2.706 .02 4.6 4 78 826.62 75 1.7 38.8 2.040 63.6 GR 2.655 96.5 83.6 12.4 2.701 4.7 -1.9.0 83.6 118.2 38.2 .05 .02 826.77 77 1.5 38.9 2.063 -2.2 88.3 134.2 65.7 GR 2.688 97.5 88.3 10.6 2.717 .05 4.8 .0 36.3 .02 2.3 37.5 2.060 -2.8 81.4 105.2 35.8 62.5 GR 2.657 96.0 81.4 11.7 2.701 .05 .02 826.92 75 5.3 .0 827.07 72 3.1 36.1 2.055 79.3 87.1 35.3 59.4 GR 2.629 87.1 79.3 12.8 2.686 .05 5.3 -3.4.0 .02 827.23 72 2.388 95.8 80.5 15.9 2.623 .8 31.3 1.949 -2.780.5 149.3 42.4 58.4 GR .05 .02 4.0 .0 6 827.38 70 4.1 .9 32.2 1.970 -2.9 .0 79.2 136.3 40.9 55.7 GR 2.455 95.4 79.2 16.5 2.624 .05 .02 6 827.53 68 1.1 33.0 1.991 -3.1 .0 77.3 125.8 39.4 52.9 GR 2.513 95.0 77.3 17.1 2.623 .05 .02 4.2 6 827.68 1.4 36.9 2.058 -3.383.5 115.7 36.2 53.2 GR 2.658 96.5 83.5 15.5 2.694 68 .0 .05 .02 4.1827.84 71 3.9 1.4 37.1 2.005 -3.0 .0 80.8 110.5 37.3 56.6 GR 2.590 95.8 80.8 16.3 2.667 .05 .02 6 2.495 827.99 73 3.8 1.4 37.4 1.951 -2.8.0 78.3 105.6 38.3 60.1 GR 95.2 78.3 17.1 2.637 .05 .02 6 2.384 94.8 76.4 17.4 2.619 828.14 74 1.0 35.5 1.917 -2.576.4 123.2 38.5 61.0 GR .05 .02 3.8 .0 6 .6 33.6 1.884 -2.173.8 156.9 38.7 61.9 GR 2.260 94.1 73.8 17.8 2.620 .05 .02 828.29 74 3.9 .0 828.45 73 1.7 32.1 1.933 -2.9.0 77.1 99.1 38.7 59.4 GR 2.365 94.9 77.1 16.4 2.620 .05 .02 4.1 6 2.415 77.7 17.1 2.633 828.60 71 3.9 1.2 32.9 1.943 -2.5.0 77.7 115.8 38.6 57.3 GR 95.1 .05 .02 6 -2.0 77.0 148.5 38.4 55.0 GR 2.460 94.9 77.0 18.0 2.626 .05 .02 6 828.75 69 3.8 .7 33.7 1.953 .0 828.90 69 4.2 1.3 35.2 1.996 -1.9 .0 76.9 114.6 43.0 55.0 GR 2.547 94.9 76.9 16.7 2.644 .05 .02 6 829.06 69 4.9 1.9 36.7 2.038 -1.777.1 102.3 47.5 55.0 GR 2.650 94.9 77.1 15.0 2.700 .05 .02 4 78 -2.2 82.7 126.0 40.6 58.6 GR 2.650 96.3 82.7 13.2 2.703 .05 .02 829.21 72 4.7 1.4 38.2 2.096 4 78 96.7 84.8 13.0 2.703 829.36 72 1.1 37.6 2.036 -1.9 84.8 143.9 40.8 59.0 GR 2.650 .05 .02 4 78 4.6 2.650 97.3 87.3 12.8 2.704 829.51 73 .8 37.0 1.975 -1.5 87.3 170.7 41.0 59.4 GR .05 .02 4 78 4.4

		-															
829.67	74	4.1	.8 36.1	1.949	-1.6		91.8 180.9	40.6	61.I GR				12.0 2.05	05	2	7	8
829.82	75	3.9	.7 35.2	1.923	-1.6		96.7 192.0	40.3	62.9 GR	2.650	99.3	96.7	11.2 2.707	.05	.02	4 7	8
829.97	73	4.4	1.6 36.3				87.5 121.8	38.8	59.8 GR	2.650	97.4	87.5	12.6 2.704	.05	.02	4 7	8
830.12	73		1.4 37.5				92.1 130.8	41.6	59.8 GR	2.650	98.4	92.1	12.7 2.704	.05	.02	4 7	8
830.28	73		1.2 38.8			- 0	77.4 112.3			2.526	95.0	77.4	17.7 2.650	.05	.02	6	
830.43	73 71	3.3	.9 43.8		-2.9		75.0 112.9			2.644	94.4	75.0	20.5 2.696	.05	.02		
830.58	70	•••	1.1 43.1				77.3 108.6			2.657				.05	.02		
830.73	69		1.2 42.4				79.8 105.2			2.668			19.8 2.703	.05	.02		
	71		1.0 42.2		-2.4		82.3 121.4						18.2 2.707	.05	.02		
830.88	7 1	3.2			-2.4		85.3 143.2						16.6 2.712	.05	.02		
831.04	13	3.3	.8 42.1	2.003	-2.1	. 0	03.3 143.2	40.0	33.3 GK	2.005	20.2			•••			

Complex Lithology Results 28-01-98

BROADBILL-1

Zone No. 3

Zone No.	3		A OIT NT				3-01-98		ogy kesui	Co						
DEPTH M	GR	RT	RXO PHIN RHO	DD DD	SPI	SWU	SXOU	PHIS	VCL FVCL	RHOMAU	sxo	SW	PHIE RHOMA	POR-M	HC-M	FLAGS
831.19	76	3.5	1.1 38.2 2.00	3 -1.9	.0	92.5	139.1	40.1	64.4 GR	2.581	98.4	92.5	13.4 2.675	.05	.02	6
831.34	76	3.6	1.3 37.7 1.97		.0		120.7	40.6	64.7 GR	2.525	97.4	87.7	14.1 2.657	.05	.02	6
831.49	76	4.0	1.6 37.2 1.95		.0		106.7	41.2	65.0 GR	2.463			14.9 2.637	.05	.02	6
831.65	79	3.5	1.1 36.8 1.95		.0	91.0		42.6	68.3 GR	2.435		91.0	13.2 2.636	.05	.02	6
831.80	81	3.2	.7 36.5 1.96			121.4	234.3	44.1	71.7 GR	2.650	100.0	100.0	7.5 2.715	.05	.02	4 78
831.95	82	3.4	1.2 36.4 1.96			118.8	182.0	46.3	72.3 GR	2.650	100.0	100.0	7.2 2.715	.05	.02	4 78
832.10	79	3.4	1.1 38.9 2.00		.0	98.2	146.8	45.2	68.3 GR	2.595	99.6	98.2	11.7 2.685	.05	.02	6
832.26	76	3.4	1.1 41.5 2.05		.0	96.3	145.4	44.0	64.3 GR	2.748	99.3	96.3	12.7 2,742	.05	.02	
832.41	76	4.0	1.4 41.6 2.09	8 -2.7		98.9	141.5	42.5	65.0 GR	2.650			10.3 2.709	.05	.02	4 78
832.56	77	4.5	1.8 41.7 2.14	3 -2.6		93.8	127.2	41.0	65.6 GR	2.650		93.8	10.0 2.709	.05	.02	4 78
832.71	78	4.2	1.3 40.9 2.10	1 -2.4		101.3	159.3	37.2	67.8 GR			100.0	9.0 2.711	.05	.02	4 78
832.87	77	4.1	1.5 41.2 2.08	31 -2.2		100.0	140.2	38.4	66.3 GR			100.0	9.7 2.710	.05	.02	4 78
833.02	76	4.0	1.8 41.6 2.06				125.3	39.7	64.8 GR	2.650			10.3 2.709	.05	.02	4 78
833.17	77	3.9	1.6 40.8 1.98				136.2	41.0	65.1 GR		100.0		10.2 2.709	.05	.02	4 78
833.32	77	3.9	1.3 40.0 1.90			101.1		42.3	65.3 GR			100.0	10.1 2.709	.05	.02	4 78
833.48	76	3.7	.6 39.2 1.85			75.6		41.2	64.7 GR	2.370			17.5 2.629	.05	.02	6 8
833.63	74	3.7	.8 39.5 1.87		.0			40.0	61.9 GR	2.373			18.9 2.630	.05	.02 .02	68 478
833.78	72	3.8	1.0 39.7 1.90				154.3	38.8	59.2 GR	2.650	98.6		12.9 2.704	.05		4 78
833.93	75	3.6	.6 37.5 1.94				216.3	39.7	62.5 GR			100.0	11.4 2.707 15.5 2.651	.05 .05	.02 .02	6
834.09	75	3.9	.8 37.7 1.96			80.7		39.1	62.3 GR	2.521 2.564			14.8 2.666	.05	.02	6
834.24	74	4.2	1.0 37.9 1.99		.0		137.7	38.4	62.1 GR 63.8 GR	2.364			16.0 2.631	.05	.02	6
834.39	76	4.0	.8 37.5 1.93		.0		143.6	38.7 39.1	65.5 GR	2.430			17.1 2.635	.05	.02	6 8
834.54	77	3.9	.6 37.1 1.88		.0		288.6	40.5	73.1 GR			100.0	6.9 2.716	.05	.02	4 78
834.69	82	3.8	.5 36.9 1.83			114.2		40.0	72.6 GR			100.0	7.1 2.716	.05	.02	4 78
834.85	82	3.8	.5 37.8 1.90 .4 38.8 1.93				294.0	39.6	72.0 GR			100.0	7.3 2.715	.05	.02	4 78
835.00	81 83	3.7 3.7	.5 40.7 1.96				279.0	41.1	74.6 GR			100.0	6.4 2.718	.05	.02	4 78
835.15 835.30	85	3.8	.6 42.7 1.96			120.9		42.6	77.1 GR			100.0	5.4 2.720	.05	.02	4 78
835.46	82	4.0	.4 42.0 1.93				319.1	39.0	72.2 GR			100.0	7.2 2.715	.05	.02	4 78
835.40	80	4.2	.8 40.1 1.98				202.7	38.5	69.4 GR			100.0	8.4 2.713	.05	.02	4 78
835.76	78	4.4	1.3 38.2 2.03				153.3	38.1	66.5 GR	2.650			9.6 2.710	.05	.02	4 78
835.91	78	4.7	1.4 39.2 2.0			94.0	151.1	38.9	66.8 GR	2.650	98.8	94.0	9.5 2.711	.05	.02	4 78
836.07	78	4.9	1.4 40.2 2.13			92.0	148.9	39.7	67.1 GR	2.650	98.4	92.0	9.4 2.711	.05	.02	4 78
836.22	74	6.3	4.1 38.5 2.23	34 -2.7		74.4	77.9	35.7	61.0 GR	2.650			12.1 2.705	.05	.02	4 78
836.37	74	6.3	3.8 35.6 2.20			74.1	80.5	35.8	60.9 GR	2.650			12.1 2.705	.05	.02	4 78
836.52	73	6.4	3.5 32.7 2.1			73.4	83.4	36.0	60.8 GR	2.650			12.2 2.705	.05	.02	4 78
836.68	73	4.8	.9 31.9 2.02	21 -2.3	.0	84.3	160.5	33.6	60.3 GR	2.501			12.4 2.631	.05	.02	6
836.83	76	4.8	1.0 33.7 2.00		.0	83.3	152.3	35.0	64.4 GR	2.481			12.0 2.635	.05	.02	6
836.98	79	4.8	1.1 35.4 1.98	32 -2.5	.0	82.6	145.1	36.4	68.4 GR	2.453			11.7 2.638	.05	.02	6
837.13	79	5.1	1.9 36.5 2.03		.0		125.7	36.0	69.1 GR	2.576			9.6 2.678	.05	.02	6
837.29	80	5.0	2.6 37.6 2.08		.0		119.2	35.6	69.8 GR	2.684			7.6 2.718	.05	.02	
837.44	77	4.6	1.6 37.3 2.0		.0		129.0	37.9	65.3 GR	2.627			11.0 2.691	.05	.02	
837.59	77	4.5	1.3 37.8 2.0		.0		141.1	37.0	65.9 GR	2.635			10.9 2.695	.05	.02	
837.74	78	4.4	1.1 38.3 2.0		.0	90.2		36.1	66.5 GR	2.643			10.9 2.699	.05	.02	4 70
837.90	76	4.6	1.3 37.9 2.0				147.7	35.9	64.3 GR	2.650			10.6 2.708	.05 .05	.02 .02	4 78 4 78
838.05	74	4.8	1.5 37.5 2.1	52 -1.8		86.5	130.6	35.7	62.0 GR	2.650	91.1	00.3	11.6 2.706	.05	.02	4 /0

'														
838.20	76	4.2	1.4 36.6	2.182	-1.3	96.5 145.4	38.1	64.7 GR	2.650 99.3 9	96.5 10.4	z.709		2	78
838.35	78	3.8	1.0 38.7	2.035	-1.1	104.5 171.7	41.5	66.5 GR	2.650 100.0 10	00.0 9.6	2.710	.05	.02	4 78
838.50	79	3.4	.7 40.9			.0 83.0 149.5	44.9	68.4 GR	2.358 96.4 8	33.0 15.7	2.631	.05	.02	6 8
838.66	78	3.2	.6 42.7			.0 83.3 163.6	47.4	66.6 GR	1.839 96.4 8	33.3 16.6	2.617	.05	.02	68
838.81	76	3.0	.4 44.5						1.207 96.5 8	33.8 17.5	2.631	.05	.02	6 8
838.96	80	3.0	.6 47.9						2.650 100.0 10	00.0 7.9	2.627	.05	.02	8
839.11	80	3.2	.8 49.6						2.650 100.0 10	0.8 0.00	2.676	.05	.02	8
839.27	80	3.3	.9 51.4			.0 116.4 197.5			2.650 100.0 10		2.772	.05	.02	8
839.42	77	3.2	.8 47.3			.0 82.9 136.8			2.546 96.3 8		2.685	.05	.02	6 8
			.7 43.1		-2.3	.0 80.4 136.1			2.321 95.7 8			.05	.02	6 8
839.57	75	3.1	. / 43.1	1.833	-2.3	.0 00.4 130.1	41.5	02.J GR	2.521 95.7	0.0. 7 10.0	2.000			• •

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AMITY OIL NL 28-01-98 HC-M FLAGS RXO PHIN RHOB SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M DEPTH M GR DD SPT 6 8 .05 .02 839.72 78 3.0 .8 44.8 1.784 -2.4. 0 87.4 144.1 44.2 67.3 GR 1.774 97.3 87.4 16.2 2.615 -2.2.05 .02 6 8 839.88 79 2.9 .9 44.6 1.846 .0 90.0 136.7 45.6 68.7 GR 2.197 97.9 90.0 15.5 2.639 -2.070.1 GR 2.650 100.0 100.0 . 05 .02 Ω 840.03 80 2.9 1.0 44.4 1.909 .0 125.3 186.4 46.9 8.1 2.678 .0 128.8 236.7 44.9 .05 .02 8 840.18 82 2.9 .7 38.8 1.887 -1.6 72.4 GR 2.650 100.0 100.0 7.2 2.630 -2.0.0 125.7 218.6 44.3 72.9 GR 2.650 100.0 100.0 7.0 2.621 .05 .02 R 840.33 82 3.1 .8 38.9 1.844 .0 122.5 204.3 43.8 8 .9 38.9 1.801 73.3 GR 2.650 100.0 100.0 6.9 2.629 .05 .02 840.49 82 3.3 -2.41.2 39.4 1.818 73.6 GR .05 .02 8 840.64 83 3.4 -2.3 .0 121.1 181.4 42.6 2.650 100.0 100.0 6.7 2.627 2.650 100.0 100.0 .05 .02 8 840.79 83 3.6 1.5 39.9 1.834 -2.3.0 117.9 165.1 41.5 74.0 GR 6.6 2.624 .05 .02 6 840.94 79 2.1 39.7 1.943 -2.2 .0 78.7 91.8 44.1 67.9 GR 2.479 91.8 78.7 14.8 2.654 4.1 1.5 40.8 1.929 . 05 .02 6 841.10 76 3.9 -2.2.0 75.2 101.0 42.9 65.0 GR 2.500 94.5 75.2 17.0 2.656 . 05 .02 6 8 841.25 74 3.5 .9 41.9 1.916 -2.1.0 75.2 123.9 41.6 62.1 GR 2.519 94.4 75.2 18.8 2.658 .0 72.9 90.6 39.5 6 8 841.40 76 3.9 1.7 42.1 1.871 -1.6 63.9 GR 2.399 90.6 72.9 17.9 2.631 .05 .02 6 8 841.55 77 3.8 2.6 42.3 1.826 -1.0.0 76.0 75.9 37.3 65.7 GR 2.161 76.0 76.0 17.0 2.622 .05 .02 .02 4 78 .05 841.71 81 3.9 3.8 44.6 1.797 -.1 110.8 99.5 35.2 72.1 GR 2.650 100.0 100.0 7.3 2.715 841.86 80 3.6 44.7 1.862 .0 70.9 63.7 27.9 64.7 S 2.452 70.9 70.9 17.5 2.651 .05 .02 6 8 4.2 -.9 3.3 44.8 1.927 842.01 79 4.5 -1.6 4.2 57.4 53.4 20.5 50.0 S 2.649 57.4 57.4 24.7 2.693 .05 .02 68.9 20.7 .05 .02 842.16 77 5.1 3.1 42.5 2.062 -2.3 .0 66.0 50.2 S 2.787 68.9 66.0 18.9 2.763 .0 74.2 87.7 5 842.31 2.8 40.1 2.196 -2.9 20.8 50.5 S 2.955 74.2 14.5 2.842 .05 .02 74 5.8 87.7 5 842.47 73 5.1 .5 39.4 2.242 -2.8 .0 85.5 225.6 21.4 51.7 S 3.024 96.9 85.5 12.8 2.870 .05 .02 .02 5 .05 842.62 72 5.5 .5 41.0 2.249 -2.8 .0 78.0 206.8 20.7 50.3 S 3.073 95.1 78.0 14.1 2.898 5 .05 .02 842.77 72 .6 42.7 2.257 -2.8 .0 71.7 190.9 19.9 48.8 S 3.119 93.5 71.7 15.3 2.926 6.0 1.6 37.9 2.136 -2.796.1 13.5 35.9 S 2.775 93.2 20.8 2.761 .05 .02 842.92 61 4.7 2.8 70.4 70.4 17.9 12.5 31.2 GR .05 .02 843.08 53 5.0 34.1 39.1 2.083 -2.2 8.5 60.5 2.734 60.5 60.5 24.8 2.736 68.6 40.4 2.031 -1.8 17.610.3 11.5 18.8 GR 2.706 51.8 32.3 2.711 .05 .02 843.23 44 51.8 51.8 4.7 \$ 843.38 39 68.6 36.6 2.179 -2.5 20.848.0 11.8 2.9 12.3 GR 2.787 48.0 48.0 29.1 2.781 .09 .05 7.4 843.53 35 10.8 68.6 32.9 2.324 -3.327.442.6 12.5 .0 .0 S 2.853 42.6 42.6 29.0 2.853 .13 .07 Ś .13 .07 843.69 34 18.9 55.0 15.7 2.628 -3.6 3.9 81.7 36.1 . 4 5.4 GR 2.885 81.7 81.7 11.3 2.878 843.84 37 24.6 27.3 15.6 2.638 -3.6 .0 78.5 57.2 12.5 9.1 GR 2.901 78.5 78.5 9.7 2.886 .13 .07 24.7 12.9 GR 5 843.99 40 19.7 1.0 15.6 2.648 -3.6 .0 96.3 336.9 2.918 99.2 96.3 8.1 2.894 .13 .07 5 .07 844.14 43 20.0 2.1 16.9 2.653 -3.5 .0 95.9 239.6 23.4 17.6 GR 2.959 99.2 95.9 7.1 2.919 .13 5 3.2 18.2 2.658 .0 96.3 198.6 22.2 22.3 GR 6.2 2.944 .07 844.30 46 19.9 -3.5 3.004 99.2 96.3 .13 844.45 2.1 17.2 2.503 .0 100.0 100.0 22.9 41.4 GR 2.853 100.0 100.0 .0 2.786 .07 60 9.3 -3.3.13 6 1.7 21.5 2.277 -3.0 .0 169.9 330.0 26.2 52.6 N 2.587 100.0 100.0 .13 .07 844.60 70 6.5 .3 2.677 .13 4 7 844.75 79 1.3 25.8 2.048 -2.7 98.1 143.2 29.5 61.7 N 2.650 99.6 98.1 11.3 2.706 .07 3.8 9.4 2.687 .13 .07 4 7 1.3 34.5 1.968 -1.7132.9 191.4 15.8 40.6 S 2.650 100.0 100.0 844.91 83 3.7 4 7 845.06 87 3.6 1.2 43.3 1.887 -.7 577.4 863.7 2.2 13.0 S 2.650 100.0 100.0 1.9 2.662 .13 .07 110.1 161.9 24.6 2.650 100.0 100.0 10.3 2.703 .13 .07 4 7 845.21 84 3.6 1.2 42.6 1.966 .0 58.1 S 7 4 111.4 181.1 26.1 61.1 S 2.650 100.0 100.0 10.1 2.705 .13 .07 845.36 87 3.4 .9 45.3 1.946 -.1 .13 .07 4 7 113.7 211.5 27.6 64.2 S 2.650 100.0 100.0 9.9 2.708 845.52 90 3.2 .7 48.1 1.926 -.2 845.67 93 3.2 .8 45.3 1.935 -.3 .0 120.8 214.8 30.8 70.6 S 2.650 100.0 100.0 7.9 2.702 .13 .07 3 34.0 77.1 S 2.650 100.0 100.0 .07 845.82 96 3.2 .9 42.5 1.944 -.5 .0 10.2 2.680 .13 .07 1 4 2.650 100.0 100.0 2.0 2.736 .13 845.97 100 3.6 1.0 41.7 2.063 -.1 45.6 95.1 N 1.1 43.2 2.063 78 846.12 97 141.0 258.5 47.0 93.8 GR 2.650 100.0 100.0 .8 2.735 .13 .07 4 3.8 -.1 846.28 94 4.0 1.2 44.7 2.062 -.1 134.6 240.0 48.4 90.0 GR 2.650 100.0 100.0 1.6 2.732 .13 .07 4 78 .07 8 846.43 93 5.2 1.7 50.2 2.070 -.5 .0 116.6 200.1 48.2 88.9 GR 2.650 100.0 100.0 1.8 2.879 .13 .0 133.8 252.4 46.5 93.0 GR 2.650 100.0 100.0 .9 2.843 .13 .07 8 846.58 96 1.1 47.1 2.083 4.2 -.4

Complex Lithology Results

Zone No. 3

BROADBILL-1

						- 1										_
846.	73 99	3.8	.6 43.9	2.096	4	.0		44.8	97.1 GR	2.650	100.0 100.0	1.2 2.009	3	7		
846.	39 99	3.9	.7 44.6	2.057	6	.0		45.7	96.6 GR	2.650	100.0 100.0	1.4 2.788	.13	.07	1	
847.	04 99	4.0	.7 45.2	2.018	7	.0		46.6	96.1 GR	2.650	100.0 100.0	1.7 2.767	.13	.07	l	
847.	19 94	4.4	1.1 51.4	1.995	8	.0		36.4	82.0 S	2.650	100.0 100.0	8.4 2.838	.13	.07	3	
847.	34 93	5.7	1.9 50.2	2.046	-1.0	.0		34.4	77.8 S	2.650	100.0 100.0	9.8 2.860	.13	.07	3	
847.	50 93	5.7	2.7 48.9	2.097	-1.2	.0	93.5 121.4	32.3	73.7 S	2.650	98.7 93.5	6.7 2.880	.13	.07		8
847.	65 95	5.9	2.6 49.5	2.054	-1.3	.0		33.6	76.2 S	2.650	100.0 100.0	10.4 2.856	.13	.07	3	
847.	80 97	6.0	2.5 50.0	2.012	-1.3	.0		34.8	78.8 S	2.650	100.0 100.0	9.6 2.830	.13	.07	3	
847.	95 102	5.4	2.8 42.9	2.039	~.8	.0		48.7	97.7 N	2.650	100.0 100.0	1.0 2.751	.13	.07	L	
848.	11 103	5.4	2.2 40.9	2.097	8	.0		46.4	93.4 N	2.650	100.0 100.0	2.5 2.770	.13	.07	2	

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Zone No. 3	BROADBILL-1 AMITY OIL N	L				plex 01-98	Lithol	ogy F	Resul	cs								
DEPTH M GR	RT RXO PH	IN RHOB	DD	SPI	SWU	SXOU	PHIS	VCL	FVCL	RHOMAU	sxo	SW	PHIE	RHOMA	POR-M	HC-M	FLAGS	5
848.26 103	5.4 1.6 38	.8 2.156	8	.0			44.2	89.2		2.650				2.791	.13	.07		
848.41 103	5.4 1.4 41	.9 2.099	7	.0			44.2	95.7	N	2.650				2.785	.13	.07		
848.56 102	4.4 1.2 45	.0 2.042	7	.0			44.2	97.7	7 S	2.650				2.783	.13	.07		
848.72 104	4.7 1.2 48	.2 1.956	3	.0			44.8	98.8	3 S	2.650	100.0	100.0	.6	2.759	.13	.07	1	
848.87 103	4.7 1.2 48	.2 1.996	2				44.7	98.6	5 S	2.650	100.0	100.0	.6	2.739	.13	.07	1 4	
849.02 101	4.8 1.2 48	.3 2.035	2				44.6	98.4	l S	2.650	100.0	100.0	.7	2.739	.13	.07	1 4	
849.17 102	4.7 1.1 47	.2 2.080	2				41.5	92.1	LS	2.650	100.0	100.0	3.3	2.733	.13	.07	34	
849.33 104		.1 2.126	2				38.4	85.9) S	2.650	100.0	100.0	5.7	2.728	.13	.07	34	
849.48 94		.9 2.099	2				38.0	85.2	2 S	2.650	100.0	100.0	6.0	2.727	.13	.07	34	
849.63 91		.0 2.086	1				36.9	82.9	9 S	2.650	100.0	100.0	7.1	2.725	.13	.07	34	
849.78 89		.1 2.074	.0				35.7	80.6	5 S	2.650	100.0	100.0	8.3	2.723	.13	.07	34	
849.93 92		.7 2.219	.0		67.6 1	18.6	30.7	70.5	5 S	2.650	92.5	67.6	7.9	2.714	.13	.07	4 7	8

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BROADBILL-1

AMITY OIL NL

Complex Lithology Results 28-01-98

Zone No. 3

Hydrocarbon Volume Report

Formation Name		
FROM	M	779.983
TO	M	849.935
INTERVAL	M	69.952
PHIE Cut off		.050
SW Cut Off		.500
Vclay Cut Off		.300
Net Pay	M	.000
Average PHIE	용	.000
Average SW	용	.000
Average Vclay	용	.000
Integrated PHI	M	.000
Sum PHI*(1-SW)	M	.000

PE602721

This is an enclosure indicator page. The enclosure PE602721 is enclosed within the container PE903925 at this location in this document.

```
The enclosure PE602721 has the following characteristics:
     ITEM_BARCODE = PE602721
CONTAINER_BARCODE = PE903925
            NAME = Broadbill 1 Composite Well Log
            BASIN = GIPPSLAND
           ON_OFF = OFFSHORE
          PERMIT = VIC/P36
            TYPE = WELL
          SUBTYPE = LOG
     DESCRIPTION = Broadbill 1 Composite Well Log
                   (enclosure 1 from WCR)
         REMARKS = 1 sheet of 1
    DATE_CREATED =
   DATE_RECEIVED = 04/08/98
            W_NO = W1219
       WELL_NAME = Broadbill 1
      CONTRACTOR = Schlumberger
    CLIENT_OP_CO = Amity Oil N.L
```

(Inserted by DNRE - Vic Govt Mines Dept)

PE602722

This is an enclosure indicator page. The enclosure PE602722 is enclosed within the container PE903925 at this location in this document.

The enclosure PE602722 has the following characteristics:

ITEM_BARCODE = PE602722 CONTAINER_BARCODE = PE903925

> NAME = Broadbill 1 Mud Log (Formation Evaluation Log)

BASIN = GIPPSLAND ON_OFF = OFFSHORE

PERMIT = VIC/P36

TYPE = WELL

SUBTYPE = LOG

DESCRIPTION = Broadbill 1 Mud Log (Formation

Evaluation Log); enclosure 2 from WCR

REMARKS =

DATE_CREATED =

 $DATE_RECEIVED = 04/08/98$

 $W_NO = W1219$

WELL_NAME = Broadbill 1 CONTRACTOR = Halliburton

CLIENT_OP_CO = Amity Oil N.L

(Inserted by DNRE - Vic Govt Mines Dept)

PE602723

This is an enclosure indicator page. The enclosure PE602723 is enclosed within the container PE903925 at this location in this document.

The enclosure PE602723 has the following characteristics: ITEM_BARCODE = PE602723 CONTAINER_BARCODE = PE903925 NAME = Broadbill 1 Complex Lithology Log BASIN = GIPPSLAND ON_OFF = OFFSHORE PERMIT = VIC/P36 TYPE = WELL SUBTYPE = LOG DESCRIPTION = Broadbill 1 Complex Lithology Log (enclosure 3 from WCR) REMARKS = $DATE_CREATED = 21/07/98$ DATE RECEIVED = 04/08/98 $W_NO = W1219$ WELL_NAME = Broadbill 1 CONTRACTOR =

CLIENT_OP_CO = Amity Oil N.L

(Inserted by DNRE - Vic Govt Mines Dept)