

AMITY OIL NL

BROADBILL-1

WELL COMPLETION REPORT



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Prepared by

Greg Irwin

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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

Post Drilling Amity Oil NL (iii)

Name and Interests of Tenement holders

Latrobe Oil & Gas Pty Ltd 25.00%

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

60.00%

Exploration Permit VIC/P36 (iv)

(v) Basin Offshore Gippsland Basin, Victoria

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

> 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

(ix) Date Total Depth

26th January 1998 Reached

31st January 1998 (x) Date Rig Released

(xi) **Drilling Time** 15days

(xii) Total Depth 1345 metres KB

(xiii) Status Plugged and Abandoned

2.2 **DRILLING PLANT**

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

Drilling Contractor 111 Raymond Street SALE VIC 3850

Drilling Unit (ii) 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 2⁷/₈ 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	Ľ	EPTH RANGE	RUN NO.
BHC-DLL-MSFL-C	ALS-GR-AMS	1:200,500	106	to 783 metres KB	1
LDL-CNL-CALI-GI	R-AMS	1:200,500	106	to 783 metres KB	1
BHC-DLL-MSFLG	R-CALS-AMS	1:200,500	77 9	to 994 metres KB	2
LDL-CNL-GR-CAL	I-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 ^o	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) 810,326 152,324 Insurance and General **Total Costs** \$7,481,722

\$

TABLE 1

DRILLING PERFORMANCE DATA BASE: BIT RECORDS

Units

1	Length	Weight		Flow		
	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>4.1,1</u>	12	13		, 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	Α	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
21/01/98	3	12.25	G25CX	HU	MAX GT-1	3	16		j	.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

26/01/98 To:

DATE	BIT#	SIZE	SER#	MFR	TYPE	N1.	N2	OUT	HR	FLW	RPM	TOTRPM	ROP	12	13	14	O 1	$\mathbf{D}_{i,k}$	y_{ij} Ly α	В	G /	02	R
17/01/98	1	26.00	295478	VA	L3AB	22	4	52	58.0	650	1	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			0											i 1
20/01/98	3.	12.25	G25CX	HU	MAX GT-	16		110	435.0	2400	10	98,280	34.5										1
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		0	0	785	675.0	0	0	0	j J										i
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						ĺ	ı (
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 {
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	Α	E	1	

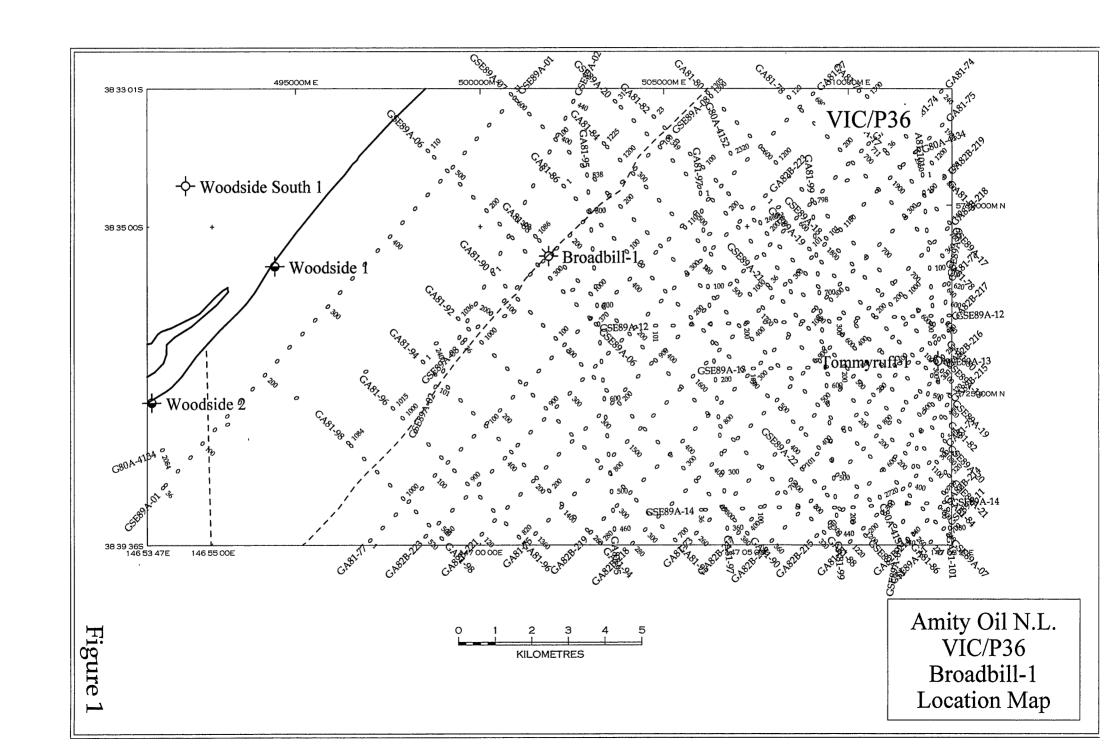
TABLE 2

WELL: **DRILLING COMPANY:** **BROADBILL-1** SANTA FE

RIG:

PARAMESWARA

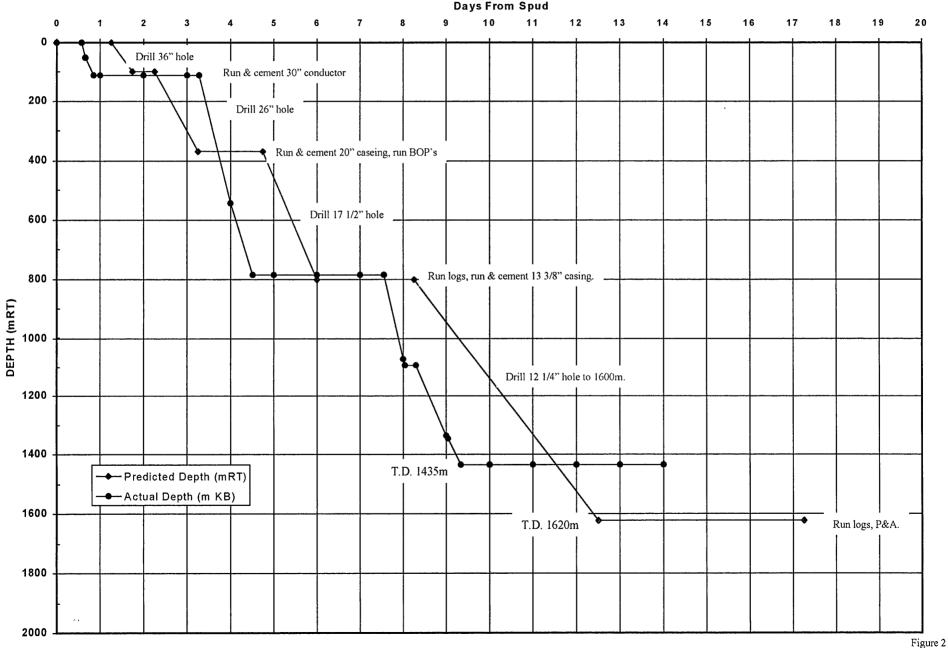
#	LENGTH	WT	WBJAR	STNG	P/UPWT	S/OFFWT	TQ MAX	TQONBOT	TQ/O/BOT	🦫 HRS 👙	BHA DESCRIPTION
1	109.39	100		100	100	100	300	200	100		26" Bit, 36" Hole opener (s/n 7850), bit sub, 4x9-1/2" DC's,
											X-O, 1X8" DC, X-o, 6 x HWT
1	110.0	90		90	90	90	200	175	125		171/2" Bit, bit sub, 3x9-1/2" DC's, X-O, X-O 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	}										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										6 jt TBG, XO
		l									·



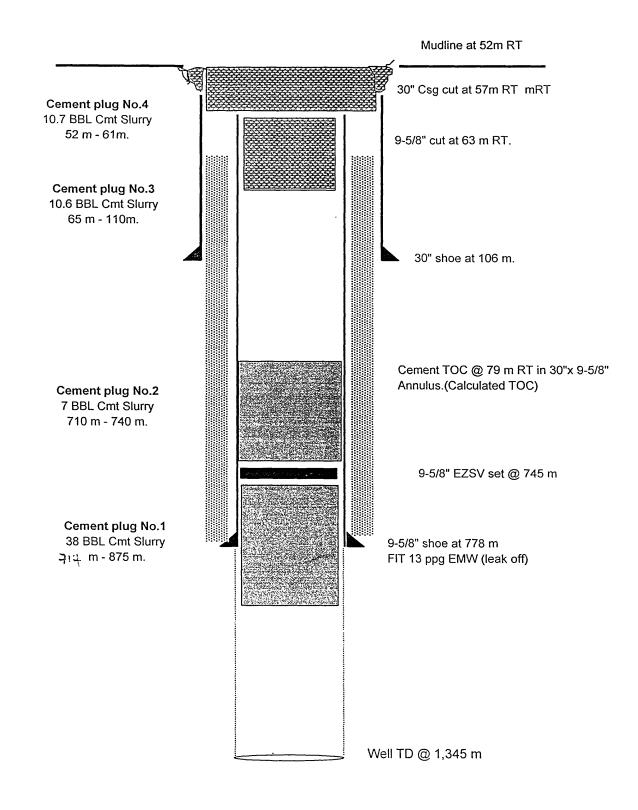
Amity Oil N.L.

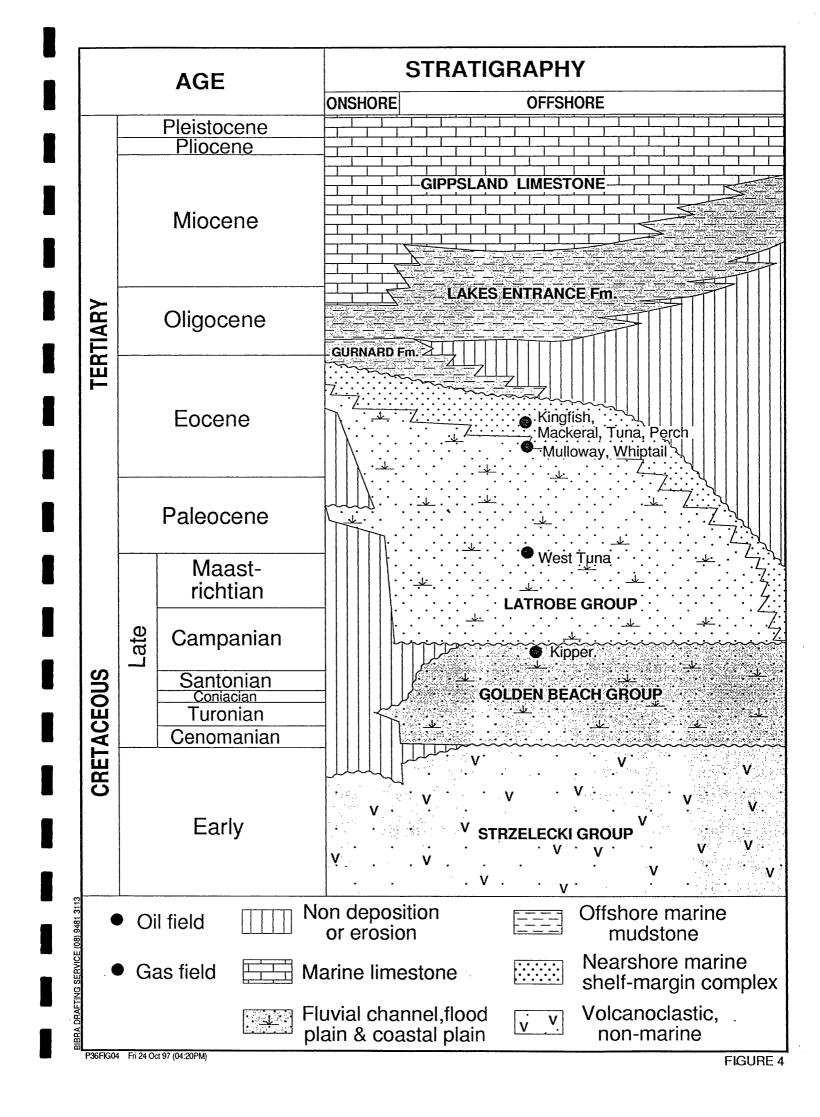
Broadbill-1 Time v. Depth Curve.

Days From Spud



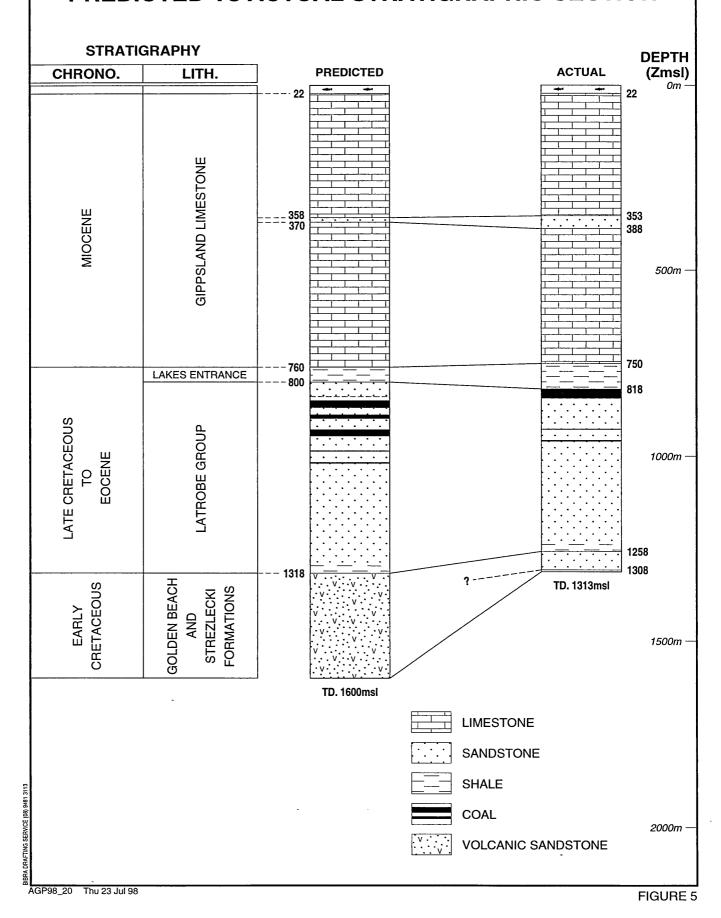
Broadbill #1 Well Abandonment Status





AMITY OIL N L

BROADBILL-1 PREDICTED Vs ACTUAL STRATIGRAPHIC SECTION



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 1DATE_CREATED = $DATE_RECEIVED = 04/08/98$ $W_NO = W1219$ WELL_NAME = Broadbill 1 CONTRACTOR = Schlumberger CLIENT_OP_CO = Amity Oil N.L

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

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

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

 $\mathtt{TYPE} = \mathtt{WELL}$

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

APPENDIX 1 WELL INDEX SHEET

WELI	L INDE	X SHEE	T					
COMPA SPUDD COMPI T.D:	DED: LETED:	Amity O 17 - 01 - 31 - 01 - 1345met Plugged Abandor	98 98 res KB and	TYPE: WELL: BASIN: LICENC LATITU LONGIT	E: DE	Wildcat Broadbill-1 Gippsland VIC/P36 38° 35'25.2 147° 01'17.	8"S WATER D	ON KB 31.60metres amsl EPTH 22.00metres
		Abandoi			Depths			
Format	tion/Mark	er	Thicknes	SS K.B.	(m) Sub Sea	Seismic TWT Datum MSL	Lithologic Summary	Remarks/ Shows
	' MIOCEN LAND LM		728.4+	53.60	22	-	Predominantly limestones with sandstones and thin claystones	Nil
LAKES FORMA	ENTRAN ATION	ICE	68	782	750	-	grey-green soft claystones	Minor gas shows
	BE GROU	JP	440	850	818	-	mainly sandstones with coals and thin claystones	-No Oil shows. High gas shows from 850 to 966mKB
GOLDE GROUF	EN BEACI	H	50	1290	1258	-	mainly sandstones with thin claystones and siltstones	Minor gas shows
STREZ.			5+	1340	1308	-	pink, lithic siltstones	Nil
L O S T E S	RUN 1 I RUN 2 I	DL CNL BHC DLL	MSFL CALS CALI GR AN MSFL GR C GR CALI AN	MS 10 ALS AMS SP 7	06 - 783 mKE 06 - 783 mKE 79 - 994 mK 779 - 994mKI	3 B B		
S T S								
SIDE	WALL CO	ORES			S SAMPLES		DRED	
P L U G	Plug No Plug No Plug No Plug No	2 3		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 p	olugged ar	nd abandoned	on 31 st January	1998			
						WE	LL NAME: BR	C/P36 OADBILL-1 nity Oil NL

APPENDIX 2

DAILY REPORTS

APPENDIX 2a DAILY DRILLING REPORTS

PAGE 82

PARAMESWARA SANTA FE

AMITY OIL NL

DAILY DRILLING REPORT#

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

Well Data DEPTH (m RT): CUR. HOLE SIZE ("); 36.00 DAILY COST 5: PROGRESS (m); C8G OD (7): DRILL CO. : SANTA FE 0.00 CUM COST 5 : 50 DAYS FROM SPUD: -0.87 RIG: PARAMESWARA SHOE TVD (m RT): AFE COST \$: O MUD CO: BAROID DAYS +/- CURVE : LEAK-OFF EMW(PPB) AFE BASIS : UNKNOWN 0.00 RT ABOVE M&L (m): 30 7 CURRENT OP @ 0400: WATER DEPTH @MSL (m): 21.7

PLANNED OP .; 52.4

RT TO SEASED (m); Drill 36" hole. Run 30" casing.

Summary of period 00:00 to 24:00 hre:

Rig complete maintenance work and go on contract at boat arrival. Picking up drill tools, offloading boat and mixing mud.

Formation Tops - This report only FORMATION TOP(mBRT)

ACTIVITY FOR PERIOD 00:00 HRS TO 24:00 HRS ON 16.01.98

PHSE CLS OP FROM TO HRS DEPTH ACTIVITY DESCRIPTION	- 1								
PROSE CES OF PROMITO THE DEPTH ACTIVITY DESCRIPTION	- 1	DUCE	CIC		COOM	TO	LIDE	DEDTO	ACTR NTA DECORPTION
	- 1	FINGE	CLQ) Ur		10	Inko	עברות:	ACTIVITY DESCRIPTION
	Į								

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

REMARK / OBSERVATION	SOLUTION / RECOMMENDATION
Held pre-spud mtg for Broadbill #1. RBT Drig Supt & rig supt on site.	
Rig on contract from 17:00 hrs.	

Mud Properties		MUD COST FOR TO	λΑΥ	': \$ 0		UMU	LATIVE MUD COST	TO DAT	TE: \$0	
Type: FROM: TIME: WEIGHT (ppg): TEMP (C):	0.00	VISCOSITY(aco / qt) PV (ops): YP (b/1003q.ft): GEL 10a/10m/30m (lb/1003qft): 0 FANN 3/6/100 0	:	0	API FLUID LOSS (om3/30mln) API FILTER CAKE (32nds inch HTHP FLUID LOSS (om3/30mln) HTHP FILTER CAKE (32nds inch)	0	CI - (ppm): K+ (ppm): HARD/Ca (ppm): MBT (ppb eq): PM: PF:	0 0.0 0.0	SOLIDS (%vol): H2O (%vol): OIL (%vol); SAND: PH: PHPA;	0.0 0 0.0 0.0

Anchor Tension A2: A1: A3: A4: (kips) A6: A7: A10: A9: Weather & Rig data @ 24:00 hrs Location. Fuel Banto D/wtr PMt Bent Hell Workboats Cmt (kltr) (9X) (bbl) (bbl) (ex) (8X) (kitr) VDL (klps: 4,263.0 904 Pacific 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 pax on and 20 off

Bulk Stocks DRILL WATER (bb): 2,624.0 FUEL (kitr): 1,887.0 GEL (sx): 904. HELI-FUEL (kitt): 0.0 CEMENT (sx): POT WATER (bbl): BARITE (ax): 1,543 184

Casing Solide Data sand slit olean CSG LOT PHASE | CSG SHOE **C8G 8H0E HRS RUN** 0.0 0.0 0,0 OD(') TVD (mBRT) MESH 1 0 DISCARD RATE (opm) 0.0 0.0 0.0 MESH 2 0 DISCARD WT (pgg) 0,00 0.00 0.00 RETURN WT (ppg) MESH 3 TYPE LNGTH **C8G** WT THREAD 0,00 0.00 GRD 0.00 (m)ID (T) lbe/fi

Survey		MD	TVD	INCL		CORR.	∿	DOGLEG	N/S	EW	TOOL TYPE
Last Tool Type :	totca	(m RT)	(m RT)	DEG	(deg)	AZ (deg)	SECT (m)	(m/30m)	(m)	(m)	
Magnetic Declination:	0.00	110	110	0.60	0	0.0	\y				totoo
Survey method: Min Cui	rvature '							<u> </u>			(, , , , , , , , , , , , , , , , , , ,

TEL:61 3 96296977 PARAMESWARA SANTA FE

P. 009

PAGE 03

AMITY OIL NL

DAILY DRILLING REPORT # 1

RROADRILL 4

Report	Date:	16.	01.98		FROM : TO :	Westm M. Lan:		keon.					BRO	ADE	31 L L •
Drille, Pe	rmite &	Insp	ection	11											
Γ	DRILLT	YPE	DATE	IN	SPECTION	NS	DAT	E	SAF	ΤΥ	1	DE	ELIATE		
];	TRIP OR FIRE PIT DRIL INCIDEN	L	10.1.98	BOP TES NEXT TE RIG INBE DAYS SI	ST DUE D	DATE	9.1.9	1	TI ITI SA PTW Safety Mass	ating	Held wea	akty araw n	ma		
Cealng							Pump	Dete							
	LOT P	HASE	CBG S		G SHOE	1		P	umo Dati	- last 24			Slow I		
			IAIT	100) (MBK1)	1		PE	LNR (C	SPM EFF		9PP 8F (pel)	M SPP (MG)	DEP	
TYP	E	LNGT	.]		RD THR	EAD									
'егеопп	'ersonnel : on Site = 83							Dat			8 RUN		0.0	0.0	clean 0.0
JOB TIT	LE	MAM	E	COMPAN	YNAME	#	MESH		0			ATE (gpm)		0.0	0.0
Drig Super OIM	Pr	eidell] :	RBT Santa Fe		1	MESH.	-	0		BCARD W TURN WI		00.0	0.00	0.00 00.0
Toolpusher Mud Engine Comenter ROV Open Rig Crews Sub Contre	eer Do Do Lo	alker/Al oust onlon obsMhi	to	Santa Fe Barold Hibtn Contract Di Santa Fe Santa Fe	lving Sen	2 1 1 2 47 19									
Catering				P&O		В									
Survey					MO	TVD	INCL	AZ	CORR		DOGLE		EW		OL TYP
Last Too	- •				(mRT)	(m RT	DEG	(deg	(deg)	BECT (m)	(m/30m) (m)	(m)		
Magnetic Survey m				0.00 [†] Pvature			1. =								

PAGE 01

PARAMESWARA SANTA FE

AMITY OIL NL

DAILY DRILLING REPORT

0.00

0,00

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Report Date: 17.01.98

FROM: Westman / Jeckson.

BROADBILL -1

Well Data

DRILL CO.: SANTA FE PARAMESWARA RIG:

MUD CQ:

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

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: CUM COST 5: AFE COST & : AFE BASIS:

UNKNOWN

\$0

CURRENT OF @ 0400 : Running 30" Caeing

PLANNED OP .:

Run and coment 30" casing.

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

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.

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

ŕ								
L	PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
[; }	36	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. Spot and rig up ROV for operation.
	36	PD	RU	06:00	13:00	7.00	. 0	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. Strap casing.
	36	PD	RU	13:00	14:00	1.00	0	Jump ROV for wet test. Survey port leg spud cen. No scouring. Difficulty maintaining station due to strong ourrent and weed choking thrusters.
- :	36	PD	RU	14:00	14:30	.50	٥	Recover ROV and clean thrusters. Check electricals,
	36	PD	สบ	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.
;	36	PD	RU	15:00	16:00	1.00	٥	Recover ROV.
•	36	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.
- :	36	PD	CIR	20:30	21:30	1.00	110	Circ hivis to sweep hole and displace hole with unflocculated pre-hydrated gel.
7	36	PD	то	21:30	22:15	.75	110	POOH to mud line. Drag on first std. Back ream with out pump to clean up.
- {:	36	PD	TI	22:15	22:30	.25	110	Run back to bottom. No fill, no drag.
- ;	36	PD	CIR	22:30	23:00	.50		Circ hole to fresh unflocculated pre-hydrated gel.
	36	PD	TO	23:00	24;00	1.00	110	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	TO	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 cafety mitg and review JSA. High winds slowing down crans work.
36		RC	03:00	06:00	3.00		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 Commander dpt rig 23:00hrs for Geelong.	Held life boat embarkation instruction.

PARAMESWARA SANTA FE

P. 005

PAGE 01

AMITY OIL NL

18/01/1998 13:40

DAILY DRILLING REPORT

BROADBILL-1 FROM: Westman / Jackson. TO: M. Lanzer Report Date: 17.01.98

Mud Properties	MUD COST FOR TODAY:	\$4,043	CUMULATIVE MUD COST TO DATE: \$4,043							
Type: Gal Sweeps FROM: Pit TIME: 13.45 WEIGHT (ppg): 8.80 TEMP (C): 0	(lb/100sqft): 0 0	O API FI UID LOSS (cm3/30min) API FILTER OAKE (32nds inch HTHP FLUID LOSS (cm3/30min) HTHP FILTER CAR (32nds inch)	MBT (ppb eq): 0 FM:	G SOLIDS (%vol): 0 H2O (%vol): 0 OIL (%vol): 0.0 SAND: 0.0 PH: 0.0 PHPA.	0.0 0 0.0 0.0					

Bit Data for Bit # 1	Wear		61	D	<u>_</u>	8	0	Q2	R			
SUE ("): MANUFACTURER: TYPE: SERIAL#: DEPTH IN (m RT): DEPTH OUT (m RT):	L3AB	AVE WOB (k-lbs); AVE RPM; FLOW (gpm); PUMP PRESS. (pal);	1 70 900 650	NOZZLE8 3 x22 4 x17 X X	FUOI ON B IAOC	nd over to TAGE (n OTTOM DRILL. (m/hr):	HR9:	24 hra	CUM,	OOTA ON BO ADC U	over the GE (m) ; T, HRS KILL HR	: 5 8

HA#1 Length	(m) :109.4	_	DC(1) A.V. (mpm) :	5.5 HR8 ON JARS :
HRS ON MOTOR:		TROE MAX (amps):		5.6 8/N JARS : 6.3 HRS ON STABS:
BHA WT(k-bs): 100	BLK OFF WT(k-bs): 100	TROE OFF (amps):	100 D.P. A.V. (mpm):	5.3 8/N STABS :
BHA DESCRIPTION :	26° Bit , 36° Hole opener (8/1	17850), bit sub, 4x8-1/2"	DC 8,X-0,1x5" DC,X-0, 5 x H	WT

Anchor Tensio (KIPS)	en		A1: A6:			A2: A7:				.4 : .8 ;	A5 A1); 0:
Workboata	Looston.	Fuel (kltr)	Barito (ex)	D/wtr (Iddl)	P/wtr (bbl)	Omt (EX)		Hell (kttr)	Weather & Rig o	lata @ 24:00	hra	VDL (klps: 6.124.0
Paoliia Commend	Dpt Rig	(,	(-7	(1)	(==,	(-17)	,-,	. ,	WIND SP. (kt.): 25.0 WIND DIR (deg): 360 PRES.(mbsr.): 1005 AIR TEMP (C):	CEILING (m):	1.2	RIB.TENS: HEAVE (m): ROLL (deg):

	·····			
Buik Stocks DRILL WATER (bb): 3,862.0	FUEL (kitr): 1,540.6) GEL (RY): 36	33 HELI-FUEL (kitr):	0.0
POT WATER (Libit): 623.0	BARITE (ex); 1,54	CEMENT (31): 2,4:	38	

DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
TRIP DRILL FIRE PIT DRILL INCIDENT	17.01.8	BOF TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA	9.1,98 173	LTI MTI JSA #PTW	
	}		j	Safety Mosting	Held weakly Fire & Abandon

Casing								ımp Data									
CSG	LOT	PHAGE	C80 81		C8G &			2	ить ба	ia - 131	t 24 h	74			Slow F	ume Data	
ODC)			MD		TVD (ml	BRT)		TYPE	LNR	SPM	EFF	Plow	SPP	SPM	8PP	DEPTH	MW
							.111		n)	(%)	(gpm	(psi)		(psl)	(mRT)	(ppq)
TY	PE	LNGT		WT	GRO	THREAD	1	Ideco - T1	6.50	90	100	450	650				
11		(m)	10 (1)	(be/fi				Ideos - T1	6.50		100		550			1	

Personnel : on Site =	Solids Data		•	asud	elit	clean	1
	1		HRS RUN	0.0	0.0	ט,ט	1
	MESH 1	0	DISCARD RATE (com)	0.0	0.0	0.0	١
	MESH 2	0	DISCARD WT (pgg)	0.00	0.00	0.00	١
	MESH 3	Q	RETURN WT (ppg;	0.00	0.00	0.00	

P. 006

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18/01/1998 07:10

015853285

PARAMESWARA SANTA FE

AMITY OIL NL

DAILY DRILLING REPORT #

Report Date: 17.01.98

PROM: Westman / Jackson. M. Lanzer

BROADBILL-1

	88		
JOB TITLE	NAME	COMPANY NAME	#
Orig Supervisors	Westmart/Jack	RAT	2
Geologist	Patton	Amhy	1
QIM .	Freidell	Santa Fo	1
Toolpushers	Walker/Abrams	Sente Fe	2
Mud Engineer	Douet	Barold	1
Cementer	Donion	Hibto	1
Well Head	Chain	Kvaemer	1
ROV Operators	Eller/MoNell	Contract DMng Ser	2
Mud Loggers		HML	3
Rip Crews		Santa Fe	48
Sub Contractors		Senta Fe	16
Catering	·	P&O	8

Survey		MD	TVD	INCL		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	D	0,0				-	totco
Survey method: Min Cu	Irvature							·			

015853285

PARAMESWARA SANTA FE

AMITY OIL NL

DAILY DRILLING REPORT

Report Date: 18.01.98

FROM: Westman / Jackson. TO: M. Lanzer

BROADBILL-1

Bit Data for Bit # 1		IADC#		Wear	F	Q1	Ī	D NO	l _a	В	G	O2 NO	R
SIZE ("): MANUFACTURER: TYPE: SERIAL #: DEPTH IN (m RT): DEPTH OUT (m RT):	L3AB 295478 52	AVE WOB (k-lbs): AVE RPM: FLOW (gpm): PUMP PRESS, (pai): HSI (hp/sql):	1 70 900 650	NOZZLE8 3 x22 4 x17 x x	FOOT ON B	id over FAGE (OTTO) DRILL (m/hr):	rthe (m): M Hi	lest 2 35 :	58 4.5 1.0	Cel CUM. CUM.	ON BO	over the AGE (m) : OT. HRS : ORILL HR	bit run 68 4.5

Anchor Tension A4: A1: A2: A3: (klps) A8: A9: A10: A8: A7: Weather & Rig data @ 24:00 hrs Location, Fuel Bertte Diwtr Piwtr Cmt Bant Hell Workboats (kitr) (bbl) (bbl) (sx) (8x) (kitt) (9K) VDL (kips: 8,082.0 WIND SP. (kts): 25.0 VISIB.(nm): Pacific Command Gaeloni RIS.TENS: WIND DIR (deg) :270 | CEILING (m) : HEAVE (m): PRES (mbars): 1013 | WAVES (m) : ROLL (deg) : AIR TEMP (C): 2.0 PITCH (deg): SWELL (m): COMMENTS: No flights

Bulk Stocks DRILL WATER (661): 3,862.0 FUEL (klb): 1,512,0 GEL (sx): 353 HELI-FUEL (ktr): 0.0 CEMENT (ex): 1,887 POT WATER (bbl): 854.0 BARITE (ex): 1,543

Drills, Permits & Inspections

PHASE

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

30	.00.			108		106
	TYPE	LNGTH (m)	C8G ID (")	WT lbe/ft	GRD	THREAD
Shoe	. It	124	28.0	3110	X62	SEGO

CSG SHOE

MD

CSG SHOE

TVD (mBRT)

1115	(m)	10 (")	lbe/ft	GIAD	mile
Shoe Jt	12.4	28.0	311.0	X52	SF60

P	rsonnei - d	on Si	ta = 81	2

LOT

Casing

CSG

00(7)

NAME	COMPANY NAME						
Westmen/Jeck	RBT	2					
Patton	Amity	1					
Freidell	Senta Fe	1					
Walker/Abrame	Santa Fe	2					
Dayet	Barold	1					
Donlon	Hippy	1					
Chain	Kvaemer	- 1					
Eller/McNeil	Contract Diving Scn	2.					
	HML	3					
	Schlum	3					
	Senta Fe	46					
	Santa Fe	16					
	P&O	8					
	NAME Westmen/Jeck Patton Freidell Welker/Abrame Douet Donlon Chain	NAME COMPANY NAME Westmen/Jack Patton Amity Freidell Senta Fe Walker/Abrams Douet Barold Donlon Hibm Chqin Kvaemer Eller/McNeil Contract Diving Scn HML Schlum Senta Fe Santa Fe					

Pump D	ate
--------	-----

		P	ump Da	Slow Pumo Data							
	Ħ	TYPE	LNR (°)	SPM	EFF (%)	Flow (gpm	(psl)	БРМ	SPP (pai)	DEPTH (m RT)	MW (ppg)
		ldeco - 11 Ideco - 11			100 100	450 450	880 650				
<u>_</u>	_										

	Solids Data			sand	silt	clean
			HR3 RUN	0.0	0.0	0.0
l	MESH 1	0	DISCARD RATE (gpm)	0,0	0,0	0.0
	MESH 1 MESH 2 MESH 3	٥	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.	V	DOGLEG	N/8	EW	TOOL TYPE
Last Tool Type :	totco	(m RT)	(m RT)	DEG	(deg)	AZ (deg)	SECT (m)	(m/30m)	(m)	(m)	
Magnetic Daclination:	0.00	110	110	0.50	٥	0.0					totca
Survey method: Min Curveture											

THUE UI

19/01/1998 06:46

015853285

DAILY DRILLING REPORT#

AMITY OIL NL

Report Date: 18.01.98

FROM: Westman / Jackson. TO: M. Lanzer

BROADBILL -1

Well Data

SANTA FE DRILL CO.: PARAMESWARA RIG:

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

WATER DEPTH @MSL (m): 21.7 RT TO SEABED (m): 52.4 DEPTH (m RT): 110 PROGRESS (m): 58

DAY8 FROM SPUD: 1.33 DAYS +/- CURVE :

C8G OD ("); 30.00 SHOE TVD (m RT): LEAK-OFF EMW(ppg) 0.00

CUR. HOLE SIZE ("): 36,00

CUM COST \$: AFE COST \$: AFE BASIS:

DAILY COST \$:

UNKNOWN

\$0

CURRENT OP @ 0400: Fill conductor and function test diverter system.

PLANNED OP .:

Clean out shoe. Pick up extra DP for this hole section. Drill shead.

106

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

Run 30" conductor essing, run Inner string and cmt osg, rig down lending 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/ atinger 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/ cementing 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		Install 30" riser extension on A Section. Re-hang texas deck work platform for access to make up flange connection.
17	PD		02:00			110	Inetall diverter and overshot pkr and nipple up
17	PD	BOP	04:00	06:00	2.00	110	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 TOD	AY:	\$276	С	CUMULATIVE MUD COST TO DATE: \$4,319							
Type : FROM : TIME : WEIGHT (ppg):	Pit 0.00	YP (lb/100sq.ft): GEL 10s/10m/30m	. 0	0 1 0	API FLUID LOSS (cm3/30min) API FILTER CAKE (32nds inch 17THP FLUID LOSS (cm3/30min)	_	CI - (ppm) : K+ (ppm) ; HARD/Cs (ppm) ; MBT (ppb eq) :	0 0.0	SAND:	0,0			
TEMP (C) ;	O	(ib/100eqft): 0 FANN 3/6/100 0	0	0	HTHP FILTER CAKE (32nds inch)	0	PM: PF:	0.0	PH: PHPA:	0.0 0.0			

20/01/1998 05:27 015853285 PARAMESWARA SANTA FE

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AMITY OIL NL

DAILY DRILLING REPORT#

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

BROADBILL-1

RIG: PARAMES MUD CO: B.	AROID	DEPTH (m RT): PROGRESS (m): DAYS FROM SPUD: DAYS */- CURVE.	110 2.33	CUR. HOLE SIZE (*): CSG OD (*): 8HOE TVO (m RT): LEAK-OFF EMW(ppg)	17.50 30.00 108 0.00	DAILY COST S: CUM COST S: AFE COST S: AFE BABIS:	\$0 UNKNOWN
RT ABOVE MSL (m): WATER DEFTH @MSL (m): RT TO SEADED (m):	30.7 21.7 82.4	CURRENT OP @ 0400 PLANNED OP.:		to drill ahead. With 12-1/4" drilling aboy 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(mBRT)

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

	STORY FOR FERON OUT OF THE STORY OF THE STOR													
PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION							
17	PD	BOP	00:00	05:00	5,00		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 test guage blocking pressure to flow line seals.							
17	PD	BOP	07:00	07:30	.50	110	Function test diverter - flowline scals, overeshot & overboard lines.							
17	PD	WH	07:30	08:30	1.00	110	Run and set wear bushing.							
17		TU	08:30	06:30	1.00	110	Rig up to do top up cement job on 30" casing annules 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		ΓU	14:00	15:00	1.00	110	Rig down from cament top up job							
17	PD	BOP	15:00	16:00	1.00	110	Install diverter pkr and test diverter, A section and risers against cap and cmt plug to 250psi - Ok.							
17	PD	TI	16:00	17:30	1.50	110	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	110	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

MCILL	ACTIVITY FOR PERIOD 00; UU HRS TO 00; UU HRS DIY 20:01:30													
PHSE	CLS	QP	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 clear. Float & seals in good condition. Replace and RIH.							

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

ANITO IA I DITA I CIT I ENIOR OBJECT (NO 10 2 INC)	
REMARK / OBSERVATION	SOLUTION / RECOMMENDATION
Jump ROV on slack water. Can see open hole around 30" conductor. Rig up and grout 30 annulas thru 2-7/8" tog with 40 hbis 15.9ppg slurry. ROV confirm hole full and take sample.	

20/01/1998 06:27 015053205

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

	TO: M. Lanzer			
REMARK / OBSER	VATION	SOLUT	ION / RECOMME	NDATION
ROV carry out spud can survey and the Found 2 sections of ladder cage and removal.				
Mud Properties MUD COST FOR	TODAY: \$9,606	CUMULATIVE	MUD COST TO DATE	614,124
Type: S-W/GEL/PAC FROM: TIMS: WEIGHT (ppg): TEMP (C): VIRCOSITY(acc PV (cpe): PV (cpe): YP (b/100eq.ft): GEL 109/10m/301 (b/100eqft): FANN 3/8/100	1 (cm3/30m 8 (32ndc in 11 HTHP FL 3 4 0 (cm3/30m	ER CAKE 1 HARU: LUID LOSS MET (print) 0 PM: LTER CAKE DE	m); 0 H /Ca (ppm): 0 C opb cq): 0.0 S 0.0 P	OLIDS (%vol): 20 (%vol): 100.9 bil (%vol): 0 AND: H: 0.0 HPA: 0.0
Bit Data for Sit # 2 SIZE (") 1 MANUFACTURER ! SM AVE WOB TYPE : R-1 SERIAL # : W5ZCK FLOW (gpn DEPTH OUT (m RT) : 63 PUMP PRE DEPTH OUT (m RT) . 110 HSI (hp/mi)	(K-lbs): 10 85 1): 800 83, (psl): 1,150	Woar I Q1 OZZLES 3 x20 Drilled ever th X FOOTAGE (m) X ON BOTTOM I X IADC DRILL. H ROP (m/hr);); 47 CUM.F	G D2 R I NO EHA ulated over the bit run OOTAGE (m) . 47 ON DOT, MRS : 2.0 LDC DRILL HRE: 1.0 A/ro: 47 0
Bit Data for Bit #3 LADG#		Wear DI 01	b . 8	G 62 R
SIZE ("): 12.26 MANUFACTURER: HU AVE WOB TYPE: MAX GT-1 AVE RPM: SERIAL #: GZ5CX FLOW (gpn DEPTH IN (m RT): 110 DEPTH OUT (m RT): HSI (hp/eqi)	(k-lbe) ; i) ; 3S. (pal):	3 X16 Drilled over th X FOOTAGE (m) X ON BOTTOM F X IADC DRILL. H X ROP (m/hr):	: 0 CUM.F	olated over the bit run OOTAGE (m): 0 ON BOT. HRS: 0.0 .DC DRILL HRS: 0.0 viri):
BHA #1 Length (m):110.0 HRS ON MOTOR: STRING WT(K-lbs) WT BW JAR(K-lbs): PICK UP WT(K-lbs) BHA WT(k-lbs): 80 SLK DFF WT(K-lbs) BHA DESCRIPTION: 171/2" Bit, bit sub, 3): 90 TROE ON (8	mps): 176 HWDP A.V. (amps): 126 D.P. A.V. (. (mpm): 31.1 S/N JA /. (mpin): 23.5 HRS O	rs : In stags:
BHA #2 Length (m) ;230,6				
HRS ON MOTOR: WT BW JAR(k-be): BHA WT(Mote): GTRING W (k-lbe) PICK UP WT(k-lbe) SLK OFF WT(k-lbe)	TROE ON (a)	emps): DC(2) A.V. mps): HWDP A.V.	/. (mpm); 38.8 HRB 0 mpm); 38.8 S/N ST	RS: DAH 01163 N STABS: 0.0 ABS7390187/AIB1120
Terrockii fiold.	(au), monai(2/15-302), 12	-174 SUBLIG DC,12-174 BB	38,718 DC 9,8" Jan , 218	DC8, NO,12HWT
Anchor Tension A1: (kips) A8:	A2: A7:	A3: A0:		A6: A10:
Workboats Location. Fuel Barito DAM (kitr) (ex) (bb) Fuotific Command Rig	r PANT CMI Bent (bbt) (sx) (sx) (180 CEILING (m): 113 WAVES (m):	VDL (kips: 5,952.0 RIS.TENO: HEAVE (m): ROLL (dog): 5 PITCH (dog):
COMMENTS: 1 flight, 7 pax on, 10 off				
Bulk Stocks DRILL WATER (bbl): 3,554.0 POT WATER (bbl): 797.0		93.0 GEL (EX): 543 CEMENT (EX):		JEL (k#+) : 0.0

20/01/1990 06:27 015853285

PARAMESWARA SANTA FE

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AMITY OIL NL

DAILY DRILLING REPORT# 4

Report Date: 19.01,98

FROM; Wastman / Jackson. TO: M. Lanzer

BROADBILL-1

Drille, I	Pormits	& ins	ection	u															_
	DRILL	TYPE	DATE		INSPE	CTIONS		DATE SAFETY							DET	AILS			
	TRIP D FIRE PIT DR INCIDE	(ILL	17.01.91	NEXT	TEST I NSPEC BINCE			9,1,98 1-1-90 175		Ti	eoting		Te toui	mitpa					
Cosing	}		·- ·- ·-				P	ump Da	ta										
CBG	LOT	PHASE CSG SHOE OSG SHOE							-	mo Da	a - la	124	14	_		Blow	Pump	Dec	
00(7			MC		TVD (m		#	TYPE	- [8PM		Flow	SPP	SPM				MW
30.00			L	106		106	-	ļ	_	(7)		(%)	(gpm	(pel)		(00)	(m F	(1)	(ppg)
1)	/PE	LNGT			ORD	THREAD	2	Ideco -		6.50 6.50			460 460	1150 1160	1				
Shae Jt		12		311,0			5	olide D	ati	1					6	and	silt	cle	arı
Casing i	t 63	11	.6 28.0	311,0	X-62	SFEO	11	ESH 1		150)		RUN	ATE (g	nm)	0.0 0.0	0.0		0.0 0.0
Casing j	(#4 (#6 (MLS			311.0				EGH 2		150		DIEC	ARD V	VT (pag	î.	0.00	0.00	ε	.00
Casing h	#6			311.0			М	E6H 3		160		MET	URN W	T (ppg)		0.00	0.00	C	.00
Casing j	84	1 11	.5 28.0	311.0		8F60													
	A section A Section		.4 21.0			21-1/4"2k													

			_								
Personnel: o	Personnel: on Site = 83										
JOB TITLE	NAME	COMPANY NAME	1								
Drig Supervisore	Westman/Jack	RET	2								
Geologies	Patton	Amity	1								
OIM	Freidoll	Santa Fe	1								
Toolpushers	Walker/Abrams	Santa Fe	2								
Mud Engineer	Doust	Barold	1 1								
Cornenter	Donlen	Hibm	1								
Well Head	Chain	Kvaamer	1								
ROV Operators	Eller/MoNell	Contract Diving Sen	2								
Surveyor	Haffmeler	HOP	1 [
Mud Longers		HML	4								
Electric Line		Schlum	8								
Rig Crows		Banta Fo	46								
July Countainore		Banta Fe	8								
Catering		P&0	7								

Survey	MD	TVU	INCL		CORR.	~	DOGLEC	N/S	E/W	TOOL TYPE
Last Tool Type : totco	(m RT)	(m RT)	DEG	(deg)	AZ (deg)	SECT	(m/30m)	(m)	(m)	
Magnetic Declination: 0.00	110	110	0.50	0	0.0					totoo
Survey method: Min Curvature										

DAILY DRILLING REPORT#

Report Date: 20,01.98

RT TO SEABED (m):

FROM: Westman / Jackson. TO: M. Lanzer

BROADBILL -1

DAILY COST 5: Well Data 546 CUR. HOLE SIZE ("): 12.25 | DEPTH (m RT): CUM COST 5: \$0 30,00 PROGRESS (m): 435 CBG OD (7): DRILL CO. : SANTA FE AFE COST 5: 108 SHOE TVD (m RT): PARAMESWARA DAYS FROM SPUD: 3,33 RIG: AFE BASIS : UNKNOWN LEAK-OFF EMW(ppg) 0.00 MUD CO: BAROID DAYS +/- CURVE: RT ABOVE MSL (m): 30.7 CURRENT OF @ 0400 : Circulate prior to running agle shart survey. WATER DEPTH @MSL (m): 21.7 PLANNED OP .: Drill to 780m, Wiper trip, POOH, Log, Run 9-6/8" casing.

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

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

62.4

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	2.50	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		Continue drill from 413m to 545m

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

PHSE	CLS	QP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
12	PD	a	00:00	05:30	5.50	413	Continue drill 12-1/4" hale 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 HR8 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 (Baracarb 25 &100,Barofibre,Gei) and losses reduced. At 398m spotted LCM pill in open hole while running survey and let soak.	

Mud Properties		MUD COST FOR TOD	AY:	\$12,	296	CUMU	LATIVE MUD COS	T TO DAT	TE: \$26,420	
Type: S-W/Gel/Poly FROM: TIME: WEIGHT (ppg): TEMP (C):	FL 20:00 9.00 44	VISCOSITY(eac / qt) PV (ops): YP (lb/100sq.ft): GEL 10s/10m/30m (lb/100sq.ft): 15 FANN 3/6/100 16	21	44 17 26 0 28	API FLUID LOSS (cm3/30mln) API FILTER CAKE (32nds Inch HTHP FLUID LOSS (cm3/30mln) HTHP FILTER CAK (32nds Inch)	1 0	CI - (ppm): K+ (ppm): HARD/Ca (ppm): MBT (ppb eq): PM: Pff:	620	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA:	4.1 84.7 Q 0.5 8.5 0.0

5

BROADBILL-1

AMITY OIL NL

DAILY DRILLING REPORT

FROM: Westman / Jackson. TO: M. Lanzer Report Date: 20.01.98

IADC # Bit Data for Bit # 3 West SZE (T): 12,26 NOZZLES MANUFACTURER: HU AVE WOB (k-ba): 10 3 x18 Calculated over the bit run Orilled over the last 24 hrs TYPE: 1-TD XAM AVE RPM: 138 X FOOTAGE (m): CUM.FOOTAGE (m): BZSCX | FLOW (gpm): 800 SERIAL 6: X ON BOTTOM HRE : CUM. ON BOT. HRE: 12.6 12.0 PUMP PRESS, (Del): DEPTHIN (m RT): 110 2,400 x IADO DRILL HRS : 14.0 CUM.IADC DRILL HRB: 14.0 Hal (no/sql): DEPTH OUT (m RT): x ROP (m/M): 31,1 ROP (m/hr): 1.15 BHA #2 Length (m): 0.0 HRS ON JARS : 0.0 SAN JARS : 0.0 HRS ON STABS: DC(1) A.V. (mpm) : DC(2) A.V. (mpm) ; HWDP A.V. (mpm): HRS ON MOTOR : STRING WT(K-lbs): TROE MAX (amps): PICK UP WT(k-lbs): SLK OFF WT(k-lbs): WT BW JAR(6-100): TROE ON (emps): D.P. A.V. (mpm): TROE OFF (ampa): O.O RIN STARS : BHA WT(k-lbs): BHA DESCRIPTION: Length (m) :230.8 TROE MAX (emps): 275 | DC(1) A.V. (mpm) : 684 | HRS ON JAR6 : 14.0 |
TROE MAX (emps): 275 | DC(2) A.V. (mpm) : 0.0 | B/N JAR6 : DAH 01163 |
TROE ON (emps): 175 | HWDF A.V. (mpm) : 47.6 | HRS ON STABS : 14.0 |
TROE OFF (emps): 125 | D.F. A.V. (mpm) : 47.6 | 8/N STABS 2390167/A(B1120 BHA #2 8TRING WT(k-ba): 135 37 PICK UP WT(k-ba): 135 56 SLK OFF WT(k-ba): 136 HRS ON MOTOR: WT BW JARR-Ibel: BHA WT(L-Da): BHA DESCRIPTION : 12-1/4" Bit, bit sub(float), monel(air#4002),12-1/4" stab,6"DQ,12-1/4" stab,7x5"DCv,6" Jan, 2x6" DCv, X/Q,12xHWT A2: Anchor Tension A1: (kips) A6 : A7 : AS; A9 : Weather & Rig data @ 24:00 hrs Bem Hell Barite Workboats Location, Fuel (kla) (ex) (bbl) (bbl) (ax) VDL (kipe: 8,821.0 RIB.TENS: Peoffic Command To Goo WIND SP. (ca): 20.0 VISIB.(nm): WIND DIR (deg): 90 CEILING (m): PRES.(mbm): 1013 WAVES (m): HEAVE (m): ROLL (deg) : EWELL (m): AIR TEMP (C): PITCH (deg) : COMMENTS: 1 Flight - 2 per in 6 per out Bulk Stocks DRILL WATER (66): 1,883.0 FUEL (Mb): 1,460.0 GEL (ext: 638 HELL-FUEL (10):

POT WATER (bb) : BARITE (44): 2,072 823.0 CEMENT (m): 1,868

Orilis, Permits & Inspections DRILL TYPE DATE INSPECTIONS DATE SAFETY DETAILS TRIP DAILL BOP TEST 9,1,98 FIRE 17.01.90 NEXT TEST DUE DATE MI PIT DRILL RIG INSPECTION DAYS SINGE LTA 176 49TM Safety Mauting Pre tour maps

Casing Pump Date 283 000 CSG SHOE TVD (mBRT) LOT PHASE CBG SHOE low Pump Det MD TYPE LNR SPM EFF SPP 8PM Flo SPP DEPTH (pd) (m RT) 30.00 106 105 0 (%) (com (DG) 1 |decc - T1 2 |decc - T1 8.50 60 100 400 2350 CSG WT LNGTH GRD THREAD 6.50 80 100 400 (m) Shoe Jt 12.4 25.0 311,0 X62 **SP60** Solide Data send Cosing it #2
Cosing it #2
Cosing it #3
Cosing it #4
Casing it #4
Casing it #5
Casing it #6 28.0 311.0 28.0 311.0 28.0 311.0 28.0 311.0 28.0 311.0 11.8 11.8 X-62 X-52 8F60 6F60 HRB RUN 17.6 DISCARD WT (pps) MESH 1 160 X-52 X-52 X-52 0.0 93 8766 12.1 |1.6 8F60 MESH 2 150 0,00 MESH 3 150 RETURN WT (ppg) 00,0 Casing it #7 Casing it #8 30'x 20" A section 28.0 311.0 28.0 311.0 21.0 8F50 6F50 X-82 X-82 RKB to A Section

Personnel : on Site #

Page Number: 2

elit

17.0

0.0

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MW

(PPd)

clean

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ppb 29.30	Whole Mud Barite Chemicals Loses Dumped Lost Vol GAIM/LOSS	O Press Drop. DP O Press Drop, BIT 39 Press Drop, AM bbl Actual Circ. Pres 40 AV, DP 9/min 1244 AV, DC m/min -703 AV, Ricer a/min	3319 6049 31 6 2420 15.8 139.5	DEVIATION DEVIATION TVD Angle Direction Horiz, Displ	N INFO 545.0 m 545.0 m 0.15 354	BACK REAM REAMING TESTING OTHER AVER-GE ROP	0.90 0.00 0.00 0.75 0.00
RESID REPRESENTATIVE	OFFICE/EOHE	Kelbourge	TELEPHONE			OST CONTL	TIVE COST
lcholas Doust	WAREBOOSE		TELYPEON	(03) 56 881		12296-82 51	26420.96
	FOTE	: ALL COSTS ARE REPORTED	IN AUSTR			A4PIGUE	20020230

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 PLOIDS, INC. or its agents, and are statements of opinion only.

DAILY DRILLING REPORT # 6

Report Date: 21,01.98

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

P----

•																			
Bit Date	e for B	lt#3	1/	\DC#			,, <u>.</u>		Wear		10	_	0		8	G	O2	TI	
SIZE ("):	•	1	2.25					1	NOZZL	F.8									
MANUFA	CTURE	₹;			108 (k-0	28) :		15	3 x18		licd ov	or the	last 24	hrs	Calo	misted o	ver the	e bit n	in .
TYPE:		MAX		AVE RI				130 360	×	FO	DTAGE	: (m)		240	CUM.F	DOTA	€E (m)	:	675
SERIAL	SERIAL #: G25CX FLOW (gpm): DEPTH IN (m RT): 110 PUMP PRESS. (psi): 1								X	ON	BOTT	OM H	₹8 :		-	ON BO			21.6
DEPTH IN	N (m KT)	.:	1,7	700	X	1	C DRI		6;			ADC DF	RILL H		25,0				
DEPTHO	TUC	(T):	785	HSI (hp	o(adi) :			8	×	RO	P (m/h	r):		21.8	ROP (r	n/hr):			27.0
BHA#2	L	euttp (t	n) :23	8.0									mpm)			ON JAR			26.6
HRS ON N			STRIN			169			X (amps): (amps):				mpm) (mpm)		B/N J	arg: On sta		AH 0'	26.6
WT BW JA BHA WT(k					(k-lbs) : (k-lbs) :	159	-		(ampa): F (ampa):		D.P.					TABS7			_
		•							,12-1/4" B			-	•		•				
PHA DESC	CRIPTIO	***************************************	-1/-	IL OIL	nn(110B1	Titulia	III WIII	1002/	12-17-0		5,12-1	7 25			u10, 22				
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kips)	10(10)	- 11		AØ:			A7 :			A8;			A9:			A10:			
													-1 - 1 -		-40 L		· · · · · ·		
Workbo	ate	Location.				Piwer	Cmt		t Hell (kitr)	Wes	ther t	r Kig	GEE	@ 24	ת טטא		OL (ldp	E E	83 A
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										PRES.				AVES (r	π) :	R	OLL (d	ag):	
										AIR TE	MP (C) :	8M	VELL (1	n):	1:5 PI	TCH (lag) ;	
AIR TEMP (C): SWELL (m): 1:5 PITCH (deg):																			
COMMEN						# I I I	/ / i->		1 400 0	- OF	1 (av)		E73		HELLE	alei (#r) ·	0.0	
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	ocks Di Pi	RILL WATE	ER (bbi R (bbi) ection): 2,8 : 9	103.0 00.0	BAF	ITE (s	x):	2,025	CE	MENT						itr):	0.0	, ·
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Personnel: on Site =

AMITY OIL NL

DAILY DRILLING REPORT

Report Date: 21.01.98

RT TO SEABED (m):

FROM: Westman /Jackson /Roots/ TO: Lanzer / Searies

BROADBILL-1

Well Data DRILL CO. : RIG : MUD CO:	Banta Pe Parameswara Baroid	DEPTH (m RT): PROGRESS (m): DAYS FROM SPUD: DAYS +/- CURVE:	785 240 4.33	CUR, HOLE SIZE ("): CSG OD ("): SHOE TVD (m RT): LEAK-OFF EMW(ppg)	12.25 30.00 106 0.00	DAILY COST \$: CUM COST \$: AFE COST \$: AFE BASIS:	\$0 UNKNOWN
RT ABOVE MSL (WATER DEPTH (DMSL (m): 21.7	CURRENT OF @ 0400 PLANNED OF .:	•	lown Logging Tools. eve Wear bushing, Rig up	& run 9.	.626 cag	

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

Drill from 545m to 786m. Circ, drop MSS and make wiper trip to shoe. RIH, circ clean and POOH for logging.

52.4

Formation Tops - This	report only
FORMATION	TOP(mBRT)
Sandstone	388
Limstone	420
Limestone	750
Lakes Entrance	775

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

•	HSE	CLS	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
	12	PD	۵	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,
- 1	12	ם מ	S	06:15	07:00	.75	701	Run survey on slickline @ 686.62m.
	12	PD	Q	07:00	12:30	5.50	785	Drill from 701m to 785m
П	12	PD	CIR	12:30	13:00	.50	788	Circ btms up.
IJ	12	PD	TO	13:00	15:30	2.50	785	Drop multi shot, pump slug & POOH to shoe. Retrieve MSS.
1						1		Drag to 30k and trying to awab first 5 stds then pulled clean.
	12	PD	R\$	15:30	16:00	.50		Rig service.
•	12	סק	TI	16:00	18:00	2,00		RIH to btm. Hale good no fill.
	12	PD	CIR	18:00	19:30	1.50	785	Ciro hole clean.
1	12	PD	TO	19:30	22:30	3.00	785	Pump slug and POOH, No drag, Staand 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
L								procedure. Rig up tools.

ACTIVITY FOR PERIOD 00:00 HRS TO 06:00 HRS ON 22.01.88

•	HSE	CLS	QP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
	12			00:00			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	06:00	1.75	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:	S4,7 15	CUMULATIVE MUD COS	T TO DATE: \$31,135	
Type: S-W/Gel/Pac FROM: FIME: 13:0 WEIGHT (ppg): 9.2 TEMP (C): 4	GEL 10e/10m/30m ((b/100e/ft): 17 29	70 API FLUID LOSS (cm3/30min) 21 API FILTER CAKE (32nds Inch HTHP FLUID LOSS (cm3/30min) 25 HTHP FLITER CAM (32nds Inch)	MBT (ppb eq) ; 21 PM;	21,000 SOLIDS (%vol): 0 H2O (%vol): 600 OIL (%vol): 5.5 SAND: PH: .0 PHPA:	4.4 83.4 0 tr 8.2 0.0

DAILY DRILLING REPORT

Report Date: 21.01.98

FROM: Westman /Jackson /Roots/ TO: Lanzer / Secries TO:

BROADBILL-1

		77		
Ę	JOB TITLE	NAME	COMPANY NAME	•
١	Drig Supervisors	Westman/Jack	RBT	3
	Geologist	Patton	Amity	1
	MIO	Freidell	Santa Fe	1
4	Toolpushers	Walker/Abrame	Santa Fe	2
Į	Mud Engineer	Dount	Berold	1 (
╛	Cementer	Donion	Hibin	1
	Well Head	Chein	Kvaerner	1
	British Asro	Fisher	BAE	1
١	Surveyor	Hoffmeler	HOF	1
┙	Mud Loggers		HML	4
	Electric Line		Schlum	7
	Rig Crows		Santa Fe	48
1	Bub Contractors		Santa Fe	- 1
	Cetaring		P&O	8

Cast Tool Type :

sgle shot

Magnetic Declination: Survey method:

Min Curvature

e ehot	MD (m RT)	TYD (E	20 20	AZ (deg)	CORR. AZ (deg)	SECT (m)	DOGLEG (m/30m)	(m)	EW (m)	TOOL TYPE
13.00	110	110		0	0.0					tatos
rvature	389 687	399 585	0.15 0.30	354 53	7.0 85,0		·			egle shot agle shot

DAILY DRILLING REPORT#

Report Date: 22.01.98

FROM: Westman / Roots TO: Lanzer / Searles

BROADBILL-1

Well Data

DRILL CO.: PARAMESWARA

RIG: MUD CO:

BAROID 30.7 RT ABOVE MSL (m): WATER DEPTH @MSL (m): 21.7

DEPTH (m RT): PROGRESS (m): SANTA FE DAYS FROM SPUD: 5.33

CUR. HOLE SIZE ("): 12.25 ; 785 CSG OD ("): SHOE TVD (m RT):

9.63 779 LEAK-OFF EMW(ppg) 0.00

DAILY COST \$: CUM COST \$: \$2,473,328 AFE COST \$:

AFE BASIS: UNKNOWN

CURRENT OP @ 0400 : Nipple up well head

0

PLANNED OP .:

DAYS +/- CURVE:

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

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

Run 9.63 casing

RT TO SEABED (m):

- 1	Formation Tops - Thi	is report only
-	FORMATION	TOP(mBRT

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

52.4

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		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	785	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	785	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	785	Pump 40 bbls seawater 20 bbls freshwater, preflush.
12	PD	CMC	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	ТО	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 slips w,40k o/pull, Rough cut casing & L/out excess
12	PD	CMC	05:00	06:00	1.00	785	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 TODA	Y: \$717	CUMULATIVE MUD COS	T TO DATE: \$31,852	
Type: S-W/Gel/Pac FROM: F. 15:: WEIGHT (ppg): 9.2 TEMP (C):	GEL 10s/10m/30m (lb/100sqft): 15 2	14 (cm3/30min) API FILTER CAKE (32nds inch HTHP FLUID LOSS	22 PM:	21,000 SOLIDS (%vol) : 0 H2O (%vol) : 580 OIL (%vol) : 5.5 SAND : PH : PHPA :	5.4 93.4 0 tr 8.2 0.0

Blt Data for Bit # 3	IADC#	Wea	r	01	D	L	В	G	02	R
SIZE ("): 0.0 MANUFACTURER: O' TYPE: SERIAL #: DEPTH IN (m RT): 78 DEPTH OUT (m RT):	AVE WOB (k-lbs) : (CAVE RPM : (CAVE RPM) : (0 x x	O Drille FOO' ON B IADC	ad over to TAGE (n OTTOM DRILL. (m/hr):	HRS:	0 0.0	CUM.	FOOTA ON BO	over the bi GE (m) : IT. HRS : RILL HRS:	675 2 1.6

A1:

A6:

AMITY OIL NL

DAILY DRILLING REPORT

BROADBILL-1

Report Date: 22.01.98

Anchor Tension

(kips)

FROM: Westman / Roots Lanzer / Searles TO:

A2: A3: A4: A5: A7: A8: A9: A10:

Weather & Rig data @ 24:00 hrs Location, Fuel Barite D/wtr Cmt Bent Hell P/wtr Workboats

(bbl) (sx) (sx) (kltr) VDL (kips 6,162.0 (kltr) (bbl) (sx) Pacific Command @ Rig 1,696 RIS.TENS:

WIND SP. (kts): 25.0 VISIB.(nm): good WIND DIR (deg): 45 CEILING (m): HEAVE (m): ROLL (deg): PRES.(mbars): 1009 WAVES (m): PITCH (deg): AIR TEMP (C): SWELL (m):

COMMENTS: 1 Flight - 8 pax in 9 pax out

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

Drills, Permits & Inspections

DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
TRIP DRILL FIRE PIT DRILL INCIDENT		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 CSG OD(") PHASE CSG SHOE CSG SHOE TVD (mBRT) LOT 30.00 106 106 779 779 9.63

TYPE	LNGTH (m)	CSG ID (")	WT 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 #6 Casing it #6 Casing it #6 Casing it #7 Casing it #7 Casing it #8 30"x 20" A section RKB to A Section RKB to A Section Stump Top of "B" Section Top of "B" Section	12.1 11.6 11.6 11.9 11.5 11.5 1.4 1.4	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 47.0 47.0	X52 X52 X-52 X-52 X-52 X-52 X-52 X-52 X-	SF60 SF60 SF60 SF60 SF60 SF60

Personnel: o	n 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	в

Pu	Pump Data										
Pump Data - last 24 hrs Slow Pump Data								8			
#	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm	SPP (psi)	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					

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

DAILY DRILLING REPORT

Report Date: 22.01.98

FROM: Westman / Roots TO: Lanzer / Searles **BROADBILL-1**

Survey Last Tool Type: sgle shot	MD (m RT)	TVD (m RT)	INCL DEG		CORR. AZ (deg)	SECT (m)	DOGLEG (m/30m)	N/S (m)	E/W (m)	TOOL TYPE
Magnetic Declination: 13.00 Survey method: Min Curvature	110 399 687	110 398 686	0.15	354	0.0 7.0 66.0					tolco sgle shot sgle shot

\$0

Report Date: 23.01.98

FROM: Westman / Roots

BROADBILL-1

Well Data

DRILL CO.: RIG:

SANTA FE PARAMESWARA

MUD CO: BAROID RT ABOVE MSL (m): 30.7 21.7

WATER DEPTH @MSL (m): RT TO SEABED (m):

TO: Lanzer / Searles

DEPTH (m RT): PROGRESS (m):

0 DAYS FROM SPUD: 6.33 DAYS +/- CURVE:

CUR. HOLE SIZE ("): CSG OD ("): SHOE TVD (m RT): LEAK-OFF EMW(ppg)

9.63 CUM COST \$: 779 0.00

12.25

AFE COST \$:

AFE BASIS:

DAILY COST \$:

UNKNOWN

CURRENT OP @ 0400: Pick up 8.5" Drilling assembly

PLANNED OP .:

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

785

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

52.4

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 spide slips w,40k o/pull, Rough cut casing & L/out excess, La down Overshot packer & Riser	
112	PD	CMC	05:00	06:00	1.00	785	Final cut & Dress casing, Install seals, Nipple up "B" section	
./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			
Type:	PV (cps): YP (tb/100sq.ft): GEL 10s/10m/30m (lb/100sqft): 4 8	API FLUID LOSS (cm3/30min) API FILTER CAKE (32nds inch HTHP FLUID LOSS (cm3/30min) HTHP FILTER CAI (32nds inch)	1 HARD/Ca (ppm): MBT (ppb eq): 30 PM:	43,000 SOLIDS (%vol) :	1.7 95.8 0 8.2 0.0	

Bit Data for Bit # 4	IADC # 4 4 7	Wear	1 01 D L	B G O2 R
TYPE: ATMGT SERIAL#: L8418D65	AVE WOB (k-lbs): AVE RPM: FLOW (gpm): PUMP PRESS. (psl): HSI (hp/sqi):	NOZZLES 2 x16 1 x14 x x	Drilled over the last 24 hrs FOOTAGE (m): ON BOTTOM HRS: IADC DRILL. HRS: ROP (m/hr):	Calculated over the bit run CUM.FOOTAGE (m): CUM. ON BOT. HRS: CUM.IADC DRILL HRS: ROP (m/hr):

N	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):	TRQE MAX (amps):	DC(2) A.V. (mpm) :	0.0 S/N JARS : DAH 103309
1	WT BW JAR(k-lbs):	23 PICK UP WT(k-lbs):	TRQE ON (amps):	HWDP A.V. (mpm):	0.0 HRS ON STABS:
1	BHA WT(k-lbs):	42 SLK 0FF WT(k-lbs):	TRQE 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	, Stab, 11 DC, Jar, DC, HW	DP	

DAILY DRILLING REPORT

Report Date: 23.01.98

FROM: Westman / Roots Lanzer / Searles TO:

BROADBILL-1

Anchor Tension (kips)

Pacific Command Rig

A1: A6: A2: A7:

A3: A8: A4:

A5:

Workboats

Location. Fuel Barite D/wtr P/wtr

(bbl) (bbl)

Weather & Rig data @ 24:00 hrs

A9:

A10:

(kdtr) (sx) Cmt Bent Heli (sx) (ktt) (sx)

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

VDL (kips: 6,194.0 RIS.TENS: 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 (ktr): 1,344.0

882

1.8

POT WATER (bbl):

BARITE (sx): 2,028

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

Drills, Permits & Inspections

DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
TRIP DRILL FIRE PIT DRILL INCIDENT		BOP TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA	23-1-98 06-2-98 1-1-98 135	LTI MTI JSA #PTW	
1			1	Safety Meeting	Held weekly meeting

Casing	3	
CSG	LOT	PH/

CSG OD(*)	LOT	PHASE	CSG SHOE MD	CSG SHOE TVD (mBRT)
9.63			779	779

	TYPE	LNGTH (m)	0 0 0	WT lbs/ft	GRD	THREAD
l	Shoe Jt	12.0	8.7	47.0	L-80	LTC
ı	Casing jt #2	12.0	8.7	47.0	L-80	LTC
1	Float jt	11.9	8.7	47.0	L-80	LTC
1	57 jt csg	681.9	8.7	47.0	L-80	LTC
١	Pup (MSL)	6.1	8.7	47.0	L-80	LTC
I	Pup (MSL)	6.6	8.7	47.0	L-80	LTC
l	1 jt csg	11.9	8.7	47.0	L-80	LTC
1	Pup	3.0	8.7	47.0	L-80	LTC
l	Pup	3.6	8.7	47.0	L-80	LTC
ı	1 jt csg	12.0	8.7	47.0	L-80	LTC
	itump	6.0	8.7	47.0	L-80	LTC
	(op of "B" Section	7				0

Pump	Data

Н	_	mile Date	<u>.</u>								
l	匚	P	ump Da		Slow Pump Data						
	#	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm	SPP (psi)	SPM	SPP (psi)	DEPTH (m RT)	MW (ppg)
		ideco - T1 Ideco - T1			100 100						

ł						
İ	Solids Dat	ta		sand	silt	clean
١	1		HRS RUN	0.0	0.0	0.0
١	MESH 1	150	DISCARD RATE (gpm)	0.0	0.0	0.0
ł	MESH 2	80	DISCARD WT (pgg)	0.00	0.00	0.00
l	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	Donlon	Hibtn	1
Well Head	Chain	Kvaemer	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	Ευφο	2
Managing Direct	Allchurch	Amity	1

Survey

Last Tool Type: sgle shot Magnetic Declination: 13.00 Survey method: Min Curvature

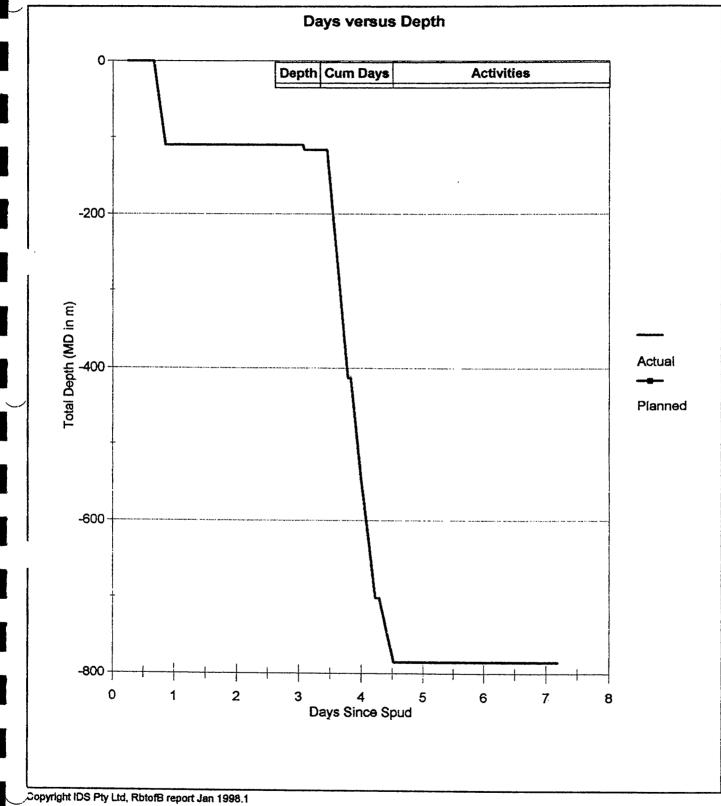
t	MD (m RT)	TVD (m RT)	INCL DEG		CORR. AZ (deg)	SECT (m)	DOGLEG (m/30m)	N/S (m)	E/W (m)	TOOL TYPE
o re	110 399 687		0.50 0.15 0.30	354	0.0 7.0 66.0					totco sgle shot

Report Date: 23.01.98

FROM: Westman / Roots TO: Lanzer / Searles

BROADBILL-1

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



Report Date: 24.01.98

FROM: Westman/Roots Lanzer/Searles TO:

BROADBILL -1

Well Data CUR. HOLE SIZE ("): DAILY COST \$: DEPTH (m RT): 1,070 8.50 9.63 DRILL CO. : SANTA FE

PARAMESWARA RIG: MUD CO: BAROID DAYS +/- CURVE: RT ABOVE MSL (m): 30.7

WATER DEPTH @MSL (m): 21.7 RT TO SEABED (m): 52.4 PROGRESS (m): CSG OD ("): 285 DAYS FROM SPUD: 7.33 SHOE TVD (m RT):

779 LEAK-OFF EMW(ppg) 0.00

CUM COST 5: AFE COST \$: AFE BASIS:

\$2,473,328

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

PLANNED OP .: Drill 8.5" hole

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

Drill 8.5" hole, Wiper trip.

Formation Tops - This report only 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		05:30	08:00	2.50	785	P/u 50 jts of drill pipe.
8	PD		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		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.
•	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	LOT	12:45	13:15	.50	788	Perform FIT @ 788mt w/ 8.8 ppg, Leak off @ 564 psi, EMW : 13 ppg
8	PD	D	13:15	24:00	10.75		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
8888	PD PD PD PD	D CIR S WT	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 8 8	PD PD PD TD	RS WT WT	04:00	04:00 05:00 05:45 06:00	.50 1.00 .75 .25	1,095 1,095	Retrieve survey @ shoe: inclination 2.25 deg, azimuth 32 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: \$7,16	60	CUMU	LATIVE MUD COS	T TO DA	TE: \$63,496	
Type: KCL/Ezy Mud/Poly FROM: FL TIME: 22:30 WEIGHT (ppg): 9:10 TEMP (C): 40	VISCOSITY(sec / qt): PV (cps): YP (lb/100sq.ft) GEL 10s/10m/30m (lb/100sqft): 4 FANN 3/6/100 4	40 14 22 7 11 6 20	API FLUID LOSS (cm3/30min) API FILTER CAKE (32nds inch HTHP FLUID LOSS (cm3/30min) HTHP FILTER CAK (32nds inch)	4 1 3 11	CI - (ppm): K+ (ppm): HARD/Ca (ppm): MBT (ppb eq): PM: PF:	23,000 0 225 .2 .3 .1	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA:	3.2 95.5 0 .5 9.2 11.0

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BROADBILL-1

Report Date: 24.01.98

FROM: Westman/Roots
TO: Lanzer/Searles

Wear IADC# 4 Bit Data for Bit # 4 SIZE ("): 8.50 NOZZLES MANUFACTURER: HU AVE WOB (k-lbs): 15 Calculated over the bit run 2 x16 Drilled over the last 24 hrs AVE RPM: 130 TYPE: **ATMGT** 1 X 14 FOOTAGE (m): 317 CUM.FOOTAGE (m): 317 500 9.0 CUM. ON BOT. HRS: L8418D65 FLOW (gpm): X 9.0 SERIAL #: ON BOTTOM HRS: PUMP PRESS. (psi): 1,240 CUM.IADC DRILL HRS: 12.5 X 785 IADC DRILL. HRS: 12.5 DEPTH IN (m RT): 5 25.4 ROP (m/hr): 25.4 HSI (hp/sqi): X ROP (m/hr): DEPTH OUT (m RT): **BHA #4** Length (m):258.9 13.5 0.0 HRS ON JARS: DC(1) A.V. (mpm): STRING WT(k-lbs): 150 | TRQE MAX (amps): 250 | DC(2) A.V. (mpm): 0.0 S/N JARS : DAH 103309 HRS ON MOTOR: 0.0 HRS ON STABS: 12.5 WT BW JAR(k-lbs): TRQE ON (amps): 220 HWDP A.V. (mpm): PICK UP WT(k-lbs): 155 0.0 S/N STABS : D-9-89-13, 4811 200 D.P. A.V. (mpm): 42 SLK OFF WT(k-lbs): 150 TRQE OFF (amps): BHA WT(k-lbs): Bit, NB Stab, NMDC, Stab, DC, Stab, 11 DC, Jar, DC, HWDP BHA DESCRIPTION: A4: A5: Anchor Tension A2: A3: A1: A10: (kips) A8: A9: A6: A7: Weather & Rig data @ 24:00 hrs Bent Hell Location. Fuel Barite D/wtr P/wtr Cmt Workboats (kltr) (bbl) (bbl) (sx) (sx) (kltr) VDL (kips 5,920.0 (sx) WIND SP. (kts): 12.0 VISIB.(nm): good RIS.TENS: Pacific Command Rig HEAVE (m): WIND DIR (deg):110 CEILING (m): PRES.(mbars): 1010 WAVES (m): ROLL (deg): PITCH (deg): AIR TEMP (C): SWELL (m):

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

Bulk Stocks DRILL WATER (bbl): 3,924.0 FUEL (kil

FUEL (kltr): 1,939.0

GEL (sx):

HELI-FUEL (kltr):

POT WATER (bbl):

792.0

BARITE (sx): 1,851

CEMENT (sx): 1,524

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r): 0.0

Drills, Permits & Inspections

DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
FIRE	17.01.9	BOP TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA	23-1-98 06-2-98 1-1-98 136	LTI MTI JSA #PTW Safety Meeting	Survey

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

882

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	F	PHASE	С	SG SH MD	IOE		CSG SH VD (mi		
	30.00 9.63						106 779			106 779	
	3,00				Ŀ		1	_			J
	T	YPE		LNGT (m)		CSG ID (*)	WT lbs/		GRD	THE	EAD
	Shoe Jt Shoe Jt Casing	t #2		12 11	8.	28.0 28.0 28.0			X52 X52 X-52 X-52		SF60 SF60 SF60 SF60
1	Casing Casing Casing Casing Casing	t #3 t #3 t #4 t #4		11 9 9	.6	28.0 28.0 28.0 28.0 28.0 28.0			X-52 X-52 X-52 X-52 X-52 X-52		SF60 SF60 SF60 SF60 SF60
Ï	Casing Casing Casing Casing	t #6 jt #7	000	12 11 11	16.6.9.9	28.0 28.0 28.0 28.0 28.0 28.0			X-52 X-52 X-52 X-52 X-52		SF60 SF60 SF60 SF60 SF60
	30"x 20"	t #8		11 11	555444	28.0 28.0			X-52 X-52	21-1	SF60 SF60 1/4"2k 1/4"2k
	3 to np sump Top of "	A Section B" Section B" Section	٦	12 6	.0.7.7	8.7 8.7	47. 47.		L-80 L-80		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	Donion	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 Dired	Allchurch	Amity	1

vey	MD	TVD	INCL		CORR.		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	399 687 780 1.074	780	0.15 0.30 0.25 2.25		333.0					sgle shot sgle shot MMS MSS

5

Report Date: 24.01.98

FROM: Westman/Roots
TO: Lanzer/Searles

BROADBILL -1

Total move time (hrs)

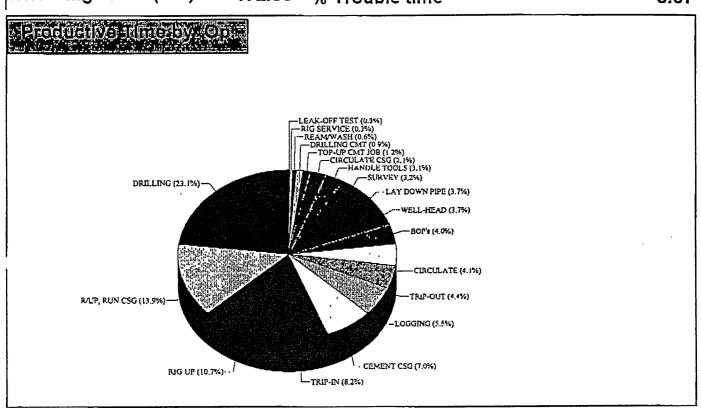
0.00 Total prod. time since spud (hrs)

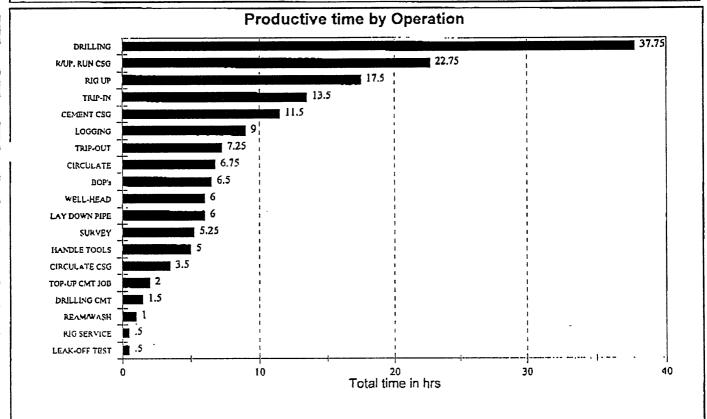
163.75

Total time on well

172.50 % Trouble time

5.07

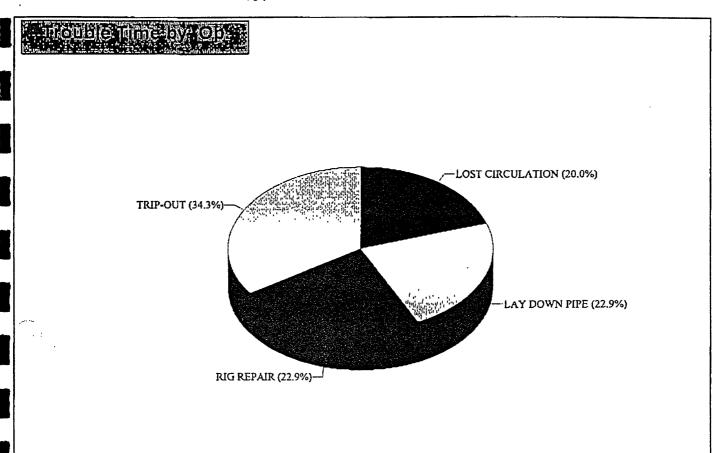


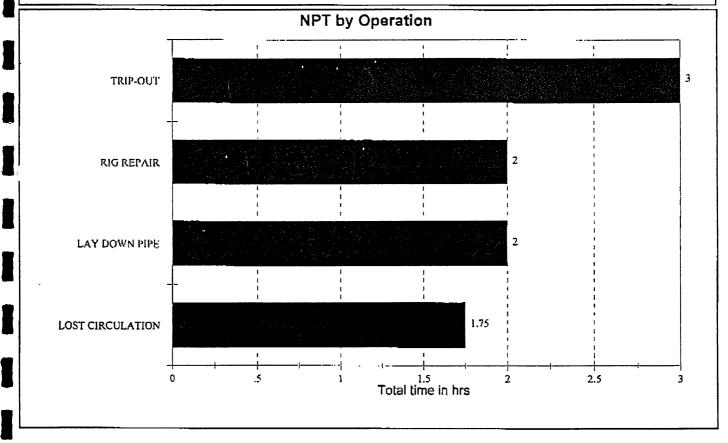


BROADBILL -1

Report Date: 24.01.98

FROM: Weetman/Roots
TO: Lanzer/Searles



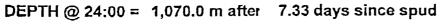


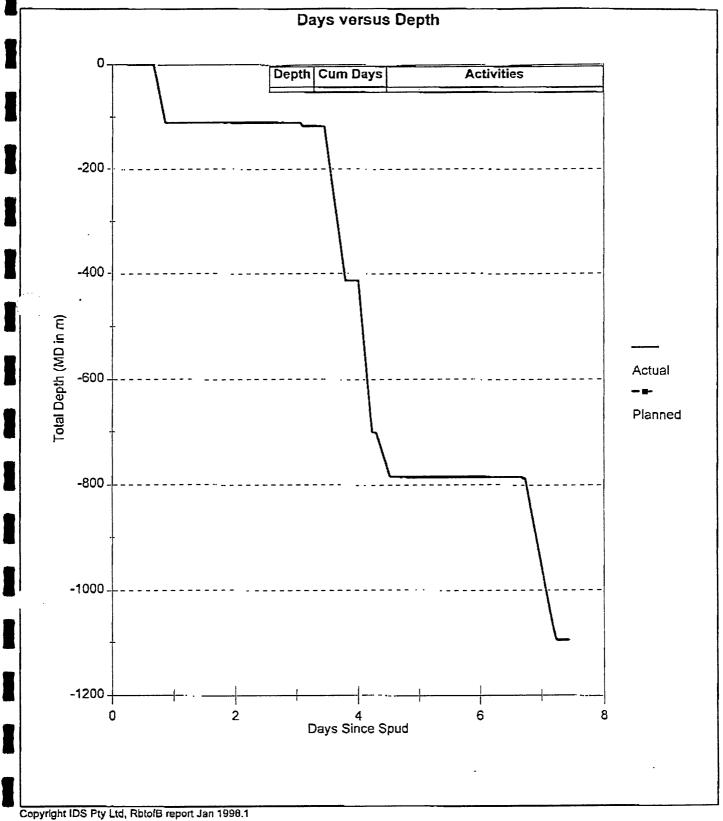
DUITE 1 DIVIDENTE 1/21 OIVI 11

Report Date: 24.01.98

FROM: Westman/Roots
TO: Lanzer/Searles

BROADBILL-1





DAILY DRILLING REPORT # 10

Report Date: 25.01.98

FROM : Westmen/Roots Lanzer/Searles TO:

BROADBILL-1

Well Data

DRILL CO. : SANTA FE PARAMESWARA RIG: BAROID MUD CO. 30.7 RT ABOVE MGL (m): 21,7 WATER DEPTH @MSL (m):

DEPTH (m R1): PROCRESS (m): DAYS FROM SPUD: 8.33 DAYS +/- OURVE:

CUR. HOLE SIZE (): 1,435 | CSG OD (7). 385 SHOE TYD (m RT): LEAK OFF EMW(ppg) 13.00

8.50 9.63 778

DAILY COSTS: CUM COST \$: **S**0 AFE COST \$! AFE BASIS:

CURRENT OF @ 0400: Buck ream out of hole, Hole peaking off, Lasses to hole @ 05:00 hrs = 80

PLANNED OF .:

ÞЫ

Pull to shoc, Rotriove eurosy, Maxing receive mud & weighted Hi-Vic

eweep, RiH, POOH to Log

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

Drill 8.5" hote

RT TO BEABED (m) !

Formation Tops - This report only TOP(mBRT) FORMATION

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

52.4

PUGE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
8	PD	D	00:00	01:15	1.26	1,095	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		03:30	1.75	1,095	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	1,095	Retrieve survey @ shoe: inclination 2.25 deg, azimuth 32 deg
le	PD	RS	04:00	05:00	1.00	1,095	Service TDS & change pipe handler dies
8	PD	WT	05:00	05:45	.75		RIH to 1095, No drag
8	TD	WT	05:45	07:00	1.25	1,095	Attempt to weeh lest 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, Establish pertial 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 60:00 HRS TO GRIDD HRS ON 26 01 98

PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
8 8 8	PO PD PD	O CIR S WT	,	02:00 02:30 09:00 06:00	2.00 ,50 ,50 3.00	1,346 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/ 1288 to 1249 mt with hole packing off, Partial to zero returns, Losses to hole = 80 bbl, Depth @ 06:00 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 abates, at present Boom secured.	Change out Guy wires to .025 (min) presently .430 (approx)

DAILY DRILLING REPORT # 10

Report Date: 25.01.98 FROM: Westman/Roots

BROADBILL-1

Kehorr	Date. 23.1	J 1.5Q	TO	L	nzer/8eer	64							
Mud Pro	nerties	MUDC	OST FOR IO	DAY: 57	,425		CUMU	LATIVE	MUD CO8	T TO DAT	E: \$70,921		
Type:	Mud/Poly Pi 22:00 opg): 9.30	PV (or YP (lb/ GEL 10 (lb/100	100eq.ft): 0e/10m/30m	14 23	API F (32nd HTHF 1 (cm3/	UID LOS 30min) ILTER CA E Inch FLUID L 30min) FILTER 6 Inch!	KE 1 088 11		-	22,500 0 300 .8 .2 .0	BOLIDE (% H2D (%vol) OIL (%vol) BAND: PH: PHPA:);	4.3 84.4 0 .25 8.5 1.0
Bit Data	a for Bit#4	U	4DC# 4	4 7		Wee	r 🎞	O 1	D	Ĥ.	G	O2	
TYPE : SERIAL I DEPTH II	CTURER:	TMGT 1 18D65 1 785	AVE WOB (k-l AVE RPM ; FLOW (gpm) ; PUMP PRESS Hô! (trp/eq!) ;	·	20 130 500 1,375 6	NO221 2 x1 1 x1 x x	5 Drive 4 FOOT ON B	ed over the TAGE (m OTTOM DRILL. H	HRS: 1	250 CUM 6.3 CUM 7.0 CUM	Alouleted over A.FOOTAGE M. ON BOT. M.IADO DRIL O (m/hr):	(m) : HRS :	567 26,3 29,5 19,2
BHA #4 HRS ON M WT BW JA BHA WT(I	MOTOR : AR(k-lbs): 23	STRIN PICK L SLK O	58.9 G WT(k-lbs) : JP WT(k-lbs) : FF WT(k-lbs) : Stab, NMDC, 3	170	TROE O	N (ampa): FF (amps): 250 T 200 H); 190 T	C(2) A.V NOP A. J.P. A.V.	/. (mpm) : /. (mpm) ; V. (mpm): (mpm) :	0.0 BR	e on Jars I Jare : 5 on 5 (ab I Stabe : d	DAH 10 S:	29.5
	7				A2:		A3:		A4.		A5 :		
(kips)	Tension		A1:		M2. A7:		A8;		A9 :		A10 :		
Workbo	ommand Rig	(kltr)	Barite D/wtr (sx) (bbl)	(PP)		int Hell x) (kfb)	WIND 8 WIND 0 PRES.(I AIR TEN	P. (kts) ; IR (deg) nbars);	35.0 VISI 35.0 VISI 110 CEII 1010 WAY 16.0 SWI	B,(nm) : MG (m) : 小丘ら (m) :	VDL Fair RIS 1.500 HEA	. (kips: 5, TENS: .VE (m): .L (deg): 	
ICOMNIE	NIS: Helloup	ICI MILAGI	nones, / en a.	יוט נ	re-original	1001100011							
Bulk St	OCKS DRILL W		_		L (k(0) : L(E (ex) :	1,898.0 1,674		(614): RENT (514	882): 1,524	HE	LI-FUEL (kin); 0.	0
Drills, P	ermits & ins	pection	12										
	DRILL TYPE	DATE	INSPE	CTION	5	DATE	SAF	ΤY		D	ETAILS		_
	TRIP DRILL FIRE PIT DRILL INCIDENT	17.01.91	BOP TEST NEXT TEST RIG INSPEC DAYS SINCE	TION	ATE	23-1-98 06-2-98 1-1-98 137	LTI MTI JSA #PTW Seloty Me	edng	Survey				
L					ρί	ımp Da	ta						
						p	Dump Dat	a - leat 2	4 hrs		Slow PI	Imo Dati	1

Pu	Pump Data											
Pump Data - lest 24 hrs Slow Pump Data												
*	TYPE	LNR	8PM	반F (%)	Flow (gpm	(5-4) 448	SPM	(Daj)	(m kJ) HIGHO	(ppg)		
12	Ideco - Ti Ideco - Ti	8.50 6.50	1	100 100	250 250	1375 1375	40 50	240 360	1181 1181	9,3 9 ,3		

Solids Data			sand	5/it	cloan
		HRS RUN	0.0	ח,ט	0.0
MESH 1	٥	DISCARD RATE (gpm)	0,0	0,0	0.0
MESH Z	0	DISCARD WT (pgg)	0.00	0.00	0.00
MESH 3	٥	RETURN WT (PPG)	0.00	0.00	0.00
<u> </u>					_

DAILY DRILLING REPORT # 10

Report Date: 25.01.98

FROM: Westman/Roots
TO: Lanzer/Searles

BROADBILL-1

Caeing	J								,
CSQ CD(1)				SG SM MD	OE		CBG BI		
9.63	13.00		778 7						
n	TYPE			CEG WT			GRD	THR	EAD
Shoe dt Casing i Float it 57 jt can Pup (MS 1 jt cag Pun Pup 1 jt cag Stump	iL)	12 11 681 6 11 3	009916908007	8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7	47, 47, 47, 47, 47, 47, 47, 47, 47, 47,	0000000000	L-60 L-60 L-80 L-80 L-80 L-80 L-80 L-80		22222222222

JOB TITLE	NAME	COMPANY NAME	F
Drig Supervisore	Weeman/Root	RBT	
Geologist	Petton	Amity	
MID	Reese	Santa Fo	
Tooloughers	Welker/Wilkle	Santa Fe	
Mud Engineer	Doubt	Barold	
Camenter	Donlon/Seizer	Hibbit	
Well Head	Chein	Kvaemer	
Mud Loggers		HML	
Electric Line		Schlum	
Rig Crawe		Senta Fe	4
Sub Contractors		Santa Fe	
Catoring		P&0	

Survey	[MD	TVD	INCL	A2	CORR.		DOGLEG	N/S	EW	TOOL TYPE
Last Tool Type :	RES	(m K1)	(m RT)	DEG	(deg)	AZ (deg)	OECT (m)	(m/30m)	(m)	(m)	
Magnetic Dealination :	13.00	110	110	0.50	0	0.0				~	torico
Survey method: Min Cu	rvature	399 687	398 388	0.16 0.30	3 54 53	7.0 68.0					sale shot sale shot
		780 1,074	780 1,074	0.28 2.25	320 32	333.0 45.0					MMS MSS

DAILY DRILLING REPORT#

Report Date: 26.01.98

FROM: Westman/Roots

BROADBILL-1

Well Data

DRILL CO.: RIG:

SANTA FE PARAMESWARA BAROID MUD CO: 30.7 RT ABOVE MSL (m):

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

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

Wiper trip, POOH, Attempt to Log

Lanzer/Searles TO:

DEPTH (m RT): 1,345 PROGRESS (m): 0 DAYS FROM SPUD: 9.33 DAYS +/- CURVE:

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

779 LEAK-OFF EMW(ppg) 0.00 DAILY COST \$: \$2,473,328 CUM COST \$:

AFE COST S: AFE BASIS : UNKNOWN

CURRENT OP @ 0400 : Wiper trip

PLANNED OP. : POOH to Log. P & A

Formation Tops - This report only

TOP(mBRT) **FORMATION** 1,340 Strezlecki

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

							ATT ATT ATT ATT ATT
PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
Q	PD	D	00:00	02:00	2.00	1,345	Continue to drill 8.5" hole f/ 1335 to 1345 mt TD
	PD	CIR	02:00	02:30	.50	1.345	Circulate bottoms up
8 8	PD	S	02:30	03:00	.50	1 345	Drop MSS survey. Flow check, Pump slug
8	TD		03:00	09:30	6.50	1 3/15	POOH 50k over null (not free) Attempt to pump out of nois
0	10	١ ٠٠٠	00.00	00.00	-,	•	I SOK o/pull & packing off. Hack feam out of Role, SIOW
						,	progress f/ 1268 to 1249 mt with hole packing off, Partial to
1							zero returns, Losses to hole = 80 bbl.
8	PD	CIC	09:30	10:00	.50		Circulate hole clean from shoe.
8	PD	S	10:00	10:30	.50		Retrieve survey.
8	PD	RS	10:30	11:00	.50		Service TDS.
8	PD	TI	11:00	12:30	1.50	1,345	RIH to bottom. Wash and ream 1018m - 1124m,
8	PD	CIR	12:30	14:30	2.00	1,345	Sweep hole clean w/ 70 bbl Hi-Vis, Displace hole with Hi-Vis
8	PD	то	14:30	15:30	1.00		POOH to shoe, No problems
8	PD	CIR	15:30	16:00	.50		Circulate hole clean, Pump slug
8	PD	TO	16:00	18:00	2.00	1,345	Continue to POOH
8	PE	LOG	18:00	24:00	6.00	1,345	Rig up Schlumberger Log #1: BHC-LDL-CNL-DLL-MSFL-
	ì	1					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
1		1			1		Offenie to head food this i oot of the read active madding to

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

	PHSE		 FRO			HRS	DEPTH	ACTIVITY DESCRIPTION
<i>)</i>	8 8 8	PE TE TE	 00:00 00:30 03:00	ן נ	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	MUD COST FOR TODAY	Y: \$6,410	CUMULATIVE MUD COS	T TO DATE: \$77,332	
Type: KCL/Ezy Mud/Poly FROM: FL TIME: 14:00 WEIGHT (ppg): 9.40 TEMP (C): 42	GEL 10s/10m/30m (lb/100sqft): 6	44 API FLUID LOSS (cm3/30min) API FILTER CAKE (32nds inch HTHP FLUID LOSS (cm3/30min) T 23 HTHP FILTER CAKI (32nds inch)	11 PM:	22,000 SOLIDS (%vol): 0 H2O (%vol): : 300 OIL (%vol): SAND:	4.3 94.4 0 .5 8.5

Bit Data for Bit # 4		IADC# 4	4	7		Wear	2	01 2	D FC	L	В	G 1	O2	R ID
SIZE ("):	8 50	1				NOZZLES							•	
MANUFACTURER:	þт	AVE WOB	(k-lbs) :		20	2 X16	Drilled	over t	he last a	24 hrs	Cal	culated	over the b	it run
	TMGT	AVE RPM :			130	1 X14	FOOT	AGE (n	n) :	10	CUM.	FOOTA	GE (m) :	577
SERIAL#: L84	18065	FLOW (gpn	n) :		500	×	ON BC	NOTTO	HRS:				T, HRS :	27.1
DEPTH IN (m RT):	785	PUMP PRE	SS. (ps	3i):	1,375	×	IADC [ORILL.	HRS:				RILL HRS	
DEPTH OUT (m RT):	1345	1			6	×	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

HRS ON MOTOR: WT BW JAR(k-lbs):

| STRING WT(k-lbs): 172 | TRQE MAX (amps): 250 | DC(2) A.V. (mpm): 23 | PICK UP WT(k-lbs): 175 | TRQE ON (amps): 200 | HWDP A.V. (mpm): 42 | SLK 0FF WT(k-lbs): 170 | TRQE OFF (amps): 190 | D.P. A.V. (mpm):

DC(1) A.V. (mpm): HWDP A.V. (mpm):

0.0 HRS ON JARS: 0.0 S/N JARS: 0.0 HRS ON STABS:

44.0 DAH 103309 31.5 0.0 S/N STABS : D-9-89-13, 4811

BHA WT(k-lbs): BHA DESCRIPTION : BIt, NB Stab, NMDC, Stab, DC, Stab, 11 DC, Jar, DC, HWDP

Anchor Tension

Pacific Command W/Pool

A1: A6;

A2: A7:

A3: A8: A4: A9:

(kips) Workboats

Location, Fuel **Barite** (kltr) (sx)

D/wtr P/wtr Cmt Bent Heli (bbl) (bbl)

(sx) (sx) (kltr)

Weather & Rig data @ 24:00 hr

VDL (kips: 5,647.0 WIND SP. (kts): 20.0 VISIB.(nm): O/Cast RIS.TENS: WIND DIR (deg) :110 CEILING (m) :1,500 PRES.(mbars): 1010 WAVES (m) : 1.5 HEAVE (m); ROLL (deg): PITCH (deg): AIR TEMP (C): 17.0 SWELL (m):

A5:

A10:

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

FUEL (kltr): 1,846.0

GEL (sx): 882 HELI-FUEL (kltr);

Bulk Stocks DRILL WATER (bbl): 3,635.0 POT WATER (bbl):

To Rig

BARITE (sx): 1,554

CEMENT (sx): 1,524

0.0

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	23-1-96 06-2-98 1-1-98 137	LTI MTI JSA #PTW Safety Meeting	Logging

Casing	3			
CSG OD(")	LOT	PHASE	CSG SHOE MD	CSG SHOE TVD (mBRT)
30.00 9.63			106 779	106 779
T	/PE	LNGT	H CSG W	GRD THE

11.	(m)	0.0	lbs/ft	GRU	IHICEAD
Shoe Jt 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 #6 Casing It #7 Casing It #8 Casing It #7 Casing It #8 Casing It #8 Casing It #8 Casing It #7 Casing It #8 Casing It #6 Casing It #7 Casing It #7 Casing It #8 Casing It #8 Casing It #7 Casing It #8 Casing It #7 Casing It #8 Casing It #8 Casing It #8 Casing It #7 Casing It #8	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	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	X52 X552 X-52 X-52 X-52 X-52 X-52 X-52 X	SF60 SF60 SF60 SF60 SF60 SF60 SF60 SF60

	Pu	mp Data	1								
l		P	ump Da	ta - la:	st 24 F	irs			Slow F	ump Dat	a
	#	TYPE	LNR (°)	SPM	EFF (%)	Flow (gpm	SPP (psi)	SPM	SPP (psi)	DEPTH (m RT)	MW (ppg)
	12	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

١	Solids Data			sand	silt	clean	
ı			HRS RUN	0.0	0.0	0.0	
l	MESH 1	150	DISCARD RATE (gpm)	0.0	0.0	0.0	
١	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/Roots
TO: Lanzer/Searles

BROADBILL-1

	71		
JOB TITLE	NAME	COMPANY NAME	#
Drig Supervisor	Westman/Root	RBT	2
Geologist	Patton	Amity	1
OIM	Reece	Santa Fe	1
Toolpushers	Walker/Wllkie	Santa Fe	2
Mud Engineer	Douet	Barold	1
Cementer	Donion/Seizer	Hibtn	2
Well Head	Chain	Kvaerner	1
Mud Loggers		HML	4
Electric Line		Schlum	6
Rig Crews		Santa Fe	43
Sub Contractors		Santa Fe	
Catering		P&O	8

Survey

ast Tool Type :
Magnetic Declination :

MSS 13.00

Survey method:

Min Curvature

MD (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	110 398 686 780 1,074 1,340	0.50 0.15 0.30 0.25 2.25 3.30	354 53 320	66.0					totco sgle shot sgle shot MMS MSS MSS

Drac Number

DAILY DRILLING REPORT#

BROADBILL-1

Report Date: 27.01.98

RT TO SEABED (m):

FROM: Westman/Roots Lanzer/Seartes TO:

Well Data DAILY COST \$: 1,345 | CUR. HOLE SIZE ("): DEPTH (m RT): ŞO g.63 CUM COST 5: C80 0D (7: PROGRESS (m): SANTA FE 0 DRILL CO.: 779 AFE COST \$: DAYS FROM SPUD: 10.33 SHOE TVO (m RT): PARAMESWARA RIG : UNKNOWN AFE BASIS: LEAK-OFF EMW(PPG) 13.00 MUD CO: BAROID DAYS +/- CURVE : RT ABOVE MSL (m): 30.7 CURRENT OP @ 0400 : Setting Plug #1 21.7 WATER DEPTH @MSL (m); PLANNED OP .: Run EZSV, Set plug #2, Nipple down BOP, Cut casing

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 TOP(mBRT) FORMATION

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

62.4

PHSE	CLS	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
, 8	PE	LOG	00:00	00:30	.50	1,345	Continue to rig down Schlumberger
8	TE	WT	00:30	03:00	2.50	1,345	Make up bit (RR #4) & RiH to 880 mt
В	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 & sbandon 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	1,345	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 -	ľ	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 TODAY: \$913				CUMULATIVE MUD COST TO DATE: \$78,245				
Type: KCL/Ezy Mud/Poly FROM: FL TIME: 13:00 WEIGHT (ppg): 9.80 TEMP (C): 0	(/R-/4000-48) + 9	43 15 24 9 1 7 24	API FLUID LOSS (om3/30min) API FILTER CAKE (32nds Inch HTHP FLUID LOSS (cm3/30min) HTHP FILTER CAKE (32nds Inch)	11	CI-(ppm): K+(ppm): HARD/Ca(ppm): MBT(ppb eq): PM: PF:		BOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH; PHPA:	5.1 93.7 0 .25 8.0 1.0	

BHA#5 Le	ngth (m) :57.9		, DC(1) A.V. (mpm) :	0.0 HRS ON JARS :
HRB ON MOTOR: VYT 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):	0.0 8N JARS :
BHA DESCRIPTION	: enteg, xo,			

DAILY DRILLING REPORT # 12

Report Date: 27.01.98

FROM: Westman/Roots Lanzan Baurice TO:

BROADBILL-1

A5 : A4: A3: A2: **Anchor Tension** AI: A10: AB: AB: A7 : AS: (kips) Weather & Rig date @ 24:00 hrs Divir Piver Cmt Bent Hell Location, Fuel Barita Workboate VDL (kips: 5,547.0 (bbl) (ax) (ex) (ktb) (ppl) (kltr) (sx) WIND SP. (ktz): 10.0 VISIB.(nm): clear WIND DIR (deg):110 CEILING (m): 2.000 PRES.(mbars): 1009 WAVES (m): .8 AR TEMP (C): 18.0 SWELL (m): 1.0 RIS.TENB: Padific Command To Base HEAVE (m): ROLL (deg): 1.0 PITCH (deg):

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

Bulk Stocks Drill Water (bb): 3,677.0

FUEL BBE 1,800.0

GEL (ax):

HEU-FUEL (ktr):

POT WATER (bbi):

746.0

BARITE (sx): 1,524 CEMENT (50): 1,524

0.0

Jrille, Permits & Inspections

DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
FIRE	17.01.91	BOP TEST NEXT TEST DUE DATE RIG INSPECTION DAYB SINCE LTA	23-1-98 08-2-98 1-1-98 138	LTI MTI JSA #PTW Selety Meeting	Lay out BHA

000		MD		TVD (m8	3RT)
9.63 13.0	٥		779		779
TYPE	LNOTI		WT lbe/ft	GRD	THREAD
Shoe Jt Ceeing jt #2 Float jt 57 jt csg Pup (MSL) Pup (MSL) 1 jt csg Pup Pup 1 jt csg Stump Top of "8" Sect	11 3 3 12 6	.0 8.7 .9 6.7 .8 8.7 3.1 6.7 1.6 8.7	47,0 47.0 47.0 47.0 47.0 47.0 47.0 47.0	L-80 L-80 L-80 L-80 L-80 L-80 L-80	176 176 176 176 176 176 176 176

CSG LOT PHASE CSG SHOE CSG SHOE

I	P	ump Date	L								
ł		P	מתעו		Blow P	umo Data					
	•	TYPE	LNR	SPM	EFF (%)	Flow (gpm	(pel)	SPM	SPP (pel)	DEPTH (m RT)	(BPG)
	7 (4	ideca - T1 ideca - T1	5.50 6.50	50 50		250 250	1375 1375	40 50	240 360	1181 1181	5.9 8,3

882

Solids Dai	ta		and	≖llt	clean
}		HRS RUN	0.0	0.0	۵,۵
MESH 1	150	DISCARD RATE (gpm)	0.0	0.0	0.0
MEBH 2	160	DISCARD WT (pgg)	0.00	0.00	0.00
мерн з	80	RETURN WT (PPS)	0.00	0.00	0.00

JOB TITLE	NAME	COMPANY NAME	•
Drig Supervisore	Westman/Root	RBT	
Geologiat	Patton	Amilty	1
OIM	Reace	Senta Fe	1
Toolpushers	WalkerWilde	Santa Fe	2
Mud Engineer	Doust	Beroid	•
Cementer	Donlon	Hibtn	•
Mud Loggers		HML	1
Electric Line	1	8chlum	
Rig Crews		Senta Fe	•
Sub Contractors		Santa Fe	
Catering		P&O	1

							_			
Survey	MD	TVD	INCL	AZ	CORR.	"√"	DOGLEG	NIS	EW	TOOL TYPE
Last Tool Type : MS	S (m RT)	(m RT)	DEG	(deg)	AZ (deg)	SECT (m)	(m/30m)	(m)	(m)	
Magnetic Declination: 13.6	110	110	0.50	0	0.0					totto
Survey method: Min Curvatu	re 399 667				7.0 88.0					agle shot
	780	780	0.25	320	333.0				ļ	MMS
	1,074		2,25 3.30		45.0 53.0				Ì	MSS

50

AMITY OIL NL

DAILY DRILLING REPORT # 13

BROADBILL -1

Report Date: 28.01.98

FROM: Westman / Roots Lanzer / Searles TO:

Well Data DEPTH (m RT): 710 CUR. HOLE SIZE ("): 8.50 DAILY COST \$: CUM COST S: 2,63 C80 OD (7: Santa Fe Parameswara PROGRESS (m): -638 DRILL CO. : AFE COST 5 : DAYS FROM SPUD: 11.33 SHOE TVD (m RT): 779 RIG : AFE BASIS : MUD CO: BAROLD DAYS +/- CURVE : LEAK-OFF EMW(ppg) 13.00 RT ABOVE MSL (m): 30.7

CURRENT OP @ 6400 : Nipple down BDP

PLANNED OP .:

Plug & Abandon: Cut & Rettleve 9.625" & 30" casing, 8et plug #4, 8ed

bed survey

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

Plug and Abandon

RT TO BEABED (m):

WATER DEPTH @MSL (m):

Formation Tops - This report only FORMATION TOP(mBRT)

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

21.7

52.4

. ASE	CL8	90	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, coment stinger & RIH to 930 mt					
8	PA	CMP	06:00	08:45	.75		Circulate bottoms up.					
B	PA	CMP	06:45	07:00	.25		POOH to 875 mt.					
8	PA	CMP	07:Q0	07:46	.75	1,345	Head up Howco and set balanced plug 183ex "G" w/ 1% CaCl at 15.8 ppg.					
8	PA	CMP	07:45	08:15	.50	795	POOH to 746m.					
8	PA	CMP	08:15	08:45	.50	1,345	Circulate bottoms up. Trace of cement.					
8	PA	CMP	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					
							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.					
ОТН	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					
OTH	PA	CMP	16:45	17:15	.50		Ciculate @ 740 mt					
OTH	PA	CMP	17:15	17:45	.50		Set Plug #2 1/740 to 710, HCS mix, pump & displace 7 bbl slurry @ 15.8 ppg					
ОТН	PA	CMP	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 min					
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	PA	CMP	00:00	01:15	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
OTH	1		01:15	02:45	1.50	85	Lay down excess drill pipe & coment stinger
ОТН	PA	WH	02:45	04:00	1.25	65.	Retrieve wear bushing, Pick up jetting tool & wash BOP and Wellhead, Lay down same
ОТН	PA	BOP	04:00	00:80	2.00	1,345	Nippie down diverter system & BOP

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

Mud Properties	MUD COST FOR TODAY	Y: 5 593	CU	CUMULATIVE MUD COST TO DATE: \$78,838			
Type: KCL/Ezy Mud/Poly FROM: FL TIME: 13:00 WEIGHT (ppg): 9.50 TEMP (C): 0	115400	0	API FLUID LOSS (cm3/39min) API FILTER CAKE (32/10th Inch HTHP FLUID LOSS (om3/39min) HTHP FILTER CAKE (32/10th 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 SANO: 0.0 PH: 0.0 PHPA:	0.0 0.0 0.0	

DAILY DRILLING REPORT # 13

BROADBILL-1

Report Date: 28,01.98

(kips)

FROM: Westmen / Roots Lanzer / Bearles TO:

. 8A AA: A3: A2: A1: A18: Anchor Tension AS: A8: A7: BA:

Cont Bent Hall Bartin DANT PANT Location. Fuel (ex) (ex) (fultr) **Workboats** (bbl) (bbl) (EDL) (MA) Peolify Command @ Pass

Weather & Rig data @ 24:00 hrs WIND SP. (kts): 30.0 VISIB.(nm): clear WIND DIR (dog): 210 CEILING (m): 2,000 PRES.(mpars): 1006 WAVES (m): 1.0 AIR TEMP (C): 18.0 SWELL (m): 2.0

VDL (kipe: 5,466.0 RIB.TENB: HEAVE (m): ROLL (deg) : PITCH (deg):

COMMENTS: Hellcopter Movements: 14 on & 23 uff

Bulk Stooks DRILL WATER (bbi): 3,266.0 745.0 FUEL (No): 1,781.0 BARITE (EX): 1,313

882 GEL (ax): CEMENT (=x): 1,524 HELI-FUEL (KM):

DETAILS

POT WATER (bb):

INCIDENT

Drille, Permits & Inspections DATE INSPECTIONS DRILL TYPE DATE 25-1-09 COP TEST 17.01.8/ NEXT TEST DUE DATE 24-1-88 RIG INSPECTION DAYS SINCE LTA 23-1-98 TRIP DRILL FIRE PIT DRILL 08-2-98 1-1-96 138

LTI JEA #PTW Selety Meeting

SAFETY

Lay out BHA

Casing PHASE CSG SHOE CSG SHOE TVD (mBRT) LOT CSO OP(")

9.83 13.00			118		770
TYPE	LNGTH (m)	C86	WT Wedt	GRD	THREAD
Shoe Jt Casing it #2 Float it 57 jt cag Pup (MSL) Pup (MSL) 1 jt cag Pup Pup 1 jt cag Stump Top of "B" Section	12,0 12,0 11,9 691.9 6,1 6,5 11,9 3,6 12,0	8.7 8.7 8.7 8.7 6.7 6.7 6.7 8.7	47.0 47.0 47.0 47.0 47.0 47.0	L-80 L-80 L-80 L-80 L-90 L-80	LTC LTC LTC LTC LTC

Ī	Pu	mp Data									
I			ппр От	to a los	1 24 h	175.			Slow P	CITED Date	
	*	TYPE	LNR ()	SPM	EFF (%)	(gpm	(hel)	SPM	SPP (psl)	DEPTH (m RT)	(DDQ)
	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
SOUIS DELL	,	HRS RUN	0.0	0.0	0.0
MESH 1	0	DISCARD KATE (gpm)	0.0	0.0	0.0
MESHZ	à	DISCARD WT (PEO)	0.00	0.00	0.00
MESH 3	Ŏ	RETURN WT (PPD)	0.00	0.00	0.00

Personnel : on Site = 60

JOB TITLE	NAME	COMPANY NAME	*
Drig Supervisors	Westman/Root	RET	2
OIM	Respe	Santa Fe	1
Toolpushers	Walker/Wilkle	Santa Pe	2
Mud Engineer		Barold	
Committee	Donlon	Hitch	1
Mud Loggers		HML	
Electrin Line	1	Schlum	1 3
Rig Orows	į .	Santa Fe	42
Sub Contractors	1	Santa Fe	
Catadho	1	P&O	
Fishing Hand	Willoox	Austoli	

Survey	MU	770	INCL		CORR.	V SECT	DOGLEG (m/36m)	N/S (m)	FAV (m)	TOOL TYPE
Last Tool Type: M88	(m RT)	(m RT)	DEG	(Q8Q)	AZ (deg)	(m)	(1103011)		(111)	
Magnetic Declination: 13.00					0.0					toteo
Survey method: Min Curvatur	687	686	0.30	53	7.0 68.0	}				egie anot
	780 1,074		2.25	32	45.0	1				MSS
:	1.340	1,340	3.30	40	53.0	<u>L</u>	1		<u> </u>	Mee

DAILY DRILLING REPORT # 1

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

BROADBILL -1

Well Data DEPTH (m RT): CUR. HOLE SIZE ("): DAILY COST S: DRILL CO.: SANTA FE PROGRESS (m): -645 CSG OD ("): 9.63 **CUM COST \$:** RIG: **PARAMESWARA** DAYS FROM SPUD: 12.33 AFE COST S: SHOE TVD (m RT): 779 MUD CO: BAROID DAYS +/- CURVE: AFE BASIS: LEAK-OFF EMW(ppg) 0.00 P&A 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

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

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

Formation Tops - This report only
FORMATION TOP(mBRT)

Dana Niller C. . . .

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

B ∫ F	PHSE	CLS	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
	OTH	PA	CMP	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
- 0	HTC	PA	LDP	01:15	02:45	1.50	65	Lay down excess drill pipe & cement stinger
	OTH	PA		02:45	04:00	1.25		Retrieve wear bushing, Pick up jetting tool & wash BOP and Wellhead, Lay down same
	HTC	PA	BOP	04:00	11:15	7.25		Nipple down diverter system & BOP, wellhead "B" section. Land BOP on test stump.
	HTC	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
	HTC	PM	0	13:30	15:15	1.75	65	Remove casing spider, Layout pup joints & MLS
	TH	PM	0	15:15		1.75	65	Rig up slings to support 30" conductor
5)	OTH	PM	0	17:00	19:30	2.50		Layout spear assembly, Make up 30" cutting assembly, Open knives & tag MLS support ring, Pull back 0.5 mt
) HTC	РМ	0	19:30	21:30	2.00	65	Cut 30" conductor below seabed, Pull back & lay put cutting assembly
	HTC	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

`								
	PHSE	CLS	OP	FROM	ТО	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 CUMUL	ATIVE MUD COST TO DATI	E: \$0
Type: FROM: TIME: WEIGHT (ppg): 0.0 TEMP (C):	VISCOSITY(sec / qt): PV (cps): YP (lb/100sq.ft) GEL 10s/10m/30m (lb/100sqft): 0 0 FANN 3/6/100 0 0	0 (cm3/30min) 0 API FILTER CAKE (32nds Inch 0 HTHP FLUID LOSS 0 (cm3/30min) 0	K+ (ppm): 0 HARD/Ca (ppm): 0 MBT (ppb eq): 0.0 PM: 0.0	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: O.0 PHPA: O.0

Anchor Tensi (kips)	оп		A1: A6:			A2 : A7 :				\4 : \9 :	A5 A1	5 : 10 :
Workboats	Location.	Fuel (kltr)	Barite (sx)	D/wtr (bbl)	P/wtr (bbl)	Cmt (sx)	Bent (sx)	Hell (kltr)	Weather & Rig o	data @ 24:0	0 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) :

DAILY DRILLING REPORT #

BROADBILL-1

Report Date: 29.01.98

FROM: Westman / Roots TO: Lanzer / Searles

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
TRIP DRILL FIRE PIT DRILL INCIDENT	17.01.9	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	3			
CSG OD(")	LOT	PHASE	CSG SHOE MD	CSG SHOE TVD (mBRT)
30.00 9.63			106 779	106 779

TYPE LNGTH CSG WT GRD THREAD Shoe Jt	ď						
Shoe Jt		TYPE				GRD	THREAD
11-205 Garage ACCOOL 1 1 1 1		Shoe Jt Casing it #2 Casing it #3 Casing it #3 Casing it #4 Casing it #4 Casing it #4 Casing it #5 (MLS Casing it #6 Casing it #6 Casing it #7 Casing it #7 Casing it #7 Casing it #8 Casing it #7 Casing it #6 Casing it #7 Casing it #6 Casing it #7 Casing it #8 Casing it #7 Casing it #7 Casing it #7 Casing it #8 Casing it #8 Casing it #7 Casing it #8 Casing it #6 Casing it #6 Casing it #7 Casing it #8 Casin	12.8 11.8 11.6 93.1 12.6 11.5 11.5 11.5 11.5 12.4 12.4 12.4 16.0	28.0 28.0 28.0 28.0 28.0 28.0 28.0 28.0	47.0	X-522 X-552	SF60 SF60 SF60 SF60 SF60 SF60 SF60 SF60

Pu	Pump Data													
	Pump Data - last 24 hrs Slow Pump Data													
#	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 2 MESH 3	0	RETURN WT (ppg	0.00	0.00	0.00

rsonnel : o	n Site = 61		
JOB TITLE	NAME	COMPANY NAME	#
Drlg Supervisor	Westman/Root	RBT	2
OIM	Reece	Santa Fe	1
Toolpushers	Walker/Wilkie	Santa Fe	2
Mud Engineer		Baroid	
Cementer	Donion	Hibtn	1
Mud Loggers		HML	1
Electric Line		Schlum	
Rig Crews		Santa Fe	42
Sub Contractors		Santa Fe	
Catering		P&O	8
Fishing Hand	Willcox	Austoil	1
ROV Operator	Simmons/Mc		2
Insurance Surve	Bredderman	Noble Denton	1
Saman (Brute Ti	Schell	Tide Water	1

Survey	MD	170	INCL	AZ	CORR.	"∨"	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	399 687 780	398 686 780	0.15 0.30 0.25	354 53 320	7.0 66.0 333.0				_	sgle shot sgle shot MMS
	1,074 1,340	1,074 1,340	2.25 3.30	32 40	45.0 53.0					MSS MSS

DAILY DRILLING REPORT # 15

DAILY COST S:

CUM COST S:

Report Date: 30.01.98

FROM: Westman / Roots
TO: Lanzer / Searles

BROADBILL-1

Well Data

MUD CO:

DRILL CO. ; RIG :

RT TO SEABED (m):

SANTA FE PARAMESWARA BAROID

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

DEPTH (m RT):

PROGRESS (m): -65
DAYS FROM SPUD: 13.33
DAYS +/- CURVE:

0 CUR. HOLE SIZE ("): -65 CSG OD ("): 9.63 3.33 SHOE TVD (m RT): 779

SHOE TVD (m RT): 779 LEAK-OFF EMW(ppg) 0.00 \$4,095,302

AFE COST S:
AFE BASIS: P&A

CURRENT OP @ 0400 : Securing Rig for tow

PLANNED OP. ;

Jump ROV, Secure for tow, Jack down, Attach tow bridle, Unpin 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

52.4

PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
отн	PM	O	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.
OTH	PA	0	06:30	09:00	2.50		Pull 2-7/8" grout string.
OTH	PA	CMP	09:00	09:30	.50		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		L/d remaining tubulars.
ОТН	PM	RM	11:00	24:00	13.00	0	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

PHSE	CLS	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
ОТН	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: \$	SO CUMULA	TIVE MUD COST TO DAT	re: \$0
.ype: 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	0 (cm3/30mln) 0 K 0 API FILTER CAKE 0 H (32nds inch 0 H HTHP FLUID LOSS 0 P	C+ (ppm) : 0 HARD/Ca (ppm) : 0 MBT (ppb eq) : 0.0 PM: 0.0	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: O.0 PHPA: O.0

	Anchor Tensi (kips)	on	A1: A6:			A2 : A7 :			A3: A8:	A4: A9:	A5 A1	
	Workboats	Location, Fuel (kltr)	Barite (sx)	D/wtr (bbl)	P/wtr (bbl)	Cmt (5x)	Bent (sx)	Heli (kltr)	Weather & Ri	g data @ 24:0	0 hrs	VDL (kips 4,281.0
	Pacific Command Brute Tide	@ B& @ BBW							WIND SP. (kts): 1 WIND DIR (deg): 2 PRES.(mbars): 10 AIR TEMP (C): 1	210 CEILING (m 016 WAVES (m)	2,000: (2.	RIS.TENS: HEAVE (m):
Ĩ	COMMENTS:	Helicopter Movi	ements:	8 00 8	3 off.Br	ute Tic	e dep	arted F	ig @ 21:00 hrs Bou	nd for BBMT		

 Bulk Stocks
 DRILL WATER (bbl): 3,933.0
 FUEL (bbl): 1,735
 GEL (sx): 862
 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**

, Permits & Ins	pection	8			
DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS
	17.01.9 24-1-98	BOP TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA		LTI MTI JSA #PTW Safety Meeting	Skid Rig

ľ							_					1	_
Ī	Casing	ı		_			=			Pi	ımp Da	ta	=
	CSG OD(")	LOT	PHASE	C	SG SH MD			CSG SI IVD (mi		F	TYPE	P	ŭ!
	30.00 9,63					106 779	-		106 779				_
l		PE	LNGT	H	CSG	W	_ •	GRD	THREAD	2	Ideco -		
			(m)		ID (")	lbs/				S	olids D	at	= a
	Shoe Jt Shoe Jt Shoe Jt Shoe Jt Casing th Casi	#2 #3 #4 #4 #5 (MLS #5 (MLS #5 #7 #7 #7 #8 #8 A section A Section (Section	12 11 11 11 11 11 11 11 11 11 11 11 11 1		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	0000000000	X52 X52 X-52 X-52 X-52 X-52 X-52 X-52 X-	SF60 SF60 SF60 SF60 SF60 SF60 SF60 SF60	M M	ESH 1 ESH 2 ESH 3		_

11		Р	ump Da	ta - la	St 24 F	เเร		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		100 100	250 250	1375 1375	40 50	240 360	1181 1181	9.3 9.3		
ľ	3	alide Dat	-					8:	and	eilt cle	an		

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

Personnel: o	n Site = 66		
JOB TITLE	NAME	COMPANY NAME	#
Orig Supervisor	Westman/Root	RBT	2
/IM	Resce	Santa Fe	1
Toolpushers	Walker/Wilkle	Santa Fe	2
Mud Engineer		Barold	
Cementer		Hibtn	}
Mud Loggers		HML	
Electric Line		Schlum	
Rig Crews		Santa Fe	42
Sub Contractors		Santa Fe	
Catering		P&O	8
ROV Operator	Simmons/Mc		2
Insurance Surve	Bredderman	Noble Denton	1
Seamen		Tide Water	8

Survey	MD	TVD	INCL	AZ	CORR.	'V'	DOGLEG	N/S	EM	TOOL TYPE
Last Tool Type : M	ss (m RT)	(m RT)	DEG	(deg)	AZ (deg)	SECT (m)	(m/30m)	(m)	(m)	
Magnetic Declination: 13	, ,,,	110	0.50	0	0.0					totco
Survey method : Min Curvat	399 687 780	398 686	0.30	53	66.0					sgle shot sgle shot
	1,074	1,074	0.25 2.25 3.30	32						MMS MSS
_	1,340	1.340	3.30	40	53.0		L			MSS

DAILY DRILLING REPORT # 16

Report Date: 31.01.98 FROM: Westmant / Roots TO: Lanzer / Saaries BROADBILL -1

Well Data 0 | CUR. HOLE SIZE (7: DAILY COSTS; DEPTH (m RT): CUM COST 6: PROGRESS (m); CSG OD (7: 9.63 \$0 -65 DRILL CO. : SANTA FE AFE COSTS: SHOE TVD (m RT): 779 PARAMESWARA DAYS FROM SPUD: 14.33 RIG: MUD CO: APE BASIS : P&A BAROID LEAK-OFF EMW(ppp) 13.00 DAYS +/- CURVE: 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 .00:80 Speed 5.1 lots. 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(mert) 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
ОТН	PM	RM	00:00	18:15	18.25	0	Secure deck load and machinery spaces for ocean tow. Prepare to jack down.
MV	PM	0	18:15	20:30	2.25		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,
MV	PM	RM	21:15	21:30	.25	0	Jack down and go affoat.
MV	PM	RM	21:30	22:00	.50		One kilometer from location.

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 bbls.

Fuel on board Brute Tide. 291,083 ltrs

Bulk on board Brute Tide. Drill water 184 ton. Pot water 90 ton.

Fuel on board Pacific Commander. 248,900 ltrs.

Bulk on board Pacific Commander. 660 sx Bentonite. Pot water 300 ton.

1	Mud Properties	,	MUD	COST	FOR T	ODA:	Y: \$	0	CUMULATIVE MUD COST TO DATE: \$0									
,	Type: FROM: TIME: WEIGHT (ppg): TEMP (C):	0.00 0	YP (Ib/1	COBITY: (cps): (br100ac 10a/10i (baqit):	.ft); m/30m	0	-	0 0	(om3/3(API FIL (32лds HTHP F (om3/3)	TER CA Inch FLUID LI Omin) FILTER (KE OSS	0 0 0	CI - (ppm): K+ (ppm): HARO/Ca (ppm): MBT (ppb aq): PM: FF:	0 0 0.0 0.0	SOLIDS (%vol) : H2O (%vol) : OIL (%vol) : SAND : PH : PHPA :	0.0 0 0.0 0.0		
	Anchor Tension (kipe)	1		A1: A8:	-			A2; A7:			A3 : A8 :	~	A4 : A8 :		A5; A10;			
	Workboats Lo	ocation.	Fuel (kitr)	Barite (ex)	Diwe (bbl)	PA (bb	-	Cmt (ex)	Bent (sx)	Hell (kftr)	WIND	SP. DIR	(kts): VISIB.(n CEILING Dars): WAVES	m): 3 (m); (m);	VDL (kips: RIS.TENS: HEAVE (m): ROLL (deg): PITCH (deg):			

DAILY DRILLING REPORT

Report Date: 31.01.98

FROM: Westman / Roots Lanzer / Bearies

BROADBILL-1

Bulk Stocks Drill Water (66): 3,933.0

873.0 POT WATER (66):

FUEL (bbi) : 1,659 BARITE (ex): 1,521

GEL (ax): 882 CEMENT (xx): 1,032

HELLFUEL (NIT):

Drille, Permits & Inspections

•	A1.1311-4 11.1-		•				_
	DRILL TYPE	DATE	INSPECTIONS	DATE	SAFETY	DETAILS	
	TRIP DRILL FIRE PIT DRILL INCIDENT		BOP TEST NEXT TEST DUE DATE RIG INSPECTION DAYS SINCE LTA	23-1-98 00-2-98 1-1-98 142	LTI MTI A&L	Skid Rig	
	WACIDE AT		ALLO GRACE CIL	30-1-98	Safety Meeting		

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

TYPE ·	LNGTH (m)	10 (°)	WT Res/It	GRD	THREAD
Shoe Jt Casing it #2 Float it 67 jt oeg Pup (MSL) Pup (MSL)	12.0 12.0 11.9 681,9 6.1 6.6	8,7 8,7 8,7 8,7 8,7	47.0 47.0 47.0 47.0 47.0	L-80 L-80 L-80 L-80 L-80	LTC LTC LTC LTC LTC LTC
1 it cog Pup Pup Pup 1 jt cog Brump Top of "B" Section	11,9 3,0 3,8 12,0 8,0	6.7 8.7 8.7 8.7 8.7	47.0	7-80 7-80 7-80 7-80	LTC LTC LTC LTC LTC

	Pump Data												
	Pump Data - last 24 hrs Slow Pump Data												
\$	TYPE Ideco - T1 Ideco - T1	INC.	SPN	(%) ELL	Flow (gpm	(bal) Spp	8PM	SPP (psl)	DEPTH (m RT)	MVV (ppg)			
1 2	ldeco - T1 l deco - T1	6.50 6:50		160	250 250	1375 1375		240 360					

Solide Date			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	Đ	DISCARD WT (pgg,	0.00	0.00	0.00	
MESH 3	0	RETURN WT (ppg)	0.00	0.00	0.00	
i						

Personnel: on Site = 58

JOB TITLE	NAME	COMPANY NAME	#
Ong Supervisors	Westman	RET	1
OlM / Townsets		Santa Fe	2
Toolpushers	Walker/Wilkle	Santa Fe	2
Mud Engineer		Berold	-
Cementer		Hibtn	
Mud Loggera		HML	
Electric Una		Schlum	
Rig Crews		Sente Fe	35
Sub Contractors		Santa Fe	
Catering		PAO	7
ROV Operator	Simmon Mc	1	2
Insulance Sulve	Breddermen	Nobia Demon	1
Seaman		Tide Water	a

Survey	140	77.70	() (0)							
Last Tool Type : MS8	(m RT)	(m RT)	INCL	AZ (deg)	CORR. AZ (deg)	SECT (m)	(m/30m)	N/S (m)	(m)	TOOLTYPE
Magnetic Declination: 13,00 Survey method: Min Curvature	110 398 687 780 1,074 1,340	388 685	0.16 0.30 0.25 2.26	0 354 53 320 32 40	0.D 7.0 89.0 333.D 45.0 53.0					totco sgle shot sgle shot MMS MSS



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)

TAINIUTIAN TAILER	11.1201.21	J. 11 10)		
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 240-785m</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		
Wiper TG		-					Avg	-	

(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	3X1 6
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

BROADBILL-1 WELL:

TIME: 2400 HRS

16 JAN 1998 DATE:

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 009 230 833

WELL: BROADBILL-1

REPORT NO: 2. LAST SURVEY:

TIME: 2400HRS DEPTH: //OMUHHED

DEVIATION:

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

CURRENT OPERATION:

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

LITHOL	OGY:
--------	------

53-110M	no	returns
	,	
		,
		<u> </u>
	L	
HYDROCARBON OIL SHOWS:	N 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
	[
		<u></u>			

DAILY GEOLOGICAL REPORT

ACN 009 230 835

WELL: BROADBILL -1

REPORT NO: 3

LAST SURVEY: CURRENT OPERATION: TIME: 2400 HRS

DEPTH: 110 metres

DEVIATION: RUN CASINS DATE:

18 JANUARY 1998

PROGRESS:

GEOLOGIST: 1 PATOH

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

TOROAD BILL-1 WELL:

2400 TIME:

19 JANUARY 1958 DATE:

REPORT NO:

4

DEPTH: 110~ PROGRESS: NIL

LAST SURVEY:

DEVIATION:

GEOLOGIST: 1AN PATON

CURRENT OPERATION: @ 0600 RUN IN HOLE TO OPICE AHEAD @ 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: duffle

@ 0600 HOURS - RUNNING SURVEY

LITHOLOGY:

110 - 255M	SANDSTONE - translucent, vf to mgn, rounded, mod scried, abundant fossils, loose quart 2 gns, good vis Ø.
	abundant tossils, 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 translucent, figned, subang, mod well sorted,
	quatrose loose ans, good o. LIMESTONE (20%) a.a.
420 - 545	SANDSTONE (80%) - clr to translucent, fyned, subang, mod well sorted, quatrose loose gns, good b. LIMESTONE (20%) a.a. LIMESTONE (80%) Lt gy to milky, calcarenite to calcilutite tr glave, abund fossil frags. SANDSTONE (20%) a.a.
	abund fossil frags. SANDSTONE (20%) a.a.

HYDROCARBON SHOWS:

OIL	SHOW	S:

	
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	day

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)
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/nr	28 m/hr		
Ì				

CHROMATOGRAPH READINGS (PPM)

Interval (m)	C1	C2	C3	C4	C5
l l	ľ				

TOP MIOCENE SANDSVONE @ 385m (4 metres LOW. to prognosis) **REMARKS:**

DAILY GEOLOGICAL REPORT

WELL: BROADBILL -1

REPORT NO: 6 LAST SURVEY: 779 M

DEPTH: 785M DEVIATION: 0.25°

TIME: 2400 HRS

DATE: 21 JANUARY, 1998 PROGRESS: 240 M

GEOLOGIST: CURRENT OPERATION: @ 6600 HACS RIGGING DOWN SCHLUMBERGER.

LITHOLOGY:

545-760m	LIMESTONE - It gy to cream, culcurenite to calcisitite, trace glauconite, abundant foss fragments
	glaucinite, abundant foss fragments
	0
760 - 785	LIMESTONE (80%) - It gy to cream calcarenite to calcilutite
	trace glaucarite abun foss frags
	CLAUSTONE (20%) - ned goey-olive grey slightly silty, calcarens.
	soft to firm to carponaceous mater
	Soft to firm to Earbonaceous mater [in creases from 0% at 760m to 20% at 785m]

OIL SHOWS:			

_	GAS PEAKS:	
L		
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ROP* AND GAS READINGS:

HYDROCARBON SHOWS:

(*Rate of Penetration)

Interval ROP range (m MDRT) (min/m)		ROP average (min/m)	Max Gas (units)	Total Gas average (units)	
545-760 M	5-128 M/hr	29 M/hr			
760-785M	6-39 M/hr	7 m/hr	0.4	0.3	
				<u> </u>	
1					

CHROMATOGRAPH READINGS (PPM)

Interval (m)	C1	C2	C3	C4	C5	
760-785	50					
785						

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

DAILY GEOLOGICAL REPORT

ACN 009 230 835

WELL: BROADBILL - 1

REPORT NO: 7

LAST SURVEY: CURRENT OPERATION:

TIME: 2400 HR

DEPTH: 785~ DEVIATION:

RUN LOSS

DATE: 22 JANUARY 1997

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: BROADTICC -1

TIME: 2400

DATE: 23 JANUARY 1998

REPORT NO: LAST SURVEY:

8

DEPTH: 78≤ ~ DEVIATION: PROGRESS: —

CURRENT OPERATION:

RUN CASING

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

WELL: BROADBILL-1

REPORT NO: LAST SURVEY:/074 M TIME: 2400 HRS DEPTH: 10 70 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, to glauconite
850-875M	COAL - dull black, mod hard, bitumenous.
875-880 m	SANDSTONE-clear f-medgined subrolled, loose gis quartiese, good of
880 -890 M	SILTSTONE - brown-gy, to carponaceous fragments and soft
890 - 930 m	SANDSTONE - Clear, fine-med gued, subrided, trace pyrite, good of
	with miner SILTSTONE & COAL.
930 - 950 M	COAL (40%) - black dull mad hard; SILTSTONE (30%) - (+6wn, 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:

 •
NO FLUORESCENCE OVER INTERVALS DRIVED 875M -1070M

GAS PEAKS:

868 M	10500 pom C1	940 M - 1814 ppm C1
893 m	4374 ppm C1	
944 M	1726 PPMCI	

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)
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	C3	C4	C5
785-850	335				
250-875	10518				
875-950 950-1070	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

TIME: 2400 HRS DEPTH: /335M

DATE: 25 JANUARY PROGRESS: 265 M

LAST SURVEY: 1074 m CURRENT OPERATION:

DEVIATION: 2°

GEOLOGIST: /. PATON

LITHOLOGY:

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

1070-1090M	SANDSTONE - C/r, occ transl, Med to warse goed, suboded, fair of loose
	ats ans
1090-1100m	COAL (30%) - black, dull bitummous; SANDSTONE (70%) a · a SANDSTONE - clr to translucent, f-medgned, subsided, transill matrix
1100 -1290m	SANDSTONE - clr to translucent, f-medgaed, suboded, trangill matrix
	fair d.
1290-1335M	SANDSTONE (80%) - transt to milky 9 t2 overgrowths, subangular,
	med to cowse ghed, to gl. lithic tragments,
	V. pocr vis perosity
	CLAYSTONE (10%) - ltgy to lt bwn to mica, v soft
	SILTSTONE (102) - Ut bown argill, soft blky.

HYDROCARBON SHOWS:

OIL SHOWS:

ſ	 NIL
1	
ł	
- 1	

GAS PEAKS:

GILD I DILLIE.		
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	
1100 - 1290 M	3-127 m/h	17m/6	3.2 @ 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

	DE	ME: 2400 HRS CPTH: 1345 M EVIATION: 34,0 PER TRIP	DATE: 26 JA PROGRESS: 16 GEOLOGIST: 1)m
LITHOLOGY:	•			
1335-1340M	SANDSTONE - Cle	or to milky white, a gunts poor vis os. It bon to Lt gy, sot	f-medgn, sub	any , to lithi
	(30%) fra	1+ has to 1+ and cont	4 6164	
	SICISIONC (10/4) -	U DER 10 11 79, 501	1,01000	
1340-1345M	SILTSTONE - dk b	rngy to pink, tra	ce lithic fragi	neuts, soft.
		·		
HYDROCARBON S OIL SHOWS:	shows:			
	SHOWS:			
OIL SHOWS:	SHOWS:			
GAS PEAKS: ROP* AND GAS R (*Rate of Penetration Interval	EADINGS: 1) ROP range	ROP average	Max Gas (units)	Total Gas aver
GAS PEAKS: ROP* AND GAS R (*Rate of Penetration	EADINGS: n) ROP range (min/m)	ROP average (min/m)	Max Gas (units)	
GAS PEAKS: ROP* AND GAS R (*Rate of Penetration Interval (m MDRT)	EADINGS: n) ROP range (min/m)	(min/m)	(units)	(units)
GAS PEAKS: ROP* AND GAS R (*Rate of Penetration Interval (m MDRT)	EADINGS: n) ROP range (min/m)	(min/m)	(units)	(units)
GAS PEAKS: ROP* AND GAS R (*Rate of Penetration Interval (m MDRT)	EADINGS: n) ROP range (min/m)	(min/m)	(units)	(units)
GAS PEAKS: ROP* AND GAS R (*Rate of Penetration Interval (m MDRT) /335 - /345 /454	EADINGS: n) ROP range (min/m)	(min/m)	(units)	(units)
GAS PEAKS: ROP* AND GAS R (*Rate of Penetration Interval (m MDRT) 1335 - /345 CHROMATOGRA Interval (m)	EADINGS: 1) ROP range (min/m) 7 - 5 M/hr	(min/m)	(units) /· S	(units)
GAS PEAKS: ROP* AND GAS R (*Rate of Penetration Interval (m MDRT) /335-/345/M	EADINGS: (n) ROP range (min/m) 7 - 5 M/hr PH READINGS (PPM)	(min/m) 6 m/hr	(units) /· S	(units) 0.7

REMARKS:

TOP STREZLECKI FORMATION AT 1340 metres - (pink, burn 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.
ł	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.
	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.
i !	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.
	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% CLAYSTONE 10% SILTSTONE 10%	translucent to milky, quartz overgrowths, subangular, medium to coarse grained, trace lithic fragments, very poor visible porosity. light grey to light brown, trace mica, very soft. light brown, argillaceous, soft, blocky.
1	1335-1340m	SANDSTONE 30% SILTSTONE 70%	clear to milky white, fine to medium grained, subangular, trace lithic fragments, poor visible porosity. 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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 Well Progress & Drilling Fluid Cost
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 DAILY MUD VOLUME RECORD
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 DAILY OPERATIONS LOG
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WELL SUMMARY

1.1 Well Data

1.1 Well Data		
Well Name	:	Broadbill 1
Operator	:	Amity Oil NL
Well Type	:	Vertical
Average Inclination	:	0 - 2°
Bottom Hole Temperature	:	68° C
Location	:	VIC P/36, Bass Strait, Victoria
Contractor/Rig	:	Santa Fe / Paramaswara
Start Date (Abandonment)	:	16/01/98
Spud Date	:	17/01/98
RKB to Seabed	:	52.4 m
Total Depth	:	1345 m
Date TD Reached	:	26/01/97
Total Days Drilling	:	6 days
Date Released	:	31/01/97
Total Days on Well	:	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
Mu	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

Interval 1. 36" Hole (54.2 - 110 m)	Programmed	Actual	Achieved (± 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.

4

4.

INTERVAL - 1

4.1 SUMMARY

36" Hole

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.

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 (Typical)		
	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.

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 $9^5/_8$ " casing was successfully run to bottom.

Problems, Causes, Remedial Action Taken or Recommended Hole Conditions

1) 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.

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

Cause Gauge hole. No fill recorded from multishot survey.

Action POOH.

Drilling Fluid

1) Problem No drilling fluid problems.

Cause Action

Solids Control and Mud Mixing Equipment

1) 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 ma/l	100	150	100	100	Ves

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

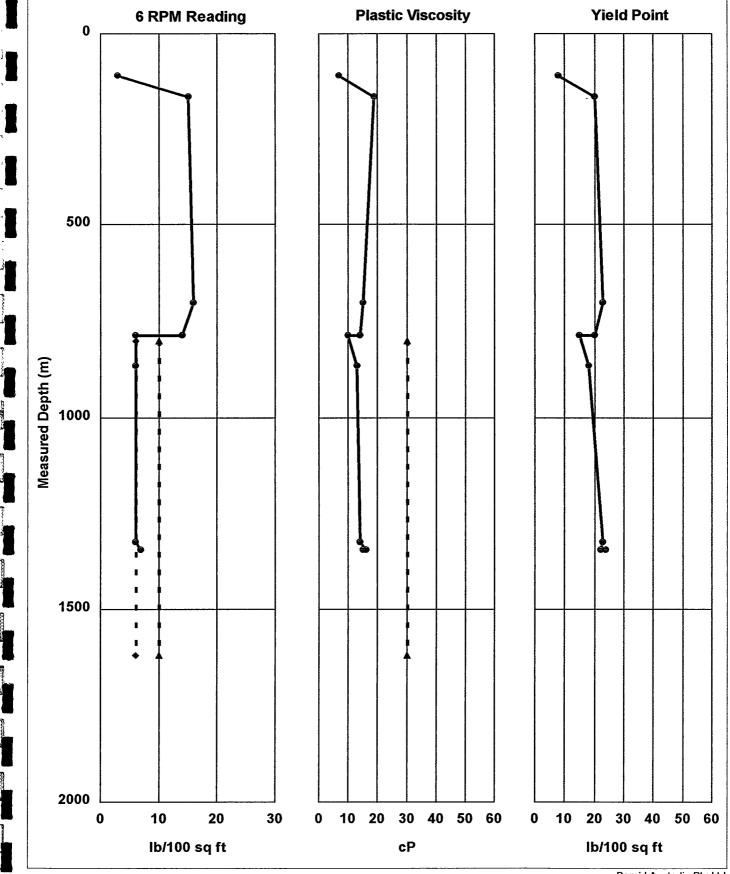
Depth MD (m)	Depth TVD (m)	Inclination (deg)	Direction (deg)	Displacement (m)
113.1	113.1	0.15	100.0	0.00
142.1	142.1	0.00	0.0	-0.01
170.3	170.3	0.00	0.0	-0.01
198.3	198.3	0.30	63.0	0.03
226.4	226.4	0.10	51.0	0.07
255.3	255.3	0.35	47.0	0.15
284.1	284.1	0.35	112.0	0.18
312.9	312.9	0.15	75.0	0.15
341.8	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) 1000 2000 0 10 20 Days Fluid Cost Measured Depth (m) 1000 2000 50000 100000 0 Cost (A\$)

DRILLING FLUID PROPERTIES (Page - 1)

Operator : Amity Oil NL Well : Broadbill 1

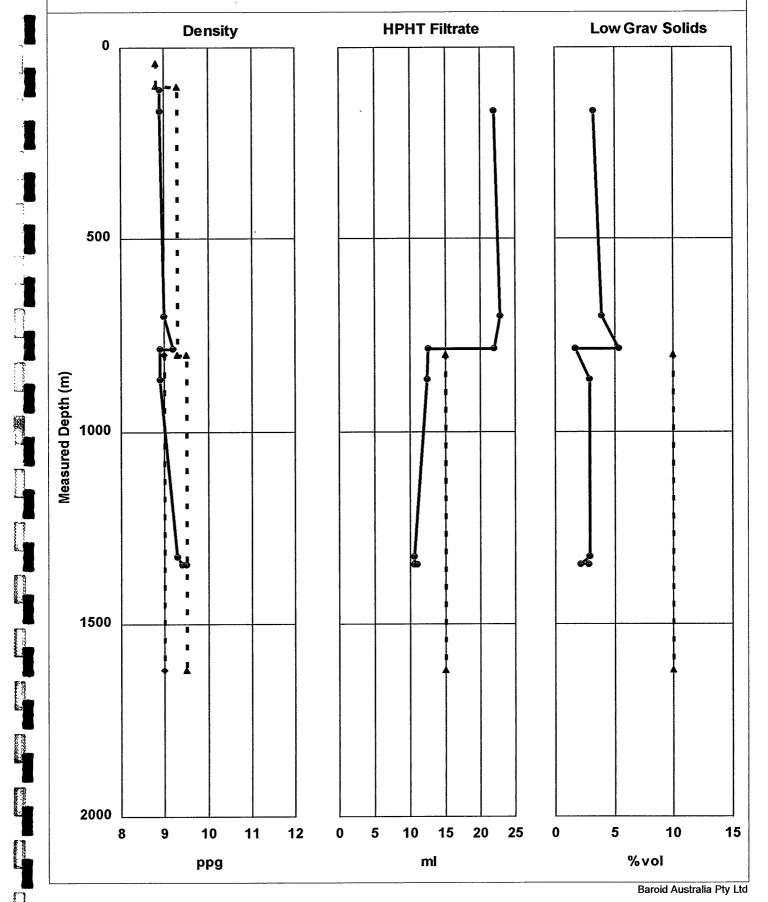




DRILLING FLUID PROPERTIES (Page - 2)

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

Amity Oil NL Broadbill 1 Santa Fe Drilling Paramswara 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 Deg C

Total mud cost

: \$A 78,140.43

Mud cost per meters

: \$A 60.45

Total cost

: \$A 78,838.83

Baroid Engineers

NICHOLAS DOUST

Casing Program	Casinç in.	g size	Shoe depth meters	
·	30 30 9 5/8 9 5/8		106 106 779 779	
Mud type	Inter met		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: Weil Name: Amity Oil NL

Contractor:

Broadbill 1 Santa Fe Drilling Paramswara

Country: Geo Area: Field:

Region:

AUSTRALIA BASS STRAIT VIC P/36

Victoria



Total Material Consumption

Material	Unit size		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

> \$A 78,838.84 Total cost

Programmed mud cost \$A 41,456.17

Variance \$A 36,684.27

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

AUSTRALIA Country: Geo Area: Field:

BASS STRAIT

Region:

VIC P/36 Victoria



Interval Summary

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

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 # 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

68° Deg C

Bottomhole static temperature 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

Dias

Paramswara

Country: Geo Area: AUSTRALIA

Field:

BASS STRAIT VIC P/36

Region:

Victoria

(Anni)

Interval Summary

Interval #

Bit Size

03

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

Params

Country: Geo Area: AUSTRALIA

Field:

BASS STRAIT VIC P/36 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 T	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	erval mud cost	\$A 4,306.30
		Inte	erval miscellaneous cost	t \$A 291.00
		Tot	al interval cost	\$A 4,597.30
		Pro	grammed mud cost	\$A 3,851.16

Variance

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Country: Geo Area: AUSTRALIA

Field:

BASS STRAIT

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

Company: Well Name: Amity Oil NL Broadbill 1

Contractor:

Santa Fe Drilling Paramswara

Country: Geo Area: AUSTRALIA

Field:

BASS STRAIT VIC P/36 Victoria



Interval Material Consumption Interval #03 8.5 in. Hole Section

Interval #03 8.5 in. Hole Section			Top of Interva Bottom of Interva	
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

Interval mud cost	\$A	46,9	956.6	35
Interval miscellaneous cost		\$A	29.1	0
Total interval cost	\$A	46,9	985.7	7 5
Programmed mud cost	\$A	37,6	805.C	1
Variance	\$,	A 9,3	351.6	34

33334

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



HOLE S	SIZE:in.										M	UD TYPE	::No Mud	1			_
DATE	INITIAL VOLUME bbi	MUD RECEIVED bbl	OIL ADDED bbi	WATER ADDED bbl	BARITE ADDED bbi	CHEMICALS ADDED bbi	DAILY TOTAL bbi	CUMLATIVE TOTAL bbl		TOTAL DAILY LOSSES bb!	CUMLATIVE LOSSES bbi	MUD RETURNED bbl	FINAL VOLUME bbi	HOLE VOLUME bbi	ACTIVE PITS bbi	RESERVE PITS bbi	
16/01/98		0		0	0	0 0	(5 (0

بيبيد

Company:

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA BASS STRAIT

Geo Area: Field:

VIC P/36

gion: Victoria

HC	JLE S	ZE:in.											IVI	UD TYPE	::Gel/Sea	water			_
D	ATE	VOLUME NITIAL BBI	MUD RECEIVED bbi	OIL ADDED bbi	WATER ADDED bbl	BARITE ADDED bbi	CHEMICALS ADDED Bbi		CUMLATIVE TOTAL bbi	MUD LOST SURFACE bbi	MUD LOST DOWNHOLE	TOTAL DAILY LOSSES bbi	CUMLATIVE	MUD RETURNED ьы	FINAL VOLUME bb	HOLE VOLUME	ACTIVE PITS bbl	RESERVE PITS bbi	-
	7/01/98	(0 0	,	879	0	21	900	900	662		66:	662	0	238	238	c	, (- -

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

VIC P/36 Field: Region:

Victoria



HO	LE SI	ZE:in.											IVI	UD TYPE	::Seawate	er 			
DAT		INITIAL VOLUME	MUD RECEIVED	OIL ADDED	WATER	I BARITE I ADDED	CHEMICA	S DAILY TOTAL	CUMLATIVE	MUD LOST SURFACE	MUD LOST DOWNHOLE	TOTAL DAILY LOSSES bbl	CUMLATIVE LOSSES bbl	MUD RETURNED bbl	FINAL VOLUME bbi			RESERVE PITS bbl	1
18/0	1/98	23	i	0	0	0	0	0	ol	0		0	ه ا	,	281	281	0	0	

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:12.2	!5 in.												M	JD TYPE	:Gel/Pol	ymer		
DATE	INITIAL VOLUME	MUD RECEIVED	OIL ADDED	WAT		BARITE ADDED	CHEMICALS	S DAILY TOTAL	CUMLA		MUD LOST SURFACE	MUD LOST DOWNHOLE	TOTAL DAILY	CUMLATIVE LOSSES	MUD RETURNED	FINAL VOLUME	HOLE VOLUME		RESERVE PITS
19/01/98	28	31	٥	0	1,390	0	4	0 1,	430	1,430	340	(340	340	(1,371	281	572	518
20/01/98	1,37	,,	٥	٥	1,042	0	3:	0 1,	081	2,511	584	700	1,284	1,624	(1,168	441	419	308
21/01/98	1,16	38	0	٥	385	0	<u> </u>	9	394	2,905	217	24	241	1,865	(1,321	590	523	208
22/01/98	1,32	21	اه	٥	٥	٥	1 .	.	٥	2.905	1.015		1.015	2.880	1	306	100		116

3.50

Company:

Amity Oil NL

Well Name:

ne: Broadbill 1

Contractor:

Rig:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT VIC P/36

Field: Region:

Victoria



HOLE S	IZE:8.5 ir	ı.										MU	JD TYPE	:KCI/Pol	ymer		
DATE	INITIAL VOLUME BB	MUD RECEIVED ьы	OIL ADDED bbi	WATER ADDED but	BARITE ADDED bbi	CHEMICALS				MUD LOST DOWNHOLE bbl	TOTAL DAILY LOSSES bbl	CUMLATIVE LOSSES	MUD RETURNED bii	FINAL VOLUME bbi			RESFRVE PITS bbl
23/01/98	306		ه اه	1,371	0	47	1,418	1,418	0	0	0	0	- c	1,724	190	0	1,534
24/01/98	1,724		0	0	16		18	1,438	450	70	529	529		1,213	215	467	531
25/01/98	1,213		0	0	11	12	23	1,459	273	40	313	842	(923	270	542	111
26/01/98	923		ه ا	194	7	, ,	207	1,666	149	100	249	1,091		881	317	440	118
27/01/98	881		ه اه		2		2	1,668	67	0	67	1,148	(820	317	509	٥
28/01/98	826	,	0		0		0	1,668	0		0	1,148	(826	317	509	0

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 16/01/98 52 OFFLOADING BOAT Barcid Engineer arrived on rig. Offloading boats. 17/01/98 110 POOH TO RUN 30" CSG Built 400 bbls of flocoulated spud mud for I hi-vis sweeps and 500 bbls of pre-bodyated AQUAGEL for filling hole. Built 1066 bbls of inverbeated AQUAGEL for 12:1/4" section - I will charge of 12-1/4" mod costs tomorrow. Total mud boilt: 1966 bbls. Actual AQUAGEL stock remaining: 16.4 MT. Initial Bartie on board: 19.64 MT (432 sxs) All material ordered in loadout 1 rec'd. Continue to offload bost. Make up 36' BHA. I RIM. Tag seabed stock in Dislate board: 19.64 MT (432 sxs) All material ordered in loadout 1 rec'd. Continue to offload bost. Make up 36' BHA. I RIM. Tag seabed stock in Dislate board: 10 unflocoulated pre-hydrated AQUAGEL POOM: RIM. Displace hole to conductor. 18/01/98 110 INSTALL DIVERTER Calcium Chloride used for cementing. To be f 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 i up 2-7/8" tubing and run with 30" conductor. I Cut conductor joint. Cement casing. Install i 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. Displace hole to 1 seawater/AQUAGEL/PAC mod system. POOM. Pi			<u> </u>
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Company: Well Name:

Amity Oil NL Broadbill 1 Santa Fe Drilling Contractor:

Paramewora

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

Victoria



Operations Log

OPERATION DATE DEPTH meters

DRILLING 20/01/98 545

> 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.

Region:

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.

: 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

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 î 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

Country: Geo Area:

AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



Operations Log

Dally	Oper	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 i 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 1 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 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 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 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.

Rig:

Amity Oil NL Broadbill 1

Santa Fe Drilling

Paramswara

Geo Area:

AUSTRALIA Country: BASS STRAIT

Field: Region: VIC P/36 Victoria



Daily Operations Log

			<u> </u>
	DATE	DEPTH meters	OPERATIO N
 	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.
ł	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.
ı			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.

Rig:

Amity Oil NL Broadbill 1 Santa Fe Drilling

Paramswara

Country: AUSTRALIA Geo Area: BASS STRAIT Field:

Region:

VIC P/36 Victoria



Daily Operations Log

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

and

Company:

Rig:

Amity Oil NL

Well Name: Contractor: Broadbill 1 Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area: Fleld: BASS STRAIT 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	RUN	WEIGHT ON BIT Ib/1000	BIT RPM	PUMP OUTPUT gpm	DP/DC m/min	PUMP PRESSURE paig	MUD WEIGHT PPG	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		اه	924	0/0		9	1-1-NO-A-0	Soswater/AQUAGEL EWOODE, Mari
20/01/97	2	17.50	HUGHES	R1	3 X 20						0	924	0/0		9	1-1-NO-A-0	Coment
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/AQLIAGEL/Polymer, Micconn I Sand, biltstone, 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, Senderone, coal

ATTO

Company:

Amity Oil NL

Well Name: Broadbill 1

Contractor: Santa Fe Drilling

Rig:

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field:

VIC P/36

Region:

Victoria



Mud Property Recap: Water-Based Mud

DATE	DEPTH	F/L TEMP	DENSITY	FUN	RHEOL	OGY	@ 120°F		рН	FILTRATIO	N			FILTRATE A	NALYSIS				SAND	RETORT A	NALYSIS			МВТ	RHEOMETE DIAL READ	R ··	
		IEMI		VIS	PV	YP	GELS			API	HTHP	Cake	Temp	Pm	Pf	МІ	CI	Total Hardness		Corr Solids	LGS	Oil	Water		DIAL NEAD	ind3	
	meters	Deg C	PPG	sec/qt	сР	_	lbs/100 ft2			ml/30 ml	ml/30 min	32nd in	Deg C	ml	ml	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,					2/0	121								1				,	,	,
17/01/98	110		0.0		1.0		,					2/0	121							1	1				,	١,	,
18/01/98	110		0.0		1.0	,	,					2/0	121									1			,	,	,
19/01/98	110		8.9	38	7.0		8.0 3.0/	4.0		12.0		1/0	121						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	600.0	0.6	3.22	3.22	1	96.60	4.00	68 / 39	31 / 24	15 / 14
21/01/98	785	46	9.0	85	15.0	, ;	23.0 17.0/	30.0	8.20	8.0	22.80	1/ 2	121	0.40	0.02	0.06	21,000	600.0	tr	3.90	3.90	J	94.90	5.00	53 / 38	32 / 26	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	14 / 12
23/01/98	785		8.9	66	10.0	ار	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	61
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	61
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 / 23	7/
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 / 2	1,,
28:01/98	1346		9.6	28	1.0							2/0	121				1	1			1] .		,	1 ,	,

REPORT NUMBER: DRILLING MUD REPORT Date Depth 16/01/98 52.4 [MD] m Spud Date Present Activity 17/01/98 OFFLOADING BOAT OPERATOR CONTRACTOR RIG NUMBER Paramswara Amity Oil NL Santa Fe Drilling REPORT FOR REPORT FOR REGION Wally Westman/Murray Jackson Santa Fe Drilling Victoria FIELD OR BLOCK WELL NAME AND NUMBER GEOGRAPHIC AREA COUNTRY Broadbill 1 VIC P/36 Bass Strait Austral DRILLING STRING BIT DATA CASING CIRCULATION DATA in. Size Pipe OD Len. Pump Make/Model Size Eff. V/st Type Pipe OD ID Len. in. No. Jets Pipe OD ID Len. Set 🤋 spm bbl/min Jets 32nd inch Collar OD ID Len. Pump Make/Model Set & V/st Collar OD ID Len Set @ Size Eff. OPEN HOLE Set @ bbl/min spm Tot Noz Area Size Pump Make/Model Len. Set @ TFA Size Len. Set @ Size Eff. V/st Size bbl/min Len. Set @ spm Size Len. Set @ Tot. Vol./min 0 0.0 bbl gpm Size Len. Set @ BU Time 0 TC Time MUD PROPERTIES MUD TREATMENTS Primary Source Flowline Program Essential Baroid Engineer arrived on rig. Time 10:54 Targets Program FL Temp Deg C 0 *=Excep Properties Depth 0.0 Weight ppg 8.3 FV @ 16 Deg C sec/qt 28 PV @ 49 Deg C cP 1 ΥP lbs/100 ft2 0 Gels lbs/100 ft2 0/0 API Filt. m1/30 min 0.0 HTHP @ 121 Deg C ml/30 min 0.0 Cake API/HTHP 32nd in 2/0 Corr.Solids & by vol RIG ACTIVITY 0.0 Oil/Water \ by vol 0.0/0.0 Offloading boats. Sand & by vol MBT 0.0 pH STRIP 0.0 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 MATERIALS USED SOLIDS EQUIPMENT Make Sz/Scrn HR NO INVENTORY USED ON THIS REPORT

	MUD MAI	NAGEMENT	RHEOLOGY AND	FRACTURE GRA	DIENT	TIME	
MUD VOLU			4				
		MOD IIPE	HYDRAULICS	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	Volume	ADDITIONS bbl	200 rpm	ECD p	pg	SERV. RIG	0.00
0		0i1 0	100 rpm	Cog. 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
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 REAM	0.00
bbp	0.00	Chemicals 0	Press Drop, ANN 0	MD S2	.4 m	REAMING	0.00
ASG	2.60	LOSSES bbl	Actual Circ. Press 0	TVD 52.	.4 m	TESTING	0.00
Drill Cutting	12 O	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) n.		
BAROID REPRES	ENTATIVE	OFFICE/HOMB	Melbourne TELEPHON	B (03) 9621 3311	DAILY CO	OST CUMULATIV	COST
Nicholas Dous	st	WAREHOUSE	Welshpool TELEPHON	E (03) 56 BB1 445	SA	0.00 SA	0.00

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

REPORT NUMBER: Date Depth 110.0 m

17/01/98 [MD] (Cost Modified) Present Activity Spud Date POOH TO RUN 30" CSG 17/01/98 RIG NUMBER OPERATOR CONTRACTOR Santa Fe Drilling Paramswara Amity Oil NL REPORT FOR REGION REPORT FOR Wallv Westman/Murray Jackson Santa Fe Drilling Victoria FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER Bass Strait Austral VIC P/36 Broadbill CIRCULATION DATA BIT DATA DRILLING STRING CASING in. Pump Make/Model Ideco T-1600 Size Pipe CD ID Len. Eff. 97.00 V/st Size 6.5 X 12 Pipe OD Len Type Set @ bbl/min ID Len. apm No. Jets Pipe OD Ideco T-1600 Jets 32nd inch Collar OD ID Len Set 🏟 Pump Make/Model Collar OD Set 4 Size 6.5 X 12 Eff. 97.00 V/st 0.120 Len OPEN HOLE bbl/min in Set 🔅 spm 0.0 Tot Not Area Size 36 Len. 57.6 Set @ Pump Make/Model Size Eff. V/st Size Set 🕏 TFA Len. bbl/min Size Len Set @ apm Tot. Vol./min Size Len. Set R 0 0.0 gpm 0 TC Time Size Len. Set @ BU Time MUD TREATMENTS MUD PROPERTIES Primary Essential Built 400 bbls of flocculated spud mud for Flowline Program Source hi-vis sweeps and 500 bbls of pre-hydrated 10:57 Targets Program Time AQUAGEL for filling hole. Built 1066 bbls of FL Temp Deg C *=Excep Properties pre-hydrated AOUAGEL for 12-1/4" section -Depth m 110.0 will charge of 12-1/4" mud costs tomorrow. Weight 0.0 ppg Total mud built : 1966 bbls. FV @ 16 Deg C sec/qt 0 ⊕ 49 Deg C cP Actual AQUAGEL stock remaining : 16.4 MT. lbs/100 ft: Ϋ́Р 0 Gels lbs/100 ft2 0/0 Initial Barite on board: 19.64 MT (432 sxs) All material ordered in loadout 1 rec'd. API Filt. m1/30 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 Continue to offload boat. Make up 36" BHA. Oil/Water % by vol 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 Alk. Filtr. (Pf/Hf) 0.00/0.00 sweep. Pump 35 bbl hi-vis mud. Displace hole Chlorides mg/l to unflocculated pre-hydrated AQUAGEL. FOOH. Hard. Ca mg/l RIH. Displace hole to unflocculated 0 Low Gravity Solids ppb 0.00 pre-hydrated AQUAGEL. POOH to run 30" MATERIALS USED SOLIDS EQUIPMENT Product Product Used Make Used Cost Device Sz/Sern HR AQUAGEL - 1000 KG. TON Scalper Shkr #1 caustic soda - 25 M.G. PAIL Shkr #2 | Scalper lime - 20 KG, BAG 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 RHEOLOGY AND MUD MANAGEMENT FRACTURE GRADIENT TIME VOLUME MUD TYPE HYDRAULICS bbl Water Depth 21.7 DRLG 3.00 500 rpm Pits Calc. F. Grad SEAWATER/HI VIS SWEEPS 0.0 CIRC 2.00 300 rpm HUD CONSUMPTION Leak Off Test TRIPS 238 0.0 2.50 Active Volume ADDITIONS 200 rpm SERV. RIG bbl ECD 0.00 ppg Oil SURVEY 100 rpm 238 Csq. Shoe 0.0 0.00 Brine Water FISHING 6 rpm TD 0.00 0.0 Drill Water 3 rpm Max. Diff. Press 238 629 LOGGING 0.00 Low Grav, vol 1 0.0 Sea Water Pressure Units: RUN CSG 250 psig 0.00 ppb 0.00 Whole Mud 0 Press Drop. DP CORE 0.00 0 High Grav, vol \$ 0.0 DEVIATION INFO Barite Press Drop, BIT 0 BACK REAM 0.00 ppb 0.00 Chemicals Press Drop, ANN 0 REAMING 0.00 21 MD 110.0 ASG LOSSES TVD Actual Circ. Press 0 TESTING 110.0 m 0.00 Drill Cuttings Dumped 662 AV. DP OTHER 16.50 m/min 0.0 Angle 0.00

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

AV. DC

238 AV, Riser m/min

Melbourne

Lost

VOL GAIN/LOSS

OFFICE/HOME

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 DPILLING FLUIDS, INC. or its agents, and are statements of opinion only.

m/min

0.0

TE. EDHONE

Direction

Horiz. Displ

(03) 9621 3311

0.0

ŞA.

DAILY COST

AVERAGE ROP

4306.30

0.00

CUMULATIVE COST

Dilution Rate

Slds Control Eff

BAROID REPRESENTATIVE

(Cost Modified) Present Activity Spud Date 17/01/98 INSTALL DIVERTER OPERATOR CONTRACTOR RIG NUMBER Santa Fe Drilling Amity Oil NL Paramswara REPORT FOR 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 1 Bass Strait Austral BIT DATA in. DRILLING STRING CASING CIRCULATION DATA Size in. Pipe OD Len. Pump Make/Model Ideco T-1600 97.00 V/st 6.5 X 12 Eff. Туре Pipe OD ID Len. in. Size 0.120 No. Jets Pipe OD ID Len. 30 Set @ 106.0 spm n bbl/min 0.0 Jets 32nd inch Pump Make/Model Ideco T-1600 Collar OD ID Len. Set @ Eff. 97.00 V/st 0.120 Collar OD ID Len. Set @ Size 6.5 X 12 OPEN HOLE bbl/min in. Set 0 apm Size Tot Noz Area 36 4.0 Set @ Pump Make/Model Len. TFA Size Len. Set @ Size Rff. V/st Size Len. Set @ apm bb1/min Tot, Vol./min Size 0.0 bbl Len. Set @ 0 gpm 0 TC Time Size Len. Set @ BU Time MUD PROPERTIES MUD TREATMENTS Primary Flowline Source Program Essential Calcium Chloride used for cementing. To be Time 19:37 Targets Program charged as non-drilling cost. qəɔx3=* Deg C FL Temp 0 Properties Depth 110.0 , Will charge off 12-1/4" mud costs tomorrow. 0.0 Weight ppg FV @ 16 Deg C sec/qt 0 Total 12-1/4" mud built to date : 1182 bbls. PV 2 49 Deg C cP lbs/100 ft2 ΥP 0 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 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

NO INVENTORY USED ON THIS REPORT

MATERIALS USED

SOLIDS EQUIPMENT Device Make Sz/Sern HR 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"

		JAGEMENT	RHEOLOGY AND	FRACTURE GRADIEN	TIME	
MUD VOLU	ME ьы	MUD TYPE	HYDRAULICS	Water Depth 21	.7 DRLG	0.00
Hole	Pits	Seawater	600 xbw	Calc. F. Grad 0.0	CIRC	0.00
281	0	MUD CONSUMPTION	300 rpm	Leak Off Test 0.0	TRIPS	0.00
Active V	olume.	ADDITIONS bbl	200 rpm	ECD ppg	SERV. RIG	0.00
281		Oil 0	100 rpm	Csg. 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	LOGGING	0.00
Low Grav, vol	L% 0.0	Sea Water 0	Pressure Units: psig		RUN CSG	14.00
bbp	0.00	Whole Mud 0	Press Drop. DP 0		CORE	0.00
High Grav, vo	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	REAMING	0.00
ASG	1	LOSSES bbl	Actual Circ. Press 0	TVD 110.0 t	n TESTING	0.00
Drill Cutting	33 0	Dumped 0	AV, DP m/min 0.0	Angle 0.0	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	a	
BAROID REPRES	BNTATIVE	OFFICE/HOMB	Melbourne TELEPHONE	(03) 9621 3311 DAIL	COST CUMUL	ATIVE COST
Nicholas Dous	3t	WAREHOUSE	Welshpool TELEPHONE	(03) 56 881 445 ŞA	0.00 \$A	4306.30

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

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

PICK UP 12-1/4" BHA 17/01/98 OPERATOR CONTRACTOR RIG NUMBER Paramswara Santa Fe Drilling Amity Oil NL REPORT FOR REPORT FOR REGION Victoria Santa Fe Drilling Wally Westman/Murray Jackson GEOGRAPHIC AREA COUNTRY FIELD OR BLOCK WELL NAME AND NUMBER Broadbill 1 VIC P/36 Bass Strait Austral CIRCULATION DATA DRILLING STRING CASING BIT DATA Pump Make/Model Ideco T-1600 Pipe OD Len. Size ID Eff. 97.00 V/st in. Size 6.5 X 12 Pipe OD ID Len. Type bbl/min No. Jets Pipe OD ID Len. 30 Set @ 106.0 spm 0 0.0 Pump Make/Model ID Set 9 Ideco T-1600 Jets 32nd inch Collar OD Len Eff. 97.00 V/st 0.120 Size 6.5 X 12 Collar OD ID Len. Set @ OPEN HOLE Set @ apm n bbl/min 0.0 Pump Make/Model Size Set @ Tot Noz Area Len. Bff. V/st Size Len. Set @ Size TFA Size Len. Set @ apm bbl/min bbl Tot. Vol./min 0 0.0 Set @ Size Len. gpm Size Len. Set @ BU Time TC Time MUD TREATMENTS MUD PROPERTIES Primary Calcium chloride used for cementing to be Essential Source Pits, Circ Program Time 20:45 Targets Program charged as 'non-drilling cost'. *=Excep Properties FL Temp Deg C 0 110.0 Built total of 1430 bbls of Depth m seawater/AQUAGEL/Polymer mud for 12-1/4" 8.9 Weight ppg FV 2 18 Deg C sec/qt 38 hole. PV @ 49 Deg C cP Expect API filtrate to decrease with ΥP 1bs/100 ft2 В lbs/100 ft2 3/4 incorporation of drill solids and more PAC-R Gels once drilling commences. API Filt. m1/30 min 12.0 HTHP 9 121 Deg C ml/30 min 0.0 Cake API/HTHP 1/0 32nd in 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 lines. Run wear bushing. Cement top of 30* MBT conductor via 2-7/8" tubing. Pick up 5" PH STRIP 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 O and rathole. Displace hole to seawater/AQUAGEL/PAC mud system. POOH. Pick Hard. Ca mg/l Low Gravity Solids ppb up and make up 12-1/4" BHA. 0.00 Excess sulfite MATERIALS USED SOLIDS EQUIPMENT Product Haed Product Used

Cost Cost Device Make Sz/Sern HR AQUAGEL - 1000 KG. TON 17.100 8113.95 Shkr #1 Scalper 20 FAC-L - 25 KG. BAG 14 2060.94 Shkr #2 Scalper 20 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 3 Shkr #6 Sweco LM3 150 x 3 dSndr Crestex 3 x 10' dSlt #1 Crestex 16 x 5"

	MUD MAN	IAGEMENT		RHE	OLOGY	AND	FRACTURE (<u>GRAD</u>	IENT	TIME		
MUD VOLU	ЈМЕ ьь1	MUD TYPE		HY	DRAUL:	ICS	Water Depth		21.7	DRLG		0.00
Hole	Pits	GEL/SEAWATER/PO	LYMER	600 rpm	22		Calc. F. Grad		0.0	CIRC		0.75
281	572	MUD CONS	MOTTON	300 rpm	15		Leak Off Test		0.0	TRIPS		0.00
Active V	/olume	ADDITIONS	bbl	200 rpm	11		ECD	ppg		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		TD		0.0	FISHING		0.00
518	1371	Drill Water	1026	3 rpm	2		Max. Diff. Pred	6	0	LOGGING		0.00
Low Grav, vol	i % 0.0	Sea Water	364	Pressure	Units:	psig				RUNI CSG		0.00
ppb	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	DEVIATIO	NI N	FO	BACK RE	MAS	0.00
ppb	0.00	Chemicals	40	Press Dr	op, ANN	0	MD	110.	m O	REAMING		0.00
ASG		LOSSES	bbl	Actual C	irc. Pre	ss 0	T√D	110.	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	0.00	Lost	59	AV, DC	m/min	0.0	Direction			AVERAGE	ROP	0.00
Slds Control	BEE 0.00	VOL GAIN/LOSS	1090	AV, Rise	r m/min		Horiz. Displ	0.0	π			
BAROID REPRES	SENTATIVE	OFFICE/HO	MB	Melbourn	ie	TELEPHONE	(03) 9621 33	11	DAILY CO	OST	CUMUI	LATIVE 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

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

45

17/01/98 DRILLING CONTRACTOR RIG NUMBER OPERATOR Santa Fe Drilling Paramswara Amity Oil NL REPORT FOR REGION REPORT FOR Santa Fe Drilling Victoria Wally Westman/Murray Jackson WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY

Bass Strait Austral VIC P/36 Broadbill CIRCULATION DATA BIT DATA DRILLING STRING CASING in. Ideco T-1600 Size 12.25 ID 4.276 Len. Pump Make/Model Pipe OD 314.2 Type MAX GT1 Pipe OD ID 3.000 in. Size 6.5 X 12 Eff. 97.33 V/st Len. 112.4 ID 106.0 80 bbl/min No. Jets Pipe OD Len. Set @ spm Jets 32nd inch Collar CD ID 2.75 Len. 118.4 Set @ Pump Make/Model 1deco T-1600 Eff. 97.00 V/st 16 Collar OD ID Len. Set @ Size 6.5 X 12 16 OPEN HOLE Set @ во bbl/min in. m spm Size 439.0 Set @ Pump Make/Model Tot Noz Area Len. Size Len Set @ Size V/st TFA bbl/min Size Len. Set @ spm Size Len. Set @ Tot. Vol./min 803 bbl Size TC Time Set @ BU Time

Len.

MUD PROPERTIES MUD TREATMENTS Primary Source Pits, Circ Flowline Program Essential Built 1070 bbls of new mud. Heavy mud losses 08:00 experienced through coarse sands (approx 700 20:00 Targets Program Time Deg C FL Temp 36 44 *=Excep Properties bbls). Adding PAC-R to maintain API filtrate Depth 165.0 420.0 110.0 784. and BARACOR-129 to maintain Excess Sulfite. Weight 8.9 9.0 ppg LCM Sweeps : 18 ppb FV 6 44 Deg C sec/qt 39 44 35 BARACARB 25 : 49 Deg C cP 19 17 BARACARB 100: 21 ppb ΥP lbs/100 ft2 20 26 BAROFIBRE : 4.5 ppb 20 ppb lbs/100 ft2 17/21 16/21 AQUAGEL Gels API Filt. m1/30 min 8.2 в.0 8.0 Running all solids control equipment. 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 1/0 mud for spotting across Lakes Entrance. RIG ACTIVITY Corr.Solids & by vol 3.2 4.1 Oil/Water % by vol 0.0/95. Continue to pick up 8" drill collars. Drill 0.0/94 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. RIH. Drill ahead Alk. Mud (Pm) 0.30 0.36 to 117 m - Incurring downhole losses. Pump Alk. Filtr. (PE/ME) 0.01/0.05 0.01/0.0 25 bbl hi-vis sweep. Circulate bottoms up. 20500 Chlorides mg/l 21000 Pump 25 bbl hi-vis. Drill ahead to 227 m at Hard. Ca mg/l 600 reduced pump strokes (120 spm). Pump 50 bbl 620 Low Gravity Solids ppb 29.30 37.31 LCM pill (as above) before connection -Excess sulfite 100 100 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 Sz/Scrn HR Make Device AOUAGEL - 1000 KG. TON 5883.80 Shkr #1 Scalper 10 BARACARB 100 - 25 KG. SACK 691.20 48 Shkr #2 Scalper 20 17 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 BAROFIERS - 25 LB. SACK 27 1606.50 Shkr #5 Sweco LM3 150 x 3 17 PAC-R - 25 KG. BAG 19 2796.99 Shkr #6 Sweco LM3 150 x 3 17 caustic soda - 25 KG. PATL 86.42 Crestex dSndr 3 x 10 17 dslt #1 Crestex 17

MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bbl Water Depth 15.00 21.7 DPT.C 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 Oil 860 100 rpm 24 29 Csq. Shoe 9.0 SURVEY 0.50 Brine Water Reserve Total 6 rpm 15 16 TD 9.2 FISHING 0.00 308 Drill Water 1168 759 3 rpm 14 15 Max. Diff. Press 0 LOGGING 0.00 Sea Water Low Grav, vol 1 3.2 283 Pressure Units: psiq RUN CSG 0.00 ppb Whole Mud 29.30 0 Press Drop. DP 953 CORE 0.00 DEVIATION INFO High Grav, vol 1 0.0 Barite 0 Press Drop, BIT 1512 BACK REAM 0.00 ppb 0.00 Chemicals 39 Press Drop, ANN 28 MD 545.0 REAMING 0.00 ASG 2.58 LOSSES bbl Actual Circ. Press 2420 מעד 545.0 TESTING 0.00 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 AVERAGE ROP 0.00 354 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 \$A

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

MUD PROPERTIES

Source

MUD TREATMENTS

Maintained treatment of active system with

RIG NUMBER CONTRACTOR 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

BIT DATA L: DP		, ,	~~ -, -			1				
BIT DATA	in. DRIL	LING STR	RING	m	CAS	ING	T	CIRCU	LATION D	ATA
Size in.	Pipe OD	ID	Len.		1		Pump	Make/Model	Ideco T-1	600
Туре	Pipe OD	ID	Len.		in.	m	Size	6.5 X 12	Eff. 97.0	0 V/st 0.120
No. Jets	Pipe OD	ID	Len.		30 Set	@ 106.C	apm	0	bb1/min	0.0
Jets 32nd inch	Collar OD	ID	Len.		Set	@	Pump	Make/Model	Ideco T-1	600
	Collar OD	ID	Len.		Set	e.	Size	6.5 X 12	Eff. 97.0	0 V/st 0.120
	in.	OPEN HO	LE	m	Set	@	apm	0	bbl/min	0.0
Tot Noz Area	Size 12.	.25 Len.	679.0		Set	е.	Pump	Make/Model		
TFA	Size	Len.			Set	é	Size		Eff.	V/st
	Size	Len.			Set	e	apm		bbl/min	
	Size	Len.			Set	6	Tot.	Vol./min	0 gp	m 0.0 bbl
	Size	Len.			Set	6	BU Ti	me 0	TC Time	0

Program

2

Flowline

Primary

its, Circ

PAC-R to hold API filtrate. Diluted active Time 06:00 13:00 Targets Program FL Temp Deg C 46 46 *≈Excep Properties with seawater/PAC-L to control mud viscosity increase from drilling claystone. 701.0 785.0 110.0 784.9 Depth BARACOR-129 used to maintain excess Weight ppg 9.0 9.2 FV @ 46 Deg C sec/qt 85 70 35 45 sulfites. Building KCl/EZ-MUD/Polymer mud for 8-1/2" hole. Ran depander and depilter 9 49 Deg C cP 15 15 lbs/100 ft2 23 21 non-stop. lbs/100 ft2 17/30 17/29 Gels Reports have been cost modified to reflect m1/30 min API Filt. 8.0 7.8 HTHP 2 121 Deg C ml/30 min 22.8 21.0 updated mud material prices. 32nd in No new shakers screens used to date Cake API/HTHP 1/2 1/2 RIG ACTIVITY Corr.Solids : by vol 3.9 5.4 Oil/Water : by vol 0.0/94.9 0.0/93. Continue to drill ahead to 701 m. Circulate bottoms up. Conduct Hofco survey. Drill Sand & by vol tr tr 5.0 5.5 ahead to 785 m. Circulate bottoms up. pH METER € 20 Deg C Conduct multishot survey, POOH, Some tight 8.2 8.2 Alk. Mud (Pm) 0.40 0.45 hole on first 6 stands (hole took 6 bls). Alk. Filtr. (Pf/Mf) 0.02/0.06 0.02/0.07 POOH to 30" conductor @ 110 m. Conduct top Chlorides mg/l 21000 21000 drive service (hole took 12 bbls). RIH. Hole Hard. Ca mg/l 600 600 good. Circulate hole clean. POOH. Rig up to Low Gravity Solids ppb run Schlumberger logs. Hole drink rate 35.49 49.23 Excess sulfite 120 100 currently 4-6 bbls/hr.

SOLIDS EQUIPMENT MATERIALS USED Used Product Product Cost Used Device Make Sz/Scrn HR AOUAGEL - 1000 KG. TON 2.200 1043.90 Shkr #1 Scalper 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 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

	1445 1441					
		VAGEMENT_	RHEOLOGY AL	ND FRACT	TURE GRADIENT	TIME
MUD VOLU	ЈМЕ ьь1	MUD TYPE	HYDRAULICS	S Water D	epth 21.7	DRLG . 10.75
Hole	Pits	GEL/SEAWATER/POLYMER	600 rpm 53 51	Calc. F	. Grad 0.0	CIRC 2.25
590	523	MUD CONSUMPTION	300 rpm 38 36	Leak Of	f Test 0.0	TRIPS 7.00
Active :	Volume	ADDITIONS bbl	200 rpm 32 31	BCD	ppg	SERV. RIG 0.00
1113		Oil 0	100 rpm 26 25	Cog.	Shoe 9.1	SURVEY 1.25
Reserve	Total	Brine Water 0	6 rpm 16 15	TD	9.3	FISHING 0.00
208	1321	Drill Water 0	3 rpm 13 13	Max. Di	ff. Press 0	LOGGING 0.00
Low Grav, vol	1 1 3.9	Sea Water 385	Pressure Units:	psig		RUN CSG 0.00
ppb	35.49	Whole Mud 0	Press Drop. DP	0		CORE 0.00
High Grav, vo	ol \$ 0.0	Barite 0	Press Drop, BIT	o DEVI	TATION INFO	BACK REAM 0.00
ppb	0.00	Chemicals 9	Press Drop, ANN	о ир	785.0 m	REAMING 0.00
ASG	2.60	LOSSES bb1	Actual Circ. Press	0 TVD	785.0 m	TESTING 0.00
Drill Cutting	gs 0	Dumped 62	AV, DP m/min	0.0 Angle	0.25	OTHER 2.75
Dilution Rate	e 0.00	Lost 179	AV, DC m/min	0.0 Direct	ion 320	AVERAGE ROP 0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS 153	AV, Riser m/min	Horiz.	Displ 0.5 m	
BAROID REPRES	SENTATIVE	OFFICE/HOME	Melbourne TEI	LEPHONE (03)	9621 3311 DAILY C	OST CUMULATIVE COST
Nicholas Dous	st	WAREHOUSE	Welshpool TEI	LEPHONE (03)	56 881 445 ŞA	2969.80 \$A 30524.67

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

Spud Date 17/01/98 WOC RIG NUMBER CONTRACTOR OPERATOR Amity Oil NREPORT FOR Santa Fe Drilling Paramswara NLREPORT FOR REGION Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER VIC P/36 Broadbill Austral Bass Strait BIT DATA DRILLING STRING CASING CIRCULATION DATA in. Ideco T-1600 Size Pipe OD ID Len Pump Make/Model Eff. 97.00 V/st Туре Pipe OD Len. Size 6.5 X 12 ID Set @ apm bbl/min No. Jets Pipe OD Len. 30 106.0 0.0 Jets 32nd inch Collar OD ID Len. 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 in. Set @ mge 0.0 Tot Not Area Size 12.25 Len. 6.0 Set @ Pump Make/Model TFA Size Size Bff. V/st Len. Set @ Size Len. Set @ spm bbl/min Size Tot. Vol./min Len. Set @ 0.0 bbl gpm 0 TC Time Size BU Time Len. Set @ MUD PROPERTIES MUD TREATMENTS Source Pits, Circ Program Basential Mixing 3% KCl/EZ-MUD/Polymer mud. Time 15:30 Targets Program Costs/volume to be included tomorrow. *=Бхсер FL Temp Deg C 46 Properties Depth 785.0 784.9 1654.1 Three shakers changed to coarser 80 mesh Weight ppg 9.2 9.0 9.5 size screens to prevent/reduce initial FV & 46 Deg C sec/qt 44 losses of unsheared mud. Scalpers changed to PV @ 49 Deg C cP 14 10 mesh. No new screens used to date. lbs/100 ft2 ΥP 20 Gels lbs/100 ft2 15/23 Dumping and cleaning pits at report time. ml/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/HTHP 32nd in 1/2 job - to be charged as non-drilling cost. RIG ACTIVITY Corr.Solids & by vol 5.4 Oil/Water & by vol 0.0/93.4 Rig up Schlumberger. Log 12-1/4" hole Sand & by vol -BHC-LDL-CNL-DLL-MSPL-GR-CALI-SP. Rig down tr HBT 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 грт 14 6.00 10.00 KCl Content 11.00 14.00 MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Used Device Make Sz/Scrn HR AQUAGEL - 25 KG. BAG Shkr #1 Scalper 56 659.12 Shkr #2 Scalper 10 Shkr #3 Sweco LM3 150 x : Shkr #4 Sweco LM3 80 x 3 Shkr #5 | Sweco LM3 | 80 x 3 | 5 80 x 3 5 Shkr #6 Sweco LM3 dSndr Crestex 3 x 10 dSlt #1 Crestex 16 x 5

	MUD MAI	NAGEMENT		RHE	OLOGY	AND	FRACT	URE GRAI	DIENT	TIME		
MUD VOLU	JME bb1	MUD TYPE		HY	DRAUL	ICS	Water De	pth	21.7	DRLG		0.00
Hole	Pits	GEL/SEAWATER/POI	YMER	600 rpm	48		Calc. F.	Grad	0.0	CIRC		5.00
190	0	MUD CONSU	MPTION	300 rpm	34		Leak Off	Test	0.0	TRIPS		0.00
Active V	/olume	ADDITIONS	bbl	200 rpm	29		ECD	pp	g	SERV. R	IG	0.00
190		Oil	0	100 rpm	25		Cog. S	hoe	0.0	SURVEY		0.00
Reserve	Total	Brine Water	0	6 rpm	14		TD		0.0	FISHING	i	0.00
116	306	Drill Water	0	3 rpm	12		Max. Dif	f. Press	0	LOGGING	i	6.50
Low Grav, vol	L¥ 5.4	Sea Water	0	Pressure	Units:	psig				RUN CSG	i	9.50
ppb	49.23	Whole Mud	0	Press Dr	op. DP	0				CORE		0.00
High Grav, vo	1 0.0	Barite	0	Press Dr	op, BIT	0	DEVI.	II NOITA	VFO	BACK RI	SAM .	0.00
ppb	0.00	Chemicals	0	Press Dr	op, ANN	0	MD	785	.0 m	REAMING	;	0.00
ASG	2.60	LOSSES	bb1	Actual C	irc. Pre	ອສ 0	TVD	785	.0 m	TESTING	;	0.00
Drill Cutting	js 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	Directi	on.	320	AVERAGE	ROP	0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS	-1015	AV, Rise	r m/min		Horiz.	Displ 0.5	m	}		
BAROID REPRES	BENTATIVE	OFFICE/HOM	IR	Melbourt	ie	TELEPHONE	(03)	9621 3311	DAILY C	OST	CUMUL	ATIVE COST
Nicholas Dous	st	WAREHOUSE		Welshpoo	1	TELEPHONE	(03)	56 881 445	SA	659.13	i	31183.79

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

REPORT NUMBER: 8

Date Depth
23/01/98 785.0 m [MD]

Spud Date Present Activity

17/01/98 RUN WEAR BUSHING OPERATOR CONTRACTOR RIG NUMBER Amity Oil NL Santa Fe Drilling Paramswara REPORT FOR REGION REPORT FOR Wally Westman/Chris Roots WELL NAME AND NUMBER Mike Walker/ Blain Wilkie Victoria FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY VIC P/36 Austral Broadbill 1 Bass Strait DRILLING STRING CASING CIRCULATION DATA BIT DATA in. Len. Pipe OD ΙĎ Pump Make/Model Ideco T-1600 Size Eff. 97.00 V/st Pipe OC ID Len. in. Туре bbl/min No. Jets 0 Pipe OD ΙD Len. 30 Set @ 106.Q 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 Size 6.5 X 12 ID Collar OD Len. Set @ OPEN HOLE bbl/min in m Set @ abm 0 0.0 Size Pump Make/Model Tot Not Area Len. Set & V/st Size Eff. Size TFA Len. Set 👨 Size Set @ bbl/min Len. spm Tot. Vol./min bbl Size Set @ 0 0.0 Len. gþm Size 0 TC Time Len. Set @ BU Time MUD TREATMENTS MUD PROPERTIES Primary Built total of 1418 bbls of KCl/EZ-MUD/Poly Source Pits, Circ Program Essential 20:07 Targets Program for 8-1/2" section. Mud built contains only FL Temp Deg C *=Excep Properties 0.75 ppb EZ-MUD to reduce mud losses over shakers upon dispacement. Depth 785.0 784.9 1654.1 Weight 8.9 9.0 ppg FV 4 20 Deg C sec/qt 55 Mud check is on reserve mud. Mud mixed with PV 3 49 Deg C cP 10 ~ 30 KCl content of 4 % to allow for depletion lbs/100 ft2 15 through Lakes Entrance Formation 1bs/100 ft2 4/8 Gels 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 1.7 Corr.Solids & by vol 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 BOP's & nipple up. Pressure test BOP's. Run 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 14 ppb 11.00 14.00 KCl * by vol MATERIALS USED SOLIDS EQUIPMENT Device Make Shkr #1 Scalper Product Product Used Used Sz/Scrn HR ALDACIDE G - 25 L. CAN 3 611.88 10 BARAZAN-D PLUS - 25 KG. BAG 23 B279.54 10

Shkr #2 Scalper DEXTRID LT - 25 KG. BAG 107 5631.49 Shkr #3 | Sweco LM3 | 150 x 3 EZ-MUD DP - SO LB. BAG Shkr #4 Sweco Lii3 80 x 3 24 2754.96 PAC-L - 25 F.G. BAG 22 3238.62 Shkr #5 Sweco LM3 80 x 3 potassium chloride - 1000 KG. Shkr #6 Sweco Lii3 9 3892.89 80 x 3 soda ash - 25 KG. BAG 74.25 dSndr Crestex 3 x 10 dSlt #1 Crestex

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		NAGEMENT		RHE	COLOGY	AND	FRACTURE G	RADIENT	TIME	
MUD VOLU	ME bbl	MUD TYPE		H.	DRAUL	ICS	Water Depth	21.7	DRLG	0.00
Hole	Pits	KCT/EZ MAD/borawe	R	600 rpm	35		Calc. F. Grad	0.0	CIRC	0.00
190	0	MUD CONSUM	PTION	300 rpm	25		Leak Off Test	0.0	TRIPS	0.00
Active V	/olume	ADDITIONS	bbl	200 rpm	20		ECD	ppg	SERV. RI	0.00
190		Oil	0	100 rpm	14		Cog. Shoe	0.0	SURVEY	0.00
Reserve	Total	Brine Water	0	6 rpm	. 6		TD	0.0	FISHING	0.00
1534	1724	Drill Water	1371	3 грп	. 3		Max. Diff. Press	0	LOGGING	0.00
Low Grav, vol	1.7	Sea Water	0	Pressur	e Units:	psig			RUN CSG	0.00
ppp	15.20	Whole Mud	0	Press D	rop. DP	0			CORE	0.00
High Grav, vo	1 0.0	Barite	0	Press D	rop, BIT	0	DEVIATION	INFO	BACK REA	0.00 M
ppp	0.00	Chemicals	47	Press D	rop, Alli	0	MD	785.0 m.	REAMING	0.00
ASG	2.57	LOSSES	bbl	Actual	Circ. Pre	.s 0	TVD	785.0 m.	TESTING	0.00
Drill Cutting	;s 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 I	ROP 0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS	1418	AV, Ris	er m/min		Horiz. Displ	0.5 m	1	
BAROID REPRES	ENTATIVE	OFFICE/HOME		Melbour	ne	TELEPHONE	(03) 9621 331	1 DAILY CO	OST	CUMULATIVE COST
Nicholas Dous	ıt	WAREHOUSE		Welshpo	ol	TELEPHONE	(03) 56 881 4	45 \$A	24483.63	\$A 55667.42

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

REPORT NUMBER: 9

Date Depth
24/01/98 1070.0m [MD]

Spud Date Present Activity

Crestex

3 x 10 5

dSndr

17/01/98 DRILLING CONTRACTOR RIG NUMBER OPERATOR Amity Oil Santa Fe Drilling Paramswara NLREPORT FOR REPORT FOR REGION Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY Bass Strait Broadbill 1 VIC P/36 Austral DRILLING STRING CASING CIRCULATION DATA BIT DATA in. S12e 8.5 Pipe OD ID 4.276 Len. 811.0 Pump Make/Model Ideco T-1600 Eff. 97.00 V/st Type ATMGTI8D Pipe CD ID 3.000 Len. 112.5 in. Size 6.5 X 12 No. Jets Pipe CD ID Len. Set @ bbl/min abw ID 9 5/8 Ideco T-1600 Jets 32nd inch Collar OD Len. Set @ Pump Make/Model 146.5 97.00 V/St 16 16 Collar OD ID Len Set @ Size 6.5 X 12 Eff. 0.120 OPEN HOLE Set 6 bbl/min apm 6.0 Size Tot Noz Area 8.5 Len. 291.0 Set @ Pump Make/Model Si≡e TFA Len. Size Size bbl/min Len. Set & spm 502 gpm Size Len. Set @ Tot. Vol./min 12.0 Len. Size Set @ BU Time 13 TC Time MUD PROPERTIES MUD TREATMENTS Primary Source Pito, Circ Flowline Essential Mud dumped is gel mud in hole & pit. Raised Program Time 22:30 Targets Program EZ-MUD concentration to programmed value Deg C FL Temp 40 40 *=Excep Properties after displacing. Adding BARACOR-129 to Depth 865.0 1032.0 784.9 1654.1 maintain excess sulphites. Weighed up mud to Weight 8.9 9.1 ppg @ 865 m for extra hole stabilty 9.1 9.0 ppg FV 19 40 Deg C sec/qt 44 40 while drilling coal seams. Lost approx 70 PV 5 49 Deg C cP 13 bbls downhole while drilling coal seams. lbs/100 ft2 18 22 Treated active with additional BARAZAN Gels lbs/100 ft2 4/6 4/7 D-Plus to combat thinning of the mud from API Filt. ml/30 min 4.7 4.2 coal. Running desander/desilter.Changed 6.0 HTHP @ 121 Deg C ml/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 8-1/2" BHA. Pick up 5 " drill pipe. RIH. Tag мвт 0.2 0.2 cement @ 745 m. Drill out cement & float to pH METER @ 20 Deg C 9.0 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 mg/l 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 19.20 91.00 6 rpm 6 6.00 10.00 KCl Content 12 11 ppb 11.00 14.00 Excess sulfite mg/1 100 100 MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Used Device Make Sz/Scrn HR BARACOR 129 - 25 KG. DRUM 487.33 Shkr #1 Scalper 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-NUD 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. 2 88.34 Shkr #6 | Sweco LM3 80 x 3 10

					dslt #1	Crestex	16 x 5" 6
		JAGEMENT	RHEOLOGY AND	FRACTURE GRAD	DIENT	TIME	
MUD VOL	UME bb1	MUD TYPE	_ HYDRAULICS	Water Depth	21.7	DRLG	9.25
Hole	Pits	KCL/BZ MUD/POLYMER	600 rpm 44 50	Calc. F. Grad	0.0	CIRC	1.50
215	457	MUD CONSUMPTION	300 rpm 31 36	Leak Off Test	13.0	TRIPS	4.75
Active '	Volume	ADDITIONS bbl	200 rpm 25 30	ECD ppg	, 1	SERV. PIG	
582		Oil	100 rpm 18 20	Cag. 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 4 4	Max. Diff. Press	0	LOGGING	0.00
Low Grav, vo	1 2.9	Sea Water	Pressure Units: psi	, (- 1	RUN CSG	0.00
ppb	26.48	Whole Mud	Press Drop. DP 52	ı <u> _</u>		CORE	0.00
High Grav, v	0.0	Barite 19	Press Drop, BIT 69	DEVIATION IN	FO	BACK REAM	1 0.00
bbp	0.00	Chemicals	Press Drop, AM 110	MD 1070	0.0 m	REAMING	0.00
Asg	2.61	LOSSES bbl	Actual Circ. Press 1200	TVD 1070).0 m	TESTING	2.00
Drill Cutting	gs 0	Dumped 306	AV, DP m/min 74	.5 Angle	0.25	OTHER	6.50
Dilution Rate	e 0.00	Lost 223	AV, DC m/min 125	1 Direction	320	AVERAGE R	
Slds Control	Eff 0.00	VOL GAIN/LOSS -511	AV, Riser m/min	Horiz. Displ 0.5	m		
BAROID REPRES	SENTATIVE	OFFICE/HOME	Melbourne TELEPHO		DAILY CO	ST C	UMULATIVE COST
Nicholas Doug	st	WAREHOUSE	Welshpool TELEPHO		54		52 62927 65

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

REPORT NUMBER: Depth Date 25/01/98 1335.0m Spud Date Present Activity DRILLING

17/01/98 RIG NUMBER CONTRACTOR **OPERATOR** Santa Fe Drilling Paramswara Amity Oil NL REGION REPORT FOR REPORT FOR Mike Walker/ Blain Wilkie Victoria Wally Westman/Chris Roots COUNTRY WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA Bass Strait Austral Broadbill VIC P/36 CIRCULATION DATA BIT DATA DRILLING STRING CASING in. Size 8.5 Pipe OD ID 4.276 Len. 1076.0 Fump Make/Model Ideco T-1600 ID 3.000 Len. 112.5 in. Size 6.5 X 12 Eff. 97.00 V/st 0.120 Type ATMGTI8D Pipe OD bbl/min ID Len. 30 Set w 106.0 spm No. Jets Pipe OD Jets 32nd inch Ideco T-1600 Collar OD ID 2.75 Len. 146.5 9 5/8 Set 2 779.0 Pump Make/Model Size 6.5 X 12 Bff. 97.00 V/st 0.120 16 Collar OD Len. Set @ 16 OPEN HOLE bbl/min in Set @ spm 50 Size 556.0 Set 2 Pump Make/Model Tot Noz Area Len. Size V/st Size Set 🔄 TFA Len. Size Len. Set 9 abu bbl/min 502 Size Len Set 🕫 Tot. Vol./min gpm TC Time Size Len. Set 🔅 **BU** Time 68 MUD PROPERTIES Primary MUD TREATMENTS 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 Properties (squeezed into formation after coal pack FL Temp Deg C 42 42 784.9 1654.1 off) while reaming last stand to bottom Depth 1323.0 1230.0 during wiper trip. Raised mud weight to 9.3 9.3 9.3 9.0 9. Weight ppg ppg to help stabilise coals. Treated active FV & 42 Deg C sec/qt 42 42 with 5 ppb each of BARACARB 25 & BARACARB PV \$ 49 Deg C cP 14 15 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. m1/30 min 3.6 3.8 6.0 regular additions. Maintaining excess 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 32nd in 1/2 1/2 RIG ACTIVITY Corr.Solids % by vol 4.3 4.1 Oil/Water % by vol Drill from 1070 - 1095 m. Circulate bottoms 0.0/94. 0.0/94.0 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 9 20 Deg C 8.5 8.5 8.5 9.2 Service TDS. RIH. Lose circulation 1 std off bottom. Work pipe. Begin to increase mud Alk. Mud (Pm) 0.20 0.10 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 6 6 10.00 KCl Content 11 12 11.00 14.00 mg/1 Excess sulfite 100 100 MATERIALS USED SOLIDS EQUIPMENT Product Product Device Make Sz/Scrn HR Used Used Cost Shkr #1 Scalper BARACARB 100 - 25 KG. SACK 1382.40 96 10 20 BAPACARB 25 - 25 KG. BAG 1108.80 Shkr #2 Scalper 96 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 BZ-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. Crestex 176.68 dSndr 3 x 10" dSlt #1 Crestex 16 x 5"

	MUD MAN	VAGEMENT	RHEOLOGY AND	FRACTURE GRADIENT	TTIME
MUD VOLU	JME ьы	MUD TYPE	HYDRAULICS	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 \	olume	ADDITIONS bbl	200 rpm 30 29	ECD bbd	SERV. RIG 0.00
812		Oil 0	100 rpm 21 20	Csg. Shoe 10.0	SURVEY 1.00
Reserve	Total	Brine Water 0	erpm e e	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	l 1 2.9	Sea Water 0	Pressure Units: psig	1	RUN CSG 0.00
ppb	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 INFO	BACK REAM 0.00
ььр	22.05	Chemicals 12	Press Drop, ANN 173	MD 1335.0 m	REAMING 0.00
ASG	3.25	LOSSES bbl	Actual Circ. Press 1350	TVD 1335.0 m	TESTING 0.00
Drill Cutting	js 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	ENTATIVE	OFFICE/HOME	Melbourne TELEPHONE	(03) 9621 3311 DAILY	COST CUMULATIVE COST
Nicholas Dous	st	WAREHOUSE	Welshpool TELEPHONE	(03) 56 881 445 \$A	7425.26 \$A 70252.91

Welshpool NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

Broadbill 1

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

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

CIRCULATION DATA DRILLING STRING CASING BIT DATA in. Pipe OD Len Pump Make/Model Ideco T-1600 Size Eff. 97.00 V/st Size 6.5 X 12 Pipe OD ID in. Type Set @ 106.0 bbl/min No. Jets spm Pipe OD ID Len. Ideco T-1600 Collar OD ID Len. 9 5/8 Set @ 779.0 Pump Make/Model Size 6.5 X 12 Eff. 97.00 V/st 0.120 Set @ Collar OD Len. OPEN HOLE bbl/min in. Set @ spm Set @ Pump Make/Model Size Len 566.0 V/st Size Size Set @ Len. bbl/min Size Set @ spm Len

Jets 32nd inch Tot Noz Area TFA Vol./min 0.0 bbl Set @ Tot. 0 Size Len 0 TC Time Size Len. Set @ **BU Time** 0 MUD TREATMENTS MUD PROPERTIES Primary

Essential its. Circ Source Program 14:00 Targets Program Time Properties Deg_C 42 FL Temp 784.9 1654.1 Depth 1345.0 9.0 Weight 9.4 ppg FV @ 42 Deg C 44 sec/qt PV 9 49 Deg C cP 16 30 lbs/100 ft2 22 ΥP Gels 1bs/100 ft2 6/9 3.6 6.0 API Filt. m1/30 min HTHP @ 121 Deg C ml/30 min 10.5 Cake API/HTHP 1/2 32nd in Corr.Solids & by vol 4.3 Oil/Water % by vol 0.0/94.4 Sand & by vol 0.6 MBT pH METER @ 8.5 20 Deg C 8.5 9.2 Alk. Mud (Pm) 0.15 Alk. Filtr. (Pf/Mf) 0.01/0.16 22000 Chlorides mg/l Hard. Ca mg/l 300 Low Gravity Solids ppb 19.29 91.0 6.00 7 6 rpm 10.00 KCl Content 11 11.00 14.00

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

Built 200 bbls of new premix to maintain mud

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.

Excess sulfite mg/1 100 MATERIALS USED SOLIDS EQUIPMENT Product Sz/Scrn HR Used Cost Product Used Device Make Shkr #1 Scalper BARACOR 129 - 25 KG. DRUM 3 179.94 10 13 BARAZAN-D PLUS - 25 KG. BAG 6 2159.88 Shkr #2 | Scalper 10 13 Shkr #3 Sweco LM3 DEXTRID LT - 25 KG. BAG 15 781.05 150 x 3 13 EZ-MUD DP - 50 LB. BAG Shkr #4 | Sweco LM3 9 1026.36 150 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. 419.21 dSndr Crestex 3 x 10" potassium hydroxide - 20 KG. 132.51 dSlt #1 Crestex 16 x 5"

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

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

0.120

bbl

Shkr #3 | Sweco LM3

Shkr #4 | Sweco LM3

Shkr #5 Sweco LM3 Shkr #6 | Sweco LM3

3.25

45

OTHER

AVERAGE ROP

150 x 2 4 4

6.00

0.00

150 x 3 150 <u>x</u> 3

80 x 3 4

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 6 rpm 7 drillpipe. Prepare to P & A. 6.00 10.00 KCl Content ppb 11 11.00 14.00 Excess sulfite mg/1 MATERIALS USED SOLIDS EQUIPMENT Used Product Used Cost Device Make Sz/Scm HR BARAZAN-D PLUS - 25 KG. BAG 719.96 Shkr #1 Scalper 2 10 4 0.600 193.33 Shkr #2 | Scalper 10

Crestex dSndr 3 x 10" dSlt #1 Crestex 16 x 5 MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bb1 Water Depth 21.7 DRIG 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 200 rpm 32 bbl ECD ppg SERV. RIG 0.00 826 Oil 100 rpm 24 Csg. Shoe 0.0 SURVEY 0 00 Brine Water 7 6 rpm TD 0.0 FISHING 0.00 Drill Water 3 rpm LOGGING Max. Diff. Press 7.25 Low Grav, vol % 2.8 Sea Water Pressure Units: psig RUN CSG 0.00 ppb 25.30 Whole Mud Press Drop. DP CORE 0.00 High Grav, vol % DEVIATION INFO Barite Press Drop. BIT 2 0 BACK REAM 0.00 ppb 33.81 Chemicals Press Drop, ANN 0 MD 1345.0 m REAMING 2.00 3.41 LOSSES Actual Circ. Press TVD Ω 1345.0 m TESTING 0.00 Drill Cuttings Dumped AV, DP

Slds Control Eff 0.00 VOL GAIN/LOSS -55 AV, Riser m/min Horiz. Displ 0.0 BAROID REPRESENTATIVE OFFICE/HOME Melbourne TELEPHONE (03) 9621 3311 DAILY COST CUMULATIVE COST Micholas Doust WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

0.0

0.0

Angle

Direction

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

38

19

AV, DC

Lost

Dilution Rate

REPORT NUMBER: Date Depth 28/01/98 1345.0m Spud Date Present Activity PLUG & ABANDON RIG NUMBER 17/01/98 Paramswara REGION Mike Walker/ Blain Wilkie Victoria GEOGRAPHIC AREA COUNTRY

Austral

Bass Strait

BIOGGDIII I				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					Babb berare Maser					LUI		
BIT	r data	in.	DRILLI	NG STR	RING	m		ASIN	G	CIRCULATION DATA			ATA			
Size	in.	Pipe Of)	ID	Len.					Pump	Make/	Model	Ideco	T-160	0	
Туре		Pipe OF)	ID	Len.		in.		m.	Size	6.5	X 12	Eff.	97.00	V/st	0.120
No. Jets	3	Pipe OD)	ID	Len.	3	0	Set @	106.0	spm		0	bbl/min		0.0	
Jets 32nd inch Co		Collar	OD	ID	Len.	9	5/8	Set @	779.0	Pump	Make/	Model	Ideco	T-160	0	_
		Collar	OD	ID	Len.			Set 🙉		Size	6.5	X 12	Eff.	97.00	V/st	0.120
			in. OI	PEN HO	LE	m		Set @		apm		0	bbl/min		0.0	
Tot Noz	Area	Size	8.5	Len.	566.0			Set @		Pump	Make/	Model				
TFA		Size		Len.				Set @		Size			Eff.		V/st	
		Size		Len.				Set @		apm			bbl/min			_
		Size		Len.				Set @		Tot.	Vol./	min	0	gpm	0.0	bbl
		Size		Len.				Set A		BU Ti	me	0	TC Time		0	
MUD I	PROPERTI	ES	Primary	2	3						M	UD T	REATM	ENT	S	
Source			Pits, Unc	r		Progra	m T	Essent:	ial	All c	hemic	als use	d for P	& Α.		
Time			22:36			Target	5	Progra	am							
FL Temp	De	g C	0			*=Exce	р	Propert	ties	Mud e	ngine	er leav	es rig.			

FL Temp	Deg C	0	 	*=	Exce	p	Prope	rties	Mud engineer leaves rig.
Depth	m	1345.0		P	2	3	784.9	1654.1	
Weight	ppg	9.5					9.0	9.5	
FV @ 16 Deg C	sec/qt	28							٠
PV @ 49 Deg C	cР	1					<	30	
YP	lbs/100 ft2	0							
Gels	lbs/100 ft2	0/0							
API Filt.	ml/30 min	0.0					<	6.0	
HTHP @ 121 Deg C	m1/30 min	0.0					٧	15.0	
Cake API/HTHP	32nd in	2/0							
Corr.Solids & by	ol	0.0							RIG ACTIVITY
Oil/Water & by vol	L	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/M	:) -	0.00/0.00							
Chlorides mg/l		0							
Hard. Ca mg/l		0							
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 Used Cost Product Used Device Make Sz/Scrn HR ALDACIDE G - 25 L. CAN 203.96 Shkr #1 Scalper 10 BARACOR 129 - 25 KG. DRUM 359.88 Shkr #2 | Scalper 10 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 dSndr Crestex 3 x 10* dSlt #1 Crestex 16 x 5'

	MUD MAN	IAGEME	INT		PH	EOLOGY	AND	FRACT	אמם שמווי	DIENT	TIME		
MUD VOLU					→								
		MOD	TYPE		<u> </u>	<u>YDRAUI</u>	1TC2	Water De	epth	21.7	DRLG		0.00
Hole	Pits	KCL/EZ	MUD/POLYMER		600 rp	m		Calc. F	. Grad	0.0	CIRC		0.00
317	509		MUD CONSUMPT	TION	300 rp	m		Leak Of	f Test	13.0	TRIPS		0.00
Active V	olume	ADDIT	CIONS H	bl	200 rp	m		ECD	pr	og :	SERV. R	IG	0.00
826		Oil		0	100 rp	m		Csg.	Shoe	0.0	SURVEY		0.00
Reserve	Total	Bri	ne Water	0	6 rp	m _		TD		0.0	FISHING	;	0.00
	826	Dri	ll Water	0	3 rp	m		Max. Di	ff. Press	0	LOGGING	;	0.00
Low Grav, vol	. \$ 0.0	Sea	Water	0	Pressu	re Units:	psig	İ			RUN CSG	;	0.00
ppb	0.00	Who	le Mud	0	Press	Drop. DP	0	<u></u>			CORE		0.00
High Grav, vo	0.0	Bar	rite	0	Press	Drop, BIT	0	DEVI	ATION I	NFO	BACK RE	MAE	0.00
ррь	0.00	Che	micals	0	Press	Drop, ANN	0	MD	134	5.0 m	REAMING		0.00
ASG	2.60	LOSSE	is i	bl	Actual	Circ. Pr	ess 0	TVD	134	5.0 m	TESTING		0.00
Drill Cutting	s 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	Direct	ion	45	AVERAGE	ROP	0.00
Slds Control	Eff 0.00	VOL G	AIN/LOSS	0	AV, Ri	ser m/min		Horiz.	Displ 0.0	n n			
BAROID REPRES	ENTATIVE		OFFICE/HOME		Melbou	rne	TELEPHONE	(03)	9611 3311	DAILY CO	OST	CUMUI	LATIVE COST
Nicholas Dous	t		WAREHOUSE		Welshp	00l	TELEPHONE	(03)	56 881 445	\$A	563.84	SA	78140.43

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

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

Contractor:

Paramswara

Country: Geo Area: AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



Interval Summary

Interval # 03

Bit Size

ze 8.5 in.

Mud type(s)

Top of interval 785.0 meters

Bottom of interval

1,345.0 meters

KCI/Polymer

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

Paramswara

Country: Geo Area: AUSTRALIA BASS STRAIT

Field:

VIC P/36 Victoria

Programmed mud cost

Variance



Interval Material Consumption

Interval #01 in. Hole Section	Top of Interval Bottom of Interval			
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	val mud cost	\$A 4,306.30
		Inter	val miscellaneous co	st \$A 291.00
		Tota	l interval cost	\$A 4,597.30

\$A 3,851.16

\$A 455.14

Amity Oil NL

Well Name: Contractor: Broadbill 1 Santa Fe Drilling

Interval #02 12.25 in. Hole Section

Country: Geo Area: AUSTRALIA

Field:

BASS STRAIT VIC P/36

Top of Interval

Region:

Victoria



meters

110

Interval Material Consumption

interval #02 12.25 III. Hole Sectio		Bottom of Inte	
Material	Unit size	Quantity	Total cost (\$A)
AQUAGEL	25 KG. B	AG 56	659.12
AQUAGEL	1000 KG. TO	วท 31.700	15,041.65
BARACARB 100	25 KG. S	ACK 48	691.20
BARACARB 25	25 KG. B	AG 48	554.40
BARACOR 129	25 KG. C	AN 21	1,282.05
barite	1000 KG. TO	ON 2.400	773.33
BAROFIBRE	25 LB. B	AG 27	1,606.50
caustic soda	25 KG. P	AIL 2	86.42
PAC-L	25 KG. B	AG 17	2,502.57
PAC-R	25 KG. B	AG 25	3,680.25
Miscellaneous Items			
Cacl2		1	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

ALDACIDE G BARACARB 100 BARACARB 25 BARACARB 25 BARACOR 129 BARAZAN-D PLUS BARAZAN-D PLUS BARACARB 25 BEXTRID LT EZ-MUD DP PAC-L POtassium chloride potassium hydroxide soda ash Miscellaneous Items 25 L. CAN 4 815.84 96 1,382.40 1,566.97 826. BAG 40 14,399.20 7,056.62 121.900 7,056.62 123 6,464.61 124 3,532.29 100 KG. BAG 10 4,312.10 397.53 80da ash 815.84 815.84 96 1,382.40 1,382.4	Interval #03 8.5 in. Hole Section			Top of Interval Bottom of Interval	nl 785 meters nl 1,345 meters
BARACARB 100 BARACARB 25 BARACARB 25 BARACOR 129 BARAZAN-D PLUS BA	Material	Unit size		Quantity	Total cost (\$A)
BARACARB 25 BARACOR 129 BARACOR 129 BARAZAN-D PLUS	ALDACIDE G	25 L.	CAN	4	815.84
BARACOR 129 BARAZAN-D PLUS BARAZAN PLUS BARAZAN PLUS BARAZAN PLUS BARAZAN PLUS BARAZAN PLUS BARAZAN PLUS BARAZAN PLUS BARAZAN	BARACARB 100	25 KG.	SACK	96	1,382.40
BARAZAN-D PLUS Dearite DEXTRID LT DEXTRID LT DEZ-MUD DP PAC-L Detassium chloride Detassium hydroxide Soda ash Detassium chloride Detassium hydroxide Detassium hydroxi	BARACARB 25	25 KG.	BAG	96	1,108.80
Descrite	BARACOR 129	25 KG.	CAN	26	1,566.97
DEXTRID LT EZ-MUD DP PAC-L potassium chloride potassium hydroxide soda ash Cacl2 Interval mud cost \$A 46,985.75 Programmed mud cost \$A 37,605.01	BARAZAN-D PLUS	25 KG.	BAG	40	14,399.20
EZ-MUD DP PAC-L PAC-L 25 KG. BAG 24 3,532.29 potassium chloride potassium hydroxide po	barite	1000 KG.	TON	21.900	7,056.62
PAC-L potassium chloride potassium hydroxide p	DEXTRID LT	25 KG.	BAG	123	6,464.61
1000 KG BAG 10 4,312.10	EZ-MUD DP	50 LB.	BAG	51	5,846.04
20 KG. PAIL 9 397.53 197.25 197.2	PAC-L	25 KG.	BAG	24	3,532.29
Soda ash 25 KG. BAG 5 74.25 Miscellaneous Items 29.10 Interval mud cost	potassium chloride	1000 KG.	BAG	10	4,312.10
Miscellaneous Items 29.10 29.10	potassium hydroxide	20 KG.	PAIL	9	397.53
Interval mud cost \$A 46,956.65 Interval miscellaneous cost \$A 29.10 Total interval cost \$A 46,985.75 Programmed mud cost \$A 37,605.01	soda ash	25 KG.	BAG	5	74.25
Interval mud cost \$A 46,956.65 Interval miscellaneous cost \$A 29.10 Total interval cost \$A 46,985.75 Programmed mud cost \$A 37,605.01	Miscellaneous Items				
Interval miscellaneous cost \$A 29.10 Total interval cost \$A 46,985.75 Programmed mud cost \$A 37,605.01	Cacl2				29.10
Total interval cost \$A 46,985.75 Programmed mud cost \$A 37,605.01					
Programmed mud cost \$A 37,605.01			Inter	val miscellaneous co	st \$A 29.10
			Tota	l interval cost	\$A 46,985.75
V ariance \$A 9,351.64			Prog	rammed mud cost	\$A 37,605.01
			Varia	ance	\$A 9,351.64

Amity Oil NL

Well Name: E

Broadbill 1

Contractor:

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

Field:

VIC P/36

egion: Victoria



HOLE S	IZE:in.											M	UD TYPI	E:No Mu	d			
DATE	INITIAL VOLUME bbi	MUD RECEIVED bbl	OIL ADDED bbl	WATER ADDED bbl	BARITE ADDED ьы	CHEMICALS ADDED bbl·	DAILY TOTAL bbi	CUMLATIVE TOTAL bbi	MUD LOST SURFACE bbl	MUD LOST DOWNHOLE bbl	TOTAL DAILY LOSSES bbl	CUMLATIVE LOSSES	MUD RETURNED ьы	FINAL VOLUME bbl	VOLUME	ACTIVE PITS bbl	RESERVE PITS bbl	1
16/01/98		0	0	0	o	0 0		0	0 0	0				0	0	o	0	0

S-33

Company:

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:in.												M	JD TYPI	E:Gel/Se	awater			
DATE	INITIAL VOLUME bbi	MUD RECEIVED bbl	OIL ADDED bbl	WATER ADDED bbi	BARITE ADDED bbl	CHEMICA ADDED Bbi	LS DAILY TOTAL bbi	CUMLA TOTAL	is		MUD LOST DOWNHOLE			MUD RETURNED ьы	FINAL VOLUME bbl	HOLE VOLUME bbi	ACTIVE PITS bbl	RESERVE PITS bbi	
17/01/98		o	0	0	879	0	21	900	900	662		66	2 602		0 23	18 23	8	ol	0

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field:

VIC P/36

Region: Victoria



١	HOLE SI	IZE:in.											MU	JD TYPE	:Seawat	er			_
	DATE	INITIAL VOLUME bbi	MUD RECEIVED bbi	OIL ADDED bbl	WATER ADDED bbl	BARITE ADDED bbi	CHEMICALS	DAILY TOTAL	CUMLATIVE TOTAL	MUD LOST SURFACE	MUD LOST DOWNHOLE	TOTAL DAILY LOSSES bbi		MUD RETURNED bbi	FINAL VOLUME bbi		ACTIVE PITS bbi	RESERVE PITS bbl	-
į	18/01/98	23	в	0	٥	o	0 0		0	0 0			0	0	281	281	c	ه اه	<u>-</u>

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:12.25	ō in.											M	JD TYPE	:Gel/Poly	mer		
DATE	INITIAL I VOLUME	MUD RECEIVED bbl	OIL ADDED bbl	ADE		BARITE ADDED bbi	CHEMICALS ADDED bbl	DAILY TOTAL bы	CUMLATIVE	MUD LOST SURFACE	MUD LOST DOWNHOLE		CUMLATIVE LOSSES bbi	MUD RETURNED BBI	FINAL VOLUME bbi	HOLE VOLUME		RESERVE PITS bb
19/01/98	281			0	1,390	(40	1,430	1,430	340	0	340	340	0	1,371	281	572	518
20/01/98	1,371		0	0	1,042	(39	1,081	2,511	684	700	1,284	1,624	0	1,168	441	419	308
21/01/98	1,168		0	٥١	385		9	394	2,905	217	24	241	1,865	0	1,321	590	523	208
22/01/98	1,321		0	0	0	(0	0	2,906	1,015	0	1,015	2,880	0	306	190	0	116

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Rig:

Santa Fe Drilling

Paramswara

Country: Geo Area:

AUSTRALIA

BASS STRAIT

Field:

VIC P/36

Victoria



HOLE S	IZE:8.5 ir	٦.											MU	JD TYPE	:KCI/Pol	ymer		
DATE	NITIAL VOLUME bb	MUD RECEIVED	OIL ADDED bbl	WATER ADDED bbl	BARITE ADDED bbi	ADDE		DAILY TOTAL bbi	CUMLATIVE	MUD LOST SURFACE bbl	MUD LOST DOWNHOLE	TOTAL DAILY		MUD RETURNED , bbi	FINAL VOLUME bbl	HOLE VOLUME bbi		RESERVE PITS bbi
23/01/98	300		0	0 1,3	71	0	47	1,418	1,418	0	(· .	0		1,724	190	0	1,634
24/01/98	1,724		٥	o	o	16	3	18	1,436	450	70	529	529		1,213	215	467	531
25/01/98	1,213	1	٥	0	o	11	12	23	1,459	273	40	313	842		923	270	542	111
26/01/98	923	1	٥	0 1	94	7	O	207	1,000	140	100	240	1,091		881	317	448	118
27/01/98	881		0	0	0	2	0	2	1,666	67	(67	1,148	(826	317	509	. 0
28/01/98	826	3	0	0	0	0	0		1,668	0	(1,148		820	317	500	0

Company: Well Name: Amity Oil NL Broadbill 1

Santa Fe Drilling Contractor:

Paramswara

Country: Geo Area: Field:

Region:

AUSTRALIA BASS STRAIT 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.
			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.
Ì	19/01/98	110	PICK UP 12-1/4" BHA
1			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.

Amity Oil NL Broadbill 1 Well Name: Contractor:

Paramswara

Santa Fe Drilling

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



Operations Log Dailv

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

21/01/98

R/U TO LOG / LOG 785

> 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). i 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.

Company: Well Name: Amity Oil NL Broadbill 1

Contractor:

Paramswara

Santa Fe Drilling

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

Field: Region: VIC P/36 Victoria



Operations Log

OPERATION DATE meters WOC 785 22/01/98 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 1 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. ì 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 1 775 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

NL

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

Field: VIC P/36 Region: 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.

Company: Well Name: Amity Oil NL Broadbill 1

Contractor: Santa Fe Drilling

Paramswara

Country: Geo Area: Field:

Region:

AUSTRALIA BASS STRAIT

VIC P/36 Victoria



Daily 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

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field:

VIC P/36

Region: Victoria



Bit and Hydraulic Record

DATE IN	BIT NO.	BIT SIZE in.	BIT MAKE	BIT TYPE	DEPTH OUT meters	DRILLED meters	HOURS		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 1	36.00	VAREL	L3AB	3 X 22	110	58	1	1		٥	924	0/0		9	1-1-NO-A-0	Seawater/AQUAGEL aweeps. Mart
20/01/97	2	17.50	HUGHES	R1	3 X 20						٥	924	0/0		9	1-1-NO-A-0	Coment
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/AQLIAGEL/Polymer, Miocene i Sand, sittsione, 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, Santstone, 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

[2.75			Lacron																								
DATE	DEPTH	F/L TEMP	DENSITY	VIS) —		Y @ 12		PH	FILTRATIO				FILTRATE					SAND	RETORT A				MBT	RHEOMETI DIAL READ	:R INGS	
]]]		İ		PV	_ [2		GELS	.]	1	HTHP	1	Temp	Pm	Pf	Mf	CI	Total Hardness	1	Corr Solids	i	l	Water	,			
	meters	Deg C	PPg	sec/qt	cP		lbs	s/100 ft2	<u> </u>	m1/30 ml	ml/30 min	32nd in	Deg C	mi	mi	ml	mg/L	mg/L	% by vol	% 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		<u>, , , , , , , , , , , , , , , , , , , </u>	<u> </u>		<u> </u>	2/0	121	<u> </u>	<u> </u>							<u> </u>	<u> </u>		,	1 ,	,
17/01/98	110		0.0			1.0		,	1			2/0	121		1			1							,	١,	<u> </u>
18/01/98	110		0.0			1.0		,				2/0	121	1							1		1		,	,	,
19/01/98	110		8.9	38		7.0	8.0	3.0/ 4.0	1	12.0	1	1/0	121							1		1		1	22 / 15	11 / 7	7 3 / 2
20/01/98	645	36	8.9	39	1	9.0	20.0	17.0/ 21.0	8.50	8.2	22.00	1/0	121	0.30	0.01	0.0	20,50	0.000	0.6	3.22	3.22		95.60	4.00	58 / 39	31 / 24	4 15 / 14
21/01/98	785	46	9.0	85	1	5.0	23.0	17.0/ 30.0	8.2	0.8	22.80	1/2	121	0.40	0.02	0.0	21,00	0.008	tr	3.90	3.90		94.90	5.00	53 / 38	32 / 26	8 16 / 13
22/01/98	785	46	9.2	44	1	4.0	20.0	15 0/ 23.0	8.2	7.8	22.00	1/2	121	0.30	0.01	0.0	8 21,00	0 680.0	tr	5.41	5.41		93.40	6.50	48 / 34	29 / 25	5 14 / 12
23/01/98	785		8.9	65	1	0.0	15.0	4.0/ 8.0	8.2	5.0	12.50	1/1	121	0.20	0.07	0.1	43,00	0.088	1	1.67	1.67		95.80		35 / 25	20 : 14	4 6 / 3
24/01/98	1070	40	8.9	44	1	3.0	18.0	4.0/ 6.0	9.0	4.7	12.40	1/2	121	0.22	0.02	0.1	8 24,00	320.0	1.0	2.91	2.91	1	95.70	0.20	44 / 31	25 / 18	8 6 / 4
25/01/98	1335	42	9.3	42	,	4.0	23.0	5.0/ 8.0	8.5	3.6	10.60	1/2	121	0.20	0.01	0.1	8 22,00	0 300.0	0.25	4.34	2.87	.	94.40	0.60	51 / 37	30 / 21	1 6 / 4
26/01/98	1345	42	0.4	44	1	60	22.0	6.0/ 9.0	8.5	3.6	10.50	1/2	121	0.10	0.01	0.1	8 22,00	0 300.0	0.5	4.34	2.12	.	94.40	0.60	54 / 38	31 / 2	3 7 / 5
27/01/98	1345		0 5	43	,	6.0	24.0	7.0/ 9.0	8.0	4.0	11.00	1/2	121	0.10	0.01	0.1	22,00	0 300.0	0.25	5.05	2.78		93.70	0.80	64 / 30	32 / 2	4 // 5
28:01/98	1345		9.5	28		1.0		,	1			2/0	121	1			1				ŀ				,	,	,

REPORT NUMBER: Date Depth

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Amity Oil NL REPORT FOR				Santa REPOF				1111	.ng				ION	ara			
	- /M	car Tac	alcon	Sant				ri11	ina		1		toria	a			
Wally Westman	1/MULI	ay Jac	LKSUII	ELD OF	-a	1.0		1 1 1 1	GEOGR	ADHTO			COLIC		COUN	TPI	<u>-</u>
Broadbill 1	J 1401-11	2017		C P/36		цО	CIC	1	Bass			11			Aust		
BIT DATA	in. I	DRILLIN	NG STRI		m	T		CASI		1		CUL	OITA				-
Size in.	Pipe OD		D	Len.		\top				Pump f	iake/Mod						_
Type	Pipe OD		ID	Len.		T	in		m	Size			Бff.		∵, st		
No. Jets	Pipe OD		ID	Len.				Set	ล	apm			bbl/min				
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TFA	Size		Len.			-		Set		Size			Eff.		V, st		
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MUD PROPERTI	Size	Primary	Len.	3		Щ.		Set (<u> </u>	BU Tin	MUI		TC Time	באתים	2 0		
Source		Flowline	2		Prog	7ram	Т,	Egger	ntial	Baroic			rived o				
Time		10:54			Tare		- 1		gram	Daloic	a Brigine	er ar	ilivea o	ı rrg.			
FL Temp Dec		0			*=E:		- 1		erties								
Depth m	, -	0.0			1	2	-										
Weight ppg		8.3				\exists	1										
	:/qt	28		-		\neg	\neg										
PV & 49 Deg C cP		1															
YP lbs	3/100 ft2	0															
Gels lbs	/100 ft2	0/0															
API Filt. ml,	/30 min	0.0				4	_										
HTHP @ 121 Deg C m	L/30 min	0.0			\sqcup	\perp	_										
	nd in	2/0				4	_										
Corr.Solids & by vol		0.0			-	4	- -						CTIV	ITY			
Oil/Water % by vol		0.0/0.0	L		\vdash	-				Offloa	ding bo	ats.					
Sand & by vol					\vdash	+											
MBT		0.0			-	\dashv	+										
pH STRIP Alk. Mud (Pm)		0.00				\dashv	╫										
Alk. Filtr. (Pf/Mf)		0.00/0.00			\vdash	\dashv	+										
Chlorides mg/l		0				十	\dashv										
Hard. Ca mg/l		0				\neg	7										
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LATER TION TO SERVE	MANAGI		,	RHEC						TURE	GRAD						
Hole Pits	_	JD TYPI	ב	HYI 600 rpm	JKA	UЪ	10	<u> </u>	Water 1	Depth F. Grad		21. 0.0	7 DRLG				.00
0 0	····		ONSUMPTION	300 rpm					1	ff Test		0.0	TRIE				. 00
Active Volume	A	DDITIONS	bbl	200 rpm					ECD		ppg		- 1	7. RIG			. 00
0		Oil		100 rpm					Csg.	Shoe		0.0	SURV				. 00
Reserve Total		Brine Wat		6 rpm					TD			0.0	FISI				. 00
Low Grav, vol 1 0.		Drill Water		3 rpm Pressure	nei-	٠		pai a	Max. D	iff. Pre	88	0	LOGG				. 00
ppb 0.00	- 1	Whole Mud		Press Dro				psig 0	1				RUN				. 00 . 00
High Grav, vol 1 0.	4	Barite		Press Dro	-			0	DEV	IATIC	N IN	FO	_	K REAM			. 00
0.00 dag	1	Chemicals		Press Dro	-			O	HD		52.4	m	_				. 00
	- 1	OSSES		Actual C			39	0	סעד		52.4		1				. 00
Drill Cuttings Dilution Rate 0.	.00	Dumped Lost		AV, DP	m/n			0.0	Angle Direc			0.00	1		\D.		. 00
	1	OL GAIN/LO		AV, DC AV, Rise				J.U	1	. Displ	0.0	m	- 1	AGE RO	, ,	U.	. 00

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

Melbourne

Welshpool

OF FICE/HOME

WAREHOUSE

BAROID REPRESENTATIV-

Nicholas Doust

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TELEPHONE

TELEPHONE

(03) 9621 3311 DAILY COST

(03) 56 881 445 \$A

CUMULATIVE COST

Drill Cuttings

Dilution Rate

Slds Control Eff

BAROID REPRESENTATIVE

Dumped

VOL GAIN/LOSS

OFFICE/HOMB

Lost

0.00

0.00

REPORT NUMBER: Depth Date 17/01/98 [MD] 110.0 m Spud Date Present Activity

POOH TO RUN 30" CSG 17/01/98 CONTRACTOR RIG NUMBER OPERATOR Santa Fe Drilling Paramswara Amity Oil NL REGION REPORT FOR REPORT FOR Santa Fe Drilling Victoria Wally Westman/Murray Jackson COUNTRY FIELD OR BLOCK GEOGRAPHIC AREA WELL NAME AND NUMBER Bass Strait Austral Broadbill VIC P/36 1 DRILLING STRING CIRCULATION DATA CASING BIT DATA in. Pump Make/Model Ideco T-1600 Pipe CD Len. Site in. ID Bff. 97.00 V/st Size 6.5 X 12 Туре Pipe OD ID Len. in. Set ® apm 0 bbl/min Pipe OD ID Len. No. Jets Pump Make/Model Ideco T-1600 Jets 32nd inch Set 0 Collar OD ID Len. Eff. 97.00 V/st Collar OD τD Set @ Size 6.5 X 12 0.120 Len. OPEN HOLE Set ® apm n bbl/min Pump Make/Model Tot Not Area Size 36 Len. 57.6 Set é Size Set @ Size Бff. V/st TFA Len. Set # spm bbl/min Size bbl Tot. Vol./min Size Len. Set @ 0 ąρm 0.0 BU Time Size Len. Set @ 0 TC Time MUD PROPERTIES MUD TREATMENTS Primary Flowline Program Essential Built 400 bbls of flocculated spud mud for hi-vis sweeps and 500 bbls of pre-hydrated 10:57 Targets Program Time AQUAGEL for filling hole. Built 1066 bbls of *=Excep FL Temp Deg C 0 Properties pre-hydrated AQUAGEL for 12-1/4" section -110.0 Depth will charge of 12-1/4" mud costs tomorrow. 0.0 Weight ppg FV % 16 Deg C sec/qt Total mud built : 1966 bbls. 0 PV 2 49 Deg C cP lbs/100 ft2 0 Actual AOUAGEL stock remaining : 16.4 MT. 1bs/100 ft2 0/0 Initial Barite on board: 19.64 MT (432 sxs) Gels API Filt. m1/30 min 0.0 All material ordered in loadout 1 rec'd. HTHF % 121 Deg C ml/30 min 0.0 Cake API/HTHP 32nd in 2/0 RIG ACTIVITY Corr.Solids & by vol 0.0 Continue to offload boat. Make up 36" BNA. Oil/Water & by vol 0.0/0.0 Sand & by vol RIH. Tag seabed @ 52.4 m. Drill ahead with HBT 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 Alk. Filtr. (Pf/Mf) sweep. Pump 35 bbl hi-vis mud. Displace hole 0.00/0.00 Chlorides mg/l 0 to unflocculated pre-hydrated AQUAGEL. FOOH. 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 Sz/Sern HR Product Device Make 4033.25 AQUAGEL - 1000 KG. TON Shkr #1 Scalper 8.500 caustic soda - 25 KG. PAIL 216.05 5 Shkr #2 | Scalper lime - 20 KG. BAG 42.15 Shkr #3 Sweco LM3 5 soda ash - 25 KG. BAG 1 14.85 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 MUD HYDRAULICS bbl Water Depth 21.7 DRLG 3.00 Hole Pits SEAWATER/HI VIS SWEEPS 600 rpm Calc. F. Grad 0.0 CTRC 2.00 300 rpm MUD CONSUMPTION Leak Off Test 0.0 TRIPS 2.50 Active Volume ADDITIONS bbl 200 rpa SCD SERV. RIG 0.00 Oil 0 100 rpm Cog. Shoe 0.0 SURVEY 0.00 Reserve Total . Brine Water 6 rpm TD FISHING 0.00 0 0.0 238 Drill Water 629 3 rpm Max. Diff. Press LOGGING 0.00 Low Grav, vol 1 0.0 Sea Water RUN CSG 250 Pressure Units: psig 0.00 0.00 Whole Mud Press Drop. DP CORE ppb 0.00 DEVIATION INFO High Grav, vol \$ 0.0 Barite Press Drop, BIT 0 BACK REAM 0.00 0.00 Chemicals RBAMING ppb Press Drop, ANN 110.0 0.00 ASG LOSSES Actual Circ. Press TESTING 0 TVD 110.0 0.00

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

m/min

m/min

Angle

Direction

Horiz. Displ

(03) 9621 3311

0.0

DAILY COST

0.0

TELEPHONE

OTHER

4306.30

AVERAGE ROP

CUMULATIVE COST

4306.30

AV, DP

AV, DC

238 AV, Riser m/min

Melbourne

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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 WELL NAME AND NUMBER GEOGRAPHIC AREA COUNTRY FIELD OR BLOCK Broadbill 1 VIC P/36 Bass Strait Austral in. DRILLING STRING CIRCULATION DATA BIT DATA CASING Pipe OD Len. Pump Make/Model Ideco T-1600 Size Eff. 97.00 V/st Size 6.5 X 12 Type Pipe OD ID Len. in. m No. Jets Pipe OD ID Len. 30 Set @ 106.0 spm 0 bbl/min 0.0 Collar OD ID Pump Make/Model Ideco T-1600 Jets 32nd inch Len. Set @ Eff. 97.00 V/st Collar CD ID Len. Set @ Size 6.5 X 12 OPEN HOLE in. Set 🗈 mqe 0 bbl/min 0.0 Size Pump Make/Model Tot Nor Area 36 Len. 4.0 Set @ TFA Size Len. Set @ Size Б££. V/st Size Set 🙉 bbl/min Len. spm Size Tot. Vol./min Len. Set @ 0 gpm 0.0 bbl Size Len. Set @ BU Time 0 TC Time MUD PROPERTIES MUD TREATMENTS Primary Source Flowline Program Essential Calcium Chloride used for cementing. To be Time 19:37 Targets charged as non-drilling cost. FL Temp Deg C 0 *=Excep Properties Depth m 110.0 Will charge off 12-1/4" mud costs tomorrow. Weight 0.0 ppg FV @ 16 Deg C sec/qt 0 Total 12-1/4" mud built to date : 1182 bbls. PV 2 49 Deg C cP 1 1bs/100 ft2 ΥP 0 Gels lbs/100 ft2 0/0 API Filt. m1/30 min 0.0 HTHP 2 121 Deg C ml/30 min 0.0 Cake API/HTHP 2/0 Corr.Solids & by vol RIG ACTIVITY 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. 0.0 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

2021			_
Device	Make	s=/sem	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	_
dSndr	Crestex	3 x 10"	
dslt #1	Crestex	16 x 5"	

		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 V	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, vo	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 PEAMING	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 0.0	0 OTHER	10.00
Dilution Rate	e 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	SENTATIVE	OFFICE/HOME	Melbourne TELEPHONE	(03) 9621 3311 DAIL	Y COST CUMULAT	TIVE COST
Nicholas Dous	st	WAREHOUSE	Welshpool TELEPHONE	(03) 56 881 445 SA	o.od sa	4306.30

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

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Spud Date Present Activity PICK UP 12-1/4" BHA 17/01/98 OPERATOR CONTRACTOR RIG NUMBER Amity Oil NL Santa Fe Drilling Paramswara REPORT FOR REPORT FOR REGION Wally Westman/Murray Jackson Santa Fe Drilling Victoria GEOGRAPHIC AREA WELL NAME AND NUMBER FIELD OR BLOCK COUNTRY Austral VIC P/36 Bass Strait Broadbill BIT DATA DRILLING STRING CASING CIRCULATION DATA in. Pipe OD Pump Make/Model Ideco T-1600 Size Len. Size Eff. 97.00 V/st Type Pipe OD ID Len. in. 6.5 X 12 0.120 No. Jets Pipe OD ID Len. 30 Set @ 106.0 apm n bbl/min 0.0 Jets 32nd inch Collar OD ID Len. Set @ Pump Make/Model Ideco T-1600 Eff. 97.00 V/st Collar OD ID Len. Set @ Size 6.5 X 12 0.120 in. OPEN HOLE Set @ apm bbl/min Tot Noz Area Size Len. 4.0 Set @ Pump Make/Model Size TFA Size Set @ Eff. V/st Size Len. Set @ bbl/min spm Size Len. Set @ Tot. Vol./min 0 0.0 bbl Size Len. Set @ 0 TC Time MUD PROPERTIES MUD TREATMENTS Primary Calcium chloride used for cementing to be Pits, Circ Program Essential Program Time 20:45 Targets charged as 'non-drilling cost'. *=Excep FL Temp Deg C 0 Properties Depth m 110.0 P Built total of 1430 bbls of 8.9 seawater/ACUAGEL/Polymer mud for 12-1/4* Weight ppg FV 2 18 Deg C sec/qt 38 PV @ 49 Deg C сP 1bs/100 ft2 ΥP 8 Expect API filtrate to decrease with Gels lbs/100 ft2 3/4 incorporation of drill solids and more PAC-R API Filt. m1/30 min once drilling commences. 12.0 HTHP 2 121 Deg C ml/30 min 0.0 Cake API/HTHP 32nd in 1/0 RIG ACTIVITY Corr.Solids & by vol 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 0 seawater/AQUAGEL/PAC mud system. POOH. Pick Low Gravity Solids ppb 0.00 up and make up 12-1/4" BHA. Excess sulfite mg/l MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Used Device Make Sz/Scrn AQUAGEL - 1000 KG. TON Scalper 17.100 8113.95 Shkr #1 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 dSlt #1 Crestex 16 x 5

MUI	D MAN	NAGEMENT		RHE	DLOGY	AND	FRACTURE	GRADIEN'	TIME		
MUD VOLUME	bbl	MUD TYPE		HYI	DRAUL:	ICS	Water Depth	21.7	DRLG		0.00
Hole Pit	s	GEL/SEAWATER/F	OLYMER	600 rpm	22		Calc. F. Grad	0.0	CIRC		0.75
281	572	MUD CON	SUMPTION	300 rpm	15		Leak Off Test	0.0	TRIPS		0.00
Active Volum	e	ADDITIONS	bbl	200 rpm	11]	ECD	ppg	SERV. F	IG	0.00
853		Oil	0	100 rpm	7		Cog. Shoe	0.0	SURVEY		0.00
- Peserve Tot	al	Brine Water	0	6 rpm	3		TD	0.0	FISHING	;	0.00
518 1	371	Drill Water	1026	3 rpm	2		Max. Diff. Pred	os 0	LOGGING	;	0.00
Low Grav, vol %	0.0	Sea Water	354	Pressure	Units:	psig			RUN CSC	;	0.00
ppb	0.00	Whole Mud	0	Press Dr	op. DP	0 (CORE		0.00
High Grav, vol 🕻	0.0	Barite	0	Press Dr	op, BIT	0	DEVIATIO	N INFO	BACK R	MAS	. 0.00
ppb	0.00	Chemicals	40	Press Dr	op, AIM	0	MD	110.0 m	REAMING	;	0.00
ΛSG	- 1	LOSSES	bbl	Actual C	irc. Pre	39 0	TVD	110.0 m	TESTING	;	0.00
Drill Cuttings	0	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 Bff	0.00	VOL GAIN/LOSS	1090	AV, Rise	r m/min		Horiz. Displ	0.0 m			
BAROID REPRESENTA	TIVE	OFFICE/H	ONE	Melbourn	e	TELEPHONE	(03) 9621 33	DAILY	COST	CUMUL	ATIVE COST
Nicholas Doust		WAREHOUS	В	Welshpoo	1	TELEPHONE	(03) 56 881	445 SA	10469.31	SA	14775.61

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

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17/01/98 DRILLING **OPERATOR** CONTRACTOR RIG NUMBER Santa Fe Drilling Paramswara Amity Oil NL REGION REPORT FOR REPORT FOR Wally Westman/Murray Jackson Santa Fe Drilling Victoria FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER Broadbill 1 VIC P/36 Bass Strait 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 Si<u>ze</u> Type MAX GT1 ID 3.000 Len. 112.4 in. 6.5 X 12 Eff. 97.00 V/st Pipe OD No. Jets bbl/min Pipe OD ID Len. 30 Set @ 106.0 80 spm Collar OD ID Len. Pump Make/Model Ideco T-1600 Jets 32nd inch Set @ Bff. 97.00 V/st 0.120 16 16 Collar OD ID Set @ Size 6.5 X 12 Len. OPEN HOLE 80 bbl/min in. Set @ Size 439.0 Set @ Pump Make/Model Tot Noz Area 12.25 Len. Len. Size Set @ Size Б££. V/st TFA Size bbl/min Set @ apm Len. Size Len Set @ Tot. Vol./min 803 19.1 bbl ābw

TC Time Size Len. BU Time MUD PROPERTIES MUD TREATMENTS Primary Pits, Circ Flowline Program Essential Built 1070 bbls of new mud. Heavy mud losses Source 08:00 20:00 Targets Program experienced through coarse sands (approx 700 Time bbls). Adding PAC-R to maintain API filtrate FL Temp Deg C 36 44 *=Excep Properties 165.0 420.0 110.0 784.9 and BARACOR-129 to maintain Excess Sulfite. Depth 9.0 Weight 8.9 ppg BARACARB 25 : FV & 44 Deg C sec/qt 39 44 35 LCM Sweeps : PV 1 49 Deg C cP 19 17 BARACARB 100: 21 ppb BAROFIBRE : 4.5 ppb ΥP lbs/100 ft: 20 26 lbs/100 ft2 17/21 16/21 AQUAGEL 20 ppb API Filt. Running all solids control equipment. m1/30 min 8.2 8.0 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 1/0 mud for spotting across Lakes Entrance. RIG ACTIVITY Corr.Solids 1 by vol 3.2 4.1 Oil/Water % by vol 0.0/95.6 0.0/94. Continue to pick up 8" drill collars. Drill Sand & by vol 7 m of 12-1/4" hole. Pick up last 8" drill 0.5 0.5 collar. Unable to circulate - plugged above HBT 4.0 4.2 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 0.01/0.0 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 mg/1100 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 Used Cost Product Used Device | Make Sz/Scrn HR AQUAGEL - 1000 KG. TON 5283.80 12.400 Shkr #1 Scalper 10 BARACARB 100 - 25 KG. SACK Shkr #2 | Scalper 691.20 48 20 17 BARACARB 25 - 25 KG. BAG Shkr #3 Sweco LM3 554.40 48 150 x 3 17 BARACOR 129 - 25 KG. DRUM 19 1159.95 Shkr #4 | Sweco LM3 150 x 3 17 BAPOFIBRE - 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 dSndr Crestex 3 x 10 17 dSlt #1 Crestex 16 x 5" 17

MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bb1 Water Depth 15.00 21.7 DRLG Pits GEL/SEAWATER/POLYMER 600 rpm 58 Calc. F. Grad 0.0 CIRC 3.00 MUD CONSUMPTION 300 rpm 39 Leak Off Test TRIPS 43 4.75 0.0 Active Volume ADDITIONS 200 ≃pm 31 37 ECD bbl ppg SERV. RIG 0.00 860 Oil 100 rpm 24 Csg. Shoe SURVEY 0.50 Reserve Total Brine Water 6 rpm 15 TD FISHING 9.2 0.00 Drill Water 308 3 rpm 14 15 Max. Diff. Press LOGGING 0.00 Low Grav, vol 1 Sea Water Pressure Units: psig RUN CSG 0.00 ppb 29.30 Whole Mud Press Drop. DP CORE 0.00 DEVIATION INFO High Grav, vol \$ 0.0 Barite Press Drop, BIT 1512 BACK REAM ррь 0.00 Chemicals Press Drop, ANN 545.0 REAMING ASG LOSSES 2.58 Actual Circ. Press 2420 TVD 545.0 m TESTING 0.00 Drill Cuttings 12 Dumped AV, DP m/min 7.9 Angle OTHER Dilution Rate 16.83 Lost 1244 AV. DC m/min 69.7 Direction 354 AVERAGE ROP Slds Control Eff VOL GAIN/LOSS 0.00 -203 AV. Riser m/min Horiz. Displ 0.0 BAROID REPRESENTATIVE OFFICE/HOME Melbourne TELEPHONE (03) 9621 3311 DAILY COST CUMULATIVE COST Welshpool Nicholas Doust WARRHOUSE TELEPHONE (03) 56 881 445 \$A 12779.26 27554.87

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

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REPORT NUMBER: Date Depth 21/01/98 785.0 m [MD] Spud Date Present Activity

17/01/98 R/U TO LOG / LOG CONTRACTOR RIG NUMBER OPERATOR Amity Oil NL REPORT FOR Santa Fe Drilling Paramswara REPORT FOR REGION Santa Fe Drilling Victoria Wally Westman/Murray Jackson WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY Broadbill 1 VIC P/36 Bass Strait Austral CIRCULATION DATA BIT DATA DRILLING STRING CASING in. Ideco T-1600 Pump Make/Model Size Pipe OD ΙD Len in. Eff. 97.00 V/st Pipe OD Size 6.5 X 12 Type ID Len. bbl/min Pipe OD ID Len Set @ 106.0 apm No. Jets Ideco T-1600 Pump Make/Model Jets 32nd inch Collar OD ID Len Set @ Size 6.5 X 12 Eff. 97.00 V/st Collar OD Len Set @ OPEN HOLE bbl/min 0.0 in. Set @ apm Size 12.25 679.0 Set @ Pump Make/Model Tot Noz Area Len. Size Len Set & Size V/st TFA bbl/min Size Len. Set @ spm Size Len. Set @ Tot. Vol./min 0 0.0 bbl ābw Size Len. Set @ BU Time 0 TC Time MUD PROPERTIES MUD TREATMENTS Primary Pits, Circ Flowline Program Essential Maintained treatment of active system with Source PAC-R to hold API filtrate. Diluted active Time 06:00 13:00 Targets Program *=Excep with seawater/PAC-L to control mud viscosity FL Temp Deg C 46 46 Properties increase from drilling claystone. 701.0 2 784.9 Depth m 785.0 110.0 9.0 9.2 BARACOR-129 used to maintain excess Weight ppg 9.3 sulfites. Building KCl/EZ-MUD/Polymer mud FV & 46 Deg C sec/qt for 8-1/2" hole. Ran desander and desilter PV + 49 Deg C cP 15 15 lbs/100 ft2 ΥP 23 21 lbs/100 ft: Gels 17/30 17/29 API Filt. m1/30 min 8.0 7.8 Reports have been cost modified to reflect HTHP 2 121 Deg C m1/30 min 22.8 21.0 updated mud material prices. 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. Continue to drill ahead to 701 m. Circulate 0.0/93. Sand & by vol tr tr bottoms up. Conduct Hofco survey. Drill 5.0 5.5 ahead to 785 m. Circulate bottoms up. PH METER @ Conduct multishot survey, POOH, Some tight 20 Deg C 8.2 8.2 Alk. Mud (Pm) 0.40 0.45 hole on first 6 stands (hole took 6 bls). Alk. Filtr. (Pf/Mf) 0.02/0.06 POOH to 30" conductor @ 110 m. Conduct top 0.02/0.0 Chlorides mg/l 21000 21000 drive service (hole took 12 bbls). RIH. Hole 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 mg/l 120 100 currently 4-6 bbls/hr. MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Used Device Make Sz/Scrn HR ACUAGEL - 1000 KG. TON 2.200 1043.90 Shkr #1 Scalper BARACOR 129 - 25 KG. DRUM 122.10 Shkr #2 | Scalper 2 PAC-L - 25 KG. BAG 3 441.63 Shkr #3 Sweco LM3 150 x 3 13 Shkr #4 | Sweco LM3 PAC-R - 25 KG. BAG 588.84 150 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 DRIG 10.75 Hole Pits GEL/SEAWATER/POLYMER 600 rpm 53 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 bb1 200 rpm 32 31 ECD SERV. RIG 0.00 1113 Oil 100 rpm 26 25 Cog. Shoe 9.1 SURVEY 1.25 Peser:e Total Brine Water 6 rpm 16 15 TD 9.3 FISHING 0.00 208 1321 Drill Water 3 rpm 13 13 Max. Diff. Press 0 LOGGING 0.00 Low Grav, vol & 3.9 Sea Water 385 Pressure Units: psig RUN CSG 0.00

ppb 35.49 Whole Mud Press Drop. DP 0 CORE 0.00 High Grav, vol \$ 0.0 DEVIATION INFO Barite Press Drop, BIT 0 BACK REAM 0.00 bŁp 0.00 Chemicals Press Drop, ANN 0 MD 785.0 REAMING 0.00 ASG LOSSES 2.60 bbl Actual Circ. Press 0 TVD 785.0 TESTING 0.00 Drill Cuttings Dumped 62 AV. DP m/min 0.0 Angle 0.25 OTHER 2.75 Dilution Rate 0.00 Lost 179 AV. DC m/min 0.0 Direction 320 AVERAGE ROP 0.00 Slds Control Eff 0.00 VOL GAIN/LOSS 153 AV, Riser m/min Horiz. Displ 0.5 BAROID REPRESENTATIVE OFFICE/HOME TELEPHONE DAILY COST CUMULATIVE COST Melbourne (03) 9621 3311 Nicholas Doust WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 \$A 30524.67 2969.80

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

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17/01/98 WOC **OPERATOR** CONTRACTOR RIG NUMBER Santa Fe Drilling Amity Oil NL Paramswara REPORT FOR PEPORT FOR REGION Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria WELL NAME AND NUMBER COUNTRY FIELD OR BLOCK GEOGRAPHIC AREA Broadbill VIC P/36 Bass Strait Austral in. DRILLING STRING BIT DATA CASING CIRCULATION DATA in. Pipe OD Pump Make/Model Ideco T-1600 Size Pipe OD Eff. 97.00 V/st Type ID Len. in. Size 6.5 X 12 m No. Jets Pipe OD ID Len. 30 Set @ 106.0 spm 0 bbl/min Jets 32nd inch Collar OD ID Len. 9 5/8 Set @ Pump Make/Model Ideco T-1600 Collar OD ID 6.5 X 12 97.00 V/st Len. Set @ Size Eff. 0.120 OPEN HOLE in. Set @ apm 0 bbl/min Tot Nor Area Size 12.25 Len. 6.0 Set @ Pump Make/Model Size Eff. TFA Size V/st Len. Set @ Size Len. Set @ bbl/min apm Size Tot. Vol./min bbl Len. Set @ 0 gpm 0.0 Size Len. Set @ BU Time 0 TC Time ٥ MUD PROPERTIES MUD TREATMENTS Primary Essential Mixing 3% KCl/RZ-MUD/Polymer mud. Source Pito, Ciro Program Time 15:30 Targets Program Costs/volume to be included tomorrow FL Temp Deg C *=Excep Properties 785.0 784.9 1654.1 Depth m Three shakers changed to coarser 80 mesh Weight ppg 9.2 9.0 size screens to prevent/reduce initial FV & 46 Deg C sec/qt losses of unsheared mud. Scalpers changed to 44 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. ml/30 min 7.8 HTHP @ 121 Deg C ml/30 min 22.0 15.0 AOUAGEL 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 RIG ACTIVITY Oil/Water & by vol 0.0/93.4 Rig up Schlumberger. Log 12-1/4" hole Sand & by vol tr -BHC-LDL-CNL-DLL-MSPL-GR-CALI-SP. Rig down MBT Schlumberger. Pull diverter bag. Retrieve pH METER № 20 Deg C 8.2 8.5 wear bushing & laydown running tool. Rig up Alk. Mud (Pm) & run 9-5/8" casing to 779 m. Circulate 0.30 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 ppb 11.00 14.00 MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Product Used Device Make Sz/Scrn HR AQUAGEL - 25 Mg. BAG 56 659.12 Shkr #1 Scalper 10 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 Shkr #6 Sweco LM3 80 x 3 5 dSndr Crestex 3 x 10

			լչ	121101	Crestex	3 X 10
			<u> </u>	dslt #1	Crestex	16 x 5"
MUD MAN	AGEMENT	RHEOLOGY AND	FRACTURE GRADI	ENTI	TIME	
MUD VOLUME bb1	MUD TYPE	HYDRAULICS	Water Depth		DRLG	0.00
Hole Pits	GEL/SEAWATER/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 Volume	ADDITIONS bbl	200 rpm 29	ECD ppg		SERV, RIG	0.00
190	Oil 0	100 rpm 25	Csg. Shoe	0.0	SURVEY	0.00
Reserve Total	Brine Water 0	6 rpm 14	TD C	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		- 1	RUN CSG	9.50
ppb 49.23	Whole Mud 0	Press Drop. DP 0		- 1	CORE	0.00
High Grav, vol \$ 0.0	Barite 0	Press Drop, BIT 0	DEVIATION INF	0	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 Cuttings 0	Dumped 1015	AV. DP m/min 0.0	Angle o	0.25	OTHER	3.00
Dilution Pate 0.00	Lost 0	AV. DC m/min 0.0	Direction 32	20	AVERAGE ROP	0.00
Slds Control Eff 0.00	VOL GAIN/LOSS -1015	AV, Riser m/min	Horiz. Displ 0.5	m		
BAROID REFRESENTATIVE	OFFICE/HOME	Melbourne TELEPHONE	(03) 9621 3311 DA	ALLY COS	T CUMU	LATIVE COST
Nicholas Doust	WAREHOUSB	Welshpool TELEPHONE	(03) 56 881 445 \$A		659.13 \$A	31183.79

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REPORT NUMBER: S

Date Depth
23/01/98 785.0 m [MD]

Spud Date Present Activity

RUN WEAR BUSHING 17/01/98 CONTRACTOR RIG NUMBER **OPERATOR** Santa Fe Drilling Paramswara Amity Oil NL REPORT FOR REPORT FOR REGION Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria COUNTRY GEOGRAPHIC AREA WELL NAME AND NUMBER FIELD OR BLOCK Broadbill 1 VIC P/36 Bass Strait Austral BIT DATA DRILLING STRING CASING CIRCULATION DATA Pump Make/Model Size Pipe OD Len. Ideco T-1600 Pipe OD ID Size 6.5 X 12 Eff. 97.00 V/st Type Len. in. m No. Jets Pipe OD ID Len. 30 Set @ 106.Q spm 0 bbl/min 779.0 Pump Make/Model Jets 32nd inch Collar OD ID 9 5/8 Set @ Ideco T-1600 97.00 V/st Collar OD ID Size 6.5 X 12 Eff. Set @ Len. OPEN HOLE in. Set @ apm 0 bbl/min Tot Noz Area Size 12.25 Len. Set @ Pump Make/Model Size Eff. Size V/st TFA Len. Set @ Size Len. Set @ apm bbl/min Size Len. Tot. Vol./min Set @ bbl 0 gpm 0.0 0 TC Time Size Len. Set @ BU Time MUD PROPERTIES MUD TREATMENTS Primary Built total of 1418 bbls of KCl/EZ-MUD/Poly Program Essential Source Pito, Cir Time 20:07 Targets Program for 8-1/2" section. Mud built contains only FL Temp Deg C Properties 0.75 ppb &Z-MUD to reduce mud losses over 785.0 Depth 784.9 1654. shakers upon dispacement. 8.9 9.0 Weight ppg FV 4 20 Dag C sec/qt 55 Mud check is on reserve mud. Mud mixed with PV % 49 Deg C cP 10 30 KCl content of 4 % to allow for depletion ïΡ lbs/100 ft 15 through Lakes Entrance Formation. lbs/100 ft: 4/8 Gels 6.0 API Filt. m1/30 min 5.0 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 0.0 adapter ring. Test flange to 2000 psi. Lower pH METER ₽ 20 Deg C 8.2 8.5 BOP's & nipple up. Pressure test BOP's. Run 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 14 ppb 11.00 14.00 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 10 BARAZAN-D PLUS - 25 KG. BAG 23 8279.54 Shkr #2 Scalper 10 DEXTRID LT - 25 KG. BAG Shkr #3 Sweco LM3 107 5631.49 150 x 3 EZ-MUD DP - SO LB. BAG Shkr #4 Sweco LM3 Shkr #5 Sweco LM3 2754.96 24 80 x 3 PAC-L - 25 Mg. BAG 22 3238.62 80 x 3 potassium chloride - 1000 KG. 3892.89 Shkr #6 Sweco LM3 80 x 3 dSndr Crestex 3 x 10 soda ash - 25 KG. BAG 74.25 dSlt #1 Crestex

MUD VOLUME bbl MUD TYPE HEOLOGY AND HYDRAULICS FRACTURE GRADIENT TIME Hole Pits KCL/EZ MUD/POLYMER 600 rpm 35 Calc. F. Grad 0.0 CIRC 0.00 190 0 MUD CONSUMPTION 300 rpm 25 Leak Off Test 0.0 TRIPS 0.00 Active Volume ADDITIONS bbl 200 rpm 20 ECD ppg SERV. RIG 0.00 190 0il 0 l00 rpm 14 Cog. Shoe 0.0 SURVEY 0.00 Peserve Total Brine Water 0 6 rpm 6 TD 0.0 FISHING 0.00 Low Grav, vol 1 1.7 Sea Water 0 Precadure Units: ppig RUN CSG 0.00 ppb 15.20 Whole Mud 0 Precad Drop. DP 0 CORE 0.00 High Grav, vol 1 0.0 Barite 0 Press Drop, AIN 0 MD 785.0 m REAK REAM 0.00 Drill Cuttings 0 Dumped 0 AV, DP m/min 0.0 Angle 0.25 OTHER 24.00							i	1	_1 1
Hole		MUD MAN	NAGEMENT	RHEOLOGY	AND	FRACTURE GRA	DIENT	TIME	
190	MUD VOLU	JME bb1	MUD TYPE	HYDRAUL	ICS	Water Depth	21.7	DRLG	0.00
Active Volume ADDITIONS Ebl 200 rpm 20 ECD ppg SERV RIG 0.00	Hole	Pits	KCL/EZ MUD/POLYMER	600 rpm 35		Calc. F. Grad	0.0	CIRC	0.00
190	190	0	MUD CONSUMPTION	300 rpm 25		Leak Off Test	0.0	TRIPS	0.00
Peperve	Active V	/olume	ADDITIONS bbl	200 rpm 20		ECD P	pg	SERV. RIG	0.00
1534 1724 Drill Water 1371 3 rpm 3 Max. Diff. Press 0 LOGGING 0.00	190		Oil	0 100 rpm 14		Cog. Shoe	0.0	SURVEY	0.00
Description Column Colum	Peserve	Total	Brine Water	0 6 rpm 6		TD	0.0	FISHING	0.00
PPB	1534	1724	Drill Water 137	1 3 rpm 3		Max. Diff. Press	0	LOGGING	0.00
High Grav. vol 1 0.0	Low Grav, vol	L% 1.7	Sea Water	Pressure Units:	psig			RUN CSG	0.00
ppb 0.00 Chemicals 47 Press Drop, ANN 0 MD 785.0 m REAMING 0.00 AGG 2.57 LOSSES bbl Actual Circ, Press 0 TVD 785.0 m TESTING 0.00 Drill Cuttings 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 REPRESENTATIVE OFFICE/HOME Melbourne TELEPHONE (03) 9621 3311 DAILY COST CUMULATIVE COST	ppb	15.20	Whole Mud	Press Drop. DP	0			CORE	0.00
ASG 2.57 LOSSES bbl Actual Circ. Press 0 TVD 785.0 m TESTING 0.00 Drill Cuttings 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 REPRESENTATIVE OFFICE/HOME Melbourne TELEPHONE (03) 9621 3311 DAILY COST CUMULATIVE COST	High Grav. vo	0.0	Barite	Press Drop, BIT	0	DEVIATION I	NFO	BACK REAM	0.00
Drill Cuttings	ppb	0.00	Chemicals	7 Press Drop, ANN	0	MD 78	5.0 m	REAMING	0.00
Dilution Rate 0.00 Lost 0 AV, DC m/min 0.0 Direction 320 AVERAGE ROP 0.00	ASG	2.57	LOSSES bbl	Actual Circ. Pre	aa 0	TVD 78	5.0 m	TESTING	0.00
Slds Control Eff 0.00 VOL GAIN/LOSS 1418 AV, Riser m/min Horiz. Displ 0.5 m BAROID REPRESENTATIVE OFFICE/HOME Melbourne TELEPHONE (03) 9621 3311 DAILY COST CUMULATIVE COST	Drill Cutting	90 cs	Dumped	O AV. DP m/min	0.0	Angle	0.25	OTHER	24.00
BAROID REPRESENTATIVE OFFICE/HOME Melbourne TELEPHONE (03) 9621 3311 DAILY COST CUMULATIVE COST	Dilution Rate	0.00	Lost	O AV, DC m/min	0.0	Direction	320	AVERAGE ROP	0.00
TERRETORN TO STATE OF THE COST CONDENTIVE COST	Slds Control	Eff 0.00	VOL GAIN/LOSS 141	B AV, Riser m/min		Horiz. Displ 0.	5 m	1	
Nicholas Doust WAREHOUSE Welshool TELEPHONE (03) 56 881 445 Ch 24493 67 Ch 55667 43	BAROID REPRES	BVITATIVE	OFFICE/HOME	Melbourne	TELEPHONE	(03) 9621 3311	DAILY CO	ST CUM	ULATIVE COST
101/1001 101/1001	Nicholas Dous	ıt.	WAREHOUSE	Welshpool	TELEPHONE	(03) 56 881 445	\$A	24483.63 \$A	55667.42

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Depth Date 24/01/98 1070.0m Present Activity Spud Date DRILLING

17/01/98 CONTRACTOR RIG NUMBER OPERATOR Santa Fe Drilling Paramswara Amity Oil NL REPORT FOR REPORT FOR REGION Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria COUNTRY WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA Broadbill VIC P/36 Bass Strait Austral DRILLING STRING CASING CIRCULATION DATA BIT DATA in. S12e 8.5 Pipe OD ID 4.276 Len. Pump Make/Model Ideco T-1600 in. Type ATMGTI8D ID 3.000 Len. Size 6.5 X 12 Eff. 97.00 V/st Pipe OD 112.5 in. 0.120 No. Jets Pipe OD ID Len. 30 Set @ 106.0 50 bbl/min mgc Jets 32nd inch Collar OD Len. Set @ Pump Make/Model Ideco T-1600 ID Б££. 97.00 V/St 16 14 Collar OD Size 6.5 X 12 Len. Set () 0.120 OPEN HOLE Set @ 50 bbl/min in. spm 6.0 Len. Tot Noz Area Size 8.5 291.0 Set è Pump Make/Model TFA Size Len Set 🥸 Size Bff. V/st Size Len. Set @ spm bbl/min Size Tot. Vol./min Set @ 502 gpm 12.0 Len. bbl BU Time Size Len Set @ 13 TC Time 57 MUD PROPERTIES MUD TREATMENTS Primary Pits, Circ Flowline Program Source Essential Mud dumped is gel mud in hole & pit. Raised Time 17:00 22:30 Targets Program EZ-MUD concentration to programmed value FL Temp Deg C 40 *=Excep after displacing. Adding BARACOR-129 to Properties 1032.0 784.9 1654.1 Depth m 865.0 maintain excess sulphites. Weighed up mud to 9.1 ppg @ 865 m for extra hole stabilty Weight ppg 8.9 9.1 9.0 FV @ 40 Deg C sec/qt while drilling coal seams. Lost approx 70 44 40 PV @ 49 Deg C cP 13 14 30 bbls downhole while drilling coal seams. ΥP lbs/100 ft: 18 22 Treated active with additional BARAZAN 1bs/100 ft2 4/7 Gels 4/6 D-Plus to combat thinning of the mud from API Filt. ml/30 min 4.7 4.2 coal. Running desander/desilter.Changed HTHP @ 121 Deg C ml/30 min 15.0 shakers to finer 150 mesh screens. No new 12.4 11.2 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. P.IH. Tag MBT 0.2 0.2 cement @ 745 m. Drill out cement & float to pH METER @ 20 Deg C 9.0 9.2 775 with seawater. Pump 100 bbl sweep of old Alk. Mud (Pm) 0.28 0.22 mud. Displace hole to KCl/EZ-MUD/Polymer Alk. Filtr. (Pf/Mf) 0.02/0.18 0.05/0.16 mud. Perform LOT @ 788 m to 13 ppg EMW Chlorides mg/l 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 19.20 91.00 6 rpm 6.00 10.00 KCl Content dgg 12 11 11.00 14.00 100 Excess sulfite mg/1 100 TERIALS USED SOLIDS EQUIPMENT Product Cost Product Used Device Make Sz/Sern HR BAPACOR 129 - 25 KG. DRUM 487.33 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 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 Shkr #6 Sweco LM3 80 x 3 10 dSndr Crestex 3 × 10" dSlt #1 Crestex 16 x 5 6 MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE bbl HYDRAULICS Water Depth 21.7 9,25 Hole Pits KCL/BZ MUD/POLYMER 600 rpm Calc. F. Grad 1.50 215 467 MUD CONSUMPTION 300 rpm 31 Leak Off Test 36 TRIPS 4.75 200 mpm 25 Active Volume ADDITIONS **SCD** SERV. RIG ppg 0.00 682 Oil 100 rpm 18 20 Cog. Shoe 9.4 SURVEY 0.00 Reserve Total Brine Water 6 rpm 6 TD FISHING 9.5 0.00

531 1213 Drill Water з грт 0 Max. Diff. Press LOGGING 0.00 Low Grav, vol % 2.9 Sea Water Pressure Units: RUN CSG 0.00 ppb 26.48 Whole Mud Press Drop. DP 524 CORE 0.00 High Grav, vol 1 DEVIATION INFO 0.0 Barite 15 Press Drop, BIT 695 BACK REAM 0.00 ppb 0.00 Chemicals Press Drop, AMN 116 3 MD 1070.0 REAMING λsg 2.61 LOSSES bb? Actual Circ. Press 1200 TVD 1070.0 m TESTING Drill Cuttings 306 Dumped AV, DP m/min 74.5 Angle 0.25 OTHER Dilution Rate 0.00 Lost 223 AV, DC m/min 125.1 Direction 320 AVERAGE ROP Slds Control Eff 0.00 VOL GAIN/LOSS -511 AV. Riser m/min Horiz. Displ BAROID REPRESENTATIVE OFFICE/HOME Melbourne TELEPHONE (03) 9621 3311 DAILY COST CUMULATIVE COST Nicholas Doust WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 \$A 7160.23

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

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REPORT NUMBER: 10

Depth Date 25/01/98 1335.0m [HD] Present Activity Spud Date DRILLING

(Cost Modified) 17/01/98 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 COUNTRY FIELD OR BLOCK GEOGRAPHIC AREA WELL NAME AND NUMBER Broadbill VIC P/36 Bass Strait Austral BIT DATA in. DRILLING STRING CASING CIRCULATION DATA Size 8.5 Pipe OD ID 4.276 Len. 1076.0 Pump Make/Model Ideco T-1600 97.00 V/St Type ATMGTISD Pipe OD ID 3.000 Len. 112.5 Size 6.5 X 12 Eff. 0.120 in. No. Jets Pipe OD ID Len. 30 Set @ 106.0 mge 50 bbl/min Jets 32nd inch Collar OD Len. 146.5 9 5/8 Set @ 779.0 Pump Make/Model Ideco T-1600 Eff. 97.00 V/st Collar OD Size 6.5 X 12 16 ID Len. Set @ 0.120 OPEN HOLE in. Set @ 5.0 bbl/min mge Size Len. 556.0 Tot Noz Area 8.5 Set 2 Pump Make/Model TFA Size Len. Set @ Size Eff. V/st Size Len. Set @ apm bbl/min Size Tot. Vol./min 12.0 bbl Len. Set () 502 gpm Size Len. Set () 17 TC Time BU Time 68 MUD PROPERTIES MUD TREATMENTS its, Circ Flowline Essential Program Maintain volume & properties with addition Source Time 22:00 13:00 Targets Program of premix. Lost approx 40 bbls downhole FL Temp Deg C 42 42 *=Excep Properties (squeezed into formation after coal pack 1323.0 784.9 1654. off) while reaming last stand to bottom Depth m 1230.0 9.3 9.3 during wiper trip. Raised mud weight to 9.3 Weight 9.0 ppg FV @ 42 Deg C ppg to help stabilise coals. Treated active 42 42 sec/qt PV \$ 49 Deg C сP 14 15 30 with 5 ppb each of BARACARB 25 & BARACARB 100 to prevent further seepage losses. lbs/100 ft: 23 20 lbs/100 ft2 4/7 Gels 5/8 Maintaining BARACARB concentrations with API Filt. m1/30 min 3.6 3.8 regular additions. Maintaining excess HTHP @ 121 Deg C ml/30 min sulfites with BARACOR-129, BARAZAN D-Plus 10.6 15.0 10.8 Cake API/HTHP 32nd in 1/2 1/2 used to maintain 6 rpm. KCl Content : 3.2 % Corr.Solids & by vol RIG ACTIVITY 4.3 4.1 Oil/Water % by vol 0.0/94.4 0.0/94. Drill from 1070 - 1095 m. Circulate bottoms Sand % by vol 0.25 0.25 up, working pipe. Drop Single shot survey. POOH to shoe 2 779 m. Retrieve survey. MBT 0.6 0.6 pH METER @ 20 Deg C 8.5 8.5 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 0.01/0.1 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 Excess sulfite mg/l 100 100 MATERIALS USED SOLIDS EQUIPMENT Product Cost Used Used Device Make Sz/Sern HR BARACARB 100 - 25 KG. SACK Shkr #1 Scalper 10 20 BARACARB 25 - 25 KG. BAG 1108.80 Shkr #2 | Scalper 10 20 BARACOR 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 Shkr #5 Sweco LM3 150 x 3 20 barite - 1000 KG. TON 7.200 2319.98 Sweco LM3 80 x 3 20 Shkr #6 cotassium hydroxide - 20 KG. 176.68 dSndr Crestex 3 x 10" 4 dSlt #1 Crestex 16 x 5" 9

MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME bal MUD TYPE HYDRAULICS Water Depth 21.7 DRLG Calc. F. Grad Hole Pits KCL/EZ MUD/POLYMER 600 rpm 51 0.0 270 542 MUD CONSUMPTION 300 rpm 37 35 Leak Off Test 13.0 TRIPS Active Volume ADDITIONS 200 rpm 30 ECD 29 SERV. RIG PP9 812 Oil 100 rpm 21 20 SURVEY Cag. Shoe 10.0 Reserve Total Brine Water 0 TD 6 rpm 6 FISHING 111 Drill Water 0 3 rpm Max. Diff. Press LOGGING 923 Pressure Units: Low Grav, vol % 2.9 Sea Water RUN CSG 0.00 ppb 26.12 Whole Mud Press Drop. DP 606 CORE High Grav, vol 1 1.5 11 Press Drop, BIT DEVIATION INFO Barite 726 BACK REAM 0.00 ppb 22.05 Chemicals 173 12 Press Drop, ANN MD 1335.0 REAMING 0.00 ASG 3.25 LOSSES bbl Actual Circ. Press 1350 TVD 1335.0 m TESTING Drill Cuttings Dumped AV, DP 74.5 Angle m/min 2.25 OTHER Dilution Rate 0.00 Lost 313 AV, DC m/min 125.1 Direction AVERAGE POP Slds Control Eff 0.00 VOL GAIN/LOSS Horiz. Displ -290 AV, Riser m/min 0.0 BAROID REPRESENTATIVE OFFICE/HOMB TELEPHONE (03) 9621 3311 DAILY COST CUMULATIVE COST Melbourne Nicholas Doust WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 \$A 7425.24

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Dilution Rate

Slds Control Eff

BAROID REFRESENTATIVE

0.00

0.00

VOL GAIN/LOSS

OFFICE/HOME

WAREHOUSE

REPORT NUMBER:

Depth Date 26/01/98 [MD] (Cost Modified) 1345.0m Spud Date Present Activity 17/01/98 LOGGING RIG NUMBER OPERATOR CONTRACTOR Amity Oil NL Santa 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 Broadbill 1 Austral Bass Strait DRILLING STRING CASING CIRCULATION DATA BIT DATA ın. Size Pipe OD ID Len. Pump Make/Model Ideco T-1600 Pipe OD ID Len. Size Eff. 97.00 V/st Type in. bbl/min 0.0 Pipe OD Set @ No. Jets ID Len. 106.0 mge Jets 32nd inch Collar OD ID Len. 9 S/8 Set @ Pump Make/Model Ideco T-1600 97.00 V/st Collar OD ID Len. Set @ Size 6.5 X 12 OPEN HOLE in. Set @ spm bbl/min 0.0 Tot Noz Area Size 8.5 566.0 Set @ Pump Make/Model Len. V/st TFA Size Len Set @ Site Eff. Size Len. Set @ spm bbl/min Size Len. Set @ Tot. Vol./min gpm 0 TC Time Size Len. Set @ BU Time MUD PROPERTIES MUD TREATMENTS Primary its, Circ Essential Lost approximately 100 bbls downhole when Program Source 14:00 Targets Program backreaming out of hole due to coal Time FL Temp Deg C Properties Depth m 1345.0 784.9 1654.3 9.4 Built 200 bbls of new premix to maintain mud Weight ppg 9.0 FV & 42 Deg C sec/qt 44 volume. PV 3 49 Deg C cP 16 30 BARAZAN-D Plus used to make hi-vis sweeps. lbs/100 ft: Gels 1bs/100 ft: 6/9 m1/30 min API Filt. No new shakers screens used on Broadbill 1. HTHP 2 121 Deg C m1/30 min 10.5 15.0 Cake API/HTHP 32nd in 1/2 KCl content : 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 № 20 Deg C 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) 0.01/0.1 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 10.00 hi-vis on bottom. POOH - no problem. Rig up 6.00 KCl Content & log 8-1/2" hole. ppb 11 11.00 14.00 Excess sulfite mg/l 100 TERIALS USED SOLIDS EQUIPMENT Product Used Sz/Scrn HR Device Make BARACOR 129 - 25 KG. DRUM 179.94 3 Scalper Shkr #1 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 RE-MUD DP - 50 LB. BAG 1026.36 9 Shkr #4 Sweco LM3 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. dSndr Crestex 3 x 10" potassium hydroxide - 20 KG. dSlt #1 Crestex 16 x 5" MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME bbl MUD TYPE HYDRAULICS Water Depth DRLG 2.00 21.7 Hole Pira KCL/EZ MUD/POLYMER 500 rpm 54 Calc. F. Grad 0.0 CIRC 3.00 MUD CONSUMPTION 446 300 rpm Leak Off Test TRIPS 13.0 4.00 Active Volume ADDITIONS 200 rpm 31 ECD SERV. RIG ppg 0.50 Oil 100 rpm 23 Cog. Shoe 9.3 SURVEY 1.00 Reserve Total Brine Water 6 rpm FISHING 9.3 0.00 118 Drill Water 881 3 rpm Max. Diff. Press LOGGING 0.00 Sea Water Low Grav, vol \$ 2.1 Pressure Units: RUN CSG psig 0.00 Whole Mud ppb 19.29 Press Drop. DP CORE 0.00 High Grav, vol \$ 2.2 Barite Press Drop, BIT DEVIATION INFO BACK REAM 7.50 ppb Chemicals 32.34 Press Drop, ANN 0 MD 1345.0 m REAMING 0.00 ASG LOSSES 3.52 Actual Circ. Press 0 TVD 1345.0 m TESTING 0.00 Drill Cuttings Dumped AV, DP m/min 0.0 Angle 3.25 OTHER 6.00

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m/min

Direction

Horiz. Displ

(03) 9621 3311

(03) 56 881 445 SA

45

DAILY COST

0.0

AVERAGE ROP

6410.39

0.00

CUMULATIVE COST

0.0

TELEPHONE

TELEPHONE

AV, DC

-42 AV, Riser m/min

Melbourne

Welshpool

REPORT NUMBER: Depth Date 27/01/98 1345.0m [MD] (Cost Modified) 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 FIELD OR BLOCK WELL NAME AND NUMBER VIC P/36 Bass Strait Austral Broadbill in. DRILLING STRING CASING CIRCULATION DATA BIT DATA Pipe OD Pump Make/Model Ideco T-1600 Size Eff. 97.00 7/st Size ID Type Pipe OD Len. bbl/min No. Jets Pipe OD ID Len. 30 Set @ 106.0 spm ID 9 5/8 Set @ 779.0 Pump Make/Model Ideco T-1600 Jets 32nd inch Collar OD Len. ID Set ? Size 6.5 X 12 Eff. 97.00 7/st Collar OD Len. OPEN HOLE in. bbl/min Set @ spm 0.0 8.5 Len. Set @ Pump Make/Model Size Tot Noz Area Eff. V/st Size TFA Size Len. Set @ Len. Set Q mge bbl/min Size Tot. Vol./min 0.0 bbl Set @ Size Len. gpm 0 TC Time Size Len. Set 9 BU Time MUD TREATMENTS MUD PROPERTIES Primary BARAZAN-D Plus used to build 100 bbls of Program Essential its, Unc 13:00 Targets Program hi-vis spotted on bottom prior to POOH. Time Deg C 0 *=Excep Properties FL Temp Depth 1345.0 784.9 1654.3 Barite used for slugs. 9.5 9.0 Weight ppg FV & 28 Deg C sec/qt 43 KCl content : 3 % 30 % 49 Deg C lbs/100 ft: 24 Gals lbs/100 ft: 7/9 API Filt. ml/30 min 6.0 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 Oil/Water % by vol 0.0/93. Logs unable to get past 1029 m. Rig down Schlumberger. Pick up 8-1/2" BHA. RIH. Wash Sand 1 by vol 0.25 мвт & ream from 880 - 982 m & 1027 - 1095 m. 0.6 RIH. Circulate & condition mud @ 1191 m. P.IH pH METER 2 20 Deg C 8.0 9.2 Alk. Mud (Pm) 0.10 to TD. Circulate bottoms up. Pump hi-vis Alk. Filtr. (PE/ME) 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 91.00 further. Rig down. Break & laydown excess 25.30 5 rpm 6.00 10,00 drillpipe. Prepare to P & A. KCl Content ppb Excess sulfite 80 mg/l SOLIDS EQUIPMENT MATERIALS USED Product Used Used Cost Product Cost Device Make Sz/Sern HR BARAZAN-D PLUS - 25 KG. BAG 719.96 2 Shkr #1 Scalper 10 barite - 1000 KG. TON 0.600 193.33 Shkr #2 | Scalper 10 Shkr #3 Sweco LM3 150 x Shkr #4 | Sweco LM3 150 x 3 4 Shkr #5 Sweco LM3 150 x 3 4 Shkr #6 Sweco LM3 80 x 3 dSndr Crestex 3 x 10' dSlt #1 Crestex 16 x 5 MITO MANACEMENT DUPOLOCY AND PRACTICE CRADIENT TIME

	MOD MAI	NAGEMENT	I KHEOFOGI	AMD	FRACIURE GRAI	フエロロエ	TIME	
MUD VOLU	ЈМЕ вы	MUD TYPE	HYDRAULI	ICS	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
Active V	/olume	ADDITIONS bbl	200 rpm 32		ECD pp	g	SERV. RIG	0.00
E26		Oil 0	100 rpm 24		Csg. Shoe	0.0	SURVEY	0.00
Reserve	Total	Brine Water 0	6 rpm 7		TD	0.0	FISHING	0.00
	826	Drill Water 0	3 rpm 5		Max. Diff. Press	0	LOGGING	7.25
Low Grav, vol	. 1 2.8	Sea Water 0	Pressure Units:	psig			RUN CSG	0.00
ььр	25.30	Whole Mud 0	Press Drop. DP	0			CORE	0.00
High Grav, vo	1 % 2.3	Barite 2	Press Drop, BIT	0	DEVIATION II	NFO	BACK REAM	0.00
dąq	33.81	Chemicals 0	Press Drop, ANN	0	MD 134	5.0 m	REAMING	2.00
ASG	3.41	LOSSES bbl	Actual Circ. Pres	ss 0	TVD 134	5.0 m	TESTING	0.00
Drill Cutting	js 0	Dumped 38	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 -SS	AV, Riser m/min		Horiz. Displ 0.0	m		
BAROID REPRES	SENTATIVE	OFFICE/HOMB	Melbourne	TELEPHONE	(03) 9621 3311	DAILY CO	OST CUMULATIV	E COST
Nicholas Dous	st	WAREHOUSE	Welshpool	TELEPHONE	(03) 56 881 445	ŞA	913.29 \$A 77	576.59

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0.120

0.120

bbl

0

Excess sulfite mg/l MATERIALS SOLIDS EQUIPMENT USED Sz/Scrn HR Product Used Cost Product Used Device Make Shkr #1 Scalper ALDACIDE G - 25 L. CAN 1 203.96 10 BARACOR 129 - 25 KG. DRUM 359.88 Shkr #2 | Scalper 10 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 80 x 3 dSndr Crestex 3 x 10" dSlt #1 Crestex 16 x 5'

	MUD MAN	NAGEMENT	RHEOLOGY AND	FRACTURE GRADIENT	TIME
MUD VOLU	ЈМЕ ьь1	MUD TYPE	HYDRAULICS	Water Depth 21.7	DRLG 0.00
Hole	Pits	KCL/EZ MUD/POLYMER	500 rpm	Calc. F. Grad 0.0	CIRC 0.00
317	509	MUD CONSUMPTION	300 rpm	Leak Off Test 13.0	TRIPS 0.00
Active '	Volume	ADDITIONS bbl	200 rpm	ECD ppg	SERV. RIG 0.00
826		Oil 0	100 rpm	Csg. Shoe 0.0	SURVEY 0.00
Reserve	Total	Brine Water 0	6 rpm	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	Fressure Units: psig		RUN CSG 0.00
ppb	0.00	Whole Mud 0	Press Drop. DP 0		CORE 0.00
High Grav, v	0.0	Barite 0	Press Drop, BIT 0	DEVIATION INFO	BACK REAM 0.00
ppb	0.00	Chemicals 0	Press Drop, ANN 0	MD 1345.0 m	REAMING 0.00
ASG	2.60	LOSSES bbl	Actual Circ. Press 0	TVD 1345.0 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 ROP 0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS 0	AV, Riser m/min	Horiz. Displ 0.0 m	
BAROID REPRE	SENTATIVE	OFFICE/HOME	Melbourne TELEPHONI	3 (03) 9621 3311 DAILY C	OST CUMULATIVE COST
Nicholas Dou:	st	WAREHOUSE	Welshpool TELEPHON	(03) 56 881 445 \$A	563.84 \$A 78140.43

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Amity Oil NL

Well Name: Contractor: Broadbill 1 Santa Fe Drilling

Dia:

Santa Fe Drillin Paramswara Geo Area:

AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



Interval Summary

Interval #

03

Bit Size

Mud type(s)

KCI/Polymer

8.5 in.

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

Dia:

Paramswara

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field:

VIC P/36 Victoria



Interval Material Consumption

Interval #01 in. Hole Section			Top of Inter Bottom of Inter	
Material	Unit size		Quantity	Total cost (\$A)
AQUAGEL	1000 KG.	TON	8.500	4,033.25
caustic soda	25 KG.	PAIL	5	216.05
ime	20 KG.	BAG	5	42.15
soda ash	25 KG.	BAG	1	14.85
Viiscellaneous 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: Geo Area: AUSTRALIA

Field:

BASS STRAIT VIC P/36

Region:

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

Country:

AUSTRALIA

Geo Area: Field:

BASS STRAIT VIC P/36

Victoria



Interval Material Consumption

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

Interval mud cost	\$A	46,9	956.6	5
Interval miscellaneous cost		\$A	29.1	0
Total interval cost	\$A	46,9	985.7	5
Programmed mud cost	\$A	37,6	605.0	1
Variance	\$,	A 9.3	351.6	4

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Rig:

Santa Fe Drilling

Paramswara

Country:

Field:

AUSTRALIA

Geo Area:

BASS STRAIT VIC P/36

gion: Victoria



HOLE S	SIZE:in.										M	UD TYPE	:No Muc	i			_
DATE	INITIAL VOLUME	MUD RECEIVED	OIL ADDED	WATER ADDED	BARITE ADDED bbl	CHEMICALS DAILY ADDED TOTA bbi bi	L TOTAL	MUD LOST SURFACE bbl	MUD LOST DOWNHOLE bbi	TOTAL DAILY LOSSES bbl	CUMLATIVE LOSSES bbl	MUD RETURNED	FINAL VOLUME bbl	HOLE VOLUME bbl	ACTIVE PITS ьы	RESERVE PITS bbl	-
16/01/98		م ا	1	<u> </u>	٥	0 0	o	0 0		0		- c	0		ه ا	0 0	5

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Rig:

Santa Fe Drilling

Paramswara

Country:

AUSTRALIA BASS STRAIT

Geo Area: Field: Region:

VIC P/36

Victoria



HOLE S	SIZE:in.										M	UD TYPI	E:Gel/Sea	awater			
DATE	INITIAL VOLUME	MUD RECEIVED	OIL ADDED bbi	WATER ADDED	BARITE ADDED bbl	CHEMICALS	DAILY TOTAL	CUMLATIVE TOTAL bbi	MUD LOST SURFACE bbl	TOTAL DAILY LOSSES bbl	CUMLATIVE LOSSES bbl	MUD RETURNED ьы	FINAL VOLUME bbt	HOLE VOLUME bbl	ACTIVE PITS bbl	RESERVE PITS bbl	
17/01/98		0	0	0	879	0 21	900	00	00 662	66:	2 66		0 23	8 23	в	0 0	1

Amity Oil NL

Well Name:

Broadbili 1

Contractor:

Santa Fe Drilling Paramswara Country: Geo Area: AUSTRALIA

BASS STRAIT

Field:

VIC P/36

Region:

Victoria



HOLE S	IZE:in.										M	UD TYPE	:Seawat	er		
DATE	INITIAL VOLUME БЫ	MUD RECEIVED bbl	OIL ADDED bbi	WATER ADDED bbl	BARITE ADDED bbl	CHEMICA ADDED bbl	ALS DAILY TOTAL bbl	CUMLATIVE	MUD LOST SURFACE bbl	MUD LOST DOWNHOLE bbi	CUMLATIVE	MUD RETURNED bbi	FINAL VOLUME bbi	HOLE VOLUME bы	ACTIVE PITS bbl	RESERVE PITS bbl
18/01/98	23	18	0	٥١	o	0	0	0	0 0	,) (281	28	1	0 0

Amity Oil NL

Well Name:

Broadbill 1

Contractor:

Santa Fe Drilling

Pia:

Paramswara

Country:

AUSTRALIA

Geo Area: Field:

BASS STRAIT VIC P/36

Region:

Victoria



HOLE SIZE:12.25 in.	MUD TYPE:Gel/Polymer	
		40

DATE	INITIAL VOLUM	ΛE į	MUD RECEIVED	OIL ADE		WATER ADDED bbi	BARITI) ja	HEMICALS DDED bbi	į TOT/		CUMLA'			MUD LOST DOWNHOLE		CUMLATIVE LOSSES bbi	MUD RETURNE bbl	D VOL		HOLE VOLUME	ACTIVE PITS bbl		SERVE TS
19/01/98		281		0	٥	1,3	90	0	41		1,430		1,430	340	0	340	34		٥١	1,371	28	1	572	· 518
20/01/98		1,371		0	اه	1,0	42	اه	3	,	1,081		2,511	584	700	1,284	1,62	1	٥	1,168	44	1	419	308
21/01/98		1,168		0	0	3	85	٥		,	394		2,905	217	24	241	1,86	5	0	1,321	60	0	523	208
22/01/98		1,321		ه ا	o		0	٥		ار	0		2,905	1,015	0	1,016	2,88	0	0	306	19	10	0	116

Amity Oil NL

Well Name: Broadbill 1

Contractor: Santa Fe Drilling

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Paramswara

Country:

AUSTRALIA

Geo Area: BASS STRAIT

Field:

VIC P/36

Region: Victoria



HOLE S	IZE:8.5 i	n.											M	JD TYPE	:KCI/Pol	ymer		
DATE	INITIAL I VOLUME	MUD RECEIVED вы	OIL ADDED bbi	WATER	j ADDI		HEMICALS DDED bbi	DAILY TOTAL bbl	CUMLATIVE	MUD LOST SURFACE bbl	MUD LOST DOWNHOLE bbl	TOTAL DAILY LOSSES bbl	CUMLATIVE LOSSES bbl	MUD RETURNED вы	FINAL VOLUME bbi	HOLE VOLUME БЫ	ACTIVE PITS bbl	RESERVE PITS bbl
23/01/98	30	06	0	0	1,371	0	47	1,418	1,418	s			0	(1,72	4 190	0 0	1,534
24/01/98	1,72	24	0	ol	0	15	3	18	1,430	459	70	62	529		1,21	3 211	5 467	531
25/01/98	1,21	13	0	o	0	11	12	23	1,45	273	4	31	842	(92	3 27	0 542	111
26/01/98	92	23	0	0	194	7	6	207	1,66	149	10	24	1,091	(88	1 31	7 446	118
27/01/98	88	31	0	o	0	2	0	2	1,66	5 67		5	7 1,148	1	82	6 31	7 509	0
28/01/98	8:	26	ما	٥	٥	اه	0	0	1,66	3 (0	1,148		82	8 31	7 509	0

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

Contractor: Santa Fe Dri Rig: Paramswara

Country:
Geo Are:
Illing Field:

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



Daily Operations Log

•	Daily	Ohei	ations Log
	DATE	DEPTH meters	OPERATION
	16/01/98	52	OFFLOADING BOAT
			Baroid Engineer arrived on rig.
			Offloading boats.
1	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 î 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 ì 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 $12-1/4$ 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.

Company:

Well Name:

Amity Oil NL Broadbill 1 Santa Fe Drilling

Contractor:

Paramswara

Country:

AUSTRALIA

Geo Area: Field: Region:

BASS STRAIT VIC P/36



Victoria



Operations Log Daily

OPERATION DATE DEPTH meters

DRILLING 20/01/98 545

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 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 ì b/u. Spot 100 bbl LCM pill (as precaution) ì 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 \hat{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 i 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.

Company:

Amity Oil NL Well Name:

Contractor:

Broadbill 1 Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area: Field:

BASS STRAIT VIC P/36

Region:

Victoria



Operations Log Daily

DATE **DEPTH 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 ì 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 ì out coal. Drill ahead to 1070 m.

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



Daily Operations Log

	- J- J-	
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. 1 Maintaining BARACARB concentrations with 1 regular additions. Maintaining excess 1 sulfites with BARACOR-129. BARAZAN D-Plus 1 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 i bottoms up. Drop survey. POOH 1 stand. i 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 ì & 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 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.

Company: Weil Name:

Amity Oil NL

Broadbill 1

Contractor:

Santa Fe Drilling

Paramswara

Country: Geo Area: AUSTRALIA BASS STRAIT

Field: Region: VIC P/36 Victoria



Operations Log Daily

DATE **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

Country:

AUSTRALIA

Geo Area:

BASS STRAIT

Field:

VIC P/36

Paramswara

Region:

Victoria

Bit and Hydraulic Record

DATE IN	BIT NO.	BIT SIZE in.	BIT MAKE	BIT TYPE	JETS or TFA	DEPTH OUT meters	DRILLED	HOURS	CUM HOURS	WEIGHT ON BIT Ib/1000		PUMP OUTPUT gpm	ANN. VEL DP/DC m/min	PUMP PRESSURE psig	MUD WEIGHT ppg	BIT GRADING	MUD TYPE, LITHOLOGY, REMARKS
11	1	0.00									0		0/0				

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	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, Miscens (Sand, alliatorie, Clayatone
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, coar

Company:

Amity Oil NL

Well Name: Broadbill 1

Contractor: Santa Fe Drilling

Paramswara

Country:

AUSTRALIA

Geo Area: Field: BASS STRAIT VIC P/36

gion: Victoria



Mud Property Recap: Water-Based Mud

DATE	DEPTH	1 5/1	DENSITY	FUN	<u> </u>	RHEOLO	GY 6	0 120°	F		pH	FILTRATIC	N.			FILTRATE	ANALYS	SIS			·	SAND	RETORT A	NALYSIS			МВТ	RHEOMET	ER DINGS		
D-11		TEMP	DENOM	vis		PV	1 YP	G		- [API	HTHP	Cake	Temp	Pm	Pf	N	If	CI	Total		Corr	LGS	Oil	Water		DIAL NEA			
	meters	Deg C	PPg	sec	c/qt	сP	-		00 It2	-		ml/30 mi	ml/30 min	32nd in	Deg C	mt	l n	nl I	ml	mg/L	Hardness mg/L	% by vol	Solids % by vol	% by vol	% by vol	% by vol	me/ml mud	600/300	200/100	E	6/3
16/01/98	62	2	8.3	1	28	1.0			,	Ī				2/ 0	121			1				1						,	,		
17/01/98	110	۱ ا	0.0	1		1.0	1	1	,				1	2/0	121			1					<u> </u>				1	,	1 ,		
18/01/98	110	0	00			1.0			,					2/0	121			ŀ			1		<u> </u>					1 ,	,		
19/01/98	110	0	8.9	1	38	7.0		8.0	3.0/	4.0		12.0		1/0	121			1										22 / 15	11 /	7 3	3 / 2
20/01/98	545	5 3	8.9		39	19.0	2	0.0	17.0/ 2	1.0	8.50	8.2	22.00	1/0	121	0.:	30	0.01	0.06	20,500	600.0	0.5	3.22	3.22	2	95.60	4.00	58 / 39	31 / 2	24 15	14
21/01/98	786	5 4	90		85	15.0	2	3.0	17.0/	0.0	8.20	8.0	22.80	1/ 2	121	0.4	10	0.02	0.06	21,000	600.0	tr	3.90	3.90	0	94.90	5.00	63 / 38	32 / 3	26 16	6 / 13
22/01/98	789	5 4	9.2		44	14.0	2	0.0	15.0/ 2	3.0	8.20	7.8	22.00	1/2	121	0.0	30	0.01	0.06	21,000	680.0	tr	5.41	5.4	1	93.40	5.50	48 / 34	29 /	25 14	1 / 12
23/01/98	78!	5	8.9	\Box	55	10.0	1	5.0	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	1.6	7	95.80		35 / 25	20 /	14 6	6 / 3
24/01/98	1070	0 4	9.8		44	13.0	1	8.0	4.0/	6.0	9.00	4.7	12.40	1/2	121	0.	22	0.02	0.18	24,000	320.0	1.0	2.91	2.9	1	95.70	0.20	44 / 3	25 /	18 6	6 / 4
25/01/98	133	16 4	2 9.3		42	14.0	2	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	2.8	7	94.40	0.60	51 / 3	30 /	21 E	6 / 4
26/01/98	134	15 4	2 9.4		44	16.0	:	22.0	6.0/	9.0	8.50	3.6	10.50	1/2	121) o.	16	0.01	0.16	22,000	300.0	0.6	4.34	2.1	2	94.40	0.60	54 / 3	3 31 /	23 7	7 / 5
27/01/98	134	15	9.5	i	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	5.08	2.7	8	93.70	0.60	54 / 3	32 /	24	11 5
28/01/98	134	15	9.5	1	28	1.0		1	,					2/0	121		1	1				1	1			<u> </u>	<u> </u>	,	,		

REPORT NUMBER: Depth Date 16/01/98 52.4 m Present Activity Spud Date 17/01/98 OFFLOADING BOAT RIG NUMBER CONTRACTOR **OPERATOR** Amity Oil NL REPORT FOR Santa Fe Drilling Paramswara REPORT FOR REGION 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 CASING BIT DATA DRILLING STRING in. Pump Make/Model Size Pipe OD ID Len. V/st ID Len. in. Size Eff. Pipe OD Туре Set @ bbl/min spm No. Jets Pipe OD ID Len. Jets 32nd inch Len. Set @ Pump Make/Model Collar OD ID Set @ Size Eff. V/st Collar OD ID Len. OPEN HOLE bbl/min in Set @ spm Set @ Pump Make/Model Size Len. Tot No: Area V/st Size Eff. Set @ TFA Size Len. Size Len. Set @ mge bbl/min Tot. Vol./min 0 0.0 bbl Size Set @ gpm Len. 0 TC Time BU Time Size Len. Set @ MUD TREATMENTS MUD PROPERTIES Primary Essential Baroid Engineer arrived on rig. Flowline Program Source Time 10:54 Targets Program *=Excep Properties FL Temp Deg C 0.0 2 Depth 8.3 Weight ppg FV 9 16 Deg C sec/qt 28 PV @ 49 Deg C cP 1 lbs/100 ft2 ΥP lbs/100 ft: 0/0 Gels 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 Offloading boats. 0.0/0.0 Sand % by vol MBT 0.0 pH STRIP 0.0 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 Device Make Sz/Sern HR NO INVENTORY USED ON THIS REPORT

	MUD MAI	NAGEMENT	RHEOLOGY	AND	FRACTURE GRAI	DIENT	TIME	
MUD VOLU	ЈМЕ ьь1	MUD TYPE	HYDRAULI	CS	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 \	Volume	ADDITIONS bbl	200 rpm		ECD pp	g	SERV. RIC	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	O Pressure Units:	psig			RUN CSG	0.00
ppb	0.00	Whole Mud	0 Press Drop. DP	0			CORE	0.00
High Grav, vo	ol % 0.0	Barite	O Press Drop, BIT	0	DEVIATION I	NFO	BACK REAL	0.00
ppb	0.00	Chemicals	0 Press Drop, ANN	0	MD 52.	4 m	REAMING	0.00
ASG	2.60	LOSSES bbl	Actual Circ. Pres	s 0	TVD 52.	4 m	TESTING	0.00
Drill Cutting	gs 0	Dumped	0 AV, DP m/min	0.0	Angle	0.00	OTHER	0.00
Dilution Rate	∍ 0.00	Lost	O AV, DC m/min	0.0	Direction		AVERAGE F	0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS	0 AV, Riser m/min		Horiz. Displ 0.0	m		
BAROID REPRES	SENTATIVE	OFFICE/HOME	Melbourne	TELEPHONE	(03) 9621 3311	DAILY CO	ost c	CUMULATIVE COST
Nicholas Dous	st	WAREHOUSE	Welshpool	TELEPHONE	(03) 56 881 445	\$A	0.00	\$A 0.00
		NOTE: ALI	COSTS ARE REPORTED	IN AUSTRA	ALIA'S DOLLAR			

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BAROID REPRESENTATIVE

Nicholas Doust

POOH TO RUN 30" CSG 17/01/98 RIG NUMBER OPERATOR CONTRACTOR Paramswara Amity Oil NL Santa Fe Drilling REPORT FOR REPORT FOR REGION Santa Fe Drilling Victoria Wally Westman/Murray Jackson COLINTRY WELL NAME AND NUMBER FIELD OR BLOCK GEOGRAPHIC AREA VIC P/36 Broadbill 1 Bass Strait Austral CIRCULATION DATA CASING BIT DATA DRILLING STRING in. Ideco T-1600 Pump Make/Model Size Pipe CD Len. Pipe OD ID Len. in. Size 6.5 X 12 Eff. 97.00 V/st 0.120 Тура No. Jets Pipe OD ID Len. Set @ mqc bbl/min Ideco T-1600 Jets 32nd inch Collar OD τD Len. Set @ Pump Make/Model Eff. 97.00 V/st ΙĐ Set @ Size 6.5 X 12 Collar OD Len. OPEN HOLE bbl/min 0.0 in. Set è mae 0 Tot Noz Area Len. Set @ Pump Make/Model Bff. V/st Size TFA Size Len. Set @ Size Len. Set @ mqe bbl/min Len. Size Set @ Tot. Vol./min 0 0.0 bbl gpm 0 TC Time Size BU Time Len. Set @ MUD PROPERTIES MUD TREATMENTS Primary 3 Built 400 bbls of flocculated spud mud for Flowline Essential Source Program Time 10:57 Targets Program hi-vis sweeps and 500 bbls of pre-hydrated AQUAGEL for filling hole. Built 1066 bbls of FL Temp Deg C 0 *=Excep Properties Depth 110.0 pre-hydrated AQUAGEL for 12-1/4" section m Weight 0.0 will charge of 12-1/4" mud costs tomorrow. ppg FV % 16 Deg C sec/qt Total mud built : 1966 bbls. 0 PV 2 49 Deg C cP 1 lbs/100 ft: Actual AQUAGEL stock remaining : 16.4 MT. 0/0 Initial Barite on board: 19.64 MT (432 sxs) lbs/100 ft2 Gels API Filt. ml/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 0.0/0.0 Continue to offload boat, Make up 36" BHA. 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) Pump 80 bbl hi-vis sweep. Circulate out 0.00 Alk. Filtr. (Pf/Hf) 0.00/0.00 sweep. Pump 35 bbl hi-vis mud. Displace hole Chlorides mg/l to unflocculated pre-hydrated AQUAGEL. FOOH. 0 Hard. Ca mg/l RIH. Displace hole to unflocculated Low Gravity Solids ppb 0.00 pre-hydrated AQUAGEL. POOH to run 30" conductor. MATERIALS USED SOLIDS EQUIPMENT Product Device Make Sz/Scrn HR AQUAGEL - 1000 KG. TON Shkr #1 | Scalper 8.500 4033.25 caustic soda - 25 KG. PAIL 216.05 Shkr #2 Scalper lime - 20 KG. BAG 42.15 Shkr #3 Sweco LM3 soda ash - 25 KG. BAG 14.85 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 MUD VOLUME MUD TYPE Water Depth 3.0n bbl HYDRAULICS 21.7 DRLG Hole Pits SEAWATER/HI VIS SWEEPS 600 rpm Calc. F. Grad 0.0 CIRC 2.00 300 rpm 238 MUD CONSUMPTION Leak Off Test 0.0 TRIPS 2.50 Active Volume ADDITIONS bbl 200 rpm ECD SERV. RIG 0.00 ppg 238 Oil 0 100 rpm Csg. Shoe 0.0 SURVEY 0.00 Reserve Total Brine Water Ω 6 rpm TD 0.0 FISHING 0 00 238 Drill Water 629 3 rpm Max. Diff. Press 0 LOGGING 0.00 Low Grav, vol % 0.0 Sea Water 250 Pressure Units: paig PIN CSG 0.00 ppb 0.00 Whole Mud 0 Press Drop. DP 0 CORE 0.00 High Grav, vol % 0.0 DEVIATION INFO Barite 0 Press Drop, BIT 0 BACK REAM 0.00 ppb 0.00 Chemicals 21 Press Drop, ANN 0 MD 110 0 REAMING 0.00 ASG LOSSES bbl Actual Circ. Press 0 TVD 110.0 m TESTING 0.00 Drill Cuttings Dumped 662 AV. DP m/min 0.0 Angle 0.00 OTHER 16 50 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 238 AV, Riser m/min Horiz. Displ 0.0

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

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TELEPHONE

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CUMULATIVE COST

4306.30

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Melbourne

Welshpool

OFFICE/HOME

Spud Date Present Activity INSTALL DIVERTER 17/01/98 OPERATOR CONTRACTOR RIG NUMBER Santa Fe Drilling Paramswara Amity Oil NL REGION REPORT FOR REPORT FOR Victoria Wally Westman/Murray Jackson Santa Fe Drilling GEOGRAPHIC AREA COUNTRY FIELD OR BLOCK WELL NAME AND NUMBER Broadbill 1 VIC P/36 Bass Strait Austral in. DRILLING STRING CIRCULATION DATA BIT DATA CASING Pump Make/Model Ideco T-1600 Size Pipe OD Size 6.5 X 12 Rff. 97.00 V/st Type Pipe OD ID Len. in. m Len. 30 Set @ 106.0 spm 0 bbl/min No. Jeta Pipe OD ID Set @ Pump Make/Model Ideco T-1600 Jets 32nd inch Collar OD ID Len. Len. Rff. 97.00 V/st Collar OD TD Set 9 Size 6.5 X 12 OPEN HOLE 0 in. Set @ mga Set @ Pump Make/Model Tot Noz Area Size 36 Len. 4.0 Size Set @ Size REE. V/st TFA Len. Set @ bb1/min Size Len. abw Tot. Vol./min Size Len. Set @ 0 0.0 bbl Size 0 TC Time Len. Set @ MUD PROPERTIES MUD TREATMENTS Primary Flowline Program Essential Calcium Chloride used for cementing. To be charged as non-drilling cost. 19:37 Time Targets Program FL Temp Deg C 0 *=Excep Properties 110.0 Will charge off 12-1/4" mud costs tomorrow. Depth Weight ppg 0.0 FV ½ 16 Deg C sec/qt 0 Total 12-1/4" mud built to date : 1182 bbls. P7 2 49 Deg C cP 1 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 pH STRIP 12-1/4" diverter. 0.0 Alk.. Hud (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 Device Make Sz/Sern HR NO INVENTORY USED ON THIS REPORT 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 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 Hole Pits Seawater 600 rpm Calc. F. Grad CIRC 0.0 0.00 281 MUD CONSUMPTION 300 rpm Leak Off Test 0.0 TRIPS 0.00 Active Volume ADDITIONS bbl 200 rpm RCD 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 Drill Water 3 rpm 281 0 Max. Diff. Press LOGGING 0.00 Low Grav, vol % Sea Water psig 0.0 0 Pressure Units: RUN CSG 14.00 ppb 0.00 Whole Mud 0 Press Drop. DP CORE 0.00 High Grav, vol % 0.0 DEVIATION INFO Barite 0 Press Drop, BIT 0 BACK REAM 0.00 ppb 0.00 Chemicals Press Drop, AMN 0 MD 110.0 REAMING 0.00 ASG LOSSES Actual Circ. Press TVD TESTING 0 110.0 m 0.00 Drill Cuttings AV, DP Dumped 0 OTHER m/min 0.0 Angle 0.00 10.00 Dilution Rate Lost AV, DC m/min AVERAGE ROP 0 0.0 Direction 0.00 Slds Control Eff 0.00 VOL GAIN/LOSS 0 AV, Riser m/min Horiz. Displ 0.0 BAROID REPRESENTATIVE DAILY COST CUMULATIVE COST OFFICE/HOMB TELEPHONE (03) 9621 3311 Melbourne Nicholas Doust WAREHOUSE Welshpool TELEPHONE (03) 56 881 445 \$A 0.00

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Baroid Australia Pty Ltd DRILLING MUD REPORT (Cost Modified)

REPORT NUMBER: Depth Date 19/01/98 <u>110.</u>0 m [MD] Spud Date Present Activity

CUMULATIVE COST

10469.31

PICK UP 12-1/4" 17/01/98 RIG NUMBER **OPERATOR** CONTRACTOR Santa Fe Drilling Amity Oil NL Paramswara REGION REPORT FOR REPORT FOR Wally Westman/Murray Jackson Santa Fe Drilling Victoria COUNTRY FIELD OR BLOCK GEOGRAPHIC AREA WELL NAME AND NUMBER VIC P/36 Broadbill 1 Bass Strait Austral CASING CIRCULATION DATA BIT DATA ın. DRILLING STRING Pipe OD Pump Make/Model Ideco T-1600 in. ID Len. Size 6.5 X 12 Eff. 97.00 V/st Pipe OD in. m Type bbl/min No. Jets Pipe OD ID Len. 30 Set @ 106.0 mqe O Collar OD פו Set 9 Pump Make/Model Ideco T-1600 Jets 32nd inch Len. Size 6.5 X 12 Eff. 97.00 V/st Collar OD Len. Set @ OPEN HOLE in. Set @ 0 bbl/min 0.0 spm Set @ Pump Make/Model Tot Noz Area Size Len. 4.0 Eff. V/st TFA Size Len Set @ Size bbl/min Size Set @ apm Len. Size Set @ Tot. Vol./min 0 0.0 bbl Len. gpm Size 0 TC Time Len. Set @ BU Time MUD PROPERTIES MUD TREATMENTS Primary Calcium chloride used for cementing to be Source Pits, Circ Program Essential 20:45 charged as 'non-drilling cost'. Time -=Бхсер Properties FL Temp Deg C 0 110.0 Built total of 1430 bbls of Depth m 8.9 seawater/AQUAGEL/Polymer mud for 12-1/4" Weight ppg FV 9 18 Deg C sec/qt 38 hole. PV @ 49 Deg C cP lbs/100 ft: Expect API filtrate to decrease with ΥP 8 incorporation of drill solids and more PAC-R Gels lbs/100 ft: 3/4 once drilling commences. API Filt. m1/30 min 12.0 HTHP 121 Deg C ml/30 min 0.0 Cake API/HTHP 32nd in 1/0 RIG ACTIVITY Corr.Solids % by vol 0.0 Oil/Water % by vol 0.0/0.0 Continue to install diverter and riser. Sand % by vol Function flowline, seals and overboard lines. Run wear bushing. Cement top of 30" MBT 0.0 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. PIH. Drill cement, shoe track Chlorides mg/l 0 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 mg/l MATERIALS USED SOLIDS EQUIPMENT Product Used Cost Device Make Sz/Sern HR AQUAGEL - 1000 KG. TON Shkr #1 Scalper 20 PAC-L - 25 KG. BAG 14 2060.94 Shkr #2 | Scalper 20 PAC-P - 25 KG. BAG 294.42 Shkr #3 Sweco LM3 1<u>50 x 3</u> 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 RHEOLOGY AND MUD MANAGEMENT FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE bbl HYDRAULICS Water Depth 21.7 0.00 Hole Pits GEL/SEAWATER/POLYMER 600 rpm 22 Calc. F. Grad 0.0 CIRC 0.75 281 572 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 PPg 0 100 rpm 853 Oil Csg. Shoe SURVEY 0.00 P.eserve Total Brine Water 0 6 rpm 3 TD FISHING 0.00 518 Drill Water Max. Diff. Press LOGGING 1371 1026 3 rpm 0.00 Low Grav, vol % 0.0 Sea Water 364 Pressure Units: RUN CSG psig 0.00 ppb 0.00 Whole Mud 0 Press Drop. DP CORE 0.00 DEVIATION INFO High Grav, vol % 0.0 Barite 0 Press Drop, BIT BACK REAM 0 0.00 40 Press Drop, ANN ppb 0.00 Chemicals 0.00 110.0 REAMING ASG LOSSES bbl Actual Circ. Press 0 TVD TESTING 0.00 110.0 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

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

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WAREHOUSE

BAPOID REPRESENTATIVE

Nicholas Doust

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REPORT NUMBER: 5

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

Spud Date Present Activity
17/01/98 DRILLING

17/01/98 CONTRACTOR RIG NUMBER OPERATOR Paramswara Santa Fe Drilling 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 DRILLING STRING CASING CIRCULATION DATA BIT DATA in. Size 12.25 in. Pipe OD ID 4.276 Len. 314.2 Pump Make/Model Ideco T-1600 Size 6.5 X 12 Eff. 97.00 V/st ID 3.000 Len. 112.4 m Type MAX GT1 Pipe OD in. Pipe OD ID Len 30 Set @ 106.0 mge 80 bbl/min No. Jets Ideco T-1600 ID Len. Set @ Pump Make/Model Jets 32nd inch Collar OD 118.4 97.00 V/st 16 Size 6.5 X 12 Eff. 16 Collar OD ID Len Set @ OPEN HOLE Set @ spm 80 bbl/min Size Pump Make/Model Len. Set @ Tot Noz Area 12.25 439.0 TFA Size Len. Set @ Size Eff. V/st Size Len. Set @ spm bbl/min Tot. Vol./min bbl Size Len. Set @ 803 19.1 gpm Size Set 🕹 BU Time 22 TC Time Len. MUD PROPERTIES MUD TREATMENTS Primary its, Circ Flowline Program Essential Built 1070 bbls of new mud. Heavy mud losses experienced through coarse sands (approx 700 08:00 20:00 Targets Time bbls). Adding PAC-R to maintain API filtrate *=Excep FL Temp Deg C 36 44 Properties 165.0 420.0 110.0 784.9 and BARACOR-129 to maintain Excess Sulfite. Depth m 8.9 9.0 Weight ppg FV @ 44 Deg C sec/qt 39 44 35 45 LCM Sweeps : BARACARB 25 : 18 ppb PV @ 49 Deg C 19 BARACARB 100: сP BAROFIBRE : 4.5 ppb lbs/100 ft: 20 26 Gels lbs/100 ft2 17/21 16/21 AQUAGEL 20 ppb Running all solids control equipment. API Filt. m1/30 min 8.2 8.0 8.0 Building 30 bbls pumpable KCl/EZ-MUD/Polymer HTHP @ 121 Deg C m1/30 min 22.0 21.0 mud for spotting across Lakes Entrance. Cake API/HTHP 32nd in 1/0 1/0 RIG ACTIVITY 3.2 Corr.Solids & by vol 4.1 Oil/Water % by vol 0.0/95 0.0/94 Continue to pick up 8" drill collars. Drill 7 m of 12-1/4" hole. Pick up last 8" drill Sand % by vol 0.5 0.5 collar. Unable to circulate - plugged above 4.0 4.2 pH METER 2 float. POOH. Unblock float. RIH. Drill ahead 20 Deg C 8.5 8.5 Alk. Mud (Pm) 0.30 0.36 to 117 m - Incurring downhole losses. Pump 25 bbl hi-vis sweep. Circulate bottoms up. Alk. Filtr. (Pf/Mf) 0.01/0.05 0.01/0.0 Pump 25 bbl hi-vis. Drill ahead to 227 m at Chlorides mg/l 20500 21000 Hard. Ca mg/l 600 620 reduced pump strokes (120 spm). Pump 50 bbl Low Gravity Solids ppb 29.30 LCM pill (as above) before connection -Excess sulfite losses halted/red'd. Drill to 399 m. Circ mg/l 100 100 b/u. Spot 100 bbl LCM pill (as precaution) before conducting survey. Drill ahead. MATERIALS USED SOLIDS EQUIPMENT Product Used Sz/Sern HR Used Cost Product Cost Device Make AQUAGEL - 1000 KG. TON 12.400 5883.80 Shkr #1 | Scalper 10 BARACARB 100 - 25 KG. SACK 48 691.20 Shkr #2 Scalper 20 17 BARACARB 25 - 25 KG. BAG 48 554.40 Shkr #3 | Sweco LM3 150 x 3 17 BARACOR 129 - 25 KG. DRUM 1159.95 19 Shkr #4 Sweco LM3 150 x 3 17 BAROFIBRE - 25 LB. SACK 1606.50 Shkr #5 Sweco LM3 150 x 3 PAC-R - 25 KG. BAG 2796.99 Shkr #6 | Sweco LM3 19 150 x 3 17 caustic soda - 25 KG. PAIL 86.42 dSndr Crestex 3 x 10" 17 dSlt #1 Crestex 17 16 x 5 MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME bbl MUD TYPE HYDRAULICS Water Depth 21.7 DRLG GEL/SEAWATER/POLYMER rpm 58 MUD CONSUMPTION 300 rpm 39 43 Leak Off Test TRIPS 4.75 Active Volume ADDITIONS 200 rpm 31 ECD SERV. RIG ppg Oil 100 rpm 24 SURVEY 860 Csg. Shoe 9.0 0.50 Brine Water Reserve 6 rpm 15 FISHING 0.00 Drill Water Max. Diff. Press LOGGING 308 1168 3 rpm 14 0.00 Low Grav, vol % 3.2 Sea Water Pressure Units: psig RUN CSG 0.00 ppb 29.30 Whole Mud Press Drop. DP CORB 0.00 High Grav, vol % DEVIATION INFO BACK REAM 0.0 Barite Press Drop, BIT 1512 0.00 ppb 0.00 Chemicals Press Drop, ANN 545.0 REAMING 0.00 ASG LOSSES Actual Circ. Press 545.0 TESTING 0.00 Dumped Drill Cuttings 40 AV, DP m/min 0.15 OTHER 0.75 Angle 16.83 Dilution Rate Lost AV, DC m/min 69.7 Direction 354 AVERAGE ROP 0.00 3lds Control Eff 0.00 VOL GAIN/LOSS -203 AV, Riser m/min Horiz, Displ 0.0 CUMULATIVE COST BAROID REPRESENTATIVE OFFICE/HOME Melbourne TELEPHONE (03) 9621 3311 DAILY COST

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\$A

12779.26

Welshpool

WAREHOUSE

High Grav,

Drill Cuttings

Nicholas Doust

Slds Control Eff

BAROID REPRESENTATIVE

Dilution Rate

ppb

ASG

vol % 0.0

0.00

2.60

0.00

Barite

Dumped

Lost

LOSSES

Chemicals

VOL GAIN/LOSS

OFFICE/HOME

WAREHOUSE

Spud Date Present Activity R/U TO LOG / LOG 17/01/98 RIG NUMBER OPERATOR CONTRACTOR Amity Oil NLSanta Fe Drilling Paramswara REPORT FOR REPORT FOR REGION Santa Fe Drilling Wally Westman/Murray Jackson Victoria GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER FIELD OR BLOCK VIC_P/36 Broadbill 1 Bass Strait Austral in. DRILLING STRING CASING CIRCULATION DATA BIT DATA Pipe OD Len Pump Make/Model Ideco T-1600 ΙD Size Eff. 97.00 V/st Size 6.5 X 12 Туре Pipe OD ID Len. in. No. Jets ID Len 30 Set 🌣 106.0 0 bbl/min 0.0 Pipe OD mga Collar OD ĮD Set d Pump Make/Model Ideco T-1600 Jets 32nd inch Len Eff. 97.00 V/st 0.120 Size 6.5 X 12 Collar OD ID Len. Set @ OPEN HOLE bbl/min in. Set @ 0 0.0 Size Pump Make/Model 12.25 679.0 Set @ Tot Noz Area Len. V/st TFA Size Len. Set @ Size Eff. bbl/min Len. Set @ mga Size 0 Tot. Vol./min bbl Len. Set @ gpm 0.0 0 TC Time Size Len Set @ BU Time MUD PROPERTIES Primary MUD TREATMENTS Source Pits, Circ Flowline Program Essential Maintained treatment of active system with 06:00 13:00 PAC-R to hold API filtrate. Diluted active Time 46 *=Excep Properties with seawater/PAC-L to control mud viscosity FL Temp Deg C 46 increase from drilling claystone. Depth m 701.0 785.0 110.0 784.9 BARACOR-129 used to maintain excess Weight 9.0 ppg sulfites. Building KCl/BZ-MUD/Polymer mud FV @ 46 Deg C sec/qt 85 70 35 PV 9 49 Deg C cP 15 15 for 8-1/2" hole. Pan desander and desilter 1bs/100 ft2 23 ΥP 21 Gels lbs/100 ft2 17/30 17/29 API Filt. m1/30 min 8.0 7.8 Reports have been cost modified to reflect HTHP @ 121 Deg C ml/30 min 22.8 21.0 updated mud material prices. Cake API/HTHP No new shakers screens used to date. 32nd in 1/2 1/2 RIG ACTIVITY Corr.Solids % by vol 3.9 5.4 Oil/Water % by vol 0.0/94.9 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. pH MSTSR @ 20 Deg C Conduct multishot survey. POOH. Some tight 8.2 8.2 Alk. Mud (Pm) hole on first 6 stands (hole took 6 bls). 0.40 0.45 Alk. Filtr. (Pf/ME) 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 Hard. Ca mg/l 600 good. Circulate hole clean. POOH. Rig up to 600 Low Gravity Solids ppb 35.49 49.23 run Schlumberger logs. Hole drink rate Excess sulfite mg/l currently 4-6 bbls/hr. 120 100 MATERIALS USED SOLIDS EQUIPMENT Product Used Used Cost Product Device Make Sz/Scrn HR AOUAGEL - 1000 KG. TON 2.200 1043.90 Shkr #1 Scalper Shkr #2 | Scalper BARACOR 129 - 25 KG. DRUM 122.10 20 13 PAC-L - 25 KG. BAG 441.63 Shkr #3 Sweco LM3 3 150 x 3 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 x 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 51 Calc. F. Grad 0.0 CIRC 2.25 Leak Off Test 590 523 MUD CONSUMPTION 300 rpm 38 36 0.0 TRIPS 7.00 Active Volume ADDITIONS bbl 200 rpm 32 31 ECD SERV. PIG 0.00 1113 Oil 0 100 rpm 26 25 Csg. Shoe 9.1 SURVEY 1,25 Reserve Total Brine Water 0 6 rpm 16 15 TD 9.3 FISHING 0.00 Drill Water 208 Max. Diff. Press 1321 3 rpm 13 13 LOGGING 0.00 Low Grav, vol % Sea Water 3.9 385 Pressure Units: RUN CSG psiq 0.00 ррь 35.49 Whole Mud 0 Press Drop. DP CORE 0.00

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 BAPOID DRILLING FLUIDS, INC. or its agents, and are statements of opinion only.

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

0.25

DAILY COST

320

BACK REAM

AVERAGE ROP

REAMING

TESTING

2969.80

OTHER

0.00

0.00

0.00

2.75

0.00

CUMULATIVE COST

Press Drop, BIT

Actual Circ. Press

m/min

m/min

9 Press Drop, ANN

153 AV, Riser m/min

Melbourne

Welshpool

62 AV, DP

179

AV, DC

REPORT NUMBER: 7

Date Depth
22/01/98 785.0 m [MD]
Spud Date Present Activity

(Cost Modified) Present Activity Spud Date WOC 17/01/98 OPERATOR CONTRACTOR RIG NUMBER Santa Fe Drilling Paramswara Amity Oil NL REGION REPORT FOR REPORT FOR Wally Westman/Chris Roots Mike Walker/ Blain Wilkie Victoria FIELD OR BLOCK GEOGRAPHIC AREA COUNTRY WELL NAME AND NUMBER Bass Strait VIC P/36 Austral Broadbill 1 CIRCULATION DATA DRILLING STRING CASING BIT DATA in. Pipe OD Len Pump Make/Model Ideco T-1600 Size Size 6.5 X 12 Eff. 97.00 V/st 0.120 Pipe OD Len. in. T, pe bbl/min No. Jets Pipe OD ID Len. 30 Set @ 106.0 mge 0 Collar OD ID Len. 9 5/8 Set @ 779.0 Pump Make/Model Ideco T-1600 Jets 32nd inch Len. Set @ Size 6.5 X 12 Rff. 97.00 V/st Collar OD OPEN HOLE in. Set 9 spm 0 bbl/min Pump Make/Model Tot Noz Area Size Len. Set @ V/st BEF. TFA Size Len. Set @ Size Len. Size Set @ mga bbl/min Size Len. Set @ Tot. Vol./min gpm 0 TC Time Size Len. Set @ BU Time MUD PROPERTIES MUD TREATMENTS Primary Mixing 3% KCl/EZ-MUD/Polymer mud. Source Pits, Circ Program Essential Time 15:30 Targets Program Costs/volume to be included tomorrow. FL Temp Deg C 46 Properties 784.9 1654.1 785.0 Three shakers changed to coarser 80 mesh Depth m 9.2 9.0 9.5 size screens to prevent/reduce initial Weight ppg FV & 46 Deg C sec/qt losses of unsheared mud. Scalpers changed to 44 PV 4 49 Deg C cP 14 30 10 mesh. No new screens used to date. ΥP lbs/100 ft2 20 Dumping and cleaning pits at report time. lbs/100 ft2 15/23 Gels API Filt. m1/30 min 7.8 6.0 HTHP 3 121 Deg C ml/30 min 22.0 AQUAGEL and Calcium Chloride used in cement Cake API/HTHP job - to be charged as non-drilling cost. 32nd in 1/2 RIG ACTIVITY Corr.Solids & by vol 5.4 Oil/Water % by vol 0.0/93.4 Rig up Schlumberger. Log 12-1/4" hole Sand % by vol tr -BHC-LDL-CNL-DLL-MSPL-GR-CALI-SP. Rig down MBT Schlumberger. Pull diverter bag. Retrieve 5.5 pH METER @ 20 Deg C 8.5 wear bushing & laydown running tool, Rig up 8.2 9.2 Alk. Mud (Pm) 0.30 & run 9-5/8" casing to 779 m. Circulate Alk. Filtr. (PE/ME) casing while waiting on chemicals. Cement as 0.01/0.06 Chlorides mg/l 21000 per program. WOC. Hard. Ca mg/l Low Gravity Solids ppb 91.00 49.23 6 rpm 14 6.00 10.00 KCl Content ppb 11.00 14.00 MATERIALS USED SOLIDS EQUIPMENT Product _ Used Cost Product Device Make Sz/Scrn AOUAGEL - 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 Shkr #6 | Sweco LM3 80 x 3 dSndr Crestex 3 x 10" dslt #1 Crestex 16 x 5'

	MAM GUM	NAGEMENT	RHEOLOGY	AND	FRACTURE GRAI	DIENT	TIME	
MUD VOLU	ЈМЕ ыы	MUD TYPE	HYDRAUL:	ICS	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	1	Leak Off Test	0.0	TRIPS	0.00
Active :	/olume	ADDITIONS bbl	200 rpm 29		ECD pp	g	SERV. RIG	0.00
190		Oil	100 rpm 25		Csg. 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	l% 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	0.0	Barite 0	Press Drop, BIT	0	DEVIATION II	NFO	BACK REAM	0.00
ppb	0.00	Chemicals 0	Press Drop, ANN	o	MD 785	.0 m	REAMING	0.00
ASG	2.60	LOSSES bbl	Actual Circ. Pres	ss 0	TVD 785	.0 m	TESTING	0.00
Drill Cutting	35 O	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 RO	P 0.00
Slds Control	Rff 0.00	VOL GAIN/LOSS -1015	AV, Riser m/min		Horiz. Displ 0.5	m		
BAROID REPRES	SENTATIVE	OFFICE/HOME	Melbourne	TELEPHONE	(03) 9621 3311	DAILY CO	OST CU	MULATIVE COST
Nicholas Dous	st.	WAREHOUSE	Welshpool	TELEPHONE	(03) 56 881 445	SA	659.13 S	A 31183.79

MOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

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

RUN WEAR BUSHING 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 FIELD OR BLOCK GEOGRAPHIC AREA WELL NAME AND NUMBER VIC P/36 Broadbill Bass Strait Austral CIRCULATION DATA CASING BIT DATA DRILLING STRING in. Pump Make/Model Ideco T-1600 Pipe OD Len. Size Eff. 97.00 V/st Pipe OD Len. Size 6.5 X 12 0.120 Type cbl/min Set @ 106.0 spm No. Jets Pipe OD ID Len. Ideco T-1600 Jets 32nd inch Collar OD ID Len. 9 5/8 Set @ 779.0 Pump Make/Model Eff. 97.00 V/st Size 6.5 X 12 Collar OD Len. Set @ OPEN HOLE 0 bbl/min Set @ in. m apm Tot Noz Area Size Len 6.0 Set @ Pump Make/Model Eff. V/st Set @ Size TFA Size Len Size bbl/min Len Set @ mge Tot. Vol./min 0 0.0 bbl Size Set @ Len. Size BU Time Len. Set @ MUD TREATMENTS MUD PROPERTIES Primary Built total of 1418 bbls of KCl/EZ-MUD/Poly Pits, Circ Program Essential Source for 8-1/2" section. Mud built contains only Time 20:07 Targets Program Properties 0.75 ppb E2-MUD to reduce mud losses over FL Temp Deg C *=Excep shakers upon dispacement. 784.9 1654.1 785.0 Depth Weight ppg 8.9 9.0 9.5 Mud check is on reserve mud. Mud mixed with FV 4 20 Deg C sec/qt KCl content of 4 % to allow for depletion PV % 49 Deg C cP 10 through Lakes Entrance Formation. lbs/100 ft: 15 lbs/100 ft: Gels 4/8 API Filt. m1/30 min 5.0 6.0 15.0 HTHP % 121 Deg C ml/30 min Cake API/HTHP 32nd in 1/1 RIG ACTIVITY Corr.Solids % by vol 1.7 Oil/Water % by vol 0.0/95.8 WOC. Cut off 9-5/8" casing. Rig up & pull diverter. o/shot & riser & lay don. Install Sand % by vol adapter ring. Test flange to 2000 psi. Lower 0.0 BOP's & nipple up. Pressure test BOP's. Run pH METER @ 20 Deg C 8.2 8.5 9.2 wear bushing. Alk. Mud (Pm) 0.20 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 6 rpm 6 6.00 10.00 KCl Content ppb KCl % by vol MATERIALS USED SOLIDS EQUIPMENT Device Make Product Used Cost Product Used Sz/Sern HR ALDACIDE G - 25 L. CAN 3 611.88 Shkr #1 | Scalper 10 BARAZAN-D PLUS - 25 KG. BAG 23 8279.54 Shkr #2 Scalper 10 DEXTRID LT - 25 KG. BAG 107 5631.49 Shkr #3 Sweco LM3 150 x 3 EZ-MUD DP - 50 LB. BAG Shkr #4 Sweco LM3 2754.96 24 80 x 3 PAC-L - 25 KG. BAG Shkr #5 Sweco LM3 22 3238.62 80 x 3 potassium chloride - 1000 KG. 3892.89 Shkr #6 Sweco LM3 80 x 3 soda ash - 25 KG. BAG dSndr Crestex 74.25 3 x 10 dSlt #1 Crestex 16 x 5 MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS bb1 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 MUD CONSUMPTION 300 rpm 25 Leak Off Test 0.0 TRIPS 0.00 Active Volume ADDITIONS bbl 200 rpm 20 ECD SERV. RIG 0.00 190 Oil 0 100 rpm 14 Csg. Shoe 0.0 SURVEY 0.00 FISHING Peserve Total Brine Water 6 rpm 6 TD 0.0 0.00 Drill Water Max. Diff. Press LOGGING 0.00 1534 1724 1371 3 rpm 3 RUN CSG Low Grav, vol & Sea Water 0.00 1.7 Pressure Units: psig ppb Whole Mud Press Drop. DP CORE 0.00 15.20 DEVIATION INFO High Grav, vol % 0.0 BACK REAM 0.00 Barite Press Drop, BIT 0.00 ppb Chemicals Press Drop, AMM 0 MD 785.0 REAMING 0.00 Actual Circ. Press 785.0 TESTING Drill Cuttings Dumped AV, DP Angle 0.25 OTHER 24.00 m/min

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

AV, DC

1418 AV, Riser m/min

Melbourne Welshpool

Dilution Rate

Nicholas Doust

Slds Control Eff

BAROID REPRESENTATIVE

0.00

VOL GAIN/LOSS

OFFICE/HOME

WAREHOUSE

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TELEPHONE

TELEPHONE

m/min

Direction

Horiz. Displ

(03) 9621 3311

(03) 56 881 445 \$A

320

DAILY COST

0.5

AVERAGE ROP

24483.63

0.00

CUMULATIVE COST

REPORT NUMBER: 9

Date Depth
24/01/98 1070.0m [MD]

Spud Date Present Activity

DRILLING 17/01/98 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 1 VIC P/36 Bass Strait Austral in. DRILLING BIT DATA STRING CASING CIRCULATION DATA Size 8.5 Pipe OD 4.276 Len. Pump Make/Model Ideco T-1600 Type ATMGTI8D ID 3.000 Len. 112.5 Size 6.5 X 12 Eff. 97.00 V/st Pipe OD 0.120 in. m No. Jets Pipe OD ID Len. 30 Set @ 106.0 mqe 50 bbl/min 6.0 Jets 32nd inch Collar OD ID Len. 146.5 Set @ 779.0 Pump Make/Model Ideco T-1600 9 5/8 16 Collar OD Set @ Size 6.5 X 12 Eff. 97.00 V/at 0.120 Len OPEN HOLE in m Set @ spm 50 bbl/min 6.0 Tot Noz Area Size Len. Set 🕹 Pump Make/Model Bff. Size Size V/st TFA Len. Set @ Size Len. Set @ bb1/min spm Size Len. Set @ Tot. Vol./min 502 12.0 bbl gpm Size 13 TC Time Len. Set @ BU Time MUD PROPERTIES MUD TREATMENTS Primary its, Circ Flowline Mud dumped is gel mud in hole & pit. Raised Source Program Essential EZ-MUD concentration to programmed value Time 17:00 22:30 Targets Program FL Temp Deg C 40 40 *=Excep Properties after displacing. Adding BARACOR-129 to Depth 865.0 maintain excess sulphites. Weighed up mud to 1032.0 784.9 1654.1 m Weight 8.9 9.1 9.0 9.1 ppg @ 865 \mathfrak{m} for extra hole stabilty ppg FV @ 40 Deg C sec/qt 40 while drilling coal seams. Lost approx 70 44 PV @ 49 Deg C cP 13 14 30 bbls downhole while drilling coal seams. 79 lbs/100 ft: 18 22 Treated active with additional BARAZAN lbs/100 ft2 D-Plus to combat thinning of the mud from Gels 4/6 4/7 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 15.0 shakers to finer 150 mesh screens. No new Cake API/HTHP 1/2 32nd in 1/2 screens used to date. KCl content : 3 % Corr.Solids % by vol 2.9 3.2 RIG ACTIVITY Oil/Water % by vol Lay down 8" drill collars. Pick up & make up 0.0/95. 0.0/95.9 Sand % by vol 1.0 0.5 8-1/2" BHA. Pick up 5 " drill pipe. RIH. Tag MBT 0.2 cement @ 745 m. Drill out cement & float to pH METER @ 20 Deg C 9.0 9.2 8.5 775 with seawater. Pump 100 bbl sweep of old 9.2 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 mg/l 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 19.20 91.00 6 rpm 6 6 6.00 10.00 KCl Content ppb 12 11.00 14.00 Excess sulfite 100 mg/l 100 MATERIALS USED SOLIDS EQUIPMENT Product Device Make Shkr #1 Scalper Used Cost Product. Used Sz/Sern HR BARACOR 129 - 25 KG. DRUM 487.33 10 10 BARAZAN-D PLUS - 25 KG. BAG 5 1799.90 Shkr #2 | Scalper 10 10 DEXTRID LT - 25 MG. BAG Shkr #3 Sweco LM3 1 52.07 150 x 3 10 EZ-MUD DP - 50 LB. BAG 14 1607.06 Shkr #4 | Sweco LM3 150 x 3 barite - 1000 KG. TON 9.700 3125.53 Shkr #5 | Sweco LM3 | 150 x 3 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" MID MANAGEMENT DUPOLOCY AND LEDACTURE CRADIENT TEMP

		NACEMENT		K.F.	150	TIOG	Y F	אווי מווד	FRAC.	TURE (KAJ	DTEMT.	LITME		
MUD VOLU	ME bbl	MUD TYPE	Ĺ	H	IYD	RAU	LIC	CS	Water D	epth		21.7	DRLG		9.25
Hole	Pits	KCL/BZ MUD/POLYMER		00 r	рm	44	50		Calc. F	. Grad		0.0	CIRC		1.50
215	467	MUD CONSUMPTI	nc	00 r	рm	31	36		Leak Of	f Test		13.0	TRIPS		4.75
Active V	/olume	ADDITIONS be	1	00 r	Ρm	25	30	ļ	ECD		pp	g	SERV. F	RIG	0.00
582		Oil	0	00 r	Ρm	18	20	- 1	Cog.	Shoe		9.4	SURVEY		0.00
Reserve	Total	Brine Water	0	6 r	рm	6	6	ļ	TD			9.5	FISHING	;	0.00
531	1213	Drill Water	0	3 r	ρm	4	4		Max. Di	ff. Pres	3	0	LOGGING	;	0.00
Low Grav, vol	. % 2.9	Sea Water	0 1	ress	ure	Units	:	psig					RUN CSC	;	0.00
ppp	26.48	Whole Mud	0 [ress	Dro	p. DP		524					CORE		0.00
High Grav, vo	1 % 0.0	Barite	15	ress	Dro	p, BI	Т	695	DEV:	OITAL	II_I	VFO	BACK R	MAG	0.00
ppb	0.00	Chemicals	3	ress	Dro	IIA , g	11	116	MD		107	0.0 m	REAMING	;	0.00
ASG	2.61	LOSSES bb	ı ja	ctua	l Ci	rc. P	ress	1200	TVD		107	m 0.0	TESTING	;	2.00
Drill Cutting	12 0	Dumped	106	V, D	P	m/mi	n	74.5	Angle			0.25	OTHER		6.50
Dilution Rate	0.00	Lost	23	J, D	c	m/mi	n	125.1	Direct	ion		320	AVEP.AGE	ROP	0.00
Slds Control	Eff 0.00	VOL GAIN/LOSS -	11 /	7. R	iser	m/mi	n	i	Horiz.	Displ_	0.5	m			
BAROID REPRES	ENTATIVE	OFFICE/HOME		elbo	urne		T	SLEPHONE	(03)	9621 331	11	DAILY CO	OST	CUMUL	ATIVE COST
Nicholas Dous	t	WAREHOUSE	F	elsh	pool		TI	SLEPHONE	(03)	56 881 4	145	\$A	7160.23	\$A	62827.65
		NOTE: A	r cc	STS	ARE	PEPOP	TED I	IN AUSTRA	LLIA'S DO	LLAR					

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KCl Content

Excess sulfite

mg/1

REPORT NUMBER: 10

17/01/98

Depth Date 25/01/98 1335.0m [MD] Spud Date Present Activity

DRILLING

Austral

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

Broadbill 1 VIC P/36 Bass Strait CIRCULATION DATA DRILLING STRING CASING BIT DATA in. m Pump Make/Model Ideco_T-1600 Size 8.5 Pipe OD ID 4.276 Len. 1076.0 ID 3.000 Len. 112.5 Size 6.5 X 12 Eff. 97.00 V/st Type ATMSTISD Pipe OD in. bbl/min 50 No. Jets Pipe OD ID Len. 30 Set w 106.0 apm Set @ 779.0 Pump Make/Model Ideco T-1600 Jets 32nd inch Collar OD ID Len. 146.5 9 5/8 Size 6.5 X 12 Eff. 97.00 V/st 14 Collar OD ID Set @ 16 Len. OPEN HOLE in. Set @ spm 50 bbl/min 6.0 Size Len. Set æ Pump Make/Model Tot Noz Area ⊽/st BEE. TFA Size Len. Set 🌞 Size bbl/min

Size Len. Set @ apm Tot. Vol./min 502 12.0 Size Len. Set (9 gpm 17 TC Time Size Len Set (i) BU Time MUD TREATMENTS MUD PROPERTIES Primary Pits, Circ Flowline Essential Maintain volume & properties with addition Source Program 22:00 13:00 Targets Program of premix. Lost approx 40 bbls downhole Time

Deg C 42 *=Excep Properties FL Temp 1230.0 784.9 1654.1 Depth 1323.0 9.3 9.0 9.5 Weight ppg 9.3 FV @ 42 Deg C 42 42 sec/qt PV & 49 Deg C cP 14 15 ΥP lbs/100 ft2 20 Gels lbs/100 ft2 5/8 4/7 3.8 6.0 API Filt. m1/30 min 3.6 HTHP 9 121 Deg C ml/30 min 10.6 10.8 15.0 Cake API/HTHP 32nd in 1/2 1/2 Corr.Solids % by vol 4.3 4.1 Oil/Water % by vol 0.0/94 0.0/94.6 Sand % by vol 0.25 0.25 MBT 0.6 0.6 pH METER @ 20 Deg C 8.5 8.5 8.5 9.2 Alk. Mud (Pm) 0.20 0.10 Alk. Filtr. (Pf/Mf) 0.01/0.16 0.01/0.1 Chlorides mg/l 22000 22000 Hard. Ca mg/l 300 320 Low Gravity Solids ppb 26.12 22.48 91.00 6.00 10.00 6 rpm 6 6

12

100

11

100

(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. Maintaining BARACARB concentrations with regular additions. Maintaining excess sulfites with BARACOR-129. BARAZAN D-Plus used to maintain 6 rpm. KCl Content: 3.2 %

RIG ACTIVITY 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.

7425.26

\$A

MATERIA LS USED SOLIDS EQUIPMENT Cost Used Used Product Sz/Sern HR Device Make Shkr #1 Scalper BARACARB 100 - 25 KG. SACK 10 20 BARACARB 25 - 25 KG. BAG 1108.80 Shkr #2 | Scalper 10 20 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 20 Shkr #5 Sweco LM3 EZ-MUD DP - 50 LB. BAG 457.66 150 x 3 20 barite - 1000 KG. TON 2319.98 7.200 Shkr #6 Sweco LM3 80 x 3 20 potassium hydroxide - 20 KG. Crestex 176.68 dSndr 3 x 10" dslt #1 Crestex 16 x 5"

11.00

14.00

MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD VOLUME MUD TYPE HYDRAULICS Water Depth 21.7 Calc. F. Grad Pits KCL/EZ MUD/POLYMER Hole 600 rpm CIRC 300 rpm 37 Leak Off Test 270 542 MUD CONSUMPTION TRIPS 2.00 Active Volume ADDITIONS 200 rpm 30 ECD SERV. RIG 29 0.00 ppg SURVEY 812 Oil 100 rpm 21 Csg. Shoe 1.00 Reserve Total Brine Water 6 rpm TD FISHING 0.00 111 Drill Water 3 rpm Max. Diff. Press LOGGING 0.00 Low Grav, vol % RUN CSG Sea Water Pressure Units: psig 0.00 26.12 Whole Mud ppb Press Drop. DP 606 CORE 0.00 DEVIATION INFO High Grav, vol % 1.5 Barite Press Drop, BIT 726 BACK REAM 0.00 22.05 Chemicals ppb Press Drop, ANN 173 1335.0 REAMING 0.00 ASG 3.25 LOSSES Actual Circ. Press 1350 TVD 1335.0 TESTING 0.00 Drill Cuttings Dumped AV, DP m/min 74.5 Angle 2.25 OTHER Dilution Rate 0.00 Lost 313 AV, DC m/min 125.1 Direction 320 AVERAGE ROP 0.54 Slds Control Eff 0.00 VOL GAIN/LOSS -290 AV, Riser m/min Horiz. Displ 0.0 DAILY COST BAROID REPRESENTATIVE OFFICE/HOME TELEPHONE (03) 9621 3311 CUMULATIVE COST Melbourne (03) 56 881 445 \$A Nicholas Doust WAREHOUSE 70252.91

Welshpool TELEPHONE 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.

REPORT NUMBER: 11

Date Depth
26/01/98 1345.0m [MD]

Spud Date Present Activity

Spud Date Present Activity LOGGING 17/01/98 RIG NUMBER CONTRACTOR OPERATOR Paramswara Santa Fe Drilling Amity Oil NL REGION REPORT FOR REPORT FOR Victoria Mike Walker/ Blain Wilkie Wally Westman/Chris Roots COUNTRY GEOGRAPHIC AREA FIELD OR BLOCK WELL NAME AND NUMBER Austral Bass Strait VIC P/36 Broadbill 1 CIRCULATION DATA DRILLING STRING CASING BIT DATA ın. Ideco T-1600 Pump Make/Model Pipe OD Len Size Eff. 97.00 V/st Size 6.5 X 12 0.120 ID Len in. Pipe OD туре bbl/min ID Len. 30 Set @ 106.0 mge No. Jets Pipe OD 779.0 Pump Make/Model Ideco T-1600 9 5/8 Set @ Jets 32nd inch Collar OD ID Len. 97.00 V/st 0.120 Eff. Len Size Set @ Collar OD ID bbl/min 0.0 OPEN HOLE Set @ mge in Pump Make/Model Set @ 566.0 Tot Noz Area Size V/st Eff. Len Set @ Size Size TFA bbl/min mge Size Len 0.0 bbl Tot. Vol./min 0 gpm Len. Set @ Size 0 TC Time Set @ BU Time Size Len. MUD TREATMENTS Primary MUD PROPERTIES 2 Lost approximately 100 bbls downhole when Program Essential its, Circ Source backreaming out of hole due to coal Targets Program 14:00 sloughing. Properties Deg C 42 *=Excep FL Temp 784.9 1654.1 1345.0 Depth Built 200 bbls of new premix to maintain mud 9.0 9.4 Weight ppg volume. FV 9 42 Deg C sec/qt 44 PV @ 49 Deg C cP 16 BARAZAN-D Plus used to make hi-vis sweeps. lbs/100 ft: 22 ΥP Gels 1bs/100 ft2 6/9 No new shakers screens used on Broadbill 1. API Filt. 3.6 6.0 m1/30 min 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 0.0/94. Oil/Water % by vol bottoms up. Drop survey. POOH 1 stand. 0.5 Sand % by vol Backream out of tight hole (coal sloughing, 0.6 MBT mud losses occuring) from 1326 to 9-5/8" pH METER ® 8.5 9.2 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 Alk. Filtr. (Pf/Mf) 0.01/0.1 & 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 19.29 Low Gravity Solids ppb hi-vis on bottom. POOH - no problem. Rig up 10.00 6.00 6 rpm & log 8-1/2" hole. 11.00 14.00 ppb 11 KCl Content Excess sulfite mg/l 100 SOLIDS EQUIPMENT MATERIALS USED Device Make Sz/Sern HR Product Used Cost Product Shkr #1 Scalper BARACOR 129 - 25 KG. DRUM 3 179.94 Shkr #2 Scalper 10 13 BAPAZAN-D PLUS - 25 KG. BAG 6 2159.88 Shkr #3 Sweco LM3 150 x 3 13 DEXTRID LT - 25 KG. BAG 15 781.05 Shkr #4 Sweco LM3 150 x 3 13 EZ-MUD DP - 50 LB. BAG 9 1026.36 150 x 3 13 Shkr #5 Sweco LM3 PAC-L - 25 Kg. BAG 2 293.67 Shkr #6 Sweco LM3 80 x 3 13 barite - 1000 KG. TON 4.400 1417.77 dSndr Crestex 3 x 10 potassium chloride - 1000 KG. 1 419.21 dSlt #1 Crestex potassium hydroxide - 20 KG. 132.51 FRACTURE GRADIENT MUD MANAGEMENT RHEOLOGY AND TIME 2.00 MUD VOLUME MUD TYPE HYDRAULICS Water Depth bbl 3.00 Calc. F. Grad CIRC Pita KCL/EZ NUD/POLYMER 600 rpm 54 Hole 4.00 Leak Off Test 13.0 TRIPS MUD CONSUMPTION 300 rpm 38 SERV. RIG 0.50 ECD Active Volume ADDITIONS bbl 200 rpm 31 ppg SURVEY 1.00 Oil 100 rpm 23 Csq. Shoe 763 FISHING 0.00 9.3 TD Reserve Total Brine Water 0 6 rpm 7 Max. Diff. Press LOGGING 0.00 Drill Water 194 3 rpm - 5 118 881 RUN CSG 0.00 Low Grav, vol % 2.1 Sea Water 0 Pressure Units: psig 0.00 CORE 19.29 Whole Mud Press Drop. DP ppb 0 DEVIATION INFO 7.50 BACK REAM High Grav, vol % 2.2 Barite Press Drop, BIT 0 REAMING 0.00 1345.0 m Chemicals Press Drop, AMN 0 MD ppb TESTING 0.00 1345.0 m LOSSES Actual Circ. Press 0 TVD 6.00 OTHER AV, DP 0.0 Angle 3.25 Drill Cuttings Dumped m/min

WAREHOUSE Welshpool TELEPHONE (03) 56 881 445

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

m/min

0.0

TELEPHONE

Direction

Horiz. Displ

(03) 9621 3311

249 AV. DC

-42 AV, Riser m/min

Melbourne

Dilution Pate

Nicholas Doust

Slds Control Eff

BAROID REPRESENTATIVE

0.00

VOL GAIN/LOSS

OFFICE/HOMB

AVERAGE ROP

\$A

6410.39

CUMULATIVE COST

76663.30

45

\$A

DAILY COST

0.0

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ASG

Drill Cuttings

Slds Control Eff

BAROID REPRESENTATIVE

Dilution Rate

Nicholas Doust

LOSSES

Dumped

VOL GAIN/LOSS

OFFICE/HOMB

Lost

3.41

0.00

REPORT NUMBER: Baroid Australia Pty Ltd . Depth Date 27/01/98 1345.0m [MD] (Cost Modified) Spud Date Present Activity 17/01/98 PREPARE TO P & A RIG NUMBER CONTRACTOR OPERATOR Santa Fe Drilling Paramswara 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 Bass Strait Austral VIC P/36 Broadbill 1 CIRCULATION DATA DRILLING STRING CASING BIT DATA in. Pump Make/Model Ideco T-1600 Pipe OD Len Size Eff. 97.00 V/st in. Size Pipe OD ID Len Туре bbl/min Pipe OD ID 30 Set @ 106.0 mqe 0.0 No. Jets Pump Make/Model Ideco T-1600 9 5/8 Set @ Jets 32nd inch ID Collar OD Len. Eff. 97.00 V/st Size 6.5 X 12 ΤD Set @ Collar OD Len. OPEN HOLE 0 bbl/min Set @ spm in. Pump Make/Model Set @ Len 566.0 Tot Noz Area Size Size Set @ Size Len. Eff. V/st TFA bbl/min Set @ spm Size Len Tot. Vol./min bbl Len Set @ 0 0.0 Size gpm 0 TC Time Set @ Size Len. MUD PROPERTIES MUD TREATMENTS Primary 2 3 BARAZAN-D Plus used to build 100 bbls of its, Unc Program Essential Source hi-vis spotted on bottom prior to POOH. Program 13:00 Targets Time *=Excep Deg C 0 Properties FL Temp 784.9 1654.1 Barite used for slugs. Depth m 1345.0 9.0 9. 9.5 Weight ppg KCl content : 3 % FV @ 28 Deg C sec/qt 43 15 30 PV 19 49 Deg C cP lbs/100 ft: ΥP 24 Gels lbs/100 ft2 7/9 6.0 API Filt. m1/30 min 4.0 HTHP @ 121 Deg C ml/30 min 11.0 15.0 1/2 Cake API/HTHP 32nd in 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. 0.6 MBT pH METER @ RIH. Circulate & condition mud @ 1191 m. RIH 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) 0.01/0.1 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 7 6.00 10.00 drillpipe. Prepare to P & A. 6 rpm 11.00 14.00 KCl Content ppb Excess sulfite 80 mg/l SOLIDS EQUIPMENT USED MATERIALS Sz/Scrn HR Product Used Cost Product Used Device | Make Shkr #1 Scalper BARAZAN-D PLUS - 25 KG. 2 719.96 10 Shkr #2 | Scalper 10 barite - 1000 KG. TON 0.600 193.33 Shkr #3 Sweco LM3 150 x 3 4 150 x 3 4 Shkr #4 Sweco LM3 Shkr #5 Sweco LM3 150 x 3 Shkr #6 Sweco LM3 80 x 3 dSndr Crestex 3 x 10" 16 x 5" dSlt #1 Crestex MUD MANAGEMENT RHEOLOGY AND FRACTURE GRADIENT TIME MUD TYPE HYDRAULICS MUD VOLUME Water Depth 21.7 DRLG 0.00 600 rpm 54 1.50 Pits KCL/EZ MUD/POLYMER Calc. F. Grad 0.0 CIRC Hole MUD CONSUMPTION 300 rpm 39 Leak Off Test 13.0 TRIPS 7.25 509 Active Volume ADDITIONS bbl 200 rpm 32 RCD ppg SERV. RIG 0.00 Oil 100 rpm 24 Csg. Shoe 0.0 SURVRY 0.00 826 Total Brine Water 0 6 rpm TD 0.0 FISHING 0.00 Reserve 7 3 rpm Drill Water 0 5 Max. Diff. Press LOGGING 7.25 826 Pressure Units: Low Grav, vol % 2.8 Sea Water psig RUN CSG 0.00 CORR 0.00 ppb Whole Mud Press Drop. DP 0 DEVIATION INFO BACK RRAM 0.00 High Grav, vol % 2.3 Barite Press Drop, BIT 1345.0 m REAMING 2.00 ppb Chemicals Press Drop, ANN 0

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

TELEPHONE

TVD

Angle

Direction

Horiz. Displ

(03) 9621 3311

1345.0 m

3.25

DAILY COST

TESTING

AVERAGE ROP

913.29 \$A

OTHER

0.00

6 00

0.00

CUMULATIVE COST

77576.59

Actual Circ. Press

m/min

m/min

AV, DP

-55 AV, Riser m/min

Melbourne

38

19 AV, DC

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REPORT NUMBER:

Depth Date 28/01/98 [MD] 1345.0m Spud Date Present Activity 17/01/98 PLUG & ABANDON

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 COUNTRY GEOGRAPHIC AREA WELL NAME AND NUMBER FIELD OR BLOCK Austral VIC P/36 Bass Strait Broadbill 1 CIRCULATION DATA CASING DRILLING STRING BIT DATA in. Pump Make/Model Ideco T-1600 Size Pipe OD Len. Eff. 97.00 V/st Size 6.5 X 12 Pipe OD ID Len. in. m Type ΙD Len. Set @ 106.0 apm 0 bbl/min No. Jets Pipe OD Ideco T-1600 9 5/8 Set @ 779.0 Pump Make/Model Jets 32nd inch Collar OD ĮD Len. Eff. 97.00 V/st ID Len. Set @ Size 6.5 X 12 Collar OD OPEN HOLE bbl/min Set 0 apm in. Pump Make/Model Tot Noz Area Size 566.0 Set @ Set @ V/st Size Len Size Rff. TFA bbl/min Set @ apm Size Len bbl Size Len. Set @ Tot. Vol./min 0 gpm 0.0 Set @ 0 TC Time Size Len. MUD TREATMENTS MUD PROPERTIES Primary Essential All chemicals used for P & A. its, Unc Source Targets Program Time 22:36 *=Excep Properties Mud engineer leaves rig. FL Temp Deg C 0 784.9 1654.1 Depth 1345.0 9.5 9.0 Weight ppg FV @ 16 Deg C sec/qt 28 PV @ 49 Deg C cP lbs/100 ft2 ΥP 0 Gels lbs/100 ft2 0/0 API Filt. m1/30 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 pH METER @ 20 Deg C 8.5 0.0 Alk. Mud (Pm) 0.00 Alk. Filtr. (PE/ME) . 0.00/0.00 Chlorides mg/l 0 Hard. Ca mg/l 0 91.00 Low Gravity Solids ppb 0.00 6.00 6 rpm 0 10.00 11.00 KCl Content ppb 14.00 Excess sulfite mg/l MATERIALS HEED SOLIDS FOULTPMENT

	LIMITELLI	THO COE	51J		1201	1100 1001	E LITTIA T	
Product	Used	Cost	Product	Used (ost Devi	ce Make	Sz/Scrn	HR
ALDACIDE G - 25 L. CA	N 1	203.96			Shkr	#1 Scalper	10	L
BARACOR 129 - 25 KG. D	RUM 6	359.88			Shkr	#2 Scalper	10	上
					Shkr	#3 Sweco LM3	150 x 3	
					Shkr	#4 Sweco LM3	150 x 3	
					Shkr	#5 Sweco LM3	150 x 3	L
					Shkr	#6 Sweco LM3	80 x 3	
					dSndr	Crestex	3 x 10"	
					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 0.00
Hole	Pits	KCL/EZ MUD/POLYMER	600 rpm	Calc. F. Grad 0.0	CIRC 0.00
317	509	MUD CONSUMPTION	300 rp m	Leak Off Test 13.0	TRIPS 0.00
Active V	<i>T</i> olume	ADDITIONS bbl	200 rpm	ECD ppg	SERV. RIG 0.00
826		Oil 0	100 rpm	Csg. Shoe 0.0	SURVEY 0.00
Reserve	Total	Brine Water 0	6 rpm	TD 0.0	FISHING 0.00
	826	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
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 INFO	BACK REAM 0.00
ьбр	0.00	Chemicals 0	Press Drop, ANN 0	MD 1345.0 m	REAMING 0.00
ASG	2.60	LOSSES bbl	Actual Circ. Press 0	TVD 1345.0 m	TESTING 0.00
Drill Cutting	gs 0	Dumped 0	AV, DP m/min 0.0	Angle 3.25	OTHER 24.00
Dilution Rate	0.00	Lost 0	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 m	
BAROID REPRES	SENTATIVE	OFFICE/HOME	Melbourne TELEPHONE	(03) 9621 3311 DAILY C	COST CUMULATIVE COST
Nicholas Dous	st .	WAREHOUSE	Welshpool TELEPHONE	(03) 56 881 445 \$A	563.84 \$A 78140.43

NOTE: ALL COSTS ARE REPORTED IN AUSTRALIA'S DOLLAR

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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

.0 26.67

Log data

18 19 20

Column	Logs	Logs
Position	Available	Used
1	DEPT	DEPT
2	GR	GR
3	DT	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

Log Scaling Coeff. Coeff. Mnemonic Option A B

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	pth		779.983	850.087	779.983
Bottom	_		849.935	963.016	849.935
USER L					
Salt	RHOB	min	-INF	-INF	-INF
Salt	RHOB	max	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	max	+INF	+INF	+INF
Salt	USER		-INF	-INF	-INF
Salt	USER	max	.000	.000	.000
Trona	RHOB	min	2.050	2.050	2.050
Trona	RHOB	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	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
- 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	Fla	Determination gs by priority
1. HLS 2. Dresser	0. NaCl 1. KCl % 2. Oil-base 3. Barite	1. TNPH 2. SNP 3. N 4. HLS DSN2 5. CNL PRE 86 6. APLU 7. FPLU 8. CDN 6.5" 9. CDN 8.0"	20. 21. 2. 3. 10. 11. 8. 17.	DIL-SFL DIL-LL3 ILD & 16 inch Normal LLD-LLS ID PHASOR
Formation Water		10. ADN 6.75 11. ATLAS 2435 12. ATLAS 2420	4. CN 5. CN 6.	ILD LLD LL3 or LL7
0=NaCl 1=NaHCO3	•	13. ATLAS SNP 14. BPB 15. HLS G	7. 13. 19. 14. 15. 9. 12. 22.	Dual Laterolog LLS IM PHASOR ILM LL8 64 inch Normal Log SFL ERT (external RT) RXO No RT logs
Zone no.	1	2	3	
Formation Name Top depth Bottom depth Logging Company Mud type Formation Water Neutron Log Type	849.9 7 Type	983 850.087 935 963.016 0 0 1 1 0 0		

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

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 27. t MA min 48.000 48.000 48.000 28. Sonic option .000 1.000 1.000 19. Compact/Over 1.300 1.300 1.300 13. RUGO.cut off 1.000 1.000 1.000 31. RUGO.cut off 1.000 1.000 1.000 32. DRHO cut off 1.000 1.000 1.000 34. Vclay type .000 .000 .000 35. Vclay type .000 .000 .000 36. Vclay inp1 .200 .200 37. Vclay out1 .150 .150 .150 38. Vclay inp2 .800 .800 .800 39. Vclay out2 .800 .800 .800 40. Vclay 50% .500 .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448 43. GR clay 101.258 112.942 101.258	,	Zone no.	1	2	3
2. Bottom depth 849.935 963.016 849.935 3. No logs 4. RM		Formation			
3. No logs 4. RM	1.	Top depth			779.983
4. RM	2.	Bottom depth	849.935	963.016	849.935
5. Temp. RM	3.	No logs			
6. RMF	4.	RM	.201	.201	.201
7. Temp. RMF	5.	Temp. RM	21.000	21.000	21.000
8. RMC	6.	RMF	.183	.183	.183
9. Temp. RMC	7.	Temp. RMF		20.000	
10. Bit size	8.	RMC	.351	.351	
11. Mud wt	9.	Temp. RMC			
12. SSF	10.	Bit size	12.250	8.500	
13. RW (SP)	11.	Mud wt	1.100	1.100	
14. FT=Form temp	12.	SSP	.000	.000	
15. RW @ FT	13.	RW (SP)	.076		
16. RW@75F(23.9C	14.	FT=Form temp	41.879		41.879
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 min035035035 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 32. DRHO cut off .060 .040 .060 33. No clay SP SP SP MN MN MN MN MN SD SD SD 34. Vclay Flag .000 .000 .000 .000 35. Vclay type .000 .000 .000 36. Vclay inp1 .200 .200 .200 37. Vclay out1 .150 .150 .150 38. Vclay inp2 .800 .800 .800 39. Vclay out2 .800 .800 .800 40. Vclay 50% .500 .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	15.	RW @ FT	.416	3.564	.219
18. RMF @ FT	16.	RW075F(23.9C	.581	5.110	.306
19. KPPM (RMF) 39.138 39.138 39.138 20. RM @ FT .135 .131 .135 .130 .1026 .1025 .1026 .1025 .1026 .1025 .1026 .1025 .1026 .1025 .1026 .1025 .1026 .1025 .1026 .1025 .1026 .1025 .1026 .1026 .1025 .1026 .1026 .1025 .1026 .102	17.	KPPM (RW)		1.000	20.000
20. RM @ FT	18.	RMF @ FT		.117	.120
21. RHO H	19.	KPPM (RMF)	39.138		39.138
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 min035035035 26. t MA 555.500 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 32. DRHO cut off .060 .040 .060 33. No clay SP SP SP SP MN MN MN MN MN MN SD SD SD 34. Vclay Flag .000 .000 .000 35. Vclay type .000 .000 .000 36. Vclay inp1 .200 .200 .200 37. Vclay out1 .150 .150 .150 38. Vclay inp2 .800 .800 .800 39. Vclay out2 .800 .800 .800 40. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	20.	RM @ FT	.135	.131	.135
23. t F	21.	RHO H	.800	.800	.800
24. RHOMA	22.	RHO F		1.025	1.026
25. PHIN min	23.	t F	188.990	188.990	188.990
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 .060 32. DRHO cut off .060 .040 .060 33. No clay SP SP SP SP MN MN MN MN MN MN SD SD SD SD 34. Vclay Flag .000 .000 .000 35. Vclay type .000 .000 .000 36. Vclay inpl .200 .200 .200 37. Vclay outl .150 .150 .150 38. Vclay inp2 .800 .800 .800 39. Vclay out2 .800 .800 .800 40. Vclay 50% .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	24.	RHOMA			
27. t MA min	25.	PHIN min			
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 .040 .060 32. DRHO cut off .060 .040 .060 33. No clay SP SP SP SP MN MN MN MN MN MN SD SD SD SD 34. Vclay Flag .000 .000 .000 35. Vclay type .000 .000 .000 36. Vclay inpl .200 .200 .200 37. Vclay outl .150 .150 .150 38. Vclay inp2 .800 .800 .800 39. Vclay out2 .800 .800 .800 40. Vclay 50% .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	26.	t MA			
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 32. DRHO cut off .060 .040 .060 33. No clay SP SP SP MN MN MN MN SD SD SD SD 34. Vclay Flag .000 .000 .000 35. Vclay type .000 .000 .000 36. Vclay inp1 .200 .200 .200 37. Vclay out1 .150 .150 .150 38. Vclay inp2 .800 .800 .800 39. Vclay out2 .800 .800 .800 40. Vclay 50% .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	27.	t MA min	48.000		
30. CAL cut off 12.000 12.000 12.000 31. RUGO.cut off 1.000 1.000 1.000 32. DRHO cut off 0.060 .040 .060 33. No clay SP SP SP SP MN MN MN MN SD SD SD SD SD SD SD SD SD SD SD SD SD	28.				
31. RUGO.cut off 1.000 1.000 1.000 32. DRHO cut off .060 .040 .060 .33. No clay SP SP SP MN MN MN MN SD SD SD SD SD SD SD SD SD SD SD SD SD	29.	Compact/Over	1.300		
32. DRHO cut off .060 .040 .060 33. No clay SP SP SP SP MN MN MN MN SD SD SD SD 34. Vclay Flag .000 .000 .000 35. Vclay type .000 .000 .000 36. Vclay inpl .200 .200 .200 37. Vclay outl .150 .150 .150 38. Vclay inp2 .800 .800 .800 39. Vclay out2 .800 .800 .800 40. Vclay 50% .500 .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	30.	CAL cut off	12.000		
33. No clay SP SP SP MMN MMN MMN MMN SD SD SD SD SD SD SD SD SD SD SD SD SD					
MN MN MN MN SD SD SD SD 34. Vclay Flag .000 .000 .000 35. Vclay type .000 .000 .200 36. Vclay inpl .200 .200 .200 37. Vclay outl .150 .150 .150 38. Vclay inp2 .800 .800 .800 39. Vclay out2 .800 .800 .800 40. Vclay 50% .500 .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	32.	DRHO cut off			
SD SD SD 34. Vclay Flag .000 .000 .000 35. Vclay type .000 .000 .000 36. Vclay inpl .200 .200 .200 37. Vclay outl .150 .150 .150 38. Vclay inp2 .800 .800 .800 39. Vclay out2 .800 .800 .800 40. Vclay 50% .500 .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	33.	No clay			
34. Vclay Flag .000 .000 .000 35. Vclay type .000 .000 .000 36. Vclay inpl .200 .200 .200 37. Vclay outl .150 .150 .150 38. Vclay inpl .800 .800 .800 39. Vclay outl .800 .800 .800 40. Vclay 50% .500 .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448			MN	MN	
35. Vclay type .000 .000 .000 36. Vclay inpl .200 .200 .200 37. Vclay outl .150 .150 .150 38. Vclay inp2 .800 .800 .800 39. Vclay out2 .800 .800 .800 40. Vclay 50% .500 .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448				SD	
36. Vclay inp1 .200 .200 .200 37. Vclay out1 .150 .150 .150 38. Vclay inp2 .800 .800 .800 39. Vclay out2 .800 .800 .800 40. Vclay 50% .500 .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	34.	Vclay Flag	.000	.000	
37. Vclay out1 .150 .150 .150 38. Vclay inp2 .800 .800 .800 39. Vclay out2 .800 .800 .800 40. Vclay 50% .500 .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	35.	Vclay type		.000	
38. Vclay inp2	36.	Vclay inpl			.200
39. Vclay out2 .800 .800 .800 40. Vclay 50% .500 .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	37.	Vclay out1	.150	.150	
40. Vclay 50% .500 .500 .500 41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	38.		.800		
41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	39.				
41. VclayGR type 1.000 1.000 1.000 42. GR clean 30.448 18.765 30.448	40.	Vclay 50%			
	41.		1.000		1.000
43. GR clay 101.258 112.942 101.258	42.	GR clean	30.448		
	43.	GR clay	101.258	112.942	101.258

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
52.	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
65.	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
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
74.	Glauconite	.000	.000	.000
75.	SWirr.cutoff		.300	.300
76.	Perm Expon.	6.000	6.000	6.000
77.	PERM K coef		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
	PHIDmat1	.240	.240	.240
95.	PHINmat2	.350	.350	.350
96.	PHIDmat2	.200	.200	.200
97.	PHINmat3	.050	.050	.050
98.	PHIDmat3	.000	.000	.000
99.	PHINmat4	.200	.200	.200
100.	PHIDmat4	100	100	100
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Zone No. 1 BROADBILL-1 Complex Lithology Results AMITY OIL NL 28-01-98 DEPTH M GR RTRXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS 779.98 75.0 53.0 37.9 10.7 GR 2.768 75.0 43.4 2.765 .00 38 1.3 1.5 50.0 1.931 -3.1 2.9 75.0 .00 38 1.7 47.7 1.918 -3.1 4.7 70.1 50.6 35.6 11.1 GR 42.6 2.721 .00 .00 780.14 1.6 2.718 70.1 70.1 780.29 39 1.8 1.9 45.5 1.905 -3.194.7 69.7 33.4 11.6 GR 2.650 94.7 94.7 29.5 2.660 .00 .00 4 7 4 7 780.44 .5 44.6 1.633 -1.978.9 124.4 37.5 13.9 GR 2.650 78.9 32.3 2.663 .00 .00 40 2.2 95.4 7 .4 45.3 1.577 .00 4 780.59 42 2.1 -.3 71.2 122.2 42.4 16.0 GR 2.650 93.4 71.2 35.6 2.665 .00 4 78 780.75 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 .00 780.90 7 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 31.1 2.667 781.05 44 .3 41.5 1.787 63.8 172.2 38.3 18.9 GR 2.650 .00 4 7 3.4 1.5 91.4 63.8 .00 781.20 47 .5 40.2 1.682 63.6 126.5 40.5 23.3 GR 2.650 .00 .00 4 7 3.3 1.5 91.3 63.6 31.1 2.671 781.35 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 .3 46.4 1.456 80.4 184.9 48.7 34.1 GR 2.650 26.5 2.681 4 78 2.4 5.0 95.7 80.4 .00 .00 4 78 781.66 54 2.6 .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 .00 781.81 .4 56.9 1.676 72.3 145.6 46.7 31.9 GR 2.650 93.7 72.3 27.9 2.679 4 78 53 2.8 3.3 .00 .00 7 781.96 45 3.6 1.0 45.9 2.043 1.0 59.3 86.3 40.2 20.3 GR 2.650 86.3 59.3 32.1 2.668 .00 .00 4 782.12 43 1.3 45.5 2.068 .8 54.5 77.6 38.0 17.8 GR 2.650 77.6 54.5 31.2 2.666 .00 .00 4 7 4.6 782.27 41 1.6 45.1 2.093 . 6 48.4 72.3 35.8 15.3 GR 2.650 72.3 48.4 30.3 2.664 .05 .02 4 7 6.4 782.42 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 7 782.57 45 1.0 43.5 1.951 1.6 62.4 101.7 34.5 20.0 GR 2.650 91.0 62.4 27.6 2.668 .05 .02 4 7 4.4 782.73 50 .5 40.4 1.732 1.9 62.2 129.3 41.7 28.2 GR 2.650 90.9 62.2 30.0 2.676 .05 .02 4 7 3.5 782.88 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 7 783.03 52 68.2 129.8 39.0 30.0 GR .05 .02 4 7 3.4 .6 49.7 1.728 2.5 2.650 92.6 68.2 27.3 2.677 783.18 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 .02 4 78 2.8 . 4 49.2 32.3 GR 78 783.34 53 .7 48.7 1.556 . 4 78.9 113.0 2.650 95.4 78.9 27.6 2.679 .05 .02 4 2.4 783.49 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 78 783.64 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 2.5 783.79 77.9 125.5 37.1 GR 57 .7 44.3 1.821 -2.3 39.8 2.650 95.1 77.9 24.7 2.684 .05 .02 4 78 2.8 1.5 37.0 2.048 -3.1 .0 86.4 88.4 41.6 36.8 GR 2.668 88.4 22.9 2.690 .05 .02 783.95 56 2.6 86.4 784.10 2.7 1.2 38.4 2.039 58 -3.5.0 83.9 99.2 42.1 39.3 GR 2.677 96.6 83.9 22.7 2.697 .05 .02 784.25 .9 39.8 2.032 84.7 115.3 22.4 2.706 .02 60 2.7 -3.8 .0 42.6 41.6 GR 2.689 96.7 84.7 .05 41.9 GR .05 .02 784.40 60 1.1 42.4 2.003 -3.6 .0 77.0 95.7 42.4 2.702 94.9 77.0 24.3 2.716 2.8 .0 784.56 60 2.8 1.4 45.0 1.975 -3.3 72.6 81.3 42.2 42.2 GR 2.721 81.3 72.6 26.2 2.730 .05 .02 784.71 42.6 GR 61 .7 42.9 1.893 -3.2 .0 72.8 102.7 41.5 2.586 93.8 72.8 28.4 2.653 .05 .02 6 8 2.4 784.86 59 2.3 .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 8 785.01 57 .8 47.2 1.912 .0 74.1 95.3 43.2 37.5 GR 2.692 94.2 74.1 31.0 2.708 .05 .02 2.1 ~3.5 .02 785.16 58 2.2 .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 27.3 2.727 .0 .05 .02 785.32 59 2.4 .9 45.1 1.972 -2.9 76.8 100.1 47.7 39.9 GR 2.718 94.9 76.8 .05 785.47 62 2.1 .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 .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 .05 785.93 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 .02 786.08 1.1 42.8 2.125 84.4 54.6 27.3 GR 84.4 74.9 .05 .02 78 50 2.3 -2.974.9 2.650 30.7 2.675 4 786.23 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 78 .05 .02 78 786.38 46 2.7 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 1.1 36.9 2.184 56.1 23.4 GR 62.7 .05 .02 78 786.54 47 2.9 -3.362.7 76.5 2.650 76.5 33.2 2.671 4

49.6

.0 88.8 110.7 48.4 26.2 GR

24.2 GR

2.770

2.789 97.7

95.1

92.6

88.8

21.6 2.762

20.8 2.775

.05

.05

.02

.02

-3.6

-3.4

.0

92.6

95.1

1.7 33.4 2.209

1.3 33.8 2.218

786.69

786.84 49

48

3.0

3.4

786.99	50	3.6	.9 34.3	2.227	-3.3	.0 8	7.2 134.3	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 8	4.6 86.0	43.0	24.1 GR	2.838	86.0	84.6	19.3 2.813	.05	.02	
787.30	45	4.6	4.2 30.3	2.349	-3.8	.0 8	8.0 70.7	38.7	20.0 GR	2.865	88.0	88.0	18.7 2.838	.05	.02	
787.45	48	3.6	2.4 27.3	2.142	-3.7	.0 8	6.0 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 8	0.0 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 7	8.8 139.0	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 8	3.6 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 8	9.0 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 9	8.5 107.0	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 8	5.5 106.9	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 Zone No. 1 BROADBILL-1 AMITY OIL NL 28-01-98 PHIE RHOMA POR-M HC-M FLAGS DEPTH M GR RXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO RT6 .02 788.52 65 1.0 34.9 1.964 -3.5 .0 77.2 115.9 41.8 49.4 GR 2.522 95.0 77.2 20.3 2.623 .05 .02 6 95.3 .05 3.2 1.2 37.3 1.950 -3.5.0 72.0 43.1 44.1 GR 2.561 93.6 72.0 23.9 2.636 788.67 62 .02 6 -3.5 80.1 44.4 38.7 GR 2.596 80.1 66.4 27.5 2.649 .05 788.82 58 3.2 1.3 39.7 1.936 .0 66.4 .8 42.1 1.931 -3.0 .0 71.1 98.7 47.7 39.2 GR 2.626 93.4 71.1 28.2 2.669 .05 .02 788.97 58 2.6 39.0 GR 2.630 94.2 74.2 27.5 2.671 .05 .02 789.13 58 2.5 .9 41.3 1.946 -2.9 .0 74.2 99.1 51.4 4 78 38.8 GR 2.650 97.0 85.9 23.7 2.685 .05 .02 789.28 58 .9 40.5 1.961 -2.8 85.9 111.0 55.2 2.4 71.8 29.4 2.681 .05 .02 71.8 96.2 48.7 38.1 GR 2.647 93.6 57 2.4 .8 43.5 1.927 -2.5789.43 .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 .02 789.58 54 3.0 27.4 GR 2.755 75.8 63.9 29.4 2.751 .05 .02 789.74 50 3.4 1.4 42.8 2.041 -3.5.0 63.9 75.8 46.1 .05 .02 42.6 26.6 GR 2.728 70.6 70.6 26.7 2.731 2.1 38.9 2.081 -3.5.0 70.6 68.8 789.89 49 3.4 .05 .02 2.8 35.1 2.121 78.8 66.4 39.1 25.8 GR 2.705 78.8 78.8 24.0 2.711 790.04 49 3.3 -3.5 .0 6 1.0 33.7 2.017 -2.8 79.0 103.0 45.6 33.7 GR 2.603 95.4 79.0 24.4 2.644 .05 .02 790.19 54 2.9 .0 .05 .02 6 46.5 34.3 GR 2.578 93.5 74.6 26.4 2.629 790.35 55 2.8 1.1 35.0 1.972 -2.8 .0 74.6 93.5 35.0 GR 28.3 2.633 .05 .02 6 1.1 36.3 1.928 -2.8 .0 70.5 85.4 47.3 2.549 85.4 70.5 790.50 55 2.8 33.4 GR 2.558 78.0 66.2 29.8 2.617 .05 .02 6 790.65 54 2.9 1.3 37.5 1.918 -2.9 .0 66.2 78.0 45.4 43.6 31.8 GR 63.3 31.2 2.622 .05 .02 6 790.80 53 3.0 1.4 38.6 1.908 -2.9 .0 63.3 71.7 2.568 71.7 6 45.9 25.9 GR 2.572 80.8 64.2 33.8 2.615 .05 .02 790.96 49 2.7 1.0 38.3 1.903 -3.4 .0 64.2 80.8 32.0 2.629 .05 .02 6 1.0 39.1 1.911 67.9 83.5 48.7 30.0 GR 2.582 83.5 67.9 791.11 52 2.5 -3.2 .0 30.3 2.641 .02 6 791.26 55 2.4 1.0 40.0 1.917 -2.9.0 71.8 86.3 51.6 34.1 GR 2.591 86.3 71.8 .05 .02 71.5 29.6 2.675 .05 1.0 42.0 1.943 -3.3 71.5 88.8 50.3 34.7 GR 2.644 88.8 791.41 55 2.5 .0 35.3 GR 28.9 2.710 .05 .02 71.8 91.6 48.9 2.698 91.6 71.8 791.57 55 2.6 1.0 43.9 1.971 -3.7.0 791.72 53 1.0 36.9 2.045 -3.8 .0 80.4 101.2 45.1 31.6 GR 2.669 95.7 80.4 25.2 2.687 .05 .02 2.7 24.3 2.668 .05 .02 94.8 103.2 45.9 33.4 GR 2.639 98.9 94.8 791.87 54 2.0 1.0 35.3 2.036 -3.5 .0 .02 35.2 GR 2.609 100.0 100.0 23.4 2.649 .05 6 1.1 33.7 2.026 -3.3 .0 114.0 105.3 46.8 792.02 55 1.5 2.7 .0 79.6 93.4 44.1 32.0 GR 2.679 93.4 79.6 25.6 2.695 .05 .02 792.18 53 1.2 38.0 2.040 -3.5 24.6 2.703 .05 .02 45.2 31.9 GR 2.691 92.3 83.3 792.33 53 2.6 1.3 37.6 2.064 -3.2 .0 83.3 92.3 31.7 GR 87.2 23.6 2.711 .05 .02 1,4 37.1 2.086 -3.0 .0 87.2 91.5 46.3 2.702 91.5 792.48 2.6 53 1.3 37.4 2.043 92.3 49.0 35.7 GR 2.670 92.3 84.4 23.7 2.691 .05 .02 792.63 56 -3.0 .0 84.4 2.6 81.8 93.5 51.7 39.7 GR 2.631 93.5 81.8 23.9 2.669 .05 .02 1.2 37.8 1.999 -3.0 .0 792.78 59 2.6 .05 .02 84.7 121.8 51.8 46.8 GR 2.611 96.7 84.7 23.5 2.668 792.94 .7 40.4 1.955 -2.5 .0 64 2.3 46.7 GR 22.1 2.687 .05 .02 .9 40.2 1.990 -2.2 87.7 117.0 49.9 2.648 97.4 87.7 793.09 64 .0 2.4 .05 .02 1.0 40.0 2.025 -2.0 .0 90.4 114.3 48.0 46.6 GR 2.682 98.0 90.4 20.7 2.704 793.24 63 2.5 22.0 2.706 .05 .02 89.3 113.9 50.4 44.9 GR 2.687 97.8 89.3 793.39 62 2.4 .9 40.7 2.017 -2.2 .0 .02 43.1 GR 2.691 97.8 89.4 23.2 2.708 .05 .9 41.4 2.010 -2.5 89.4 114.0 52.8 793.55 61 2.2 .0 52.1 32.1 GR 2.681 96.0 81.6 29.1 2.697 .05 .02 .8 41.8 1.984 -2.9.0 81.6 98.5 793.70 53 2.0 .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 .05 51 .02 26.2 2.765 .05 794.00 48 2.6 .9 39.0 2.122 -3.0 .0 82.2 110.7 45.9 25.4 GR 2.774 96.2 82.2 2.846 95.3 78.6 .05 .02 78.6 96.8 41.9 23.7 GR 24.0 2.819 794.16 47 3.4 1.3 37.5 2.211 -3.2.0 .05 .02 1.8 36.1 2.298 -3.5 .0 78.6 90.2 37.8 22.0 GR 2.915 90.2 78.6 22.1 2.874 794.31 46 4.1 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 .02 794.46 48 3.1 .05 .02 82.6 41.7 32.5 GR 2.723 84.0 84.0 22.7 2.728 794.61 53 3.0 1.9 37.2 2.105 ~3.3 .0 84.0 40.0 GR 75.2 26.0 2.666 .05 .02 1.0 39.9 1.961 -2.9 75.2 96.8 44.1 2.623 94.4 794.77 .0 59 2.7 69.3 98.9 41.5 GR 2.604 92.9 69.3 28.2 2.660 .05 .02 6 .8 42.5 1.910 -3.0 .0 46.3 794.92 60 2.7 .05 .02 6 8 2.7 .6 45.2 1.860 -3.2.0 68.7 111.4 48.4 43.1 GR 2.581 92.8 68.7 28.2 2.654 795.07 61 28.0 2.705 .05 .02 -2.4 .0 69.1 89.7 44.8 38.5 GR 2.687 89.7 69.1 795.22 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	55 59 63 62 61 62 61	2.2 2.4 2.7	.7 42.7 1.877 .6 46.7 1.744 .6 46.7 1.791 .7 46.7 1.838 .9 46.3 1.939 1.0 45.9 2.040 .9 43.9 2.048 .9 43.4 2.084 .8 42.9 2.120	-2.7 -2.3 -2.0 -2.3 -2.7 -2.5 -2.5	.0	56.8 92.7 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 88.0 120.1	45.7 46.9 48.0 47.9 47.8 50.2 47.8	34.6 GR 40.4 GR 46.2 GR 44.6 GR 43.1 GR 44.1 GR 43.2 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	33.5 2.641 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 20.4 2.807	.05 .05 .05 .05 .05	.02 .02 .02 .02 .02 .02 .02 .02	6 8 6 8 6 8 6 8
	60		.8 42.9 2.120 2.1 38.1 2.187			88.0 126.5	42.0	34.2 GR	2.844	84.4	84.3	20.4 2.807	.05	.02	

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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 RT797.05 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 .02 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 .02 6 8 797.66 62 2.3 -2.5 .0 76.8 102.2 51.8 45.1 GR 2.548 94.9 76.8 27.2 2.640 .05 797.81 .7 45.7 1.855 46.6 GR 79.7 .05 .02 6 8 63 2.2 -2.2 .0 79.7 113.1 53.5 2.573 95.6 26.5 2.656 .05 .02 797.97 63 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 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 78.8 107.7 54.1 49.2 GR 2.667 95.3 78.8 22.9 2.699 .05 .02 ' 798.42 65 2.7 .0 .8 44.6 1.977 .0 75.6 109.8 49.1 46.9 GR 75.6 24.0 2.725 .05 .02 798.58 2.8 -3.7 2.711 94.6 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 .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 .02 799.03 66 2.0 -3.8 799.19 69 .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 2.2 .0 107.2 126.2 42.3 53.4 GR 1.2 41.5 2.112 -3.0 2.852 100.0 100.0 15.8 2.790 .05 .02 799.34 68 2.4 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 -3.8 .02 800.10 38 7.2 5.0 25.9 2.446 .0 77.8 70.9 34.9 10.9 GR 2.878 77.8 77.8 18.2 2.862 .05 .0 75.5 31.4 2.873 75.5 68.8 18.6 2.861 .05 .02 800.25 36 9.3 4.4 24.9 2.460 -3.8 68.8 8.1 GR 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 .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 17.1 2.754 .05 1.1 28.4 2.044 -3.7 .0 73.1 106.0 36.0 30.7 GR 2.570 93.9 73.1 22.9 2.615 .05 .02 6 800.71 52 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 .02 801.01 55 ~3.6 .0 70.0 95.7 41.2 34.8 GR 2.637 93.1 70.0 24.7 2.668 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 -3.5 .0 77.3 62.1 36.9 32.6 GR 2,600 77.3 77.3 22.8 2.639 .05 .02 6 801.32 54 3.5 1.1 27.4 2.025 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 -3.1.0 1.6 26.7 2.162 .0 801.62 48 -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 .0 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 .05 .02 1.6 30.6 2.266 -3.7.0 84.6 117.0 28.1 27.1 GR 2.783 96.7 84.6 17.4 2.770 802.23 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 5.2 34.4 2.280 .05 .02 802.54 50 4.5 -3.7.0 81.4 59.2 34.6 27.5 GR 2.875 81.4 81.4 19.2 2.835 .05 .02 4.2 2.4 33.6 2.138 -3.8 .0 80.3 83.5 36.7 34.7 GR 2.697 83.5 80.3 19.1 2.707 802.69 55 .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 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 .05 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 .02 803.15 59 3.0 1.1 34.5 1.957 2.539 95.3 78.4 24.3 2.615 .05 .02 6 803.30 -2.7.0 78.4 96.9 44.6 40.4 GR 59 2.8 31.1 GR 2.650 94.4 74.9 23.9 2.673 .05 .02 803.45 52 3.5 .9 34.3 2.062 -3.3 .0 74.9 116.2 40.6 .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 .05 .02 5 29.5 GR 2.904 100.0 100.0 14.8 2.852 803.76 51 3.8 5.5 30.5 2.362 -3.8 .0 108.2 71.0 34.1 .02 5 4.4 28.4 2.400 -3.8 .0 101.1 84.8 30.4 26.8 GR 2.905 100.0 100.0 14.1 2.857 .05 803.91 49 5.0

Complex Lithology Results

BROADBILL-1

Zone No. 1

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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 Z.662		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 DEPTH M GR RXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO PHIE RHOMA POR-M HC-M FLAGS RTSW 805.59 46 6.7 25.5 2.316 -3.8 .0 66.7 29.3 22.5 GR 84.4 84.4 15.1 2.742 .05 .02 6.8 84.4 2.742 -3.8 30.7 26.9 GR .05 .02 805.74 49 7.0 3.5 26.1 2.247 .0 78.1 87.7 2.689 87.7 78.1 15.5 2.699 805.89 50 6.4 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 .02 806.04 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 51 5.9 4.0 29.1 2.226 806.20 49 -3.8 .0 76.5 72.4 31.3 25.7 GR 2.708 76.5 76.5 17.9 2.716 .05 .02 5.9 .0 .05 .02 806.35 46 7.0 5.3 29.4 2.267 -3.8 69.6 62.3 28.4 22.6 GR 2.760 69.6 69.6 18.6 2.755 806.50 44 8.0 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 .02 806.65 45 8.0 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 .02 806.81 7.3 25.1 2.372 -3.8 .0 66.5 25.3 21.0 GR 81.5 14.7 2.785 .05 .02 45 8.0 81.5 2.799 81.5 806.96 53 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 6.3 3.2 29.8 2.195 807.11 53 5.7 -3.8 .0 78.5 82.9 29.5 32.4 GR 2.694 82.9 78.5 16.5 2.704 .05 .02 807.26 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 46 7.0 3.5 31.5 2.221 -3.8 .0 62.3 67.5 29.4 21.5 GR 2.746 67.5 62.3 21.3 2.745 .05 .02 5.8 27.6 2.335 807.72 41 8.3 -3.8 .0 65.8 59.9 24.9 15.1 GR 2.797 65.8 65.8 19.4 2.788 .05 .02 6.1 27.0 2.320 807.87 44 7.7 -3.8 .0 72.7 62.9 24.6 19.5 GR 2.775 72.7 72.7 17.4 2.767 .05 .02 808.02 47 6.4 26.5 2.306 .0 81.2 66.6 24.2 23.9 GR 2.749 81.2 81.2 15.4 2.746 .05 .02 7.0 -3.8 808.18 48 3.3 30.6 2.258 -3.8 68.0 77.6 27.0 24.6 GR 2.772 77.6 68.0 18.7 2.763 .05 .02 7.1 .0 .02 808.33 45 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 6.1 5.0 28.0 2.336 -3.8 .0 86.7 66.8 30.6 17.8 GR 86.7 18.5 2.795 .05 .02 808.48 43 5.0 2.808 86.7 3.6 26.3 2.337 808.63 43 4.6 -3.7 .0 95.7 83.3 32.1 18.2 GR 2.779 95.7 95.7 17.2 2.771 .05 .02 .0 106.9 111.7 33.7 18.7 GR .02 808.79 44 2.3 24.6 2.338 -3.72.750 100.0 100.0 15.8 2.748 .05 4.3 808.94 42 4.3 27.1 2.341 -3.7.0 87.4 73.5 37.1 16.9 GR 2.796 87.4 87.4 18.2 2.786 .05 .02 5.1 809.09 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 .02 809.24 40 4.6 27.0 2.361 -3.6 .0 77.4 67.8 33.8 12.8 GR 2.812 77.4 77.4 19.5 2.802 .05 .02 6.2 809.40 42 4.9 25.8 2.304 68.2 31.5 16.0 GR 5.3 -3.6 .0 85.9 2.734 85.9 85.9 18.4 2.735 .05 .02 809.55 44 5.2 24.6 2.247 -3.6 .0 90.0 65.0 29.2 19.2 GR 2.678 90.0 18.3 2.688 .05 .02 4.6 90.0 809.70 53 3.7 2.4 28.8 2.192 -3.4.0 97.4 95.7 39.1 31.2 GR 2.680 97.4 97.4 16.8 2.695 .05 .02 809.85 52 3.8 1.8 29.4 2.174 -3.5 .0 91.0 103.9 39.1 30.4 GR 2.675 98.1 91.0 18.1 2.691 .05 .02 810.01 51 3.7 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 .02 810.16 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 .02 810.31 53 3.1 4.9 30.7 2.143 -3.6 .0 95.5 59.6 38.5 32.0 GR 2.667 95.5 95.5 19.1 2.686 .05 .02 .9 35.6 2.094 88.1 123.5 810.46 55 2.8 -2.9.0 38.7 34.4 GR 2.688 97.5 88.1 21.6 2.702 .05 .02 810.62 51 1.1 36.3 2.102 -3.2 .0 80.9 103.8 38.7 28.8 GR .05 .02 3.1 2.705 95.8 80.9 23.9 2.713

38.6

36.7

34.8

34.5

94.1 31.5

65.0 33.0

51.2 34.5

59.5 37.9

72.6 36.2

86.1 33.7

.0 93.1 115.7 32.8 19.3 GR

23.3 GR

21.9 GR

20.5 GR

23.0 GR

23.5 GR

24.0 GR

22.5 GR

22.2 GR

21.9 GR

21.1 GR

20.3 GR

2.724

2.757

2.790

2.650

2.650

2.650

2.729

2.764

2.800

2.795

2.790

88.7

84.2

80.6

93.3

68.2

68.1

92.7

86.4

96.1

87.7

95.3

72.9

2.738 98.6 93.1 17.7 2.738

74.0 26.4 2.728

72.0 25.8 2.779

70.7 24.2 2.671

68.2 25.2 2,671

68.1 26.2 2,672

92.7 19.7 2.732

86.4 19.5 2.758

82.2 19.4 2.786

87.7 18.4 2.782

95.3 17.5 2.779

26.1 2.753

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Complex Lithology Results

Zone No. 1

810.77 47

810.92 46

811.07 45

811.23 47

811.38 47

811.53 47

811.68 46

811.83 46

811.99 46

812.14 45

812.44 44

45

812.29

3.3

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4.6

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4.5

1.3 37.0 2.108

1.5 36.9 2.141

1.7 36.8 2,174

1.4 33.4 2.288

2.7 31.0 2.284

4.0 28.6 2.280

5.2 29.9 2.231

3.6 30.3 2.257

2.0 30.7 2.282

2.9 29.2 2.303

3.8 27.7 2.323

1.8 26.7 2.293 -3.6

-3.5

-3.7

-3.8

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-3.8

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74.0 88.7

72.9

72.0

70.7

68.2

68.1

86.4

82.2

87.7

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84.2

80.6

98.7

95.3 79.2 32.8

BROADBILL-1

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			_		_			C	-						
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		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		6.0	5.5 28.7 2.360											.05	.02
813.05			7.0 25.1 2.369										19.6 2.783	.05	.02
813.21			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	5.1 24.6 2.348	-3.8	.0	91.6	69.7	33.2	13.0 GR	2.759	91.6	91.6	18.1 2.757	.05	.02
813.66		4.8	5.3 24.9 2.268							2.694	89.9	89.9	18.2 2.700	.05	.02
813.82		4 5	5.6 25.2 2.188							2.647	84.3	84.3	19.3 2.665	.05	.02
813.97		5.4	3.0 31.2 2.181							2.703	70.4	68.9	22.0 2.708	.05	.02

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Complex Lithology Results BROADBILL-1 Zone No. 1 28-01-98 AMITY OIL NL SXO SW PHIE RHOMA POR-M HC-M FLAGS SWU SXOU PHIS VCL FVCL RHOMAU DEPTH M GR RXO PHIN RHOB DD SPI 20.8 GR 2.707 74.9 74.9 20.9 2.713 .05 .02 5.1 29.9 2.209 -3.8 .0 74.9 57.6 32.9 814.12 45 31.2 19.7 GR 2.713 80.8 80.8 19.9 2.719 .05 .02 814.27 44 4.9 7.1 28.6 2.238 -3.8 .0 80.8 51.3 68.7 21.0 2.748 .05 .02 1.9 30.4 2.243 -3.3 .0 94.6 29.4 19.6 GR 2.750 92.8 6.1 68.7 814.43 44 2.755 67.9 67.9 22.0 2.752 .05 .02 4.0 30.6 2.245 62.8 29.6 17.3 GR 814.58 43 5.9 -3.6 .0 67.9 .05 .02 6.2 30.8 2.246 71.5 48.9 29.9 15.1 GR 2.759 71.5 71.5 23.1 2.756 814.73 41 5.0 -3.8 .0 .05 .02 4.9 66.4 30.9 20.6 GR 2.706 72.2 72.2 22.1 2.711 814.88 45 3.4 30.9 2.191 -3.6 .0 72.2 .05 .02 94.2 74.1 22.0 2.685 74.1 136.2 31.9 26.2 GR 2.671 815.04 49 4.4 .8 31.1 2.135 -3.5 . 0 36.2 GR 2.776 77.2 77.2 19.2 2.762 .05 .02 4.3 36.3 2.162 77.2 62.2 36.5 815.19 56 4.4 -3.7.0 .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 .0 32.8 GR 2.771 96.3 82.7 19.7 2.760 815.49 54 3.9 1.4 35.3 2.176 -3.5 82.7 107.7 36.7 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 4.7 .0 .0 65.9 65.9 22.9 2.765 .05 .02 3.6 33.3 2.214 -3.662.9 35.3 20.7 GR 2.772 65.9 815.80 45 5.6 .05 .02 815.95 43 5.0 29.7 2.316 -3.7 .0 70.3 61.7 28.7 17.5 GR 2.816 70.3 70.3 20.0 2.802 6.6 .05 .02 4.6 28.0 2.325 74.2 68.3 29.2 17.4 GR 2.794 74.2 74.2 18.8 2.784 816.10 43 6.6 -3.7 .0 78.7 4.2 26.2 2.333 -3.8 .0 78.7 76.4 29.6 17.3 GR 2.772 78.7 17.6 2.766 .05 .02 816.25 43 6.7 4.6 27.5 2.164 67.2 57.2 30.7 20.1 GR 2.658 67.2 67.2 22.2 2.671 .05 .02 816.41 45 -3.7 .0 5.7 22.9 GR 2.554 58.1 28.3 2.632 .05 .02 6 816.56 47 4.7 5.0 28.9 1.996 -3.7 .0 58.1 42.8 31.7 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 57.4 31.1 2.626 .05 .02 6 8 1.1 37.8 1.690 -2.6.0 57.4 77.4 40.0 37.2 GR 2.219 77.4 816.86 57 3.5 61.6 28.8 2.630 1.3 41.5 1.744 -2.3 61.6 76.5 42.2 41.8 GR 2.348 76.5 .05 .02 6 8 817.02 60 3.3 .0 77.5 61.6 26.6 2.656 .05 .02 6 1.5 39.4 1.952 -2.7.0 61.6 77.5 39.6 39.1 GR 2.607 817.17 58 3.9 75.0 19.7 2.772 .05 .02 1.7 37.2 2.159 -3.2.0 75.0 96.3 36.9 36.3 GR 2.793 94.4 817.32 56 4.5 4.4 30.1 2.228 31.4 24.7 GR 2.727 81.7 81.7 18.9 2.731 .05 .02 81.7 66.4 817.47 48 4.8 -3.7 .0 2.687 79.1 76.0 19.1 2.697 .05 .02 5.3 3.0 29.2 2.191 -3.4 .0 76.0 79.1 31.5 26.1 GR 817.63 49 74.7 19.6 2.674 .05 27.5 GR 2.654 94.3 .02 1.6 28.3 2.157 -3.1 .0 74.7 105.6 31.6 817.78 50 5.2 32.5 24.7 GR 2.767 73.5 73.5 18.8 2.760 .05 .02 4.8 30.7 2.252 -3.6 .0 73.5 63.8 817.93 48 6.0 74.5 19.3 2.767 818.08 47 5.7 3.4 30.9 2.256 -3.6 .0 74.5 75.0 32.8 23.8 GR 2.776 75.0 .05 .02 .0 78.1 97.0 33.1 22.8 GR 2.785 95.2 78.1 19.8 2.774 .05 .02 1.9 31.2 2.260 -3.6 818.24 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 -3.4 4.4.05 4 78 818.54 61 1.7 32.6 2.026 -3.1 73.3 85.9 41.1 42.8 GR 2.650 85.9 73.3 21.5 2.689 .02 3.8 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 90.7 16.7 2.677 .05 .02 -2.9 .0 90.7 117.3 39.7 47.8 GR 2.635 98.1 818.85 64 3.4 1.3 34.4 2.066 1.5 35.3 2.152 -3.6 92.1 116.5 37.7 42.7 GR 2.740 98.4 92.1 16.1 2.740 .05 .02 819.00 61 3.7 .0 -3.6 .0 93.8 100.8 35.5 42.9 GR 2.784 98.7 93.8 14.2 2.764 .05 .02 819.15 61 4.2 2.4 34.0 2.202 .02 .0 96.2 94.3 33.4 43.0 GR 2.830 96.2 96.2 12.4 2.788 .05 819.30 3.4 32.7 2.252 -3.6 61 4.8 78.6 18.0 2.695 .05 .02 4 78 78.6 160.3 35.5 49.1 GR 2.650 95.3 819.45 65 .6 31.3 2.007 -3.1 3.9 89.5 160.6 38.4 54.9 GR 2.650 97.8 89.5 15.0 2.700 .05 .02 4 78 819.61 69 3.6 .8 31.4 1.953 -2.14 78 2.650 100.0 100.0 12.2 2.705 .05 .02 819.76 73 3.3 .9 31.4 1.899 -1.0102.8 164.2 41.4 60.7 GR 76.9 19.2 2.620 .05 .02 6 8 1.0 33.7 1.826 61.2 GR 2.312 94.9 819.91 74 3.3 -1.0.0 76.9 112.9 42.2 1.825 95.0 77.2 19.0 2.623 .05 .02 6 8 -1.0 .0 77.2 108.5 43.0 61.6 GR 820.06 74 3.3 1.1 36.0 1.753 96.4 83.2 15.6 2.699 .05 83.2 178.9 39.7 53.7 GR 2.650 .02 4 78 820.22 68 4.0 .6 40.3 1.670 -1.378 75.9 93.1 38.9 75.9 16.7 2.697 .05 .02 820.37 67 4.6 2.0 39.9 1.765 -2.351.6 GR 2.650 93.1 4 .05 .02 78 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 76.2 820.52 65 4.2 .02 4 78 89.3 147.4 39.2 55.4 GR 2.650 97.8 89.3 14.8 2.700 .05 .9 40.5 1.892 -2.1820.67 70 3.7 -2.3.0 66.6 100.0 40.6 54.6 GR 2.555 92.2 66.6 22.3 2.656 .05 .02 6 1.1 41.8 1.915 820.83 69 3.8 .05 .02 .0 66.6 94.4 42.0 53.8 GR 2.623 92.2 66.6 22.2 2.684

820.98 69

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1.2 43.2 1.937 -2.5

										0.570	02.0	60 0	21 7 2 0 58	05	2	6	
821.13 821.28 821.44 821.59 821.74 821.89 822.05 822.20 822.35	68 64 64 63 65 66 73	3.6 4.8 6.4 7.8 6.7 5.8 4.0 3.9	5.4 32.8 2.3 1.1 41.2 1.5 1.0 42.7 1.5	036 -2.3 016 -2.4 176 -3.1 0335 -3.7 0260 -3.7 186 -3.6 0957 -2.6	.0	68.9 71.6 64.3 69.7 76.6 83.3 78.0 91.3	98.1 102.0 89.7 80.4 80.6 80.0 67.2 150.0	38.9 35.7 34.3 30.0 25.7 26.5 27.2 38.4	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	92.8 93.5 89.7 80.4 80.6 83.3 78.0 98.2 94.3	68.9 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 .05	.02 .02 .02 .02 .02 .02 .02 .02	5 5 5 4 7 4 7 6 6	
822.50	79	3.8	1.0 44.3 1.	936 -2.9		10.5	127.	•									

Complex Lithology Results 28-01-98

Zone No.	1		ADBILL-I					omplex 3-01-98		ogy kesuli	is .						
DEPTH M	GR	RT	RXO PHIN	RHOB	DD	SPI	SWU	SXOU	PHIS	VCL FVCL	RHOMAU	SXO	SW	PHIE RHOMA	POR-M	HC-M	FLAGS
822.66	76	3.8	1.0 41.6	1.976	-2.1	.0	81.5	129.2	39.4	65.0 GR	2.616	96.0	81.5	15.3 2.692	.05	.02	
822.81	74	3.8	1.1 39.0	2.017	-1.9		97.2	153.8	39.1	61.8 GR	2.650	99.4	97.2	11.7 2.706	.05	.02	4 78
822.96	67	4.6	.8 39.7	2.132	-2.8	.0	80.9	159.8	33.3	51.6 GR	2.834	95.8	80.9	15.2 2.783	.05	.02	
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
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	5
823.42	68	5.6	2.5 32.1		-3.5	.0	98.0	125.0	31.3	53.6 GR	2.698	99.6	98.0	9.0 2.717	.05	.02	
823.57	72	4.4	1.6 31.9	2.011	-3.2			119.6	34.2	58.5 GR	2.650	96.9	85.6	13.3 2.703	.05	.02	4 78
823.72	72	3.8	1.4 37.7	1.828	-1.5			129.3	40.7	58.9 GR	2.650	98.4	92.3	13.1 2.703	.05	.02	4 78
823.87	71	3.8	1.2 39.8		-2.2	.0		97.9	40.3	56.9 GR	2.464	92.5	67.7	21.4 2.625	.05	.02	6 8
824.03	69	3.7	1.0 42.0		-2.8			140.6	39.9	54.9 GR	2.650	97.5	88.0	15.0 2.700	.05	.02	4 78
824.18	68	3.6	1.0 36.0		-3.3			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		-2.6	.0		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		-1.9	.0		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		-1.5	.0		129.5	41.1	55.6 GR	2.279	94.4	75.1	22.0 2.626	.05	.02	6 8
824.79	73	3.0	.7 36.0		-1.1	.0		136.5	40.9	60.0 GR	2.253	95.5	79.6	19.8 2.619	.05	.02	6 8 6
824.94	69	3.0	1.0 37.8		-1.4	.0		105.5	41.3	53.8 GR	2.451	94.7	76.4	22.0 2.628	.05	.02 .02	6
825.09	66	3.0	.9 39.3		-1.6	.0		108.6	41.6	50.6 GR	2.553	94.6	75.6	22.4 2.646	.05	.02	0
825.25	64	3.1	.9 40.9		-1.7	.0		112.1	41.9	47.4 GR	2.636	94.4	74.9	22.8 2.681	.05 .05	.02	
825.40	64	3.4	1.0 40.3		-2.0	.0		109.2	41.5	47.7 GR	2.653	94.4 94.6	75.0 75.6	21.5 2.690 20.2 2.698	.05	.02	
825.55	64	3.6	1.2 39.7		-2.2 -2.3	.0	81.9	107.6 98.1	41.1 37.0	48.1 GR 49.0 GR	2.670 2.682	96.1	81.9	16.3 2.704	.05	.02	
825.70	65	4.2	1.9 36.6		-2.3 -2.4	.0		120.0	37.3	49.0 GR 53.8 GR	2.669	98.4	92.1	13.3 2.700	.05	.02	
825.86	69 72	4.1	1.7 35.3 1.4 34.0		-2.4			151.6	37.6	58.5 GR		100.0		10.2 2.695	.05	.02	
826.01	74	4.0 4.1	1.4 34.0		-1.8	. 0		135.7	37.5	61.9 GR	2.650	98.6	93.2	11.6 2.706	.05	.02	4 78
826.16 826.31	77	4.1	1.4 36.9		-1.0			143.3	37.4	65.3 GR	2.650	99.3	96.7	10.1 2.709	.05	.02	4 78
826.47	74	4.6	1.8 38.6		-1.6			118.1	40.2	61.3 GR	2.650	97.4	87.6	11.9 2.706	.05	.02	4 78
826.62	75	4.7	1.7 38.8		-1.9	.0		118.2	38.2	63.6 GR	2.655	96.5	83.6	12.4 2.701	.05	.02	
826.77	77	4.8	1.5 38.9		-2.2	.0		134.2	36.3	65.7 GR	2.688	97.5	88.3	10.6 2.717	.05	.02	
826.92	7.5	5.3	2.3 37.5		-2.8	.0		105.2	35.8	62.5 GR	2.657	96.0	81.4	11.7 2.701	.05	.02	
827.07	72	5.3	3.1 36.1		-3.4	.0	79.3	87.1	35.3	59.4 GR	2.629	87.1	79.3	12.8 2.686	.05	.02	
827.23	72	4.0	.8 31.3		-2.7	.0	80.5	149.3	42.4	58.4 GR	2.388	95.8	80.5	15.9 2.623	.05	.02	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	4.2	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	6
827.68	68	4.1	1.4 36.9	2.058	-3.3	.0	83.5	115.7	36.2	53.2 GR	2.658	96.5	83.5	15.5 2.694	.05	.02	
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	16.3 2.667	.05	.02	6
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	17.1 2.637	.05	.02	6
828.14	74	3.8	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	.02	6
828.29	74	3.9	.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	6
828.45	73	4.1	1.7 32.1		-2.9	.0	77.1	99.1	38.7	59.4 GR	2.365	94.9	77.1	16.4 2.620	.05	.02	6
828.60	71	3.9	1.2 32.9		-2.5	.0		115.8	38.6	57.3 GR	2.415	95.1	77.7	17.1 2.633	.05	.02	6
828.75	69	3.8	.7 33.7		-2.0	.0		148.5	38.4	55.0 GR	2.460	94.9	77.0	18.0 2.626	.05	.02	6
828.90	69	4.2	1.3 35.2		-1.9	.0		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		-1.7			102.3	47.5	55.0 GR	2.650	94.9	77.1	15.0 2.700	.05	.02	4 78
829.21	72	4.7	1.4 38.2		-2.2			126.0	40.6	58.6 GR	2.650	96.3	82.7	13.2 2.703	.05	.02	4 78
829.36	72	4.6	1.1 37.6		-1.9			143.9	40.8	59.0 GR	2.650	96.7	84.8	13.0 2.703	.05	.02	4 78 4 78
829.51	73	4.4	.8 37.0	1.975	-1.5		87.3	170.7	41.0	59.4 GR	2.650	97.3	87.3	12.8 2.704	.05	.02	4 78

Zone No. 1

BROADBILL-1

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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	96.7	11.2 2.707	.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				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					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				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		-		20.2 2.699	.05	.02		
830.73	69		1.2 42.4 1.983									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				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		

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

		AMII	I 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

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	. Ó5	.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	6 8
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 28-01-98

BROADBILL-1

Zone No. 1

AMITY OIL NL FLAGS PHIE RHOMA POR-M HC-M SWU SXOU PHIS VCL FVCL RHOMAU SXO SW DEPTH M GR RTRXO PHIN RHOB DD SPI .02 6 8 87.4 144.1 44.2 67.3 GR 1.774 97.3 87.4 16.2 2.615 .05 3.0 .8 44.8 1.784 -2.4 .0 839.72 78 .05 .02 6 8 15.5 2.639 839.88 79 2.9 .9 44.6 1.846 -2.2. 0 90.0 136.7 45.6 68.7 GR 2.197 97.9 90.0 8 .02 .0 125.3 186.4 46.9 70.1 GR 2.650 100.0 100.0 8.1 2.678 .05 1.0 44.4 1.909 -2.0 840.03 80 2.9 .05 .02 8 .0 128.8 236.7 44.9 72.4 GR 2.650 100.0 100.0 7.2 2.630 840.18 .7 38.8 1.887 -1.682 2.9 .02 8 .0 125.7 218.6 44.3 72.9 GR 2.650 100.0 100.0 7.0 2.621 .05 840.33 82 3.1 .8 38.9 1.844 -2.0 8 .0 122.5 204.3 43.8 73.3 GR .02 2.650 100.0 100.0 6.9 2.629 .05 840.49 82 3.3 .9 38.9 1.801 -2.4.02 8 2.650 100.0 100.0 6.7 2.627 .05 .0 121.1 181.4 42.6 73.6 GR 3.4 1.2 39.4 1.818 -2.3 840.64 83 74.0 GR 2.650 100.0 100.0 6.6 2.624 .05 .02 8 .0 117.9 165.1 41.5 840.79 83 3.6 1.5 39.9 1.834 -2.32.479 91.8 78.7 14.8 2.654 .05 .02 6 2.1 39.7 1.943 -2.2 .0 78.7 91.8 44.1 67.9 GR 840.94 79 4.1 .05 .02 6 75.2 17.0 2.656 .0 75.2 101.0 42.9 65.0 GR 2.500 94.5 841.10 76 3.9 1.5 40.8 1.929 -2.2 75.2 18.8 2.658 .05 .02 6 8 .9 41.9 1.916 -2.1 .0 75.2 123.9 41.6 62.1 GR 2.519 94.4 841.25 74 3.5 .0 72.9 63.9 GR 2.399 90.6 72.9 17.9 2.631 .05 .02 6 8 1.7 42.1 1.871 -1.6 90.6 39.5 841.40 76 3.9 .02 6 8 .05 841.55 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 77 .05 .02 4 78 35.2 72.1 GR 2.650 100.0 100.0 7.3 2.715 3.8 44.6 1.797 -.1 110.8 99.5 841.71 81 3.9 70.9 17.5 2.651 .05 .02 6 8 .0 70.9 63.7 27.9 64.7 S 2.452 70.9 3.6 44.7 1.862 -.9 841.86 80 4.2 .05 .02 4.2 57.4 53.4 20.5 50.0 S 2.649 57.4 57.4 24.7 2.693 3.3 44.8 1.927 -1.6 842.01 79 4.5 .02 20.7 50.2 S 2.787 68.9 66.0 18.9 2.763 .05 842.16 77 5.1 3.1 42.5 2.062 -2.3.0 66.0 68.9 50.5 S 2.955 87.7 74.2 14.5 2.842 .05 .02 5 .0 74.2 87.7 20.8 -2.9842.31 74 5.8 2.8 40.1 2.196 51.7 S 3.024 96.9 85.5 12.8 2.870 .05 .02 5 -2.8 85.5 225.6 21.4 842.47 73 5.1 .5 39.4 2.242 .0 78.0 14.1 2.898 .05 .02 5 .5 41.0 2.249 -2.8 .0 78.0 206.8 20.7 50.3 S 3.073 95.1 842.62 72 5.5 71.7 15.3 2.926 .05 .02 5 48.8 S 3.119 93.5 .0 71.7 190.9 19.9 842.77 72 6.0 .6 42.7 2.257 -2.8 20.8 2.761 .05 .02 -2.7 2.8 70.4 96.1 13.5 35.9 S 2.775 93.2 70.4 842.92 61 1.6 37.9 2.136 4.7 24.8 2.736 .05 .02 12.5 31.2 GR 2.734 60.5 60.5 843.08 53 5.0 34.1 39.1 2.083 -2.2 8.5 60.5 17.9 32.3 2.711 .05 .02 18.8 GR 2.706 51.8 51.8 843.23 44 4.7 68.6 40.4 2.031 -1.8 17.6 51.8 10.3 11.5 .09 .05 \$ 29.1 2.781 11.8 2.9 12.3 GR 2.787 48.0 48.0 843.38 39 7.4 68.6 36.6 2.179 -2.5 20.848.0 Ś 68.6 32.9 2.324 .0 S 2.853 42.6 42.6 29.0 2.853 .13 .07 10.8 -3.327.442.6 12.5 . 0 843.53 35 5.4 GR 2.885 81.7 81.7 11.3 2.878 .13 .07 18.9 55.0 15.7 2.628 -3.6 3.9 81.7 36.1 . 4 843.69 34 .07 5 78.5 9.7 2.886 .13 24.6 27.3 15.6 2.638 9.1 GR 2.901 78.5 843.84 37 -3.6 .0 78.5 57.2 12.5 24.7 12.9 GR 2.918 99.2 96.3 8.1 2.894 .13 .07 1.0 15.6 2.648 -3.6.0 96.3 336.9 843.99 40 19.7 5 .0 95.9 239.6 99.2 7.1 2.919 .13 .07 844.14 43 20.0 2.1 16.9 2.653 -3.5 23.4 17.6 GR 2.959 95.9 .07 3.004 99.2 96.3 6.2 2.944 .13 5 3.2 18.2 2.658 -3.5.0 96.3 198.6 22.2 22.3 GR 844.30 46 19.9 2.853 100.0 100.0 .0 2.786 .13 .07 2.1 17.2 2.503 -3.3.0 100.0 100.0 22.9 41.4 GR 844.45 9.3 60 .13 .07 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 .3 2.677 844.60 70 6.5 4 7 11.3 2.706 .13 .07 98.1 143.2 29.5 61.7 N 2.650 99.6 98.1 844.75 79 3.8 1.3 25.8 2.048 -2.7.13 7 2.650 100.0 100.0 9.4 2.687 .07 4 1.3 34.5 1.968 132.9 191.4 15.8 40.6 S -1.7844.91 83 3.7 1.9 2.662 7 577.4 863.7 2.2 13.0 S 2.650 100.0 100.0 .13 .07 4 1.2 43.3 1.887 -.7 3.6 845.36 87 10.3 2.703 7 58.1 S 2.650 100.0 100.0 .13 .07 4 1.2 42.6 1.966 .0 110.1 161.9 24.6 845.21 84 3.6 4 7 61.1 S 2.650 100.0 100.0 10.1 2.705 .13 .07 111.4 181.1 26.1 845.36 87 3.4 .9 45.3 1.946 -.1 9.9 2.708 .13 .07 4 7 27.6 64.2 S 2.650 100.0 100.0 -.2 113.7 211.5 845.52 90 3.2 .7 48.1 1.926 .0 120.8 214.8 2.650 100.0 100.0 7.9 2.702 .13 .07 8 .8 45.3 1.935 -.3 30.8 70.6 S 845.67 93 3.2 10.2 2.680 .13 .07 3 2.650 100.0 100.0 845.82 96 3.2 .9 42.5 1.944 -.5 .0 34.0 77.1 S 4 2.650 100.0 100.0 95.1 N 2.0 2.736 .13 .07 1 -.1 45.6 845.97 100 3.6 1.0 41.7 2.063 .13 .07 4 78 141.0 258.5 47.0 2.650 100.0 100.0 .8 2.735 1.1 43.2 2.063 -.1 93.8 GR 846.12 97 3.8 78 48.4 90.0 GR 2.650 100.0 100.0 1.6 2.732 .13 .07 4 1,2 44.7 2.062 -.1 134.6 240.0 846.28 94 4.0 2.650 100.0 100.0 1.8 2.879 .13 .07 8 -.5 .0 116.6 200.1 48.2 88.9 GR 846.43 93 5.2 1.7 50.2 2.070 8 2.650 100.0 100.0 .9 2.843 .13 .07 .0 133.8 252.4 46.5 93.0 GR 846.58 96 4.2 1.1 47.1 2.083 -.4

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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		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		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		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			1.9 50.2 2.046		.0		34.4	77.8 S	2.650 100.0 100.0	9.8 2.860	.13	.07 3	
847.50		•••	2.7 48.9 2.097		. 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		5.9	2.6 49.5 2.054		.0		33.6	76.2 S	2.650 100.0 100.0	10.4 2.856	.13	.07 3	
847.80		6.0	2.5 50.0 2.012		. 0		34.8	78.8 S	2.650 100.0 100.0	9.6 2.830	.13	.07 3	
847.95		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 1	
848.11		5.4	2.2 40.9 2.097	8				93.4 N	2.650 100.0 100.0	2.5 2.770	.13	.07 2	

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Zone No. 1	BROADBILL-1 AMITY OIL NL		Complex Lith 28-01-98	ology Results		
DEPTH M GR	RT RXO PHIN RHOB	DD SPI	SWU SXOU PHI	S VCL FVCL RHOMAU SXO SW	PHIE RHOMA POR-M	HC-M FLAGS
848.26 103 848.41 103 848.56 102 848.72 104 848.87 103 849.02 101 849.17 102 849.33 104 849.48 94	5.4 1.6 38.8 2.156 5.4 1.4 41.9 2.099 4.4 1.2 45.0 2.042 4.7 1.2 48.2 1.956 4.7 1.2 48.2 1.996 4.8 1.2 48.3 2.035 4.7 1.1 47.2 2.080 4.6 1.1 46.1 2.126 5.6 1.3 45.9 2.099	7 .0 7 .0 3 .0 2 2 2 2 2	44.	2 95.7 N 2.650 100.0 100.0 2 97.7 S 2.650 100.0 100.0 8 98.8 S 2.650 100.0 100.0 7 98.6 S 2.650 100.0 100.0 6 98.4 S 2.650 100.0 100.0 5 92.1 S 2.650 100.0 100.0 4 85.9 S 2.650 100.0 100.0 0 85.2 S 2.650 100.0 100.0	3.9 2.791 .13 1.7 2.785 .13 1.0 2.783 .13 .6 2.759 .13 .6 2.739 .13 .7 2.739 .13 3.3 2.733 .13 5.7 2.728 .13 6.0 2.727 .13 7.1 2.725 .13	.07 2 .07 1 .07 1 .07 1 .07 1 4 .07 1 4 .07 34 .07 34 .07 34
849.63 91 849.78 89 849.93 92	6.9 1.8 47.0 2.086 9.4 2.2 48.1 2.074 10.1 2.5 48.7 2.219	.0	35. 67.6 118.6 30.	7 80.6 S 2.650 100.0 100.0	8.3 2.723 .13 7.9 2.714 .13	.07 34 .07 4 78

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

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Zone No. 1

Hydrocarbon Volume Report

Formation Name FROM M TO M INTERVAL M PHIE Cut off SW Cut Off Vclay Cut Off Net Pay M Average PHIE %

779.983 849.935 69.952 .050 .500 .300 .000 .000 Average SW % .000 Average Vclay % .000 Integrated PHI M .000

Sum PHI*(1-SW) M

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		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		3.6		224.2		34.8	81.8 GR		100.0		3.2 2.798	.00	.00	4	78
850.39	97	8.4	1.9 47.3		3.7		251.4	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		3.8		262.7		40.4	84.6 GR	2.650	100.0	100.0	2.5 2.803	.00	.00	4	78
850.70	98	11.3	3.0 57.6		4.2		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		3.9		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		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	1.458	3.8		217.6	315.8	43.3	81.0 GR	2.650	100.0	100.0	3.4 2.796	.00	.00	4	78
851.31	93	9.9	.7 72.6	1.425	3.8		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	1.494	4.7		228.7	711.4	46.8	77.2 GR	2.650	100.0	100.0	4.5 2.789	.00	.00	4	78
851.61	89	10.0	.4 79.4	1.505	5.1		223.4	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	1.515	5.4		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	1.460	5.5		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		206.3	390.3	54.0	61.5 GR		100.0		9.8 2.761	.00	.00	4	78
852.22	72	9.9	.4 95.1	1.299	6.5		201.7	359.8	66.2	56.5 GR		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		100.0		12.4 2.749	.00	.00	4	78
852.53	69	9.9	. 4	1.243	6.3		196.6		62.7	53.3 GR		100.0		13.1 2.746	.00	.00	4	78
852.68	68	10.0	.3 90.4		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	1.244	6.9		189.0		62.2	50.6 GR		100.0		14.2 2.741	.00	.00	4	78
852.98	65	10.7	.3 82.7	1.256	7.2		183.2		62.4	48.7 GR		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		100.0		14.6 2.740	.00	.00	4	78
853.29	66	10.5	.3 84.5	1.260	8.3			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		9.1		190.5		67.2	54.5 GR		100.0		12.6 2.748	.00	.00	4	78
853.59	68	10.5	.3 83.9		9.7		189.5		69.5	52.4 GR		100.0		13.5 2.745	.00	.00	4	78
853.74	66	10.3	.2 79.6		10.2		188.9		71.8	50.2 GR		100.0		14.4 2.741	.00	.00	4	78
853.90	65	10.2	.2 87.6	1.227	11.8		187.9		73.7	49.2 GR		100.0		14.8 2.739	.00	.00	4	78
854.05	64	10.2	.2 95.6		13.4		186.5		75.7	48.0 GR		100.0		15.4 2.737	.00	.00	4 4	78
854.20	61	10.3	.2 63.5		14.1		181.2		75.5	44.8 GR		100.0		16.8 2.731	.00	.00	4	78 78
854.35	60	10.3	.2 67.7		14.1		179.4		77.1	43.9 GR		100.0		17.2 2.729 17.6 2.728	.00 .00	.00	4	78 78
854.51	59	10.4	.2 72.0		14.1		177.4		78.6	43.1 GR 40.0 GR		100.0		19.1 2.722	.00	.00	4	78
854.66	56	10.8	.2	1.207	14.1		169.9 162.7		79.1 79.6	40.0 GR 36.9 GR		100.0		20.6 2.717	.00	.00	4	78
854.81	53	11.2	.2	1.204	$14.1 \\ 14.1$		156.3		81.3	30.9 GR 32.7 GR		100.0		22.6 2.709	.00	.00	4	78
854.96	50	11.4	.2	1.198	13.9		154.4		79.9	32.7 GR		100.0		22.7 2.709	.00	.00	4	78
855.12	49	11.6	.2 .2	1.202	13.8		152.4		78.6	32.3 GR		100.0		22.9 2.708	.00	.00	4	78
855.27	49	11.9		1.211	13.9		151.7		79.6	32.3 GR		100.0		22.8 2.708	.00	.00	4	78
855.42	49 49	12.0	.2 .2 93.0		14.1		151.0		80.6	32.3 GR		100.0		22.8 2.708	.00	.00	4	78
855.57 855.73	49	12.1 12.3	.2 65.8		14.1			296.7	78.9	30.8 GR		100.0		23.6 2.706	.00	.00	4	78
855.73	45	12.3	.2 70.5		14.1		143.8		78.8	27.8 GR		100.0		25.2 2.700	.00	.00	4	78
	42	12.3	.2 75.3		14.1			264.1	78.7	24.7 GR		100.0		26.8 2.695	.00	.00	4	78
856.03 856.18	39	12.4	.2 73.3		14.1		133.6		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		14.1		133.4		79.4	21.7 GR		100.0		28.4 2.689	.00	.00	4	78
856.49	39	12.9	.2 87.2		14.1		133.4		80.0	21.7 GR 21.4 GR		100.0		28.6 2.689	.00	.00	4	78
856.49	39 37	12.9	.2 98.2		14.1			241.6	80.2	19.7 GR		100.0		29.5 2.686	.00	.00	4	78
	37 36	13.0	.2 98.2	1.184	14.1			234.3	80.4	17.9 GR		100.0		30.5 2.682	.00	.00	4	78
856.79	36 36	13.4	.2 89.3		14.1			237.2	80.4	17.9 GR 18.6 GR		100.0		30.1 2.684	.00	.00	4	78
856.95	20	13.4	.2 89.3	T.TQ/	T4 • T		121.1	231.2	00.4	10.0 GK	2.000	100.0	100.0	30.1 2.004	.00		1	, 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	00	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 .2 73.8 1.182 14.1 123.8 245.1 81.3 20.6 GR 14.7 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

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865.63	20	13.2	.8 98.2 1.220	-1.5	.0 107.5	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	91.7	68.3	1.1 GR	1.472 100.0 100.0	40.6 2.617	.00	.00	6 8
866.09	19	12.1	.5 94.3 1.221	-2.2	.0 111.5	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	102.0	67.8	.0 GR	1.534 100.0 100.0	41.0 2.634	.00	.00	6 8
866.39	18	11.4	.4 87.6 1.229	-2.3	.0 114.9	113.1	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	128.7	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	116.2	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	105.1	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	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

BROADBILL-1

AMITY OIL NL

Zone No. 2

SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA DEPTH M GR RXO PHIN RHOB DD SPI POR-M HC-M RTFLAGS 1.531 100.0 100.0 41.0 2.631 867.16 24 .0 117.3 108.6 67.8 .0 DN .00 .00 6 8 10.9 .4 79.4 1.227 -1.7867.31 24 10.9 .3 79.5 1.220 -1.5.0 117.6 121.8 67.9 .0 DN 1.512 100.0 100.0 41.0 2.632 .00 .00 6 8 867.46 25 10.9 .3 82.2 1.204 -1.7 .0 117.2 121.2 66.9 .0 DN 1.472 100.0 100.0 41.0 2.632 .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 1.434 100.0 100.0 41.0 2.634 867.77 22 .0 108.6 95.5 65.8 .0 DN .00 12.7 .5 81.0 1.189 -2.6 .00 6 8 867.92 20 .4 83.9 1.192 -2.6 .0 110.2 109.6 65.8 .0 DN 1.443 100.0 100.0 41.0 2.623 .00 12.4 .00 6 8 868.07 19 .3 86.7 1.196 -2.6 .0 112.1 132.0 65.8 .0 GR 1.452 100.0 100.0 41.0 2.632 12.0 .00 .00 6 8 1.517 100.0 100.0 41.0 2.617 .0 DN .00 868.22 18 10.7 .3 68.5 1.222 -2.7.0 118.7 132.0 65.1 .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 22 11.4 .3 61.2 1.231 -2.9.0 114.7 130.3 63.7 .0 DN 1.539 100.0 100.0 41.0 2.619 .00 .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 8 868.83 21 15.3 -3.1 12.8 99.2 130.2 28.2 .0 DN 1.509 99.8 99.2 41.0 2.629 .00 .3 73.7 1.219 .00 6 8 868.98 20 15.1 .3 75.2 1.214 -3.3 9.6 99.6 140.2 31.4 .0 DN 1.497 99.9 99.6 41.0 2.617 .00 .00 6 8 1.516 99.8 99.2 41.0 2.616 869.14 21 15.3 .2 76.1 1.221 -2.7 9.6 99.2 141.3 31.4 .0 DN .00 .00 6 8 869.29 21 15.3 .2 77.0 1.229 -2.0 132.5 194.0 31.5 2.8 GR 2.650 100.0 100.0 30.6 2.655 .00 .00 4 7 869.44 18 15.7 .4 61.0 1.283 -.9 130.7 155.9 31.3 .0 GR 2.650 100.0 100.0 31.3 2.650 .00 .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 8 869.75 15 17.3 1.3 53.9 1.497 -.6 9.1 93.1 62.6 31.9 .0 DN 2.204 93.1 93.1 41.0 2.624 .00 .00 6 8 1.3 49.4 1.733 -.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 .00 .00 6 8 870.05 17 1.3 45.0 1.968 -.4 8.4 101.2 62.0 29.9 .0 GR 2.724 100.0 100.0 41.0 2.724 .00 .00 14.7 8 870.20 20 -.1 2.4 135.6 82.7 26.2 1.4 GR 2.707 100.0 100.0 31.2 2.708 14.4 1.3 31.5 2.175 .00 .00 2.698 100.0 100.0 29.8 2.700 870.36 21 14.4 1.3 29.7 2.187 .0 .7 141.2 85.6 27.0 2.1 GR .00 .00 870.51 21 .0 147.3 88.7 27.7 2.9 GR 2.689 100.0 100.0 28.5 2.692 .00 .00 14.4 1.4 28.0 2.199 . 1 870.66 24 13.4 1.2 27.8 2.201 . 2 .0 155.9 96.0 27.3 5.3 GR 2.686 100.0 100.0 27.5 2.691 .00 .00 870.81 26 12.3 1.1 27.6 2.203 . 2 .0 165.3 104.3 26.9 7.7 GR 2.683 100.0 100.0 26.4 2.690 .00 .00 870.97 39 10.9 1.0 27.8 2.197 .2 .0 184.4 132.0 28.9 21.3 GR 2.664 100.0 100.0 21.6 2.689 .00 .00 871.12 42 1.0 33.4 2.153 .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 8.3 1.1 39.0 2.108 .0 .0 167.2 102.6 30.9 27.3 GR 2.724 100.0 100.0 26.8 2.754 .00 .00 871.42 46 8.5 1.1 40.7 2.050 .0 153.4 93.0 33.4 29.2 GR 2.696 100.0 100.0 28.8 2.730 .00 .00 . 4 .0 152.2 92.6 35.9 31.0 GR 2.670 100.0 100.0 28.3 2.710 871.58 48 8.6 1.1 42.4 1.996 .9 .00 .00 8 871.73 54 8.4 .6 39.1 2.045 .0 159.9 144.2 37.1 37.1 GR 2.656 100.0 100.0 25.6 2.706 .00 .00 . 4 .0 159.0 133.0 36.1 44.0 GR 2.701 100.0 100.0 22.5 2.756 871.88 60 9.2 .8 41.1 2.075 .5 .00 .00 2.779 100.0 100.0 19.9 2.805 872.03 67 10.2 1.1 43.2 2.103 .7 .0 156.0 128.4 35.2 50.8 GR .00 .00 2.675 100.0 100.0 17.6 2.763 872.19 73 15.0 2.4 45.8 2.003 .0 132.3 96.8 34.7 57.1 GR .00 .00 8 . 6 872.34 67 13.4 1.7 44.0 2.000 .3 .0 134.8 103.2 37.5 50.8 GR 2.651 100.0 100.0 20.2 2.735 .00 .00 8 164.2 163.3 40.3 44.7 GR 2.650 100.0 100.0 16.9 2.731 .00 .00 78 872.49 61 12.5 1.0 42.2 1.999 . 1 872.64 157.7 115.8 40.0 39.0 GR 2.650 100.0 100.0 19.5 2.720 12.4 1.5 37.5 2.047 .2 .00 55 .00 4 78 872.79 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 4 .00 78 872.95 56 164.0 160.1 40.5 39.2 GR 2.650 100.0 100.0 19.4 2.721 .00 4 78 11.5 .8 35.5 2.091 -.1 .00 .0 123.6 80.8 41.6 19.2 DN 2.647 100.0 100.0 33.1 2.676 873.10 72 11.8 1.1 39.2 1.990 -.3 .00 .00 8 873.25 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 .00 8 .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 8 873.56 120 12.2 1.6 43.3 1.896 -1.5.0 116.6 61.5 42.6 10.1 DN 2.642 100.0 100.0 36.9 2.659 .00 .00 8 2.652 100.0 100.0 19.8 2.719 873.71 110 12.2 2.7 37.6 2.088 -.9 .0 147.3 84.4 43.1 46.9 DN .00 .00 -.7 .0 158.3 101.7 42.2 40.8 DN 2.655 100.0 100.0 19.7 2.708 .00 873.86 95 11.8 1.9 34.6 2.122 .00 2.657 100.0 100.0 19.6 2.700 .0 170.8 133.5 41.3 34.8 DN 874.01 79 11.41.1 31.7 2.155 -.5 .00 .00

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874.17	78	11.3	1.0 33.0 2.154		.0 174.0 1				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 1	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 1	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	.0 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	.0 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	.0 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	.0 DN	2.276 100.0 100.0	41.0 2.616	.00	.00	6 8
875.54	79	15.2	2.3 37.3 1.580	1	.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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Zone No. 2 AMITY OIL NL 28-01-98 SXO SW PHIE RHOMA POR-M HC-M FLAGS SWU SXOU PHIS VCL FVCL RHOMAU RXO PHIN RHOB DD SPI DEPTH M GR 2.542 100.0 100.0 6 8 41.0 2.622 .00 .00 .O DN 875.69 53 14.1 2.4 33.1 1.864 -.3 .0 103.3 45.6 41.5 2.625 100.0 100.0 41.0 2.625 .00 .00 8 1.6 34.9 1.967 .0 108.7 55.0 41.4 .O DN 12.7 -.3 875.84 44 .0 135.9 97.0 41.3 17.2 GR 2.679 100.0 100.0 31.1 2.698 .00 .00 .9 36.6 2.071 876.00 35 11.3 -.4 2.687 100.0 100.0 29.6 2.706 .00 .00 .8 36.4 2.090 .0 142.5 105.7 40.5 19.1 GR 876.15 37 10.9 2.695 100.0 100.0 .00 .00 .0 149.6 115.7 39.7 21.0 GR 28.1 2.717 876.30 39 10.6 .8 36.2 2.109 -.4 2.684 100.0 100.0 27.5 2.704 .00 .00 .0 154.6 117.1 37.3 19.3 GR .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 27.3 2.727 .00 .00 876.60 37 10.7 .8 35.4 2.135 -.3 27.5 2.755 .00 .00 .0 153.1 113.1 35.5 19.4 GR 2.737 100.0 100.0 876.76 37 10.8 .8 36.6 2.149 -.3 27.6 2.763 .00 .00 2.743 100.0 100.0 .0 149.3 109.6 36.6 22.4 GR 876.91 40 10.7 .9 38.1 2.133 -.3 2.750 100.0 100.0 .0 145.8 106.4 37.8 25.4 GR 27.6 2.770 .00 .00 .9 39.7 2.117 877.06 43 10.7 -.3 .00 2.724 100.0 100.0 27.3 2.756 .00 .9 40.8 2.081 .0 138.5 111.8 42.7 30.5 GR 877.21 48 11.2 -.4 2.712 100.0 100.0 24.7 2.753 .00 .0 144.8 117.7 42.7 34.0 GR .00 .9 39,4 2.100 877,37 51 11.3 -.4 .0 151.6 125.0 42.6 37.5 GR 2.703 100.0 100.0 22.2 2.749 .00 .00 877.52 54 11.5 1.0 38.0 2.118 -.5 2.674 100.0 100.0 19.4 2.731 .00 .00 .0 158.5 141.3 42.3 43.9 GR 1.0 36.7 2.118 -.5 877.67 60 11.42.654 100.0 100.0 19.0 2.712 .00 .00 41.9 43.7 DN 877.82 66 11.3 1.0 35.4 2.117 -.5 .0 161.4 144.6 .0 160.7 142.0 38.0 44.4 DN 2.654 100.0 100.0 19.1 2.714 .00 .00 877.98 85 11.2 1.0 35.8 2.112 -.4 .0 156.5 127.3 38.0 42.2 DN 2.654 100.0 100.0 20.2 2.710 .00 .00 1.1 35.8 2.105 -.4 878.13 93 11.42.653 100.0 100.0 21.3 2.707 .00 .00 1.3 35.9 2.099 -.4 .0 152.5 115.1 38.1 40.1 DN 878.28 102 11.5 2.653 100.0 100.0 25.7 2.692 .00 .00 39.3 29.2 DN 878.43 94 11.7 1.3 35.1 2.084 -.4 .0 143.5 97.0 39.6 32.6 DN 24.5 2.697 .00 .00 .0 145.4 96.7 2.653 100.0 100.0 1.4 35.6 2.085 11.6 -.3 878.59 87 23.4 2.701 .00 .0 147.4 96.9 39.9 36.1 DN 2.652 100.0 100.0 .00 1.5 36.1 2.085 -.3 878.74 80 11.5 2.653 100.0 100.0 19.7 2.717 .00 .00 40.7 45.9 DN 11.7 1.7 37.1 2.095 -.3 .0 152.4 104.7 878.89 80 .00 2.653 100.0 100.0 16.0 2.738 .00 .0 158.6 116.9 41.4 55.7 DN 2.0 38.0 2.104 879.04 80 11.9 -.3 64.4 DN 2.656 100.0 100.0 10.8 2.757 .00 .00 .0 186.0 195.9 41.4 879.20 85 1.3 37.0 2.144 -.3 10.9 2.650 100.0 100.0 .00 .0 219.2 319.8 42.4 77.3 GR 4.4 2.788 .00 8 879.35 92 10.6 1.6 39.0 2.150 -.3 2.650 100.0 100.0 .00 8 .0 228.4 369.2 43.4 83.9 GR 2.7 2.820 .00 879.50 98 10.2 1.9 41.0 2.156 -.3 2.650 100.0 100.0 1.8 2.910 .00 .00 .0 226.5 437.4 48.6 87.5 GR 1.7 49.6 2.124 -.3 879.65 101 10.6 2.650 100.0 100.0 1.1 3.017 .00 .00 8 .0 224.0 516.2 53.8 91.2 GR 879.81 105 11.0 1.5 58.1 2.093 -.3 2.6 2.958 .00 .00 8 2.650 100.0 100.0 .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 1.7 54.1 2.036 -.2 .0 200.0 377.4 51.4 83.0 GR 880.11 97 13.3 8 .0 199.2 487.9 48.4 81.9 GR 2.650 100.0 100.0 3.1 2.866 .00 .00 .9 50.8 2.042 -.2 880.26 96 13.3 8 3.0 2.838 .00 .00 2.650 100.0 100.0 14.4 2.6 46.9 2.080 -.1 .0 191.7 297.3 47.3 82.4 GR 880.41 96 8 2.650 100.0 100.0 2.9 2.815 .00 .00 .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 .0 187.0 290.9 44.1 84.3 GR 3.1 41.7 2.185 -.1 880.72 98 15.3 8 2.2 2.862 .00 .00 3.1 43.1 2.173 .0 188.3 302.3 43.8 85.7 GR 2.650 100.0 100.0 -.1 880.87 99 15.2

43.4 87.1 GR

41.6 86.7 GR

39.6 82.7 GR

2.650 100.0 100.0

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2.650 100.0 100.0

1.9 2.870

2.1 2.878

2.0 2.861

1.9 2.847

2.3 2.831

2.8 2.816

2.9 2.827

2.6 2.827

2.0 2.826

2.7 2.839

3.2 2.852

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Complex Lithology Results

BROADBILL-1

881.02 101

881.18 100

881.33 100

881.48 101

881.63 99

881.79 97

881.94 97

882.09 98

882.40 97

882.55 96

99

882.24

15.1

18.9

15.7

13.8

11.6

9.5

9.7

9.7

9.7

10.7

11.7

3.2 44.5 2.161

4.2 47.5 2.121

2.8 45.6 2.134

1.5 43.7 2.146

1.2 41.2 2.167

1.4 39.1 2.196

1.4 39.0 2.197

1.4 38.9 2.198

1.4 39.8 2.198

1.3 40.7 2.199

.9 38.7 2.187

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.0 189.5 314.0

.0 185.7 330.0

.0 234.1 407.7

.0 169.4 266.1 43.6 86.3 GR

.0 198.5 464.2 39.6 87.2 GR

.0 215.3 481.6 39.6 85.1 GR

.0 237.2 511.7 39.5 83.1 GR

.0 235.3 427.2 39.6 84.0 GR

.0 238.2 461.8 39.6 85.2 GR

.0 222.9 422.4 40.1 83.5 GR

.0 212.3 406.7 40.6 81.9 GR

882.70 91 13.5 1.3 38.9 2.176 3 .0 193.7 342.0 45.1 882.85 92 13.7 1.4 39.1 2.127 1 .0 187.4 280.1 45.1 883.01 94 13.9 1.5 39.4 2.078 .1 .0 138.3 120.0 48.8 883.16 96 14.7 2.0 42.0 2.061 .0 140.5 123.0 50.4 883.31 99 15.3 2.6 44.7 2.043 1 .0 180.5 233.1 51.9 883.46 98 15.4 1.7 51.7 2.052 1 .0 186.9 391.3 52.1 883.62 20.7 16.1 1.6 50.9 2.016 1 .0 182.2 388.2 50.2	71.3 DN 2.650 100.0 100.0 6.3 2.771 .00 .00 .00 .00 .00 .00 .00 .00 .00 .0
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884.07 Coal

BROADBILL-1 Complex Lithology Results Zone No. 2 28-01-98 AMITY OIL NL SXO RXO PHIN RHOB SWU SXOU PHIS VCL FVCL RHOMAU PHIE RHOMA DEPTH M GR DD SPI SW POR-M HC-M FLAGS .0 174.2 312.3 45.0 82.9 GR 2.650 100.0 100.0 884.22 97 17.5 2.4 57.8 2.092 .0 2.9 3.012 .00 .00 17.4 .0 174.4 227.2 43.8 81.8 GR 2.650 100.0 100.0 884.38 96 4.3 52.2 2.118 .0 3.2 2.945 .00 .00 8 884.53 95 19.6 .0 163.4 182.5 42.5 80.7 GR 2.650 100.0 100.0 6.2 46.7 2.144 3.5 2.883 -.1 .00 .00 45.8 95.8 GR 2.650 100.0 100.0 884.68 109 17.8 10.9 43.8 2.133 -.1 .0 1.6 2.837 .00 .00 1 884.83 110 46.3 96.7 GR 2.650 100.0 100.0 15.7 7.5 46.3 2.119 -.1 .0 1.3 2.859 .00 .00 1 884.99 111 46.8 97.6 GR 2.650 100.0 100.0 12.7 4.1 48.7 2.106 -.1 .0 1.0 2.884 .00 .00 1 885.14 108 12.4 3.9 52.2 2.086 -.1 .0 47.1 95.2 GR 2.650 100.0 100.0 2.0 2.921 .00 .00 1 .0 211.1 345.9 47.4 92.9 GR 885.29 106 2.650 100.0 100.0 12.4 3.7 55.7 2.067 -.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 .0 48.8 95.2 GR 2.650 100.0 100.0 1.9 2.838 .00 .00 1 885.75 109 14.8 4.7 47.8 2.024 .0 191.8 260.1 49.3 87.3 DN 2.650 100.0 100.0 1.9 2.808 .0 .00 .00 8 885.90 108 16.2 5.5 47.5 2.019 .0 .0 181.3 211.4 49.4 83.4 DN 2.650 100.0 100.0 2.8 2.800 .00 .00 886.05 107 17.3 6.4 47.2 2.014 .0 .0 173.1 173.1 49.4 79.5 DN 2.650 100.0 100.0 3.8 2.792 .00 .00 8 886.21 110 49.8 96.9 GR 14.5 2.1 53.5 1.994 .0 .0 2.650 100.0 100.0 1.3 2.869 .00 .00 1 886.36 111 18.8 5.9 53.9 1.965 -.3 .0 51.2 97.9 GR 2.650 100.0 100.0 .9 2.853 .00 .00 1 886.51 112 19.0 9.9 54.4 1.937 -.6 .0 52.5 95.9 DN 2.650 100.0 100.0 1.7 2.837 .00 1 .00 886.66 110 17.3 8.3 58.2 1.932 52.3 96.6 GR 2.650 100.0 100.0 1.4 2.893 -.4 .0 .00 .00 1 886.82 108 15.5 6.7 62.0 1.927 -.1 .0 188.7 264.4 52.1 94.5 GR 2.650 100.0 100.0 .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 1.4 3.237 .00 .00 8 887.12 116 14.3 4.8 59.5 1.908 -.1 .0 51.6 100.0 GR 2.650 100.0 100.0 .0 2.894 .00 .00 1 887.27 129 16.2 7.5 57.0 1.905 .0 51.9 100.0 DN 2.650 100.0 100.0 .0 2.851 -.1 .00 .00 1 2.650 100.0 100.0 887.43 138 15.4 9.3 57.8 1.952 .0 .0 52.9 100.0 DN .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 14.0 2.7 55.3 2.040 .0 .0 52.3 100.0 GR 2.650 100.0 100.0 .0 2.934 .00 .00 1 887.88 116 51.0 100.0 GR 2.650 100.0 100.0 15.6 4.5 55.7 2.056 .0 .0 .0 2.951 .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 50.2 97.7 GR 888.19 111 16.3 2.650 100.0 100.0 4.3 48.7 2.053 .0 .0 1.0 2.844 .00 .00 1 51.6 95.7 DN 2.650 100.0 100.0 888.34 111 19.7 5.6 48.7 2.031 .0 .0 1.8 2.827 .00 .00 1 .0 156.2 213.5 53.0 87.2 DN 2.650 100.0 100.0 888.49 112 22.3 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 78 4 889.25 105 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 3.1 50.2 1.916 53.4 95.2 GR 2.650 100.0 100.0 889.56 108 2.0 2.822 14.0 1.6 .00 .00 1 4 889.71 106 14.0 3.9 51.7 1.856 .0 126.1 59.0 50.6 42.7 DN 2.638 100.0 100.0 23.5 2.725 .6 .00 .00 8 889.86 111 .0 193.9 219.8 52.3 75.9 DN 2.650 100.0 100.0 13.4 3.1 55.0 1.875 .5 4.9 2.793 .00 .00 Я 2.650 100.0 100.0 890.02 116 2.3 58.3 1.896 53.9 100.0 GR 13.0 . 3 .0 .0 2.864 .00 .00 1 890.17 116 2.650 100.0 100.0 13.3 2.5 61.4 1.911 .0 54.7 100.0 GR .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 57.4 94.7 GR 2.650 100.0 100.0 890.47 108 17.3 4.7 60.4 1.846 . 2 .0 178.4 318.0 .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

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891.08

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891.24	Coal	L																	
891.39	Coa	1																	
891.54	110	19.1	6.3 5	3.8	1.921	.1	.0 168	3.3	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 5	8.6	1.857	.5	.0 196	6.7	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 5	6.0	1.875	.3	.0 194	4.4	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 5	3.4	1.895	.1	.0 188	3.6	282.7	50.5	73.5 DN	2.650	100.0	100.0	5.6	2.786	.00	.00	8
892.15	99	14.2	1.9 5	3.3	1.888	. 4	.0 183	3.2	232.5	51.0	70.4 DN	2.650	100.0	100.0	6.6	2.778	.00	.00	8
892.30		14.6				. 6	.0 124	4.1	78.0	51.6	43.1 DN	2.689	100.0	100.0	23.3	2.773	.00	.00	8
892.45		16.5				. 0	.0 11	1.6	46.4	51.8	33.8 DN	2.626	100.0	100.0	27.1	2.696	.00	.00	8
892.61			3.0 5								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 HC-M FLAGS SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M RXO PHIN RHOB DD SPI DEPTH M GR RT 2.650 100.0 100.0 4.8 2.787 .00 .00 8 .0 193.7 380.6 51.3 75.9 DN .0 892.76 110 13.4 1.0 50.3 1.953 3.7 2.796 .00 .00 8 51.8 79.9 DN 2.650 100.0 100.0 .0 185.2 235.1 15.2 3.5 50.5 1.960 . 1 892.91 109 893.06 Coal 25.9 2.702 .00 .00 8 .0 117.9 61.3 53.2 36.8 DN 2.634 100.0 100.0 . 6 893.22 113 15.2 3.1 47.0 1.905 .0 112.7 63.0 53.3 26.3 DN 2.637 100.0 100.0 30.2 2.685 .00 .00 8 15.1 2.2 46.3 1.888 .8 893.37 115 .00 8 2.638 100.0 100.0 34.5 2.667 .00 .0 108.5 71.3 53.5 15.8 DN 1.3 45.7 1.872 1.0 893.52 116 14.8 28.0 2.693 8 2.627 100.0 100.0 .00 .00 .0 115.1 75.3 53.7 31.6 DN 1.8 50.2 1.839 .8 893.67 115 15.1 2.681 100.0 100.0 29.7 2.725 .00 .00 8 .0 112.1 64.0 53.9 27.6 DN 893.83 113 15.4 2.2 54.7 1.806 .6 8 53.9 75.6 DN 2.650 100.0 100.0 4.9 2.880 .00 .00 .8 .0 185.7 260.5 2.2 61.4 1.767 893.98 118 14.6 2.676 100.0 100.0 31.7 2.765 .00 .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 1.1 54.9 1.808 1.0 894.28 125 13.0 2.629 100.0 100.0 33.1 2.670 .00 .00 57.3 19.2 DN 2.2 50.6 1.798 . 9 .0 117.1 57.9 894.44 122 13.1 2.619 100.0 100.0 29.6 2.685 .00 8 .0 122.0 67.1 56.4 27.9 DN .00 2.0 53.0 1.782 .8 894.59 120 13.1 .00 8 2.646 100.0 100.0 30.1 2.701 .00 69.2 55.5 26.7 DN .0 121.6 1.8 55.4 1.765 .8 894.74 118 13.0 2.649 100.0 100.0 32.2 2.737 .00 .00 .0 116.3 70.2 54.4 21.6 DN 13.6 1.6 57.2 1.774 .8 894.89 120 .0 113.9 76.5 53.3 21.5 DN 2.678 100.0 100.0 32.2 2.775 .00 .00 8 1.3 59.0 1.783 .8 895.05 122 14.1 8 2.650 100.0 100.0 .00 .00 .0 183.0 340.2 53.5 76.8 DN 4.6 2.800 1.4 58.6 1.817 .7 895.20 119 15.2 2.650 100.0 100.0 5.9 2.846 .00 .00 8 53.1 72.6 DN .3 .0 169.8 229.7 2.3 61.7 1.753 895.35 114 16.9 2.644 90.5 90.5 39.3 2.692 .00 .00 8 4.1 DN .0 90.5 40.7 52.6 895.50 110 19.1 3.2 64.9 1.692 .0 2.313 88.3 88.3 41.0 2.633 6 8 .0 88.3 36.2 51.1 .00 .00 .0 DN 3.8 60.8 1.541 895.65 113 19.3 . 0 .00 6 8 1.934 88.2 88.2 41.0 2.634 .00 .0 88.2 33.8 49.5 .O DN .0 895.81 116 19.3 4.3 56.7 1.389 1.807 100.0 100.0 41.0 2.627 .00 .00 6 8 .0 105.2 53.5 47.1 .0 DN 1.7 49.7 1.338 . 1 895.96 123 13.6 2.119 100.0 100.0 41.0 2.619 .00 .00 6 8 .0 DN 56.8 47.4 1.5 47.9 1.463 .0 .0 105.9 896.11 109 13.4 6 8 60.7 47.7 .O DN 2.432 100.0 100.0 41.0 2.632 .00 .00 .0 106.8 1.3 46.1 1.588 -.1 896.26 96 13.2 2.609 100.0 100.0 41.0 2.629 .00 .00 6 8 .O DN 2.2 49.3 1.738 -.2 .0 100.5 47.3 51.5 896.42 74 14.9 .00 .00 8 2.726 100.0 100.0 26.7 2.767 59.5 55.4 34.8 GR .0 112.0 896.57 52 16.5 3.1 52.5 1.888 -.2 3.544 89.0 89.0 34.9 3.582 .00 5 8 .0 89.0 51.2 57.3 .00 15.0 GR -.3 896.72 33 21.9 2.6 75.5 2.048 3.626 87.5 87.5 33.1 3.659 .00 .00 5 8 .0 87.5 40.6 53.8 19.3 GR 4.5 79.6 2.079 -.3 896.87 37 23.5 3.718 82.8 82.8 31.3 3.737 .00 .00 5 8 .0 82.8 35.6 50.2 23.5 GR 897.03 41 27.3 6.4 83.8 2.110 -.2 49.3 GR 2.922 100.0 100.0 20.8 2.874 .00 .00 5 8 .0 115.6 108.6 45.4 1.4 48.1 2.104 -.2 897.18 65 17.9 2.651 100.0 100.0 20.7 2.718 .0 120.3 124.3 43.1 46.3 DN .00 .00 -.2 17.4 1.1 38.3 2.075 897.33 101 2.617 100.0 100.0 35.9 2.617 .00 .00 .0 DN .0 108.9 90.5 40.7 897.48 137 16.9 .8 28.5 2.046 -.2 2.587 100.0 100.0 37.7 2.627 .00 .00 6 .0 DN -.2 .0 103.2 71.7 42.3 1.1 28.3 1.998 897.64 176 16.9 2.556 98.1 98.1 39.6 2.616 .00 .00 6 .0 98.1 59.6 43.8 .0 DN 1.5 28.0 1.950 -.2 897.79 215 16.8 .00 6 8 2.542 86.8 86.8 41.0 2.622 .00 .0 86.8 47.4 51.9 .0 DN 897.94 192 20.0 2.2 42.5 1.747 . 1 898.09 Coal 898.25 Coal Coal 898.40 898.55 Coal 898.70 Coal 2.652 92.8 92.8 36.1 2.739 .00 .00 8 .0 92.8 36.3 61.6 11.9 DN 4.8 59.8 1.730 .0 898.86 100 19.6 .00 .00 .0 94.3 33.9 62.0 9.6 DN 2.632 94.3 94.3 37.1 2.655 8 .2 5.2 56.0 1.697 899.01 99 18.5 2.635 100.0 100.0 35.3 2.731 .00 .00 8 .0 107.7 45.4 58.2 13.8 DN . 2 3.2 59.2 1.734 899.16 99 14.8 2.8 2.887 .00 .00 8 2.650 100.0 100.0 .0 198.4 444.9 54.5 83.1 DN 13.5 1.2 62.4 1.770 . 2 899.31 100 2.650 100.0 100.0 1.7 2.868 .00 .00 8 .0 205.5 559.4 41.9 88.0 GR 899.46 102 12.9 1.1 53.5 1.993 . 1 .0 142.1 161.1 38.0 61.6 DN 2.650 100.0 100.0 15.1 2.750 .00 .00 1.1 40.0 2.087 14.4 899.62 86

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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	43	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	-	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

Complex Lithology Results BROADBILL-1 Zone No. 2 28-01-98 AMITY OIL NL SW PHIE RHOMA POR-M HC-M FLAGS SWU SXOU PHIS VCL FVCL RHOMAU SXO RXO PHIN RHOB DD SPI DEPTH M GR RT.00 84.6 25.6 2.693 .00 84.6 116.0 38.9 16.8 GR 2.675 96.7 901.29 35 42.0 .9 30.5 2.161 -.3 .0 2.694 96.6 84.0 26.6 2.706 .00 .00 84.0 107.2 39.6 13.6 GR 1.0 31.4 2.173 -.3 .0 42.0 901.45 32 .00 96.7 84.7 25.4 2.689 .00 1.1 29.7 2.166 .0 84.7 110.7 39.6 16.3 GR 2.671 -.3 901.60 34 43.0 .00 .00 .0 83.2 105.1 39.5 12.6 DN 83.2 26.5 2.672 2.656 96.4 1.1 28.0 2.158 -.3 901.75 37 44.1 .00 .00 .0 83.1 101.0 39.3 11.2 DN 2.656 96.4 83.1 27.2 2.670 901.90 38 43.2 1.1 28.0 2.155 -.3 9.9 DN 2.656 96.3 83.0 27.8 2.668 .00 .00 83.0 97.1 39.1 1.2 28.0 2.151 -.3 .0 902.06 39 42.4 2.656 97.1 86.4 28.4 2.668 .00 .00 86.4 106.8 36.1 10.0 DN 37.5 .9 28.6 2.141 -.3 902.21 45 .00 .00 97.0 86.0 29.2 2.667 .0 86.0 104.8 36.8 9.0 DN 2.655 .9 29.0 2.133 -.3 902.36 62 36.4 85.7 30.0 2.665 .00 .00 8.0 DN 2.655 97.0 .0 85.7 103.0 37.5 .9 29.3 2.124 -.3 902.51 80 35.2 38.1 24.1 DN 2.656 97.4 87.6 23.7 2.686 .00 .00 .9 30.7 2.144 .0 87.6 127.8 ~.3 902.67 96 39.4 .00 .00 2.657 98.0 90.2 17.3 2.707 .0 90.2 167.7 38.6 40.2 DN 902.82 111 43.5 .9 32.0 2.164 -.3 7.0 2.750 .00 .00 .0 95.5 285.1 38.1 61.1 DN 2.656 99.1 95.5 1.3 31.7 2.224 -.3 902.97 60.1 97.8 89.4 11.5 2.735 .00 .00 2.674 .0 89.4 206.5 37.4 46.7 GR 1.2 30.1 2.232 -.2 903.12 63 62.0 .00 .00 .0 82.6 146.5 36.8 26.3 GR 2.692 96.3 82.6 18.3 2.720 1.1 28.6 2.240 -.2 903.27 43 63.9 .00 89.2 22.3 2.708 .00 .0 89.2 127.3 38.2 18.3 GR 97.7 -.2 2.691 903.43 36 47.2 1.0 28.9 2.218 98.4 92.3 22.2 2.704 .00 .00 .0 92.3 127.0 38.5 18.8 GR 2.687 903.58 43.9 1.1 28.7 2.214 -.2 36 2.682 99.2 95.9 22.1 2.701 95.9 126.7 38.7 19.3 GR .00 .00 -.2 903.73 37 40.6 1.1 28.5 2.210 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 -.2 903.88 37 42.5 2.674 98.5 92.9 21.5 2.696 .00 .00 .0 92.9 130.9 41.6 20.5 GR 44.5 1.1 27.9 2.210 -.2 904.04 38 2.657 100.0 100.0 23.4 2.679 .00 .00 .0 107.1 116.4 44.5 18.1 DN 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 1.1 27.5 2.163 -.2 904.34 90 28.3 .00 .00 2.656 100.0 100.0 29.8 2.662 .0 102.7 96.7 45.9 4.8 DN 1.0 27.5 2.146 -.2 904.49 113 26.4 .00 .00 .0 102.2 80.2 47.0 28.5 DN 2.655 100.0 100.0 23.5 2.691 904.65 119 27.0 2.3 32.6 2.124 -.2 .00 .00 .0 102.9 82.8 48.1 52.3 DN 2.653 100.0 100.0 17.2 2.731 3.5 37.6 2.102 -.2 904.80 125 27.4 2.650 100.0 100.0 2.2 2.957 .00 .00 .0 137.1 296.8 47.4 85.7 GR 8 3.3 53.9 2.101 -.2 904.95 99 28.8 3.033 100.0 100.0 14.8 2.899 .00 .00 5 8 .0 101.7 101.2 43.8 64.0 GR 2.9 47.9 2.144 -.2 905.10 79 27.7 .00 .00 .0 101.2 83.7 40.2 42.3 GR 2.874 100.0 100.0 20.3 2.856 905.26 59 2.6 41.8 2.186 -.3 27.0 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 2.735 100.0 100.0 21.9 2.755 .00 .00 .0 121.0 83.7 38.4 20.5 GR 905.56 38 25.2 2.5 31.3 2.237 -.3 26.6 DN 2.657 100.0 100.0 19.2 2.690 .00 .00 -.3 .0 131.5 116.0 38.2 1.6 27.4 2.205 905.71 52 23.4 6.1 DN 2.657 100.0 100.0 28.2 2.664 .00 .00 .0 107.1 83.9 38.7 26.5 1.5 26.6 2.165 -.3 905.87 65 2.637 93.9 93.9 31.8 2.637 .00 .00 .0 DN .0 93.9 77.0 39.2 29.5 1.4 25.8 2.125 -.3 906.02 78 2.654 82.7 82.7 33.3 2.655 .00 .00 .5 DN -.3 .0 82.7 81.1 40.2 1.2 29.1 2.109 906.17 78 34.0 2.654 95.3 78.7 29.6 2.674 .00 .00 .0 78.7 102.8 41.2 15.3 DN .9 32.4 2.092 -.3 906.32 78 38.1 .00 .00 96.2 82.6 20.7 2.711 .0 82.6 140.7 43.2 42.8 DN 2.653 906.48 75 39.1 .9 36.6 2.094 -.3 96.9 85.3 21.8 2.703 .00 .00 37.3 DN 2.654 -.3 .0 85.3 136.7 42.5 37.4 .9 35.0 2.106 906.63 2.655 97.5 88.3 22.8 2.696 .00 .00 .0 88.3 133.0 41.8 31.7 DN .9 33.4 2.118 -.3 906.78 90 35.8 2.656 99.5 97.5 17.7 2.711 .00 .0 97.5 134.2 40.3 42.9 DN .00 1.3 33.6 2.144 -.3 906.93 113 34.5 2.657 100.0 100.0 12.5 2.738 .00 .00 .0 119.3 176.9 39.3 55.4 DN 1.3 34.4 2.163 -.3 907.08 109 27.1 .00 2.657 100.0 100.0 7.4 2.765 .00 .0 155.0 258.8 38.4 67.8 DN 19.4 1.4 35.3 2.182 -.2 907.24 106 2.650 100.0 100.0 3.7 2.788 .00 .00 78.7 DN .0 163.9 342.2 38.7 907.39 93 19.7 1.7 36.7 2.188 -.2 .0 145.8 186.1 39.1 66.3 GR 2.769 100.0 100.0 8.9 2.811 .00 .00 2.0 38.0 2.193 -.2 907.54 81 20.0 5.3 2.778 .00 .00 8 .0 143.5 188.3 44.6 74.5 DN 2.650 100.0 100.0 -.2 3.8 44.0 2.054 907.69 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 -.1 907.85 96 27.5 908.00 Coal 8 -.1 .0 91.9 66.0 51.5 63.2 DN 2.622 91.9 91.9 15.1 2.758 .00

33.6 6.7 47.9 1.960

908.15 97

.00

908.30	92	38.4	8.1 45.5 1.986	1	.0 83.3 54.2	49.6	58.4 DN	2.635 83.3 83.3	$17.1 \ 2.746$.00	· · · · · · · · · · · · · · · · · · ·
908.46	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
908.61	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
908.76	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
908.91	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
909.07	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		.00	.00
909.22	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		.00	.00
909.37	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
909.52	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
909.68	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

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Complex Lithology Results 28-01-98

BROADBILL-1

AMITY OIL NL

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 2.148	3	.0	103.0	227.4	39.2	62.2 GR	2.747	100.0	100.0	12.7 2.800	.00	.00	
910.13	81	33.4	.8 38.9 2.156	3	.0	106.5	251.7	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 2.164	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		117.3		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	125.6	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 2.076	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	39.2 2.655	.00	.00	8
911.50	82	26.6	4.6 38.5 1.879	. 2	.0	75.2	32.5	48.4	.0 DN	2.601	75.2	75.2	41.0 2.621	.00	.00	6 8
911.66	65	23.3	3.4 41.2 1.867	. 4	.0	80.2	37.9	51.6	.0 DN	2.619	80.2	80.2	41.0 2.619	.00	.00	8
911.81	47	20.5	2.2 43.9 1.858	.6	.0	85.6	47.1	54.8	.0 DN	2.640	85.6	85.6	41.0 2.640	.00	.00	8
911.96	24	23.1	5.2 40.4 2.013	.0	.0	82.8	32.5	51.7	5.1 GR	2.696	82.8	82.8	38.9 2.701	.00	.00	8
912.11	21	22.7	3.3 41.2 2.080	1	.0	86.4	41.8	47.2	2.7 GR	2.759	86.4	86.4	38.2 2.761	.00	.00	
912.27	19	23.4	1.4 42.0 2.147	3	.0	87.7	64.9	42.7	.2 GR	2.826	87.7	87.7	37.6 2.826	.00	.00	
912.42	19	26.6	1.2 39.2 2.150	3	.0	86.0	74.3	40.7	.7 GR	2.791	86.0	86.0	36.1 2.791	.00	.00	
912.57	20	29.6	.9 36.4 2.153	3	.0	85.4	87.1	38.7	1.1 GR	2.755	87.1	85.4	34.4 2.756	.00	.00	
912.72	18	36.4	1.0 31.7 2.154	3	.0	82.3	91.5	39.5	.0 GR	2.699	91.5	82.3	32.6 2.699	.00	.00	
912.88	18	39.0	.9 30.6 2.151	3	.0	80.2	94.3	40.7	.0 GR	2.689	94.3	80.2	32.3 2.689	.00	.00	
913.03	18	41.7	.9 29.4 2.149	3	.0	78.3	97.2	41.9	.0 GR	2.679	95.2	78.3	32.0 2.679	.00	.00	
913.18	23	44.4	1.0 28.2 2.143	3	.0	78.1	99.4	39.5	4.6 GR	2.660	95.2	78.1	30.2 2.666	.00	.00	
913.33	24	46.8	.9 28.5 2.148	3	.0		103.4	39.8	5.7 GR	2.664	94.9	76.8	29.6 2.670	.00	.00	
913.49	25	49.1	.9 28.7 2.153	3	.0		107.7	40.1	6.8 GR	2.667	94.6	75.7	29.1 2.675	.00	.00	
913.64	24	50.0	.9 29.0 2.153	3	.0		103.7	39.9	5.5 GR	2.671	94.2	74.2	29.7 2.677 30.3 2.679	.00	.00	
913.79	23	51.0	.9 29.3 2.152	3	.0		100.0	39.7	4.2 GR	2.675	93.8	72.7 73.0	30.3 2.679	.00	.00	
913.94 914.10	23 22	48.7 49.7	.8 29.9 2.143 .8 30.5 2.135	3 3	.0		102.7 102.8	39.8 39.8	4.2 GR	2.675 2.675	93.9 93.4	73.0	31.5 2.680	.00	.00 .00	
914.10	22	50.6	.8 31.0 2.126	3	.0		102.0	39.9	3.9 GR 3.7 GR	2.675	92.9	69.1	32.1 2.679	.00	.00	
914.25	23	53.3	.8 31.5 2.127	3 3	.0		101.1	39.2	4.3 GR	2.680	92.3	67.1	32.0 2.684	.00	.00	
914.40	23	56.0	.8 32.1 2.127	3	.0	65.3	99.4	38.4	5.0 GR	2.684	91.8	65.3	31.9 2.689	.00	.00	
914.70	22	60.1	.8 32.2 2.141	3	.0		103.9	37.9	3.5 GR	2.694	91.4	63.7	32.0 2.697	.00	.00	
914.86	22	59.4	.8 30.3 2.143	3	.0		104.8	37.9	3.0 GR	2.680	91.9	65.4	31.5 2.683	.00	.00	
915.01	21	58.8	.8 28.4 2.145	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		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 2.144	3	.0		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		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		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		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 2.139	3	.0		100.4	38.4	8.9 GR	2.661	93.0	69.5	29.0 2.672	.00	.00	
916.08	28	54.2	.9 29.0 2.133	3	.0		104.7	38.7	9.5 DN	2.655	93.3	70.6	29.0 2.667	.00	.00	
916.23	29	52.0	.8 28.8 2.127	3	.0		104.4	38.9	5.9 DN	2.655	93.3	70.5	30.5 2.663	.00	.00	
916.38	30	51.6	.9 29.0 2.121	3	.0	69.8	99.3	39.5	5.0 DN	2.655	93.1	69.8	31.2 2.661	.00	.00	
916.53	30	51.2	.9 29.2 2.115	3	.0	69.0	94.7	40.1	4.0 DN	2.655	92.9	69.0	31.9 2.660	.00	.00	
916.69	30	50.1	.9 29.3 2.099	3	.0	67.0	89.8	41.0	.O DN	2.652	89.8	67.0	34.0 2.652	.00	.00	

916.99 917.14 917.30 917.45 917.60 917.75 917.91 918.06	31 50. 32 49. 31 50. 30 51. 26 51. 27 51. 27 52. 25 51. 24 51. 24 48.	9 7 5 3 7 2 .6	.9 30.3 .9 31.3 .8 31.6 .8 31.9 .8 30.5 .8 29.7 .8 28.9 .8 28.4 .7 27.8 .7 29.0	2.098 2.097 2.096 2.101 2.112 2.122 2.120 2.118	3 3 3 3 3	.0	68.8 68.4 67.4 67.6 68.5 69.5	101.5 104.0 104.1 101.9 103.5 105.2 102.9 105.3	41.4 41.5 41.4 41.2 41.0 40.4 39.9	5.6 DN 4.7 DN .4 DN .0 DN	2.654 2.654 2.657 2.654 2.655 2.655	92.8 92.7 92.4 92.5 92.7 93.0 92.7 92.9	68.8 68.4 67.4 67.6 68.5 69.5 68.6 69.1	32.7 2.660 30.8 2.668 30.4 2.670 30.7 2.672 31.9 2.662 31.6 2.662 31.2 2.661 32.7 2.655 32.7 2.650 33.8 2.651	.00 .00 .00 .00 .00	.00
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BROADBILL-1 Zone No. 2 28-01-98 AMITY OIL NL SW PHIE RHOMA POR-M HC-M FLAGS SXO RXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU DEPTH M GR RT2.654 31.9 2.662 .00 .00 40.5 6.4 DN 92.9 69.1 69.1 104.6 .8 30.5 2.101 -.3 .0 918.36 26 49.1 31.4 2.674 .00 .00 .8 31.9 2.100 .0 68.2 103.3 40.5 9.2 GR 2.662 92.6 68.2 49.9 -.3 918.51 27 67.5 31.0 2.669 .00 .00 40.6 10.7 GR 2.655 92.4 .8 31.7 2.095 ~.3 .0 67.5 104.7 918.67 29 51.1 .00 .00 32.0 2.665 65.8 101.6 40.6 8.3 DN 2.654 92.0 65.8 .0 918.82 30 52.2 .8 31.5 2.089 -.3 8.9 DN 2.653 91.5 64.0 32.2 2.665 .00 .00 64.0 99.0 40.7 -.3 .0 918.97 31 53.8 .8 32.0 2.082 .00 .00 64.2 101.9 41.3 10.9 DN 2.653 91.5 64.2 31.5 2.668 919.12 31 54.3 .8 32.2 2.083 -.3 .0 .00 91.6 64.4 30.8 2.670 .00 42.0 12.9 DN 2.653 919.28 31 54.7 .8 32.5 2.084 -.3 .0 64.4 104.9 .00 2.672 91.8 65.0 29.8 2.689 .00 65.0 108.1 43.2 15.4 GR .8 33.8 2.099 -.3 .0 919.43 33 55.1 2.686 91.5 64.1 30.3 2.701 .00 .00 41.8 15.1 GR 919.58 33 55.1 .8 35.2 2.099 -.3 .0 64.1 106.9 .00 63.2 30.8 2.714 .00 63.2 105.7 40.3 14.7 GR 2.700 91.2 919.73 33 55.1 .8 36.5 2.100 -.3 .0 30.7 2.708 .00 .00 91.5 40.2 14.7 GR 2.695 64.0 919.89 33 54.2 .8 36.0 2.099 -.2 .0 64.0 106.4 30.6 2.704 .00 .00 2.690 91.7 64.8 .0 64.8 107.0 40.1 14.6 GR 53.2 .8 35.6 2.099 -.2 920.04 32 .00 .00 41.3 17.0 GR 2.681 92.4 67.2 29.2 2.699 .9 34.7 2.104 -.3 .0 67.2 106.2 920.19 35 52.1 .00 28.8 2.697 .00 2.677 92.5 67.8 .9 34.3 2.106 -.3 .0 67.8 105.0 41.6 17.8 GR 920.34 36 52.0 .00 .00 68.5 28.3 2.694 41.9 18.7 GR 2.673 92.7 1.0 33.9 2.107 .0 68.5 104.0 920.50 36 51.9 -.3 2.673 92.8 69.0 28.2 2.694 .00 .00 69.0 110.1 41.8 18.9 GR .9 33.9 2.107 .0 920.65 37 51.3 -.3 .00 2.672 69.5 28.1 2.693 .00 -.3 .0 69.5 117.1 41.7 19.1 GR 93.0 50.6 .8 33.8 2.107 920.80 37 70.8 27.8 2.696 .00 .00 2.675 93.3 70.8 116.5 41.4 19.1 GR 920.95 37 49.6 .8 33.7 2.113 -.3 .0 27.5 2.699 .00 .00 71.1 117.7 41.4 20.6 GR 2.677 93.4 71.1 .8 34.3 2.111 -.3 .0 921.11 38 49.0 71.3 27.2 2.703 .00 .00 .8 34.9 2.109 -.3 .0 71.3 119.0 41.4 22.1 GR 2.680 93.5 48.4 921.26 40 .00 2.685 93.6 71.7 27.0 2.709 .00 71.7 119.1 41.4 23.4 GR 921.41 41 47.5 .8 35.6 2.108 -.3 .0 2.690 93.6 72.0 26.8 2.717 .00 .00 .0 72.0 119.2 41.5 24.8 GR .8 36.3 2.107 -.3 921.56 42 46.7 .00 .00 78.9 136.2 42.0 30.4 GR 2.699 95.4 78.9 23.7 2.735 .8 36.2 2.131 -.3 .0 921.72 47 43.3 16.3 2.726 .00 .00 88.8 165.5 42.0 50.2 DN 2.655 97.6 88.8 1.0 35.7 2.128 -.3 .0 921.87 71 40.5 17.8 2.717 .00 .00 2.655 98.1 90.7 90.7 139.3 42.0 46.1 DN 922.02 94 1.2 35.3 2.125 .0 37.4 -.4 .00 1.2 37.3 2.112 53.8 DN 2.654 98.2 91.3 16.1 2.734 .00 .0 91.3 148.8 42.5 922.17 126 36.5 -.4 .00 14.4 2.750 .00 2.652 98.4 92.3 1.2 39.3 2.099 -.4 .0 92.3 160.1 42.9 61.6 DN 922.32 159 35.7 18.4 2.732 .00 .00 2.651 97.5 88.0 88.0 134.3 43.0 52.7 DN 1.2 39.1 2.079 .0 922.48 180 34.2 -.4.00 2.650 98.0 90.3 17.2 2.740 .00 90.3 135.4 44.5 56.7 DN 1.3 39.7 2.079 -.3 .0 922.63 170 33.2 .00 .00 60.8 DN 2.649 98.6 93.0 15.9 2.748 -.3 .0 93.0 137.6 46.0 1.4 40.4 2.078 922.78 161 32.1 2.7 2.798 .00 .00 8 83.8 DN 2.650 100.0 100.0 .0 136.1 396.8 46.0 922.93 129 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 -.3 1.7 45.7 2.046 923.09 123 28.5 .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 .00 .00 8 .0 138.0 475.5 47.1 91.5 DN 2.650 100.0 100.0 1.0 2.819 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 -.2 .0 71.6 47.0 51.4 .0 DN 2.2 49.8 1.654 923.70 57 29.3 6 8 2.252 61.3 61.3 41.0 2.632 .00 .00 -.1 .0 61.3 49.5 53.5 .0 DN 2.0 49.6 1.516 923.85 40.0 46 .00 .00 6 8 54.6 52.4 55.7 1.907 54.6 54.6 41.0 2.627 1.8 49.4 1.378 .0 .0 .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 69.1 81.1 1.2 36.2 2.057 .0 924.46 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 36.3 1.3 26.1 2.197 -.2 925.07 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

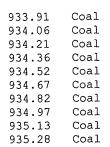
Complex Lithology Results

	_						سو مسور الكائا					
925.37 55	37.5	2.3 27.8 2.199	2	.0 102.3 97.2	27.6	27.0 DN	2.65/ 100.0 100.0	9.4 90	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	41.4	2.1 29.3 2.170	3	.0 90.7 91.0	40.1	25.6 DN	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	33.1	1.8 37.2 2.185	2	.0 127.2 350.7	38.6	81.0 DN	2.650 100.0 100.0	3.1 2.793	.00	.00		
926.74 178	33.0	1.7 35.2 2.201	2	.0 128.2 322.0	38.9	74.4 DN	2.650 100.0 100.0	4.3 2.779	.00	.00		



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Zone No.	2		ADBIL						omplex 3-01-98		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
926.90	18/	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			2.155	2		101.1		40.1	31.5 DN		100.0		20.7	2.696	.00	.00		
927.20		32.1			2.143	2		100.8		39.0	42.6 DN			100.0	17.8	2.710	.00	.00		
927.35		32.5			2.152	2		103.3		39.4	46.5 DN		100.0		16.0	2.718	.00	.00		
927.51		33.0			2.162	2		106.2		39.8	50.5 DN	2.657	100.0	100.0	14.2	2.727	.00	.00		
927.66		33.9			2.168	2		107.0		40.5	52.6 DN	2.657	100.0	100.0	13.1	2.731	.00	.00		
927.81		34.9			2.175	2		107.9		41.3	54.8 DN	2.657	100.0	100.0	12.0	2.736	.00	.00		
927.96		33.6			2.177	2		122.0		43.3	75.0 DN	2.650	100.0	100.0	5.1	2.780	.00	.00		8
928.12		32.9			2.169	2		116.4		51.1	69.6 DN	2.657	100.0	100.0	7.6	2.768	.00	.00		
928.27		32.2			2.162	2		112.8		58.9	64.1 DN		100.0		9.8	2.756	.00	.00		
928.42		29.3			2.161	2		114.1		59.6	55.4 DN		100.0		12.7	2.738	.00	.00		
928.57		26.2			2.159	2		117.0		60.2	46.7 DN	2.657	100.0	100.0	15.6	2.719	.00	.00		
928.73		25.1			2.093	2		107.4		63.0	58.0 DN	2.652	100.0	100.0	15.9	2.743	.00	.00		
	94	24.0			1.950	. 4		92.8		66.2	34.7 DN	2.641	92.8	92.8	26.8	2.699	.00	.00		8
929.03	81	23.4			1.809	1.0			209.3	69.4	66.3 GR	2.650	100.0	100.0	8.0	2.770	.00	.00	4	78
929.18	63	25.0			1.557	2.5		118.2	94.4	82.7	47.1 GR	2.650	100.0	100.0	15.8	2.735	.00	.00	4	78
929.34	Coa																			
929.49	Coa																			
929.64	Coa																			
929.79	Coa																			
929.94	Coa																			
930.10	Coa																			
930.25	Coa																			
930.40	Coa																			
930.55	Coa	1																		
930.71	Coa	1																		
930.86	Coa	1																		
931.01	Coa	1																		
931.16	Coa	1																		
931.32	Coa	1																		
931.47	Coa	1																		
931.62	Coa																			
931.77	Coa	1																		
931.93	Coa	1																		
932.08	Coa																			
932.23	Coa																			
932.38	Coa																			
932.54	Coa																			
932.69	Coa																			
932.84	Coa																			
932.99	Coa																			
933.15	Coa																			
933.30	Coa	1																		
933.45	Coa	.1																		

933.60 Coal 933.75 Coal



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Zone No.	2		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	FLAGS
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																	
936.80 936.96	Coal																	
937.11	Coal 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									l								
938.48	Coal																	
938.63	Coal																	
938.78	Coal																	
938.94	Coal																	
939.09 939.24	Coal Coal																	
939.24	Coal													•				
939.55	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 941.83 Coal 941.98 Coal 942.14 Coal 942.29 Coal

942.44	Coal
942.59	Coal
942.75	Coal
942.90	Coal
943.05	Coal
943.20	Coal
943.36	Coal
943.51	Coal
943.66	Coal
943.81	Coal

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	ACT	FVCL	RHOMAU	sxo	SW	PHIE	RHOMA	POR-M	HC-M	FL	AGS
943.97	Coa	al																			
944.12	Coa	al																			
944.27	Coa	al																			
944.42	Coa	al																			
944.58	Coa	al																			
944.73	Coa	al																			
944.88	Coa	al																			
945.03	33	30.7	3.2	48.2	1.462	8	.0	70.0	39.0	61.6	. () DN	2.117		70.0		2.617	.00	.00		6 8
945.18	59	21.1	. 4	44.8	1.574	-1.2		124.2	241.8	55.2	42.4	l GR		100.0			2.727	.00	.00	4	
945.34	70	19.4			1.635	-2.4		142.1	289.5	53.7	54.	7 GR		100.0			2.749	.00	.00	4	
945.49	80	17.5	.6	53.4	1.696	-3.7		159.8		52.2	64.9			100.0			2.767	.00	.00	4	78
945.64	92	17.9	. 6	55.0	1.632	-2.4		169.0		52.5	77.5			100.0			2.790	.00	.00	4	78
945.79	104	18.1	.5	56.6	1.568	-1.1		174.3		52.8	90.6			100.0			2.814	.00	.00	4	78
945.95	94	18.1	.5	62.4	1.505	2	.0		97.1	55.8) DN	2.224	97.1			2.624	.00	.00		6 8
946.10	90	19.1	.7	63.4	1.556	.0	.0	90.2	83.9	55.5	3.1	L DN	2.305	90.2	90.2	39:7	2.632	.00	.00		6 8
946.25	Coa	al																			
946.40	Coa	al																			
946.56	Coa	al																			
946.71	Coa	al																			
946.86	Coa	al																			
947.01	Coa	al																			
947.17	Coa															•	0 010	0.0	00.1		
947.32		37.1			2.030	4	.0				100.0			100.0			2.918	.00	.00 1		
947.47		55.0			2.088	2	.0				100.0			100.0			2.915	.00	.00 1		
947.62		63.5			2.070	2	.0				100.0			100.0			2.937	.00	.00 1		
947.78		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	Coa		_				_		106.0	47 6	60 (0 606	01 5	C4 0	15 0	0 756	00	00		0
948.08		68.9			1.969	1	.0		196.2	47.6	62.8		2.626				2.756	.00	.00		8 8
948.23		68.3			1.969	.0	.0		135.7	47.5	41.5		2.641	89.3	56.8		2.709	.00	.00		8 8 \$
948.39		494.5			2.021	.2	.0		120.7	44.5	23.2		2.733	72.0			2.756	.05 .11	.04 .09	4	78 \$
948.54		926.5			2.074	. 4			114.5	41.5		RT	2.650	66.5 68.5			2.650	.16	.14	4	7 \$
948.69		997.4			2.169	.3			131.4 127.5	33.9		LRT	2.650 2.650	67.5			2.650	.21	.18	4	7 \$
948.84					2.074	.2			124.3	35.7 37.6) RT	2.650	66.5			2.650	.27	.23	4	7 \$
948.99					1.979	.2	. ^		104.6	42.1) RT) DN	2.592	64.7			2.632	.33	.29	4	68\$
949.15					1.851	.1	.0		97.7	46.6) DN	2.491	64.2	10.9		2.631	.40	.34		6 8 \$
949.30		1263.8			1.723	.0	.0		104.2	44.5) DN	2.626	64.3			2.626	.46	.40		8 \$
949.45		1239.8			1.805	.1	.0						2.705	64.4			2.705	.52	.45		8 \$
949.60		1231.6			1.895	.0	.0		106.4	43.9 43.3		RT RT	2.705	64.4			2.703	.58	.51		8 \$
949.76		1223.5			1.984									66.0			2.808	.65	.56		8 \$
949.91	47	964.6			2.050	2	.0	12.5	95.9 99.1	43.3		RT RT	2.808 2.813	69.4			2.815	.70	.61		۰ ۶ \$
950.06	47	703.4			2.117	4	.0	16.1	171.3	42.4	32.8		2.783	93.2			2.799	.70	.61		Ą
950.21	50	60.0			2.190	4 - 5	.0		171.3	39.6	33.6		2.727	93.2	70.4		2.763	.70	.61		
950.37	50	59.5			2.161	5	.0		167.6	39.6	34.4		2.687	92.9	69.2		2.703	.70	.61		
950.52	51	59.0			2.132	6	.0			36.4	33.5		2.692	91.7	65.0		2.732	.70	.61		
950.67	50	61.4			2.114	5	.0		165.1				2.698	90.6			2.737	.70	.61		
950.82	49	63.8	. 5	38. 4	2.096	4	.0	01.1	164.1	36.1	32.6	J GK	2.098	90.6	01.1	23.0	2.131	. 70	. 01		

950.98	46	63.2	.4 36.8	2.085	4	.0	60.7 165.7	36.0	28.7 GR	2.675	90.5	60.7	26.4 2.707	.70	 1
951.13	42	63.1	.5 35.9	2.095	5	.0	61.2 151.4	36.0	25.1 GR	2.677	90.7	61.2	27.0 2.705	.70	.61
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
951.43	35	59.9	.8 32.1	2.115	4	.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	2.116	4	.0	67.0 110.6	35.7	15.4 DN	2.655	92.3	67.0	28.2 2.674	.70	.61
951.74	32	55.5	.9 29.8	2.117	4	.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	2.125	4	.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	2.133	4	.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	2.163	5	.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	2.168	4	.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 AMITY OIL NL 28-01-98 HC-M FLAGS DEPTH M GR RTRXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M 952.50 35 59.8 .8 26.6 2.173 -.4 .0 73.2 119.8 29.4 9.2 DN 2.657 93.9 73.2 26.7 2.668 .70 .61 .0 36 99.7 .9 26.2 2.168 55.3 109.5 29.5 4.8 DN 88.8 .70 .61 952.65 -.6 2.657 55.3 28.5 2.662 .9 25.8 2.162 46.3 100.6 29.6 .75 .63 952.80 37 134.5 -.8 .3 .4 DN 2.656 85.7 46.3 30.2 2.657 952.96 33 1301.9 .8 26.0 2.168 -.4 15.0 108.0 29.6 .0 RT 2.661 68.4 15.0 30.1 2.661 .79 . 67 . 1 .71 953.11 33 1284.0 .8 26.5 2.169 15.0 108.6 .84 -.4 .0 29.9 .0 RT 2.666 68.4 15.0 30.3 2.666 953.26 33 1266.3 .8 27.1 2.170 .0 15.0 109.2 30.2 30.4 2.670 .88 .75 -.4 .0 RT 2.670 68.4 15.0 953.41 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 .0 RT 2.659 69.6 16.3 29.6 2.659 .98 .83 953.72 31 1058.9 1.5 25.8 2.238 -.3 .0 18.5 89.3 30.7 1.02 .86 .0 RT 2.692 71.3 18.5 27.2 2.692 1.5 25.5 2.256 953.87 31 1107.8 -.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 18.8 93.9 -.4 1.3 21.7 .0 RT 2.706 71.6 18.8 25.7 2.706 1.10 .93 .9 24.0 105.0 954.18 33 795.5 1.5 22.7 2.262 -.4 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 34.5 19.6 2.675 1.16 .97 2.657 80.8 954.48 36 66.4 1.0 22.1 2.254 -.4 17.4 85.6 143.2 3.1 11.6 DN 85.6 21.0 2.671 .97 2.657 96.9 1.16 954.63 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 -.2 88.9 192.9 954.94 61 63.6 .6 22.6 2.256 .0 28.3 15.6 DN 2.657 97.7 88.9 19.6 2.676 1.16 .97 955.09 66 .7 21.9 2.259 87.8 168.6 29.8 12.6 DN 97.4 87.8 20.4 2.672 1.16 .97 65.2 -.3 .0 2.657 .97 955.24 71 66.2 .9 21.3 2.262 -.3 .0 87.1 149.9 31.3 9.5 DN 2.657 97.3 87.1 21.2 2.668 1.16 955.40 68 .9 21.7 2.269 .0 112.3 167.0 35.9 15.1 DN 2.657 100.0 100.0 18.9 2.675 1.16 .97 42.7 -.3 .8 22.2 2.276 .0 177.7 188.0 40.5 20.7 DN 955.55 66 18.3 -.3 2.657 100.0 100.0 16.7 2.682 1.16 .97 955.70 68 19.5 .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 .0 185.9 352.5 44.8 44.3 DN 2.654 100.0 100.0 955.85 78 21.1 .8 24.9 2.293 -.3 8.0 2.712 1.16 .97 956.01 89 22.6 .8 26.7 2.292 -.3 .0 186.5 500.5 46.3 55.2 DN 2.650 100.0 100.0 4.5 2.737 1.16 .97 956.16 95 .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 25.1 .0 123.5 195.2 .97 956.31 101 27.6 .8 29.6 2.201 -.3 43.6 39.3 DN 2.657 100.0 100.0 15.3 2.705 1.16 956.46 95 31.6 .8 36.2 2.155 .0 111.7 254.8 52.0 63.4 DN .97 -.3 2.657 100.0 100.0 10.5 2.755 1.16 956.61 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 8 8 956.77 96 33.5 .8 40.8 2.149 -.3 .0 125.4 534.5 49.1 81.7 GR 2.650 100.0 100.0 3.2 2.811 1.16 .97 .0 121.2 419.5 49.0 74.6 DN 956.92 97 .8 39.2 2.135 5.2 2.778 .97 8 33.9 -.3 2.650 100.0 100.0 1.16 957.07 99 .8 37.5 2.121 97.8 207.5 48.8 58.9 DN .97 34.2 -.3 .0 2.654 99.6 97.8 13.9 2.745 1.16 957.22 98 34.1 .9 34.2 2.120 -.3 .0 92.0 140.1 47.0 37.7 DN 2.655 98.4 92.0 20.8 2.703 1.16 .97 .97 957.38 105 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 1.2 33.7 2.129 -.3 .0 99.0 128.0 53.7 37.9 DN 20.2 2.704 1.16 .97 957.53 112 30.7 2.655 99.8 99.0 957.68 134 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 8 957.83 132 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 23.3 60.7 .97 6 8 957.99 130 34.3 9.1 40.5 1.767 .0 .0 66.1 .0 DN 2.539 66.1 66.1 41.0 2.619 1.16 958.14 107 32.8 11.5 45.4 1.676 .1 .0 67.7 20.7 59.1 .0 DN 2.513 67.7 67.7 41.0 2.633 1.16 .97 6 8 958.29 Coal 958.44 Coal 958.60 Coal 958.75 Coal 958.90 Coal

959.05

959.21

959.36

Coal

Coal

Coal

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	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	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	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	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	1.6 2.799	1.16	.97	

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Zone No. 2	BROADBILL-1 AMITY OIL NL		Complex Lithol 28-01-98	ogy Results		
DEPTH M GR	RT RXO PHIN RHOE	DD SPI	SWU SXOU PHIS	VCL FVCL RHOMAU SXO SW	PHIE RHOMA POR-M	HC-M FLAGS
961.03 134 961.19 133 961.34 132 961.49 130 961.64 133 961.80 137 961.95 137 962.10 132 962.25 127 962.41 131 962.56 135	27.7	2 .0 1 .0 .0 .0 .2 .0 .4 .0 2 2 2 2 .7	35.9 37.4 38.1 38.7 37.6 36.5 33.6 33.7 33.7 35.2	88.7 N 2.650 100.0 100.0 89.8 N 2.650 100.0 100.0 94.5 N 2.650 100.0 100.0 94.1 S 2.650 100.0 100.0 91.5 S 2.650 100.0 100.0 85.1 S 2.650 100.0 100.0 85.2 S 2.650 100.0 100.0 85.4 S 2.650 100.0 100.0 88.8 S 2.650 100.0 100.0 92.2 S 2.650 100.0 100.0 92.2 S 2.650 100.0 100.0	3.9 2.821 1.16 3.4 2.860 1.16 1.9 2.885 1.16 1.2 2.910 1.16 2.2 2.884 1.16 3.3 2.858 1.16 5.9 2.804 1.16 6.0 2.804 1.16 6.0 2.804 1.16 4.6 2.810 1.16 3.2 2.817 1.16	.97 2 .97 2 .97 2 .97 1 .97 3 .97 34 .97 34 .97 34 .97 34
962.71 131 962.86 133 963.02 135	19.2 1.1 43.8 2.157 19.1 1.1 45.2 2.165 18.9 1.2 46.7 2.173	.4 .2 .0	35.8 35.3 34.9	90.0 S 2.650 100.0 100.0 89.0 S 2.650 100.0 100.0 88.1 S 2.650 100.0 100.0	3.8 2.813 1.16 4.2 2.811 1.16 4.7 2.809 1.16	.97 34 .97 34 .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	8	.000
Average Vclay	90	.000
Integrated PHI	M	.000
Sum PHT*(1-SW)	M	. 000

Complex Lithology Results Zone No. 3 BROADBILL-1 28-01-98 AMITY OIL NL DEPTH M GR RXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO SW PHIE RHOMA POR-M HC-M FLAGS 75.0 43.4 2.765 .00 779.98 38 1.5 50.0 1.931 -3.1 2.9 75.0 53.0 37.9 10.7 GR 2.768 75.0 .00 780.14 38 1.7 47.7 1.918 -3.1 4.7 70.1 50.6 35.6 11.1 GR 2.718 70.1 70.1 42.6 2.721 .00 .00 1.6 780.29 39 1.9 45.5 1.905 -3.1 94.7 69.7 33.4 11.6 GR 2.650 94.7 94.7 29.5 2.660 .00 1.8 .00 4 7 .00 780.44 40 .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 4 7 2.2 780.59 42 .4 45.3 1.577 71.2 122.2 42.4 16.0 GR 2.650 93.4 71.2 35.6 2.665 .00 4 7 2.1 -.3 .00 780.75 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 78 780.90 43 90.9 34.9 2.667 .00 2.9 .3 43.8 1.654 1.4 62.0 144.8 42.7 18.4 GR 2.650 62.0 .00 4 7 781.05 44 .3 41.5 1.787 63.8 172.2 38.3 18.9 GR 2.650 91.4 63.8 31.1 2.667 .00 .00 4 7 3.4 1.5 781.20 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 .00 781.35 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 4 78 781.51 55 .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 2.4 781.66 54 2.6 .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 4 78 781.81 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 78 781.96 45 3.6 1.0 45.9 2.043 86.3 40.2 20.3 GR 2.650 86.3 59.3 32.1 2.668 .00 4 7 1.0 59.3 .00 7 782.12 43 4.6 1.3 45.5 2.068 .8 54.5 77.6 38.0 17.8 GR 2.650 77.6 54.5 31.2 2.666 .00 .00 4 1.6 45.1 2.093 48.4 72.3 35.8 15.3 GR 2.650 72.3 48.4 30.3 2.664 .05 .02 7 782.27 41 6.4 .6 4 \$ 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 7 782.57 45 1.0 43.5 1.951 1.6 62.4 101.7 34.5 20.0 GR 2.650 91.0 62.4 27.6 2.668 .05 .02 4 7 4.4 2.650 90.9 62.2 30.0 2.676 .05 7 782.73 50 3.5 .5 40.4 1.732 1.9 62.2 129.3 41.7 28.2 GR .02 4 782.88 51 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 .5 45.0 1.730 2.2 30.0 GR 2.650 92.6 68.2 27.3 2.677 .05 7 783.03 52 3.4 .6 49.7 1.728 2.5 68.2 129.8 39.0 .02 4 783.18 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 .02 4 78 2.8 . 4 78.9 27.6 2.679 .05 783.34 53 .7 48.7 1.556 . 4 78.9 113.0 49.2 32.3 GR 2.650 95.4 .02 4 78 2.4 783.49 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 78 783.64 57 83.3 147.2 46.1 37.6 GR 2.650 96.4 83.3 24.5 2.684 .05 78 2.5 .5 45.1 1.678 -.9 .02 4 783.79 57 2.8 .7 44.3 1.821 -2.3 77.9 125.5 39.8 37.1 GR 2.650 95.1 77.9 24.7 2.684 .05 .02 4 78 783.95 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 2.7 1.2 38.4 2.039 -3.5 .0 83.9 99.2 42.1 39.3 GR 2.677 96.6 83.9 22.7 2.697 .05 .02 .0 84.7 115.3 42.6 41.6 GR 2.689 96.7 84.7 22.4 2.706 .05 .02 784.25 60 2.7 .9 39.8 2.032 -3.8 784.40 60 1.1 42.4 2.003 .0 77.0 95.7 42.4 41.9 GR 2.702 94.9 77.0 24.3 2.716 .05 .02 2.8 -3.6 784.56 60 1.4 45.0 1.975 42.2 GR 2.721 81.3 72.6 26.2 2.730 .05 .02 2.8 -3.3.0 72.6 81.3 42.2 784.71 61 2.586 2.4 .7 42.9 1.893 -3.2 .0 72.8 102.7 41.5 42.6 GR 93.8 72.8 28.4 2.653 .05 .02 6 8 784.86 59 98.9 42.3 40.1 GR 2.640 94.0 73.3 29.7 2.680 .05 .02 2.3 .7 45.0 1.901 -3.3.0 73.3 785.01 57 .8 47.2 1.912 37.5 GR 2.692 74.1 31.0 2.708 .05 .02 2.1 -3.5 .0 74.1 95.3 43.2 94.2 8 785.16 58 .8 46.1 1.943 75.7 97.0 45.5 38.7 GR 2.705 94.6 75.7 29.3 2.718 .05 .02 2.2 -3.2.0 .9 45.1 1.972 76.8 100.1 47.7 39.9 GR 2.718 94.9 76.8 27.3 2.727 .05 .02 785.32 59 2.4 -2.9.0 785.47 .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 62 2.1 44.5 GR 2.813 97.0 86.0 26.4 2.780 .05 .02 785.62 62 1.9 .8 48.1 1.984 -3.3 .0 86.0 102.4 53.1 90.5 105.7 55.5 44.2 GR 2.876 98.0 90.5 26.3 2.814 .05 .02 785.77 62 1.7 .8 49.3 2.005 -3.3.0 785.93 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 75.5 55.3 21.7 GR 2.650 75.5 66.9 34.3 2.670 .05 .02 4 78 786.23 46 2.5 1.1 40.9 2.160 -2.966.9 786.38 46 1.1 38.9 2.173 -3.176.0 55.7 22.6 GR 2.650 76.0 64.4 33.7 2.670 .05 .02 4 78 2.7 64.4 33.2 2.671 .02 786.54 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 .05 4 78 786.69 48 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 3.0 .0 88.8 110.7 48.4 26.2 GR 2.789 97.7 88.8 20.8 2.775 .05 .02 786.84 49 3.4 1.3 33.8 2.218 -3.4

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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.Z	20.0 2.788	.05	2		1
787.15	47	4.4	2.5 32.3		-3.5					24.1 GR	2.838	86.0	84.6	19.3 2.813	.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 2.838	.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					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					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					36.3 GR				17.7 2.831	.05	.02		
788.21	64	3.6	2.0 33.3	2.119	-3.8					47.8 GR				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	

Complex Lithology Results Zone No. 3 BROADBILL-1 28-01-98 AMITY OIL NL PHIS VCL FVCL RHOMAU SW PHIE RHOMA POR-M HC-M FLAGS SXO SWU SXOU SPI DEPTH M GR RT RXO PHIN RHOB DD 6 77.2 20.3 2.623 2.522 95.0 .05 .02 -3.5.0 77.2 115.9 41.8 49.4 GR 1.0 34.9 1.964 788.52 65 3.4 .02 72.0 23.9 2.636 .05 6 2.561 93.6 44.1 GR 788.67 62 3.2 1.2 37.3 1.950 -3.5.0 72.0 95.3 43.1 66.4 27.5 2.649 .05 .02 6 2.596 80.1 -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 -3.0788.97 58 2.6 .05 .02 94.2 74.2 27.5 2.671 74.2 99.1 51.4 39.0 GR 2.630 .9 41.3 1.946 -2.9. 0 789.13 58 2.5 4 78 85.9 23.7 2.685 .05 .02 85.9 111.0 55.2 38.8 GR 2.650 97.0 789.28 58 2.4 .9 40.5 1.961 -2.8 71.8 29.4 2.681 .05 .02 38.1 GR 2.647 93.6 71.8 96.2 48.7 .8 43.5 1.927 -2.5.0 789.43 57 2.4 .02 47.4 32.7 GR 2.701 84.3 67.4 29.2 2.712 .05 67.4 84.3 789.58 54 3.0 1.1 43.2 1.985 -3.0.0 .05 .02 46.1 2.755 75.8 63.9 29.4 2.751 1.4 42.8 2.041 -3.5 .0 63.9 75.8 27.4 GR 789.74 50 3.4 .02 70.6 70.6 26.7 2.731 .05 2.728 68.8 42.6 26.6 GR 789.89 49 3.4 2.1 38.9 2.081 -3.5 .0 70.6 2.705 78.8 78.8 24.0 2.711 .05 .02 39.1 25.8 GR 2.8 35.1 2.121 -3.5.0 78.8 66.4 790.04 49 3.3 24.4 2.644 .05 .02 6 79.0 103.0 45.6 33.7 GR 2.603 95.4 79.0 1.0 33.7 2.017 -2.8 .0 790.19 54 2.9 74.6 26.4 2.629 .05 .02 6 93.5 2.578 1.1 35.0 1.972 -2.8 .0 74.6 93.5 46.5 34.3 GR 790.35 55 2.8 70.5 28.3 2.633 .05 .02 2.549 85.4 -2.8 70.5 85.4 47.3 35.0 GR 1.1 36.3 1.928 .0 790.50 55 2.8 29.8 2.617 .05 .02 78.0 45.4 33.4 GR 2.558 78.0 66.2 6 1.3 37.5 1.918 -2.9 .0 66.2 790.65 54 2.9 63.3 31.2 2.622 .05 .02 6 2.568 71.7 1.4 38.6 1.908 -2.9.0 63.3 71.7 43.6 31.8 GR 790.80 53 3.0 .05 .02 64.2 33.8 2.615 25.9 GR 2.572 80.8 64.2 80.8 45.9 790.96 49 2.7 1.0 38.3 1.903 -3.4.0 .0 48.7 2.582 83.5 67.9 32.0 2.629 .05 .02 6 67.9 83.5 30.0 GR 1.0 39.1 1.911 -3.2 791.11 52 2.5 .05 .02 6 86.3 71.8 30.3 2.641 -2.9 .0 71.8 86.3 51.6 34.1 GR 2.591 1.0 40.0 1.917 791.26 55 2.4 .02 71.5 29.6 2.675 .05 88.8 71.5 88.8 50.3 34.7 GR 2.644 791.41 55 2.5 1.0 42.0 1.943 -3.3 .0 71.8 28.9 2.710 .05 .02 91.6 48.9 35.3 GR 2.698 91.6 1.0 43.9 1.971 -3.7.0 71.8 791.57 55 2.6 .02 80.4 25.2 2.687 .05 80.4 101.2 45.1 31.6 GR 2.669 95.7 1.0 36.9 2.045 -3.8 .0 791.72 53 2.7 .02 .05 94.8 24.3 2.668 94.8 103.2 45.9 33.4 GR 2.639 98.9 2.0 1.0 35.3 2.036 -3.5.0 791.87 54 2.609 100.0 100.0 23.4 2.649 .05 .02 6 .0 114.0 105.3 35.2 GR 46.8 1.1 33.7 2.026 -3.3 792.02 55 1.5 .02 44.1 32.0 GR 2.679 93.4 79.6 25.6 2.695 .05 .0 79.6 93.4 1.2 38.0 2.040 -3.5792.18 53 2.7 .05 .02 83.3 24.6 2.703 45.2 31.9 GR 2.691 92.3 1.3 37.6 2.064 -3.2 .0 83.3 92.3 792.33 53 2.6 .05 .02 91.5 87.2 23.6 2.711 46.3 31.7 GR 2.702 1.4 37.1 2.086 -3.0 .0 87.2 91.5 792.48 53 2.6 .02 49.0 35.7 GR 2.670 92.3 84.4 23.7 2.691 .05 1.3 37.4 2.043 .0 84.4 92.3 -3.0792.63 56 2.6 .05 .02 81.8 23.9 2.669 1.2 37.8 1.999 81.8 93.5 51.7 39.7 GR 2.631 93.5 792.78 -3.0.0 59 2.6 .05 .02 2.611 96.7 84.7 23.5 2.668 51.8 46.8 GR 792.94 64 2.3 .7 40.4 1.955 -2.5.0 84.7 121.8 97.4 87.7 22.1 2.687 .05 .02 87.7 117.0 49.9 46.7 GR 2.648 2.4 .9 40.2 1.990 -2.2.0 793.09 64 .05 .02 46.6 GR 2.682 98.0 90.4 20.7 2.704 1.0 40.0 2.025 -2.0.0 90.4 114.3 48.0 793.24 2.5 63 97.8 89.3 22.0 2.706 .05 .02 44.9 GR 2.687 .9 40.7 2.017 -2.2.0 89.3 113.9 50.4 62 2.4 793.39 .02 2.691 97.8 89.4 23.2 2.708 .05 .0 89.4 114.0 52.8 43.1 GR 793.55 2.2 .9 41.4 2.010 -2.561 52.1 32.1 GR 81.6 29.1 2.697 .05 .02 2.681 96.0 .8 41.8 1.984 -2.981.6 98.5 .0 793.70 53 2.0 27.4 2.728 .05 .02 82.0 105.1 49.0 28.7 GR 2.724 96.1 82.0 -3.0.0 793.85 51 .8 40.4 2.053 2.3 26.2 2.765 .05 .02 25.4 GR 2.774 96.2 82.2 .0 82.2 110.7 45.9 794.00 2.6 .9 39.0 2.122 -3.048 .05 .02 2.846 95.3 24.0 2.819 23.7 GR 78.6 78.6 96.8 41.9 794.16 47 3.4 1.3 37.5 2.211 -3.2.0 2.915 90.2 78.6 22.1 2.874 .05 .02 5 90.2 37.8 22.0 GR .0 78.6 1.8 36.1 2.298 -3.5794.31 46 4.1 2.842 93.2 .05 .02 39.3 25.1 GR 93.2 20.9 2.815 2.8 34.6 2.253 -3.8 .0 93.2 76.1 794.46 48 3.1 .02 84.0 22.7 2.728 .05 32.5 GR 2.723 84.0 1.9 37.2 2.105 -3.3 .0 84.0 82.6 41.7 794.61 53 3.0 26.0 2.666 .05 .02 75.2 40.0 GR 2.623 94.4-2.9 .0 75.2 96.8 44.1 794.77 59 2.7 1.0 39.9 1.961 92.9 69.3 28.2 2.660 .05 .02 6 2.604 -3.0.0 69.3 98.9 46.3 41.5 GR .8 42.5 1.910 794.92 60 2.7 28.2 2.654 .05 .02 6 8 48.4 43.1 GR 2.581 92.8 68.7 .6 45.2 1.860 -3.2 .0 68.7 111.4 2.7 795.07 61 .02 28.0 2.705 .05 44.8 38.5 GR 2.687 89.7 69.1 1.0 43.9 1.961 -2.4.0 69.1 89.7 795.22 58 2.9 2.639 90.2 62.4 30.7 2.674 .05 .02 .0 62.4 90.2 43.3 35.5 GR 795.38 56 3.1 .9 43.3 1.919 -2.3

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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.641	.05	2	5 8	ı
795.68	55	2.7	.6 46.7							34.6 GR	2.474	91.3	63.5	32.4 2.625	.05	.02	68	
795.83		2.7	.6 46.7							40.4 GR	2.519	92.5	67.7	29.6 2.621	.05	.02	6 8	
795.99	63	2.6	.7 46.7		-2.0					46.2 GR	2.568	93.8	72.6	26.7 2.655	.05	.02	6 8	
796.14	62	2.5	.9 46.3							44.6 GR	2.701	94.1	73.6	27.0 2.718	.05	.02		
		2.6	1.0 45.9							43.1 GR	2.834	95.7	80.3	24.2 2.794	.05	.02		
796.29			.9 43.9							44.1 GR	2.797	98.0	90.5	22.6 2.772	.05	.02		
796.44	62	2.2	.9 43.9			.0				43.2 GR	2.835			21.8 2.793		.02		
796.59		2.4								42.2 GR				21.0 2.815		.02		
796.75		2.7	.8 42.9			.0				34.2 GR	2.844			20.4 2.807		.02		
796.90	55	3.4	2.1 38.1	2.187	-3.1	.0	84.3	04.4	42.0	34.2 GR	2.044	04.4	04.5	20.4 2.00	.00	.02		

			1													
Zone No.	3		ADBILL-1 TY OIL NL				omplex 3-01-98		ogy Resul	ts						
		MILLI	T OTT NT			20	3-01-90									
DEPTH M	GR	RT	RXO PHIN	RHOB D	D SPI	: SWU	sxou	PHIS	VCL FVCL	RHOMAU	sxo	SW	PHIE RHOMA	POR-M	HC-M	FLAGS
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	.02	
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				93.4	50.2	43.6 GR	2.525	93.4	74.2	28.0 2.623	.05	.02	6 8
797.66	62	2.3	.8 43.7 1				102.2	51.8	45.1 GR	2.548	94.9	76.8	27.2 2.640	.05	.02	6 8
797.81	63	2.2	.7 45.7 1				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					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					59.8	48.5 GR	2.629	95.6	79.7	23.3 2.680	.05	.02	
798.27	67	2.6	1.0 41.4 1				105.9	59.1	51.4 GR	2.618	96.3	82.6	21.8 2.678	.05	.02	
798.42	65	2.7	.9 43.0 1				107.7	54.1	49.2 GR	2.667	95.3	78.8	22.9 2.699	.05	.02	
798.58	64	2.8	.8 44.6 1				109.8	49.1	46.9 GR	2.711	94.6	75.6	24.0 2.725	.05	.02	
798.73	63	3.3	1.0 45.0 2				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				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				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				123.4	42.6	54.2 GR	2.735		99.0	18.6 2.738	.05	.02	
799.34	68	2.4	1.2 41.5 2			107.2		42.3	53.4 GR			100.0	15.8 2.790	.05	.02	-
799.49	68	2.7	1.4 40.1 2			113.1		42.1	52.5 GR			100.0	13.6 2.846	.05	.02	5 5
799.64	60	3.6	2.8 37.3 2				91.1	38.2	41.9 GR	2.975	98.0		15.1 2.871	.05	.02	5 5
799.80	53	4.8	4.2 34.5 2				74.1	34.2	31.5 GR	2.981	87.1		16.4 2.900	.05	.02	5
799.95	40	5.5	5.6 26.8 2 5.0 25.9 2				66.9	38.3	13.6 GR	2.884	88.2	88.2	17.9 2.862	.05 .05	.02 .02	
800.10 800.25	38 36	7.2 9.3	4.4 24.9 2				70.9 75.5	34.9 31.4	10.9 GR 8.1 GR	2.878 2.873	77.8 75.5	77.8 68.8	18.2 2.862 18.6 2.861	.05	.02	
800.40	39	7.8	5.4 25.0 2				68.6	29.4	12.2 GR	2.818	75.2	75.2	17.8 2.807	.05	.02	
800.56	42	6.8	6.5 25.0 2				63.3	27.3	16.3 GR	2.757	80.5	80.5	17.1 2.754	.05	.02	
800.71	52	4.0	1.1 28.4 2				106.0	36.0	30.7 GR	2.570	93.9	73.1	22.9 2.615	.05	.02	6
800.86	54	3.8	1.2 32.4 2				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				95.7	41.2	34.8 GR	2.637	93.1	70.0	24.7 2.668	.05	.02	-
801.17	54	3.6	2.2 33.7 2				72.5	39.1	33.7 GR	2.617	72.6	72.6	23.7 2.653	.05	.02	
801.32	54	3.5	3.3 31.1 2				62.1	36.9	32.6 GR	2.600	77.3	77.3	22.8 2.639	.05	.02	6
801.47	52	3.8	1.1 27.4 2				108.2	36.6	30.7 GR	2.544	94.1	73.8	23.3 2.616	.05	.02	6
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	
801.78	43	4.9	2.1 26.1 2	.301 -3.	3 .0	91.3	105.9	31.0	18.3 GR	2.735	98.2	91.3	17.6 2.736	.05	.02	
801.93	43	5.0	1.7 23.2 2		3 .0	104.0	135.8	29.3	18.2 GR	2.719	100.0	100.0	15.1 2.723	.05	.02	
802.08	46	5.0	1.7 26.9 2	.300 -3.	3 .0	92.9	125.1	28.7	22.6 GR	2.749	98.5	92.9	16.3 2.747	.05	.02	
802.23	50	4.9	1.6 30.6 2	.266 -3.	7.0	84.6	117.0	28.1	27.1 GR	2.783	96.7	84.6	17.4 2.770	.05	.02	
802.39	50	4.9	3.4 32.5 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		59.2	34.6	27.5 GR	2.875	81.4	81.4	19.2 2.835	.05	.02	
	55	4.2	2.4 33.6 2	.138 -3.			83.5	36.7	34.7 GR	2.697				.05	.02	
802.84	57	3.7	2.1 34.2 2.						37.3 GR			80.5	20.2 2.687	.05	.02	
	59	3.1	1.7 34.9 2						39.9 GR				21.3 2.666	.05	.02	_
	59	3.0	1.4 34.7 1.				91.6		40.2 GR	2.585				.05	.02	6
	59	2.8	1.1 34.5 1.				96.9	44.6	40.4 GR	2.539				.05	.02	6
	52	3.5	.9 34.3 2			74.9		40.6	31.1 GR			74.9		.05	.02	
	52	3.7	3.2 32.4 2.			91.9			30.3 GR				18.3 2.749	.05	.02	_
803.76		3.8	5.5 30.5 2.						29.5 GR				14.8 2.852	.05	.02	5
803.91	49	5.0	4.4 28.4 2.	.400 -3.1	3.0	101.1	84.8	30.4	26.8 GR	2.905	100.0	100.0	14.1 2.857	.05	.02	5

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	
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	
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	
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	
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	
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	
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	
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	
	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
		*** *=** = ***		.0	87.9	55.3	27.9	18.2 GR	2.808	87.9	87.9	15.5 2.795	.05	.02	
	42 43 43 45 46 46 43	42 7.3 43 6.8 43 6.2 45 5.5 46 4.9 46 5.2 43 6.2 40 7.3	42 7.3 9.5 20.2 2.456 43 6.8 6.5 20.7 2.392 43 6.2 3.7 21.2 2.328 45 5.5 3.9 25.0 2.278 46 4.9 4.1 28.8 2.228 46 5.2 3.4 32.7 2.206 43 6.2 4.3 32.7 2.285 40 7.3 5.2 32.6 2.363	42 7.3 9.5 20.2 2.456 -3.9 43 6.8 6.5 20.7 2.392 -3.8 43 6.2 3.7 21.2 2.328 -3.8 45 5.5 3.9 25.0 2.278 -3.8 46 4.9 4.1 28.8 2.228 -3.9 46 5.2 3.4 32.7 2.206 -3.8 43 6.2 4.3 32.7 2.285 -3.8 40 7.3 5.2 32.6 2.363 -3.8	42 7.3 9.5 20.2 2.456 -3.9 .0 43 6.8 6.5 20.7 2.392 -3.8 .0 43 6.2 3.7 21.2 2.328 -3.8 .0 45 5.5 3.9 25.0 2.278 -3.8 .0 46 4.9 4.1 28.8 2.228 -3.9 .0 46 5.2 3.4 32.7 2.206 -3.8 .0 43 6.2 4.3 32.7 2.285 -3.8 .0 40 7.3 5.2 32.6 2.363 -3.8 .0	42 7.3 9.5 20.2 2.456 -3.9 .0 108.4 43 6.8 6.5 20.7 2.392 -3.8 .0 104.0 43 6.2 3.7 21.2 2.328 -3.8 .0 96.2 45 5.5 3.9 25.0 2.278 -3.8 .0 87.6 46 4.9 4.1 28.8 2.228 -3.9 .0 81.5 46 5.2 3.4 32.7 2.206 -3.8 .0 69.1 43 6.2 4.3 32.7 2.285 -3.8 .0 65.4 40 7.3 5.2 32.6 2.363 -3.8 .0 62.0	42 7.3 9.5 20.2 2.456 -3.9 .0 108.4 74.4 43 6.8 6.5 20.7 2.392 -3.8 .0 104.0 82.5 43 6.2 3.7 21.2 2.328 -3.8 .0 96.2 97.0 45 5.5 3.9 25.0 2.278 -3.8 .0 87.6 80.8 46 4.9 4.1 28.8 2.228 -3.9 .0 81.5 68.8 46 5.2 3.4 32.7 2.206 -3.8 .0 69.1 65.5 43 6.2 4.3 32.7 2.285 -3.8 .0 65.4 60.1 40 7.3 5.2 32.6 2.363 -3.8 .0 62.0 56.0	42 7.3 9.5 20.2 2.456 -3.9 .0 108.4 74.4 26.2 43 6.8 6.5 20.7 2.392 -3.8 .0 104.0 82.5 28.2 43 6.2 3.7 21.2 2.328 -3.8 .0 96.2 97.0 30.2 45 5.5 3.9 25.0 2.278 -3.8 .0 87.6 80.8 31.8 46 4.9 4.1 28.8 2.228 -3.9 .0 81.5 68.8 33.5 46 5.2 3.4 32.7 2.206 -3.8 .0 69.1 65.5 32.7 43 6.2 4.3 32.7 2.285 -3.8 .0 65.4 60.1 30.1 40 7.3 5.2 32.6 2.363 -3.8 .0 62.0 56.0 27.5	42 7.3 9.5 20.2 2.456 -3.9 .0 108.4 74.4 26.2 17.0 GR 43 6.8 6.5 20.7 2.392 -3.8 .0 104.0 82.5 28.2 17.3 GR 43 6.2 3.7 21.2 2.328 -3.8 .0 96.2 97.0 30.2 17.7 GR 45 5.5 3.9 25.0 2.278 -3.8 .0 87.6 80.8 31.8 20.1 GR 46 4.9 4.1 28.8 2.228 -3.9 .0 81.5 68.8 33.5 22.6 GR 46 5.2 3.4 32.7 2.206 -3.8 .0 69.1 65.5 32.7 21.4 GR 43 6.2 4.3 32.7 2.285 -3.8 .0 65.4 60.1 30.1 17.7 GR 40 7.3 5.2 32.6 2.363 -3.8 .0 62.0 56.0 27.5 14.1 GR <td>48 6.1 3.3 26.4 2.439 -3.8 .0 97.6 105.0 26.7 24.1 GR 2.906 42 7.3 9.5 20.2 2.456 -3.9 .0 108.4 74.4 26.2 17.0 GR 2.798 43 6.8 6.5 20.7 2.392 -3.8 .0 104.0 82.5 28.2 17.3 GR 2.736 43 6.2 3.7 21.2 2.328 -3.8 .0 96.2 97.0 30.2 17.7 GR 2.692 45 5.5 3.9 25.0 2.278 -3.8 .0 87.6 80.8 31.8 20.1 GR 2.699 46 4.9 4.1 28.8 2.228 -3.9 .0 81.5 68.8 33.5 22.6 GR 2.707 46 5.2 3.4 32.7 2.206 -3.8 .0 69.1 65.5 32.7 21.4 GR 2.752 43 6.2 4.3 32.7 2.285 -3.8 .0 65.4 60.1 30.1 17.7 GR 2.833 40 7.3 5.2 32.6 2.363 -3.8 .0 62.0 56.0 27.5 14.1 GR 2.908</td> <td>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 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 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 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 45 5.5 3.9 25.0 2.278 -3.8 .0 87.6 80.8 31.8 20.1 GR 2.692 97.6 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 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 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 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</td> <td>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 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 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 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 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 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 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 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 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</td> <td>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 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 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 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 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 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 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 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 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</td> <td>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 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 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 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 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 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 47 48 6.2 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 48 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 49 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</td> <td>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 .02 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 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 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 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 .02 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 47 43 6.2 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 48 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 49 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</td>	48 6.1 3.3 26.4 2.439 -3.8 .0 97.6 105.0 26.7 24.1 GR 2.906 42 7.3 9.5 20.2 2.456 -3.9 .0 108.4 74.4 26.2 17.0 GR 2.798 43 6.8 6.5 20.7 2.392 -3.8 .0 104.0 82.5 28.2 17.3 GR 2.736 43 6.2 3.7 21.2 2.328 -3.8 .0 96.2 97.0 30.2 17.7 GR 2.692 45 5.5 3.9 25.0 2.278 -3.8 .0 87.6 80.8 31.8 20.1 GR 2.699 46 4.9 4.1 28.8 2.228 -3.9 .0 81.5 68.8 33.5 22.6 GR 2.707 46 5.2 3.4 32.7 2.206 -3.8 .0 69.1 65.5 32.7 21.4 GR 2.752 43 6.2 4.3 32.7 2.285 -3.8 .0 65.4 60.1 30.1 17.7 GR 2.833 40 7.3 5.2 32.6 2.363 -3.8 .0 62.0 56.0 27.5 14.1 GR 2.908	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 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 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 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 45 5.5 3.9 25.0 2.278 -3.8 .0 87.6 80.8 31.8 20.1 GR 2.692 97.6 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 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 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 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	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 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 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 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 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 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 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 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 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	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 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 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 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 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 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 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 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 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	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 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 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 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 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 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 47 48 6.2 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 48 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 49 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	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 .02 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 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 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 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 .02 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 47 43 6.2 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 48 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 49 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

Complex Lithology Results Zone No. 3 BROADBILL-1 AMITY OIL NL 28-01-98 PHIE RHOMA POR-M HC-M FLAGS RXO PHIN RHOB SWU SXOU PHIS VCL FVCL RHOMAU SXO SW DEPTH M GR DD SPI RT 84.4 15.1 2.742 .02 22.5 GR .05 805.59 46 6.8 6.7 25.5 2.316 -3.8 .0 84.4 66.7 29.3 2.742 84.4 30.7 26.9 GR 2.689 87.7 78.1 15.5 2.699 .05 .02 3.5 26.1 2.247 -3.8 .0 78.1 87.7 805.74 49 7.0 2.699 78.1 78.1 16.3 2.707 .05 .02 4.4 27.8 2.234 .0 78.1 74.7 30.6 27.8 GR 805.89 50 6.4 -3.8 78.3 17.0 2.720 .02 5.3 29.6 2.222 .0 78.3 65.0 30.4 28.8 GR 2.711 78.3 .05 806.04 51 5.9 -3.8 2.708 76.5 76.5 17.9 2.716 .05 .02 -3.8 .0 76.5 72.4 31.3 25.7 GR 806.20 49 5.9 4.0 29.1 2.226 .02 69.6 69.6 18.6 2.755 .05 5.3 29.4 2.267 -3.8 .0 69.6 62.3 28.4 22.6 GR 2.760 806.35 46 7.0 25.6 19.5 GR 2.810 64.6 64.6 19.3 2.795 .05 .02 806.50 44 6.6 29.7 2.308 -3.8.0 64.6 55.0 8.0 2.804 72.0 72.0 17.0 2.790 .05 .02 806.65 45 8.0 6.9 27.4 2.340 -3.8 .0 72.0 60.0 25.4 20.2 GR 81.5 14.7 2.785 .02 25.3 21.0 GR 2.799 81.5 .05 7.3 25.1 2.372 -3.8 .0 81.5 66.5 806.81 45 8.0 28.1 32.1 GR 2.682 93.6 86.0 13.8 2.696 .05 .02 3.4 26.4 2.236 86.0 93.6 806.96 -3.8 .0 53 6.3 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 .02 807.11 53 5.7 72.5 19.2 2.715 .05 .02 .0 72.5 75.0 30.9 32.8 GR 2.706 75.0 807.26 54 5.3 3.1 33.3 2.155 -3.9 3.3 32.4 2.188 -3.8 .0 71.2 30.2 27.1 GR 2.726 71.2 67.4 20.2 2.730 .05 .02 807.42 67.4 50 6.1 807.57 46 3.5 31.5 2.221 -3.8 .0 62.3 67.5 29.4 21.5 GR 2.746 67.5 62.3 21.3 2.745 .05 .02 7.0 5.8 27.6 2.335 .0 65.8 59.9 24.9 15.1 GR 2.797 65.8 65.8 19.4 2.788 .05 .02 807.72 41 8.3 -3.8 .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 7.7 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 66.6 24.2 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 24.6 GR 2.772 77.6 .02 76.1 18.6 2.779 .05 808.33 45 4.1 29.3 2.297 -3.8 .0 76.1 71.3 28.8 21.2 GR 2.791 76.1 6.1 86.7 18.5 2.795 .05 .02 30.6 17.8 GR 2.808 86.7 808.48 43 5.0 5.0 28.0 2.336 -3.8 .0 86.7 66.8 3.6 26.3 2.337 -3.7.0 95.7 83.3 32.1 18.2 GR 2.779 95.7 95.7 17.2 2.771 .05 .02 808.63 43 4.6 .02 2.750 100.0 100.0 15.8 2.748 .05 .0 106.9 111.7 33.7 18.7 GR 808.79 44 4.3 2.3 24.6 2.338 -3.787.4 73.5 37.1 16.9 GR 2.796 87.4 87.4 18.2 2.786 .05 .02 4.3 27.1 2.341 808.94 42 5.1 -3.7 .0 4.5 27.0 2.351 70.5 35.4 14.9 GR 2.804 82.1 82.1 18.8 2.794 .05 .02 809.09 41 -3.7.0 82.1 5.7 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 67.8 33.8 12.8 GR 85.9 18.4 2.735 .05 .02 4.9 25.8 2.304 .0 68.2 31.5 16.0 GR 2.734 85.9 809.40 42 -3.685.9 5.3 29.2 19.2 GR 2.678 90.0 90.0 18.3 2.688 .05 .02 809.55 44 5.2 24.6 2.247 -3.6 .0 90.0 65.0 4.6 809.70 53 2.4 28.8 2.192 -3.4.0 97.4 95.7 39.1 31.2 GR 2.680 97.4 97.4 16.8 2.695 .05 .02 3.7 91.0 103.9 39.1 30.4 GR 2.675 98.1 91.0 18.1 2.691 .05 .02 809.85 52 1.8 29.4 2.174 -3.5 .0 3.8 3.7 1.2 30.1 2.155 87.5 119.3 39.1 29.6 GR 2.670 97.4 87.5 19.4 2.687 .05 .02 810.01 51 -3.6 .0 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 .02 810.16 52 3.5 4.9 30.7 2.143 .0 95.5 59.6 38.5 32.0 GR 2.667 95.5 95.5 19.1 2.686 .05 .02 810.31 53 3.1 -3.6 88.1 21.6 2.702 .05 .02 810.46 55 .9 35.6 2.094 -2.9 .0 88.1 123.5 38.7 34.4 GR 2.688 97.5 2.8 38.7 28.8 GR 2.705 95.8 80.9 23.9 2.713 .05 .02 810.62 51 1.1 36.3 2.102 -3.2 .0 80.9 103.8 3.1 .05 .02 810.77 47 3.3 1.3 37.0 2.108 -3.5 .0 74.0 88.7 38.6 23.3 GR 2.724 88.7 74.0 26.4 2.728 36.7 72.9 26.1 2.753 .05 .02 810.92 46 1.5 36.9 2.141 72.9 84.2 21.9 GR 2.757 84.2 3.5 -3.7.0 72.0 25.8 2.779 .05 .02 811.07 45 1.7 36.8 2.174 -3.8 .0 72.0 80.6 34.8 20.5 GR 2.790 80.6 3.7 93.3 70.7 24.2 2.671 .05 .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 4 7 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 2.650 68.2 2.650 68.1 26.2 2.672 .05 .02 4 7 4.0 28.6 2.280 -3.8 68.1 51.2 34.5 24.0 GR 68.1 811.53 47 3.9 92.7 19.7 2.732 .05 2.729 92.7 .02 811.68 46 5.2 29.9 2.231 -3.7 .0 92.7 59.5 37.9 22.5 GR 3.6 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 .02 811.83 46 4.2 2.800 96.1 82.2 19.4 2.786 .05 .02 811.99 46 4.8 2.0 30.7 2.282 -3.4 .0 82.2 98.7 34.5 21.9 GR .05 .02 2.795 87.7 87.7 18.4 2.782 812.14 45 4.6 2.9 29.2 2.303 -3.6 .0 87.7 86.1 33.7 21.1 GR 95.3 17.5 2.779 .05 .02 3.8 27.7 2.323 -3.8.0 95.3 79.2 32.8 20.3 GR 2.790 95.3 812.29 45 4.4 2.738 98.6 93.1 17.7 2.738 1.8 26.7 2.293 -3.6 .0 93.1 115.7 32.8 19.3 GR .05 .02 812.44 44 4.5

812.60	42	5.2	2.9 29.4	2.322	-3.7	.0	78.9	81.7	32.4	16.5 GR							2
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	2.867	.05	.02
812.90		6.0	5.5 28.7	2 360	-3.8	. 0	73.8	58.1	31.1	11.5 GR	2.837	73.8	73.8	21.1 2	2.825	.05	.02
813.05			7.0 25.1								2.788	79.3	79.3	19.6 2	2.783	.05	.02
813.21			1.7 23.1								2.737	97.4	87.7	17.7 2	2.738	.05	.02
813.36			3.4 23.9								2.748	86.7	86.6	17.9 2	2.747	.05	.02
813.51			5.1 24.6								2.759	91.6	91.6	18.1 2	2.757	.05	.02
813.66			5.3 24.9								2.694	89.9	89.9	18.2 2	2.700	.05	.02
020.00																.05	.02
813.82	47		5.6 25.2								2.647						
813.97	46	5.4	3.0 31.2	2.181	-3.8	.0	68.9	70.4	34.5	22.0 GR	2.703	70.4	68.9	22.0 2	2.708	.05	.02

BROADBILL-1 Complex Lithology Results Zone No. 3 28-01-98 AMITY OIL NL SW PHIE RHOMA RXO PHIN RHOB DD SPI SWU SXOU PHIS VCL FVCL RHOMAU SXO POR-M HC-M FLAGS DEPTH M GR 74.9 .02 20.8 GR 2.707 74.9 20.9 2.713 .05 814.12 45 5.1 5.1 29.9 2.209 -3.8.0 74.9 57.6 32.9 31.2 2.713 80.8 80.8 19.9 2.719 .05 .02 44 4.9 7.1 28.6 2.238 -3.8 .0 80.8 51.3 19.7 GR 814.27 814.43 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 2.755 22.0 2.752 5.9 4.0 30.6 2.245 -3.6 .0 67.9 62.8 29.6 17.3 GR 67.9 67.9 .05 .02 814.58 43 48.9 29.9 15.1 GR 2.759 71.5 71.5 23.1 2.756 .05 .02 6.2 30.8 2.246 -3.8 .0 71.5 814.73 41 5.0 3.4 30.9 2.191 72.2 30.9 20.6 GR 2.706 72.2 72.2 22.1 2.711 .05 .02 814.88 -3.6 .0 66.4 45 4.9 74.1 22.0 2.685 .02 815.04 49 .8 31.1 2.135 -3.5.0 74.1 136.2 31.9 26.2 GR 2.671 94.2 .05 4.4 2.776 77.2 77.2 19.2 2.762 .05 .02 77.2 62.2 36.5 36.2 GR 815.19 56 4.4 4.3 36.3 2.162 -3.7.0 34.5 GR 2.773 78.8 78.8 19.4 2.761 .05 .02 2.8 35.8 2.169 -3.6.0 78.8 76.3 36.6 815.34 55 4.2 82.7 107.7 36.7 32.8 GR 2.771 96.3 82.7 19.7 2.760 .05 .02 815.49 54 3.9 1.4 35.3 2.176 -3.5.0 2.771 78.2 73.1 21.3 2.762 .05 .02 815.64 49 4.7 2.5 34.3 2.195 -3.6.0 73.1 78.2 36.0 26.8 GR .05 20.7 GR 2.772 65.9 65.9 22.9 2.765 .02 815.80 3.6 33.3 2.214 -3.6 .0 65.9 62.9 35.3 45 5.6 815.95 43 5.0 29.7 2.316 -3.7.0 70.3 61.7 28.7 17.5 GR 2.816 70.3 70.3 20.0 2.802 .05 .02 6.6 816.10 43 4.6 28.0 2.325 -3.7.0 74.2 68.3 29.2 17.4 GR 2.794 74.2 74.2 18.8 2.784 .05 .02 6.6 4.2 26.2 2.333 78.7 76.4 29.6 17.3 GR 2.772 78.7 78.7 17.6 2.766 .05 .02 816.25 43 6.7 -3.8.0 22.2 2.671 816.41 45 5.7 4.6 27.5 2.164 -3.7.0 67.2 57.2 30.7 20.1 GR 2.658 67.2 67.2 .05 .02 42.8 31.7 22.9 GR 2.554 58.1 58.1 28.3 2.632 .05 .02 6 816.56 47 5.0 28.9 1.996 -3.7.0 58.1 4.7 32.6 GR 2.106 79.4 53.8 33.4 2.620 .05 .02 6 8 816.71 53 1.0 34.2 1.637 -2.9.0 53.8 79.4 37.8 3.6 77.4 40.0 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 41.8 GR 2.348 76.5 61.6 28.8 2.630 .05 .02 1.3 41.5 1.744 -2.3 .0 76.5 42.2 6 8 817.02 60 3.3 61.6 2.607 77.5 817.17 58 3.9 1.5 39.4 1.952 -2.7.0 61.6 77.5 39.6 39.1 GR 61.6 26.6 2.656 .05 .02 6 1.7 37.2 2.159 36.3 GR 2.793 94.4 75.0 19.7 2.772 .05 .02 817.32 -3.2 .0 75.0 96.3 36.9 56 4.5 66.4 31.4 24.7 GR 2.727 81.7 81.7 18.9 2.731 .05 .02 4.4 30.1 2.228 -3.7.0 81.7 817.47 48 4.8 817.63 3.0 29.2 2.191 -3.4.0 76.0 79.1 31.5 26.1 GR 2.687 79.1 76.0 19.1 2.697 .05 .02 49 5.3 27.5 GR 2.654 94.3 74.7 19.6 2.674 .05 .02 1.6 28.3 2.157 74.7 105.6 31.6 817.78 50 5.2 -3.1.0 2.767 .02 .0 73.5 63.8 32.5 24.7 GR 73.5 73.5 18.8 2.760 .05 817.93 48 4.8 30.7 2.252 -3.6 6.0 818.08 3.4 30.9 2.256 -3.6 .0 74.5 75.0 32.8 23.8 GR 2.776 75.0 74.5 19.3 2.767 .05 .02 47 5.7 22.8 GR 2.785 95.2 78.1 19.8 2.774 .05 .02 1.9 31.2 2.260 -3.6 .0 78.1 97.0 33.1 818.24 47 5.0 .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 1.8 31.9 2.142 -3.44.4 73.3 85.9 41.1 42.8 GR 2.650 85.9 73.3 21.5 2.689 .05 .02 78 818.54 61 1.7 32.6 2.026 -3.13.8 52.9 GR 2.650 99.0 95.3 16.0 2.698 .05 .02 4 78 818.69 68 3.0 1.1 33.6 1.979 -2.195.3 127.1 41.7 .0 90.7 16.7 2.677 90.7 117.3 39.7 47.8 GR 2.635 98.1 .05 .02 818.85 64 1.3 34.4 2.066 -2.93.4 42.7 GR 2.740 98.4 92.1 16.1 2.740 .05 .02 92.1 116.5 37.7 819.00 61 3.7 1.5 35.3 2.152 -3.6.0 2.4 34.0 2.202 93.8 100.8 35.5 42.9 GR 2.784 98.7 93.8 14.2 2.764 .05 .02 819.15 61 4.2 -3.6.0 .0 96.2 94.3 33.4 43.0 GR 2.830 96.2 96.2 12.4 2.788 .05 .02 819.30 61 4.8 3.4 32.7 2.252 -3.678.6 18.0 2.695 .05 .02 .6 31.3 2.007 78.6 160.3 35.5 49.1 GR 2.650 95.3 78 819.45 65 3.9 -3.1 89.5 15.0 2.700 89.5 160.6 38.4 54.9 GR 2.650 97.8 .05 .02 4 78 819.61 69 3.6 .8 31.4 1.953 -2.12.650 100.0 100.0 12.2 2.705 102.8 164.2 41.4 60.7 GR .05 .02 4 78 819.76 73 .9 31.4 1.899 -1.03.3 .0 76.9 112.9 61.2 GR 2.312 94.9 76.9 19.2 2.620 .05 .02 6 8 819.91 74 3.3 1.0 33.7 1.826 -1.042.2 77.2 19.0 2.623 61.6 GR 1.825 95.0 .05 .02 6 8 1.1 36.0 1.753 .0 77.2 108.5 43.0 820.06 74 3.3 -1.083.2 15.6 2.699 .05 4 78 53.7 GR 2.650 96.4 .02 820.22 4.0 .6 40.3 1.670 -1.383.2 178.9 39.7 68 2.650 93.1 75.9 16.7 2.697 2.0 39.9 1.765 75.9 93.1 38.9 51.6 GR .05 .02 4 78 820.37 67 -2.34.6 76.2 17.9 2.695 .05 78 820.52 65 4.2 3.5 39.5 1.859 -3.3 76.2 67.7 38.1 49.3 GR 2.650 76.2 .02 4 39.2 55.4 GR 2.650 97.8 89.3 14.8 2.700 .05 .02 4 78 3.7 .9 40.5 1.892 -2.1 89.3 147.4 820.67 70 66.6 100.0 40.6 54.6 GR 2.555 92.2 66.6 22.3 2.656 .05 .02 6 1.1 41.8 1.915 -2.3820.83 69 3.8 .0 1.2 43.2 1.937 -2.5 .0 66.6 94.4 42.0 53.8 GR 2.623 92.2 66.6 22.2 2.684 .05 .02 820.98 69 3.8

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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	√5	2	5	
821.28	68	3.6	1.1 38.0	1.936	-2.3	.0	71.6	102.0	35.7	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	

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 822.66 76 81.5 129.2 39.4 65.0 GR 2.616 96.0 81.5 15.3 2.692 .05 .02 3.8 1.0 41.6 1.976 -2.1.0 -1.92.650 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 61.8 GR 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 2.913 823.11 66 5.9 2.1 36.0 2.237 -3.3 .0 84.8 118.5 30.9 50.2 GR 96.7 84.8 11.7 2.821 .05 .02 5 3.5 32.3 2.346 -3.7 48.8 GR 2.997 99.8 98.8 8.5 2.864 .05 5 823.26 65 6.3 .0 98.8 113.9 28.5 .02 823.42 68 2.5 32.1 2.178 98.0 125.0 31.3 53.6 GR 2.698 99.6 98.0 9.0 2.717 .05 5.6 -3.5 .0 .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 58.9 GR 2.650 98.4 92.3 13.1 2.703 .05 3.8 1.4 37.7 1.828 -1.592.3 129.3 40.7 .02 4 78 3.8 823.87 71 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 .02 6 8 54.9 GR 2.650 824.03 69 3.7 1.0 42.0 1.962 -2.8 88.0 140.6 39.9 97.5 88.0 15.0 2.700 .05 .02 4 78 1.0 36.0 1.955 824.18 68 3.6 ~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 -1.9 824.48 67 3.0 .6 33.5 1.847 .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 -1.5.0 75.1 129.5 41.1 55.6 GR 2.279 94.4 75.1 22.0 2.626 .05 .02 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 50.6 GR 825.09 66 3.0 .9 39.3 1.935 -1.6 .0 75.6 108.6 41.6 2.553 94.6 75.6 22.4 2.646 .05 .02 6 825.25 3.1 .9 40.9 1.971 -1.7.0 74.9 112.1 41.9 47.4 GR 2.636 94.4 74.9 22.8 2.681 .05 .02 64 825,40 64 1.0 40.3 1.995 -2.0 75.0 109.2 41.5 47.7 GR 2.653 94.4 75.0 21.5 2.690 .05 .02 3.4 .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 3.6 1.2 39.7 2.019 -2.2.0 825.70 4.2 1.9 36.6 2.081 -2.3 .0 81.9 98.1 37.0 49.0 GR 2.682 96.1 81.9 16.3 2.704 .05 .02 65 825.86 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 -1.687.6 118.1 40.2 61.3 GR 2.650 97.4 87.6 11.9 2.706 .02 4.6 4 78 826.62 75 2.655 96.5 83.6 12.4 2.701 4.7 1.7 38.8 2.040 -1.9.0 83.6 118.2 38.2 63.6 GR .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 4.8 .0 36.3 .05 .02 826.92 75 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 5.3 .0 827.07 72 3.1 36.1 2.055 -3.479.3 87.1 35.3 59.4 GR 2.629 87.1 79.3 12.8 2.686 5.3 .0 .05 .02 827.23 72 2.388 95.8 .8 31.3 1.949 -2.780.5 149.3 42.4 58.4 GR 80.5 15.9 2.623 4.0 .0 .05 .02 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 77.3 17.1 2.623 827.53 68 1.1 33.0 1.991 -3.1.0 77.3 125.8 39.4 52.9 GR 2.513 95.0 .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 6 827.99 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 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 -2.1 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 .6 33.6 1.884 .0 828.45 73 1.7 32.1 1.933 -2.977.1 99.1 38.7 59.4 GR 2.365 94.9 77.1 16.4 2.620 .05 .02 4.1 .0 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 2.415 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 .02 828.75 69 3.8 .7 33.7 1.953 .0 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 .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 4 78 829.21 72 4.7 1.4 38.2 2.096 829.36 72 1.1 37.6 2.036 -1.9 84.8 143.9 40.8 59.0 GR 2.650 96.7 84.8 13.0 2.703 .05 .02 78 4.6 4 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 78 4.4 4

Complex Lithology Results

Zone No. 3

BROADBILL-1

		-			•												
829.67	74	4.1	.8 36.1	1.949	-1.6		91.8 180.9	40.6	61.I GR	2.650	90.5	91.0	12.0 2.005	05	2		78
829.82	75	3.9	.7 35.2		-1.6		96.7 192.0	40.3	62.9 GR	2.650	99.3	96.7	11.2 2.707	.05	.02	4	78
829.97	73	4.4	1.6 36.3		-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				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			. 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		-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		-2.8		77.3 108.6			2.657	95.0	77.3	20.2 2.699	.05	.02		
830.73	. 0	3.2	1.2 42.4		-2.8		79.8 105.2			2.668	95.6	79.8	19.8 2.703	.05	.02		
830.73	71	3.1	1.0 42.2		-2.4		82.3 121.4			2.675	96.2	82.3	18.2 2.707	.05	.02		
		2.2	.8 42.1		-2.1		85.3 143.2			2.683			16.6 2.712	.05	.02		
831.04	73	3.3	.0 42.1	2.003	-2.1	. 0	05.5 145.4	40.0	33.3 OK	2.000	50.5						

Complex Lithology Results 28-01-98

BROADBILL-1

Zone No. 3

AMITY OIL NL SWU SXOU PHIS VCL FVCL RHOMAU SXO PHIE RHOMA POR-M HC-M FLAGS RXO PHIN RHOB DD SPI DEPTH M GR RT6 98.4 92.5 13.4 2.675 .05 .02 92.5 139.1 40.1 64.4 GR 2.581 .0 1.1 38.2 2.003 -1.9 831.19 76 3.5 .05 .02 6 2.525 97.4 87.7 14.1 2.657 -1.4.0 87.7 120.7 40.6 64.7 GR 1.3 37.7 1.978 831.34 76 3.6 .05 .02 6 2.463 95.9 81.2 14.9 2.637 81.2 106.7 41.2 65.0 GR 1.6 37.2 1.953 -.9 .0 831.49 76 4.0 98.1 91.0 13.2 2.636 .05 .02 6 91.0 134.9 42.6 68.3 GR 2.435 831.65 79 3.5 1.1 36.8 1.957 -.5 .0 4 78 71.7 GR 2.650 100.0 100.0 7.5 2.715 .05 .02 121.4 234.3 44.1 .7 36.5 1.961 -.1 3.2 831.80 81 78 2.650 100.0 100.0 7.2 2.715 .05 .02 4 118.8 182.0 46.3 72.3 GR 3.4 1.2 36.4 1.966 -1.5831.95 82 6 11.7 2.685 .05 .02 2.595 99.6 98.2 .0 98.2 146.8 45.2 68.3 GR 3.4 1.1 38.9 2.009 -2.1832.10 79 12.7 2.742 .02 64.3 GR 2.748 99.3 96.3 .05 .0 96.3 145.4 44.0 1.1 41.5 2.052 -2.7832.26 76 3.4 65.0 GR 2.650 99.8 98.9 10.3 2,709 .05 .02 4 78 98.9 141.5 42.5 1.4 41.6 2.098 -2.7832.41 76 4.0 10.0 2.709 .05 .02 4 78 2.650 98.7 93.8 93.8 127.2 41.0 65.6 GR 1.8 41.7 2.143 -2.6 832.56 77 4.5 2.650 100.0 100.0 9.0 2.711 .05 .02 4 78 101.3 159.3 37.2 67.8 GR 1.3 40.9 2.101 -2.4832.71 78 4.2 2.650 100.0 100.0 9.7 2.710 .05 .02 4 78 100.0 140.2 38.4 66.3 GR 1.5 41.2 2.081 -2.2 832.87 77 4.1 2.650 99.7 .05 .02 4 78 64.8 GR 98.5 10.3 2.709 1.8 41.6 2.061 -2.198.5 125.3 39.7 833.02 76 4.0 .02 4 78 2.650 100.0 99.9 10.2 2.709 .05 1.6 40.8 1.985 -1.7 99.9 136.2 41.0 65.1 GR 833.17 77 3.9 2.650 100.0 100.0 10.1 2.709 .05 .02 4 78 101.1 149.9 42.3 65.3 GR 1.3 40.0 1.908 -1.2 833.32 77 3.9 .02 6 8 .0 75.6 152.6 41.2 64.7 GR 2.370 94.6 75.6 17.5 2.629 .05 .6 39.2 1.850 -1.1833.48 76 3.7 2.373 93.8 72.7 18.9 2.630 .02 6 8 .05 .0 72.7 128.8 40.0 61.9 GR .8 39.5 1.878 -1.4833.63 74 3.7 2.650 98.6 93.3 12.9 2.704 .05 .02 4 78 93.3 154.3 38.8 59.2 GR 3.8 1.0 39.7 1.905 -1.7833.78 72 100.0 216.3 39.7 62.5 GR 2.650 100.0 100.0 11.4 2.707 .05 .02 4 78 .6 37.5 1.946 -.7 833.93 75 3.6 80.7 15.5 2.651 .05 .02 6 .0 80.7 150.3 39.1 62.3 GR 2.521 95.8 .8 37.7 1.968 -.6 834.09 75 3.9 .02 6 80.0 137.7 38.4 62.1 GR 2.564 95.6 80.0 14.8 2.666 .05 1.0 37.9 1.990 -.4 .0 834.24 74 4.2 2.450 95.0 77.5 16.0 2.631 .05 .02 6 77.5 143.6 38.7 63.8 GR .8 37.5 1.939 -.6 834.39 76 4.0 .0 .02 6 8 65.5 GR 2.297 94.4 75.0 17.1 2.635 .05 .0 75.0 154.9 39.1 .6 37.1 1.888 -.7 834.54 77 3.9 78 6.9 2.716 .02 2.650 100.0 100.0 .05 4 114.2 288.6 40.5 73.1 GR 834.69 82 3.8 .5 36.9 1.832 -.1 2.650 100.0 100.0 7.1 2.716 .05 .02 4 78 40.0 72.6 GR . 2 113.8 291.3 834.85 82 3.8 .5 37.8 1.903 2.650 100.0 100.0 7.3 2.715 .05 .02 4 78 39.6 72.1 GR .4 38.8 1.974 . 4 113.4 294.0 835.00 81 3.7 6.4 2.718 .02 4 78 117.2 279.0 41.1 74.6 GR .05 2.650 100.0 100.0 .5 40.7 1.968 . 6 835.15 83 3.7 4 78 5.4 2.720 .05 .02 120.9 268.7 42.6 77.1 GR 2.650 100.0 100.0 835.30 .6 42.7 1.962 .8 85 3.8 7.2 2.715 .05 .02 4 78 39.0 72.2 GR 2.650 100.0 100.0 -.1 110.2 319.1 .4 42.0 1.938 835.46 82 4.0 2.650 100.0 100.0 8.4 2.713 .02 4 78 102.8 202.7 38.5 69.4 GR .05 4.2 .8 40.1 1.985 -.7 835.61 80 78 2.650 99.2 96.2 9.6 2.710 .05 .02 4 66.5 GR 1.3 38.2 2.031 96.2 153.3 38.1 835.76 -1.478 4.4 4 78 2.650 98.8 94.0 9.5 2.711 .05 .02 66.8 GR 94.0 151.1 38.9 835.91 78 4.7 1.4 39.2 2.073 -1.692.0 148.9 39.7 67.1 GR 2.650 98.4 92.0 9.4 2.711 .05 .02 4 78 1.4 40.2 2.115 -1.9836.07 78 4.9 78 77.9 74.4 12.1 2.705 .05 .02 4 74.4 77.9 35.7 61.0 GR 2.650 4.1 38.5 2.234 -2.7836.22 74 6.3 80.5 74.1 12.1 2.705 .05 .02 4 78 2.650 3.8 35.6 2.207 -2.6 74.1 80.5 35.8 60.9 GR 836.37 74 6.3 .05 .02 78 83.4 73.4 12.2 2.705 4 60.8 GR 2.650 73.4 83.4 36.0 3.5 32.7 2.179 -2.5836.52 73 6.4 84.3 12.4 2.631 .05 .02 6 33.6 60.3 GR 2.501 96.6 .0 84.3 160.5 .9 31.9 2.021 -2.3836.68 73 4.8 83.3 12.0 2.635 .05 .02 6 .0 83.3 152.3 35.0 64.4 GR 2.481 96.4 1.0 33.7 2.001 -2.4836.83 76 4.8 82.6 11.7 2.638 .05 .02 6 68.4 GR 2.453 96.2 82.6 145.1 36.4 1.1 35.4 1.982 -2.5.0 836.98 79 4.8 .05 .02 2.576 97.5 9.6 2.678 69.1 GR 88.1 88.1 125.7 36.0 837.13 79 5.1 1.9 36.5 2.034 -2.8 .0 99.6 97.9 7.6 2.718 .05 .02 35.6 69.8 GR 2.684 .0 97.9 119.2 2.6 37.6 2.086 -3.1837.29 80 5.0 .02 89.2 11.0 2.691 .05 89.2 129.0 37.9 65.3 GR 2.627 97.7 1.6 37.3 2.047 -2.4 .0 837.44 4.6 77 97.9 89.9 10.9 2.695 .05 .02 65.9 GR 2.635 1.3 37.8 2.045 -2.1.0 89.9 141.1 37.0 4.5 837.59 77 98.0 90.2 10.9 2.699 .05 .02 36.1 66.5 GR 2.643 .0 90.2 157.4 837.74 78 1.1 38.3 2.043 -1.74.4 2.650 98.2 91.3 10.6 2.708 .05 .02 4 78 64.3 GR 1.3 37.9 2.097 -1.8 91.3 147.7 35.9 837.90 76 4.6 .05 .02 4 78 2.650 97.1 86.5 11.6 2.706 86.5 130.6 35.7 62.0 GR 1.5 37.5 2.152 -1.8 838.05 74 4.8



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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		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	100.0 100.0	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 83.0	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 83.3	16.6 2.617	.05	.02	6 8
838.81	76	3.0	.4 44.5			.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	. •	3.0	.6 47.9						2.650	100.0 100.0	7.9 2.627	.05	.02	8
839.11		3.2	.8 49.6						2.650	100.0 100.0	8.0 2.676	.05	.02	8
839.27		3.3	.9 51.4			.0 116.4 197.5			2,650	100.0 100.0	8.1 2.772	.05	.02	8
839.42	77	3.2	.8 47.3			.0 82.9 136.8	-	66.2 GR	2.546	96.3 82.9	16.7 2.685	.05	.02	6 8
839.57	75	3.1	.7 43.1			.0 80.4 136.1				95.7 80.4		.05	.02	6 8

Complex Lithology Results BROADBILL-1 Zone No. 3 28-01-98 AMITY OIL NL SWU SXOU PHIS VCL FVCL RHOMAU SW PHIE RHOMA POR-M HC-M FLAGS DEPTH M GR RXO PHIN RHOB DD SPI SXO RT839.72 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 .05 .02 6 8 .02 6 8 839.88 79 2.9 .9 44.6 1.846 -2.2 .0 90.0 136.7 45.6 68.7 GR 2.197 97.9 90.0 15.5 2.639 .05 .05 .02 8 840.03 80 2.9 1.0 44.4 1.909 -2.0.0 125.3 186.4 46.9 70.1 GR 2.650 100.0 100.0 8.1 2.678 840.18 82 2.9 .7 38.8 1.887 -1.6 .0 128.8 236.7 44.9 72.4 GR 2.650 100.0 100.0 7.2 2.630 .05 .02 8 .02 840.33 82 3.1 .8 38.9 1.844 -2.0 .0 125.7 218.6 44.3 72.9 GR 2.650 100.0 100.0 7.0 2.621 .05 8 .9 38.9 1.801 6.9 2.629 .05 .02 8 840.49 82 3.3 -2.4 .0 122.5 204.3 43.8 73.3 GR 2.650 100.0 100.0 840.64 83 1.2 39.4 1.818 -2.3 .0 121.1 181.4 42.6 73.6 GR 2.650 100.0 100.0 6.7 2.627 .05 .02 8 3.4 840.79 83 1.5 39.9 1.834 -2.3 .0 117.9 165.1 41.5 74.0 GR 2.650 100.0 100.0 6.6 2.624 .05 .02 8 3.6 840.94 79 4.12.1 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 .05 .02 6 1.5 40.8 1.929 -2.2 .0 75.2 101.0 42.9 65.0 GR 2.500 94.5 75.2 17.0 2.656 .05 .02 6 841.10 76 3.9 841.25 74 .9 41.9 1.916 .0 75.2 123.9 41.6 62.1 GR 75.2 18.8 2.658 .05 .02 6 8 3.5 -2.1 2.519 94.4 841.40 1.7 42.1 1.871 .0 72.9 90.6 39.5 63.9 GR 2.399 17.9 2.631 .05 .02 6 8 76 3.9 -1.6 90.6 72.9 841.55 77 2.6 42.3 1.826 75.9 37.3 65.7 GR 76.0 17.0 2.622 .05 .02 6 8 3.8 -1.0 .0 76.0 2.161 76.0 841.71 81 3.8 44.6 1.797 99.5 35.2 72.1 GR 7.3 2.715 .05 .02 4 78 3.9 -.1 110.8 2.650 100.0 100.0 841.86 3.6 44.7 1.862 -.9 .0 70.9 63.7 27.9 64.7 S 2.452 70.9 70.9 17.5 2.651 .05 .02 6 8 80 4.2 842.01 79 4.5 3.3 44.8 1.927 -1.6 4.2 57.4 53.4 20.5 50.0 S 2.649 57.4 57.4 24.7 2.693 .05 .02 842.16 77 3.1 42.5 2.062 .0 66.0 68.9 20.7 50.2 S 2.787 66.0 18.9 2.763 .05 .02 5.1 -2.3 68.9 5 842.31 74 2.8 40.1 2.196 -2.9 74.2 87.7 20.8 50.5 S 2.955 87.7 74.2 14.5 2.842 .05 .02 5.8 .0 842.47 73 .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 5 5.1 5 842.62 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 .05 .02 .02 842.77 72 6.0 .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 .05 2.8 70.4 842.92 61 1.6 37.9 2.136 -2.7 96.1 13.5 35.9 S 2.775 93.2 70.4 20.8 2.761 .05 .02 4.7 843.08 53 34.1 39.1 2.083 -2.28.560.5 17.9 12.5 31.2 GR 2.734 60.5 60.5 24.8 2.736 .05 .02 5.0 .05 68.6 40.4 2.031 -1.8 17.651.8 10.3 11.5 18.8 GR 2.706 32.3 2.711 .02 843.23 44 4.7 51.8 51.8 \$ 843.38 39 68.6 36.6 2.179 -2.5 20.8 48.0 11.8 2.9 12.3 GR 2.787 48.0 48.0 29.1 2.781 .09 .05 7.4 843.53 35 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 .13 .07 10.8 55.0 15.7 2.628 -3.6 3.9 81.7 36.1 . 4 5.4 GR 2.885 81.7 .13 .07 843.69 34 18.9 81.7 11.3 2.878 78.5 57.2 12.5 .07 843.84 37 27.3 15.6 2.638 -3.6 .0 9.1 GR 2.901 78.5 78.5 9.7 2.886 .13 24.6 843.99 40 19.7 1.0 15.6 2.648 -3.6 .0 96.3 336.9 24.7 12.9 GR 2.918 99.2 96.3 8.1 2.894 .13 .07 5 5 .0 95.9 239.6 23.4 17.6 GR 99.2 95.9 .13 .07 844.14 43 20.0 2.1 16.9 2.653 -3.52.959 7.1 2.919 5 844.30 46 19.9 3.2 18.2 2.658 -3.5 .0 96.3 198.6 22.2 22.3 GR 3.004 99.2 96.3 6.2 2.944 .13 .07 .0 100.0 100.0 22.9 844.45 60 9.3 2.1 17.2 2.503 -3.3 41.4 GR 2.853 100.0 100.0 .0 2.786 .13 .07 .07 6 844.60 70 6.5 1.7 21.5 2.277 -3.0 .0 169.9 330.0 26.2 52.6 N 2.587 100.0 100.0 .3 2.677 .13 .13 .07 4 7 844.75 79 3.8 1.3 25.8 2.048 -2.798.1 143.2 29.5 61.7 N 2.650 99.6 98.1 11.3 2.706 4 7 132.9 191.4 15.8 .13 .07 844.91 83 3.7 1.3 34.5 1.968 -1.740.6 S 2.650 100.0 100.0 9.4 2.687 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 4 7 845.06 87 3.6 .13 4 7 845.21 84 3.6 1.2 42.6 1.966 .0 110.1 161.9 24.6 58.1 S 2.650 100.0 100.0 10.3 2.703 .07 7 2.650 100.0 100.0 4 845.36 87 3.4 .9 45.3 1.946 -.1 111.4 181.1 26.1 61.1 S 10.1 2.705 .13 .07 .07 4 7 .13 845.52 90 3.2 .7 48.1 1.926 -.2 113.7 211.5 27.6 64.2 S 2.650 100.0 100.0 9.9 2.708 845.67 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 93 .07 3 845.82 96 3.2 .9 42.5 1.944 -.5 .0 34.0 77.1 S 2.650 100.0 100.0 10.2 2.680 .13 4 .13 .07 1 845.97 100 3.6 1.0 41.7 2.063 -.1 45.6 95.1 N 2.650 100.0 100.0 2.0 2.736 78 1.1 43.2 2.063 141.0 258.5 47.0 93.8 GR 2.650 100.0 100.0 .8 2.735 .13 .07 4 846.12 97 -.1 3.8 846.28 94 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 4.0 .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 2.650 100.0 100.0 .13 .07 8 846.58 96 1.1 47.1 2.083 .0 133.8 252.4 46.5 93.0 GR .9 2.843 4.2

846.73	99	3.8	.6 43.9 2.	0964	.0		44.8	97.1 GR	2.650 100.0 100.0	1.2 2.009	3	7 1		(
846.89	99	3.9	.7 44.6 2.	0576	.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.	0187	.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.	9958	.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.		.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.		.0		48.7	97.7 N	2.650 100.0 100.0	1.0 2.751	.13	.07 1		
848.11	103	5.4	2.2 40.9 2.		.0		46.4	93.4 N	2.650 100.0 100.0	2.5 2.770	.13	.07 2	2	

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Table 1 Table 1 Table 1

Zone No. 3		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	5.4	1.6 38.8 2	.156	8	.0			44.2			100.0		3.9 2.791	.13	.07		
848.41 103	5.4	1.4 41.9 2	.099	7	.0			44.2	95.7 N		100.0		1.7 2.785	.13	.07	_	
848.56 102	4.4	1.2 45.0 2	.042	7	.0			44.2	97.7 S	2.650	100.0	100.0	1.0 2.783	.13	.07	1	
848.72 104	4.7	1.2 48.2 1	.956	3	.0			44.8	98.8 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 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 S	2.650	100.0	100.0	.7 2.739	.13	.07	1 4	
849.17 102	4.7	1.1 47.2 2		2				41.5	92.1 S	2.650	100.0	100.0	3.3 2.733	.13	.07	34	
849.33 104	4.6	1.1 46.1 2		2				38.4	85.9 S	2.650	100.0	100.0	5.7 2.728	.13	.07	34	
849.48 94	5.6	1.3 45.9 2		2				38.0	85.2 S	2.650	100.0	100.0	6.0 2.727	.13	.07	34	
849.63 91	6.9	1.8 47.0 2		1				36.9	82.9 S	2,650	100.0	100.0	7.1 2.725	.13	.07	34	
								35.7	80.6 S		100.0		8.3 2.723	.13	.07	34	
849.78 89	9.4	2.2 48.1 2		.0		65 6	110 6			2.650			7.9 2.714	.13	.07	4	78
849.93 92	10.1	2.5 48.7 2	2.219	.0		67.6	TT8.0	30.7	70.5 S	2.650	92.5	07.0	1.3 2.114	• 13	.07	4	18

+ p.

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	ક	.000
Average SW	ક	.000
Average Vclay	90	.000
Integrated PHI	M	.000
Sum PHI*(1-SW)	M	.000