



TUNA A-5a

FINAL WELL REPORT

Prepared by

Geoservices Overseas S.A.

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1	25-12-2002	Geoservices Unit 95	Base Mudlogging Coordinator	

Section 1

General Well Summary

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WELL DATA

Operator : Esso Australia Ltd
Platform : Tuna
Well name : Tuna A-5a
Country : Australia
Location : Gippsland Basin
Structure : Tuna M-1
Field : Tuna
Permit : Vic/ L9

Location AMG co-ordinates 5 774 225.83 mN 624 233.40 mE

Location local co-ordinates Lat: 38° 10' 16.282" S Long: 148° 25' 5.756" E

Target Local co-ordinates 73.56 mS 2548.42 mW

Profile : Deviated
Reference depth : Rotary Table
RT to Seabed : 90.72 metres
RT above M.S.L. : 31.32 metres
Sea-water depth : 59.40 metres
Proposed total depth : 3221 metres
Actual total depth : 3257 metres
True vertical depth : 1450.68 metres
Spudded on : 10th December 2002
Total depth reached on : 24th December 2002

Drilling Contractor

Drilling Contractor : NABORS ISDL
Rig name : 453
Rig type : Platform

Drilling Phases

Diameter (inch)	From (m)	To (m)	Mud Type
12¼"	218	841	Gel / Seawater
8½"	841	3257	KCl / Glycol / PHPA

Cased Hole

Casing Diameter (inch)	Casing Type	Shoe Depth (m)
20"	Conductor Shoe	163.4 MDKB (Existing)
13 ³ / ₈ "	Surface	218.0 MDKB (Existing)
9 ⁵ / ₈ "	Intermediate	835.0 MDKB
7"	Production	3251.0 MDKB

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MUD LOGGING

Logging Unit Number: 95

Engineers: M. Smith, R. Pereira, M. Boyd, P. Rady

Sampling Interval

Tuna A-5a

Sample Type	Number of sets	Quantity per set	Sampling interval	From (m)	To (m)
Washed and Dried	3	100 grams	10 metres	2850	2920
Washed and Dried	3	100 grams	5 metres	2920	3257

Cuttings Distribution

Company	Washed and Dried Sample Set
Esso Australia	1
Victorian Department of Energy and Minerals	1
Australian Bureau of Resources	1

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WELL SUMMARY

Tuna A-5a is a conventional well designed to enhance well spacing and recovery in the western part of the M-1 reservoir. The well was drilled to a Total Depth of 3257 m MDRT (1450 m TVDRT) in 8½" hole and completed with a single oil completion string of 3½" tubing in 7" production casing.

Tuna A-5a was spudded at 22:45 hours on 10th December 2002 after setting a whipstock in 13³/₈" casing and milling a window from 211m to 218 m. The initial attempt to kick off was unsuccessful and after reaching 293 m and running a multishot survey, the well was plugged back. A second successful attempt to kick off from the 13³/₈" casing window was made at 19:00 hours on 12th December 2002.

The 12¼" kick off steerable assembly drilled to 326 m, with multishot surveys, and was pulled to make up a 12¼" steerable - MWD assembly. The hole was then drilled to the surface casing point of 841m.

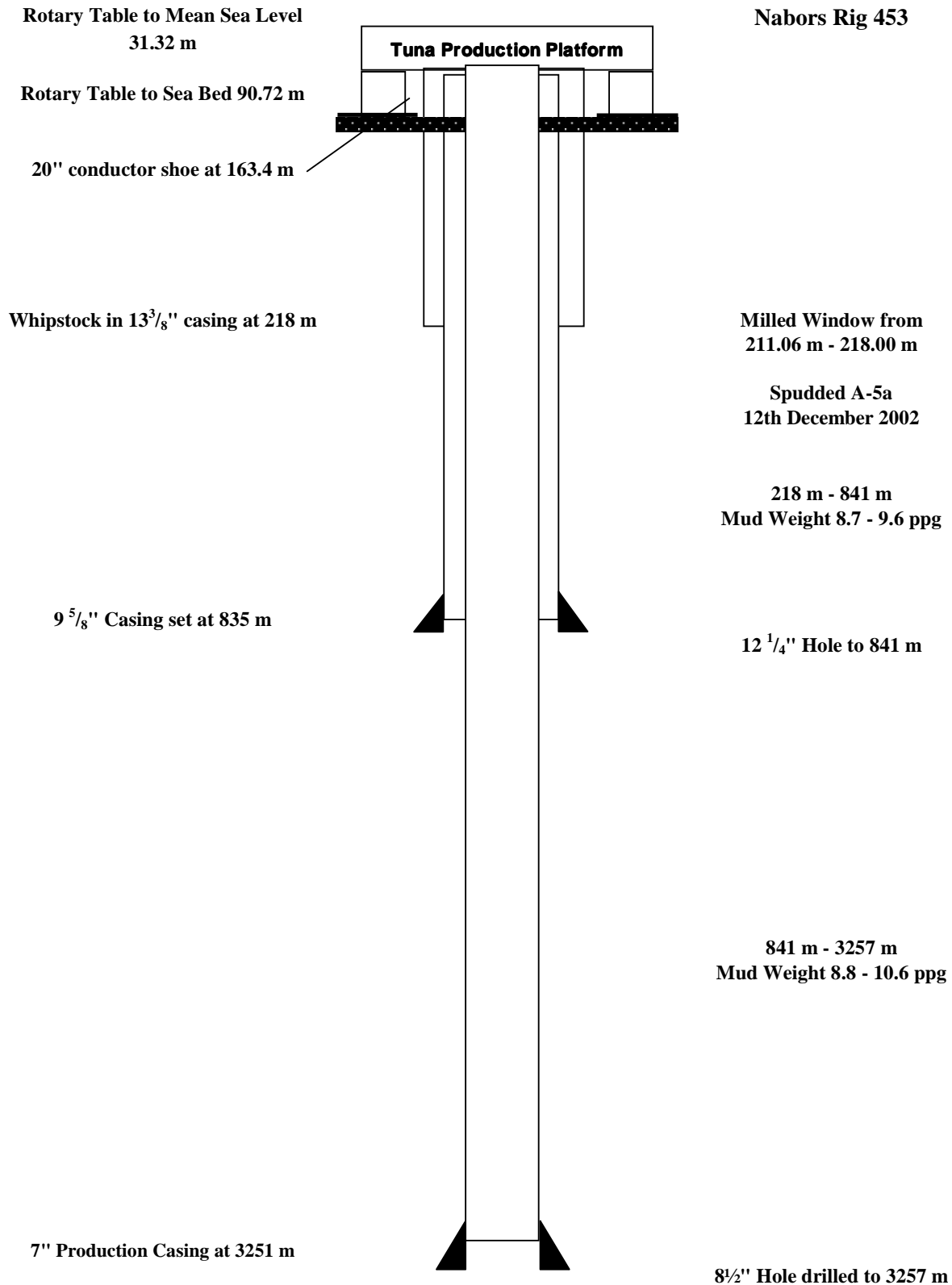
9⁵/₈" casing was run to a depth of 835 m and cemented as per the ESSO program. After dressing the casing, the 'B' section, BOP and riser were installed and tested to ESSO requirements. An 8½" steerable drill out assembly was made up and drilled cement and shoe track from 801 m to 841 m. The well was displaced to KCl / Glycol / PHPA mud, whilst drilling to 847 m. The hole was circulated, while conditioning the mud, before pulling back into the casing to conduct the PIT at 835 m, with 8.8 ppg mud (13.7 ppg EMW) to 547 psi.

The 8½" steerable drill out assembly was pulled to change the bit and set the bend in the motor. The hole was rotary drilled, steered and surveyed from 847 m to 1982 m. The hole was circulated clean before pulling out, to the shoe, to change damaged drilling line. The well was then drilled from 1982 m to 2929 m, where a wiper trip was conducted to the shoe. The well was then drilled to a final depth of 3257 m.

Baracarb-25 and Baracarb-100 were added to the mud system prior to entering the LaTrobe Formation to bridge the pore throats and reduce the likelihood of differential sticking and seepage losses. Finagreen-EBL was added from 3000 m to reduce torque in the Coarse Clastics.

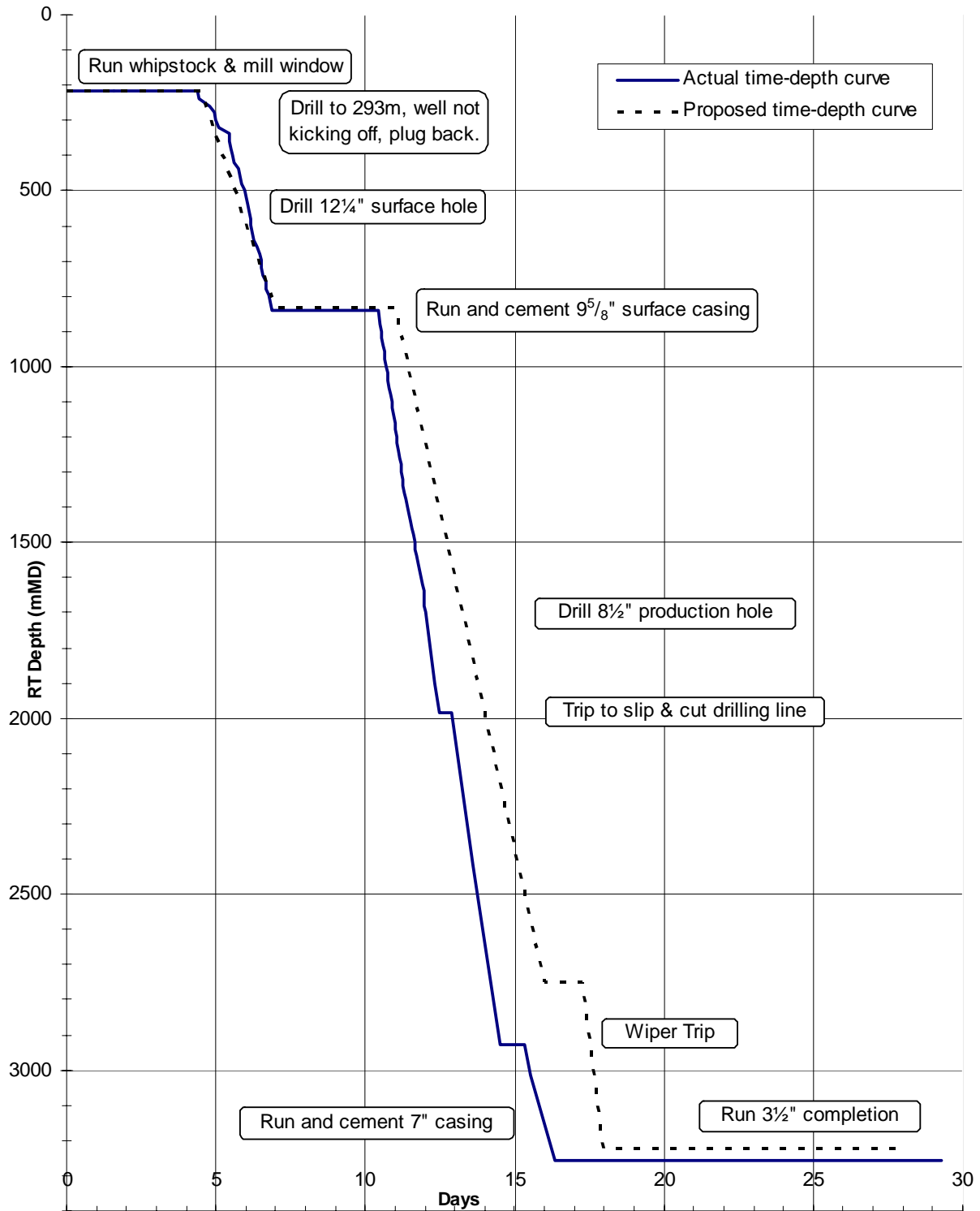
Tuna A-5a reached a Total Depth of 3257 m (1450.68 mTVD) at 17:30 hours on 24th December 2002. The final survey at a depth of 3237.52 m had an inclination of 69.60° and an azimuth of 268.19°. The hole was logged, production casing run and the completion program executed. The well was handed over to production at 16:00 hours on the 6th of January 2003.

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WELL PROFILE

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TUNA A-5a DAY-DEPTH CURVE (measured depth)



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BIT RUN SUMMARY

Bit	Size (")	Type	Jets	In (m)	Out (m)	Hours	Condition
3RR3	12¼"	Hycalog ERA-MPSF	3x24	218	327	3.93	3-3-WT-A-E-E-E-IN-NO-BHA
1RR3	12¼"	Hycalog DS195	5x18	327	841	24.09	1-4-BT-G/S-X-IN-LT-TD
6RR6	8½"	Hughes MX-20D	3x22	841	847	1.81	2-3-WT-A-E-E-E-IN-BT-BHA
7	8½"	Geod S75HVPX	7x15	841	3257	66.60	1-1-CT-N-X-IN-NO-TD

CASING DATA

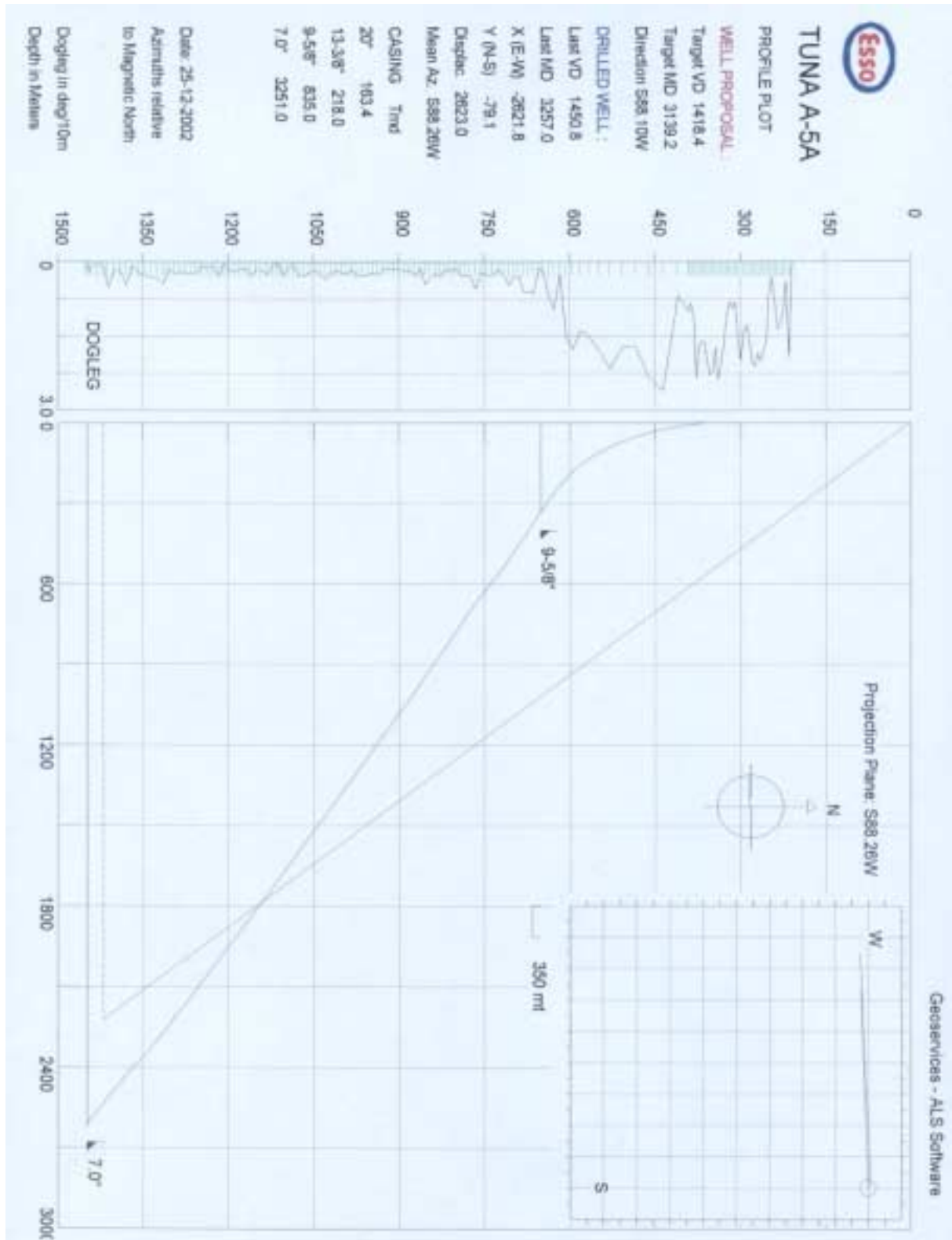
Type	Size (inches)	Weight (lb/ft)	Grade	Thread	Depth (mMDRT)
Conductor	20"	133	K-55	BTC	163.4
Surface	13 ³ / ₈ "	54.5	K-55	BTC	218
Intermediate	9 ⁵ / ₈ "	47	L-80	BTC	835
Production	7"	26	L-80	LTC	3251

CEMENTING DATA

Casing Details	Cement Type	Dry Cement Volume (sx)	Cement Additives	Mix Water (bbls)	Slurry Volume (bbls)	Slurry Density (ppg)	Cement to/from (mMDRT)	Casing Pressure Test (psi)
9 ⁵ / ₈ " LEAD	G	450	Econolite 14.6GAL/ 10 bbls	140	180	12.5	SURFACE - 835 m	1500
9 ⁵ / ₈ " TAIL	G	300		38	64	15.8	SURFACE - 835 m	1500
7"	G	542	HALAD 413L 32GAL/10 bbls SCR-100 2GAL/10 bbls CFR-3L 5GAL/10 bbls NF-5 0.25GAL/10 bbls	66.8	112	15.8	2438 m -3251 m	2500

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WELL DIRECTIONAL PROFILE
(from Geoservices ALS Software)



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WELL DIARY

8th December 2002	Complete plug and abandonment program for Tuna A-5 at 11:00 hours and start Tuna A-5a development well program. Nipple down BOP. Slip on 1700' of new drilling line. Rig up Schlumberger sheave at crown. Nipple up diverter, over board line, ball valve and riser.
9th December 2002	Make up casing scraper assembly with milling assembly attached. Run in hole and tag cement at 233 m. Work scraper, pull out of hole and lay out casing scraper and window milling assembly. Rig up Schlumberger wireline and run in hole with casing correlation log, pull out of hole and run in hole to set EZSV. Pick up and make up whipstock and window milling assembly, run in hole, perform rig service and run gyroscope survey to orient whipstock. Pull out of hole with wireline and set whipstock at 220.1 m. Shear off and mill window in 13 ³ / ₈ " casing from 211.06 m.
10th December 2002	Continue to mill window to 228 m. Window from 211 m to 218 m. Rotate and work mill through whipstock while pumping sweeps, circulate hole clean. Circulate Hi Vis sweep and displace hole to Gel / Seawater mud. Pull out of hole and lay out milling assembly. Pick up and make up 12 ¹ / ₄ " steerable BHA, run in hole. Shallow test MWD tools, run in hole to window, run gyroscope survey to orient BHA to exit window. Wash to 228 m, run gyroscope survey and steer hole to 264 m. Clean out blocked flow line, run gyroscope survey and continue to drill and steer hole to 293 m. Run gyroscope survey.
11th December 2002	Complete gyroscope survey and pull out of hole, change out BHA and run in hole. Run gyroscope survey and pull out of hole. Run in hole with cement stinger on 5" drill pipe to 290 m. Break circulation, mix and pump 70 bbls of 17.0 ppg cement. Displace with seawater and pull out of hole to 199m, to reverse circulate. Pull out of hole and wait on cement. Carry out rig maintenance. Run in hole to tag cement with drill pipe.
12th December 2002	Run in hole and tag cement at 202 m. Drill out cement to 216.5 m and pull out of hole. Run in hole with milling assembly and watermelon mill and mill ledge in casing window to 218.5 m. Circulate clean and pull out of hole. Run in hole with 12 ¹ / ₄ " steerable assembly, orient tool face displace hole to Gel / Seawater mud and kick off. Run gyroscope survey and pull out of hole to check BHA.
13th December 2002	Check BHA and run in hole and continue drilling, run gyroscope survey. Drill, steer and survey 12 ¹ / ₄ " hole to 326 m. Pull out of hole to pick up MWD tools. Run in hole, precautionary wash to bottom and continue to drill, steer and survey hole.
14th December 2002	Drill, steer and survey 12 ¹ / ₄ " hole.
15th December 2002	Drill, steer and survey 12 ¹ / ₄ " hole to total depth of surface hole at 841 m. Circulate hole clean, pump pill and pull out of hole to 302 m. Circulate hole clean and continue to pull out of hole. Lay out BHA and MWD tools. Rig up to run casing. Run in hole with 9 ⁵ / ₈ " casing.
16th December 2002	Rig up cement head and lines, break circulation and circulate hole clean. Howco test lines and mix and pump cement as per program. Displace and bump plugs, wait on cement and cut 9 ⁵ / ₈ " casing. Secure riser, lay out landing joints and nipple down bell nipple, riser, ball valve, annular and mud cross. Rig down cross over spool, riser and tie down flange. Furmanite dress stump. Install casing head and wing valve. Orientate and install casing spool and wing valve, energise and test lower void seal. Install 11" tie down flange and riser. Pick up and install BOP and quick connect.

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17th December 2002	Continue to install BOP and quick connect, bell nipple and return lines. Function test BOP and Koomey. Make up test assembly, run in hole and attempt to land out - NO GO. Rig down flow lines, bell nipple, lift stack, 'B' section and seat plug. Sit down stack and nipple up riser. Howco test annulus, stand pipe valves and stab in valves. Skid rig south. Nipple up return line and bell nipple. Run wear bushing and lay out test assembly. Rig up to run 3½" drill pipe and run in hole with 3½" heavy weight drill pipe and 3½" drill pipe; and lay out side ways. Rig up to make up 8½" steerable assembly and run in hole to 177 m.
18th December 2002	Continue to run in hole from 177 m to 750 m. Pull out of hole with 5" drill pipe from 750 m to 635 m and rack back. Run in hole from 635 m to 801 m. Howco test lines and casing. Drill cement and shoe track from 801 m to 841 m. Drill 8½" hole from 841 m to 847 m, displace to mud while drilling. Rotate and work string while circulate and condition mud. Pull out of hole to shoe at 835 m. Rig up Howco and conduct PIT to 13.7 ppg at 547 psi, with 8.8 ppg mud. Flow check - OK. Pull out of hole and set motor bend to 0.78°. Run in hole to 750 m, conduct slip and cut of drilling line. Run to bottom and drill, slide and survey 8½" hole to 935 m.
19th December 2002	Drill, slide and survey 8½" hole from 935 m to 1474 m.
20th December 2002	Continue to drill, slide and survey 8½" hole from 1474 m to 1982 m. Circulate and condition hole. Pull out of hole to replace damaged drilling line.
21st December 2002	Continue to pull out of hole to inside 9 ⁵ / ₈ " casing, Slip and cut to remove damaged line. Run in hole to 1982 m. Drill, slide and survey 8½" hole from 1982 m to 2418 m.
22nd December 2002	Continue to drill, slide and survey 8½" hole from 2418 m to 2929 m. Conduct wiper trip back to shoe.
23rd December 2002	Complete wiper trip to shoe. Slip and cut drilling line. Conduct rig service. Run in hole. Precautionary wash last 5 stands to bottom. Drill ahead 8½" hole from 2929 m to 3015 m.
24th December 2002	Drill to total depth of 3257 m. Circulate and work pipe to clean hole, while racking back stands to 3101 m. Pull out of hole.
25th December 2002	Continue to pull out of hole to 893 m. Circulate and reciprocate pipe. Run in hole and wash to bottom. Circulate and reciprocate pipe, while pulling out to top of LaTrobe. Circulate and work pipe. Pull out of hole to shoe. Cut and slip drilling line. Pull out of hole and lay out BHA.
26th December 2002	Continue to lay out BHA, break bit and flush motor. Make up new BHA and load logging tools. Change out faulty tool. Run in hole to bottom. Circulate, pull back and pump down spear to deploy tools. Log up from 3250 m to 2800 m. Pull out of hole.
27th December 2002	Continue to pull out of hole. Down load source and lay out tools. Make up wiper trip assembly and run in hole. Precautionary wash last 2 stands to bottom at 3257 m. Circulate and condition mud. Back ream to 2922 m. Circulate and condition mud. Run in hole to 3257 m. While circulating hole clean, rack back a stand per half hour to 3184 m. Pull out of hole.
28th December 2002	Continue to pull out of hole. Rack back BHA and break bit. Pull wear bushing and jet stack. Rig up Weatherford and run 7" shoe track and production casing.
29th December 2002	Continue to run 7" production casing, hung up at 2932 m. Make up TDS and circulate, while working casing string free. Run casing to 3251 m. Rig up cement head and lines. Circulate and condition mud. Howco pressure test lines, mix and pump cement as per program. Displace cement and bump plugs, 2000 psi for 15 minutes. WOC. Lift BOP, set casing slips and rough cut casing.

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30th December 2002	Lay out landing joint. Nipple down BOP and riser. Dress casing stub while changing LPRs from 5" to 3½" pipe rams. Install tubing head. Cameron test 'P' seals to 4000 psi for 5 minutes. Dress UPRs from 4½" to 7" and VBRs from 2⅞" to 5½" VBRs. Cameron pressure test tubing head and 'B' section. Nipple up BOP and riser. Lay out 5" drill pipe side ways from mast.
31st December 2002	Continue to lay out 5" drill pipe side ways from mast. Lubricate rig while rearranging decks with crane. Continue to lay out drill pipe side ways. Cut and slip 80' drilling line. Test top drive. Change out saver sub to 3½" IF. Clear rig floor of excess equipment and make up test assembly. Run in hole and line test - OK. Attempt to test BOP, leak at fastlock. Consult Cameron and service fastlock. Test BOP and choke manifold at 300 psi and 3000 psi - OK. Break and lay out test assembly; run wear bushing. Pick up and make up 7" scraper BHA and run in hole with 3½" heavy weight drill pipe to 196m. Rig service. Continue to run in hole with 3½" drill pipe from 196 m to 700 m.
01st January 2003	Continue to run in hole with 3½" drill pipe from 700 m to 2752 m. Lubricate rig. Top drive downtime. Repair wire fault on TDS service loop. Continue to run in hole with 3½" drill pipe to 3225.8 m. Scrape intervals 2930 m to 2970 m and 3100 m to 3140 m. Cleanout to PBTD at 3225.8 m. Displace to seawater. Space out for gyroscope survey at 3224 m. Make up SDI pump down sub. Rig up Schlumberger sheaves and wireline. Run in hole with SDI gyroscope survey.
02nd January 2003	Continue to run in hole with SDI gyroscope and run survey. Rig down wireline. Howco pressure test casing to 2500 psi for 15 minutes. Bleed back 4½ bbls. Displace well with 8.9 ppg inhibited brine. Pull out of hole with 3½" drill pipe to 196 m. Pull out of hole with 7" scraper BHA from 196 m, lay out heavy weight drill pipe, jars and scraper BHA. Rig up Schlumberger wireline. Schlumberger run in hole with gauge ring and junk basket - NO GO. Pull out of hole and clean junk basket. Attempt to run in hole - NO GO. Pull out of hole and layout same. Install Schlumberger sheave at crown. Pick up and make up 9 joints of 3½" drill pipe and rack in derrick. Rig service. Make up perforating gun assembly. Run in hole to 42 m. Schlumberger install pip tag. Run in hole with 3½" drill pipe from 42 m to 1300 m.
03rd January 2003	Continue to run in hole with guns on 3½" drill pipe from 1300 m to 3149 m. Pull back and space out to 3129 m. Change out bail arms, rig up FOBV, HLW and Schlumberger wireline. Run in hole with GR-CCL and correlate guns at set depth. Pull out of hole. Rig down Schlumberger wireline, FOBV and change out bail arms. Circulate string volume. Howco pressure test lines - OK. Baker drop ball and allow to drop. Howco set MAXR packer at 2000 psi for 15 minutes. Release setting tool with 8k overpull. Rig down Schlumberger sheave from crown. Pull out of hole with 3½" drill pipe. Lay out side ways from 3199 m to 1650 m.
04th January 2003	Continue to lay out side ways from 1650 m to 1550 m. Rig service. Pull out of hole from 1550 m to setting tool. Lay out same. Make up running tool, pull wear bushing, jet BOP and well head, function test BOP. Conduct rig service. Rig up Weatherford and dress rig floor to run 3½" completion. Run in hole with 3½" completion to 1389 m. Unable to continue running 3½" completion due to hydraulic control failure in crane. Rig maintenance.
05th January 2003	Rig maintenance while waiting on crane repairs. Run in hole with 3½" completion from 1389 m to 2511 m. Pick up and make up TRSSV, connect control line, test same to 4000 psi - OK. Run in hole with 3½" completion from 2511 m to 2859 m

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Run in hole with 3½" completion from 2859 m to 2952 m. Pick up and make up hanger, Cameron spiral control line and terminate same. Make up landing joint. Run in hole and land out tubing hanger 65 k SO / WT, 84 k PU / WT. Engage tubing hanger and confirm with 10 k over pull. Cameron test tubing hanger seals to 5000 psi for 15 minutes - OK. Rig to with Howco and test lines to 4000 psi - OK. Pressure tubing to 500 psi for 10 minutes, pressure tubing to 3500 psi. Leak at rig floor; continuously bump pressure and hold for 15 minutes. Set packer, pressure tubing to 2300 psi and lock in. Pressure production annulus to 2000 psi for 10 minutes - OK. Rig down Howco. Back out tubing hanger tool and lay out landing joint. Rig down Weatherford; and Cameron run BPV. Nipple down BOP and riser; remove deluge lines and drip pans. Cameron install compact housing, adaptor flange and Xmas tree - test same. Prepare sub-base and well head area for flow lines. Rig up high pressure hoses and install pump in flange to tree. Reinstate deck grating.

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Section 2

Geological Summary

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FORMATION TOPS

DESCRIPTION	MD (m) RT	TVD (m) RT	TVD (m) SS
Top of Gippsland Limestone	Not Applicable		
Top of Lakes Entrance	2253	1105	1073.7
Top of Latrobe Group	2957	1341	1309.7
Top of Coarse Clastics	2993	1355	1323.7
TOTAL DEPTH	3257	1450.68	1419.36

GEOLOGICAL SUMMARY**GIPPSLAND FORMATION:**

219 m - 990 m

CALCARENITE**CALCARENITE**

Light grey to light olive grey, yellow grey in part, grading to CALCILUTITE in part, common fossil fragments, abundant shell fragments, trace Ooids, trace nodular pyrite, trace glauconite inclusions, occasionally crystalline LIMESTONE, soft to firm, commonly moderate hard aggregates.

990 m - 1380 m

CALCILUTITE grading to MARL**CALCILUTITE:**

Medium grey to light olive grey, green grey in part, argillaceous, grading to MARL in part, trace disseminated pyrite, trace calcite and fossil fragments, occasional Ooids, rare glauconite, soft, sub-blocky.

MARL:

Light grey to light olive grey, dark olive grey in part, argillaceous, grading to Calcareous CLAYSTONE, common Ooids and Foraminifera, common disseminated pyrite, trace fossils fragments, trace carbonaceous specks, soft to firm, occasionally moderate hard, sub-blocky to blocky.

1380 m – 1860 m

MARL**MARL:**

Light grey to light olive grey, dark olive grey in part, argillaceous, grading to CALCAREOUS CLAYSTONE, common Ooids and Foraminifera, common disseminated pyrite, trace fossils fragments and carbonaceous specks, soft to firm, occasionally moderate hard, sub-blocky to blocky.

1860 m - 2010 m

MARL grading to CLAYSTONE**CLAYSTONE:**

Medium light grey to olive grey, green grey in part, calcareous, trace disseminated pyrite, rare Foraminifera, Ooids and fossils fragments, trace silty, soft to firm, sub-blocky to blocky.

MARL:

Olive grey, occasionally dark grey, argillaceous, grading to CALCAREOUS CLAYSTONE, trace disseminated pyrite, trace Ooids, trace to abundant fossil fragments, trace lithic specks, soft to firm, sub-blocky to blocky.

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LAKES ENTRANCE FORMATION:

2010 m - 2957 m

CLAYSTONE**CLAYSTONE:**

Light to medium olive grey, light to medium grey, calcareous, trace silty, common Foraminifera and Ooids, common disseminated pyrite, trace glauconite, trace carbonaceous specks and lithics, soft to firm, moderately hard in part, sub-blocky to blocky.

LATROBE FORMATION:

2957 m - 2993 m

Interbedded CLAYSTONE, SILTSTONE and SANDSTONE**CLAYSTONE:**

Medium to dark olive grey, pale grey in part, rare grey green, common disseminated pyrite, common fossils, firm to moderately hard, hard in part, sub-blocky to blocky.

SILTSTONE:

Light to medium brown, greyish orange in part, grading to very fine SANDSTONE in part, trace glauconite, minor carbonaceous specks, rare disseminated pyrite, soft, amorphous to sub-blocky.

SANDSTONE:

Clear to translucent, fine to medium, occasionally coarse, moderate sorted, sub-angular to sub-rounded, trace weak siliceous cement, minor brown argillaceous matrix in part, minor nodular pyrite, trace nodular glauconite, loose, poor inferred porosity, no fluorescence.

COARSE CLASTICS:

2993 m - 3257 m

SANDSTONE with minor CLAYSTONE**SANDSTONE:**

Clear to translucent, occasionally milky, predominantly medium, fine to very coarse, poorly sorted, sub-rounded to sub-angular, occasionally sub-rounded to rounded, poor cementing, predominantly loose, fair to good inferred porosity, fluorescence.

FLUORESCENCE:

3105 m - 3155 m, Trace to 10% dull yellow to moderate bright pin point fluorescence, slow weak streaming cut, moderately fast crush cut, thin residual ring.

CLAYSTONE:

Light brown to light olive grey, micromicaceous, weakly calcareous, grading to argillaceous SILTSTONE in part, minor disseminated pyrite, predominantly soft to sticky, moderately hard in part, occasionally carbonaceous specks, sub-blocky to blocky, occasional sub-blocky to subfissile, amorphous in part.

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GAS REPORT

Background gas was first observed in the Gippsland formation at around 320 m consisting of Methane (C1) which remained below 4 units for the 12¼" hole section. Drilling of the 8½" hole section was similar with the background gas off at around 1 unit gradually increasing to 2 units where it remained for the rest of the Gippsland formation.

Within the Claystone of the Lakes Entrance formation there was little change in the gas trend or character until 2700 m, after which there was a subtle increase in background gas but gas values still remained below 5 units.

On penetration of the Latrobe formation at 2957 m there was an increase in gas to around 25 units and composition represented as an increase in Ethane (C2) and Propane (C3) gases. During the drilling of the Coarse clastic formation gas levels fluctuated consistently between 1.5 and 50 units peaking at 3131 m with a value of 51.4 units.

After 3131m Gas levels decreased sharply to around 10 units and dropping off to 5 units where levels remained for the rest of the well. The gas composition was Predominantly of Methane (C1) with traces of Ethane (C2) and Propane (C3).

Connection gas was observed between 1200 m to 1900 m of around 1 to 2 units above background gas. After 1900 m with the increase in Mud weight connection gas was inadvertently suppressed.

Localised increases in background gas are attributed to both lithology variations and the penetration rate, which was dependant upon the drilling method (being either rotary or slide) carried out at the time. No CO₂ or H₂S was detected while drilling Tuna A-5a.

Gas peaks through the Latrobe Group

Depth metres	Total Gas units	C ₁ %	C ₂ %	C ₃ %	iC ₄ %	nC ₄ %	iC ₅ %	nC ₅ %
2987	27.6	0.31	0.02	0.01	0.00	0.01	0.00	0.00
3032	3.4	0.05	0.00	0.00	0.00	0.00	0.00	0.00
3073	40.7	0.53	0.03	0.01	0.00	0.00	0.00	0.00
3082	27.6	0.33	0.02	0.01	0.00	0.00	0.00	0.00
3089	13.9	0.17	0.01	0.01	0.00	0.00	0.00	0.00
3100.5	10.4	0.13	0.01	0.00	0.00	0.00	0.00	0.00
3130.5	51.4	0.49	0.06	0.04	0.01	0.01	0.01	0.01
3145	21.9	0.20	0.02	0.01	0.00	0.01	0.00	0.00
3169	8.9	0.07	0.01	0.00	0.00	0.00	0.00	0.00
3188	5.7	0.06	0.01	0.00	0.00	0.00	0.00	0.00
3201	6.4	0.07	0.01	0.00	0.00	0.00	0.00	0.00
3235	4.6	0.05	0.01	0.00	0.00	0.00	0.00	0.00

Revision	Date	Issued by	Approved by	Remarks
1	25-12-2002	Geoservices Unit 95	Base Mudlogging Coordinator	