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Well Completion Report for

Flounder - A11A

Volume 1.

W1231

Esso Australia Ltd.

PETROLEUM DIVISION

23 DEC 1998

WELL COMPLETION REPORT

FLOUNDER A11A (Tukari 1)

VOLUME 1
BASIC DATA

VIC/L5
GIPPSLAND BASIN

ESSO AUSTRALIA LIMITED

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Sheryl Sazenis

OCTOBER, 1998

<p style="text-align: center;">WELL COMPLETION REPORT FLOUNDER A11A</p>

VOLUME 1:
BASIC DATA

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1. WELL DATA RECORD

LOCATION : Latitude: 38° 20' 13.6299" South
Longitude: 148° 24' 41.5509" East
X= 623363.5E
Y= 5755822.4N
Map Projection: UTM Zone 55
AGD 1984 Spheroid
Geographical Location: Gippsland Basin,
Victoria
Field : Flounder

PERMIT : VIC/L5

ELEVATION : 40.8m

WATER DEPTH : 93.0m

TOTAL DEPTH : 4621m (Driller); 4608m (Logger)

PLUG BACK TYPE : Cement Plug

REASONS FOR
PLUGGING BACK : Plugged and Abandoned

MOVE IN : 27/05/98, 0800 hours

SPUDED : 03/06/98, 2215 hours

REACHED TD : 19/06/98, 1445 hours

RIG RELEASED : 26/06/98, 0400 hours

OPERATOR : Esso Australia Ltd

PERMITTEE OR LICENCEE : BHP Petroleum (Australia) Pty Ltd and
Esso Australia Ltd.

ESSO INTEREST : 50%

OTHER INTEREST : BHPP 50%

CONTRACTOR : Atwood Oceanic Platforms

RIG NAME : Rig 19

EQUIPMENT TYPE : Platform

TOTAL RIG DAYS : 31

DRILLING AFE NO : L05288013

TYPE COMPLETION : Not Completed

WELL CLASSIFICATION : Plugged & Abandoned

2. OPERATIONS SUMMARY

1. MOVING/PLUG AND ABANDON

Atwood Oceanics Rig 19 located on the Flounder Platform skidded from the Flounder A-13A at 0700 hours on the 27th May, 1998 and was over the Flounder A-11 well by 0800 hours on the 27th May, 1998. The Flounder A-11 well was plugged with an EZSV set at 1110m. The 9^{5/8}" casing was cut at 1081m and 96 joints were retrieved. A cement plug was spotted from 1110m to 1046m. A 12^{1/4}" milled tooth bit was made up and tripped into the hole for a cleanout run to the top of cement at 1046m. The well was displaced to Polyvis MMH mud prior to the trip out of the hole. The programme to plug and abandon Flounder A-11 was completed at 1400 hours on the 31st May, 1998.

2. DRILLING OPERATIONS 12^{1/4}" Hole

A bullnose, section milling tool (lockomatic) was made up to a new BHA and tripped into the hole. The 13^{3/8}" casing was milled from 1000.4m to 1014m. A trip was made to change the mill knives. Milling continued from 1014m to 1032m. The hole was circulated clean and the milling assembly was tripped out of the hole.

A cement stinger was made up and tripped into the hole to 1045m. The well was displaced to seawater prior to spotting a cement plug from 1045m to 954m. The cement stinger was tripped to 850m prior to circulating the well clean and then performing a squeeze job on the cement. The cement stinger was tripped and then the BOP stack was pressure tested from 300psi to 3000psi

A 12^{1/4}" Security ERAMPSF bit with MX2000 mud motor was made up with a new BHA with MWD and RIH. The top of cement was tagged at 939m and cement was drilled to 1003m whilst displacing to Petrofree mud. At 2215 hours on the 3rd June, 1998 Flounder A-11A (Tukari 1) was spudded after kicking off the cement plug at 1003m. Drilling and steering proceeded to 1018m to ensure kickoff. The well was circulated clean and Phase II PIT was performed (EMW = 13.0ppg) without reaching leak-off. Drilling and steering continued from 1018m to 1279m. A gyro was run whilst drilling ahead from 1279m to 1286m. The hole was circulated clean prior to tripping for a rotary BHA.

A 12^{1/4}" Hughes BD536H PDC bit was made up to a rotary BHA with Tracs and MWD. Drilling proceeded from 1286m to 1824m. A trip was made to pickup a mud motor to correct the hole angle.

The same 12^{1/4}" Hughes BD536H PDC bit was made up to an MX2000 mud motor with Tracs and MWD and tripped into the hole to drill and steer ahead from 1824m to 3934m. A trip for a new BHA was made due to difficulty holding toolface whilst steering and low penetration rates.

A 12^{1/4}" Security TD13L PDC bit was made up with a rotary assembly including Tracs and MWD. Drilling continued from 3934m to 4484m. A bit trip was made due to low penetration rates. At surface the bit was observed to be 'ringed out' but still in gauge. A BOP stack test was performed after the trip out of the hole.

.....(cont'd)

2. OPERATIONS SUMMARY (CONT'D)

A 12¼" Smith M42VPX PDC bit was run into the hole with the same rotary BHA and drilled ahead from 4484m to a Total Depth of 4621m. A wiper trip was made to 3219m. A string reamer was picked up and then run into the hole. At 4220m the string reamer was at 1000m. The drillstring was wash and reamed to TD. The well was circulated clean prior to tripping out of the hole to run wireline logs.

Suite 1 of the electric logging programme was PEX/AIT/NGT. The tools were initially attempted on wireline but would not pass 1270m due to borehole friction (hole angle 68.5°).

Following the electric logging programme open ended drill pipe was tripped into the hole and the well was plugged with 3 cement plugs at: 4621m to 4481m, 4464m to 4328m and 3050m to 2957m.

Flounder A-11A (Tukari 1) was abandoned at 0400hours on 26th June, 1998.

3. CASING DATA

Size	#/FT	Grade	Conn	Interval	Shoe Depth
13.375"	54.5	L-55	Butress	1000.46- 1028.0	1000 (reclaimed)s

4. CEMENTING DATA

DEPTH (M)	JOB DESCRIP	SACKS CLASS 'G'	ADDITIVES	SLURRY VOL	SLURRY DENSITY
1045-954	Casing	61	SCR-100LHALAD413 L	61 (69 bbls seawater)	15.8
4621 - 4481	Plug 1	324	SCR-100LHALAD413 L	67	15.8
4464-4328	Plug 2	324	SCR-100LHALAD413 L	67	15.8
3050-2957	Plug 3	110	SCR-100LHALAD413 L	69	15.8

5. SAMPLES, CONVENTIONAL CORES, SIDEWALL CORES

<u>Interval (m)</u>	<u>Type</u>
1000 - 4621	3 sets of washed and dried cuttings, and one set of unwashed cuttings. Samples from 1003m at 30m intervals. Samples from 4240m at 10m intervals. Samples from 4390m at 5m intervals.

6. WIRELINE LOGS AND SURVEYS

Type	Scale	From (m)	To (m)
<i>21 June 1998</i> <i>Suite 1</i> PEX-AIT-NGT	1:200	4208	4611

7. LOGGING WHILE DRILLING (LWD) LOGS

Type	Scale	From (m)	To (m)
<i>03 June 1998- 20 June 1998</i> GR	1:200	1000	4621

8. TEMPERATURE RECORD

Logging Run	Depth (m)	Max Recorded Temperature °C	Circulation Time (hours)	Time After Circulation Stopped (t) (hours)	Geothermal Gradient (°C/100m)
<i>Suite 1</i>					
PEX-AIT-NGT	4608.0	103	1.10	54.15	0.299

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Figure 1

FLOUNDER FIELD - TUKARI PROSPECT

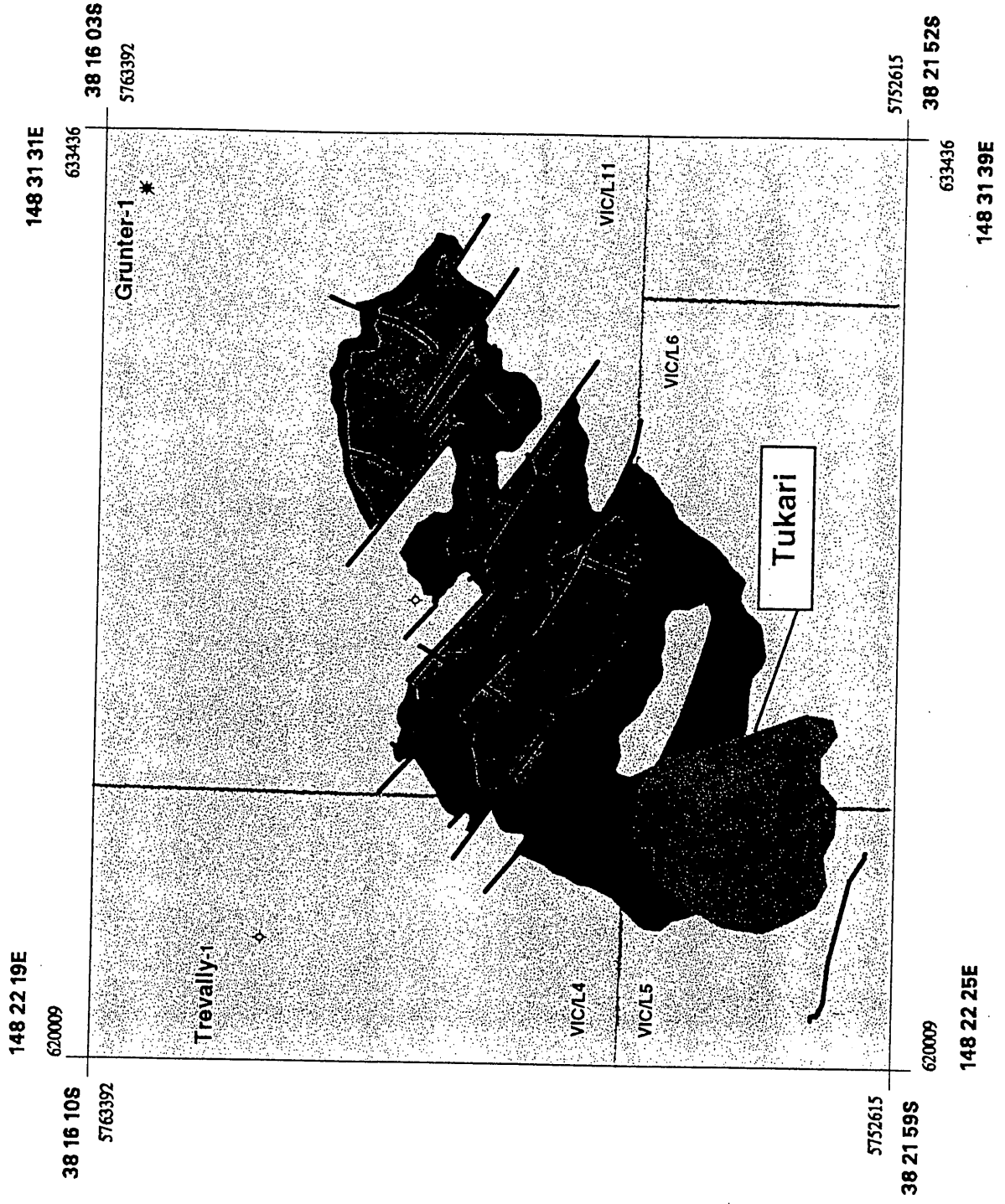
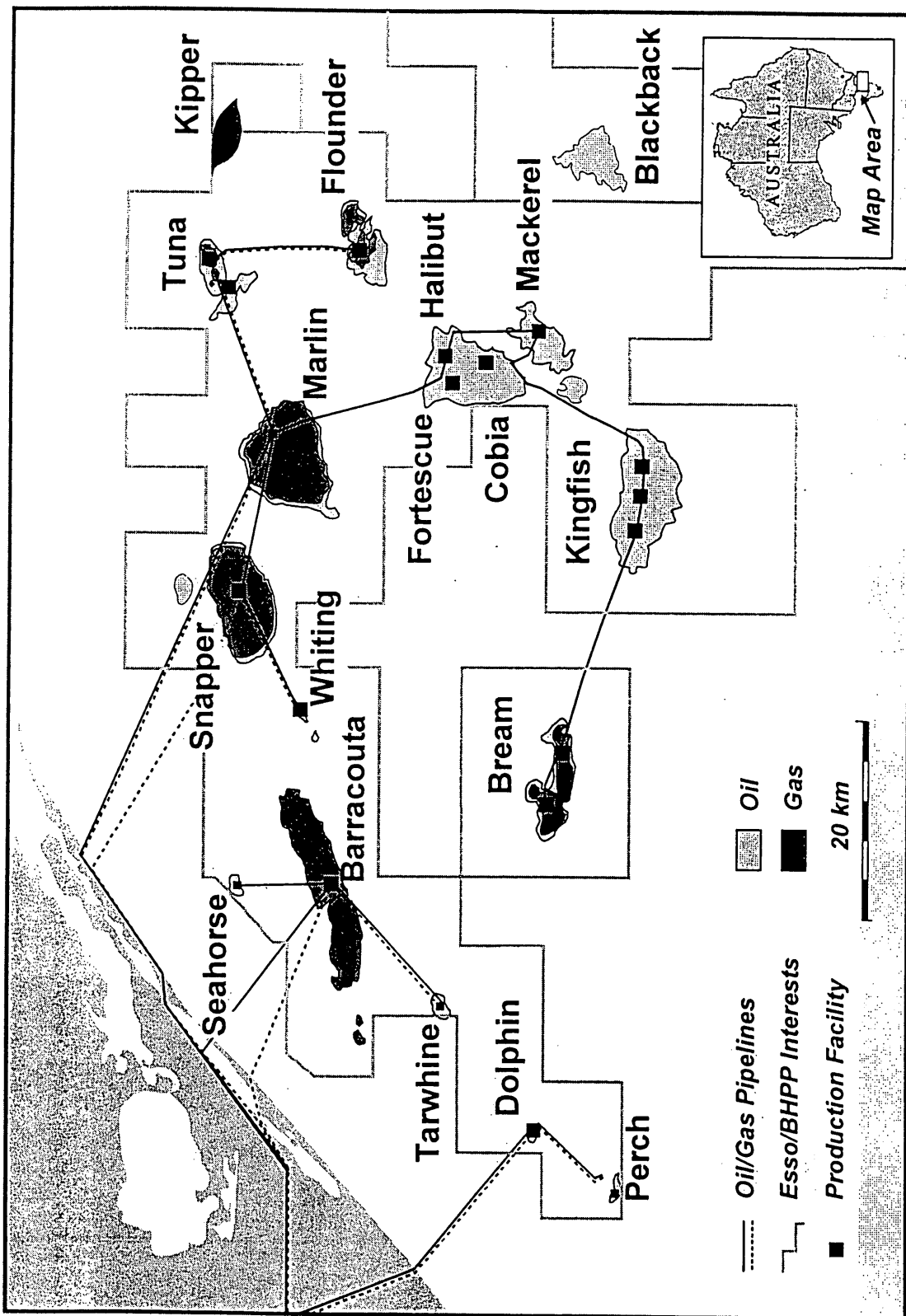


FIGURE 1



Esso Australia Ltd

Flounder A-11A (Tukari)

Time Depth Curve in Measured Depth

Lithology	MD	Formation Evaluation	Casing
	TVDRT 133.8		
Gippsland	Wireline Log above Latrobe gas as required		
	20" @ 210m MD 210m TVD 13-3/8" Kick off window @ 1000m MD 765m TVD		
Lat	Wireline Log Latrobe		
	9-5/8" @ 4500m MD 2110m TVD in success case		
	4396		
	2133		

Target Time: 21 days (dry hole)
 SAFE Time:
 Proposed TD: 4500/5026mMD
 2210/2616mTVDRT
 Ave angle: 68 dropping
 to 29 deg at TD.

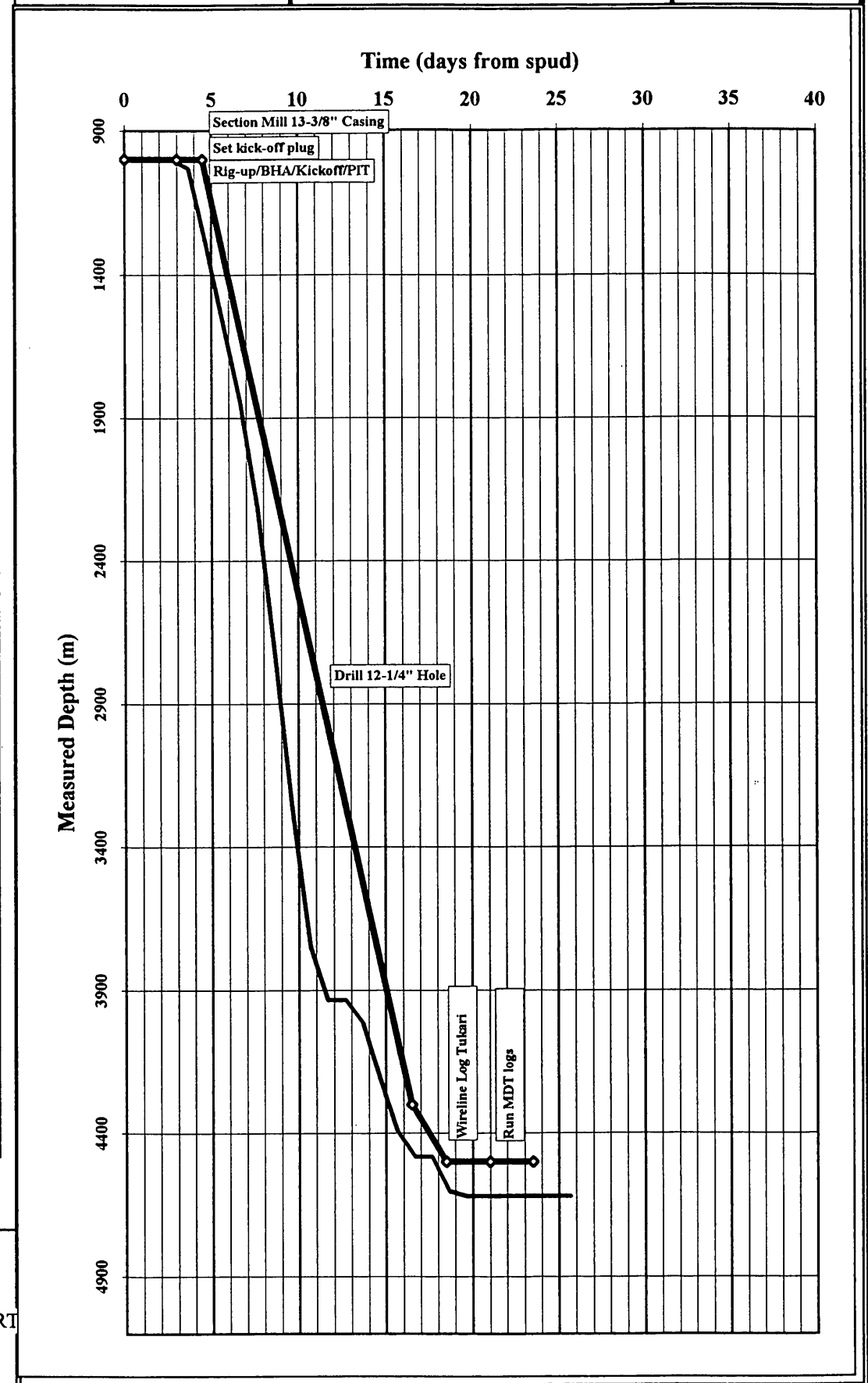


FIGURE 3

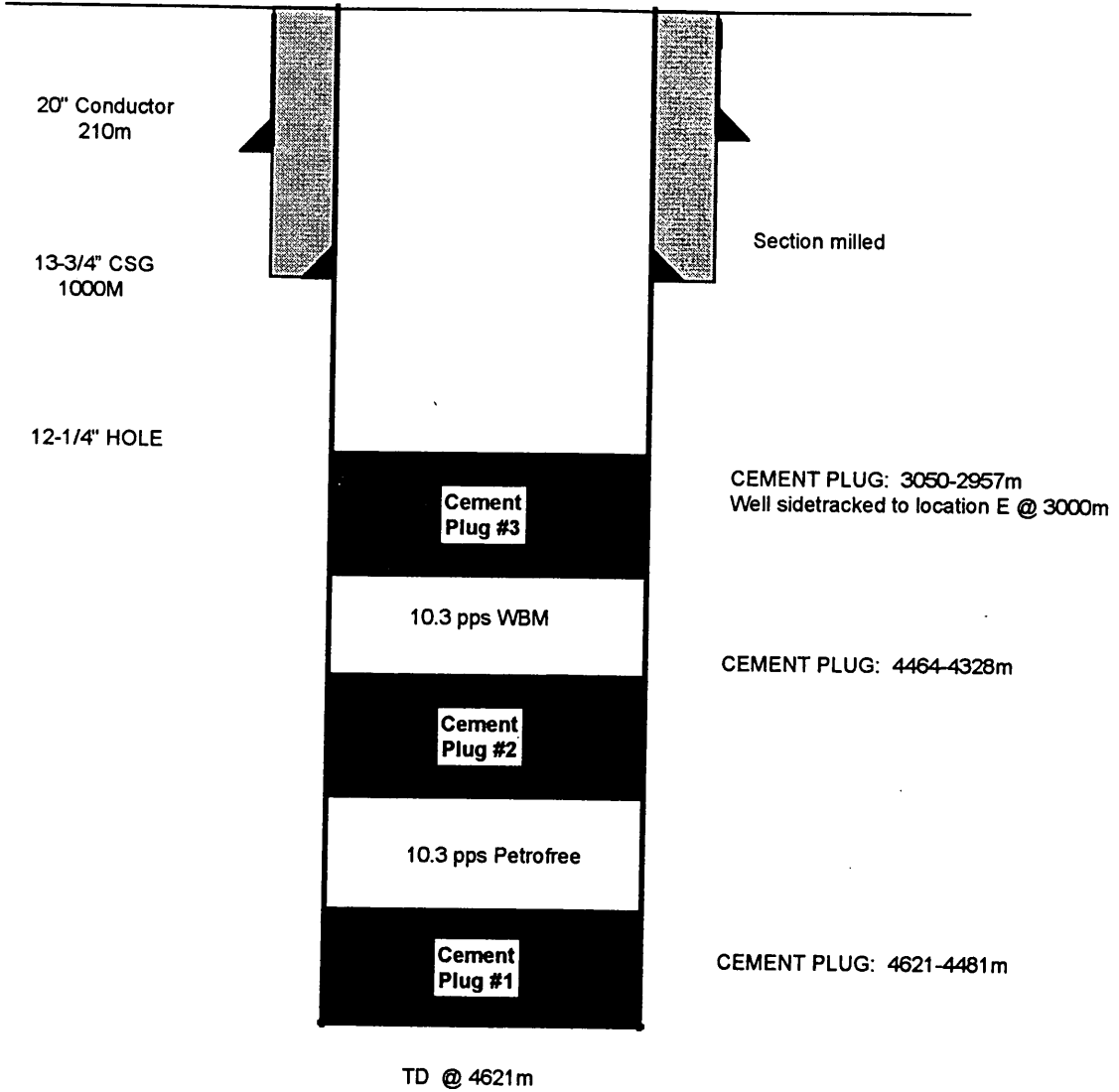
TUKARI P&A SCHEMATIC

RT

MSL @ 41m RKB

WATER DEPTH = 93m

ML @ 134m



NOTE: All depth are from RT

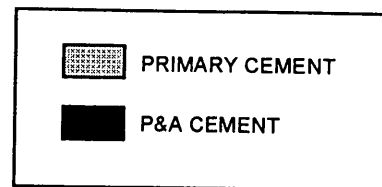


FIGURE 4

APPENDIX I

LITHOLOGICAL(CUTTINGS) DESCRIPTIONS

By Wellsite Geologist: Greg Clota

Flounder A-11A Lithology/Show Descriptions

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Interval	%	Lithology/Show Description
		Geologist onboard from 3934m. 13 ³ /8" casing at 1000m. Drilling with Petrofree mud.
3934-3940	80	<u>CLAYSTONE</u> : Medium to dark grey, slightly to occasionally moderately calcareous, trace carbonaceous specks, micromicaceous in part, smooth, homogeneous, moderately hard, blocky.
	20	<u>LIMESTONE</u> : Light brown grey, medium grey, calcilutite, slightly silty, locally very argillaceous grades to calcareous claystone, trace fine calcareous sand, trace fossil fragments, trace carbonaceous specks, soft to firm in part, massive to blocky, platy in part.
3940-3970	90	<u>CLAYSTONE</u> : As above.
	10	<u>LIMESTONE</u> : As above.
3970-4000	90	<u>CLAYSTONE</u> : Medium to dark grey, olive grey in part, slightly to locally moderately calcareous, slightly micromicaceous, rare disseminated pyrite, firm to moderately hard, massive to blocky.
	10	<u>LIMESTONE</u> : Light to medium grey, calcilutite, locally very argillaceous grades to calcareous claystone in part, slightly silty in part, trace fine calcareous sand, soft to firm, massive.
4000-4030	90	<u>CLAYSTONE</u> : As above.
	10	<u>LIMESTONE</u> : As above.
4030-4060	100	<u>CLAYSTONE</u> : Predominantly as above, trace fossil fragments.
4060-4090	100	<u>CLAYSTONE</u> : As above.
4090-4120	80	<u>CLAYSTONE</u> : medium to dark grey, olive grey, brownish grey, slightly to moderately calcareous, silty in part, occasionally micromicaceous, trace carbonaceous specks, soft to firm, plastic, massive.
	20	<u>LIMESTONE</u> : Light to medium grey, calcilutite, slightly silty, trace fine rounded calcareous sand, trace carbonaceous material, soft, massive to blocky.
4120-4150	100	<u>CLAYSTONE</u> : Predominantly as above, becomes dark grey, brown black.
4150-4180	100	<u>CLAYSTONE</u> : Dark grey, brown black, moderately calcareous in part, slightly silty, slightly micromicaceous, rare disseminated pyrite, homogeneous, firm to moderately hard, blocky to subfissile in part.
4180-4210	100	<u>CLAYSTONE</u> : Medium to dark grey, brownish grey, slightly calcareous, slightly silty in part, trace carbonaceous specks, occasionally fine rounded calcareous sand inclusions, soft to firm, massive to blocky.
4210-4240	100	<u>CLAYSTONE</u> : Dark grey to grey black, brown black, slightly calcareous, slightly silty in part, slightly micromicaceous, homogeneous, waxy texture, firm, blocky.
4240-4250	90	<u>CLAYSTONE</u> : as above.
	10	<u>LIMESTONE</u> : Light to medium grey, calcilutite, slightly silty, trace carbonaceous specks, rare fine calcareous sand, soft to firm, massive.
4250-4260	80	<u>CLAYSTONE</u> : As above.
	20	<u>LIMESTONE</u> : As above.
4260-4270	100	<u>CLAYSTONE</u> : Predominantly as above, becomes slightly to locally moderately calcareous.
	Tr	<u>LIMESTONE</u> : As above.
4270-4280	60	<u>CLAYSTONE</u> : Dark grey, brown grey, slightly calcareous, slightly silty, trace carbonaceous specks, homogeneous, waxy texture, soft to firm, massive to blocky.
	40	<u>LIMESTONE</u> : Very light grey, light brown grey, calcilutite, slightly silty, trace carbonaceous specks, rare fossil fragments, trace fine rounded calcareous sand, soft, massive.
4280-4290	80	<u>CLAYSTONE</u> : As above.
	20	<u>LIMESTONE</u> : As above.
4290-4300	90	<u>CLAYSTONE</u> : As above.
	10	<u>LIMESTONE</u> : As above.
4300-4310	100	<u>CLAYSTONE</u> : Medium dark to dark grey, brown grey, slightly calcareous, slightly silty, trace carbonaceous specks, trace white to light brown very fine calcarenite inclusions, soft to firm, blocky.
4310-4320	100	<u>CLAYSTONE</u> : As above.

Interval	%	Lithology/Show Description
4320-4330	100	<u>CLAYSTONE</u> : Medium dark to dark grey, brown grey, slightly calcareous, slightly silty, trace carbonaceous specks, trace white to light brown very fine calcarenite inclusions, soft to firm, blocky.
4330-4340	100	<u>CLAYSTONE</u> : As above.
4340-4350	100	<u>CLAYSTONE</u> : Predominantly as above, trace light brown cryptocrystalline dolomitic inclusions.
4350-4360	100	<u>CLAYSTONE</u> : Dark grey to brown black, slightly calcareous, slightly silty in part, micromicaceous in part, rare microglauconite, trace very light grey calcilutite inclusions, firm, blocky.
4360-4370	100	<u>CLAYSTONE</u> : Dark grey, brown grey, slightly calcareous, silty in part, trace microglauconite, trace light grey brown crypto-microcrystalline calcite inclusions, soft to firm, blocky, trace dull yellow gold patchy fluorescence.
4370-4380	100	<u>CLAYSTONE</u> : Predominantly as above, trace to common white calcite inclusions.
4380-4390	80	<u>CLAYSTONE</u> : Predominantly as above, trace light brown cryptocrystalline dolomitic inclusions, trace glauconite
	20	<u>LIMESTONE</u> : Light grey, light brown grey, calcilutite, slightly silty, trace carbonaceous specks, soft, massive.
4390-4395	10	<u>SILTSTONE</u> : Dusky red brown, dark brown, very argillaceous grades to claystone, trace lithic fragments, common glauconite, trace fine quartz sand, micromicaceous, trace disseminated pyrite, trace carbonaceous specks, soft, massive.
	80	<u>CLAYSTONE</u> : As above.
	10	<u>LIMESTONE</u> : As above.
4395-4400	80	<u>SILTSTONE</u> : As above.
	20	<u>CLAYSTONE</u> : As above.
4400-4405	90	<u>SILTSTONE</u> : Dusky brown, dark brown grey, locally very argillaceous grades to claystone in part, trace light orange argillaceous inclusions, slightly micromicaceous, common pelletal and microglauconite, trace carbonaceous specks, occasionally trace disseminated pyrite, firm, massive.
	10	<u>LIMESTONE</u> : Light grey, light brown grey, calcilutite, slightly silty, trace carbonaceous specks, soft, massive.
	Tr	<u>SANDSTONE</u> : Clear to translucent, frosted, light brown, very fine to fine, angular, good sorting, clean, trace glauconite/chlorite stained quartz, disaggregated, poor porosity, no fluorescence.
4405-4410	90	<u>SILTSTONE</u> : As above.
	10	<u>CLAYSTONE</u> : Light brown to orange brown in part, slightly silty, trace mica, trace carbonaceous specks, soft, sticky, massive.
4410-4415	90	<u>SILTSTONE</u> : dark brown to brown grey, dusky red brown, very argillaceous, moderately glauconitic, trace light orange brown argillaceous inclusions, trace disseminated pyrite, micromicaceous, soft to firm, massive.
	10	<u>SANDSTONE</u> : Clear to translucent, frosted, fine to medium, angular, moderate to good sorting, clean, trace glauconite, disaggregated, poor porosity, no fluorescence.
4415-4420	100	<u>SILTSTONE</u> : Dusky brown to dusky yellow brown, very argillaceous grades to claystone, trace glauconite in part, micromicaceous, trace lithic fragments, trace carbonaceous specks, soft, massive.
	Tr	<u>SANDSTONE</u> : As above.
4420-4425	100	<u>SILTSTONE</u> : Dusky brown, brown black, locally very argillaceous grades to claystone, slightly microglauconitic in part, trace lithic fragments, slightly micromicaceous, trace fine quartz float, trace light orange brown argillaceous inclusions, firm to moderately hard in part, blocky.
4425-4430	100	<u>SILTSTONE</u> : Predominantly as above, trace nodular pyrite.
4430-4435	100	<u>SILTSTONE</u> : As above.

Interval	%	Lithology/Show Description
4435-4440	100	SILTSTONE: Dark brown, dusky yellow brown, locally becomes very argillaceous grades to claystone in part, trace light grey brown very fine arenaceous inclusions, trace carbonaceous specks, micromicaceous in part, soft, massive. *Abundant Barocarb contamination in samples.
4440-4445	100	SILTSTONE: Dark brown, grey brown, moderately argillaceous, trace glauconitic inclusions, trace lithic fragments, micromicaceous, trace carbonaceous specks, soft to firm, massive.
4445-4450	100	SILTSTONE: Predominantly as above, trace yellow/brown argillaceous inclusions.
4450-4455	100	SILTSTONE: Medium to dark brown, dusky yellow brown, locally very argillaceous grades to claystone, trace pelletal glauconite inclusions, occasionally disseminated pyrite, trace orange brown argillaceous inclusions, soft to plastic in part, massive.
4455-4460	100	SILTSTONE: Dusky brown, grey black, very argillaceous, micromicaceous, trace lithic fragments, trace carbonaceous fragments, rare microglauconite, trace nodular pyrite, trace light grey very fine arenaceous inclusions, soft to firm, blocky.
4460-4465	100	SILTSTONE: Predominantly as above, occasionally medium to coarse angular dark brown stained quartz float.
4465-4470	100	SILTSTONE: Dusky brown, dark brown, very argillaceous, trace nodular pyrite, rare glauconite, micromicaceous, trace carbonaceous specks, trace light grey, grey brown very fine arenaceous inclusions, soft to firm, massive.
4470-4475	100	SILTSTONE: Predominantly as above, locally trace orange brown argillaceous inclusions, trace cryptocrystalline light brown dolomitic inclusions, rare free brown stained medium quartz grains.
4475-4480	100	SILTSTONE: Medium to dark brown, olive grey in part, moderately argillaceous, micromicaceous, trace pelletal glauconite, trace dark brown arenaceous inclusions grades to sandy siltstone in part, soft to moderately hard, sticky in part, massive to blocky.
4480-4485	100	SILTSTONE: As above.
4485-4490	70	SILTSTONE: Medium to dark brown, brown grey, moderately to very argillaceous, occasionally trace glauconite inclusions, trace biotite, trace carbonaceous fragments, soft, massive.
	30	CLAYSTONE: Light grey, light brown grey, micromicaceous, trace carbonaceous specks, waxy texture, smooth, homogeneous, firm, subfissile. *Poor returns from 4484 - 4530m after bit trip.
4490-4495	Tr	SANDSTONE: Clear to translucent, frosted, very coarse, angular, clean, trace pyritic cement, common milky/smoky quartz, disaggregated, fair porosity, no fluorescence.
	70	SILTSTONE: As above.
	30	CLAYSTONE: As above.
4495-4500	10	SANDSTONE: Predominantly as above, becomes medium to coarse grained.
	90	SILTSTONE: Medium dark brown, grey brown, moderately argillaceous, micromicaceous, trace biotite, trace carbonaceous fragments, trace lithic fragments, trace nodular pyrite, trace light grey very fine arenaceous inclusions, soft to firm in part, massive to blocky.
4500-4505	Tr	DOLOMITE: Orange brown, tan, cryptocrystalline to microcrystalline, hard, flinty, blocky.
	100	SILTSTONE: Grey black, brown black, moderately argillaceous, trace carbonaceous fragments, trace disseminated pyrite, trace very fine light brown arenaceous inclusions, trace lithic fragments, soft, massive.
4505-4510	Tr	SANDSTONE: Predominantly as above, becomes coarse to very coarse.
	10	SANDSTONE: Clear to translucent, frosted, medium to coarse, angular to subangular, poor to moderate sorting, trace siliceous cement, trace dolomitic cement in part, trace quartz overgrowths, common milky quartz float, predominantly disaggregated, trace hard aggregates, poor porosity, no fluorescence.
	90	SILTSTONE: Predominantly as above, locally becomes very arenaceous grades to arenaceous siltstone.

Interval	%	Lithology/Show Description
4510-4515	80	<u>SANDSTONE</u> : Clear to translucent, frosted, fine to medium, occasionally coarse, subangular to subrounded, moderate sorting, clean, trace nodular pyrite, trace coarse milky quartz, trace muscovite, disaggregated, fair to good porosity, no fluorescence.
	20	<u>SILTSTONE</u> : As above.
4515-4520	70	<u>SANDSTONE</u> : As above.
	30	<u>SILTSTONE</u> : Predominantly as above, locally micromicaceous, common lithic fragments.
4520-4525	80	<u>SANDSTONE</u> : Clear to translucent, frosted, light grey, medium to coarse, angular to subangular, poor to moderate sorting, clean, trace pyrite nodules, common very coarse milky quartz float, trace rose quartz, disaggregated, good porosity, no fluorescence.
	20	<u>SILTSTONE</u> : Grey brown, moderately to very argillaceous, micromicaceous, trace carbonaceous material, occasionally lithic fragments, soft, massive.
4525-4530	90	<u>SANDSTONE</u> : Clear to translucent, frosted, medium to coarse, angular to subangular, moderate sorting, clean, common coarse milky quartz float, disaggregated, good porosity, no fluorescence.
	10	<u>SILTSTONE</u> : As above.
4530-4535	40	<u>SANDSTONE</u> : Predominantly as above, becomes medium grained, trace nodular pyrite.
	30	<u>SILTSTONE</u> : As above.
	30	<u>CLAYSTONE</u> : Medium to dark grey, olive grey, slightly silty, trace carbonaceous fragments, micromicaceous, moderately hard, blocky to subfissile. * Abundant Barcarb contamination of sample returns from 4530m.
4535-4540	10	<u>SANDSTONE</u> : Predominantly as above, medium grained.
	80	<u>SILTSTONE</u> : As above.
	10	<u>CLAYSTONE</u> : As above.
4540-4545	Tr	<u>SANDSTONE</u> : As above.
	80	<u>SILTSTONE</u> : Grey black, brown black, very argillaceous grades to claystone in part, micromicaceous, trace carbonaceous & lithic fragments, firm to moderately hard, blocky.
	20	<u>CLAYSTONE</u> : As above.
4545-4550	10	<u>SANDSTONE</u> : Clear to translucent, frosted, coarse to very coarse, angular to subangular, moderate sorting, clean, trace nodular pyrite, common very coarse milky quartz float, disaggregated, good porosity, no fluorescence.
	80	<u>SILTSTONE</u> : Predominantly as above, common lithic fragments, mottled texture in part.
	10	<u>DOLOMITE</u> : Orange brown, tan, cryptocrystalline, slightly arenaceous, hard, flinty, blocky.
4550-4555	Tr	<u>SANDSTONE</u> : As above.
	100	<u>SILTSTONE</u> : As above.
4555-4560	Tr	<u>SANDSTONE</u> : As above.
	100	<u>SILTSTONE</u> : As above.
4560-4565	10	<u>SANDSTONE</u> : Clear to translucent, frosted, medium to occasionally coarse, angular to subangular, moderate sorting, clean, trace nodular pyrite, common coarse milky quartz, loose, good porosity, no fluorescence.
	90	<u>SILTSTONE</u> : Grey brown, brown black, very argillaceous, micromicaceous, trace carbonaceous fragments, trace light grey vein calcite inclusions, firm to moderately hard, blocky.
	Tr	<u>DOLOMITE</u> : Orange brown, tan, cryptocrystalline, slightly arenaceous, hard, flinty, blocky.
4565-4570	20	<u>SANDSTONE</u> : Clear to translucent, frosted, medium to occasionally coarse, angular to subangular, moderate sorting, strong dolocalcareous cement in part, occasionally pyritic cement, trace nodular pyrite, common coarse milky quartz, predominantly loose, occasionally hard aggregates, good porosity, trace mineral fluorescence only.
	80	<u>SILTSTONE</u> : As above.
4570-4575	100	<u>SILTSTONE</u> : As above.
4575-4580	10	<u>SANDSTONE</u> : Clear to translucent, frosted, coarse to very coarse, angular to subangular, poor to moderate sorting, trace dolocalcareous cement, rare pyritic cement, common fractured very coarse milky quartz, trace nodular pyrite, disaggregated, occasionally hard aggregates, poor to fair porosity, trace dull yellow gold mineral fluorescence.

Interval	%	Lithology/Show Description
	80	<u>SILTSTONE</u> : As above.
	10	<u>CLAYSTONE</u> : Medium to dark grey, olive grey, slightly silty, trace carbonaceous fragments, micromicaceous, moderately hard, blocky to subfissile.
4580-4585	30	<u>SANDSTONE</u> : Clear to translucent, frosted, medium to occasionally coarse, angular to subangular, moderate sorting, clean, trace nodular pyrite, common coarse milky quartz, loose, good porosity, no fluorescence.
	70	<u>SILTSTONE</u> : Brown black, grey black, moderately argillaceous, micromicaceous, trace disseminated pyrite, trace carbonaceous & lithic fragments, moderately hard, blocky.
4585-4590	10	<u>SANDSTONE</u> : Predominantly as above, becomes medium grained.
	60	<u>SILTSTONE</u> : As above.
	30	<u>CLAYSTONE</u> : Medium to dark grey, olive grey, slightly silty, micromicaceous, trace carbonaceous material, moderately hard, subfissile.
4590-4595	Tr	<u>SANDSTONE</u> : As above.
	90	<u>SILTSTONE</u> : As above.
	10	<u>CLAYSTONE</u> : As above.
4595-4600	20	<u>SANDSTONE</u> : Clear to translucent, frosted, medium to coarse, angular to subangular, poor to moderate sorting, trace siliceous cement, trace kaolinitic matrix, trace coarse milky quartz float, rare glauconite, occasionally quartz overgrowths, disaggregated, poor porosity, no fluorescence.
	80	<u>SILTSTONE</u> : As above.
4600-4605	10	<u>SANDSTONE</u> : As above.
	90	<u>SILTSTONE</u> : Grey black to brown black, very argillaceous, trace lithic fragments, micromicaceous, trace carbonaceous material, occasionally medium brown dolomitic inclusions, trace white calcite inclusions, soft to firm, blocky.
4605-4610	Tr	<u>SANDSTONE</u> : As above.
	100	<u>SILTSTONE</u> : As above.
4610-4615	20	<u>SANDSTONE</u> : Clear to translucent, frosted, medium to coarse, subangular to subrounded, moderate sorting, trace nodular pyrite, trace coarse milky quartz, disaggregated, poor porosity, no fluorescence.
	80	<u>SILTSTONE</u> : As above.
	Tr	<u>DOLOMITE</u> : Tan, light grey brown, cryptocrystalline, slightly silty, banded, moderately hard to hard, blocky.
4615-4621 (Total Depth)	90	<u>SANDSTONE</u> : Clear to translucent, light grey, fine to medium, subangular to subrounded, good sorting, predominantly clean, trace light brown dolomitic cement, trace muscovite, rare glauconite, rare glauconite, trace nodular pyrite, trace coarse milky quartz, disaggregated, poor porosity, trace dull orange mineral fluorescence.
	10	<u>SILTSTONE</u> : Brown grey, locally very argillaceous, trace carbonaceous fragments, micromicaceous, soft to firm, massive.
		Total Depth reached at 14:45 Hours 19th June, 1998.

915466 021

APPENDIX II

SURVEY DATA

ESSO AUSTRALIA LTD.
DEVIATION SUMMARY

WELL NAME: FLOUNDER A-11A (TUKARI 1) EXPLORATION WELL EVENT: EXP. DATE: 07/07/98

WELLBORE SECTION		GENERAL INFORMATION	
DEPTH (m)	OH	KICK OFF DATE	
RIG NAME:	2,910.00	AFE NUMBER	L05288013
DRILLING CONTRACTOR	RIG 19	SPUD DATE	
CALCULATION METHOD	ATWOOD OCEANICS	RIG RELEASE DATE	
CLOSURE DISTANCE (m)	Minimum Curvature	SECTION PLANE	236.32
	3,778.53	CLOSURE DIRECTION	41.34

DEVIATION SUMMARY										
DEPTH (m KB)	TIE IN	ANGLE	AZIMUTH	T.V.D. (m KB)	N/S (-) (m)	E/W (-) (m)	SECTION (m)	DLS (%/30)	BUR (%/30)	TYPE
1,087.10		61.800	218.10	809.20	434.84S	404.86W	593.80	2.69	2.63	MD
1,115.70		63.400	218.80	822.36	454.72S	420.65W	602.21	1.80	1.68	MD
1,144.10		64.800	219.30	834.76	474.56S	436.74W	626.60	1.55	1.48	MD
1,400.30		69.400	221.80	934.44	653.76S	590.18W	853.66	0.60	0.54	MD
1,428.10		69.500	222.60	944.20	673.04S	607.67W	878.91	0.82	0.11	MD
1,457.20		69.400	222.50	954.41	693.11S	626.10W	905.37	0.14	-0.10	MD
1,513.90		69.400	222.90	974.36	732.12S	662.09W	956.96	0.20	0.00	MD
1,741.20		68.000	225.30	1,056.94	884.20S	809.43W	1,163.90	0.35	-0.18	MD
1,769.80		67.900	225.20	1,067.68	902.86S	828.26W	1,189.92	0.14	-0.10	MD
1,798.20		67.900	225.90	1,078.36	921.29S	847.04W	1,215.77	0.69	0.00	MD
2,025.90		72.100	219.00	1,156.30	1079.13S	991.19W	1,423.25	1.02	0.55	MD
2,054.30		71.000	219.00	1,165.29	1100.07S	1008.14W	1,448.97	1.16	-1.16	MD
2,082.60		70.900	219.40	1,174.53	1120.80S	1025.05W	1,474.54	0.41	-0.11	MD
2,111.10		71.100	219.20	1,183.81	1141.65S	1042.12W	1,500.30	0.29	0.21	MD
2,169.00		69.500	217.70	1,203.33	1184.34S	1076.02W	1,552.19	1.11	-0.83	MD
2,481.40		66.700	218.80	1,319.84	1411.96S	1255.43W	1,827.71	0.29	-0.27	MD
2,509.80		66.900	218.20	1,331.03	1432.39S	1271.68W	1,852.56	0.62	0.21	MD
2,538.20		67.100	218.40	1,342.13	1452.91S	1287.88W	1,877.42	0.29	0.21	MD
2,566.60		67.100	218.90	1,353.18	1473.34S	1304.22W	1,902.35	0.49	0.00	MD
2,680.60		67.800	218.90	1,396.90	1555.28S	1370.33W	2,002.80	0.18	0.18	MD
2,709.00		68.000	219.10	1,407.58	1575.73S	1386.89W	2,027.92	0.29	0.21	MD
3,050.20		67.900	220.10	1,535.67	1819.40S	1588.47W	2,330.80	0.08	-0.01	MD
3,078.80		68.100	220.20	1,546.38	1839.67S	1605.57W	2,356.27	0.23	0.21	MD
3,107.20		68.400	220.30	1,556.90	1859.80S	1622.61W	2,381.61	0.33	0.32	MD

ESSO AUSTRALIA LTD.
DEVIATION SUMMARY

WELL NAME: FLOUNDER A-11A (TUKARI 1) EXPLORATION WELL EVENT: EXP. DATE: 07/07/98

DEVIATION SUMMARY										
DEPTH (m KB)	TIE IN	ANGLE	AZIMUTH (°)	T.V.D. (m KB)	N/S (-) (m)	E/W (-) (m)	SECTION (m)	DLS (°/30)	BUR (°/30)	TYPE
3,192.60		67.000	220.00	1,589.30	1920.19S	1673.56W	2,457.50	0.50	-0.49	MD
3,221.30		67.300	219.60	1,600.44	1940.51S	1690.49W	2,482.85	0.50	0.31	MD
3,620.20		67.200	220.80	1,754.70	2221.48S	1927.93W	2,836.25	0.08	-0.01	MD
3,648.70		67.400	220.20	1,765.70	2241.47S	1945.01W	2,861.55	0.62	0.21	MD
3,677.20		67.500	220.80	1,776.63	2261.48S	1962.10W	2,886.87	0.59	0.11	MD
3,705.60		67.700	220.80	1,787.45	2281.36S	1979.26W	2,912.17	0.21	0.21	MD
3,905.40		64.800	219.80	1,867.91	2420.81S	2097.54W	3,087.93	0.46	-0.44	MD
3,933.70		65.000	220.40	1,879.91	2440.41S	2114.05W	3,112.54	0.61	0.21	MD
4,042.30		60.400	220.90	1,929.71	2513.61S	2176.89W	3,205.43	1.28	-1.27	MD
4,076.20		59.000	221.80	1,946.81	2535.58S	2196.22W	3,233.70	1.42	-1.24	MD
4,105.50		58.000	222.30	1,962.12	2554.13S	2212.95W	3,257.90	1.11	-1.02	MD
4,133.00		56.800	221.80	1,976.94	2571.33S	2228.47W	3,280.36	1.39	-1.31	MD
4,161.50		56.100	222.50	1,992.69	2588.94S	2244.41W	3,303.39	0.96	-0.74	MD
4,247.10		53.000	223.20	2,042.33	2640.06S	2291.82W	3,371.19	1.10	-1.09	MD
4,275.70		52.000	223.10	2,059.74	2656.61S	2307.34W	3,393.28	1.05	-1.05	MD
4,314.10		51.400	223.48	2,083.54	2678.55S	2328.00W	3,422.64	0.52	-0.47	MD
4,332.80		51.000	224.40	2,095.26	2689.04S	2338.11W	3,436.87	1.32	-0.64	MD
4,446.00		50.500	224.70	2,166.88	2751.51S	2399.61W	3,522.69	0.15	-0.13	MD
4,475.60	Y	49.700	225.20	2,187.20	2759.08N	2418.23E	3,568.80	0.90	-0.81	LW
4,503.90	Y	49.500	224.80	2,205.60	2774.32N	2433.47E	3,690.30	0.39	-0.21	LW
4,532.40	Y	49.000	225.30	2,223.60	2789.57N	2448.75E	3,711.40	0.66	-0.53	LW
4,560.70	Y	48.800	224.90	2,242.70	2804.62N	2463.86E	3,733.10	0.38	-0.42	MD
4,589.40	Y	48.900	224.40	2,261.50	2820.00N	2479.05E	3,754.70	0.41	0.10	MD
4,621.00	Y	49.000	224.60	2,282.20	2836.99N	2495.75E	3,778.60	0.17	0.09	MD

APPENDIX III

MUD LOG

PE614132

This is an enclosure indicator page.
The enclosure PE614132 is enclosed within the
container PE915466 at this location in this
document.

The enclosure PE614132 has the following characteristics:

ITEM_BARCODE = PE614132
CONTAINER_BARCODE = PE915466
NAME = Mud Log for Flounder-A11A. 1:500
BASIN = GIPPSLAND
ONSHORE? = N
DATA_TYPE = WELL
DATA_SUB_TYPE = MUD_LOG
DESCRIPTION = Mud Log for Flounder-A11A (Tukari-1).
1:500. Formation Evaluation Log. By
Baker Hughes Inteq for Esso Australia
Ltd. June 1998
REMARKS =
DATE_WRITTEN = 19-JUN-1998
DATE_PROCESSED =
DATE_RECEIVED =
RECEIVED_FROM = Esso Australia Ltd
WELL_NAME = Tukari-1
CONTRACTOR = Esso Australia Ltd
AUTHOR =
ORIGINATOR = Esso Australia Ltd
TOP_DEPTH = 1003
BOTTOM_DEPTH = 4621
ROW_CREATED_BY = DH00_SW

(Inserted by DNRE - Vic Govt Mines Dept)

915466 028

APPENDIX IV

LWD LOG(GR)

PE614133

This is an enclosure indicator page.
The enclosure PE614133 is enclosed within the
container PE915466 at this location in this
document.

The enclosure PE614133 has the following characteristics:

ITEM_BARCODE = PE614133
CONTAINER_BARCODE = PE915466
NAME = LWD Log (GR) for Flounder-A11A. 1:200
BASIN = GIPPSLAND
ONSHORE? = N
DATA_TYPE = WELL
DATA_SUB_TYPE = WELL_LOG
DESCRIPTION = LWD Log (GR) for Flounder-A11A. 1:200.
By Halliburton for Esso Australia Ltd.
June 1998
REMARKS =
DATE_WRITTEN = 21-JUN-1998
DATE_PROCESSED =
DATE_RECEIVED =
RECEIVED_FROM = Esso Australia Ltd
WELL_NAME = Flounder-A11A
CONTRACTOR = Halliburton Logging Services Pty Ltd
AUTHOR =
ORIGINATOR = Esso Australia Ltd
TOP_DEPTH = 1000
BOTTOM_DEPTH = 4621
ROW_CREATED_BY = DH00_SW

(Inserted by DNRE - Vic Govt Mines Dept)

915466 031



915466 032

APPENDIX V

COMPOSITE LOG

PE614134

This is an enclosure indicator page.
The enclosure PE614134 is enclosed within the
container PE915466 at this location in this
document.

The enclosure PE614134 has the following characteristics:

ITEM_BARCODE = PE614134
CONTAINER_BARCODE = PE915466
 NAME = Composite Log for Flounder-A11A. 1:200
 BASIN = GIPPSLAND
 ONSHORE? = N
 DATA_TYPE = WELL
DATA_SUB_TYPE = COMPOSITE_LOG
DESCRIPTION = Composite Log for Flounder-A11A
 (Tukari-1). 1:200. Contains
 A1TH-PEX-NGT (TLC) and PEX COMPOSITE
 LOG. By Schlumberger for Esso Australia
 Ltd. June 1998
REMARKS =
DATE_WRITTEN = 21-JUN-1998
DATE_PROCESSED =
DATE_RECEIVED =
RECEIVED_FROM = Esso Australia Ltd
WELL_NAME = Tukari-1
CONTRACTOR = Schlumberger
AUTHOR =
ORIGINATOR = Esso Australia Ltd
TOP_DEPTH = 4230
BOTTOM_DEPTH = 4608
ROW_CREATED_BY = DH00_SW

(Inserted by DNRE - Vic Govt Mines Dept)