Well Completion & Testing Programme

Port Fairy-1 (W1346)

ORIGIN ENERGY PETROLEUM LTD

WELL COMPLETION AND TESTING PROGRAMME

PEP 152

PORT FAIRY 1

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ATTACHMENTS:

PREFACE

The completion activities described in this document are to be managed by Oil Company of Australia Limited (A.B.N. 68 001 646 331), an Origin Limited company, on behalf of the permit operator Origin Energy Petroleum Ltd (OEPL), at the direction of the sole risk partners, Essential Petroleum Resources Limited and Lakes Oil Limited.

This document should be read in conjunction with the Imperial Snubbing Services "Safety Management Plan for the testing of the Port Fairy 01 well"

1. SAFETY

Oil Company of Australia Limited considers safety to be of paramount importance and stresses that safe work practices in concert with efficient, trouble-free completion procedures will enable the operational and reservoir objectives of this project to be met.

The procedures listed in this program form a guide for the completion operations and may need to be modified, in consultation with the OCA Brisbane office and Essential Petroleum Melbourne office, as the work progresses. If circumstances arise where there is a conflict between safety issues and this program, the OCA Drilling Supervisor and the OCA Completions Engineer (if present) and the relevant third party Supervisor should apply judgment and common sense to ensure that safe operations are undertaken as a priority.

1. OCA requires all personnel involved in completion operations to be adequately trained and experienced in the relevant operations. Qualifications of key contractor personnel are to be reviewed prior to project startup and details held on file in the OCA Brisbane Drilling office.
2. All personnel involved in activities associated with the completion must undergo a pre-job induction.
3. The OCA Drilling Supervisor will hold minuted "Safety Meetings" at the well site with all the rig crewmembers and other third party personnel (e.g. Schlumberger Wireline) prior to and during the completion process.
4. Job Safety Analysis (JSA) meetings must be conducted prior to any new or critical operation. Safety meeting minutes are to be transmitted to OCA Brisbane office together with Rig Morning Reports.
5. The work site remains a "Greenfields" site under the sole control of the OCA Drilling

Group.

2. ENVIRONMENT

All operations conducted in the course of the Port Fairy 1 completion and testing operation shall be in accordance with the OCA Drilling Compliance Manual, and the Environmental Management Plan submitted for this well.

3. OBJECTIVE

1. To evaluate the productivity and reservoir fluid type of the Eumeralla Formation, Pebble Point Formation and Timboon Sand Member.
2. Subject to establishing commercial flow, install a final production string, or Plug & abandon the well.

4. ACCOUNT CODE

TBA

5. COST ESTIMATE

A$ 285,000

6. EMERGENCY CONTACT NUMBERS

6.1. Priority Listing

	Name & Position	Work	Home	Mobile
1	OCA Operations Geologist - 24 HRS on call			0419 142 896
2	Ross Naumann Manager-Drilling, OCA	07 3858 0622	07 3420 4150	0413 584 661
3	Ernie Trethowan Drilling-Superintendent, OCA	07 3858 0233	07 3263 9659	0407 692 123
4	Adrian Stallman Senior Completions Engineer	07 3858 0606	07 3870 7709	0427 971 880
5	Asset Manager Onshore Otway Basin, OERL	08 8217 5755	08 8289 4046	0419 821 520
6	Paul Elkington General Manager, OCA	07 3858 0678	07 3858 0617	0418 745 085
7	John Piper General Manager Exploration & Production	07 3858 0681	07 3286 7881	0419 701 115

6.2. OCA/Origin Offices

	OFFICE	Phone:	Fax:
1	OCA/Origin Brisbane	07 3858 0600	07 3369 7840
2	Origin Adelaide	08 8235 3737	08 8235 1851

6.3. Emergency Response Numbers

Port Fairy Area	EMERGENCY SERVICES DIAL 000
MEDICAL	**NUMBER**
Warrnambool Base Hospital	03 5563 1666 (Ryot St)
Port Fairy Medical Clinic	03 5568 1559 (28 Villiers St)
Poisons Information Centre	13 11 26
FIRE	**NUMBER**
CFA	03 5568 1146
POLICE	**NUMBER**
Warrnambool	03 5560 1333 (Lord St)
State Emergency Service	03 5560 1333 (contact Police)
SHIRE	**NUMBER**
Moyne Shire Council	03 5564 7800

6.4. Government & Joint Venture Contact Details

GOVERNMENT	NUMBER
Dept of Natural Resources and Environment 8th Floor, 250 Victoria Parade FITZROY VIC 3065 Kourosh Mehin (contact for January 2002)	Reports to be emailed to: kourosh.mehin@nre.vic.gov.au bruce.armour@nre.vic.gov.au 03 9412 5082 (phone) 03 9412 5156 (fax) 03 9840 1079 (home) 0419 597 010 (mobile)

JOINT VENTURE	NUMBER
Essential Petroleum: Roger Blake	03 9699 3009 (work) 03 9387 3803 (home - week) 03 5236 3246 (home - weekend) 0417 011 872 (mobile) email: rblake@eprl.com.au
Essential Petroleum: Wally Westman	03 9699 3009 (work) 03 5147 2049 (home) 0418 362 788 (mobile) email: wwestman@eprl.com.au
Lakes Oil NL: Rob Annells	03 9629 1566 (work) 03 9787 7623 (home) 0416 130 740 (mobile) email: lakesoil@lakesoil.com.au
Lakes Oil NL: Jack Mulready	03 9629 1566 (work) 03 9840 2760 (home) 0409 006 550 (mobile) email: mulcon@bigpond.com

6.5. Contractor Contact Details

COMPANY	CONTACT	WORK	FACSIMILE	A/H
A & S Amezdroz	Ian Kerr	03 5595 1320	03 5595 1883	0409 797 223
Expertest	Alan Grindley	03 8445 9099	08 8445 9055	
IDFS	Mark Scheide	08 9325 4822	08 9325 1897	0418 913 873
Imperial Snubbing	Chris Baker	03 5143 1685	03 5143 2226	0428 514 012
K & S Freighters	David Whitehead	03 5523 4144	03 5523 5647	0419 829 792
Petroleum Support Services	Chris Annear	08 8723 2082	08 8724 9305	0407 338 228
Schlumberger	Iain MacDougall	08 8354 4322	08 8354 4330	0401 710 091
	Jock Munro	07 4622 2499	07 4622 4033	0419 027 246
Walter J. Melis Earthmoving		03 5562 6259 03 5562 1025	03 5562 6259 03 5562 1025	0419 598 338

7. DISCUSSION

The Port Fairy No 1 well was drilled in January 2002 using the MDC #50 drilling rig & following a successful drilling and logging program, the well was cased and suspended with 7" 23ppf K-55 casing.

Logging and evaluation of the well, identified five zones of interest as follows;

1402m - 1452m	Eumeralla Formation.
1343m - 1359m	Flaxmans Formation.
1218m - 1250m	Nullawarre Greensand Member of the Belfast Mudstone
889m - 898m	Timboon Sandstone member of the Paaratte Formation.
862m - 866m	Pebble Point Formation

Testing was attempted after logs using inflate tools. DST No 1 was a test of the interval 1429m - 1451m in the Eumeralla Formation based on high gas readings on the mud log. The tools plugged with sand seconds after initial opening. The hole in the interval collapsed and the tool string had to be worked free with some difficulty. An unsuccessful attempt to re-set was made at 1378m-1400m.

DST No 2 was run over the interval 860m - 868m to test a sand interval within the lower part of the Pebble Point Formation. Following a preflow of five minutes and a shut-in period of 45 minutes the tool was opened and again the tool string appeared to plug. All three outside recorders had differing charts but the EMP returned the most useful data.

Another attempt was made to test this zone, DST No 3, but a packer ruptured and the open-hole testing program was subsequently abandoned. At this stage a decision was made to case the well and continue further evaluation with a cased hole program.

Based on wireline log interpretation from Crocker Data Processing and geological evaluation of the results of the well, three main zones of interest will be tested as follows.

Test No 1 will perforate 13 m of sand within the Eumeralla Formation over a gross interval from 1402 to 1452 m.

Test No 2 will test a four metre sand interval in the Pebble Point Formation over a gross interval of 816 to 868 m.

Test No 3. If the Pebble Point test achieves a flow of gas a decision will be made to perforate the top three metres of sand in the Timboon Sand Member which gave indications of a nine metre gross interval of gas on the wireline log interpretation.

The programme summarises the Operational procedures to complete the additional testing of this well. The work is to be conducted using an Imperial Snubbing Services rig. Surface & downhole monitoring of each test will be provided by Expertest using a closed chamber flow monitor and Critical Flow Prover.

A VSP survey is to be conducted on the well prior to the arrival of the workover rig. Due to the complexity of possible outcomes, only generic perforating installation & & probable final downhole installation schematics are include with this programme

8. WELL HISTORY

Location - surface	:	38^0 21' 44.5S" 142^0 12' 50.31E"
Permit	:	PEP 152
Basin	:	Otway
Elevation RT	:	9.5 MSL
Elevation GL	:	5 MSL
Well Spudded	:	07:00 10-Jan-2002
Drilling Rig	:	Mitchell Rig 50
Reached TD	:	19-Jan-2002
Total Depth	:	1550 mRT
PBTD	:	1524 mRT
Rig Released	:	12:00 25-Jan-2002
Testing workover	:	March 2002

9. RESERVOIR DATA

Formation	Reference Depth	Pressure	Temp	Source

10. CASING AND HOLE DATA

Hole Size	Depth	Casing Size/WT/Grade	Casing Shoe Depth
311 mm (12-1/4")	821 mRT	9-5/8" / 47ppf / K55 BTC	812mRT
216 mm (8-1/2")	1550 mRT	7" / 23ppf / K55	1536mRT

11. DRILL STEM TEST RESULTS

DST	Formation	Interval (mRT)	FSIP	Temp (°C)	Comments
1	Eumeralla Formation	1429 -1451			Misrun, tools plugged
2	Pebble Point Fm.	860 - 868			MAB, Plugged on opening for main flow, NGTS
3	Pebble Point Fm.	859 - 868.9			Misrun, packers ruptured

12. PROPOSED PERFORATIONS

Formation	Interval (mRT)	Size	Type	Spf	Ø	Gm
Eumeralla	1402.0 - 1406.0 1443.0 - 1452.0	2.1/8"	Enerjet	6	0	22.0
Pebble Point	862.0 - 866.0	2.1/8"	Enerjet	6	0	22.0
Timboon Sand	889.0 - 892.0	2.1/8"	Enerjet	6	0	22.0

13. CASED HOLE LOGS - *PROPOSED*

Log	Interval	Company	Date
Velocity Shoot	1500m to TOC	Schlumberger	

14. PROCEDURE

Note:
a) Safety meetings must be held at the appropriate times throughout the following procedures.
b) The workover rig is not to be moved onto the well site until the Drilling Supervisor is present.
c) Fluids are only to be discharged into the drilling sump - they are not to be discharged elsewhere onto the well site.
d) The well site is to be cleaned up and restored as soon as is practicable after this procedure.
e) The OCA Drilling Supervisor will formally hand over the well to the production supervisor when the rig has moved off location and the lease is cleared of all equipment and rubbish using the "Handover / Handback - Gas Well" form.

Stage I -Conduct VSP survey, install B section wellhead.

1. Move crane onto location and rig up. Check for pressure in 9-5/8" / 7" annulus.
2. Hold safety meeting outlining overall workover scenario, designated smoking / hot work areas, emergency phone numbers, safety board location, designated first aiders, emergency muster point and location of extinguishers and first aid kits.
3. Conduct VSP survey with Schlumberger.
4. Trim and bevel 7" casing stub. Use crane and install Cameron tubing spool 11" 3M x 7-1/16" 3M complete with secondary seals and 2-1/16" 3M side outlets as per attached wellhead diagram installation schematic. Rig in to test port on bottom flange and pressure test seals to 3000 psi for 15 minutes. Bleed off pressure.

   Note: a) Cut off casing 4-3/4" above face of casing head flange.
   b) Bevel inside and outside of casing stub.

Stage II - Conduct testing workover

Perforate and test Eumeralla Formation

5. Move in Imperial Snubbing Unit onto location and rig up.

6. Hold safety meeting outlining overall workover scenario, designated smoking / hot work areas, emergency phone numbers, safety board location, designated first aiders, emergency muster point and location of extinguishers and first aid kits.

7. Take on 200bbls water. Mix 2% KCl (7lb/bbl).

8. M/U flare line to flare pit and secure.

9. Nipple up 7-1/16" 3M BOP's fitted with 2-7/8" pipe rams. Make up 2-7/8" EUE landing joint to hanger. Land hanger in spool and screw in lock-down screws. Pressure test pipe rams to 3,000 psi for 15 minutes and annular preventor to 1500 psi for 10 minutes against landing joint. Bleed off pressure. Back out lock-down screws, remove landing joint and hanger. Close blind rams, pressure test blind rams to 3,000 psi against casing for 10 mins. Bleed off pressure. Back out lock-down screws, install landing joint and remove hanger.
   Note: a) Ensure tubing spool annulus outlet valve remains open throughout the pipe and annular tests and casing head valve is open during the blind ram test.

10. Clean, tally, strap and drift 2-7/8" PH-6 tubing work string.

11. Make up BHA as follows: -

    - 6-1/8" mill.
    - 7" Casing scraper
    - Bit sub
    - Crossover
    - 2-7/8" PH-6 workstring

12. RIH approximately 160 joints of 2-7/8" PH-6 workstring tubing. Tag and record PBTD.

13. R/U to circulate well. Displace well to 2% KCl taking returns to water pit.

14. R/D circulating equipment.

15. Trip out and lay out bit and scraper.

16. Make up BHA as follows (from bottom up):
    - 2-7/8" EUE collar/WLRG
    - 2-7/8" EUE XN nipple, 2.313" profile, 2.205" NoGo. (With PXN plug installed)
    - 2-7/8" EUE x PH-6 crossover
    - 1 joint 2-7/8" PH-6 tubing
    - 2-7/8" PH-6 x EUE crossover
    - 2-7/8" EUE Halliburton PLS mechanical set packer (40,000# tension release)
    - 2-7/8" EUE XO/D/A sliding sleeve (closed). Function test prior to RIH.
    - 2-7/8" EUE x PH-6 tubing

    Note: a) Accurately strap all equipment prior to RIH.
    b) Drift all tubing components and measure and record OD and ID of all accessories.
    c) Refer to recommended make up torques for 2-7/8" EUE and PH-6

17. RIH on approximately 144 joints of 2-7/8" PH-6 tubing. A water cushion of 150m will be run. Space out to place XN nipple at 1390 mRT with tubing at an appropriate working height above BOPs.

18. Set packer. With last movement upwards, apply 1/3rd RH turn at the packer while setting down. Slack off 15,000# onto packer. Pick up to confirm packer is set. Land tubing in slips with 15,000# slackoff on packer.

19. R/U Expertest slickline. RIH and remove PXN prong and plug from XN nipple in tailpipe. R/D slickline..

20. Check fluid level in annulus, pick up and tubing and land in slips with tubing in neutral.

21. Install test tree & rig into choke manifold to flow and test well.

22. R/U Schlumberger with full grease injection lubricator. RIH 2-1/8" Enerjet, 6spf, 0^0 ∅, RDX, 22.0gm charge guns with SAFE detonators to perforate the Eumeralla formation, 1402 - 1406mRT, 1443 - 1452mRT. Correlate on depth using the GR-CCL tool matched to open log, Schlumberger PEX HALS NGT, 19-01-02. If multiple runs are required then intervals should be shot from the bottom up.

23. Monitor flow as follows.

    a) Record data initially with Expertest closed chamber-recording system.

    b) Open test to flow prover and record pressure and temperature until stable. Flow Prover plate should be small enough to allow pressure to stabilize quickly.

    c) Run in hole with gauge and log pressure and temperature opposite perforations, (or immediately below), through flow period and build up

Kill well and proceed with completion programme

24. Mix 200bbls KCl to 50psi above reservoir pressure (as determined from buildup test)

25. R/U Expertest slickline. RIH and open SSD. R/D Expertest.

26. R/U and reverse circulate well dead. Confirm well is dead before proceeding.

27. Set down weight on packer, apply RH torque to packer and pickup to unset. POOH 2-7/8" PH-6 tubing and BHA. Lay out BHA, check condition of packer.

28. If well has flowed hydrocarbons at > 0.5mmscfd then the testing programme may be suspended to allow further testing of this section. A supplementary programme for the final downhole installation will be issued at this point.

Abandon Eumeralla formation, perforate and test Pebble Point formation

29. R/U Schlumberger with full grease injection lubricator. RIH and set bridge plug at ~1400mRT. Correlate on depth using the GR-CCL tool matched to open log, Schlumberger PEX HALS NGT, 19-01-02. Set bridge plug, R/D Schlumberger.

30. Close blind rams, pressure test bridge plug, 3000psi for 15 minutes.

31. Make up BHA as follows (from bottom up):

- 2-7/8" EUE collar/WLRG
- 2-7/8" EUE XN nipple, 2.313" profile, 2.205" nogo. (With PXN plug installed)
- 2-7/8" EUE x PH-6 crossover
- 1 jont 2-7/8" PH-6 tubing
- 2-7/8" PH-6 x EUE crossover
- 2-7/8" EUE Halliburton PLS mechanical set packer (40,000# tension release)
- 2-7/8" EUE XO/D/A sliding sleeve (closed). Function test prior to RIH.
- 2-7/8" EUE x PH-6 tubing

Note: a) Accurately strap all equipment prior to RIH.

d) Drift all tubing components and measure and record OD and ID of all accessories.

e) Refer to recommended make up torques for 2-7/8" EUE and PH-6

32. RIH on approximately 88 joints of 2-7/8" PH-6 tubing. A 420m-water cushion will be run. Space out to place XN nipple at 850 mRT with tubing at an appropriate working height above BOPs.

33. Set packer. With last movement upwards, apply 1/3rd RH turn at the packer while setting down. Slack off 15,000# onto packer. Pick up to confirm packer is set. Land tubing in slips with 15,000# slack off on packer. R/u test tree.

34. R/U Expertest slickline. RIH and remove PXN prong and plug from XN nipple in tailpipe. R/D slickline.

35. Check & monitor fluid level in annulus.

36. R/U Schlumberger with full grease injection lubricator. RIH 2-1/8" Enerjet, 6spf, 0^0 ∅, RDX, 22.0gm charge guns with SAFE detonators to perforate the Pebble Point formation, 862.0 - 866.0mRT. Correlate on depth using the GR-CCL tool matched to open log, Schlumberger PEX HALS NGT, 19-01-02. If multiple runs are required then intervals should be shot from the bottom up.

37. Flow and test well as per **STEP 23.**

38. If Pebble Point formation flows gas, proceed with the programme noting the following contingency

"If the test on the Pebble Point formation is successful an option under consideration is to complete the well as a tandem producer to allow for perforation and testing of the Timboon formation after the final completion has been run and the rig is off location."

If there is no flow, prepare to Plug & Abandon well. A supplementary procedure will be issued in this event

Perforate and test Timboon Sand member

39. R/U Schlumberger with full grease injection lubricator. RIH 2-1/8" Enerjet, 6spf, 0^0 ∅, RDX, 22.0gm charge guns with SAFE detonators to perforate the Timboon Sand member, 889.0 - 892.0mRT. Correlate on depth using the GR-CCL tool matched to open log,

Schlumberger PEX HALS NGT, 19-01-02. If multiple runs are required then intervals should be shot from the bottom up.

40. Flow and test well as per **STEP 23.**

Stage III - Final Completion / Abandonment

41. The final downhole completion will be advised on conclusion of all testing activities. This could include a full Plug & Abandonment of the well. - A supplementary procedure will be issued.

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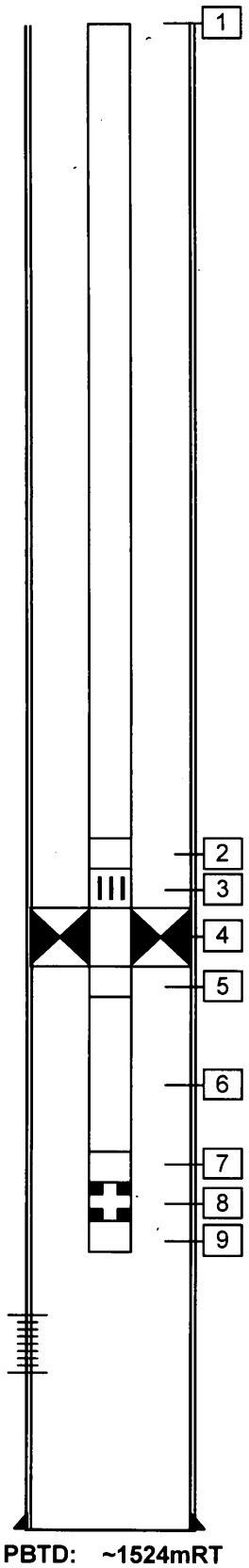
Oil Company of Australia

Downhole Installation Diagram

(Perforate and test Eumerella formation)

Appendix 1

Well: Port Fairy #1



PBTD: ~1524mRT

Item No.	Description	Length (m)	Depth (m RT)	Min ID (in)
1	Appox 144 joint 2-7/8" Hydril PH-6 tubing			2.441
2	2-7/8" Hydril PH-6 x EUE crossover			
3	2-7/8" EUE X/A/D/O sliding sleeve			2.313
4	2-7/8" EUE Halliburton PLS mechanical set		~1380	
	packer, 40,000# tension release			
5	2-7/8" EUE x Hydril PH-6 crossover			
6	1 joint 2-7/8" Hydril PH-6 tubing			
7	2-7/8" Hydril PH-6 x EUE crossover			
8	2-7/8" EUE XN nipple, 2.313" profile, 2.205" nogo			2.205
9	2-7/8" EUE collar/WLRG			
	End of tailpipe		~1390	

PERFORATIONS *(Proposed)*		Gun		Charges			
Formation	Interval (m RT)	Size	Type	SPF	Type	Ph	gm
Eumerella	1402.0 - 1406.01443.0 - 1452.0	2-1/8	EJ	6	RDX	0	22.0

Surface Casing	9-5/8" / 47ppf / K55 BTC		Shoe @ 812mRT
Production Casing	7" / 23ppf / K55		Shoe @ 1536mRT
Cementing Details			
Remarks			
String Weight Calculated		**Actual**	

Wellsite Supervisor				Not to Scale	
Date of Installation				Proposed	X
Drafted by	A Stallman	Date:	06-Mar-02	Re-Completion	
Checked by		Date:		Completion	

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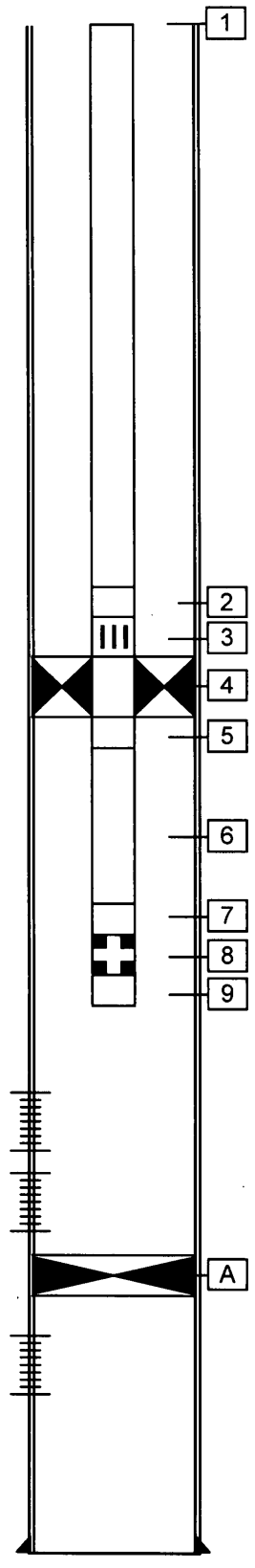
Oil Company of Australia

Downhole Installation Diagram

(Perforate and test Pebble Point / Timboon)

Appendix 2

Well: Port Fairy #1



PBTD: ~1524mRT

Item No.	Description	Length (m)	Depth (m RT)	Min ID (in)
1	Approx 88 joints 2-7/8" Hydril PH-6 tubing			2.441
2	2-7/8" Hydril PH-6 x EUE crossover			
3	2-7/8" EUE X/A/D/O sliding sleeve			2.313
4	2-7/8" EUE Halliburton PLS mechanical set		~840	
	packer, 40,000# tension release			
5	2-7/8" EUE x Hydril PH-6 crossover			
6	1 joint 2-7/8" Hydril PH-6 tubing			
7	2-7/8" Hydril PH-6 x EUE crossover			
8	2-7/8" EUE XN nipple, 2.313" profile, 2.205" nogo			2.205
9	2-7/8" EUE collar/WLRG			
	End of tailpipe		~850	
A	7" permanent bridge plug		~1400	

PERFORATIONS *(Proposed)*		Gun		Charges			
Formation	Interval (m RT)	Size	Type	SPF	Type	Ph	gm
Eumerella	1402.0 - 1406.01443.0 - 1452.0	2-1/8	EJ	6	RDX	0	22.0
Pebble Point	862.0 - 866.0	2-1/8	EJ	6	RDX	0	22.0
Timboon Sand	889.0 - 892.0	2-1/8	EJ	6	RDX	0	22.0

Surface Casing	9-5/8" / 47ppf / K55 BTC		Shoe @ 812mRT
Production Casing	7" / 23ppf / K55		Shoe @ 1536mRT
Cementing Details			
Remarks			
String Weight Calculated		**Actual**	

Wellsite Supervisor				Not to Scale	
Date of Installation				Proposed	X
Drafted by	A Stallman	Date:	06-Mar-02	Re-Completion	
Checked by		Date:		Completion	

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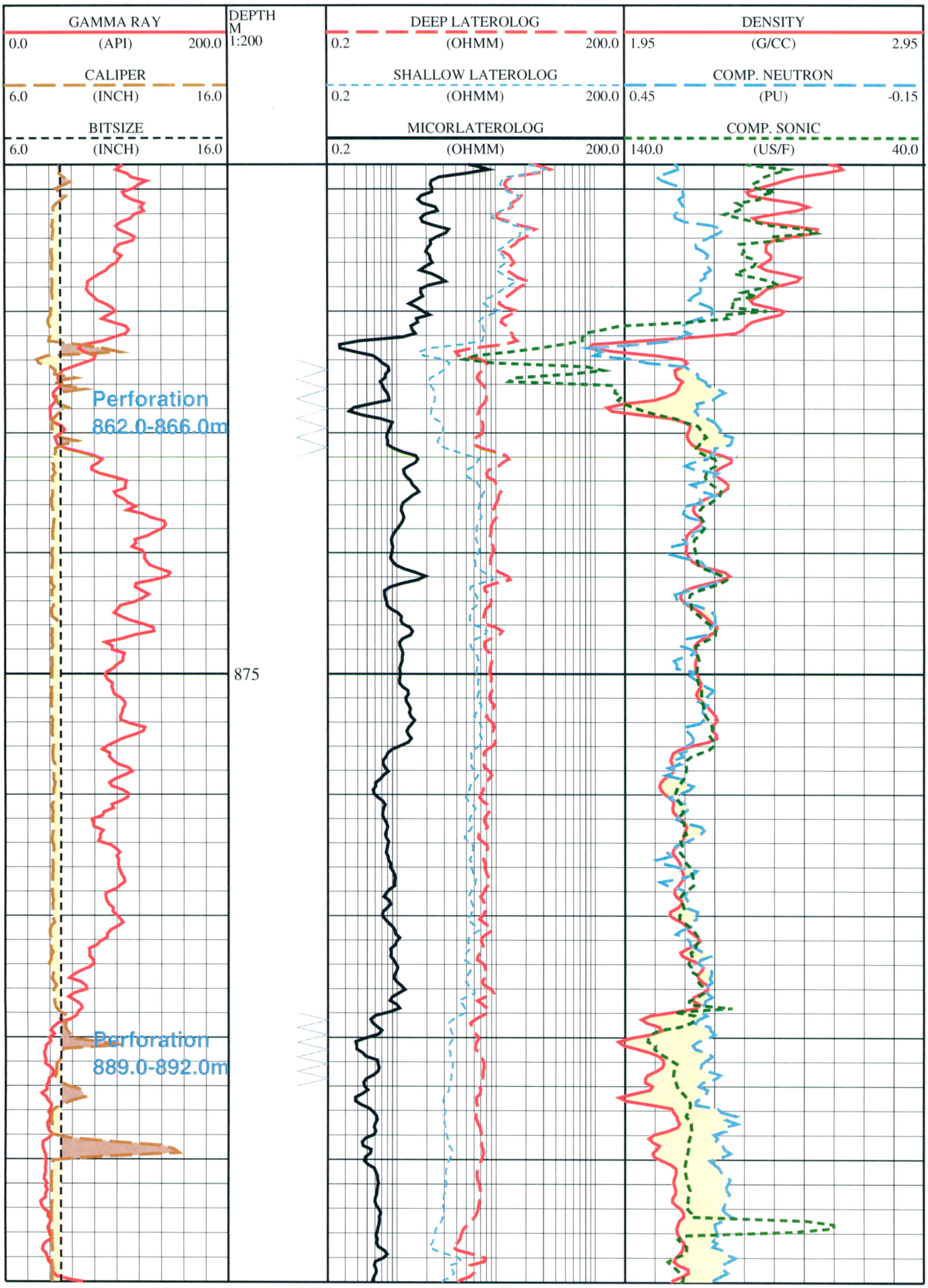

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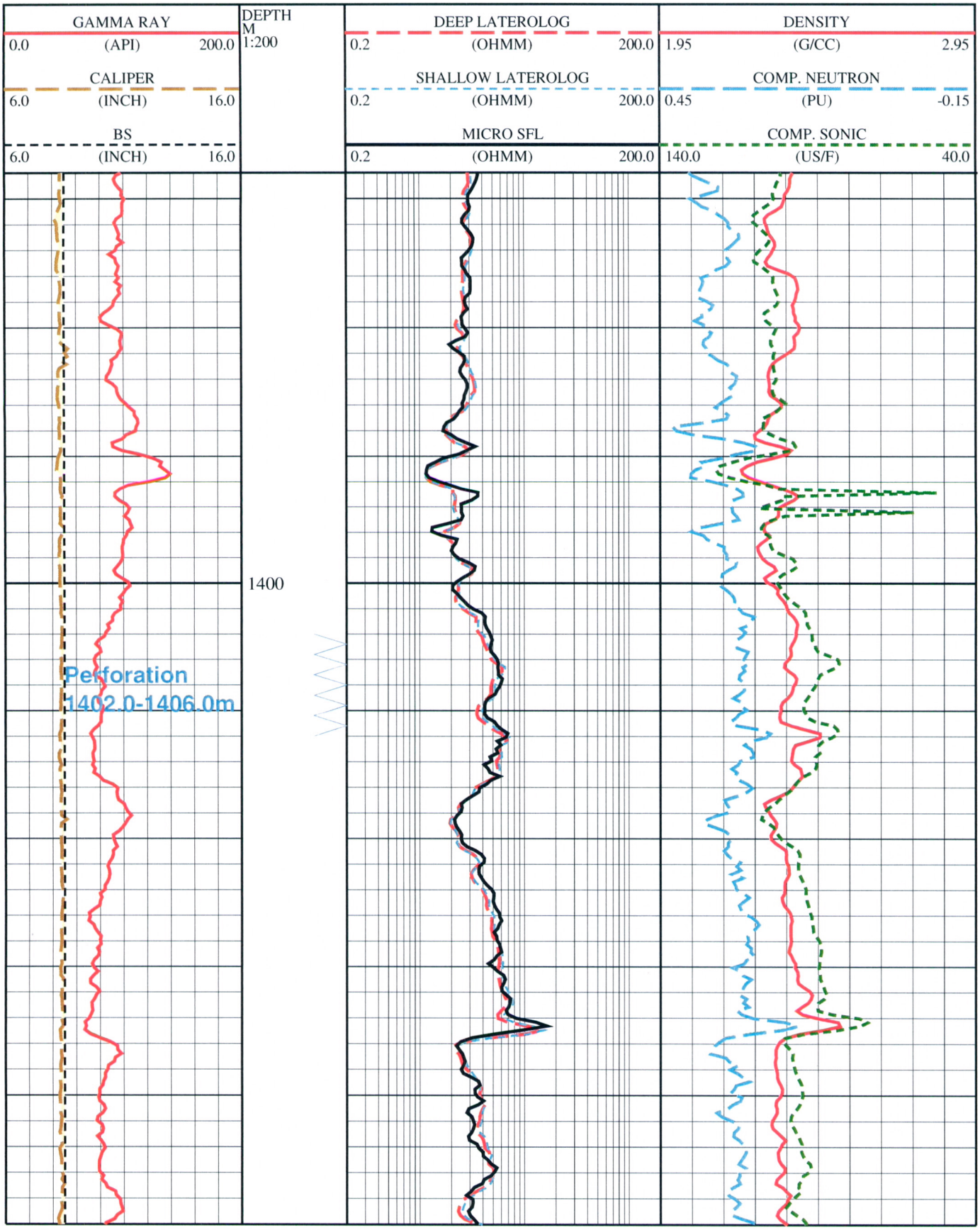

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