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Essential Petroleum Resources Limited

RE-COMPLETION PROGRAM

PEP 152

PORT FAIRY NO 1

(W1346)

MINERALS AND PETROLEUM REGULATION
25 FEB 2003

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1. Introduction

The re-completion and test program for Port Fairy No. 1 is designed to provide definitive reservoir pressure and permeability data and provide the means to capture a bottomhole fluid sample. It will set the well up for future production, testing, and stimulation if necessary.

Case histories on similar reservoirs indicate reactive clays in the reservoir matrix will have been adversely affected by the drilling fluid, cementing operation, and completion fluid. Because no definitive test data has been obtained to date we are currently unable to prove that this is the case at Port Fairy No. 1.

Port Fairy No.1 will always be limited by the fact that it is a vertical exploration well. Should the re-completion prove successful and reserve estimates make the project viable further wells will be engineered to cope with the difficult reservoir.

2. Equipment

Equipment used to perform this workover will include:

- a Hydra-rig 120k snubbing unit from Imperial Snubbing Services
- an Expertest slickline / electric line unit
- Halliburton packer and associated nipples and SSD
- Schlumberger Power-jet perforating assembly

The perforating guns will be impact detonated, and the packer will be a permanent hydraulic set type.

The well will be "killed" prior to the existing completion being removed and will be maintained in an overbalanced condition until work is completed.

Suitably trained representatives of all service companies will be present. The EPRL Drilling and Operations Guidelines and Safety Management Plan should be referenced for all facets of the operation. "Best Oilfield Practice" should be observed at all times.

3. Re-completion

Port Fairy No.1 currently has open perforations in the Pebble Point Formation 860m – 866m, which flow water, currently shut in on surface, SIWHP 30psi, and open perforations at 1347m –1358m in the Flaxman Formation. A production packer is set at 870m with 2⅞ tubing to surface. An SSD is positioned 10m above the packer.

Our primary objective in re-completing is to set the packer directly above the current perforations. This operation would provide the opportunity to re-perforate with high penetration charges, therefore the packer used should be a permanent type, capable of withstanding the shock of the gun detonation, and with a facility to disconnect the tubing string after setting a plug to protect the new perforations from fluid invasion.

A slickline set programmable shut-in tool (Spartek Systems Multi-cycle Shut-in Tool) can be set in a profile in or above the packer to provide the shut-in on a small storage volume with a

quartz gauge directly beneath it, in the end of tubing immediately above the perforations. This tool can provide 4 complete cycles if necessary and would allow the same information to be gathered as with a DST. It would not provide a bottomhole sample.

A suitable downhole sampler run on slickline will allow a bottomhole sample to be retrieved at any time.

By using wireline shut-in tools and samplers there is much less exposure to expensive mechanical problems with complex downhole equipment and the incremental cost of longer flow periods and pressure build-up periods with a rig on site. The information can be obtained after the re-completion and a clean-up flow period.

4. Development

The reservoir at Port Fairy No.1 is a greensand with associated glauconite, quartz, clays and associated minerals.

Typically these reservoirs are made commercial by drilling long horizontal wells through the section or by hydraulically fracturing existing wells. Examples of long horizontal wells in greensands are found at Thevenard Island in Western Australia and in the Danish sector of the North Sea.

Hydraulic fracturing is expensive and has associated risks that are unacceptable at this stage in Port Fairy No.1. This method has been used extensively on Barrow Island in Western Australia to gain new production in old vertical wells.

The proposal outlined in the attached program would have a permanent packer in the well with a seating nipple below it that allows the production zone to be completely isolated if the tubing string above has to be removed for any reason. The perforation charges will be conveyed on the tubing with the packer and detonated by dropping a firing bar. A nitrogen cushion and the hydrostatic pressure of the remaining fluid above the guns will be held on the well until gun detonation to slow fines migration in the near-wellbore radius.

The zone will be re-perforated with Schlumberger Powerjet charges at a density of 5 shots per foot. These charges result in a 0.42" diameter entry hole and give 54" of penetration. This should bypass skin damage/hydrated clays and fluid phase blocking of the permeability.

Although the permeability values obtained by a study undertaken at our request by Mr Henry Salisch are very low the well is currently flowing hydrocarbons through small perforations against 950 psi of hydrostatic head. Mr Salisch is a leading authority on log analysis of greensand reservoirs.

The perforations at the Pebble Point level currently flow water and would be require at least two days of rig time to squeeze with cement, and clean out. Regardless of squeeze job quality Essential Petroleum Resources would be not confident, from an environmental standpoint, to leave the well with a live annulus (ie. gas in the annulus with no packer). There are other means of isolating perforations if it proves necessary.

5. Program

1. Move in and rig up the workover rig. Flow Pebble Point water from annulus to clean tanks. Ensure tanks are clean. Fill with potable water from the town supply.
2. R/u slickline. Open SSD at 850m. Note top of fluid.
3. Reverse out tubing contents w/ 102bbls of 8.6 ppg NaCl brine. Monitor returns and catch bulk samples of any hydrocarbons.
4. Bleed all pressure from wellhead. Check for flow.
5. Install H2 back-pressure valve in tubing hanger.
6. Remove Xmas tree.
7. Nipple up BOP.
8. Pressure test BOP 200psi low / 2500 psi high 10 mins.
9. Drain BOP stack. Remove BPV.
10. Install landing joint and release hanger tie-down.
11. Release hanger.
12. POOH with tubing. Take care pulling packer through upper perfs.
13. P/u scraper and RIH to TD. Circulate clean.
14. Pump filtered, (10 micron), saturated KCl / CaCl brine and spot across perforation interval and up to 1300m.
15. POOH w/ scraper.
16. P/u MHR packer w/ ratch-latch, mill-out extension and guns. Set PX wireline plug in "X" (2-3/8") nipple at EOT. Place SSD 2-7/8", (Down to open), one joint above packer. The perforating assembly will consist of 15m of Schlumberger 35gm Powerjet 4505 charges at 5 shots per foot. A shock absorber and release sub will be used. The interval will be 1347m to 1362m.
17. Place radioactive "Pip" in connection and carefully measure distance to top shot for later co-relation.
18. RIH w/ completion and co-relate perforating depth to PEX/HALS using slickline memory CCL/GR.
19. Space out as necessary to place guns on depth and land tubing hanger. Set packer w/ 4600 psi.
20. Install H2 check valve.
21. Nipple down BOP.

22. Nipple up Xmas tree. Test 2500 psi. Remove H2 check valve.

23. R/u slickline. RIH w/ "B" shifting tool and open SSD. POOH and check / reverse shifting tool. RIH.

24. Use bottled nitrogen to force water from tubing via SSD. Close SSD. POOH w/ shifting tool.

25. RIH. Pull "PX " plug from nipple at EOT. NB: Take care when pulling "PX" prong as well can contribute gas from existing perforations.

26. Bleed nitrogen from tubing until THP equals 900psi.

27. Drop firing bar.

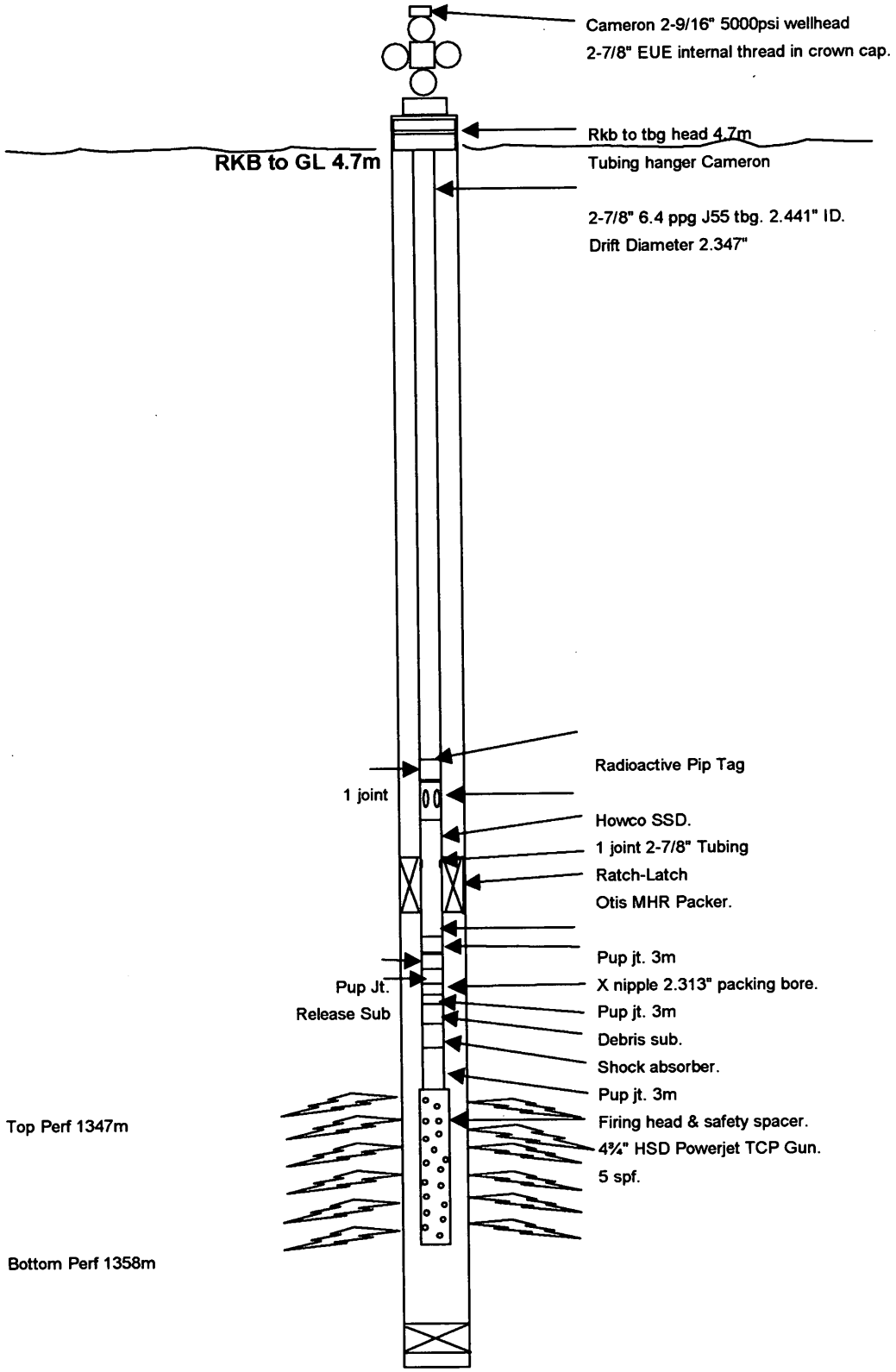
28. Monitor, (Graph), wellhead pressure and time.

29. Flow through ⅛" flow prover and allow flowing pressure to stabilize. Keep a flame burning at the flare line. Note the gas arrival. Flow for clean-up.

30. RIH w/ "B" shifting tool and release guns.

31. Rig down and release rig.

6. Completion Diagram



7. References

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