



September 17, 2004

9000-2855-32640-02
OGC - 04269

Natalie Sanders
Subsurface Regulatory Application Coordinator
Shell Canada Limited
400 - 4th Avenue SW
P.O. Box 100 Station M
Calgary AB T2P 2H5

**Approval Letters to Industry
GEP, SWD, CONCURRENT PROD,
PRESSURE MAINTENANCE,
WATERFLOOD, ETC.**

Copy 9

- Wellfile (originals)
- 59240
- Daily
- Resource Revenue
- S. Chicorelli
- R. Stefik
- G. Farr
- P. Attanala R Shocomb
- D. Krezanoski

Dear Ms. Sanders:

RE: APPLICATION FOR PRODUCED WATER DISPOSAL
Shell TH Summit d-25-D/104-H-7, Currier Formation, (WA 17975),
Shell TH Ridge c-91-L/104-H-2, Currier Formation, (WA 17990),
Shell TH Ridge d-91-L/104-H-2, Currier Formation, (WA 17994),
Shell TH Spatsizi b-100-G/104-H-2, Currier Formation, (WA 18007),
Shell TH Hobbit c-80-J/104-H-2, Currier Formation, (WA 18008).

The Oil and Gas Commission (OGC) has reviewed the application of Shell Canada Limited (Shell) of August 30, 2004 requesting approval to dispose of limited volumes of produced water into coal seams of the Currier Formation in the subject test holes near Klappan. As outlined in Shell's application, the water to be disposed will consist of water swabbed from the Currier coal seams in order to acquire samples of the native water in those coal seams. Small volumes of fresh water to be used to gather pressure transient data will also be disposed into the coal seams. It is the OGC's understanding that the data to be gathered will be used in evaluating the coal bed gas potential of the Currier coal.

Although somewhat unusual, the OGC considers the proposal appropriate. Attached is Approval 04-02-011 for the application, granted under Part 8, Division 3, Section 94 of the *Drilling and Production Regulation*.

The OGC is working with the Ministry of Water, Land and Air Protection (MWLAP) in developing appropriate standards with respect to environmental aspects of coal bed gas development. To assist in this effort, the OGC requests Shell to provide WLAP the information identified in Craig Stewart's

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RESOURCE CONSERVATION BRANCH

PO Box 9329 Stn Prov Gov't, Victoria BC V8W 9N3 Tel: (250) 952-0302 Fax: (250) 952-0291
Location: 6th Flr 1810 Blanshard St. Victoria BC

Headquarters: #200, 10003 110th Ave, Fort St. John BC V1J 6M7 Tel: (250) 261-5729 Fax: (250) 261-5744
www.ogc.gov.bc.ca

letter of September 15th to Craig Gibson of the OGC. A copy of the letter is attached. Brian McBride of the OGC's Fort St John office would appreciate a copy of the information reported to WLAP.

Yours truly,



Craig Gibson, P.Eng.
Director
Resource Conservation

Attachments

cc Craig Stewart, WLAP Smithers
Brian McBride, OGC FSJ
Constantin Visan, OGC FSJ
Gordon Humphrey, OGC FSJ

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APPROVAL 04-02-011

THE PROVINCE OF BRITISH COLUMBIA
PETROLEUM AND NATURAL GAS ACT
DRILLING AND PRODUCTION REGULATION
OIL AND GAS COMMISSION

IN THE MATTER of a scheme of Shell Canada Limited (Shell) for Produced Water Disposal in the Carrier Formation in the Klappan area.

NOW, THEREFORE, pursuant to Part 8, Division 3, Section 94 of the *Drilling and Production Regulation*, the Produced Water Disposal scheme is hereby approved, as such scheme is described in

an application from Shell to the Commission dated August 30, 2004.

- 1) The water disposal interval must be in the Carrier coal zone through the test holes:
Shell TH Summit d-25-D/104-H-7 (WA 17975),
Shell TH Ridge c-91-L/104-H-2 (WA 17990),
Shell TH Ridge d-91-L/104-H-2 (WA 17994),
Shell TH Spatsizi b-100-G/104-H-2 (WA 18007),
Shell TH Hobbit c-80-J/104-H-2 (WA 18008).
- 2) The total disposal must be completed within 10 days of the commencement of disposal and the total volume disposed per test hole must not exceed 40 m³.
- 3) A record of volume of salt water disposed of through each test hole must be included on a Monthly Injection/Disposal Statement, in the prescribed form (BC-S18), which must be submitted to the Oil and Gas Commission not later than the 25th day of the month following the reported month.
- 4) This approval may be modified or rescinded if deemed appropriate through a change in circumstances.



Craig Gibson
Director
Resource Conservation
Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 17th day of September 2004.



DATE TYPED: September 14, 2004
FILE NUMBER: 43250-20/Klappan Groundhog Coalfield

September 17, 2004

Craig Gibson, Branch Director
Resource Conservation,
Engineering and Geology Branch
Oil and Gas Commission
6-1810 Blanshard St.
Victoria, British Columbia, V8W 9N3

Dear Craig:

Thank you for your email dated Friday September 10, 2004, regarding the disposal of testing fluids back into the "*lowest completed coal seam at the end of test operations for each drill hole*" at the Shell Canada Klappan operation. I appreciate the opportunity to comment on this proposal and to gain a greater understanding of the coal bed methane industry.

It is my understanding that fresh water only will be used for the testwork, and that approximately 40 m³ of fluid would be discharged to, and contained within, each exploration well. The alternative is to take this fluid to Fort St. John for downhole injection.

Based on my understanding of current industry best management practices, the volume of fluids involved, the expected quality of the re-injected fluids, and the location of the four wells, it would appear that the reasonable procedure would be to inject the fluids back into each completed well.

As this is an emerging potential industry for the northwest, it is critical that the Ministry be kept informed with the on-going exploration activities surrounding coal bed methane, and the potential impact(s) of this activity. Therefore, I would appreciate it if you would direct the company to forward to me a report containing the following information once the Klappan drilling and sampling program has been completed this year.

A brief report containing:

- Location map for the completed drill holes, complete with drill hole stratigraphic information.
- Downhole sample locations for each of the zones tested.

**Ministry of
Water, Land and Air
Protection**

Water, Land and Air Protection
Skeena Region

Mailing Address:
Bag 5000
3726 Alfred Ave.
Smithers BC V0J 2N0

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3726 Alfred Avenue
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Telephone: 250 847-7260
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- Water quality and flow characterization for the zones tested.
- Water quality characterization for the fluids to be injected into the well.
- Final volume of fluids injected into the well, the depth to which they are injected and the stratigraphy into which they are injected.
- Closure information for each completed well.

It is my understanding that all, or a portion of, the information obtained from this exploration program may be considered proprietary. As such, this information would not be circulated nor would it be available to the public through freedom of information requests.

In terms of timing, I would suggest that 60 days from the time of the project completion might provide sufficient time for this report to be submitted.

Should you have any questions or concerns regarding the above, please contact me at 250-847-7416 .

Yours truly,

Original Signed by Author

Craig Stewart, P. Geo.
Senior Mine Review Officer
Environmental Management Division
Ministry of Water, Land and Air Protection
Smithers, B.C.

ec: Kelvin Hicke, WLAP, Victoria
Christine Houghton, WLAP, Victoria
Mark Love, WLAP, Smithers

CS/cs