

June 12, 2003

8300-2700-59240-06 OGC – 03134

Mr. Guy Wylie, P.Eng. Exploitation Engineer Canadian Natural Resources Limited 2500, 855 – 2nd Street S.W. Calgary AB T2P 4J8

Dear Mr. Wylie:

RE: GOOD ENGINEERING PRACTICE APPROVAL WEASEL GETHING "A" POOL

Attached is a Good Engineering Project (GEP) scheme approval for a portion of the subject pool, as requested in your application of March 28, 2003.

The Approval 03-06-020 is hereby granted under Part 8, Division 6, Section 101 of the British Columbia *Drilling and Production Regulation*.

This approval is intended to allow operational flexibility and to allow production from multiple gas wells without regard to spacing and target considerations for maximization of gas recovery. No objections were received following a publication of notice of the application in the BC Gazette.

As both wells are completed in off-target locations for gas, they are subject to a penalized daily gas allowable (DGA) which is the product of the minimum unadjusted DGA of 60.0 e<sup>3</sup>m<sup>3</sup> and the off-target factor as calculated from the maximum possible displacement from deviation survey records. The penalized DGA for the well d-A5-B/94-H-2 was previously issued with the commingled production approval dated May 1, 2003.

Should you have any questions, please contact Peter Attariwala at (250) 952-0311 or Ron Stefik at 952-0310.

| Sincerely,   | Approval Letters to Industry<br>GEP, SWD, CONCURRENT PROD,<br>PRESSURE MAINTENANCE,<br>WATERFLOOD, ETC. |
|--|---|
| Craig Gibson, P. Eng.  | Copy 10 Wellfile (originals) 59240 Daily  |
| Manager Reservoir Engineering and Geology  | Resource Revenue S. Chicorelli R. Stefik G. Farr  |
| Attachments  ENGINEERING AND GEOLOGY BR PO Box 9329 Stn Prov Gov't, Victoria BC V8W 9N3 Tel: (250) | P. Attariwala C. Gibson D. Krezanoski   |
| Location: 6 <sup>th</sup> Fir 1810 Blanshard St, Vict  |   |

## APPROVAL 03-06-020

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

IN THE MATTER of a Good Engineering Practice (GEP) scheme of Canadian Natural Resources Limited (CNRL) for producing a portion of the Weasel Gething "A" pool gas without well spacing and target restrictions.

NOW, THEREFORE, the Commission, pursuant to Part 8, Division 6, Section 101 of the *Drilling and Production Regulation*, hereby approves the GEP scheme of CNRL for drilling wells without spacing and target restrictions, as such scheme is described in

an Application from CNRL to the Commission dated March 28, 2003.

This scheme is approved, subject to the conditions herein contained and, in particular:

- 1. The area of the project shall consist of:
  - 94-A-15 Block J units 94, 95 94-H-2 Block B - units 4, 5
- 2. The requirements of Section 10 of the *Drilling and Production Regulation* are hereby waived, provided that gas wells within the project area are not completed nearer than 250 m to the sides of the approved project area.
- 3. Production from the off-target well d-94-J/94-A-15 (WA# 1761) is subject to an individual well daily gas allowable 21.2 e<sup>3</sup>m<sup>3</sup>.
- 4. Production from the off-target well d-A5-B/94-H-2 (WA# 1805) is subject to an individual well daily gas allowable 22.2 e<sup>3</sup>m<sup>3</sup>.
- 5. This approval may be modified or rescinded at a later date if deemed appropriate.

Derek Doyle

Commissioner

DATED AT the City of Fort St. John, in the Province of British Columbia, this day of June 2003.



Mailing Address: Engineering and Geology Branch PO BOX 9329 STN PROV GOV'T VICTORIA BC V8W 9N3 Location: 1810 Blanshard St - 6th Fl Victoria BC V8T 4J1 Phone: (250) 952-0302 FAX: (250) 952-0291

## **APPLICATION FOR DAILY GAS ALLOWABLE (DGA)**

## Individual Well

Form must be submitted under the authority of the Petroleum and Natural Gas Act R.S.B.C. 1996, c. 361, Drilling and Production Regulation, s.88, to the Oil and Gas Commission, at the address noted above. Information collected on this form will be used for public record in accordance with s.57 of the Drilling and Production Regulation.

| ☑ Initial Application ☐ Revision No   |                |          |                             |                    |                                 |      |   |  |
|---|----------------|----------|-----------------------------|--------------------|---------------------------------|------|---|--|
| Well Name CNRL et al Weasel d-94-J/94-A-15  |                |          |                             |                    | Well Authorization No. 1761     |      |   |  |
| Field Weasel Pool Gething "A"   |                |          |                             |                    |                                 |      |   |  |
| Factors   |                |          |                             | Owner's Calcula    |                                 | ions | COMMISSION USE ONLY Branch Calculations |  |
|   |                | Units    | Values Obtained Values from |                    | ues Used in This<br>Calculation |      |   |  |
| Depth to top gas pay  |                | mKb      |                             |                    |                                 |      | 1016.5                                  |  |
| Depth to bottom gas pay   |                | mKb      |                             |                    |                                 |      | 1024.9                                  |  |
| Assigned area   | А              | hectares | <u>.</u>                    |                    |                                 |      | 282.0                                   |  |
| Average net pay thickness   | h              | metres   | ,                           |                    |                                 |      | 7.9                                     |  |
| Average net porosity  | φ              | fraction |                             |                    |                                 |      | 0.124                                   |  |
| Average water saturation (Nominal 0.25)   | S <sub>w</sub> | fraction |                             |                    |                                 |      | 0.557                                   |  |
| Initial pool pressure at MPP  | P <sub>i</sub> | kPaa     |                             |                    |                                 |      | 8057                                    |  |
| Formation temperature   | Т              | К        |                             |                    | -                               |      | 324                                     |  |
| Initial supercompressibility factor   | Z              |          |                             | •                  |                                 |      | 0.882                                   |  |
| Recovery factor   | R              | fraction |                             |                    |                                 |      | 0.90                                    |  |
| Unadjusted Daily Gas Allowable (10 <sup>3</sup> m <sup>3</sup> ) = $\left(\frac{Ah\phi(1-Sw)P_1R}{35.16398TZ_1}\right)\left(\frac{1}{3.650}\right)$             |                |          |                             |                    |                                 | 24.2 |   |  |
| Name  |                |          | Position                    |                    |                                 |      |   |  |
| Signature   |                |          | Company                     |                    |                                 |      |   |  |
| Date  |                | Phone No |                             |                    | FAX                             | No.  |   |  |
| APPROVAL (for commission use only)  |                |          |                             |                    |                                 |      |   |  |
| Off-target penalty factor 0.3540  Daily gas allowable 21.2  (minimum UDGA is 60.0 10³m³ in accordance with Section 1 of the Drilling and Production Regulation) |                |          |                             |                    |                                 |      |   |  |
| Date Effective Ma   | rch 28,        | 2003     |                             |                    |                                 |      |   |  |
| Field We  | asel           |          |                             | Pool <sub>Ge</sub> | thing                           | "A"/ |   |  |
| Approval Date June 12, 2003 Routh A   |                |          |                             |                    |                                 |      |   |  |
| OGC_038_DGA Rev. 99/05 Authorized Commission Employee 59070-03/WA   |                |          |                             |                    |                                 |      |   |  |