



OIL AND GAS COMMISSION

February 22, 2001

6600-7340-59240-16
OGC -01046

Mr. Scott Wilson, P. Eng.
Petro-Canada Resources
P.O. Box 2844
Calgary, AB T2P 3E3

Dear Mr. Wilson:

**Re: Application For Acid Gas Injection
PC et al Parkland 15-17-81-15 W6M; WA 7979
Parkland Basal Kiskatinaw "B" Pool**

This refers to your application dated January 17, 2001 wherein you requested approval to inject acid gas into the depleted Parkland Basal Kiskatinaw "B" pool in the subject well.

Attached please find Approval 01-16-001 for the application granted under Section 100 of the Petroleum and Natural Gas Act.

We wish to point out that the Commission must be notified, in writing, of the date of commencement of acid gas injection for the subject well as specified in condition 13 of the Approval.

Yours sincerely,

Craig Gibson, P. Eng.
Manager
Reservoir Engineering and Geology

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

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APPROVAL 01-16-001

**THE PROVINCE OF BRITISH COLUMBIA
PETROLEUM AND NATURAL GAS ACT
OIL AND GAS COMMISSION**


IN THE MATTER of a proposal (the Project) by Petro Canada Resources (Petro Canada) to inject acid gas into the Parkland Basal Kiskatinaw "B" pool in the well PC et al Parkland 15-17-81-15 W6M (the well).

NOW THEREFORE, the Commission, pursuant to section 100 of the Petroleum and Natural Gas Act, R.S.B.C. 1996, c.361 hereby orders as follows:

The Project of Petro Canada for injection of acid gas into the Parkland Basal Kiskatinaw "B" pool in the well, as such proposal is described in an application from Petro Canada to the Commission dated January 17, 2001 and related submissions is hereby approved, subject to terms and conditions herein contained:

1. Acid gas shall be injected only in the well.
2. The area of the Project shall consist of sections 16 and 17-81-15 W6M.
3. The wellhead injection pressure must not exceed 6,5000 kilopascals gauge.
4. The sandface injection pressure must not exceed 23,050 kilopascals gauge.
5. Acid gas injection rate must not exceed $15.0 \text{ } 10^3 \text{ m}^3/\text{d}$ expressed at 101.325 kilopascals absolute and 15 degrees Celsius.
6. The cumulative volume of acid gas injected must not exceed $37.0 \text{ } 10^6 \text{ m}^3$ expressed at 101.325 kilopascals absolute and 15 degrees Celsius.
7. Petro Canada must monitor the casing, conduct annular packer isolation tests and implement appropriate corrosion protection measures to maintain the hydraulic isolation of the injection zone.
8. The Wellhead Emergency Shut-Off Device and Subsurface Safety Valve must be installed to operate "fail-safe". The Wellhead Emergency Shut-Off Device must be linked to hydrogen sulphide detectors at the wellhead.
9. A barricade must be installed around the wellhead to withstand vehicle collision.
10. All injection operations must be immediately suspended if any injection equipment, monitoring equipment or safety devices considered necessary for safe operation should fail.
11. A record of volume of acid gas disposed of through this well 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.

12. Petro Canada must submit a progress report to the Commission for each 6-month period the Project is in operation, determined from the first day of injection. This requirement may be amended at the request of the operator after the Project has been in operation for a period of three (3) years. The progress report is due within 60 days after the end of each period and must contain:
 - a) details of any workover or treatment program done on the well with reasons for the workover and results of the workovers,
 - b) a discussion of any changes in injection equipment and operations,
 - c) a general review of the operation of the Project including identification of problems, remedial action taken and results of the remedial action on project performance,
 - d) a discussion of the overall performance of the Project,
 - e) an evaluation of all monitoring done during the reporting period including corrosion protection, fluid analyses, logs and any other data collected,
 - f) a table showing monthly volumes of injected acid gas, corresponding maximum wellhead injection pressures, maximum daily injection rates, average wellhead temperatures and hours on injection,
 - g) the volume-weighted average composition and formation volume factor for the injected acid gas,
 - h) a plot showing monthly injection volume and average pressure versus time on an on-going basis, and
 - i) a table showing tonnes of sulphur and carbon dioxide disposed on a monthly and cumulative basis.
13. The Project shall deem to have commenced upon initiation of acid gas injection into the well. The Manager, Operations Engineering must be notified in writing 72 hours prior to the commencement of injection operations.
14. An Emergency Response Plan procedure must be filed with the Manager, Operations Engineering prior to commencement of injection operations.
15. The operations of the Project will be subject to periodic review by the Commission. The Manager, Reservoir Engineering and Geology or the Manager, Operations Engineering, may issue general guidelines regarding the operations of the Project.
16. This approval may be modified or rescinded for noncompliance of the conditions or unsafe operations.



Craig Gibson
Manager
Reservoir Engineering and Geology
Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 22nd day of February, 2001.

