NORTHWEST TERRITORIES WATER BOARD

ONSHORE OIL AND GAS EXPLORATION DRILLING QUESTIONNAIRE

FOR

WATER LICENCE APPLICATIONS

Prepared by:
Department of Indian Affairs and Northern Development
Water Resources Division
August 1999
Version 5.07
Introduction

The purpose of this questionnaire is to solicit supplemental information from an applicant to support their application for a water licence (or renewal). It is anticipated that the completion of this questionnaire will reduce delays arising from the Northwest Territories Water Board having to solicit additional information after an application has already been submitted. This information will also be useful during the environmental assessment and screening of your application, which must be undertaken prior to development and approval of a water licence.

The applicant should complete the questionnaire to the best of his/her ability, recognizing that some questions may not be relevant to the project under consideration. For questions that do not relate to his/her operation, the applicant is requested to indicate “N/A” (Not Applicable).

If any questions arise while completing the questionnaire, the applicant may wish to contact the Northwest Territories Water Board at (867) 669-2772. If your question is that of a technical nature please contact the Regulatory Approvals Section of the Water Resources Division, Department of Indian Affairs and Northern Development (INAC), at (867) 669-2651.

Chairman,
Northwest Territories Water Board
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If space is insufficient for any of the responses on this questionnaire, use the back of the sheet or attachments.

List attachments in Appendix 1.

Print or type your responses.
SECTION 1:
PRELIMINARY SITE ASSESSMENT

DATE: July 17, 2001

1.1 APPLICANT

COMPANY NAME: Anderson Resources Ltd.

ADDRESS: 1600, 324 – 8th Avenue S.W.

Calgary, AB

T2P 2Z5

PROPERTY NAME/EXPLORATION LIC. #: Tuk 2

CLOSEST COMMUNITY: Tuktoyaktuk

LATITUDE/LONGITUDE OF WELL CENTRE (Degrees, minutes, seconds):

<table>
<thead>
<tr>
<th>Well identifier</th>
<th>Well Status</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>M18</td>
<td>New</td>
<td>69° 17’ 51.8”N 133° 04’ 34.6”W</td>
</tr>
<tr>
<td>L20</td>
<td>New</td>
<td>69° 19’ 26.6”N 133° 03’ 03.5”W</td>
</tr>
<tr>
<td>P1</td>
<td>New</td>
<td>69° 20’ 46.1”N 133° 00’ 03.0”W</td>
</tr>
<tr>
<td>N42</td>
<td>New</td>
<td>69° 21’ 44.7”N 132° 56’ 27.7”W</td>
</tr>
<tr>
<td>L09</td>
<td>Re-entry</td>
<td>69° 18’ 39.0”N 133° 02’ 13.4”W</td>
</tr>
</tbody>
</table>

1.2 PRIMARY COMPANY CONTACT:

NAME: Pete Millman

TITLE: Environmental Specialist

CONTACT NUMBER: (403) 232-7294

ALTERATE CONTACT NUMBERS: (403) 232-7000

1.3 FIELD CONTACT:

NAME (If known): Duane Linklatter Ron Thompson

TITLE (If known): Drilling Supervisor Construction Supervisor

CONTACT NUMBER: 403-318-5106 403-232-7105
1.4 INDICATE THE STATUS OF THIS APPLICATION:

NEW APPLICATION [x] RENEWAL [ ]

IF RENEWAL, INCLUDE LICENCE NUMBER: ____________________________

1.5 SITE HISTORY

INDICATE IF THIS SITE CONTAINS ANY KNOWN:

FORMER WELL SITES
WASTE DUMPS
FUEL AND CHEMICAL STORAGE AREAS
SUMP AREAS
WASTE WATER DISCHARGE LOCATIONS

*Wellsite L.09 is an existing well

No
No
No
No

DESCRIBE SITES AND REFERENCE THEM ON THE MAP IN QUESTION 1.6

*See attached Project Description.

1.6 ATTACH MAPS DRAWN TO SCALE SHOWING LOCATIONS OF EXISTING AND PROPOSED: see Project Description

CAMP FACILITIES, [x]
WELL SITE(S), [x]
SUMPS,
WATER SOURCES, [x]
FUEL AND CHEMICAL STORAGE FACILITIES,
DRILLING MUD STORAGE FACILITIES,
DRAINAGE CONTROLS, N/A
TRANSPORTATION ROUTES (SEASONAL AND ALL WEATHER)*, [x]
ELEVATION CONTOURS,
LOCATIONS OF WATERBODIES [x]
DRAINAGE PATTERNS FOR WELL AND CAMP SITES.

* Clearly identify crossings over water courses greater than 5 m at ordinary high water mark.
1.7 DESCRIBE THE PROPOSED OR CURRENT METHOD OF FRESHWATER WITHDRAWAL, THE TYPE AND OPERATING CAPACITY OF THE PUMPS USED AND THE INTAKE SCREEN SIZE.

Anderson proposes to withdraw water from Tuktoyaktuk Harbour for all access construction in order to reduce the volume of water to be withdrawn from inland lakes. Any water withdrawn from Tuktoyaktuk Harbour would be subject to pre-testing to ensure that the salinity content is suitable for application on the land. The intake screen size will be calculated to comply with DFO Guidelines. Water will be trucked from the sources to the wellsites and roads. Pump size is yet to be determined. See Project Description for further details.

1.8 ESTIMATE MAXIMUM DRAW DOWN AND RECHARGE CAPABILITY OF THE RIVER OR LAKE FROM WHICH FRESH WATER WILL BE DRAWN. QUOTE DRAW DOWN IN CENTIMETRES, OR, STATE PERCENTAGE OF FLOW WITHDRAWN.

Potential withdrawal sites were selected based on the lake study completed by Anderson in the summer of 2000. Lakes have been selected to minimize drawdown. It is anticipated that drawdown will not exceed 1%. See Table 5 in Project Description.

1.9 INDICATE IF PERMAFROST IS EXPECTED TO BE ENCOUNTERED UNDER:

<table>
<thead>
<tr>
<th>Facility</th>
<th>X</th>
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<tbody>
<tr>
<td>Camp Facilities</td>
<td>X</td>
</tr>
<tr>
<td>Well Sites</td>
<td>X</td>
</tr>
<tr>
<td>Access Routes</td>
<td>X</td>
</tr>
<tr>
<td>Sumps</td>
<td>X</td>
</tr>
<tr>
<td>Other</td>
<td></td>
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</tbody>
</table>

1.10 INDICATE ANY POTENTIAL FOR ENCOUNTERING ARTESIAN AQUIFERS OR LOST CIRCULATION WITHIN THE SURFACE HOLE (TO CASING DEPTH)

Not expected.
1.11 ATTACH A DESCRIPTION OF THE SURFICIAL GEOLOGIC AND HYDROGEOLOGIC CONDITIONS IN THE IMMEDIATE VICINITY OF THE WELLSITE

See Project Description.

SECTION 2:
WATER USE AND WASTE DISPOSAL

2.1 OUTLINE ALL WATER USAGE IN THE DRILL PROGRAM, CAMP FACILITIES, AND ROAD CONSTRUCTION. INDICATE THE SOURCE AND VOLUME OF WATER FOR EACH USE.

See Section 4.2.4 of the Project Description

TOTAL: 81,030 m³

2.2 WILL DRILLING WASTES CONTAIN DETRIMENTAL SUBSTANCES INCLUDING, BUT NOT LIMITED TO, OIL BASED OR INVERT MUDS AND HIGH SALINITY FLUIDS?

YES X NO

IF YES, INDICATE SUBSTANCES:

KCl- See Section 4.2.5 of the project description

2.3 INDICATE THE TOTAL ESTIMATED VOLUME OF DRILLING WASTES

4500 m³

2.4 INDICATE METHODS FOR DISPOSAL OF DRILLING WASTES.

X SUMP

DOWN HOLE (REQUIRES NEB APPROVAL)

ON-SITE TREATMENT (PROVIDE PLAN)

OFF-SITE (GIVE LOCATION AND METHOD OF DISPOSAL)

2.5 IF A SUMP IS BEING USED, ATTACH THE FOLLOWING INFORMATION

SCALE DRAWINGS AND DESIGN OF SUMPS,

X CAPACITY IN CUBIC METRES,

BERM EROSION PROTECTION,

SOIL PERMEABILITY AND TYPE

N/A RECYCLING/RECLAIMING WATERS,

X SURFACE DRAINAGE CONTROLS,
X  ABANDONMENT PROCEDURES.
See Project Description- Section 11.4. Drilling wastes will be placed in the sump in permafrost below the active layer. This will encourage permafrost invasion of the liquids and render them immobile.

WILL A CAMP BE PROVIDED?

YES  x  NO  

2.7  IF YES, THEN INDICATE THE CAPACITY AND THE EXPECTED MAXIMUM NUMBER OF PERSONS THAT WILL BE ACCOMMODATED.

CAPACITY  70  PERSONS

MAXIMUM ACCOMMODATED  90  PERSONS
SECTION 3:

CONTINGENCY, ABANDONMENT AND RESTORATION PLANNING

3.1 ATTACH THE PROPOSED OR EXISTING CONTINGENCY PLAN WHICH DESCRIBES COURSE OF ACTION, MITIGATIVE MEASURES AND EQUIPMENT AVAILABLE FOR USE IN THE EVENT OF SYSTEM FAILURES AND SPILLS OF HAZARDOUS MATERIALS (IN COMPLIANCE WITH NWT WATER BOARD GUIDELINES FOR CONTINGENCY PLANNING, 1987).
See Project Description- Anderson’s Spill Response and Spill Reporting Manual is provided in Appendix B of the Project Description. Anderson and Akita will coordinate emergency response plans prior to submission of the drilling project description and prior to operations. The completed plan will be forwarded to the NWT Water Board to be kept on file.

3.2 ATTACH AN INVENTORY OF HAZARDOUS MATERIALS ON THE PROPERTY (AS DEFINED UNDER TRANSPORTATION OF DANGEROUS GOOD REGULATIONS).
See Project Description- fuel storage (Section 4.2.13) and Chemicals List in Appendix A

3.3 ATTACH AN OUTLINE OF PLANNED ABANDONMENT AND RESTORATION PROCEDURES. See Project Description- Section 4.2.14 and Section 14
SECTION 4:

ENVIRONMENTAL ASSESSMENT AND SCREENING

Your application and other project details, such as this questionnaire, will be sent out for review by local aboriginal and public groups as well as territorial and federal government agencies. Their comments regarding the significance of project impacts are considered before a decision is made to allow the project to proceed. Because formal assessment and screening of water licences was only initiated in about 1989, applicants will find that this process may be required even if the project has been built and in operation for several years. However, if your project has been previously screened a further assessment may not be required, or a more limited process may be used. This will depend on individual circumstances, including the stage of the project. Some projects may need a higher level of review or submission of more information before being screened.

4.1 HAS THIS PROJECT EVER UNDERGONE AN INITIAL ENVIRONMENTAL ASSESSMENT, INCLUDING PREVIOUS OWNERS?

  YES  NO  X

  IF YES, BY WHOM / WHEN:

4.2 HAS BASELINE DATA BEEN COLLECTED FOR THE MAIN WATER BODIES IN THE AREA?

  YES  X  NO

  IF YES, ATTACH DATA. See Project Description - Table 5 and attached Norwest Labs Analytical Report (this report provides data on the lakes indicated as priority lakes for Anderson)

4.3 HAS BASELINE DATA BEEN COLLECTED AND EVALUATED WITH RESPECT TO THE BIOPHYSICAL COMPONENTS OF THE ENVIRONMENT POTENTIALLY AFFECTED BY THE PROJECT (WILDLIFE, SOILS, AIR QUALITY).

  YES  X  NO  □

  IF YES, ATTACH DATA. See Project Description

4.4 ATTACH A DESCRIPTION OF ALL PROPOSED AND EXISTING ENVIRONMENTAL MONITORING PROGRAMS.

An Inuvialuit Environmental Monitor will be employed for the duration of the project.

4.5 HAS A COMMUNITY CONSULTATION PROGRAM BEEN INITIATED?

  YES  X  NO  □

  IF YES, PROVIDE DETAILS OF THE PROGRAM. See Project Description