

## **Part H – Water Act Application**

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## H. WATER ACT APPLICATION

### H.1 INTRODUCTION

This application is an integrated submission to the Alberta Energy Resources Conservation Board (ERCB) and Alberta Environment (AENV) for approval to construct, operate and reclaim the proposed Great Divide SAGD Expansion Project. Connacher currently holds *Water Act* approvals for the Great Divide (Pod One) Project and Algar Project to withdraw water from the Grand Rapids Formation. Connacher would like to merge the Algar *Water Act* Licence (240527-00-00) with the Great Divide *Water Act* Licence (240458-01-00). The combined Licence would then to be amended to include the additional allocation required for the Great Divide Expansion Project.

The existing Licences for the Great Divide and Algar Projects and respective water allocations (m<sup>3</sup>) are summarized below.

**Great Divide Project *Water Act* Licence:**

- Licence No. 240458-01-00                      Annual Volume: 292,000 m<sup>3</sup>

**Algar Project *Water Act* Licence:**

- Licence No. 240527-00-00                      Annual Volume: 330,000 m<sup>3</sup>

**The additional water use requirements for the Project are estimated to be:**

- Steady state operations                      Annual Volume: 480,000 m<sup>3</sup>

**The total make-up water for the Project (including expansion) is estimated to be:**

- Annual Volume - 1,102,000 m<sup>3</sup>

**The total make-up water for the start-up of the expansion Project is estimated to be:**

- First three months of operation - 100,000 m<sup>3</sup>

### H.2 GROUNDWATER DIVERSION FROM GRAND RAPIDS FORMATION

The source of groundwater for the amended Algar SAGD expansion will be obtained from the Grand Rapids formations (existing approvals) and Grand Rapids Formation (additional allocation for expansion area). Connacher is applying for the following:

- Steady state operations - require annual diversion of 480,000 m<sup>3</sup>/year; and
- Temporary diversion for the first 3 months of the Project for project start-up – 100,000 m<sup>3</sup>.

Water recycling will be undertaken using state of the art evaporator and crystallizer technology ([Section B.5](#)).

### H.3 CONCLUSIONS

The impacts of disturbances caused by the development of the Project on the groundwater was investigated and found to be negligible. Groundwater production should have no significant effects on the quantity of water in other formations, the surface water resources or on vegetation. No active groundwater production was identified within the Project Area, therefore impacts to other users are not anticipated.

Connacher will require a total of 1,102,000 m<sup>3</sup> of water per year for the entire SAGD operation, including the expansion, under steady state conditions; of this 622,000 m<sup>3</sup> is currently under Licence by Connacher (Licence No. 240458-01-00 and 240527-00-00) and 480,000 m<sup>3</sup> is under application to AENV as part of this submission. Connacher requests the full volume from the Grand Rapids Formation. For the first three months of operation Connacher requests a temporary licence of 100,000 m<sup>3</sup> of groundwater.

Once details of the individual wells are available an evaluation will be submitted to Alberta Environment to support the application for a licence under the *Water Act* for diversion of groundwater and as required in the Water Conservation and Allocation Guideline for Oilfield Injection (Alberta Environment 2006).

## H.4 WATER ACT APPLICATION

Documents or information provided to Alberta Environment pursuant to section 15(1)(a) of the *Water (Ministerial) Regulation* are public records and are accessible by the public.

Check one or more of the following to indicate type of application:

Diversion of water  Renewal of a licence  Constructing Works

### Applicant:

Print Name and Company Name (if applicable): <b>Connacher Oil and Gas Limited</b>		Home Telephone: <b>n/a</b>	Bus. Telephone: <b>(403) 538-6201</b>
Address (Street, PO Box, etc.): <b>Suite 900, 332 – 6<sup>th</sup> Avenue SW</b>	Place, Province: <b>Calgary, AB</b>	Postal Code: <b>T2P 0B2</b>	Fax: <b>(403) 538-6225</b>

Are you the registered landowner? Yes  No  If no, please attach a copy of the consent from the landowner.

### Consultant, Signing Authority, or Applicant's Representative (if applicable):

Print Name and Company Name (if applicable): <b>Connacher Oil and Gas Limited</b>		Home Telephone: <b>n/a</b>	Bus. Telephone: <b>(403) 538-6201</b>
Address (Street, PO Box, etc.): <b>Suite 900, 332 – 6<sup>th</sup> Avenue SW</b>	Place, Province: <b>Calgary, AB</b>	Postal Code: <b>T2P 0B2</b>	Fax: <b>(403) 538-6225</b>

### Contact Person if not shown above:

Print Name: <b>Mr. Steve de Maio, Vice President Project Development</b>	Telephone: <b>(403) 538-6201</b>	Fax: <b>(403) 538-6225</b>
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### Project Description:

Tentative Starting Date: Q1 2011 (if applicable)      Duration of Construction/Development: Q1 2011 to Q4 2036

Duration of Water Diversion/Use: 25+ years

Provide a detailed description including location of works and activities relating to the project and attach plans:

Details are explained in [Part B](#) of the Great Divide SAGD Expansion Project application and additional information can be found in [Section D.3](#) and [Consultant Report #3](#) (Groundwater).

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**Affected Water Sources (Location of Works and Activities):**

**Surface Water (if only constructing works, complete the first two columns):**

Source (e.g. lake, stream, or name of source, if known)	Diversion/Activity Location					Annual Quantity (cubic metres)	Rate of Diversion (show units)	Is Construction or Development Required? (Yes or No)	Purpose
	¼	sec	tpw	rge	m				
1.									
2.									
3.									


**Groundwater:**

Date Well Drilled or proposed drilling date	Well (proposed) Locations					Total Depth (metres)	Production Interval (metres)	Pumping Rate (show units)	Annual Quantity (cubic metres)	Purpose
	¼	sec	tpw	rge	m					
1. existing (LSD 02,03,04,06 – Section 19)		19		82	11 4	400	350-400	1315 m <sup>3</sup> /day	480,000 m <sup>3</sup> /year	SAGD
2. Proposed drilling in 2012		17, 18, 19, 20		82	11 4	400	350-400			
3. Proposed drilling in 2012		12, 24		82	12 4	400	350-400			
4. Make-up Water for Start-up (3 months)		Location same as number 2 and 3				400	350-400			

Please attach a separate sheet if you wish to provide more information.

**Statement of Confirmation:**

The information given on this form is true to the best of my knowledge.

<p><b>May 17, 2010</b> Date of Signing</p>	 Signature	<p><b>Steve De Maio</b> Print Name</p>	<p><b>Connacher Oil and Gas Limited</b> Company Name (if applicable)</p>
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Return the completed form to an Alberta Environment Regional office nearest you:

**Regulatory Approvals Centre**

9<sup>th</sup> Floor, Oxbridge Place  
9820 – 106 Street  
Edmonton, Alberta T5K 2J6  
Telephone: (780) 427-6311  
Fax: (780) 422-0154

Northern Regional E-mail address  
[Aenv.northwaterapprovals@gov.ab.ca](mailto:Aenv.northwaterapprovals@gov.ab.ca)  
Central Regional E-mail address  
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**OFFICE USE:**

File Number:	Fee Receipt Number:	Application ID: Operation ID:
Notice Information:	Application Completion Date:	Priority Number: