

Directive 056 - Schedule 1

Applicant General Information

DAY MONTH YEAR
20-Apr-2017

APPLICATION #
1885444

APPLICANT'S FILE NUMBER
GXO 2B-8 HZ WARNER 16-4-3-18W4

The applicant certifies that the information here and in all supporting documentation is correct and that the facility, pipeline or well will be drilled, constructed, amended, and abandoned in accordance with all regulatory requirements or as directed by the Alberta Energy Regulator.

SUBMISSION STATUS Registered SUBMISSION ID 628891 CREATION DATE 20-Apr-2017

1. APPLICANT INFORMATION

PRIMARY APPLICANT

COMPANY NAME Granite Oil Corp. BA CODE A2PJ
CONTACT NAME Ryan Cheyne
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E-MAIL rcheyne@graniteoil.ca

CONSULTANT

COMPANY NAME Vanoco Consulting Ltd. BA CODE 0B1T
CONTACT NAME Derek Rae
TELEPHONE (403) 701-0899 FAX (403) 264-4655
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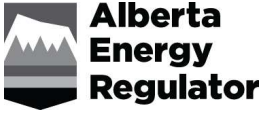
2. ATTACHED SCHEDULES

LICENCE TYPE Well APPLICATION PURPOSE New
ORIGINAL LICENCE NUMBER _____
Format: Prefix + 7 Mandatory Digits + Suffix
i.e.: B00000414X OR 0234567
ORIGINAL LICENCE EVENT SEQUENCE _____

SCHEDULES INCLUDED ON CURRENT SUBMISSION

Schedule 4
Schedule 4.3

If you have any questions or comments, please contact the EAS Administrator.



Directive 056 - Schedule 4

Well Licence Application

DAY MONTH YEAR
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1. IDENTIFICATION

Applicant BA Code A2PJ Applicant Name Granite Oil Corp.
Licence Type Well Application Purpose New Licensing Process Well NR - PI

2. PARTICIPANT INVOLVEMENT REQUIREMENTS

- 1. Personal consultation, confirmation of nonobjection and notification requirements have been met: Public Yes No
- 2. There are outstanding objections/concerns related to this application Yes No
- 3. Distance to nearest surface development 6.4 km

3. EMERGENCY RESPONSE PLANNING

- 1. The applicant will meet AER requirements for emergency response planning Yes

4. LICENCE AMENDMENT ONLY

Check all that apply:

<input type="checkbox"/> Surface Location	<input type="checkbox"/> Surface Coordinates	<input type="checkbox"/> Bottomhole Location
<input type="checkbox"/> Ground Elevation	<input type="checkbox"/> Total Depth	<input type="checkbox"/> Terminating Formation
<input type="checkbox"/> Mineral Rights	<input type="checkbox"/> Surface Rights	<input type="checkbox"/> Schedule 4.3

Change of purpose: Regulation Section Well Type Original Licence Number: _____

5. WELL PURPOSE

CATEGORY / TYPE	<u>C360</u>	DESCRIPTION	<div style="border: 1px solid black; padding: 5px;">Single well - >= 0.01 m3/s but < 0.3 m3/s H2S Release Rate</div>
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REGULATION SECTION Section 2.020 Section 2.030 Section 2.040

WELL TYPE	SUBSTANCE NAME	FORMATION NAME
<u>Production</u>	<u>Crude Oil</u>	<u>BAKKEN FM</u>
_____	_____	_____
_____	_____	_____

- 1. The proposed well is part of an experimental, primary, or commercial crude bitumen scheme Yes No

If YES, Scheme Approval Number _____ Expiry Date (experimental schemes only) _____

DD-MMM-YYYY

6. RE-ENTRY / RESUMPTION / DEEPENING OF A WELL

ORIGINAL LICENCE NUMBER _____

- 1. The applicant is the licensee of the well Yes No
- 2. The well is currently abandoned Yes No
- 3. The applicant has the rights to the existing wellbore Yes No
- 4. Casing will be pressure tested to meet the minimum requirements Yes No

7. WELL DETAIL

Bottom Hole Location	Type of Drilling Operation	Surface Location	Surface Coordinates			
LSD SEC TWP RGE MER <u>16 4 3 18 W4</u>	<u>Horizontal</u>	LSD SEC TWP RGE MER <u>2 8 3 18 W4</u>	N/S DISTANCE <u>265.5</u>	N/S CODE <u>N</u>	E/W DISTANCE <u>450.2</u>	E/W CODE <u>W</u>
Well Name: <u>GXO 2B-8 HZ FERGUSON 16-4-3-18</u>						
Surface Casing Depth (m)	Projected Total Depth (m)	True Vertical Depth (m)	Ground Elevation (m)	Mineral Rights		
<u>500</u>	<u>3465</u>	<u>1465</u>	<u>1205.7</u>	<u>Alberta Crown</u>		
Terminating Formation		Surface Latitude (NAD 83)	Surface Longitude (NAD 83)			
<u>BAKKEN FM</u>		<u>49.190749</u>	<u>-112.388342</u>			

- 1. Surface casing meets the requirements of Directive 008 Yes No N/A
- 2. A directional survey will be run if the well deviates from vertical Yes No

8. WELL CLASSIFICATION

Lahee Classification

Lahee Classification
<u>New Pool Wildcat</u>

If Lahee classification is "Deeper Pool Test" well will be exploratory below:

Formation	Depth (m)
_____	_____

Confidential Status

Confidential Status
<u>Confidential</u>

If status is "Confidential Below" well will be confidential below:

Formation

- 1. Drill cutting samples are required to be taken Yes No
- 1a. If YES, drill cutting samples will be collected and submitted as required Yes No
- 1b. If required to be collected and submitted, drill cutting samples will be provided as follows:

From Formation	Depth (m)
<u>BOW ISLAND SD</u>	<u>760</u>
_____	_____

To Formation	Depth (m)
<u>TOTAL DEPTH</u>	<u>3465</u>
_____	_____

9. MINERAL RIGHTS

- 1. The applicant has the rights for all intended purposes of the proposed well Yes No

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2. The applicant has the rights to a complete drilling spacing unit Yes No

10. SURFACE RIGHTS

1. The Surface owner is Alberta Crown Freehold

11. SURFACE IMPACT

1. The AER water body setback requirements have been met..... Yes No

1a. All other AER setback requirements have been met Yes No

2. The proposed well site and/or access road will meet the AER environmental requirements Yes No

3. The proposed well site requires Historical Resources Act clearance (Freehold land only)..... Yes No

3a. If YES, clearance has been granted for the well site..... (Freehold land only) Yes No

12. WORKING INTEREST PARTICIPANTS

1. The licensee is the only working participant. If NO, attach a completed Schedule 4.1 Yes No

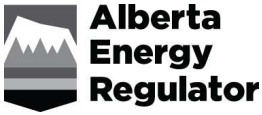
13. OPERATIONAL DISCLOSURE

1. Underbalanced drilling operations will be conducted Yes No

2. The well will encounter reservoirs that will be subject to enhanced recovery or or acid gas injection schemes, or CO2 greater than 1 per cent Yes No

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Directive 056 - Schedule 4.3

Well H2S Information

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1. H2S RELEASE RATE WELL PROGNOSIS BY POTENTIAL H2S HORIZON

Formation Name	Drilling Case (m3/s)	Completion/Servicing Case (m3/s)	Suspended/Producing Case (m3/s)
SUNBURST SD	0.0001	0	0
BAKKEN FM	0.0046	0.0185	0.0046

*include formation encountered at Total Depth when completing Drilling Case

2. CUMULATIVE H2S RELEASE RATE (RR)

	Drilling Case	Completion/Servicing Case	Suspended/Producing Case
Maximum Cumulative H2S RR	m3/s <u>0.0047</u>	m3/s <u>0.0185</u>	m3/s <u>0.0046</u>

Intermediate casing to be set Yes No

Maximum H2S concentration encountered in well ppm 40000 mol/kmol 40 percent 4

Anticipated suspended/producing Level as per ID 97-06 Level 1 Level 2 Level 3 Level 4 N/A

3. EMERGENCY PLANNING ZONE (EPZ)

	Drilling Case	Completion/Servicing Case	Suspended/Producing Case
Emergency Planning Zone	<u>0.07</u> Km	<u>0.15</u> Km	<u>0.07</u> Km
Number of occupied Dwellings, Public Facilities, and/or Places of Business inside the EPZ	<u>0</u>	<u>0</u>	<u>0</u>

Distance to Nearest Surface Development 6.4 Km

Distance to Nearest Urban Centre 16 Km

A site specific ERP is Required Yes No

If YES, the ERP has been submitted to Emergency Planning & Assessment Yes No

4. CRITICAL WELL ONLY

1. All equipment and practices for the drilling of this well will meet or exceed the requirements of ID 97-06 and IRP Volume 1 Yes No

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