



NWT OFFICE OF THE REGULATOR OF OIL AND GAS OPERATIONS

Office of the Regulator of Oil and Gas Operations

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Ken Nikiforuk, Operations Consultant
Strategic Oil and Gas Ltd.
C/O Alvarez & Marsal Canada ULC
SUITE 1100, 250 - 6th AVE SW
CALGARY AB T2P 3H7

June 8, 2021

Dear Ken Nikiforuk:

**Information Request No. 1: Application to Abandon
the Swede G-21 Well (ACW-2021-SOG-G-21-WID1764)**

On June 1, 2021, the Office of the Regulator of Oil and Gas Operations (OROGO) received a well abandonment program from Strategic Oil and Gas Ltd. (Strategic) for the Swede G-21 (WID 1764) well.

OROGO has reviewed the information provided by Strategic and requires additional information in order to complete its review of Strategic's application to abandon the Swede G-21 well, as set out in the attached Information Request No. 1.

Please send your written responses and any associated correspondence to Peter Lennie-Misgeld, Senior Advisor, Legislation and Policy at oro.go@gov.nt.ca or through OROGO's secure file transfer site on or before 4:00 p.m. on June 29, 2021. If you are unable to respond within this timeframe or have any questions, please contact OROGO at (867) 767-9097 or by email at oro.go@gov.nt.ca.

Sincerely,

Pauline de Jong
Regulator

Encl. Information Request No. 1

c Duncan MacRae, Director, Alvarez & Marsal Canada ULC

Strategic Oil and Gas Ltd.
Application for an Authorization to Alter the Condition of a Well
Swede G-21 Well (ACW-2021-SOG-G-21-WID1764)
Information Request No. 1

1.1 Shallow Tubing Plug

PREAMBLE:

The Well Abandonment Program submitted by Strategic on June 1, 2021, for the Swede G-21 (WID 1764) well included an existing wellbore diagram that shows a shallow tubing plug installed at 85 mKB on March 17, 2007 and a tubing plug set in the F-profile nipple at 1,404.7 mKB on May 29, 1991. Historical Well Inspection Reports (summarized in the Well History) identified significant shut-in tubing pressure (SITP) at the well head prior to and following the installation of the shallow tubing plug at 85 mKB:

- July 4, 1998 reported SITP = 2400 kPa;
- August 29, 2006 reported SITP = 3074 kPa;
- May 25, 2007 reported SITP = 2274 kPa; and
- September 27, 2007 reported SITP = 2315 kPa.

Well Inspection Reports from 2009 through 2018, after the installation of the shallow tubing plug, report shut-in tubing pressures ranging for 0 to 36 kPa.

The reported SITPs at the wellhead indicate:

- The tubing plug at 1,404.7 mKB has failed and may not be isolating the tubing from formation pressures; and
- There may be significant trapped pressure below the shallow tubing plug at 85 mKB.

Step 19 of the Wellbore Abandonment Program identifies the removal of the shallow tubing plug at 85mKB using a slickline unit, however, Strategic did not provide information on:

- The risks associated with the potential for trapped pressure under the shallow tubing plug that may be significantly greater than the fluid pressure above it; or

- The safety precautions, procedural steps and safety equipment proposed to address the risks associated with the potential for trapped pressure below the shallow tubing plug.

REQUEST:

Please submit an updated Well Abandonment Program that:

- Describes the risks associated with the potential for trapped pressure under the shallow tubing plug that may be significantly greater than the fluid pressure above it; and
- Identifies safety precautions, procedural steps and safety equipment to address the risks associated with the potential for trapped pressure below the shallow tubing plug.

1.2 Cement Evaluation

PREAMBLE:

The Well Abandonment Program submitted by Strategic on June 1, 2021, for the Swede G-21 (WID1764) well included partial data from a cement bond log (completed on February 17, 1991) that notes the “Probable Cement Top” at approximately 515 mKB. The submitted existing wellbore diagram shows the depth of surface casing set at 389 mKB.

Section 6A of the *Well Suspension and Abandonment Guidelines and Interpretation Notes* requires operators evaluate the existing cement behind the casing string(s) of a well before beginning abandonment operations.

OROGO’s historical well records include a copy of the cement bond log (CBL) data submitted. This record is also incomplete as there is no CBL data for the wellbore sections from 0-500 mKB and 575mKB-1250 mKB. The CBL data from OROGO’s well record also indicates that there may be only partial cement behind the casing from:

- 500-550 mKB; and
- 1250-1305 mKB.

The submitted Well Abandonment Program includes conducting a cement bond log (CBL) to evaluate the existing cement behind the casing strings (Step 38) and provision

to conduct remedial cementing (steps 39 – 57). However, Strategic does not provide a description of possible un-cemented zones in the well history or identify the cement top on the existing wellbore diagram.

REQUEST:

Please submit an updated Well Abandonment Program that includes the following information:

- A complete copy of the Cement Bond Log data recorded February 17, 1991, including interpretation and analysis;
- Updated well history information that describes the potential for un-cemented wellbore sections; and
- An updated existing wellbore diagram that identifies the “probable cement top”.