

February 20, 2020

3600-2885-32640-02

Tom Johnston, President
AQT Water Management Inc.
700 – 1816 Crowchild Trail NW
Calgary, AB T2M 3Y7

Dear Mr. Johnston:

**RE: PRODUCED WATER AND NON-HAZARDOUS WASTE DISPOSAL, ORDER 10-02-001
AQT FT ST JOHN 6-24-84-19 W6M; WELL PERMIT 3060
FORT ST JOHN FIELD – CADOMIN-NIKANASSIN FORMATION**

The Commission issued Special Project Approval Order 10-02-001, approval for disposal of non-hazardous waste and produced water for the subject well, Cadomin formation, on February 3, 2010 pursuant to section 75 of the *Oil and Gas Activities Act* (Act). On December 5, 2014, the Commission issued Order 10-02-001, Amendment #1 pursuant to section 75 of the Act. On June 10, 2016, Amendment #2 was issued pursuant to section 75 of the Act. On May 27, 2019, the Commission issued Order 10-02-001, Amendment #3 pursuant to section 75 of the Act.

Order 10-02-001, as amended, contains a number of conditions including, among other things, that AQT Water Management Inc. (AQT):

- Perform a casing inspection log on the subject well and submit the results to the Commission within 30 days of the completion of logging, at an interval of not more than every 10 years, commencing from the date of initial disposal operation into the Cadomin and Nikanassin zones [condition 2(l)(i)]; and
- Perform an annual hydraulic isolation log on the subject well and submit results to the Commission within 30 days of the completion of logging [condition 2(l)(ii)].

The most recent casing inspection log submitted to the Commission for the subject well is dated October 17, 2009. On May 27, 2019 the Commission communicated to AQT that the casing inspection log, required under condition 2(l)(i) of Order 10-02-001, as amended, must be conducted no later than October 28, 2019. To date the Commission has not received 2019 casing inspection log results for the subject well from AQT.

The most recent hydraulic isolation log results submitted to the Commission for the subject well are dated December 4, 2018. To date, an annual hydraulic isolation log for 2019, required under condition 2(l)(ii) of Order 10-02-001, as amended, has not been received by the Commission.

Results of a casing inspection log performed on October 17, 2009 indicated a damaged casing joint from 289.9 – 301.78 mKB and a potential hole in the casing at approximately 300.8 mKB. On September 10, 2014, a Baker Retrievable Cup Casing patch, forming a piece of the tubing string, was set at 295.2 to 303.4 mKB to isolate the damaged casing joint. Workover operations on the subject well, conducted November 18 to November 20, 2019 involved resetting the packer. During this operation the packer and tubing string were raised by approximately 12 m. The casing patch was reset at 283.0 to 292.7 mKB and no longer isolates the damaged casing.

Packer isolation testing was conducted on November 20 and 21, 2019. Results of the packer isolation test submitted to the Commission shows a successful 10-minute pressure test to 1.4 MPa and a successful 10-minute pressure test to 7.0 MPa conducted one after another, at approximately

noon on November 20, 2019, while the well was injecting at a stable rate. The completion/workover report submitted to the Commission for the workover operation in the subject well on November 20, 2019, indicates the well was shut-in prior to 2:30 pm and a 1.4 MPa pressure test, conducted at approximately 2:00 pm, had an unsuccessful result. Furthermore, the completion/workover report does not confirm that all the surface casing vent valves were open and does not indicate an absence of liquid from the surface casing vent assembly during the pressure testing.

Having considered the above points, pursuant to section 75(2)(b) of the Act I am suspending Order 10-02-001, as amended, beginning February 21, 2020 at 12:00 pm and continuing until further notice.

I have determined that the suspension is required because it appears that there has been a contravention of a condition of the designation. I have concluded that suitability of the well for continued disposal operations cannot be confirmed due to the lack of current casing inspection log and hydraulic isolation log results, required under condition 2(l) of Order 10-02-001, as amended. The lack of isolation of the damaged casing joint increases the risk for loss of integrity and the unsuccessful result of a 1.4 MPa 10-minute pressure test results contradicts the successful results of the packer isolation test. In turn, compromised well integrity may provide migratory paths for fluids and allow groundwater contamination to occur.

As of February 21, 2020 at 12:00 pm and until further notice, AQT must suspend disposal operations at the subject well, 6-24-84-19 (WA 3060). The Commission will consider removing this suspension upon demonstration, to the satisfaction of the Commission, that the well is suitable for continued disposal operations. This may include, but not be limited to, relocating the casing patch to the original position; conducting a packer isolation test; completing all logging required by Order 10-02-011, as amended; and submitting all results and interpretations to the Commission. The Commission strongly recommends that a workover plan be submitted to the Commission for acceptance prior to commencing further workover operations.

Should you have any questions, please contact Kathryn Archibald at (250) 419-4406 or Ron Stefik at (250) 419-4430.

Sincerely,



Richard Slocomb, M.A. Sc., P.Eng.
Vice President, Reservoir, Drilling Engineering and Technical Svcs
Oil and Gas Commission