



## MEMO

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Date: March 4, 2016  
To: Rob Young  
From: Ron Richards  
Cc: John Axelson – COGCC, Stuart Ellsworth – COGCC, Dirk Sutphin – COGCC, James Hoff – ECGS, Scott Smith ECGS  
  
Re: REM #9425 Status Update

Find below in red the current status of items 1 through 8 of the additional conditions of the referenced REM:

1. The COGCC recommends the performance of a methane survey in order to aid in potential source area determination or to document that fugitive storage gas is not migrating to the surface. COGCC recommends surveying active and plugged and abandoned wells within the gas storage field.

**CURRENT STATUS: Have scheduled Ridgeline Aviation to perform an aerial methane survey the week of 3/8/2016. Ridgeline utilizes Boreal Laser GasFinderAB system.**

2. Perform quarterly monitoring of the Nelson Water Well for the duration of the source area investigation. Collect water well samples prior to the treatment system for the following laboratory analyses:
  - a. 8260 VOCs full list, 8270 SVOC full list, pH, specific conductance, total dissolved solids, dissolved (methane, ethane, propane, butane, iso-butane, pentane, iso-pentane, hexane), total bicarbonate as CaCO<sub>3</sub>, carbonate as CaCO<sub>3</sub>, bromide, fluoride, sulfate, nitrate and nitrite as N, phosphorus, calcium, iron, magnesium, manganese, potassium, sodium, barium, boron, selenium, strontium and iron related bacteria. If the full list VOC constituents are not detected during the initial sampling event, only BTEX analysis shall be required during subsequent monitoring events. SVOC analysis shall not be required beyond the initial sampling event if the results are below the detection limits.

**CURRENT STATUS: Will collect initial samples upon commissioning and startup of treatment system.**

3. If access can be obtained, collect groundwater samples from surrounding water wells within an approximate 1 mile radius of the Nelson (Langness) water well and analyze for the same constituents requested for 2.a. Follow up sampling of the water wells will be determined based on the analytical results.
  - a. Specific water wells include Hugh Williams Permit No. 82501; Kevin & Peggy Michaels Permit No. 235877; U.S. Air Force Permit No. 11499-A. If the US Air Force well is not available to sample, the David Davis Permit No. 15889-A should be pursued as an alternate.

**CURRENT STATUS: Will collect initial samples upon commissioning and startup of treatment system.**

4. Upload all groundwater sample results via the EDD process into the COGCC database.

**CURRENT STATUS: Will file via EDD process as results become available.**

5. Collect pre and post methane treatment system water samples from the Ron Nelson Water Well for dissolved methane analysis in order to confirm the effectiveness of the treatment system. Collect the samples upon completion of the methane treatment system installation, and again within 5 days of the system startup. After the two initial sampling events, continue the post system sampling and analysis during the ongoing quarterly monitoring events.

**CURRENT STATUS: Will collect initial samples upon commissioning and startup of treatment system.**

6. If not already completed, offer to provide a methane monitoring and alarm system to the residence and/or the ground water treatment system building.

**CURRENT STATUS:** Installed three (3) methane LEL detector/alarm devices in the Nelson residence 2/15/2016. Will install a similar device in the water treatment system building. WRT water treatment system, we began construction of this system the week of 2/15/2016. Find attached construction progress pictures of the treatment building, etc.

7. Schwake #A-3, 075-07168: Explain what was done with this well. We do not have any information updating the current well configuration. It was proposed to reenter to replug or convert to a monitor well. This was a condition on the 2010 Form 4's. Submit appropriate Form(s) and job verification reports. If well was re-plugged; a Form 6-sra, wellbore diagram, plugging verification job summaries. If converted to a monitor well; a Form 5 - Drilling Completion Report, CBL, cement job summaries, Form 5A - Completed Interval Report, wellbore diagram. Timeframe: 30 days.

**CURRENT STATUS:** Complete. See Form 6 - Subsequent Report of Abandonment #400982397 received by COGCC 2/8/2016

8. Perform a well evaluation of all oil & gas, injection, and gas storage wells, including plugged wells, within 0.75 miles of the Nelson water well to determine if any well has the possibility of having caused the problem. a) Perform and submit bradenhead tests - Form 17's. b) Review all well records, top of cement, stage and remedial cement, depth of surface casing, bradenhead pressure, plugging records, well integrity issues, production history, etc. Identify any likely candidates. c) Recommend remedial work. Timeframe: 60 days.

**CURRENT STATUS:**

- a) Completed bradenhead tests 3/3/2016. Submittal of Form 17's forthcoming.
- b) Approx. 90% complete with review