



July 25, 2023

Pauline de Jong
Regulator
Office of the Regulator of Oil and Gas Operations
PO Box 1320
Yellowknife, NT
X1A 2L9

Re: Information Request 6
Abandonment of the Aurora College Training Well G-04
Application OA 2022-001-AC

Dear Ms. de Jong

Aurora College is pleased to submit the following in response to Information Request #6,
Application OA 2022-001-AC.

CPE will provide additional information as received.

Sincerely

Jonathon Michel
Director, Aurora Campus
Aurora College

ATTACHMENT 1.
Information Request No. 6
Aurora Training Well G-04 Abandonment
OA 2022-001-AC

Application for a Benefits Plan with the Gwich'in Tribal Council

Aurora College (Jonathon Michel) contacted the Town of Inuvik and the Gwich'in Tribal Council to request time for consultations at the town council and Tribal council meetings to present the plans for the abandonment of the Aurora College G-04 Training Well. Aurora College subsequently had a telephone conversation with the Town of Inuvik regarding the drilling well remediation for Aurora Training Well G-04 in February 2023.

The town official responded that all they require is an email correspondence confirming that the remediation is complete when that is done. They did not have questions or input beyond that. The Town indicated that a consultation meeting regarding the Training Well G-04 was not required.

Aurora College (J Michel) spoke with the GTC (Mr. Darren Campbell) on March 14, 2023. Mr. Campbell indicated that as the well is located on municipal lands, the GTC does not have issue with the well abandonment operation and would look to engage a process only as adjacent land stakeholders through the Gwich'in Land and Water Board for the closer of the water license if that is required. The GTC expressed appreciation for the call to them about this and stated that the GTC did not have questions or input for Aurora College at this time. Mr. Campbell indicated that further consultation is not required, but that he would appreciate notice or a telephone conversation on upcoming operations just to keep him aware of the progress with our program.

Aurora College has been in contact with the Minister of Industry, Tourism and Investment and the minister's staff regarding obtaining an Approved Benefits Plan as required in order to obtain the above noted Operations Authorization.

In accordance with the advice of the Minister, Aurora College initiated further contact with the Gwich'in Tribal Council and has shared the college's proposed benefits plan with the GTC for their comments. Aurora College is waiting upon a proposed meeting with the GTC to discuss the Benefits Plan further.

Future Actions

In anticipation of a satisfactory benefits plan being negotiated, Aurora College plans to begin operations with gas migration testing prior to mid August, 2023; Casing pressure testing will also be conducted in order that we can demonstrate

that the casing and wellhead are capable of holding pressure and that major remedial work will not be required on the G-04 Training Well.

Request for Waiver of Need for a Cement Evaluation Log and WellBore Fluid Replacement

Aurora College again requests that the Regulator reconsider the requirement for a cement evaluation log on this well as the likelihood of any environmental damage is extremely remote. We attach our letter of February 13, 2023, providing our rationale for this request.

We note that the Energy Sciences unit of the Northwest Territories Geological Survey supported the statements made by CPE in this request.

It should be noted that this is a unique scenario for Aurora College as they're not in the business of doing Oil and Gas work, transporting equipment necessary to carry out cement evaluation log and well bore fluid replacement with specialized equipment from BC or Alberta is a significant cost to the organization and is a substantial expense. We attach our email from Acting President, Jeff O'Keefe of July 10, 2023, providing our rationale for this request.

With respect to the wellbore fluids presently in the well, we suggest that Aurora College pump out as much fluid as possible out of the wellbore and dispose of that fluid at an approved disposal site. The wellbore would be topped up with noncorrosive fresh water prior to conducting the cut and cap operation. The total volume of fluid contained in this well is 7.0 m³ making the possibility of contamination of groundwater minimal.

Canadian Petroleum Engineering Inc.
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ATTACHMENT 2

February 13, 2023

Pauline de Jong
Regulator
Office of the Regulator of Oil and Gas Operations
PO Box 1320
Yellowknife, NT
X1A 2L9

Re: Request for Waiver of Requirement for Cement Evaluation on Aurora
College Training Well G-04
Application OA 2022-001-AC

Dear Ms. de Jong

Canadian Petroleum Engineering on behalf of Aurora College is submitting this request for a Waiver for the need for cement evaluation on the Aurora College Training Well G-04. This request for a waiver is based on the information already available on this well which we believe is sufficient to demonstrate that sufficient bond exists to negate any possible internal flow or hydrocarbon leakage between zones or to surface.

The OROGO Well Suspension and Abandonment Guidelines and Interpretation Notes in Section 6A have the objective of ensuring that an operator determine that all oil or gas bearing zones, discrete pressure zones and potable water zones are isolated by evaluating the cement bond in the casing annulus.

CPE submits that the following demonstrates that these objectives have been met and is in keeping with the approach that an Operator may suggest alternative

approaches, where those approaches are demonstrated to meet or exceed the same standards for the protection of human safety and the environment.

Consideration for Existence of Oil and Gas Bearing zones

In the initial design of the Aurora College Training well G-04, CPE reviewed all of the regional seismic which was available in order to ensure that the Training Well was drilled off target from any potential oil and gas accumulations. CPE also reviewed the geology information available for the area near to the possible well sites and determined that the age of the sediments was insufficient to generate hydrocarbons. This review ensured that no hydrocarbon zones would be encountered when the well was drilled.

CPE consulted with the GSC to review whether permafrost may be encountered by the well in order to determine whether permafrost might exist that could act as a trap for hydrocarbons migrating from a deeper depth to zones encountered while drilling the well. GSC's senior regional permafrost researcher, Dr Steve Dallimore, informed CPE that any permafrost that we might encounter at the well location would be relic permafrost due to the proximity to the Mackenzie River and that it would not be present in a contiguous layer or zone that could act as a barrier and allow any sizeable accumulation of hydrocarbon to exist. This also prevents the formation of a higher than normal water pressure zone in the shallower sediments.

Isolation of Oil and Gas Zones and Isolation of Potable Water Zones

The Aurora College Training Well G-04 was designed and drilled to ensure that any possible potable groundwater zones and any potential hydrocarbon bearing zones were protected and isolated. Conductor casing was set at 16 m KB, Surface casing was set at 150 m KB and the main casing string was set at TD at 401 m KB.

Each casing string was cemented back to surface to ensure all formations were covered with cement and fully isolated. Good cement returns were observed on each cement job which validates full isolation.

Presence of Porous Zones (from Geological reports)

The Aurora College Training Well was drilled predominantly in unconsolidated mudstone and silty mudstone, which is what would be expected in an area of rapid deposition such as the Mackenzie Delta. No porous zones were encountered while drilling the G-04 well

Gas detection was in place and used during the drilling operation. Background gas levels were less than 1.0% for the entire well. No significant gas shows were encountered during the drilling operation with neither connection or trip gas reported.

No Indications of Gas at Surface near the well

Well inspections have been conducted periodically since the G-04 well was drilled. None of the Inspection results have recorded any surface casing vent flow (SCVF) nor has any pressure ever built up within the casing. Background gas levels appear similar over the entire wellsite.

We believe that all of the information reviewed supports the Waiver Request being made.

In addition, the requirement for cement evaluation will more than triple the cost of this routine surface well abandonment. This will present Aurora College with a significant financial burden that will be difficult to accommodate within our limited resources.

CPE will provide additional information as required.
We appreciate your consideration of this request.

Sincerely

Lorne Hammer
Director CPE

**ATTACHMENT 3.
Information Request No. 6
Aurora Training Well G-04 Abandonment
OA 2022-001-AC**

From: O'Keefe, Jeff <jeff.okeefe@auroracollege.nt.ca>
Sent: Monday, July 10, 2023 12:52:50 PM
To: orogo@gov.nt.ca <orogo@gov.nt.ca>
Cc: VardyDell, Glenda <GVardyDell@auroracollege.nt.ca>
Subject: Aurora College Well G-04 Abandonment

Good Morning

Aurora College is committed to following the necessary steps to abandon the training well in Inuvik. However, as the well was never drilled out, we believe some of the steps are perhaps extreme given that the likelihood of any environmental impact is so remote. An electric wireline logging truck has to be brought up from Alberta or BC and will take 4 days to mob and 4 days to demob the truck for a project that is only about 3 days long. This training well was created in partnership with several other partners however Aurora College is the last man standing and happens to have its name attached to the well. There were essentially no financial benefits from the limited training that came from this program that was delivered once in 2001. Nobody projected this financial liability back in 2001 as we did for Mallik. The cost now is approximately \$266K not including the \$76K for financial security which is more than Aurora College ever invested itself in the training well construction in 2001.

I know we applied for a waiver of the cement casing inspection which was a large portion of the cost and it was denied. We thought that perhaps if we did the gas migration testing, casing pressure testing, and cut and capped the well with proper signage, the cost would be more in the \$65K range. Even if we agreed to soil sampling after one year that would be much more financially possible for us. However, we have not planned for an expense of \$266K in this fiscal year and it may mean there are academic programs in Inuvik that we have to cancel this year. Even if there was another well or company that was bringing up the required equipment in the near future and we could share the cost, that would help to mitigate the cost.

I am hoping you can help us problem solve this current issue. We want to fulfill our obligations but frankly the cost is prohibitive. Something that started out as a good idea more than 20 years ago is now coming back to bite us.

Thanks

Mársı | Kinanāskomitin | Thank you | Merci | Hąjı' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsi



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