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February 15, 2021

Office of the Regulator of Oil and Gas Operations
Government of the Northwest Territories
P.O. Box 1320
Yellowknife, NT
X1A 2L9
Canada

Attention: Mr. Peter Lennie-Misgeld
Senior Advisor, Legislation and Policy

Re: Information Request No. 1: Paramount Resources Ltd.
Application to Alter the Condition of a Well – Mount Coty I-02 Well
(ACW- 2020-004-PAR-I-02-WID1884)

Paramount has received your letter of January 15, 2021 as above and respectfully offers the following responses:

1.1 Revised Program for Abandonment of Mount Coty I-02

Attachment #1 is a revised abandonment program. In summary the program is as follows:

- Install a tubing plug in the R nipple below the packer at 882mKB
- Pressure test both tubing and annulus sides
- Unlatch the tubing from the packer
Repeat pressure test of packer/plug combination to 7000kPa for 10 minutes
- Spot a 15m cement plug on top of the packer
- Pull tubing from the well
- Cut and cap at surface as per OROGO requirements

This program will utilize the packer/plug combination in place of a bridge plug as they are functionally identical and will be tested to the same pressure and duration.

The packer is set at 882mKB and the top perforation (Fantasque) is at 897mKB, a difference of 15m meeting the OROGO Well Suspension and Abandonment Guideline and Interpretation Notes (Guidelines).

Paramount believes this modification is superior to the removal of the packer for two reasons:

- 1) The formation and perforations are always isolated from the surface by two physically independent tested barriers (the packer/plug combination and the surface BOP system).
- 2) This approach does not require the use of weighted brine (or equivalent fluid). The last recorded pressure of the Fantasque formation is 8900kPa equating to 11.28kPa/m and requiring a minimum kill fluid density of 1150kg/m³. This would require a minimum of 22% KCL or 16% CaCl as a kill fluid. In addition to any potential spill, the used kill fluid would have to be removed from the well to meet OROGO Guidelines and trucked to a disposal well increasing the attendant risk of a vehicle accident and/or spill.

For the above operational safety and environmental reasons, Paramount requests that OROGO accept the proposed abandonment program as complying with the requirements of the Guidelines.

1.2 Cut and Capping Procedures

The xls document is provided as a hot link at the end of the program but Paramount assumes that it was not functional on the copy provided to OROGO.

The diagram comprising the xls link is included as Appendix A along with a copy of the procedures for its installation which are also attached to the end of the abandonment program.

1.2 Water Hydrojet Vented Cap System

This is an alternative “cut and cap” method which uses an internal water and abrasive cold cut on the casing after conventional downhole abandonment. The advantage of this method, where practical, is that it avoids excavation around the wellhead. Appendix B is a summary of the process.

I trust this adequately addresses the information requests and please contact me if additional information is required.

Respectively,

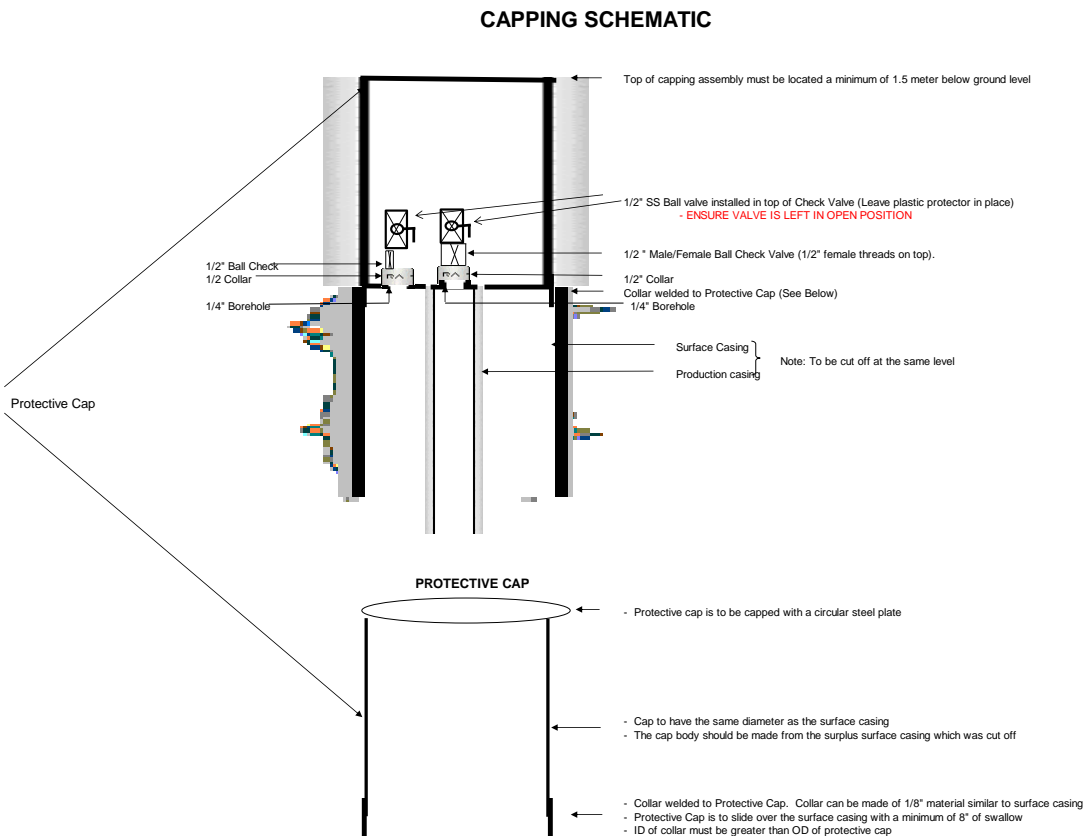
PARAMOUNT RESOURCES LTD.



John Hawkins, P.Eng.
Director Asset Management
403-817-5074

Appendix A: Cut Capping Procedures 2008.xls document

Below is the drawing associated with the above link



It should be interpreted in conjunction with the following instructions (extracted from the abandonment program)

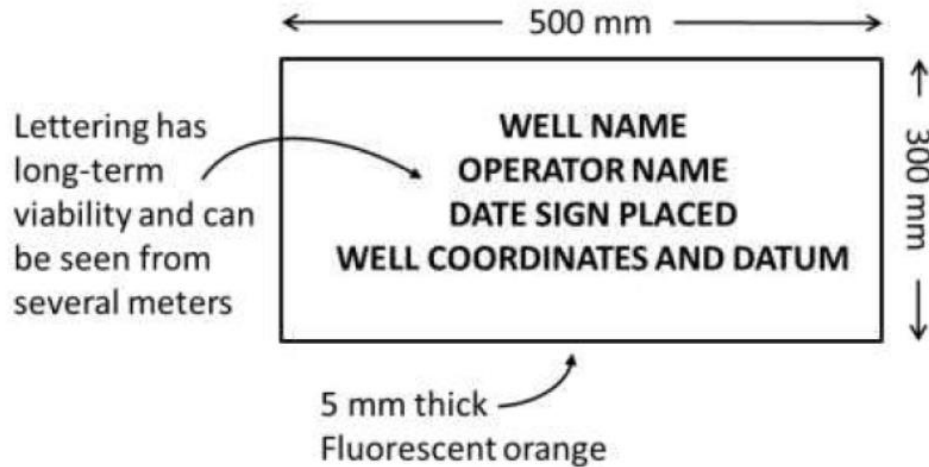
PRL CUTTING & CAPPING PROCEDURES:

- Move in 'B'-ticket welder, backhoe, and steamer, if required. Hydovac unit may be required if flowlines are present.
- Read and record SIP(s). Check and monitor LEL and H₂S levels at wellhead and investigate for evidence of gas migration at surface. Examine surface casing vent for blow or suction. Record and report findings. If present, stop work and hold a safety meeting to review working procedures. If required, contact the Calgary office for further direction. Proceed with work only when conditions are able to be managed safely.
- NOTE: When ambient temperatures are below freezing, tarp in wellhead and steam wellhead to ensure that wellhead and piping are not frozen.

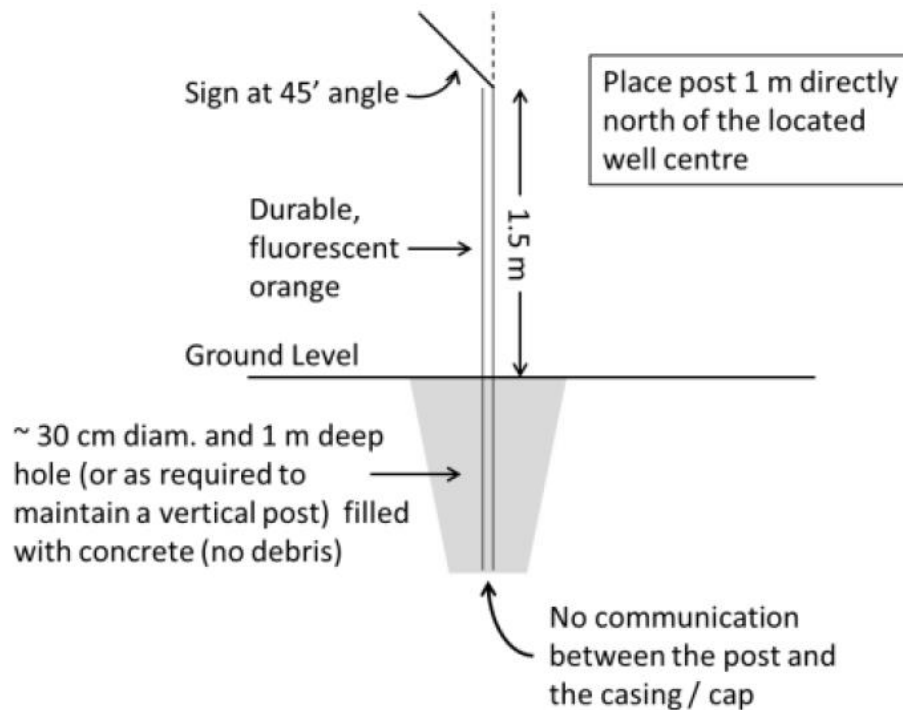
- Remove all plugs and function test all wellhead valves to confirm there is no pressure built up in the wellhead or casing. Disassemble the SCV piping assembly and visually inspect that the vent is not plugged with cement or ice.
- Review corporate ground disturbance package and policies with all on-site personnel prior to commencing excavation around the wellhead. Hydrovac expose all underground facilities (casing, flowlines etc.) within five (5.0) meters of area to be excavated and excavate a 6.0m x 2.5m bell hole around the wellhead ensuring that walls of the bell hole are properly sloped for safe entry and egress and to prevent sloughing in. Check and monitor LEL and H2S levels and investigate for evidence of gas migration.
- While exercising caution, weld cut a small hole 30 cm below the surface casing bowl and investigate for trapped gas and fluids. Check and monitor LEL and H2S levels. With closed hooks and shackles, connect backhoe bucket to wellhead and pull into tension slightly more than the weight of the wellhead. Weld cut three (3) windows in the surface casing to access the innermost casing string ensuring that 50% of the circumferential metal remains to prevent possible collapse of the surface casing from the weight of the wellhead. While exercising caution, weld cut the innermost string.
NOTE: Innermost string can be expected to suddenly drop once completely cut. Do not place pry bars, hands or fingers in the windows.
- Complete weld cut of the surface casing, lift and remove wellhead from bellhole with backhoe.
- Review the Capping Schematic in this Appendix. Cut off the casing strings so that the top of the Protective Cap will be a minimum of 1.5 meters below the surveyed ground elevation. The surface casing and production casing are to be cut off at the same depth.
- Fabricate the Protective Cap and slip on collar using the surplus surface casing material.
- Dress the casing stubs. Using compatible metallurgical material, install and seal weld a 12.7 mm steel plate “donut” and vent assembly over the surface casing and production casing annulus, and a 12.7 mm steel plate and vent assembly over the inner most casing string. Required vent assemblies are as shown on the Capping Schematic.
NOTE: All seal welds (where required) are to be pre & post-heated to 3000C.
- Install and weld the Protective Cap to the surface casing as shown on the Capping Schematic. Weld inscribe the LSD on top of the Protective Cap and document with a digital photograph.
- Backfill and compact the excavation, clean up lease and rig out and release all services.
- Complete material transfer(s) and forward equipment for servicing and/or storage.
- OROGO guidelines state that field verified coordinates for the well center must be provided as part of the Well Operations report as follows:
The geodetic datum must be specified (NAD83 is recommended): and □ Coordinates must be provided in decimal degrees to 4 decimal places or more, or in degrees, minutes and seconds to 2 decimal places, if decimal coordinates are not possible.
- A field sketch of the area must be also be submitted as part of the Well Operations Report.

After surface abandonment is completed, all abandoned wells must be marked with a durable post and a sign as per below:

Sign Requirements



Post Requirements



Appendix B: Water Hydrojet Vented Cap System

This system is utilized to “cut and cap” a well that has been abandoned downhole in compliance with local regulatory requirements. A high-pressure abrasive and water stream is used to cut the casing strings below grade from the interior, eliminating the need to perform significant excavation and place personnel in the “bell hole”.

In summary the steps are:

- Remove wellhead from the top of the well (down to surface casing bowl flange)
- Place the hydraulic pipe cutter inside the innermost casing
- Apply high-pressure water and abrasive to the cutting tip (typically 1-2m below grade).
- Rotate the cutting tip to sever the casing from the inside out.
(Typically it takes 20 minutes to an hour to complete the cut)
- Remove tool and pull the casing stub out of the ground.
- Compression fit vented cap to the below-ground casing strings.
(Welded options are available for jurisdictions where this is required)
- Backfill the hole (typically about the diameter of the surface casing drill bit)
- Install independent well sign post as per OROGO requirements.

This system is approved by the Alberta Energy Regulator and the BC Oil and Gas Commission and is commonly used throughout Alberta and British Columbia.