

State of Colorado Oil and Gas Conservation Commission

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OGCC RECEPTION

Document Number:

400439901

EARTHEN PIT REPORT / PERMIT

This form is to be used for both reporting and permitting pits. Rule 903 describes when a Permit with prior approval, or a Report within 30 days is required for pits. Submit required attachments and forms.

Form Type: ☒ PERMIT ☐ REPORT

OGCC PIT NUMBER: 433714

NOTE: Operator to provide OGCC Pit Number only if available on an existing pit for pit report

OGCC Operator Number: 100185 Contact Name: Julia Carter
 Name of Operator: ENCANA OIL & GAS (USA) INC
 Address: 370 17TH ST STE 1700 Phone: (720) 876.5240
 City: DENVER State: CO Zip: 80202-5632 Email: Julia.Carter@encana.com

ATTACHMENTS

Detailed Site Plan

Design/Cross Sec

Topo Map

Calculations

Sensitive Area Info

Mud Program

Form 2A

Form 26

Water Analysis

Pit Location Information

Operator's Pit/Facility Name: N. Parachute Operator's Pit/Facility Number: UWF D03596
 API Number (associated well): 05- 00
 OGCC Location ID (associated location): Or Form 2A # 400439151
 Pit Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNW-3-5S-96W-6
 Latitude: 39.650347 Longitude: -108.162383 County: GARFIELD

Operation Information

Pit Use/Type (Check all that apply): Pit Type: ☒ Lined ☐ Unlined
☐ Drilling: (Ancillary, Completion, Flowback, Reserve Pits) ☐ Oil-based Mud; ☐ Salt Sections or High Chloride Mud
☐ Production: ☐ Skimming/Settling; ☐ Produced Water Storage; ☐ Percolation; ☐ Evaporation
☐ Special Purpose: ☐ Flare; ☐ Emergency; ☐ Blowdown; ☐ Workover; ☐ Plugging; ☐ BS&W/Tank Bottoms
☒ Multi-Well Pit: Construction Date: 09/01/2013 Actual or Planned: Planned

Method of treatment prior to discharge into pit: coolers, separators, tanks

Offsite disposal of pit contents: ☐ Injection; ☐ Commercial; ☒ Reuse/Recycle; ☐ NPDES; Permit Number:

Other Information: Water coming from UWF H04 596 flowback will be cooled through a set of aerial coolers, go through 3 phase separation and tanks before it is discharged into the pit. Water will also be coming from our Middle Fork water facility. There will not be any offsite disposal of pit contents. All water leaving the pit will be pumped downhole for completion operations.

Distance (in feet) to the nearest surface water: 1108 Ground Water (depth): 75 Water Well: 9672
 Is this location in a Sensitive Area? No Existing Location?

Pit Design and Construction

Size of Pit (in feet): Length: 300 Width: 125 Depth: 15 Calculated Working Volume (in barrels): 59680
 Flow Rates (in bbl/day): Inflow: 75000 Outflow: Evaporation: Percolation:
 Primary Liner. Type: HDPE Thickness (mil): 60
 Secondary Liner (if present): Type: HDPE Thickness (mil): 40
 Is Pit Fenced? Yes Is Pit Netted? Yes Leak Detection? Yes

Other Information: Since the pit is double lined the percolation rate is virtually zero. The evaporation rate per year will be approximately 651,740 gallons.

Operator Comments: Please note Encana owns both surface and minerals at this location. This pit will be used as a remote frac pad to support completion operations at nearby well pads. Once those operations are complete the pit will be closed and the pad reclaimed. A Form 2A has already been submitted (Doc # 400439151).

Certification

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: _____ Print Name: Julia Carter
Title: Regulatory Analyst Email: Julia.Carter@encana.com Date: 06/28/2013

Approval

Signed:  Title: Director of Cogcc Date: 07/25/2013

BMP

Type Comment

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CONDITIONS OF APPROVAL:

TEMPORARY SURFACE PIPELINE COAs:

Operator shall pressure test pipelines in accordance with Rule 1101.e.(1) prior to putting into initial service any temporary surface or permanent buried pipelines and following any reconfiguration of the pipeline network. Operator shall notify the COGCC Oil and Gas Location Assessment (OGLA) Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us) and the COGCC Field Inspection Supervisor for Northwest Colorado (Shaun Kellerby; email shaun.kellerby@state.co.us) 48 hours prior to testing surface poly or buried steel pipelines.

Operator must implement best management practices to contain any unintentional release of fluids along all portions of the surface pipeline route where temporary pumps and other necessary equipment are located.

Operator must routinely inspect the entire length of the surface pipeline to ensure integrity. Operator shall conduct daily inspections of surface poly pipeline routes for leaks during active transfer of fluids. Inspections shall be conducted by viewing the length of the pipeline; operator will endeavor to minimize surface disturbance during pipeline monitoring. The operator shall maintain records of inspections, findings and repairs, if necessary, for the life of the pits.

Operator must ensure 110 percent secondary containment for any potential volume of fluids that may be released from the surface pipeline at all sensitive area crossings, including, but not limited to stream, intermittent stream, ditch, and drainage crossings.

Operator will utilize, to the extent practical, all existing access and other public roads, and/or existing pipeline right-of-ways, when placing/routing the surface pipelines. This will reduce surface disturbance and fragmentation of wildlife habitat in the area.

GENERAL SITE COAs:

Notify the COGCC 48 hours prior to start of multi-well pit/frac pad construction, pit liner installation, start of hydrostatic test, and start of hydraulic stimulation operations using Form 42 (the appropriate COGCC individuals will automatically be email notified, including the LGD for hydraulic stimulation operations).

Operator must implement best management practices to contain any unintentional release of fluids at the pit location, as well as any fluids conveyed via temporary surface or buried permanent pipelines.

Operator must ensure secondary containment for any volume of fluids contained at pit/frac pad site during operations (as shown on the Construction Layout Drawings attachment); including, but not limited to, construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site grading, or other comparable measures (i.e., best management practices (BMPs) associated with stormwater management) sufficiently protective of nearby surface water. Any berm constructed at the pit/frac pad location will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.

Strategically apply fugitive dust control measures, including enforcing established speed limits on private roads, to reduce fugitive dust and coating of vegetation and deposition in water sources.

Operator shall stabilize exposed soils and slopes as an interim measure during pit operations at this site.

Flowback and stimulation fluids from the wells/pads being completed using this pit (if applicable) must be sent to tanks, separators, or other containment/filtering equipment before the fluids can be placed into any pipeline, storage vessel, or lined pit (only if an amended Form 2A has been submitted/approved and a Form 15 Earthen Pit Permitted has been submitted/approved) located on the well pad; or into tanker trucks for offsite disposal. The flowback and stimulation fluid tanks, separators, or other containment/filtering equipment must be placed on the well pad in an area with additional downgradient perimeter berming. The area where flowback fluids will be stored/reused must be constructed to be sufficiently impervious to contain any spilled or released material.

Berms or other containment devices shall be constructed to be sufficiently impervious (preferably corrugated steel with poly liner) to contain any spilled or released material around crude oil, condensate, and produced water storage tanks.

Additional containment shall be required where temporary or permanent pumps and other necessary equipment or chemicals are located.

Operator will use adequately sized containment devices for all chemicals and/or hazardous materials stored or used on location.

Operator will implement measures to ensure that adequate separation of hydrocarbons from the influent occurs to prevent accumulation of oil on the surface of stored completions fluids. Operator shall also employ a method for monitoring buildup of phase-separated hydrocarbons on the surface of stored fluids.

No oil is permitted on the surface of pit fluids.

FORM 15 EARTHEN PIT PERMIT COAs:

The multi-well pit must be double-lined. The pit will also require a leak detection system (Rule 904.e).

Delivery and vacuum truck hoses will not be allowed to be placed directly onto the pit liner. Operator will construct a loading/unloading station located next to the pit, to deliver fluids to or remove fluids from the pit by truck. The loading/unloading station shall be designed and utilized to prevent hoses from being dropped into the pits and dragged over the liner, which could lead to liner damage. The loading/unloading station will be the only permitted access for manual fluids transfers to or from the pit. Vehicles will not be allowed to approach the pit any closer than the loading/unloading station. Each station will have a catch basin in case a leak occurs while operations personnel are connecting or disconnecting hoses. Signs clearly marking the truck loading/unloading station shall be provided and maintained by the operator.

Operator must submit a professional engineer (PE) approved/stamped as-built drawing (plan view and cross-sections) of the multi-well pit within 30 calendar days of construction.

After installation of the uppermost liner and prior to operating the pit, the synthetic liner(s) shall be tested by filling the pit with at least 70 percent of operating capacity of water, measured from the base of the pit (not to exceed the 2-foot freeboard requirement). The operator shall monitor the pit for leaks for a period of 72 hours prior to either draining the pit or commencing operations. Operator shall notify the COGCC Oil and Gas Location Assessment (OGLA) Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us) 48 hours prior to start of the hydrotest. Hydrotest monitoring results must be maintained by the operator for the life of the pit and provided to COGCC prior to using the pit (via Form 4 Sundry to Dave Kubeczko; email dave.kubeczko@state.co.us) .

In lieu of conducting an initial hydrostatic test of the pit, the operator can monitor fluid levels in the pit continuously using a minimum of two pressure transducers located at the upgradient and downgradient ends of the pit (based on the original topographic profile). These pressure transducers should be linked to the operator's SCADA system such that they can be remotely monitored. In addition, the pit liner will be marked at the two foot freeboard depth line so that operations personnel (as well as COGCC inspectors) can easily verify that the required fluid free board is being maintained. The electronically collected water level measurement data shall be used to confirm changes in pit inflow and outflow during operations based on estimates from truck and/or pipeline delivery or removal activities. Any abnormalities that are noticed during operations will be reported to the operator's field supervisor immediately so that any necessary follow-up can be scheduled.

No portion of any pit that will be used to hold liquids shall be constructed on fill material, unless the pit and fill slope are designed and certified by a professional engineer, subject to review and approval by the director prior to construction of the pit. The construction and lining of the pit shall be supervised by a professional engineer or their agent. The entire base of the pit must be in cut.

The nearby downgradient hillside below the pit location must be periodically monitored for any day-lighting of fluids throughout pit operations.

The multi-well pit must be fenced and netted. The operator must maintain the fencing and netting until the pit is closed.

Surface water samples (one upgradient and one downgradient from the multi-well pit location) from the unnamed intermittent stream located approximately 1065 feet to the west of the location (if water is present), shall be collected prior to pit use and every 12 months (until pit closure) to evaluate potential impacts from pit operations. At a minimum, the surface water samples will be analyzed for the following parameters: major cations/anions (chloride, fluoride, sulfate, sodium); total dissolved solids (TDS); and BTEX/TPH.

The operator shall submit, and receive approval of, a reuse and recycling plan per Rule 907.a.(3), prior to any offsite reuse/recycling of pit fluids.

The multi-well pit shall be closed in accordance with Rule 905. Closure of Pits, and Buried or Partially Buried Produced Water Vessels; with an approved Site Investigation and Remediation Workplan, Form 27. The operator shall submit a Form 27 for COGCC review and approval prior to commencing pit closure activities. The operator shall also submit a Notice of Completion for COGCC review and approval within 30 days of concluding pit closure activities.

This multi-well pit will comply with Rule 902. PITS - GENERAL AND SPECIAL RULES. e. Pits used for a period of no more than three (3) years for storage, recycling, reuse, treatment, or disposal of E&P waste or fresh water, as applicable, may be permitted in accordance with Rule 903 to service multiple wells.

Should the operation of this facility continue more than three years, a Form 28 shall be submitted and approved prior to the expiration of the Form 2A and Form 15.