Kubeczko, Dave

From: Kubeczko, Dave
Sent: Tuesday, March 09, 2010 11:18 AM
To: Kubeczko, Dave
Subject: FW: Marathon Oil, 697-26A PAD, NWNE Sec 26 T6S R97W, Garfield County, Form 2A # 400040680 Review

Scan No 2032938 CORRESPONDENCE 2A#400040680

From: Walls, Anna V. [mailto:avwalls@marathonoil.com]
Sent: Tuesday, March 09, 2010 11:11 AM
To: Kubeczko, Dave
Subject: RE: Marathon Oil, 697-26A PAD, NWNE Sec 26 T6S R97W, Garfield County, Form 2A #400040680 Review

Dave,

Marathon is in ageeement with the proposed COAs.

1) Marathon is using a closed loop drilling system with a cuttings pit, as shown on the pad location drawings.

2) The proposed COAs 23, 38 and 39 are acceptable to Marathon.

3) A Water Quality Monitoring program has been sent to Chris Canfield.

4) We are in the process of obtaining an ISDS permit. I will submit a Form 4 as soon as I have the approved ISDS permit.

Please let me know if you need additional information.

Thank you,
Anna

From: Kubeczko, Dave [mailto:Dave.Kubeczko@state.co.us]
Sent: Monday, March 08, 2010 5:04 PM
To: Walls, Anna V.
Subject: Marathon Oil, 697-26A PAD, NWNE Sec 26 T6S R97W, Garfield County, Form 2A #400040680 Review

Anna,

I have been reviewing the 697-26A PAD **Form 2A** (#400040680). COGCC requests the following clarifications regarding the data Marathon has submitted on or attached to the Form 2A prior to passing the Oil and Gas Location Assessment.

1. **General:** COGCC's review indicates that the well pad location is located within ¾ mile of the rim of the Roan Plateau, therefore, Marathon must comply with the following Pit Design, Construction, and Monitoring Requirements; at a minimum, the following will apply:
   A. **General Requirements for Pits:**
      i. Pits shall not be constructed on springs, seeps, or other surface water features. If groundwater is encountered during pit construction activity, pit construction shall cease and the location shall be reclaimed. An alternate location or an alternate plan (e.g., use of a closed loop and/or semi-closed loop system) must be approved by the Director before resuming operations.

ii. All pits, including drilling pits, in the Area of Concern must be lined, as discussed below under "Pit Design and Construction" and in accordance with COGCC Rule 904.

iii. No portion of any pit 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. An as-built construction report is required for pits which are designed and certified by a Professional Engineer. The as-built construction report shall be submitted with a Form 4 (Sundry Notice – Report of Work Done) to COGCC's environmental staff for approval prior to using the pit.

iv. Produced water shall be treated in accordance with Rule 907. before being placed in a properly-permitted pit. Storage of produced water in drilling pits in anticipation of upcoming drilling or completion activities is not allowed for a period longer than seven (7) calendar days.

B. **Pit Design and Construction:**

i. If site-specific conditions do not allow for compliance with these minimum requirements, then the operator must submit a pit design which is certified by a Professional Engineer, subject to review and approval by the Director prior to construction of the pit. The pit design shall be submitted with a Form 4, Sundry Notice.

ii. Liner systems for all pits, including drilling Pits shall meet the minimum requirements of COGCC Rules 904.b. or 904.c.

iii. Drill cuttings may be used as an alternative liner foundation material (COGCC Rule 904.c.(3)), provided that a double synthetic liner system is used and the recycled drill cuttings meet the applicable standards of Table 910-1.

iv. It is the operator's responsibility to design and construct a liner system to contain fluids in the pit without compromising the integrity of the liner(s).

v. Pit sidewall slopes shall not be steeper than 1 vertical to 2 horizontal to facilitate installation of the bedding materials and the synthetic liner(s). If sidewall slopes exceed 1 vertical to 2 horizontal, then the operator must submit a site-specific pit design that will minimize the likelihood of damage to the liner by sharp rock edges and any other material protruding from the sidewalls. The pit design must be certified by a Professional Engineer, subject to review and approval by the Director prior to construction of the pit. The pit design shall be submitted with a Form 4, Sundry Notice.

vi. As a Condition of Approval for pits requiring a Form 15, the Director may require other additional protective measures. These measures may include but are not limited to increased record-keeping requirements, monitoring systems, and leak detection systems. In making such a determination, the Director shall consider the surface and subsurface geology, the existence of ground water, the quality of the produced water, and the hydraulic conductivity of the surrounding soils and bedrock, the depth to ground water, and the distance to surface water and water wells.

C. **Hydrotesting:**

i. After installation of the uppermost liner and prior to using any lined pit, the synthetic liner(s) shall be tested by filling the pit with at least eight (8) feet of fresh water, measured from the base of the pit (not to exceed the two (2) foot freeboard requirement). The operator shall monitor the pit for leaks for a period of seventy-two (72) hours prior to draining the pit and commencing operations. Hydrotest monitoring results must be maintained by the operator for the life of the pit and provided to the Director upon request.

ii. If leaks are observed, the operator must suspend operations and notify the Director within twenty-four (24) hours. The operator must fix any leaks and repeat hydrotests as described above. Operations shall not commence until a successful hydrotest is performed with no leaks observed.

D. **Pit Monitoring (in addition to the requirements of COGCC Rule 902.b. the operator shall):**

i. Monitor pit fluid levels using a pit level indicator at least once every twelve (12) hours whenever fluid is present in the pit in quantities greater than *de minimis* amounts. The monitoring frequency shall increase to once every six (6) hours when the pit is being actively used for drilling,

completion or production operations. Monitoring results must be documented and records maintained by the operator in accordance with COGCC Rule 205 and provided to the Director upon request.

ii. Stop using the pit as soon as practicable, if there is any observed loss of integrity from the pit liner or if the operator suspects a loss of more than five hundred (500) barrels of liquid from the pit, based on fluid level measurements or throughput measurements. The operator must notify the Director in accordance with COGCC Rule 906. The pit contents shall be removed as soon as practicable, the pit will be inspected and the extent of impact, if any determined and remediated, repairs to the pit liner system shall be made or a replacement liner system installed, and use of the pit shall not resume until a successful hydrotest is performed and the results have been submitted with a Form 4, Sundry Notice to the Director for approval.

E. **Suspension of Use:**

i. If operations are suspended and the pit is not in use for more than seven (7) calendar days, then fluids in the pit must be removed such that only *de minimis* amounts of fluids are left in the pit to hold down the synthetic liner(s).

ii. After removing fluids, the operator shall continue to inspect the pit and record any observed leaks, punctures or tears at least once every twenty-four (24) hours while use of the pit is suspended.

iii. The pit shall be inspected by the operator prior to re-use. If any leaks, punctures or tears are observed, then the synthetic liner must be replaced and hydrotested prior to resuming operations.

iv. If operations are suspended for more than six (6) months, then the pit shall be closed, unless specifically approved by the Director.

2. **General:** In addition, due to the highly fractured nature of the surface material in the area around the Roan Rim, the following conditions of approval (COAs) will also apply:

COA 23 - Operator must ensure 110 percent secondary containment for any volume of fluids contained at well site during drilling and completion operations. If fluids are conveyed via pipeline, operator must implement best management practices to contain any unintentional release of fluids.

COA 38 - The moisture content of any drill cuttings in a cuttings pit, trench, or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts. At the time of closure, the drill cuttings must also meet the applicable standards of table 910-1.

COA 39 - 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.

3. **Water Quality Monitoring:**

A. Operator will propose surface water quality monitoring program.
B. Operator will perform sampling to establish water quality conditions prior to using pits at the subject location.

4. **Additional Requirements:** It is COGCC's understanding that Marathon intends to apply to Garfield County for a permit for an Individual Sewage Disposal System (ISDS) at the subject location. They plan to transfer the effluent from that ISDS to a pit and use it as makeup water (subject to COGCC approval of a request from Marathon via Sundry Notice). The following COAs will be applied to the Sundry Notice approving transfer of ISDS effluent to any pits;

A. Provide a copy of the GARCO-ISDS permit to COGCC by Form 4.
B. ISDS shall be operated in accordance with GARCO-ISDS Permit.
C. ISDS effluent shall not be used for drilling or completing the surface-casing borehole.

D. If ISDS effluent quality limits are exceeded, immediately cease using the effluent for O&G operations and notify the COGCC by Form 4.

E. Notify COGCC by Form 4 if the ISDS is moved to a different man camp/well pad. Attach copy of new GARCO-ISDS permit and a list of wells in which the effluent may be used.

COGCC would appreciate your concurrence with attaching these COAs and requirements to the Form 2A permit prior to passing the OGLA review. If you have any questions, please do not hesitate to call me at (970) 625-2497 x5 (office) or (970) 309-2514 (cell), or email. Thanks.

Dave

David A. Kubeczko, PG

Oil and Gas Location Assessment Specialist

Colorado Oil & Gas Conservation Commission
Northwest Area Office
707 Wapiti Court, Suite 204
Rifle, CO 81650
Phone: (970) 625-2497x5
FAX: (970) 625-5682
Cell: (970) 309-2514
dave.kubeczko@state.co.us

STATE OF COLORADO OIL & GAS CONSERVATION COMMISSION