



State
of
Colorado

Kubeczko - DNR, Dave <dave.kubeczko@state.co.us>

Final Resend of Entek GRB LLC, FRU Federal 1-1 Pad, Lot 5 Sec 1 T11N R88W, Routt County, Form 2A#400324683 Review; additional Access Road Design/Construct and Wildfire Monitoring COAs

Kubeczko - DNR, Dave <dave.kubeczko@state.co.us>
To: Dave Kubeczko - DNR <dave.kubeczko@state.co.us>

Tue, Jan 22, 2013 at 3:06 PM

Scan No 2106493 CORRESPONDENCE 2A#400324683

----- Forwarded message -----

From: David Smith <DSmith@entekenergy.com>

Date: Tue, Jan 22, 2013 at 1:21 PM

Subject: RE: Final Resend of Entek GRB LLC, FRU Federal 1-1 Pad, Lot 5 Sec 1 T11N R88W, Routt County, Form 2A#400324683 Review; additional Access Road Design/Construct and Wildfire Monitoring COAs

To: "Kubeczko - DNR, Dave" <dave.kubeczko@state.co.us>

Dave,

I don't know how we argue anything here – I expect that BLM will have Fire control stips as well

As I read the soils stip – I do not feel it demands any new Geo studies, but, would require that we incorporate any known surface geo studies into our construction planning – suggests to me that we will need to make sure that we consult with a soils engineer ahead of construction

OK to proceed

David Smith

From: Kubeczko - DNR, Dave [mailto:dave.kubeczko@state.co.us]

Sent: Tuesday, January 22, 2013 7:47 AM

To: David Smith

Cc: kim@banko1.com

Subject: Final Resend of Entek GRB LLC, FRU Federal 1-1 Pad, Lot 5 Sec 1 T11N R88W, Routt County, Form 2A#400324683 Review; additional Access Road Design/Construct and Wildfire Monitoring COAs

David,

COGCC will place the following additional COAs on the Entek GRB LLC, FRU Federal 1-1 Pad, Form 2A#400324683:

COA 71 - Operator shall design and construct the access road utilizing all available soils, geologic, landslide, and hydrogeologic information. The road should also follow any applicable BLM construction standards. Operator shall notify the COGCC and the Routt County LGD 48 hours prior to start of access road construction using Form 42 (and emailing dave.kubeczko@state.co.us, kris.neidel@state.co.us, and cbrookshire@co.routt.co.us).

COA 81 - During all construction, drilling, and completion phases at this location, operator shall be monitoring the wildfire potentials daily and have the appropriate additional equipment and measures in place. This may include smoking bans and additional fire fighting equipment. Operator shall consult with BLM and the NFS as necessary.

If you have any questions, please do not hesitate to call me at (970) 309-2514 (cell), or email. COGCC would like to pass this Form 2A today (January 22, 2013) and begin processing the other three Entek permits using similar COAs. These COAs could also be placed on the Form 2A under the BMP tab if Entek would prefer. BMPs are equally enforceable by COGCC. Please note, the COGCC Office in Rifle has moved (new address is shown below). Thanks.

Dave

David A. Kubeczko, PG

Oil and Gas Location Assessment Specialist

Colorado Oil & Gas Conservation Commission

Northwest Area Office

796 Megan Avenue, Suite 201

Rifle, CO 81650

FAX: (970) 625-5682

Cell: (970) 309-2514

dave.kubeczko@state.co.us



Please consider the environment before printing this e-mail

----- Forwarded message -----

From: **Andrea Gross** <andrea@banko1.com>

Date: Thu, Dec 6, 2012 at 9:16 AM

Subject: FW: Resend of Entek GRB LLC, FRU Federal 1-1 Pad, Lot 5 Sec 1 T11N R88W, Routt County, Form 2A#400324683 Review; revision of Water Sampling COA to include surface water

To: Dave.Kubeczko@state.co.us

Cc: Kim Rodell <kim@banko1.com>, David Smith <dsmith@entekenergy.com>

Dave,

Here are the wildlife stipulations that BLM has placed on the FRU Federal 1-1:

- Greater Sage Grouse nesting and Early Brood Rearing Habitat – no activity between March 1 – June 30
- Columbian Sharptail nesting habitat – no activity between March 1 – June 30
- Timing restrictions for Greater Sage Grouse from March 1 – May 15 – activity between 9:00 am to 4:00pm
- Implement noise reduction measures for Greater Sage Grouse
- BLM recommends avoidance of the nearby Greater Sage Grouse PPH.

Please let me know if you have any questions.

Thank you,

Andrea Gross

Project Coordinator

P: 303-820-4480 x106

F: 303-820-4124

C: 720-339-4277

Email: andrea@banko1.com



From: Kim Rodell [<mailto:kim@banko1.com>]

Sent: Wednesday, December 05, 2012 1:32 PM

To: Andrea Gross

Subject: FW: Resend of Entek GRB LLC, FRU Federal 1-1 Pad, Lot 5 Sec 1 T11N R88W, Routt County, Form 2A#400324683 Review; revision of Water Sampling COA to include surface water

From: Kubeczko - DNR, Dave [<mailto:dave.kubeczko@state.co.us>]

Sent: Wednesday, December 05, 2012 11:42 AM

To: kim@banko1.com; David Smith

Subject: Resend of Entek GRB LLC, FRU Federal 1-1 Pad, Lot 5 Sec 1 T11N R88W, Routt County, Form 2A#400324683 Review; revision of Water Sampling COA to include surface water

COGCC has revised **COA 9** - Baseline Water Testing; ; please see the changes below highlighted orange.

Kim,

I have been reviewing the Entek GRB LLC, FRU Federal 1-1 Pad, **Form 2A** (#400324683). COGCC would like to attach the following conditions of approval (COAs) to the Form 2A based on the data Entek has submitted on or attached to the Form 2A prior to passing the Oil and Gas Location Assessment (OGLA) review.

Construction (Section 6): The box answering the question will salt (>15,000 ppm TDS Cl) or oil based muds (OBM) be used? has been marked **Yes**; therefore the following condition of approval (COA) will apply:

COA 11 - A closed loop system must be implemented during drilling (which operator has indicated on the Form 2A); or, if a closed loop system drilling rig is not used/available, then an amended Form 2A will need to be submitted/approved to include a drilling pit, and a Form 15 Earthen Pit Permit will also need to be submitted/approved prior to construction of the pit (the drilling pit will be required to be lined, fenced, and netted). All cuttings generated during drilling with oil based muds or high chloride/TDS mud must be kept in containers, a lined/bermed portion of the well pad, or the lined drilling (if permitted and constructed) prior to offsite disposal. 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.

General: The following conditions of approval (COAs) will apply:

COA 91 - Notify the COGCC 48 hours prior to start of pad construction, rig mobilization, spud, 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).

COA 5 - Operator must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via temporary surface or buried pipelines.

COA 23 - Operator must ensure secondary containment for any volume of fluids contained at well site during drilling and completion operations (as shown on the Proposed BMPs 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 well pad location will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.

COA 38 - The moisture content of any freshwater generated 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, if the drill cuttings are to be left onsite, they must also meet the applicable standards of table 910-1.

COA 25 - Flowback and stimulation fluids 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.

COA 58 - 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.

COA 44 - The access road will be constructed to prevent sediment migration from the access road to nearby surface water or any drainages leading to other nearby surface waters.

Groundwater/Surface Water Baseline Sampling: Based on the wildcat status of the Entek GRB LLC, FRU Federal 1-1 Pad, COGCC would like to attached the following additional condition of approval (COA) to the Form 2A to provide the COGCC with some baseline data for surface water and/or groundwater:

COA 9 - Baseline Water Testing: Prior to drilling, operator shall sample the two (2) closest domestic water wells, springs, or surface water features within a one (1) mile radius of the proposed oil and gas location. Testing preference shall be given to domestic water wells and springs over surface water. Testing of surface water features shall only be conducted if two (2) water wells or springs do not exist within a one (1) mile radius of the selected oil and gas location. If possible, the water wells or springs selected should be on opposite sides of the oil and gas location not exceeding a one (1) mile radius. If water wells or springs on opposite sides of the oil and gas location cannot be identified, then the two (2) closest wells or springs within a one (1) mile radius of the oil and gas location shall be sampled. The sample location shall be surveyed in accordance with Rule 215. Sampling and analysis shall be conducted in conformance with an accepted industry standard as described in Rule 910.b.(2).

Initial baseline testing shall include: pH, specific conductance, total dissolved solids (TDS), dissolved gases (methane, ethane, propane), alkalinity (total bicarbonate and carbonate as CaCO₃), major anions (bromide, chloride, fluoride, sulfate, nitrate and nitrite as N, phosphorus), major cations (calcium, iron, magnesium, manganese, potassium, sodium), other elements (barium, boron, selenium and strontium), presence of bacteria (iron related, sulfate reducing, slime and coliform), total petroleum hydrocarbons (TPH) and BTEX compounds (benzene, toluene, ethylbenzene and xylenes). Hydrogen sulfide shall also be measured using a field test method. Field observations such as pH, temperature, specific conductance, odor, water color, sediment, bubbles, and effervescence shall also be included. COGCC recommends that the latest version of EPA SW 846 analytical methods be used where possible and that analyses of samples be performed by laboratories that maintain state or national accreditation programs.

If free gas or a dissolved methane concentration greater than 1.0 milligram per liter (mg/l) is detected in a water well, gas compositional analysis and stable isotope analysis of the methane (carbon and hydrogen – ¹²C, ¹³C, ¹H and ²H) shall be performed to determine gas type. If test results indicated thermogenic or a mixture of thermogenic and biogenic gas. If the methane concentration increases by more than 5.0 mg/l between sampling periods, or increases to more than 10. mg/l, the operator shall notify the Director and the owner of the water well immediately.

After 90 days, but less than 180 days of completion of the first proposed well a “post-completion” test shall be performed for the same analytical parameters listed above and repeated one (1), three (3) and six (6) years thereafter. If the well is a non-producing well, then the one (1), three (3) and six (6) year samples will not be required. If no significant changes from the baseline have been identified after the third test (i.e. the six-year test), no further testing shall be required. Additional “post-completion” test(s) may be required if changes in water quality are identified during follow-up testing. The Director may require further water

well sampling at any time in response to complaints from water well owners.

Copies of all test results described above shall be provided to the Director and the landowner where the water quality testing well is located within three (3) months of collecting the samples used for the test. The analytical data and surveyed well locations shall also be submitted to the Director in an electronic data deliverable format.

Operator may conduct baseline groundwater sampling in accordance with the Colorado Oil and Gas Association (COGA) Voluntary Baseline Groundwater Quality Sampling Program (updated November 15, 2011).

Documented refusal to grant access by well owner or surface owner (for surface water and spring sampling) shall not constitute a violation of this COA.

COGCC would appreciate your concurrence with attaching these COAs to the Form 2A permit prior to passing the OGLA review. In addition, could Entek provide COGCC with the COAs and wildlife stipulations that BLM has attached to this location. If you have any questions, please do not hesitate to call me at (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



Please consider the environment before printing this e-mail