

From: [Dave Kubeczko - DNR](#)
To: [Dave Kubeczko - DNR](#)
Subject: Greenleaf Environmental Services Inc (Greenleaf), Greenleaf Disposal 1 Pad, NESW Sec 36 T9S R97W, Mesa County, Form 2A#401137690 Review
Date: Tuesday, December 20, 2016 9:16:08 AM

Scan No. 2108021 CORRESPONDENCE 2A#401137690

From: Dave Kubeczko - DNR [mailto:dave.kubeczko@state.co.us]
Sent: Monday, December 19, 2016 1:43 PM
To: Lisa Smith; andy.peterson@iptenergyservices.com
Subject: Greenleaf Environmental Services Inc (Greenleaf), Greenleaf Disposal 1 Pad, NESW Sec 36 T9S R97W, Mesa County, Form 2A#401137690 Review

The requirement for a water sample for TDS is independent of whether fracting occurs or not, as listed below:

Rule 325. UNDERGROUND DISPOSAL OF WATER.

- c. The application for a dedicated injection well shall include the following information:
- (1) The name, description and depth of the formation into which water is to be injected, and all underground sources of drinking water which may be affected by the proposed operation. A water analysis of the injection formation (if the total dissolved solids of the injection formation is determined to less than ten thousand (10,000) milligrams per liter, the aquifer must be exempted in accordance with Rule 322B.). The fracture pressure or fracture gradient of the injection formation.

If you have any questions, please do not hesitate to call me at [\(970\) 309-2514](tel:970-309-2514) (cell), or email. Thanks.

Dave

David A. Kubeczko, PG
Oil and Gas Location Assessment Specialist
Western Colorado



Colorado Oil & Gas Conservation Commission
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dave.kubeczko@state.co.us | www.colorado.gov/cogcc



From: Lisa Smith [mailto:lisa@permitco-usa.com]
Sent: Friday, December 16, 2016 10:30 PM
To: Dave Kubeczko - DNR
Subject: Fwd: RE: Greenleaf Environmental Services Inc (Greenleaf), Greenleaf Disposal 1 Pad, NESW Sec 36 T9S R97W, Mesa County, Form 2A#401137690 Review

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

From: "Andy Peterson" <andy.peterson@iptenergyservices.com>

Date: Dec 16, 2016 4:46 PM

Subject: RE: Greenleaf Environmental Services Inc (Greenleaf), Greenleaf Disposal 1 Pad, NESW Sec 36 T9S R97W, Mesa County, Form 2A#401137690 Review

To: "Lisa Smith" <lisa@permitco-usa.com>, "Jake McNair" <jakem@greenlfservices.com>, "David Dillon" <David.dillon.pe@q.com>

Cc:

The one important COA I see is the requirement to sample each formation' TDS prior to stimulation. I assume this means the Cozette and Corcorran do not need to be sampled if we do not frac them, but I suppose this should be confirmed. I have no problem with the other COAs.

Andy

From: Lisa Smith [mailto:lisa@permitco-usa.com]

Sent: Friday, December 16, 2016 3:11 PM

To: Dave Kubeczko - DNR

Subject: Fwd: Greenleaf Environmental Services Inc (Greenleaf), Greenleaf Disposal 1 Pad, NESW Sec 36 T9S R97W, Mesa County, Form 2A#401137690 Review

Hi Dave. See Greenleaf's response below.



Lisa Smith

PermitCo Inc.
PO Box 99
Eastlake, CO 80614

www.oilpermits.com

303-857-9999 (office)
303-450-9200 (fax)
303-324-9350 (cell)
Lisa@permitco-usa.com

----- Forwardedmessage-----

From: **Jake McNair** <jakem@greenlfservices.com>

Date: Fri, Dec 16, 2016 at 3:09 PM

Subject: Re: Greenleaf Environmental Services Inc (Greenleaf), Greenleaf Disposal 1 Pad, NESW Sec 36 T9S R97W, Mesa County, Form 2A#401137690 Review

To: Lisa Smith <lisa@permitco-usa.com>

Cc: David Dillon <David.dillon.pe@q.com>, Peterson Andy <andy.peterson@iptenergyservices.com>

Lisa,

We have looked over everything and are fine with the all of the COAs and will construct the pad and pressure test accordingly.

Thanks,

Jake McNair

On Fri, Dec 16, 2016 at 1:01 PM, Lisa Smith <lisa@permitco-usa.com> wrote:

Hi All,

Could you please review Dave Kubezko's Conditions of Approval and respond back to me if you feel these are acceptable?

Thank you.



Lisa Smith

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Lisa@permitco-usa.com

----- Forwardedmessage-----

From: **Dave Kubezko - DNR** <dave.kubezko@state.co.us>

Date: Fri, Dec 16, 2016 at 12:44 PM

Subject: Greenleaf Environmental Services Inc (Greenleaf), Greenleaf Disposal 1 Pad, NESW Sec 36 T9S R97W, Mesa County, Form 2A#401137690 Review

To: lisa@permitco-usa.com

Lisa,

I have been reviewing the Greenleaf Environmental Services Inc (Greenleaf), Greenleaf Disposal 1 Pad **Form 2A #401137690**. Based on COGCC's review, the following updates, revisions, and corrections have been made to the Form 2A:

COGCC has revised to New Location since the Existing Location ID# 312454 is closed and associated with EnCana Oil and Gas (USA) Inc.

COGCC has revised: Date planned to commence construction: from 11/28/2016 to 12/26/2016.

COGCC has added Rangeland to the CURRENT AND FUTURE LAND USE Section of the Form 2A.

COGCC has revised: Distance from WELL to nearest Building Unit from 750' to 1361', closest residence located to the northeast.

COGCC has removed distances From PRODUCTION FACILITY since there are no tanks, separators, or other production-related equipment on this well pad location.

Based on COGCC's 100-Series Rules (Definitions) for Building Unit, the Greenleaf Office Building (Commercial) and Warehouse Building (Industrial) square footages are less than 5,000 sq-ft and 15,000 sq-ft (used to determine whether a building is a building unit), and therefore, this location is not within a "Buffer Zone". The Form 2A has been revised to indicate this. COGCC has added the following statement to the OPERATOR COMMENTS AND SUBMITTAL Section of the Form 2A: "The building that is 750' away from the well is the office building warehouse for Greenleaf

Environmental Services. The office is 600 square feet and the attached warehouse is 1200 square feet. The office and warehouse are occupied during normal business hours from 7 a.m. to 7 p.m.”

Based on proximity of the well pad to downgradient surface water (intermittent stream located 450’ to the east-southeast), this location has been designated a “sensitive area”.

In addition, COGCC would like to attach the following conditions of approval (COAs) based on the information and data Greenleaf has submitted on or attached to the Form 2A prior to passing the Oil and Gas Location Assessment (OGLA) review.

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

COA 91 - In addition to the notifications required by COGCC listed in the **Northwest Notification Policy (Notice of Intent to Construct a New Location and Notice of Intent to Commence Hydraulic Fracturing Operations)** and **Rule 316C. COGCC Form 42. FIELD OPERATIONS NOTICE (a. Notice of Intent to Conduct Hydraulic Fracturing Treatment and c. Notice of Construction or Major Change)**; operator shall notify the COGCC 48 hours prior to pipeline testing (flowlines from wellheads to separators to tanks; permanent buried take away pipelines; and/or any temporary surface lines used for hydraulic stimulation and/or flowback operations) using the Form 42 (as described in **Rule 316C.m. Notice of Completion of Form 2/2A Permit Conditions**). The appropriate COGCC individuals will automatically be email notified.

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

COA 23 - Operator must ensure secondary containment for any volume of fluids contained at the well site during drilling and recompletion operations; 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 fluid containment/control as well as stormwater management for the control of run-on and run-off) sufficiently protective of nearby surface water. Any berm reconstructed at the well pad location will be stabilized, inspected at regular intervals as required by CDPHE (at least every 14 days and after precipitation events), and maintained in good condition. The design/build of any perimeter berm shall be sized, constructed, and compacted sufficiently to contain fluids during drilling operations, as well as all fluids contained in temporary tanks during recompletion operations.

COA 44 - The access road will be maintained as to not allow sediment to migrate from the access road to nearby surface water or any drainages leading to surface water.

Drilling/Completions: The following conditions of approval (COAs) will apply:

COA 11 - The moisture content of water/bentonite based mud (WBM) generated drill cuttings managed onsite shall be kept as low as practicable to prevent accumulation of liquids greater than de minimis amounts. After drilling and completion operations have been completed, any WBM drill cuttings that will remain on the well pad location (cuttings management area, the cut portion of the pad, cuttings trench, dry cuttings drilling pit), must meet the applicable standards of Table 910-1. After the drill cuttings have been amended (if necessary) and placed on the well pad, sampling frequency of the drill cuttings (to be determined by the operator) shall be representative of the material left on location.

COA 26 - Potential odors associated with the injection well operations must be controlled/mitigated.

Material Handling and Spill Prevention: The following conditions of approval (COAs) will apply to the Form 2A:

COA 45 - Operator shall pressure test pipelines (flowlines from storage tanks to the injection

pump to the wellhead) in accordance with Rule 1101.e.(1) prior to putting into initial service any temporary surface or permanent buried pipelines, and tested annually, unless agreed to by both parties that the flowlines can be managed under an approved COGCC variance.

Underground Injection Control (UIC): The following conditions of approval (COAs) will apply to the proposed injection well [Greenleaf Disposal 1](#) and any temporary or permanent equipment onsite used for injection:

COA 2 - Approval of this Form 2A and the **Form 2 #401137504** for the injection well (Greenleaf Disposal 1) does not authorize operator the right to inject. Authorization to inject into the selected Formation(s) requires approval of both the Form 31 and the Form 33.

COA 46 - Operator will use qualified containment devices for all appropriate chemicals/hazardous materials and injection equipment (pumps) used onsite during the operation of the injection well.

COA 22 - Unless otherwise determined by COGCC staff (COGCC Engineering Staff) that a water sample of the proposed injection Formation(s) is(are) not required, before hydraulic stimulation of the injection well, operator shall collect a groundwater sample from the target Formation(s); that are indicated on the Form 2 for the injection well; and analyze for total dissolved solids (TDS); submit laboratory analytical results to COGCC (emails: bob.koehler@state.co.us and arthur.koelspell@state.co.us).

COGCC would appreciate your concurrence with attaching these COAs to the Form 2A permit prior to passing the OGLA review. COGCC can approve this form with a timely response from Greenleaf. 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
Western Colorado



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