



1120 Lincoln Street, Suite 801
Denver, CO 80203

Facility ID: 442514
Pit Facility: 290544
Document #: 2210298
Date: 11/25/2015

November 25, 2015

Mr. Bryan Burns
LINN Operating Inc.
600 Travis Street #5100
Houston, TX 77002

Re: Review of Form 28 Centralized E&P Waste Management Facility Permit
Facility ID 442514, O-29 Centralized E&P Waste Mgmt Facility
Pit Facility ID 290544
LINN Operating Inc
SWSE Section 29, T5S, R96W, 6th PM, Garfield County, Colorado

Dear Mr. Burns,

The Colorado Oil and Gas Conservation Commission (COGCC) has received and reviewed your submittal for the above referenced permit application for COGCC Centralized Exploration and Production (CE&P) Facility ID 442514 and Pit Facility ID 290544. At this time, the COGCC has the following comments:

Form 28 Centralized E&P Waste Management Facility Permit

1) Form 28, Attachment Checklist.

COGCC Comment: None.

2) Form 28, Question 1.

Is the site in a sensitive area? Answer: No

COGCC Comment: None.

3) Form 28, Question 2.

What are the average annual precipitation and evaporation rates for the site? Answer: Precipitation-16 inches/year. Evaporation – 40 inches/year.

COGCC Comment: None.

3) Form 28, Question 3.

Has a description of the site's general topography, geology, and hydrology been attached? Answer: Yes.

COGCC Comment: None.

4) Form 28, Question 4.

Has a description of the adjacent land use been attached? Answer: Yes.

COGCC Comment: None.

P 303.894.2100 F 303.894.2109 www.colorado.gov/cogcc

Commissioners: Thomas L. Compton - Chairman, Richard Alward, John H. Benton, DeAnn Craig,

James W. Hawkins, Tommy Holton, Andrew L. Spielman, Mike King, Dr. Larry Wolk

John W. Hickenlooper, Governor | Mike King, Executive Director, DNR | Matthew J. Lepore, Director



5) Form 28, Question 5.

Has a 1:24,000 topographic map showing the site location been attached? Answer: Yes.

COGCC Comment: None.

6) Form 28, Question 6.

Has a site plan showing drainage patterns, diversion or containment structures, roads, fencing, tanks, pits, buildings and any other pertinent construction details been attached?

Answer: Yes.

COGCC Comment: None.

7) Form 28, Question 7.

If site is not owned by the operator, is written authorization of the surface owner attached? Answer: Yes, site is owned by LINN Operating Inc.

COGCC Comment:

8) Form 28, Question 8.

Has a scaled drawing and survey showing the entire section(s) containing the proposed facility been attached? Answer: Yes.

COGCC Comment: None.

9) Form 28, Question 9.

What measures have been implemented to limit access to the facility by wildlife, domestic animals or by members of the public? Answer: Access to members of the public is restricted by the guard shack at the beginning of Garden gulch road. Access to the impoundment by wildlife and domestic animals is restricted by an 8-ft high wildlife fence around the perimeter of the impoundment.

COGCC Comment: None.

10) Form 28, Question 10.

Is there a planned fire lane of at least 10 feet in width around the active treatment areas and within the perimeter fence? Answer: No.

COGCC Comment:

Rule 908.b.(5).D. Centralized facilities shall have a fire lane of at least ten (10) feet in width around the active treatment areas and within the perimeter fence. In addition, a buffer zone of at least ten (10) feet shall be maintained within the perimeter fire lane.

11) Form 28, Question 11.

Is there an additional buffer zone of at least 10 feet in width within the perimeter fire lane? Answer: No.

COGCC Comment: Please see the previous comment..

12) Form 28, Question 12.

Have surface water diversion structures been constructed to accommodate a 100-year, 24-hour event? Answer: Yes.

COGCC Comment: None.

13) Form 28, Question 13.

Has a waste profile been calculated according to Rule 908.b.6? Answer: Yes.

COGCC Comment: None.

14) Form 28, Question 14.

Has facility design and engineering been provided as required by Rule 908.b.7? Answer: Yes.

COGCC Comment: None.

15) Form 28, Question 15.

Has an operating plan been completed as required by Rule 908.b.8? Answer: Yes.

COGCC Comment: See comments in 908.b.8.: Operating Plan.

16) Form 28, Question 16.

Has ground water monitoring for the site been provided? Answer: No.

COGCC Comment: Ground water monitoring maybe required at a later date.

17) Form 28, Question 17.

Has financial assurance been provided as required by Rule 704? Answer: Yes.

COGCC Comment:

A Financial Assurance Cost Estimate \$533,189.93 was provided with the submittal. Prior to approval, financial assurance shall be provided. LINN can provide the approximate \$530,000.00 financial assurance, however, the COGCC is currently having a third party review the closure of the facility and prepare an independent closure cost estimate. Based on the third party review, the financial assurance may be less than the estimated \$530,000.00 or more than the estimated \$530,000.00.

18) Form 28, Question 18.

Has a closure plan been provided? Answer: Yes.

COGCC Comment: None.

19) Form 28, Question 19.

Have local government requirements for zoning and construction been complied with? Answer: Yes.

COGCC Comment: Resolution No. 2013-13 is dated February 4, 2013. Provide a statement or verification from Garfield County that the approval is applicable for the permanent C&P Facility. Are there any permit requirements by the Colorado Department of Public Health and Environment (CDPHE)?

20) Form 28, Question 20.

Have permits and notifications required by local governments and other agencies been provided? Answer: Yes.

COGCC Comment: Please see the previous comment above.

Rule 901.e Sensitive Area Determination

COGCC Comment:

- A COA will be included as approval of the Form 28 stating: "LINN Operating Inc. shall provide training to the Grand Valley Fire Protection District in spill and emergency response at this Facility.
- It is stated that *"The monitoring wells will be sampled twice a year per LINN's Groundwater Monitoring Plan for the 29-17 Injection Well Site."* Provide a copy of this plan including monitoring well locations and construction details as part of this Form 28 Permit.

Supplemental Narrative

COGCC Comment:

- Resolution No. 2013-13 is dated February 4, 2013. Provide a statement or verification from Garfield County that the approval is applicable for the permanent C&P Facility.
- The approval of Form 4 (Document Number 400518980) was not a perpetual approval for removing pit netting during the winter months. Prior approval from the Division of Wildlife and COGCC must be granted on annual basis via an eForm Sundry. The approval or denial of the Sundry will be based on findings from prior inspections, violations, or other factors.
- Air quality permits shall be provided as part of this C&P Permit.

Historic Timeline of use of the Pit Facility

- There is discussion of a reported 30 bbls release of produced water on December 26, 2013 and a copy of the Form 19 Spill/Release report is included with this submittal. Although the Spill/Release had been closed out by the COGCC, a review of the COGCC data base indicate some of the basic information for the close out of a Spill/Release are missing including:
 - depth(s) of which samples were collected, etc.
 - chain of custody associated with the analytical results,
 - Volume of material excavated and landfarmed,
 - How impacted material was landfarmed and ultimate disposition of the treated impacted material,

Please clarify and at a minimum provide this information.

- The Form 19 also states that "replacement of the entire line will occur with higher

quality material, as well as pipeline pressure testing and chemical treatment where needed.”

Please provide how much line was replaced, type of material used, pressure testing results, chemical treatment program, and root cause of the leak.

Provide a description of all maintenance that has resulted in the repairs or replacement of any equipment (including the pit liner) over the life of this Facility.

During the August 13, 2015 inspection (Inspection ID: 677900102) the following was noted:

- There is a bermed stock pile of soil on the west side of the pit.
- Embankment on the south side of pit has what appeared to be liner pieces and rag debris incorporated into the embankment.

Please provide clarification and an explanation of the stock pile and the apparent liner pieces incorporated into the embankment.

908.a: Applicability:

COGCC Comment: None.

908.b.1: Contact Information:

COGCC Comment: Provide the current contact information.

908.b.2.: Surface Owner & Legal Site Description:

COGCC Comment: None.

908.b.3.: Legal Site Description:

COGCC Comment: None.

908.b.4. Figures, Maps, Precipitation and Evaporation Rates:

COGCC Comment:

- COVER SHEET 1 OF 9
- PROJECT LOCATION MAP SEET 2 OF 9
- LOCATION MAP & EXISTING WELLS SHEET 3 OF 9
- AS-BUILT SURVEY SHEET 4 OF 9 shows a 10’ buffer around the Pit. Rule 908.b.(5).D. Centralized facilities shall have a fire lane of at least ten (10) feet in width around the active treatment areas and within the perimeter fence. In addition, a buffer zone of at least ten (10) feet shall be maintained within the perimeter fire lane.
- POND SECTIONS SHEET 5 OF 9. Provide construction details of the proposed groundwater

monitoring wells.

- SITE DETAILS SHEET 6 OF 9. Notes indicate that hydrotesting was performed filling the pond (pit) to a minimum depth of four feet and a maximum depth of 8 feet bring the fluid surface to 7926.9'. Therefore, the two feet of freeboard and maximum working capacity of the pit is 7924.9'.
- PIT LINER DETAILS SHEET 7 OF 9. Provide a statement stamped by a Colorado Professional Engineer (P.E.) that Rules 904.d.2 or 3 have been met.
- BIRD NETTING PLAN SHEET 8 OF 9. Is the existing bird net constructed to plans specification/
- AS-BUILT GRADING SHEET 9 OF 9

908.b.5.: Centralized Facility Siting Requirements:

COGCC Comment: None.

908.b.5.A.: Site Plan:

COGCC Comment: None

908.b.5.B.: Scaled Drawings:

COGCC Comment: None.

908.b.5.C.: Access Control Measures:

COGCC Comment: Inspection ID: 677900102 noted that gate(s) to Pit complex has gaps, is closed but not secured and that a dead animal was noted in the Pit on fluid surface. Provide details how these items have been addressed.

1908.b.5.D.: Fire Lane & Buffer:

COGCC Comment: Rule 908.b.(5).D. Centralized facilities shall have a fire lane of at least ten (10) feet in width around the active treatment areas and within the perimeter fence. In addition, a buffer zone of at least ten (10) feet shall be maintained within the perimeter fire lane.

The Director is currently reviewing the Sundry Form 4 and associated documents that pertain to the variance request.

908.b.5.E.: Surface Water Diversion Structures:

COGCC Comment: Provide surface water run on swale between the pit and the soil stock pile, on the South side of the pit.

908.b.6.: Waste Profile:

COGCC Comment: None.

908.b.7.: Facility Design and Engineering:

COGCC Comment:

Provide pipeline testing results as part of the annual report submittal. Submit a GIS map with information in a suitable format showing the location of flowlines, type of pipe used in each segment, monitor points, valve locations, booster pump locations (if any) and update as part of the annual report.

Are there any emergency response control valves associated with this Facility?

Provide Colorado Professional Engineers stamped and signed as-constructed drawings of the run on swale after it is constructed between the pit and the soil stock pile on the South side of the pit.

908.b.7.A.: Geological Data:

COGCC Comment: None.

908.b.7.B.: Hydrologic Data:

COGCC Comment:

It is stated that *"LINN will install up to three (3) monitoring wells, one (1) up-gradient and two (2) down-gradient from the facility. These wells have been tested twice a year."* Please clarify whether monitoring wells have or have not been constructed.

908.b.7.C.: Engineering Data:

COGCC Comment: Provide a statement stamped by a Colorado Professional Engineer (P.E.) that Rules 904.d.2 or 3 have been met.

908.b.8.: Operating Plan:

COGCC Comment:

The Operating Plan shall address all of the items in 908.b.8. During the August 13, 2015 inspection (Inspection ID: 677900102) the following was noted:

- Liner (plastic) pieces of material were noted on the ground west of pit along with a hose and several steel "T" posts on the ground.
- Embankment on the south side of pit has what appeared to be liner pieces and rag debris incorporated into the embankment.
- An approximate 6"x6" repair was noted to liner on south side of pit and wire directly on pit liner.
- Some oil accumulation, plastic bottle, and dead animal in pit on fluid surface.
- Pipes are directly on liner on north side of pit.
- Wooden block on pit liner.
- Evidence of livestock outside of pit complex but across pad and Location.

- 6- used filter socks on steel containment with (2) 55- gallon containers with holes that house used filter socks. Trash (plastic bag), plastic gallon containers, hoses and fittings litter area.
- Hoses are in direct contact with liner.
- In load in/out area hoses are propped with wooden blocks which can be knocked over by livestock.
- Staples and wire pieces from apparent fence repair litter area.
- Gate to Pit complex has gaps, is closed but not secured.
- 2 5-gallon pails (NAPA Hydraulic Fluid), and app 18" pieces of metal iron litter area near the Latham 29-17 Injection Well.
- Latham 29-17 well sign is lying face down onto the ground.
- Metal pieces are stored within the secondary containment of tank battery.

Provide provisions for more permanent features to this Facility (i.e. Pipes and hoses in direct contact with the liner, load in/out areas, livestock with load in/out areas).

Provide provisions for housekeeping as it relates to this Facility (trash and debris, proper storage of materials including filter socks and use of secondary containment of tank battery, signs not adequately erected).

Provide provisions for security (gate to pit complex has gaps and not secured).

Provide details of the Leak Detection system and frequency of monitoring.

1.0 Scope- Map and pipeline maps attached, 7.0 and 8.0 are missing, please clarify.

Submit a copy of LINNs' Flowline testing procedures for the pipelines associated with this facility. Submit a map of LINNs' existing and proposed pipelines associated with this facility and update in the annual report, including GIS compatible shape files, for various pipelines, valving, material in pipes, for inclusion in the COGCC GIS system. This pipeline information is kept on a confidential layer not accessible by the public.

The LINN emergency contact information shall be updated when changes in personnel are made.

908.b.8.: Ground Water Monitoring:

COGCC Comment: None.

908.b.9.A.: Water Wells:

COGCC Comment: None.

908.b.(9).B: Site Specific Monitoring Wells:

COGCC Comment: See comments for Hydrologic Data above.

908.b.10.: Surface Water Monitoring:

COGCC Comment: Provide the 2015 Spring and Fall sampling results of surface water monitoring station LC-1 and Spring 29-1. Provisions for monitoring and sampling Spring 29-2 should be made when sufficient flow is observed.

908.b.11.: Contingency Plan:

COGCC Comment:

The contact information shall be updated when changes in personnel are made.

908.c.: Permit Approval:

COGCC Comment: None.

908.d: Financial Assurance:

COGCC Comment: See previous comments.

908.e: Facility Modifications:

COGCC Comment: Modifications to the load in/load out area to include a concrete or impermeable surface for containment of potential spills.

908.f: Annual Permit Review:

COGCC Comment: Include the "Contributing Wells" API numbers in the Annual Permit Review.

908.g.: Closure:

COGCC Comment: The closure plan should be Facility specific and not a "Master Reclamation Plan for the Piceance Basin Operations."

See previous comments regarding Financial Assurance and Closure Costs.

908.h: Local Permitting:

COGCC Comment: See previous comments.

Should you have any questions, please contact me at 303-894-2100 extension 5138.

Sincerely,

A handwritten signature in blue ink, appearing to read "Alex Fischer".

Alex Fischer, P.G.
Environmental Supervisor-Western Colorado

Cc: Stephen C. Jenkins, P.E., C.P.E.S.C.
North Central Area Engineer