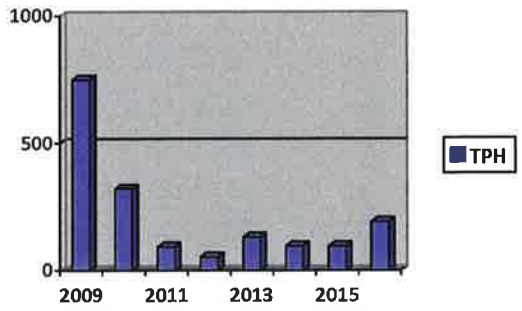
LINN Energy

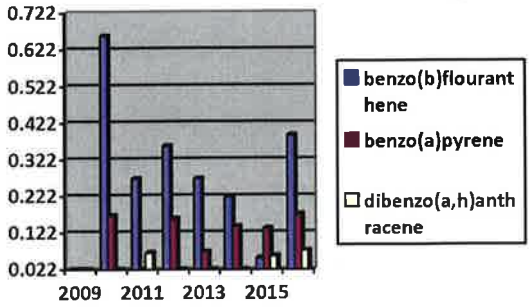
Linn Operating, Inc.
Piceance Asset
Parachute, Colorado
May 17, 2017

C10 696 Landfarming Plan – Facility ID # 449190

- History
  - Five wells were drilled and completed on this well pad in 2008. These wells were drilled with the use of diesel based drilling mud. Drill cuttings were blended with clean soil and stockpiled on location. Samples of these spoils have been taken and analyzed annually beginning in 2009. Landfarming of the spoils began in 2010.

- Current Status
  - Approximately 10,047 cubic yards of spoil material that is being treated on site by land farming is from drilling and completion operations. Currently this material meets the COGCC Table 290-1 for TPH, but fails for three PAH's.
    - benzo(b)fluoranthene – lowest 0.54; highest – 0.88; current sample taken on Oct. 8, 2016 – 0.389.
    - benzo(a)pyrene – lowest – 0.029; highest - .173, which is the current sample taken on Oct. 8, 2016.
    - dibenzo(a,h) anthracene – lowest – 0.012; highest – 0.0734, which is the current sample taken on Oct. 8, 2016.
  - This material was treated three times in 2016 (May 10, Aug. 8, & Nov. 14).
  - As of this date, the material being landfarmed has been spread out to a depth of approximately 36" and has been treated four times. The open pit has been bermed to prevent landfarmed material from spilling into the pit. The recommendation based on the pre-treatment sample results is to add 300 lbs. of phosphorus fertilizer per acre per treatment and fulvic acid. A copy of the lab pre-treatment lab results are attached to the Form 27.





- Treatment - 2017
  - Spoil will be turned with over by an excavator 8 to 10 times (depending on weather and snow conditions) during the warm months in 2017. The soil will be turned over with the frequency established in the plan as a minimum or with a higher frequency if possible. The soil will be spread out to increase exposure to the atmosphere and sunlight as much as possible on the production pad.
  - Pre-treatment samples taken in the early spring will determine the amount of amendments that will be added to the spoil based on an analysis of nutrients present in the spoils.
  - Amendments
    - Based on analysis, phosphorus fertilizer and fulvic acid will be added during each tilling operation to address the benzo's.

- Samples and lab tests
  - Phase I - Composite sample will be taken from 8 locations on the spoil pile in early summer and analyzed.
    - If composite sample passes, discrete samples will be taken to confirm the composite samples.
      - If discrete samples pass, spoil will be buried per COGCC rules.
      - If discrete samples fail, landfarming will continue.
    - If composite sample fails, landfarming will continue.
  - Phase II - Composite sample will be taken from 8 locations on the spoil pile in late fall and analyzed.
    - Procedure will be the same as Phase I.

- Continuation
  - Process will continue into 2018 until spoil passes COGCC Table 910-1, specifically the benzo's.