



May 18, 2015

Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, CO 80203

Attn: Mr. Alex Fischer, P.G.
Environmental Supervisor – Western Colorado

Re: **WPM PFCC Estimate Number – 1105-121 Revision 001**
Review of Form 28 and supporting documentation for Centralized E&P Waste
Management Facility Permit Application prepared by Weston Solutions, Inc.

Facility ID: **#440177** – Gunnison Energy, LLC – Spadfora Water Storage Facility,
Gunnison County, Colorado

Dear Mr. Fischer,

Western Project Management (WPM) is pleased to provide the following review narrative and estimate of Probable Facility Closure Costs of the above referenced impoundment facility. Per your request, we have reviewed the available project documentation including a closure estimate that was prepared by Weston Solutions, Inc.

The WPM Estimate of Probable Facility Closure Costs (PFCC) is attached for your use. The general basis for this estimate includes the following assumptions:

1. The WPM total cost estimate for the scope of work is \$4,044,549 for the full closure and reclamation of the site.
2. Takeoff quantities, labor rates, manhours, and markups are all detailed in the attached estimate tabs.
3. The proposed operating life of the referenced facility is anticipated to be twenty years therefore, we cannot assume that any waste disposal or municipal water treatment plant will be available at their current locations when closure is initiated.
4. Due to the fact that it is difficult to accurately plan for escalation for this reclamation project over the next twenty years, WPM has not included escalation or an inflation factor within this estimate.
5. WPM suggests that this estimate be updated every five years to capture inflation or escalation impacts to probable costs.

The following is a summary of the estimate basis:

1. Mobilization and demobilization
 - a. For the purposes of this estimate, WPM assumed using the services of a local contractor will be used and have included rates and costs for mobilization and demobilization consistent with that market.
 - b. WPM anticipated that it will take one week to accomplish the mobilization efforts which include transportation of all equipment to the site as well as set up of the field office and erosion control measures.
 - c. WPM has included costs for one week of demobilization as well.
2. Soils sampling
 - a. WPM has included additional cost for soils sampling on site for an estimated 20 locations (hand auger).
 - b. Surface to 2 feet below will be sampled.
 - c. The focus will be on the retention pond walls and in placed near where load in/load out activities have taken place.
 - d. The shallow soils testing will occur prior to the reclamation efforts initiating.
3. Storage / surface water sampling
 - a. WPM assumed that the existing stored water and wells will be sampled and tested for evaluation.
 - b. Three (3) seeps or springs one (1) domestic well and five (5) other wells are included for sampling in this estimate.
 - c. WPM has assumed that three (3) existing 2" diameter monitoring wells drilled to 50 feet below grade will be sampled.
 - d. No domestic wells have been identified near the site.
 - e. Three seeps or springs in the area will be sampled.
 - f. Six (6) samples are included in this estimate for stored water.
4. Monitoring well abandonment
 - a. The four (4) existing 2" inch monitoring wells that are drilled to 50 ft in depth will be abandoned in accordance with the State of Colorado State Engineers Monitoring Well Abandonment Requirements.
5. Pre-job decommissioning and removal of equipment
 - a. Equipment to be decommissioned and removed from the site as shown on the construction drawings.
 - b. Equipment will be disconnected from electrical source, fluids removed and piping cleaned, blind flanges placed on open end connections, loaded on trucks and hauled off site for sale, recycle or disposal.
6. Demolition and disassembly of tanks, site improvements and other equipment.
 - a. Truckloads of demolished metal / waste will be trucked to a recycle center, scrap yard or landfill location.
 - b. Concrete will be crushed and placed on site for additional fill material or hauled to a waste site if unable to use for fill.
 - c. Steel / metal waste will be sold for scrap metal or disposed as waste.

- d. All onsite culverts, fence and gates as shown on the construction drawings will be removed and disposed as a part of the closure work.
 - e. Any additional equipment not shown on the construction drawings or detailed in the Pre-job Decommissioning section is assumed to have been removed by the operator prior to the closure work.
7. Fluids disposal
- a. Storage tank capacities are assumed to be 90% full at the time of decommissioning. This capacity is calculated at 24,315,304 gallons of stored water.
 - b. 23,585,844 gallons of fluids will be pumped into a local injection well. The remaining 729,559 gallons of fluids will be hauled to a process and disposal site.
8. Liner removal
- a. Pond and containment liners will be removed and hauled to a waste facility. Liners and associated membranes included in this estimate include:
 - i. 2- 60 mil hdpe liners
 - ii. 1-16 oz Geotextile fabric layer
 - iii. 1 - Geonet (Polynet)
 - iv. 1 - Geonet subdrain layer
9. Treated soils and solids disposal
- a. WPM assumes that the soils and materials to be treated on site will be in accordance with the air quality permitting requirements at the time of closure.
10. Earthwork
- a. All soils will be used onsite in the existing condition. No import of off site soils is required for the closure.
 - b. No soil will be classified as hazardous. No cost provisions for removal or treatment of hazardous soils have been included.
 - c. Assume that the class 5/6 road base will be tilled into filled material and wasted on site.
 - d. Final earthwork grade is assumed to be +/- 3 /10ths of a foot therefore, bluetop grading is not included in the scope of this work.
 - e. Seeding consistent with a typical reclamation project is included.
 - f. For the purposes of this estimate the following classes of heavy equipment performance data per the Caterpillar Performance Handbook was utilized:
 - i. Caterpillar 627F scrapers
 - ii. Caterpillar D8T dozer
 - iii. Caterpillar 140H motor grader
 - iv. Caterpillar 815F vibratory compactor
 - v. Water truck

11. Site Management

- a. Site personnel and contractor general conditions are included for the scope.

12. Labor Rates

- a. Labor classifications and burden is detailed in the estimate tabs. Most of the labor rates have been taken from the recent and local county, Colorado Davis Bacon Wage Determination. RS Means is quoted in several areas as well.

Additional estimate backup and assumptions are detailed on the corresponding estimate tabs.

This concludes WPM's efforts for a third party review and estimate for the above referenced project. Thank you for the opportunity to provide this service to the State of Colorado. Please contact me via email at jag@western-pm.com or by phone at 970-674-1618 for further clarification or with questions.

Best regards,

[via email](#)

John Goad, Jr.
Senior Project Manager
Western Project Management

Attachments - (1) WPM Estimate of Probable Facility Closure Costs