



March 21, 2014

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 Estimate Number – 1105-106**
Review of Form 28 and supporting documentation for Centralized E&P Waste
Management Facility Permit Application prepared by Mustang Engineering, LP.

Facility ID: **#432214** – Hunter Ridge Energy Services - Divide Road Water Facility near
Parachute, Colorado in Garfield County, Colorado.

Dear Mr. Fischer,

Western Project Management (WPM) is pleased to provide the following review narrative
and estimate for the probable closure of the above referenced impoundment facility.

Per your request, we have reviewed the available project documentation and
corresponding estimate that was prepared by Encana and Mustang Engineering.

The WPM Estimate of Probable Closure Costs 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 \$5,422,427 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 impossible to accurately plan for escalation for this
reclamation project over the next twenty years, WPM elected to forgo including
any escalation or inflation factor with this estimate.
5. WPM suggests that this estimate be updated every five years to give the State a
more accurate cost picture.

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 75 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 (tanks, piping) will be sampled and tested for evaluation.
 - b. 30 samples are included in this estimate for stored water.
 - c. WPM has assumed that three existing 2" diameter monitoring wells drilled to 50 feet below grade will be sampled.
 - d. Four domestic wells will be sampled in the vicinity of the project.
 - e. Three seeps or springs in the area will be sampled.
4. Monitoring well abandonment
- a. The three 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 includes: the VRU, Combustor, Separators, Fuel gas skid, MCC, Office and septic tank, DAF building equipment, Booster pump house equipment, Discharge pump house equipment, small tanks (500 bbl and less), Receiving pump station equipment and other miscellaneous equipment.
 - 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 (tanks, buildings, site improvements and other equipment)
- a. Truckloads of demolished metal / waste are planned as 6000 lbs per 1000 square foot of floor area
 - b. Concrete will be crushed and placed on site for additional fill material.
 - c. Steel / metal waste will be recycled or sold for scrap metal.
 - d. All onsite culverts, fence and gates as shown on the construction drawings will be removed 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 100% full at the time of decommissioning.
 - b. This will equal 412,000 bbls of liquid to be processed or hauled off site.
8. Liner removal
- a. Spray on liner in containment areas to be removed as detailed in estimate tabs.
9. Treated soils and solids disposal
- a. WPM assumes that 10,000 CY of 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 6 road base will be 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 – 8 each
 - ii. Caterpillar D8T dozer – 2 each
 - iii. Caterpillar 140H motor grader – 1 each
 - iv. Caterpillar 815F vibratory compactor – 2 each
 - v. Water truck – 2 each
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 Garfield 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 Soil Treatment Facility Closure Costs