

Appendix B
Hydromet Plant/TSF Site Selection Process

HYDROMET PLANT/TSF SITE SELECTION PROCESS

For the selection of the preferred site for construction of the Hydromet Plant and TSF, RER evaluated the Moorcroft and Upton sites using the following evaluation criteria and methodology.

The criteria used to evaluate the sites were:

- **Protection of human health and the environment:** Addresses whether or not the facility will be protective of human health and the environment through the implementation of prescriptive design standards and good engineering practices.
- **Compliance with federal and state standards:** Addresses whether or not the facility will be able to meet federal and state environmental laws related to construction, operation, and closure.
- **Potential National Environmental Policy Act (NEPA) Triggers:** Addresses how likely it is that the facility will trigger a NEPA review and formal Environmental Impact Statement (EIS) through a federal agency action.
- **Ability to Permit/Regulatory Agency Acceptance:** Evaluates the technical and administrative issues and concerns that the governing regulatory agencies may have regarding the permitting requirements of the facility. Also considers the ease and time frame to receive applicable permits.
- **Land Use/Surrounding Area Compatibility:** Evaluates how compatible the facility location is with surrounding the land use.
- **Plant Site/TSF Siting Options:** Evaluates the plant site and TSF location in terms of site topography, initial tailings storage capacity plus expansion, drainage and flood control, nearest population, aesthetics, and access.
- **Rail Siding/Spur Availability:** Considers whether the site has existing access to a BNSF rail siding/spur.
- **Power Supply:** Evaluates the plant site location in terms of power needs.
- **Water Supply:** Evaluates the plant site location in terms of nearby sources of available water supply.
- **Constructability:** Considers the technical and administrative feasibility of constructing the plant and TSF, including factors such as geotechnical characteristics, relative availability of a workforce, services, and required materials.
- **Facility Expansion:** Considers future expandability for tailings storage and refinery construction at each location.
- **Economics:** Considers economic factors (i.e., CAPEX, OPEX, closure costs, tax liabilities) for each site at a conceptual level.
- **Community Acceptance:** Considers any issues and concerns that project stakeholders within Upton or Moorcroft may have regarding the location of the project facilities.

RER developed a weighted matrix analysis to assist in the screening, evaluation, and ranking of the Moorcroft and Upton sites, based on these bulleted criteria. A weighing factor, reflecting the relative importance of the criterion and measuring the degree to which it is satisfied was applied to each criterion.

The criteria were weighted as follows:

- 1 = considered as not significant
- 2 = considered moderately important
- 3 = considered very important
- 4 = considered as critical

An integer rank then was assigned to each site and its associated criterion. The rank reflects the relative ability of each site to meet the criteria. The rankings are as follows:

- 1 = indicates the site meets or exceeds the criterion
- 2 = indicates the site slightly compromises the criterion,
- 3 = indicates the site significantly compromises the criterion
- 4 = indicates the site does not meet the criterion

The Economics criterion was ranked as follows:

- 4 = highest cost
- 3 = medium cost
- 2 = moderate cost
- 1 = lowest cost

The total weighted ranks were compiled by summing the products of the criteria weighting factors and the ranks for each site. The lowest total weighted rank indicates the most favorable site.

SITE SELECTION RESULTS AND DISCUSSION

Table 1 provides the results of the comparative analysis for both the Upton and Moorcroft sites. The lowest score (49) and preferred site is Upton over Moorcroft (score of 80).

Table 1
Alternative Analysis on Prospective Upton and
Moorcroft Sites for a Hydromet Facility

Criterion	Criteria Weighing Factor	Upton, Wyoming		Moorcroft, Wyoming	
		Site Ranking	Prioritized Rank	Site Ranking	Prioritized Rank
Protection of human health and the environment	4	2	8	1	4
Compliance with federal/state standards	4	1	4	1	4
Potential NEPA Triggers	3	1	3	3	9
Ability to Permit/Regulatory Agency Acceptance	3	1	3	2	6
Land Use/Surrounding Area Compatibility	2	1	2	2	4
Plant Site/TSF Siting Options	3	2	6	3	9
Rail Siding/Spur Availability	4	1	4	3	12

Power Supply	2	1	2	2	4
Water Supply	2	1	2	2	4
Constructability	2	2	4	1	2
Facility Expansion	3	1	3	2	6
Economics	4	1	4	3	12
Community Acceptance	4	1	4	1	4
Total			49		80

The following is a summary of the basis used in the overall ranking of the two sites:

- **Protection of human health and the environment:** This criterion was assigned a weighting factor of 4. Upton was ranked 2 versus and Moorcroft 1, based on the former being upwind location of the Town of Upton.
- **Compliance with federal and state standards:** This criterion was assigned a weighting factor of 4. Both sites, assigned a ranking of 1, were considered to be able to meet federal/state environmental standards during operation and closure.
- **Potential NEPA Triggers:** This criterion was assigned a weighting factor of 3. Upton was ranked 1 and Moorcroft 3. The latter received a higher ranking because of potentially significant NEPA triggering actions associated with USACE wetland permitting for the construction of the rail siding/spur across Rush Creek.
- **Ability to Permit/Regulatory Agency Acceptance:** This criterion was assigned a weighting factor of 3. Upton was ranked 1 and Moorcroft 2. The difference in ranking is based on potential Section 404 wetland permitting and NEPA actions at Moorcroft.
- **Land Use/Surrounding Area Compatibility:** This criterion was assigned a weighting factor of 2. Upton was ranked 1 and Moorcroft 2. This is due to the existing industrial land use of the Upton Industrial Park versus the agricultural land use at Moorcroft.
- **Plant Site/TSF Siting Options:** This criterion was assigned a weighting factor of 3. Upton was ranked 2 and Moorcroft 3, due to the latter's potential issues of being located in a 100-year floodplain, based on Federal Emergency Management Agency (FEMA) mapping of Rush Creek downstream of the site.
- **Rail Siding/Spur Availability:** This criterion was assigned a weighting factor of 4. Upton was ranked 1 and Moorcroft 3, since no rail siding or spur exists at the latter location.
- **Power Supply:** This criterion was assigned a weighting factor of 2. Upton was ranked 1 and Moorcroft 2, since power would need to be brought to the latter site from the main transmission line and switching station in Moorcroft.
- **Water Supply:** This criterion was assigned a weighting factor of 2. Upton was ranked 1 and Moorcroft 2. Water supply to the latter would need to be obtained by way of the completion of wells or other sources in Moorcroft.
- **Constructability:** This criterion was assigned a weighting factor of 2. Upton was ranked 2 while Moorcroft received a ranking of 1 because of the closer proximity of Moorcroft to Gillette for the handling of equipment, supplies, and labor force. The evaluation was

performed before geotechnical data were obtained from the Upton Plant Site. No geotechnical data were obtained from the Moorcroft site.

- **Facility Expansion:** This criterion was assigned a weighting factor of 3. Upton ranked 1 and Moorcroft 2, based on uncertainties associated with the purchase of land adjacent to the site to account for potential floodplain and land ownership siting issues.
- **Economics:** This criterion was assigned a weighting factor of 4. Upton ranked 1 and Moorcroft 3 due to the significant potential capital expense associated with providing power, water, and rail siding/spur to the latter. County tax liabilities were not considered in this evaluation due to uncertainty in the application and tax assessment for the plant and TSF by Weston and Cook Counties.
- **Community Acceptance:** This criterion was assigned a weighting factor of 4. Both the Upton and Moorcroft sites were ranked 1 based on favorable communication with project development contacts in both communities. The levels of project controversy (non-governmental, environmental groups) at either site was not determined.