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2.0 ENVIRONMENTAL RESOURCES INFORMATION

This section describes the pre-mining baseline conditions for environmental resources in the Study Area. The Study Area is defined for the purpose of this evaluation as the geographic area sufficient in size to adequately describe the South Heart Lignite Mine (SHLM) baseline conditions for each environmental resource. The Study Area for each resource includes the area within the proposed Permit Boundary where mining will be conducted under the permit sought by this application. The minimum Study Area size used for each baseline study and the Permit Boundary are shown on [Figure 2.0A](#), [Figure 2.0B](#) and [Figure 2.0C](#) (The size of the Study Area for each resource is based on the type of analysis required for each specific environmental resource and may be greater than that shown on [Figure 2.0A](#), [Figure 2.0B](#) and [Figure 2.0C](#)).

A detailed assessment of existing conditions for each environmental resource is presented for the entire Study Area. Existing conditions within the Permit Boundary have been summarized in each sub-section.

This section also contains the North Dakota requirements applicable for each environmental resource described below:

- Cultural and Historic Resources;
- Climate;
- Geology;
- Soils Resources;
- Ground Water Resources;
- Surface Water Resources;
- Land Use and Vegetation;
- Alluvial Valley Floors;
- Fish and Wildlife Resources; and
- Wetlands.

[Figure 2.0A](#), [Figure 2.0B](#) and [Figure 2.0C](#) present the environmental information required under North Dakota Administrative Code (NDAC) 69-05.2-08-02. Information required under NDAC 69-05.2-08-02 not included on [Figure 2.0A](#), [Figure 2.0B](#) and [Figure 2.0C](#) is presented in the different sub-sections of this evaluation and within other sections of this permit application. Land uses for structures, dams or impoundments are described in [Section 2.7.1](#)-Land Use. Mine workings and oil and gas wells are described in [Section 2.3](#)-Geology. Public park boundaries are described in [Section 3.7](#).

In addition to presenting the results of the environmental resource studies prepared by Golder Associates Inc. and its subconsultants, this section includes an evaluation of probable hydrologic consequences associated with ground water and surface water, a surface and ground water monitoring plan for the protection of hydrologic balance, a fish and wildlife resources protection and enhancement plan, and a wetland mitigation plan.

FIGURES