



## Energy Gas Processing

**Client**  
Confidential Client

**Location**  
Kazakhstan

## Conceptual Engineering Design

### Project Description

CH2M HILL prepared the conceptual design for an integrated oil field waste management complex that will handle drilling, domestic, and process wastes from a major gas field development in Kazakhstan. The complex will include a rotary kiln system to handle oil contaminated drilling wastes and soils, a general purpose incinerator to handle domestic and non-hazardous industrial wastes, mud dewatering and water treatment facilities, winterized mud and drilling solids storage facilities, drum cleaning and crushing facilities, and treated waste storage cells.

The conceptual design also encompasses the utilities and facilities to support both the waste management complex and the mud and brine plants located within the complex, which support drilling operations, as well as connections to offsite utilities such as power, gas, and industrial water suppliers. An administration block, garages, and other support buildings are also included in the design.

The complex is designed to allow operation under the extreme temperatures of winter and summer; for example, main treatment facilities will be housed in heated sheds to allow operation throughout winter months.

The conceptual design included a discussion of the design basis, preliminary process flow diagrams, preliminary piping and instrumentation diagrams, preliminary building layout drawings in AutoCAD and MicroStation, preliminary HAZID and ENVID reports, an outline of the specifications for major packages and utilities, the overall facility layout, and a description of waste handling techniques and equipment.

CH2M HILL also provided permitting technical support to a local contractor who conducted the environmental impact assessment for the complex.