



REPORT

CONSTRUCTION PLAN

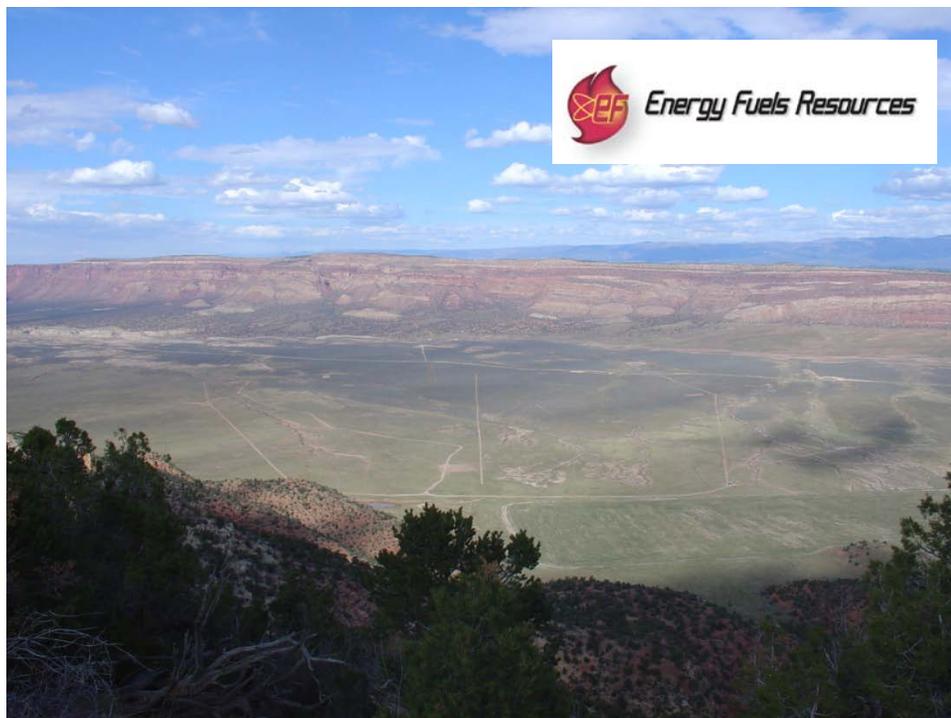
Piñon Ridge Project, Montrose County, Colorado

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Project No. 073-81694.0018

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1.0 INTRODUCTION

Energy Fuels Resources Corporation (EFRC) proposes to license, construct, and operate a conventional acid leach uranium and vanadium mill at the Piñon Ridge Project site (Site) in western Montrose County, Colorado. The Site covers 880 acres on the south side of eastern Paradox Valley, approximately 12 miles west of Naturita near Highway 90. A general layout map of the site is shown as Figure 1.

The purpose of this report is to describe the plan for staged construction of the Piñon Ridge Mill. This report will be included as part of the Material License Application to be submitted to the Colorado Department of Public Health and Environment (CDPHE).

1.1 Project Overview

The Piñon Ridge Project is a proposed uranium and vanadium processing facility that includes the construction of the following major interrelated components:

- Mill facility;
- Administration building;
- Ore stockpile pads;
- Tailings cells;
- Evaporation ponds; and
- Surface water control features.

In addition to the major components listed above, general site grading, road construction, and construction of other, smaller structures contribute to the overall project. Permitting, detailed engineering and construction of the various components, as shown in Figure 1, will be scheduled in order to commission the facility during the first quarter of 2012 (see Appendix A).

1.2 Project Organization

An organization chart showing the hierarchy of individuals and groups involved with construction of the Piñon Ridge Project is shown in Figure 2. As indicated, the Construction Management Team consisting of mill and geotechnical management, field supervision, cost and scheduling staff, and other administrative personnel as required, reports to the Energy Fuels Resources Project Manager. The Mill Contractor will report to the Mill Construction Management Team, while the Earthworks, Liner, and Piping Contractors will report to the Geotechnical Construction Management Team. The Geotechnical Firm will provide Construction Quality Assurance (CQA) personnel to oversee earthwork, piping, geosynthetic, and concrete components of the site construction. Quality Assurance (QA) personnel from CDPHE will be on-site to observe construction on behalf of the State of Colorado.

The Construction Management Team will work closely with the engineering groups (i.e., Mill Team and Geotechnical Firm) to develop a detailed construction plan and schedule. Construction plans and specifications will be provided by the engineering contractors. The engineering contractors will provide technical field support during the construction and mill start-up period receiving direction from the Construction Management Team, and will prepare as-built construction drawings.

The Commissioning Team consists of the owner's mill operating, maintenance and radiation safety personnel and selected construction team personnel specializing in mechanical, electrical and instrumentation crafts.

1.3 Material and Labor Requirements

Material suppliers have been identified and contacted to confirm that they can provide the necessary supplies in sufficient quantity. Major material requirements include: mill components, concrete, piping, structures, procured soil materials (i.e., gravel and sand), and geosynthetic materials (i.e., geomembrane, geosynthetic clay liner, geonet, geocomposite drainage materials, and geotextile). Procurement of long lead items will commence as detailed engineering progresses, allowing timely deliveries to support the construction schedule.

Labor requirements have been addressed in the Basic Engineering Report (CH2M Hill 2009). Project construction will involve two major types of subcontractors: general (civil, structural, mechanical, and piping), and electrical/instrumentation. A number of minor specialty contractors will be employed as needed for pre-engineered buildings, tank erection, insulation, fire protection, liner installation, primary power supply, and minor on-going support activities.

Construction work will be bid on a 50-hour per week basis (10 hours per day), allowing a sixth day for make-up work or selected over-time for specific scheduling requirements. Contractors previously identified indicate that staff will be available to meet the anticipated peak work force of approximately 275 personnel (CH2M Hill 2009).

1.4 Project Execution Schedule

A preliminary project execution schedule is provided in Appendix A. The schedule was designed in order to commission the facility during the first quarter of 2012. Critical milestones include:

■ Submittal of the Material License Application	Fourth Quarter 2009
■ CDPHE Approval of the License	First Quarter 2011
■ Detailed Engineering Complete	First Quarter 2011
■ Montrose County Issues Building Permits	First Quarter 2011
■ Begin Ancillary Construction	Fourth Quarter 2010
■ Begin Mill Construction	First Quarter 2011
■ Mechanical Completion	Fourth Quarter 2011
■ Mill Commissioning	First Quarter 2012

The Site, located on the Western Slope of Colorado, is characterized by distinctive seasonal changes. During the winter season, temperatures are low and snowfall could be sufficient to cause delays in construction work, particularly earthwork, excavations for foundations, concrete placement, and structural steel erection (CH2M Hill 2009). Also, roadways could be icy and dangerous, while the ground may be frozen. Winter generally begins in November, and extends through February (CH2M Hill 2009). Favorable weather conditions generally prevail during the remainder of the year (March or April through October), allowing for good construction productivity. As a consequence, construction work will be scheduled to maximize work during warmer months, with a focus on completion of critical activities.

The proposed approach for project execution is based on early engineering and commencement of ancillary construction activities (e.g., highway access, site roads, drainage improvements) prior to receiving permit approval. This approach is required in order to meet the anticipated first quarter 2012 operational start-up.

1.5 Project Security

During construction, a guard will be posted at the main entrance. Early on in the construction process, a fence will be constructed around the property with a gated entrance off of the main access road near Highway 90. The guard will be stationed at the gated entrance during working hours. The gate will be locked and the site secured at all other times. Nearing construction completion, the project security will be enhanced against unauthorized entry by implementing more rigorous check-in and check-out procedures, and introducing badging requirements.

1.6 Surveying

Construction surveying will be performed according to the project-specific specifications. Specific surveying requirements vary among the different facilities and are therefore located throughout the specification packages. Refer to Golder (2008a) for earthwork-related project specifications. Emphasis will be placed on surveying accurate locations of buried utilities.

Baseline radiological surveys of the site were performed as part of the baseline studies for the project. Radiological surveys will be performed at the site with the introduction of uranium and vanadium ores to the five-acre ore pad, during commissioning and into full production and owner's acceptance. The owner will perform the radiological surveys, as outlined in the Health and Safety Plan procedures (EFRC 2009).

1.7 Detailed Engineering

Detailed engineering begins where basic engineering ends, including a review of the basic engineering to discuss planned additions, changed and exclusions. Detailed engineering will

commence third quarter 2010, during CDPHE's review of the License Application, to enable a construction schedule which includes mechanical completion during the fourth quarter of 2011. Engineering disciplines will mobilize to support procurement and construction activities.

1.8 Construction QA/QC

Construction quality assurance (QA) and quality control (QC) will be performed according to the project specifications. The construction quality assurance plan for earthworks is detailed in Section 01400.1 and for geosynthetics in Section 01400.2 in Golder's Technical Specifications for the Piñon Ridge Project (Golder 2008a). Construction QA/QC activities will be reported to CDPHE at the completion of each major phase of site construction.

1.9 Health and Safety

Health and safety plans for execution of the construction activities will be prepared by the Construction Management Team prior to commencement of construction activities. These plans will be submitted to Energy Fuels Resources for review and compliance with company protocols and procedures.

2.0 SITE ACCESS AND SURFACE WATER DRAINAGE CONTROLS

Access roads to and around the Site are required to be completed early to meet the construction time-table, and to allow for the heavy transport loads of equipment and materials to access the site. In general, construction of ancillary features, including access roads and site drainage controls, are scheduled to be nearing completion when the mill license and building permits are granted (refer to Appendix A).

2.1 Traffic Loads

Approximately 6,610 truck-loads are anticipated during both pre-license (third and fourth quarter of 2010) and post-license construction periods. The estimated quarterly truck load count is summarized in Table 2.1.

Table 2.1: Quarterly Traffic Loading.

Activity	2010 Qtr 3	2010 Qtr4	2011 Qtr 1	2011 Qtr 2	2011 Qtr 3	2011 Qtr 4	2012 Qtr 1	Total
Mobilize	15		25					40
Gravels		2,100	400	750	460	1,000		4,710
Concrete		100	300	400	170	30		1,000
Equipment		15	20	40	20	10		105
Steel		15	20	90	40	20		185
Pipe/Cable		5	5	25	30	10		75
Liner				250	200	5		455
Demobilize						30	10	40
Total	15	2,235	770	1,555	920	1,105	10	6,610

2.2 Highway 90 Access Lane

The Colorado Department of Transportation (CDOT 2008) has granted a State Highway Access Permit (Permit Number 508015) to Energy Fuels Resources to add an access road approximately 152 feet east of milepost 23 on the south side of State Highway (SH) 90. Under this permit, Energy Fuels Resources will add a westbound left turn deceleration lane and a 10-foot wide shoulder in the eastbound direction. Road improvements will conform to Section Four of the 1998 State Highway Access Code, Volume Two, Colorado Code of Regulations 601-1, as amended.

These highway improvements will be completed prior to initiating major construction within the site. Construction of the roadway improvements is scheduled to commence a few months prior to CDPHE granting a Source Material License to Energy Fuels Resources, enabling mill construction within the license boundary to begin immediately after the license is granted (refer to Appendix A). Energy Fuels Resources will notify the Colorado Department of Transportation in Durango prior to commencing construction within the State Highway right-of-way, in accordance with the permit.

2.3 All-Weather Access Road

The main access road to the site will be paved for the first 150 feet of length, nearest to SH 90. The remainder of the primary site roads will be surfaced with gravel, while secondary site roads will be two-track dirt roads (Kleinfelder 2008a). The primary roadways will be one lane in each direction, with a roadway width of 22 feet and 2-foot shoulders on each side (Kleinfelder 2008a; 2008b). The aggregate roadway design section varies across the site, depending on the estimated vehicular traffic loading, with an aggregate thickness as much as 17 inches for the main site access road (Kleinfelder 2008a; 2008b).

The roads and site drainage will comprise the first site construction activities to commence. After construction, periodic maintenance of the roadways will be performed, consisting of blading and placement of fresh aggregate, as needed (Kleinfelder 2008a).

2.4 Truck Wash, Scales, Guard House, and Helipad

The guard house and helipad will be built early on in the construction time-frame. The guard house will be used during construction as part of the site security system. The helipad will consist of a level area surfaced with gravel, and will be available during the majority of mill construction. Use of the helipad is expected to be limited to emergency situations should a rapid evacuation to a hospital be necessary. The truck wash and scales will not be needed until operations begin, so these structures will be constructed during later construction phases.

2.5 Surface Drainage

The surface grading of the site will be managed to control runoff, erosion, and sediment transport due to construction activities. The planned surface grading and drainage plans are included in Kleinfelder (2008b; 2008c). Grading necessary to manage site drainage during construction will be one of the first construction activities to commence within the site in order to manage drainage during subsequent construction activities.

Un-impacted surface water will be routed via diversion berms constructed south (i.e., uphill) of the mill into natural drainage channels on the east and west sides of the site. A drainage channel will also be

constructed along the main site access road, with culverts as designed (Kleinfelder 2008b; 2008c). These drainage channels may be constructed prior to issuance of the mill license.

The West Stormwater Pond will be constructed during the early stages of site construction to contain water from the production wells for use in dust suppression. A separate water tank will be constructed for general containment of water from the production wells. The East Stormwater Pond will be constructed in conjunction with the Ore Pad, and is discussed in Section 7.4.

A diversion channel will be constructed on the south side of the Evaporation Ponds to divert surface water around the Evaporation Pond complex (Kleinfelder 2008c). The channel will be constructed (at least partially) prior to Evaporation Pond construction.

A storm sewer network connects the East Stormwater Pond to the West Stormwater Pond, and then subsequently to the Evaporation Pond complex (Kleinfelder 2008c). The storm sewer network, designed to convey pond overflows resulting from the 1000-year storm (Kleinfelder 2008c), will be constructed after most of the tailings cell earthwork activities are completed to limit damage during other site construction.

3.0 GENERAL EARTHWORK

The following sections provide a general overview of the earthwork-related components of mill construction. An earthworks contractor will mobilize and commence construction with the plant site clearing and grubbing, mass earthworks and rough grading, including development of contractor laydown areas and temporary construction facilities. This will ready the Site for commencement of foundation construction, and tailings cell and evaporation pond earthworks upon receipt of the mill license.

3.1 Clearing, Grubbing and Topsoil Stripping

Areas requiring clearing, grubbing, and topsoil stripping will be cleared at the outset of construction. The topsoil materials resulting from this work will be stockpiled at the location identified on Figure 1, on the western portion of the property. Clearing, grubbing, and topsoil stripping will be performed according to the specifications (Golder 2008a; refer to Section 2200.0, Part 3). Topsoil stripping depths of 6 to 12 inches are anticipated, as the local vegetation generally consists of sparse grasses. Stockpiled topsoil will be used during site reclamation and closure activities.

3.2 Environmental Control Measures

During construction, a variety of sediment control measures will be utilized, including hay bales, silt fences, and temporary detention basins. The purpose of these controls will be to minimize the amount of sediment runoff from the property to levels that approximate conditions prior to initiating construction. Selection of the appropriate control measure will generally be the contractor's responsibility. Erosion control will be performed according to the specifications (Golder 2008a; refer to Section 2200.0, Part 3.03).

3.3 Excavation and Structural Fill Stockpiles

Excavations will be performed according to the specifications (Golder 2008a; refer to Section 2200.0, Part 3.05). The contractor will be responsible for the temporary stability of all cut slopes during construction. Excavated soil not used immediately as fill will be hauled to the structural fill stockpile location(s) shown on Figure 1, and stored for use during future construction phases.

3.4 Structural Fill

Structural fill materials will be selected and placed for site construction, including general site grading, mill bench construction, ore pad construction, tailings cell construction, and evaporation pond construction, according to the specifications (Golder 2008a; refer to Section 2200.0, Parts 2 and 3.07). Fill materials will consist primarily of on-site excavated soils with imported materials

utilized for various filters, drainage, and roadway applications, as needed to meet the specifications. Structural fill required for site construction is anticipated to be obtained from the excavation for construction of Tailings Cell A. If additional fill materials are required for site construction, material shall be obtained from the excavation areas for future Tailings Cells B and C.

4.0 LINER SYSTEMS

The following sections provide a general overview of the geosynthetic components of the liner systems designed for construction of the mill. Geosynthetic materials will be procured during the end of the detailed design phase to enable construction of liner systems to commence during the second quarter of 2011. Geosynthetic materials will be procured from reputable manufacturers with an established performance history of their geosynthetic products. Relatively warm and dry weather conditions are beneficial for liner installation.

Liner systems will be constructed in a manner that prevents equipment traffic from traveling directly on the geosynthetic materials. During the construction process for each layer of geosynthetic, and upon completion of construction of the liner systems, geosynthetic materials will be stabilized against wind uplift to prevent damage (refer to Golder 2008c; Golder 2008d).

4.1 Geosynthetic Clay Liner Placed on Prepared and Compacted Subgrade

Geosynthetic clay liners (GCL) consisting of bentonite clay sandwiched between two geotextiles will be used in construction of the ore pad, tailings cells, and evaporation ponds. The GCL has been designed as a low permeability barrier, underlying the double geomembrane liners within the evaporation ponds and tailings cells. GCL has also been designed as the filtration barrier underlying the five-acre Ore Pad. GCL will be procured and installed according to the specifications (Golder 2008a; Section 02776.1).

4.2 Geomembrane

Geomembrane materials will be used to line the tailings cells and evaporation ponds. Double composite geomembrane liner systems, using two layers of 60 mil high density polyethylene (HDPE) geomembrane, have been designed for these facilities. Procurement and installation of the geomembrane materials will be performed according to the specifications (Golder 2008a; refer to Section 02776.0). After installation, the primary geomembrane liners (i.e., upper liners) of the tailings cell and evaporation pond liner systems will be tested for leaks using conductive spark testing. The spark testing will be performed in addition to the standard quality assurance measures considered as the current industry practice for geomembrane installation (refer to Golder 2008a; Section 01400.2).

4.3 Leak Collection and Recovery Systems

The tailings cells and evaporation ponds are designed with a leak collection and recovery system (LCRS) to capture and recover seepage that passes through the primary geomembrane, and minimize solution heads on the lower secondary geomembrane liner. Drainage geonets and geocomposites will be used as the drainage LCRS layers installed between the lower secondary and

upper primary geomembrane liners within the tailings cells and evaporation ponds. Procurement and installation of the geosynthetic drainage layers will be performed according to the specifications (Golder 2008a; Section 02621.0).

The LCRS layers will be sloped toward LCRS sumps within the tailings cells and evaporation ponds to enable recovery of any seepage. The LCRS sumps will be filled with free-draining gravels, with geotextile materials placed in critical locations (Golder 2008c; Golder 2008d) serving as a cushion between the geomembrane and the gravel. Geotextile materials will be procured and placed according to the specifications (Golder 2008a; Section 02770.0).

5.0 MILL FACILITY

Early earthworks, including site clearing and grubbing, access road construction, and drainage construction, will be scheduled to enable mill construction to begin immediately upon receipt of the License. Mill construction will commence with site grading activities, followed by construction of mill foundations, major equipment placement, tankage assembly, building erection, piping, electrical instrumentation, HVAC, mechanical completion, and commissioning activities.

5.1 Objectives

The construction plan will be executed in accordance with the project plan to achieve the following objectives:

- Conformance to the budget;
- On-schedule completion;
- Seamless transition from commissioning to Energy Fuels Resources acceptance;
- Compliance with site permits and applicable local, state and federal regulations;
- Compliance with Energy Fuels Resources standards of quality and safety; and
- Maximize local participation consistent with the above objectives.

5.2 Construction Management

Energy Fuels Resources will retain engineering, procurement and construction management (EPCM) firms experienced in process plant engineering for the mill facilities and for the tailings and evaporation pond facilities. These contractors will design the facilities, procure equipment and materials, contract with general contractors and manage the site activities.

5.3 Pre-License Owner Activities

Activities identified that lead up to a decision to proceed with the project construction include the establishment of ore supplies, permitting, financing and selection of engineering, procurement and construction management (EPCM) firms. The Owner may authorize construction activities outside the license boundary prior to the issuance of the Material License by the Colorado Department of Health and Environment in order to lengthen the construction period and therefore, minimize the impact on local community services. This also allows for the performance of outdoor construction activities during the summer months and the indoor mechanical completion and commissioning activities during the fall months.

Early Piñon Ridge activities include: establishing the survey grid and control for construction and as-built reporting requirements; mobilizing a quality control and assurance laboratory; Highway 90 access improvements; plant site fencing; clearing and grubbing; access road construction; well field development; drainage controls; and Guard House and Administration Building construction.

These early construction activities enable the mill and impoundments construction to begin immediately upon receipt of the Material License.

Approximately 2,250 truckloads of materials and equipment will be delivered during the 3rd and 4th quarter of 2010 (see Table 2.1). This load count consists of 2,200 truckloads of gravels and concrete from the local community. An additional 50 truckloads of fencing, building steel and siding, culverts, piping, electrical and grounding materials are required.

5.4 Post-License Activities

Energy Fuels Resources will start mobilizing additional construction resources to the Piñon Ridge site immediately upon award of the Material License. The earthworks contractor will mobilize additional equipment and begin clearing, grubbing and stockpiling of topsoil within the license boundary and implement surface water and dust control measures. Energy Fuels Resources will establish additional health, safety and security measures.

The mill pad area grading will be moderate, consisting of cut along the southern portion, and fill at the north end of the mill Site. Near-surface soils will be removed, moisture-conditioned, and re-compacted to limit collapse potential. Earthworks will be performed in accordance with the project specifications (refer to Golder 2008a; Section 02200.0).

Kleinfelder (2008d) provided recommendations for the mill foundations. Conventional spread footing foundations will be placed on compacted engineered fill supports for mill structures, equipment and slabs (Kleinfelder 2008d).

Construction sequencing proceeds from the ground up. The sequence starts with concrete construction followed by equipment setting, tank erection, construction of steel platforms and stair stringers, building erection, piping, electrical, and instrumentation. The deepest concrete foundations are excavated, poured and backfilled first, working toward the surface. The shallowest foundations, such as slabs on grade or door aprons, will be poured last.

5.4.1 Areas 100 and 200

The dump hopper and SAG mill foundations are likely to be the deepest and largest foundations in terms of single pours on the project. The pulp storage tank and leach tank foundations will follow. Pulp storage tank and leach tank erection and lining will start after the concrete is cured and backfilled. Millwrights and iron workers will set the SAG mill and feeder, vibrating screens and supporting steel in place before the Grinding and Leach Building (approximately 225'L x 75'W x 95'H) steel is erected and sheeted. Electricians and pipe fitters will install conduits, cables, instruments, pipe, valves and fittings from electrical motors to the motor control centers and between pumps and tanks.

5.4.2 Area 300

Concrete crews will pour individual thickener foundations prior to field erection and lining these 40' diameter tanks. Pumps, floor sumps and slab on grade concrete foundations will follow. Thickener mechanisms and bridges will be set prior to curing the linings. The CCD Thickener Building (approximately 200'L x 25'W x 20'H) is constructed after setting the mechanical equipment. Electricians and pipe fitters will perform similar construction activities as in Area 100 and 200.

5.4.3 Area 400 and 600

The Solvent Extraction Building (approximately 370'L x 140'W x 30'H) is the largest building in square footage on the project. Millwrights and mechanics will set the mixer settlers, filters, tanks, pumps, and agitators in place after the concrete cures. Ironworkers will erect the building steel and sheeting, followed by electrical and piping crews.

5.4.4 Area 500 and 700

The Uranium and Vanadium Packaging Building, (approximately 250'L x 150'W x 80'H) contains the most process equipment, floors and stairways. Ironworkers and millwrights will install building steel, floor steel and stair stringers, along with the mechanical equipment from the ground floor to the top floor in a controlled and planned manner after the concrete is poured and cured. Electricians and pipe fitters will interconnect conduit, cables, pipe, valves and fittings between the process equipment, motor control center and control rooms.

5.4.5 Area 800

Numerous process reagents in liquid, granular or powder form are utilized and located as near as possible to the point of injection into the process streams. Reagent systems consist of concrete foundations, storage silos, storage and mixing tanks, agitators, pumps, electrical cables, instruments, pipe, valves and fittings. All trades and craftsman will participate in constructing the reagent systems.

5.4.6 Area 900

An electrical distribution line east of the mill access road will provide power from the Highway 90 transmission line to the Piñon Ridge substation located south of the mill parking lot. Electricians will install power cables in an underground duct bank from the substation to the Grinding and Leach Building Electrical Room located adjacent to the Grinding and Leach Building. Medium voltage will be distributed to the SX Building Electrical Room, Packaging Building Electrical Room and Reagents/Lab Electrical Room.

The electrical rooms, which are constructed of concrete masonry units, sit atop a concrete footing with an internal floor slab and block outs for pulling power cables to switchgear, motor control centers

and field devices. Electricians will install cable tray, rigid and plastic conduit, power cable and instrumentation wire from the motor control center to the motors, field devices and control room.

The approximate electrical room buildings sizes are:

■ Grinding and Leach Building Electrical Room	60'L x 40'W x 14'H
■ SX Building Electrical Room	36'L x 16'W x 14'H
■ Packaging Building Electrical Room	30'L x 20'W x 14'H
■ Reagents/Lab Electrical Room	25'L x 10'W x 14'H

A single propane storage tank supported on tank saddles and vaporizer are located on the southwest corner of the mill site. Pipe fitters will install pipe, valves, fittings, and in line instruments from the vaporizer to the steam boilers, dryers, fusion furnace, hot water heaters and building unit heaters.

Millwrights and pipe fitters will offload and install the pre-packaged diesel and gasoline storage tanks with dispensing pumps located in the northwest corner of the property. Electricians will provide power to the pre-wired units.

5.4.7 Transportation

Approximately 4,360 truck-loads of equipment and materials delivery will occur during the post-license construction period. Gravels, fencing supplies and concrete will be sourced locally along with petroleum products. Equipment deliveries will originate from all areas of the continental United States. Structural steel, plate work and building materials may originate in Texas, Utah or Montana. Manufactured liner materials and HDPE piping materials will be shipped from Texas. The estimated post-license construction truck load count per quarter is listed in Table 5.1.

Table 5.1: Traffic Loading for Post-License Construction Period.

Activity	2011 Quarter 1	2011 Quarter 2	2011 Quarter 3	2011 Quarter 4	2012 Quarter 1	Total
Mobilize	25					25
Gravels	400	750	460	1,000		2,610
Concrete	300	400	170	30		900
Equipment	20	40	20	10		90
Steel	20	90	40	20		170
Pipe/Cable	5	25	30	10		70
Liner		250	200	5		455
Demobilize				30	10	40
Total	770	1,555	920	1,105	10	4,360

5.4.8 Labor

General and specialized contractors will be contracted for the construction of the Piñon Ridge project. General Contractors qualified and experienced in constructing mineral processing plants in the Western United States will be responsible for executing the mill construction plan, and suitably qualified and experienced Earthworks and Liner Installation Contractors will be contracted to perform the tailings cell and evaporation pond construction. These General Contractors will mobilize supervisory personnel along with a select number of “crew leaders” from within the company. Typically, skilled craftsman and equipment operators follow the General Contractors from project to project.

A number of specialized contractors will be utilized on the project. Field tank erection crews are specialists in the erecting, testing, lining and coating of large tanks, which are too large to be fabricated in a shop and safely transported to a project site. Pre-engineered building and siding suppliers will mobilize company ironworkers and sheet metal installation crews along with mobile cranes, man-lifts, forklifts, welding machines and other specialized construction machinery.

The General Contractors will be asked to review, qualify and employ as many skilled and unskilled workers from the immediate area as possible. Energy Fuels Resources will encourage the mill General Contractor to employ millwrights, welders, pipe fitters and electricians from the local communities. Energy Fuels Resources anticipates that these locally-hired skilled tradesmen will later form the nucleus of the Piñon Ridge operating and maintenance crews. Table 5.2 provides an estimate of the labor force on a quarterly basis.

Table 5.2: Estimated Labor Force for Mill Construction.

	2010 Quarter 3	2010 Quarter 4	2011 Quarter 1	2011 Quarter 2	2011 Quarter 3	2011 Quarter 4	2012 Quarter 1
Labor (Avg):	25	45	125	200	200	150	10

5.4.9 Utilities

Site utilities will consist of water and power. Production wells installed on and adjacent to the Site will supply non-potable groundwater for use in the mill. Prior to mill operations, temporary water storage may be provided in the West Stormwater Pond for dust suppression during construction. Immediately prior to commencement of milling, temporary water storage may also be provided in one of the tailings cell sub-cells. The power transmission line and the propane tank and distribution system will need to be installed and tested in advance of the scheduled date for energizing the mill.

6.0 TAILINGS CELLS

Construction of Tailings Cell A will commence upon issuance of the mill license. Due to the size of the facility, the volume of earthworks, and the requirements of the double composite liner system, Tailings Cell A construction will be on a critical path for completion during the available construction time-frame. Excavation, subgrade preparation, and liner installation will need to take place concurrently from one end of Tailings Cell A to the other in order to meet the schedule for mill commissioning.

6.1 Earthwork

Tailings Cell A will be constructed prior to commissioning the facility. Tailings Cells B and C will be constructed as needed in the future. Tailings Cell A was designed mostly in cut to provide structural fill for other structures on the Site, so a large quantity of excess material will be generated during construction. The generated excess material will either be used for construction of the tailings cell perimeter berms, transported directly to other facilities needing fill (such as the mill pad), or transported to the structural fill stockpile (refer to Figure 1). The base and side slopes of the tailings cell will be moisture conditioned and compacted in preparation for liner installation. Earthworks will be performed in accordance with the specifications (Golder, 2008a; Section 02200.0).

6.2 Liner Installation

A multi-layer liner system has been designed for the tailings cells, consisting of two layers of 60 mil HDPE geomembrane separated by an intervening leak collection and recovery system (refer to Section 6.3), and underlain by GCL. Liner installation and testing will be performed as stated in the specifications (Golder 2008a; Sections 01400.2, 02776.0, 02776.1).

6.3 Leak Collection and Recovery System (LCRS)

The tailings cells have been designed with a leak collection and recovery system (LCRS), as discussed in Section 4.3. Drainage geonets will be installed at the base of the tailings cells, with drainage geocomposites installed on the side-slopes. The LCRS layer will be sloped toward an LCRS sump located in the northeast and northwest corners of Tailings Cell A. Seepage collected in the LCRS sump will be pumped to the surface via HDPE riser pipes extending from the base of the sump to the surface. Piping will be procured and installed per the project specifications (Golder 2008a; Section 02710.0). Collected seepage will either be returned to the mill for processing, or to the tailings cell.

6.4 Water Collection and Recycling

An underdrain system has been designed at the base of the tailings, above the Tailings Cell A liner system. The base of the tailings cell is designed to slope toward underdrain sumps constructed above the liner system. Tailings effluent collected in the underdrain sumps will be pumped to the surface via HDPE underdrain riser pipes, and returned to the tailings cell. Piping will be procured and installed per the project specifications (Golder 2008a; Section 02710.0).

After mill commissioning, and after sufficient tailings have been placed in Tailings Cell A, a floating decant barge system will be installed to collect tailings effluent from the surface of the tailings. The collected effluent will be returned to the mill circuit for re-use. The decant system will be designed during the detailed design phase of the project.

6.5 Tailings Cell A Construction Material and Labor Estimates

Material and labor estimates associated with the activities outlined in the construction schedule (see Appendix A) are summarized in Table 6.1 and Table 6.2, respectively.

Table 6.1: Tailings Cell Major Construction Activities and Estimated Quantities.

Activity	Est. Quantity	Unit
Tailings Cell A Earthwork (cut, fill, clearing, grubbing, stockpiling)*	2,355,000	C.Y.
Tailings Cell A GCL Installation*	1,510,000	S.F.
Tailings Cell A Secondary Liner Installation (HDPE geomembrane)*	1,510,000	S.F.
Tailings Cell A Drainage Layer Installation (HDPE geocomposite)*	1,262,000	S.F.
Tailings Cell A Drainage Layer Installation (HDPE geonet)*	260,000	S.F.
Tailings Cell A Primary Liner Installation (HDPE geomembrane)*	1,510,000	S.F.

*Note: Excludes associated minor construction activities (e.g. mobilization/demobilization, surface preparation, piping, etc.).

Table 6.2: Tailings Cell Construction Estimated Labor Requirements.

Activity	2011 Qtr 1	2011 Qtr 2	2011 Qtr 3	2011 Qtr 4
Earthworks activities	12	12	12	0
Liner System Installation	0	15	15	15
Total	12	27	27	15

*Note: The total number of construction employees itemized in Table 6.2, and summarized in Table 5.2, is likely a conservative estimate since some of the site activities will be performed concurrently utilizing the same construction personnel.

7.0 ORE STOCKPILE PAD AREA

Construction of the ore stockpile pad area is planned for completion a minimum of three months prior to mill commissioning, enabling development of a stockpile of ore prior to commissioning the mill (refer to Appendix A). EFRC may establish the license boundary initially around the ore stockpile pad area, and then later expand the license boundary to encompass the remainder of the mill facility prior to the start of processing operations.

7.1 One-Acre Concrete Ore Pad

The one-acre reinforced concrete ore pad is designed to minimize infiltration and maximize runoff to the adjacent five-acre ore pad (Golder 2008b). The concrete pad includes water stops to minimize infiltration at construction joints. The concrete slab generally consists of 12 inches of reinforced concrete having a minimum compressive strength of 5,000 pounds per square inch (psi). The concrete slab will be constructed over a graded and prepared foundation. The one-acre ore pad will be constructed after the five-acre ore pad is constructed to allow for the proper drainage from the one-acre ore pad to the five-acre ore pad.

7.2 Five-Acre Composite Ore Pad

The five-acre ore pad consists of a geosynthetic clay liner (GCL) placed on a graded and prepared foundation, covered with 2.5 feet of cushion material and a one-foot wearing surface (Golder 2008b). The ore pad will be constructed in a manner that prevents equipment traffic directly on the GCL. The pad will be sloped toward the northeast in order to drain into the East Stormwater Pond.

7.3 Dumping Platform

A dumping platform will be constructed adjacent to the east side of the five-acre ore pad, and will serve as a means for haul trucks to dump loads onto the pad without having to drive within the license boundary and onto the ore pad. The side of the platform next to the ore pad will be raised approximately 10 feet above the ore pad surface with a Hilfiker retaining wall. The 20 feet of the dumping platform closest to the wall will be surfaced with reinforced concrete, while the remaining 100 feet of platform width will be surfaced with aggregate base course materials. The dumping platform will be constructed in conjunction with the five-acre ore pad in order to enable the two systems to be joined.

7.4 East Stormwater Pond

The East Stormwater Pond will be constructed in conjunction with the ore pad facilities and will collect runoff from the southeast section of the mill site as well as the ore pad and truck wash. The liner system for the East Stormwater Pond consists of a GCL overlain by a 60-mil HDPE geomembrane. The pond will be constructed in a manner that prevents construction equipment from

driving over the GCL or the geomembrane. An overflow pipe will be constructed to connect the East Stormwater Pond to the West Stormwater Pond (refer to Section 2.5).

7.5 Ore Pad Area Construction Material and Labor Estimates

Material and labor estimates associated with the ore pad construction activities are outlined in Table 7.1 and Table 7.2, respectively.

Table 7.1: Ore Pad Area Construction Activities and Estimated Quantities.

Activity	Est. Quantity	Unit
Ore Pad Area Earthwork (cut, fill, clearing, grubbing, stockpiling)*	66,000	C.Y.
Ore Pad Area GCL Installation (five-acre ore pad and east stormwater pond)	260,000	S.F.
Ore Pad Cushion Mat. Installation (haul, placement and compaction)*	19,000	C.Y.
Ore Pad Roadbase Mat. Installation (haul, placement and compaction)*	8,500	C.Y.
Retaining Wall (Hilfiker Wall construction)	1	L.S.
Ore Pad Area Concrete Placement (includes reinforcement)*	1,900	C.Y.
East Stormwater Pond Primary Liner Installation (HDPE geomembrane)*	29,000	S.F.

*Note: Excludes associated minor construction activities (e.g. mobilization/demobilization, surface preparation, piping, etc.).

Table 7.2: Ore Pad Area Construction Estimated Labor Requirements.

Activity	2011 Qtr 1	2011 Qtr 2	2011 Qtr 3	2011 Qtr 4
Earthworks activities	0	0	6	0
Liner System Installation	0	0	8	0
Retaining Wall Installation	0	0	5	0
Concrete Placement	0	0	5	0
Total	0	0	24	0

*Note: The total number of construction employees itemized in Table 7.2, and summarized in Table 5.2, is likely a conservative estimate since some of the site activities will be performed concurrently utilizing the same construction personnel.

8.0 EVAPORATION PONDS

The initial series of evaporation ponds required for mill production at the 500 ton per day (tpd) capacity will be constructed once the mill license is issued (refer to Appendix A). Subsequent evaporation pond cells will be constructed as needed during milling.

8.1 Earthwork

The ten (10) southernmost evaporation pond cells are planned for construction prior to commissioning of the facility. Earthwork for evaporation pond construction will generally be shallow, and will cover approximately 40 acres. Some excess cut is anticipated, which will either be transported to the designated structural fill stockpile, or stockpiled locally for use during future evaporation pond cell construction and/or closure.

8.2 Liner and LCRS Installation

Similar to the tailings cells, a multi-layer liner system has been designed for the evaporation ponds, consisting of two layers of 60 mil HDPE geomembrane separated by an intervening leak collection and recovery system (LCRS) (refer to Section 6.3), and underlain by GCL. Liner installation and testing will be performed as per the specifications (Golder 2008a; Sections 01400.2, 02776.0, 02776.1).

The evaporation ponds have been designed with a LCRS, as discussed in Section 4.3. Drainage geonets will be installed at the base of the evaporation pond cells. The LCRS layer will be sloped toward a LCRS sump located at the corner of each evaporation pond cell. Seepage collected in the LCRS sump will be pumped to the surface via HDPE riser pipes extending from the base of the sump to the surface. Piping will be procured and installed per the project specifications (Golder 2008a; Section 02710.0). Collected seepage will be returned to the surface of the evaporation ponds for disposal via evaporation.

8.3 Bird Netting

During evaporation pond construction, the supports for bird netting will be installed. Once the evaporation pond construction is complete, the bird netting will be installed. The netting system will be erected with the intent of preventing bird contact with the mill byproduct solution (i.e., raffinate). The bird netting will be fully constructed over the evaporation ponds prior to mill commissioning.

8.4 Evaporation Pond Construction Material and Labor Estimates

Material and labor estimates associated with the evaporation pond construction activities are summarized in Table 8.1 and Table 8.2, respectively.

Table 8.1: Evaporation Pond Construction Activities and Estimated Quantities.

Activity	Est. Quantity	Unit
Evaporation Pond Earthwork*	960,000	C.Y.
Evaporation Pond GCL installation*	2,051,000	S.F.
Evaporation Pond Secondary Liner Installation (60 mil HDPE)*	2,051,000	S.F.
Evaporation Pond Drainage Layer Installation (HDPE Geonet)*	2,051,000	S.F.
Evaporation Pond Primary Liner Installation (60 mil HDPE)*	2,051,000	S.F.
Bird-Netting (support poles, cables, netting)*	1	L.S.

*Note: Excludes associated minor construction activities (e.g. mobilization/demobilization, surface preparation, piping, etc.).

Table 8.2: Evaporation Pond Construction Estimated Labor Requirements.

Activity	2011 Qtr 1	2011 Qtr 2	2011 Qtr 3	2011 Qtr 4
Earthworks activities	6	6	6	0
Liner System Installation	0	10	10	10
Bird-Netting Installation	0	0	0	8
Total	6	16	16	18

*Note: The total number of construction employees itemized in Table 8.2, and summarized in Table 5.2, is likely a conservative estimate since some of the site activities will be performed concurrently utilizing the same construction personnel.

9.0 ADMINISTRATION BUILDING

The administration building (refer to Figure 1) is considered an ancillary facility, and its construction may proceed prior to receiving the mill license (see Appendix A). If built prior to mill construction, the administration building may be used by the Construction Management Team and engineering disciplines during construction activities.

9.1 Building Construction

The administration building will be constructed on a concrete slab foundation after completing clearing and grubbing and earthwork grading activities. Earthworks will be performed in accordance with the project specifications (refer to Golder 2008a; Section 02200.0). Surface drainage, as required, will be constructed according to the design drawings.

The building consists of two attached modules with the approximate dimension of (170'L x 30'W) and (80'L x 50'W). The buildings will likely consist of modular units, transported to the Site.

Site utilities will consist of water and power with non-potable water for use in sanitary facilities supplied from the nearest installed production wells. Potable water will be transported to the Site. Towards the end of construction activities, electricians and pipe fitters will install required conduits, cables, pipe, valves and fittings.

The administration building is outside of the license area, and may be accessed without going through security. Energy Fuels Resources will establish health, safety and security measures relevant to administration building construction.

9.2 Parking Lot Construction and Surface Drainage

A parking lot will be constructed around the administration building. The parking lot will be surfaced with gravel, and sloped to drain away from the building. Other surface drainage, as required, will be constructed according to the design drawings.

10.0 REFERENCES

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11.0 CLOSING

Golder appreciates the opportunity to provide continued engineering support to Energy Fuels Resources for the Piñon Ridge project. Please contact the undersigned with any questions or comments on the information contained within this report.

Respectfully submitted,

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