

ENGINEER'S ESTIMATE

Rev. A, 10/07/2019

SECTION 12 MINE RECLAMATION - CONSTRUCTION SERVICES

\$ 605,815

For SRI Review Only - Not for release to Bidders

Work Category	Description	Units	Engineer's Estimated Quantity	Unit Price	Estimated Cost
1	Mobilization/ Demobilization				
1.1	Earthwork contractor	each	1	\$ 5,000	\$ 5,000
1.2	Vegetation contractor	each	1	\$ 2,000	\$ 2,000
1.3	Construction management contractor	each	1	\$ 1,000	\$ 1,000
2	Demolition and Equipment Removal				
2.1	Removal of double-drum hoist and hoist motor	Assumed zero cost, by recycler/ broker			
2.2	Removal of shaft headframe	Assumed zero cost, by recycler/ broker			
2.3	Removal of skips from shaft	each	2	\$ 9,364	\$ 18,728
2.4	Removal of hoist house and office building	Assumed zero cost, by recycler/ broker			
2.5	Removal of non-recyclable materials and equipment	day	5	\$ 3,134	\$ 15,670
2.6	Demolition of above-grade reinforced concrete	CY	155	\$ 93.18	\$ 14,443
2.7	Demolition of above-grade concrete slabs	SF	9285	\$ 1.12	\$ 10,399
3	Earthwork				
3.1	Stormwater Pollution Prevention Plan (SWPPP)	each	1	\$ 3,000	\$ 3,000
3.2	Clearing and grubbing of vegetation	acre	40	\$ 258	\$ 10,320
3.3	Excavation of waste rock and placement in the repository	CY	40000	\$ 3.18	\$ 127,200
3.4	Backfilling of shaft with waste rock and broken concrete	CY	4000	\$ 1.33	\$ 5,320
3.5	Closure of vent shaft	each	1	\$ 1,000	\$ 1,000
3.6	Repository earthwork				
3.6a	Excavation of clay soil and placement on the repository - radon barrier	CY	8056	\$ 4.50	\$ 36,213
3.6b	Excavation of loam soil and placement on the repository - seeding medium	CY	8056	\$ 3.29	\$ 26,503
3.7	Burial of Task 2.2 trash in flowable fill pit	CY	185	\$ 169	\$ 31,296
3.8	Site grading	acre	40	\$ 1,016	\$ 40,640
3.9	Construction water				
3.9a	Water purchase	gal	292135	\$ 0.025	\$ 7,303
3.9b	Water hauling	day	29	\$ 587	\$ 17,139
3.9c	Water application for dust control and soil compaction	day	48	\$ 1,637	\$ 78,758
4	Revegetation				
4.1	Seed and mulch procurement	acre	40	\$ 400	\$ 16,000
4.2	Drill seeding	acre	40	\$ 400	\$ 16,000
4.3	Erosion protection netting or blanket	SY	16111	\$ 0.87	\$ 14,017
4.4	Fencing around repository 2-strand barbed wire	LF	1710	\$ 1.82	\$ 3,112
5	Construction management and quality control				
5.1	Construction supervision and records	months	3	\$ 20,160	\$ 60,480
5.2	Quality control observation and testing	months	1.5	\$ 15,440	\$ 23,160
5.3	Radiological surveying	hours	1.5	\$ 10,080	\$ 15,120
5.4	Land surveying	acres	4	\$ 2,595	\$ 10,380
6	Post-reclamation monitoring	years	5	\$ 5,000	\$ 25,000

TOTAL without NMGR = \$ 635,201

TOTAL with NMGR = \$ 690,781

TOTAL reduced by location cost index = \$ 605,815

Gallup NM cost index = 87.7%

WORK PLAN
SECTION 12 MINE RECLAMATION
Rev. 0, 10/4/2019

INTRODUCTION

The Section 12 Uranium Mine is located in the SW ¼, Section 12, T14N-R10W McKinley County, New Mexico. The mine was operated intermittently in 1959 and 1962 then from approximately 1974 to the early 1982. The mine pre-dates the Mining Act of 1993 and was not permitted as an Existing Mine under Part 5 of that Act (NMAC 19.10.5).

The mine is presently owned by Southwest Resources Inc. (SRI), but never operated by SRI. Official records show that previous owners/operators (Cobb Nuclear, United Nuclear and Stella Dysart) mined 475,792 lbs of U₃O₈ from the Section 12 Mine. Recent review of mine records indicate that the mine is essentially mined out of ore that would be economically recoverable under present market conditions. Consequently, SRI has decided that attempting to permit and re-open the mine is not practical and that the mine should go to reclamation.

This Work Plan has been prepared in response to the Director's Order of Abatement on Consent issued to SRI by Director of the Mining and Minerals Division of the New Mexico Energy Minerals and Natural Resources Department to prepare the Reclamation Plan for the Section 12 Mine as generally described in the Conceptual Reclamation Plan dated 6/28/2019.

PREVIOUS ACTIVITIES SUPPORTING RECLAMATION

Activities that support reclamation, and thus are part of the Reclamation Plan, have been completed or are underway since 2016. They included:

- *Baseline Radiological Characterization of the Section 11/12 Mine – Phase 1*, report prepared by Environmental Restoration Group for Permits West Inc., January 2017. This report documents the background radiation levels and mine-site radiation levels associated with radium content of soil and waste rock as well as the lateral (X and Y) distributions of radium.
- *Waste Characterization Study – Phase 2, Section 12 Mine (Mine Permit Application – NM MK046RE), SW/4, Section 12, Township 14 North, Range 10 West, McKinley County, New Mexico*; report prepared by Permits West Inc. for Southwest Resources Inc., October 2018. This report is based in part on the ERG report and documents the depths of waste rock (Y distribution) along trenches in areas identified by ERG as having radiological contamination from radium at ground surface.
- Inventory of equipment and material for salvage or re-sale by Alan Kuhn Associates LLC (AKA) and JLister Services LLC, January 2019 to present (ongoing).
- Site geotechnical investigations by AKA, January 2019 to present (ongoing).
- Soil testing for geomechanical properties by NV5 and Daniel B Stephens Associates, February 2019 to present (ongoing).

- Topographic mapping by EL Engineering Services, September 2019 to present.
- Vegetation Reference Area survey by Enchanted Seeds (Kevin Branum), September 2019 to present (ongoing).

PLANNED ACTIVITIES

Previous activities identified as “ongoing” will be continued to completion in 2019 and early 2020. In addition to completing these activities, the following tasks will be performed during the remainder of 2019 and in 2020. The sequence of the Work Plan activities is illustrated in Figure 1.

Equipment and Materials Disposition

Despite the age and obsolescence of the structures, equipment and materials at the mine, some salvage or re-sale value may be realized from hoisting equipment, skips, hoppers and chutes, headframe, and buildings. Initial contacts with potential buyers indicate that re-sale of equipment and materials for their original use is unlikely but that salvage value may reduce or offset the cost of removal. SRI will continue to communicate with equipment brokers and salvage companies to arrange for removal of equipment and materials on terms as favorable as possible to SRI.

Other materials that have no re-sale or re-cycle value (trash) will be identified for either removal to a licensed landfill or burial on site under or within the waste repository.

Any materials that are classified as hazardous or radiological materials, other than waste rock, will be inventoried, sampled, and tested as necessary to determine the appropriate disposal methods. Such materials will be removed from the site before commencing removal of equipment, structures or other materials that could disturb these materials or interfere with their removal.

Reference Vegetation Survey

Kevin Branum (Enchanted Seeds) has identified two potential vegetation reference areas immediately adjacent to the mine site. Upon MMD concurrence, Kevin will perform the vegetation survey in accordance with his proposed methodology. The survey should be completed in October 2019, and the results will be used in the revegetation plan that will be implemented after all ground-disturbing activities on the site have been completed.

Geotechnical Site Investigations

Geotechnical site assessment and soil sampling were completed in September 2019. Sampling locations were recorded using global positioning system (GPS) instruments. Testing of 20 samples is being performed by Daniel B Stephens Associates laboratory, and results should be available by mid-October. All soil samples are being tested for classification using grain size analysis and Atterberg limits. Samples of clay soil from six of these 20 locations are being tested for compaction properties that will be important parameters in the radon barrier design. Results of the soil tests should be available by the end of October 2019 for subsequent use in design of the waste repository cover. If the soil test results do not provide the quantity or quality of data needed for design and subsequent construction quality control, additional sampling and testing will be performed.

Topographic Mapping

On 9/17-9/18/2019, topographic data were collected at 1200 points on and around the mine site using the RKT system that utilizes GPS technology. The RTK system of topographical mapping done for this site consisted of using two GNSS (Global Navigation Satellite System) receivers working together to obtain X, Y, and Z coordinates of any given point. During the data collection, the receivers both communicated with the satellites and with each other using radio waves. One receiver was set up over a fixed point as the base unit while the other receiver was set up on a survey pole as the roving receiver. The mapping was performed by a field engineer. The data points were collected using the roving receiver tied to the base receiver and storing the data in the Trimble TSC3 data collector. All measurements obtained by this method have sub-centimeter accuracy between each point. The particular units used for this topographical mapping were Trimble R8s GNSS for the base unit and Trimble R10 GNSS for the rover unit. Both of these Trimble units represent state-of-the-art satellite receivers.

These data have been down-loaded to AutoCAD and are being combined with the only other available map data of the site, USGS topography based on aerial photogrammetry, to create a more accurate and detailed topographic map of the mine site. The contour intervals within the lake basin will be 0.5 feet and those elsewhere will be 1.0 to 2.0 feet, depending on slope gradients. This map will be used in the design of earthwork, including waste repository design, and for reference for construction quantity estimates of excavation, fill and final grading.

Health and Safety Plan (HASP)

There are health and safety hazards involved in the reclamation work at the mine site, and a formal HASP is needed for protection of site workers and for the liability risks to SRI and the project team. AKA will modify a HASP developed in 2015 and approved by MMD AML Program for work at another mine site, adding topics that are specific to the Section 12 Mine. Most important are the radiological exposures, the activities around the shaft, demolition of structures, and movement of heavy construction equipment. Each contractor will be responsible for training its employees to this plan and for enforcing its requirements. A Radiological Work Permit might be required by the NMED Radiation Control Bureau.

The NM State Mine Inspector and the Mine Safety and Health Administration (MSHA) have been consulted for guidance on safety practices around the shaft, headframe, and hoisting ropes.

Shafts Investigations

Examinations of the mine shaft from ground surface indicate that the shaft is dry to the bottom, based on soundings. However, the MMD is requiring a video survey of the shaft.

The mine shaft has a temporary cover consisting timbers and sheet metal. These materials must be removed enough to allow lowering of a video camera to record the structural condition of the shaft, the locations and conditions shaft skips and guides, and existence or absence of water. Contractors will be hired to open and then close the shaft cover and to support the video survey contractor in lowering and raising the camera. SRI will attempt to coordinate scheduling of these contractors to be on site on the same day for this work,

and all personnel on site will be briefed on the relevant elements of the HASP. MMD and NMED will be informed of the video survey schedule so that they can arrange to have staff on site to witness the survey. ALL PERSONS ON SITE FOR THE VIDEO SURVEY will be required to receive safety training, and while the shaft cover is open only those directly involved in the survey will be allowed within 10 feet of the shaft and must be in a safety harness tethered to the headframe.

Two vent shafts are located within the area north and west of the mine shaft. One has already been backfilled; the other is open to full depth and is dry, based on sounding from ground surface. No further investigations are needed in these vent shafts.

Reclamation Design

Reclamation design will be performed by AKA to satisfy the requirements of NMAC 19.10.5 and will utilize the Joint Guidance for the *Cleanup and Reclamation of Existing Uranium Mining Operations in New Mexico* to the extent possible. Soil and rock materials needed for cover and backfill will be obtained from on-site sources to avoid additional land disturbance and minimize transportation costs.

Waste Repository

The waste repository is the central feature of Section 12 Mine reclamation. The repository will be designed by AKA to contain approximately 40,000-50,000 cubic yards of waste rock. The design will conform to Best Management Practices for stabilization and protection of mine waste. The design will include preparation of earthwork specifications and drawings that will guide the construction of the waste repository.

Shaft Backfilling

The mine shaft will be backfilled to near ground surface with waste rock and topped off with clean soil. Approximately 4000 cubic yards of waste rock and soil will be required to fill the shaft. The backfilling requirements will be included in the earthwork specifications.

Mine Debris Disposal

After re-usable metal scrap and other re-cyclable materials have been removed from the site, the remaining mine debris will be buried in a disposal pit within or below the waste repository.

Vent Shaft Bat Closure

The open vent shaft will be closed with a steel grid cover that will prevent human and large animal entry but will allow access by bats, enabling a wildlife habitat as the post-mining use of the vent shaft.

Site Grading

After all other earthwork is completed, the site will be graded to promote positive drainage for runoff to the lake basin and other existing drainage courses. The specification for grading will be included in the earthwork specification.

Revegetation Plan

A revegetation plan will be prepared utilizing the Attachments #1, #2 and #3 of MARP Closeout Plan Guidelines and the results of the reference area vegetation survey.

Post-reclamation Monitoring

The Reclamation Plan will include a plan to monitor the site for a period time after reclamation tasks have been completed to evaluate and report the progress of vegetation and erosion controls.

Performance of the waste repository, shaft closures, erosion controls, and vegetation will be measured and documented for not less than five years after completion of the reclamation of the site. In addition to annual vegetation surveys on the reseeded ground, this monitoring will include visual inspections, possibly UAV-based, of indications of erosion by wind or water, grazing or burrowing impacts, and structural stability of the repository and backfilled shaft.

Contracting

When the foregoing elements of the Reclamation Plan have been completed and the Reclamation Plan has been submitted to MMD and NMED for review, SRI will initiate the contracting process for the services needed to execute the Plan. However, contract bidding and award will not start until the Reclamation Plan has been approved and SRI has determined that the Plan, as revised to address agency comments, can be executed with available funds.

The contracting documents will include:

- Scopes of work
- Contract terms and conditions
- Engineer's cost estimates
- Contractor bid schedules

SRI expects to place contracts for:

- Heavy construction including demolition of facilities not otherwise removed by others for salvage or re-sale
- Earthwork
- Revegetation
- Construction management and quality control
- Radiological safety and surveys
- Land surveying (if needed for unit price earthwork)

Construction Quality Control

Prior to reclamation construction, a Construction Quality Control (CQC) program will be developed and then applied during construction to:

- Establish the construction standards and procedures to be used in achieving the Reclamation Objectives,
- Guide construction with specifications and drawings,
- Measure and test the reclamation elements for conformance with the specifications and drawings,

- Document the reclamation elements as evidence of that conformance and of satisfaction of requirements in the Order.

CQC personnel will include SRI consultants and others who are independent of the construction contractor and who will report directly to SRI or its designated representative.

Reclamation Summary Report

The Reclamation Summary Report, required under ¶ 36 of the Order, will be prepared upon completion of the reclamation work, not including post-reclamation monitoring, and after results of confirmatory radiological testing are available, approximately 90 days after the last task is finished. The report will include the chronology of reclamation activities, as-built drawings, description of variances and deviations from the approved plan, documentation of QC records, and photographs of the reclamation work.

SCHEDULES AND RESPONSIBILITIES

The sequence of activities in the Work Plan is illustrated in Figure 1. The estimated schedule of these activities is shown in Table 1, along with the primary responsibility and potentially impacting factors for each activity.

Figure 1. Reclamation Plan - Sequence of Activities

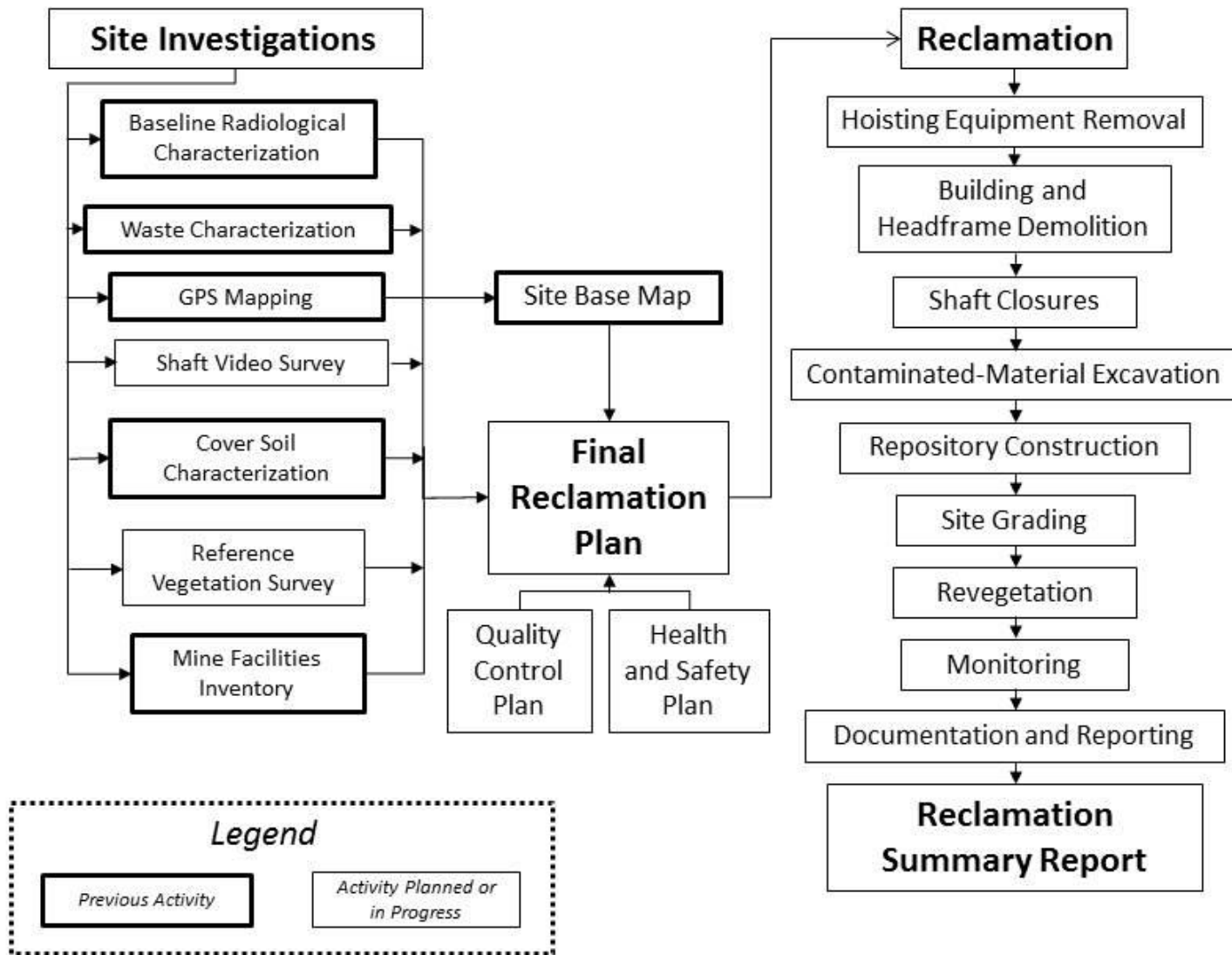


Table 1 Schedule of Reclamation Activities

Section 12 Mine

Activity #	Activity Description	Estimated Dates		Preceding Activity #	Primary Responsibility	Impacting Factors
		Start	Complete			
1	Site Characterization					
1a	Baseline Radiological Characterization	7/8/05	7/9/05	NA	ERG	none
1b	Waste Characterization	7/9/05	7/10/05	1a	Permits West Inc.	none
1c	GPS Mapping	9/17/19	9/18/19	1b	AKA/ EL Engineering	none
1d	Site Base Map	9/18/19	10/19/19	1c	AKA/ EL Engineering	none
1e	Shaft Video Survey	TBD Oct. 2019	Oct. 2019	NA	AKA	contractor availability
1f	Cover soil Characterization	Feb. 2019	Oct. 2019	1c, 1d	AKA	none
1g	Reference Area Vegetation	10/2/19	11/1/19	NA	Branum,	MMD plan approval
1h	Mine Facilities Inventory	Sept. 2019	Oct. 2019	NA	AKA, JLister	building access
2	Final Reclamation Plan					
2a	Quality Control Plan	Nov. 2019	Dec. 2019	NA	AKA, QC contractor	none
2b	Health and Safety Plan	10/7/19	10/10/19	NA	AKA	none
3	Reclamation					weather, financial resources
3a	Buildings Removal ¹	4th qtr 2019	1st qtr 2020	1h	purchaser, disposal contractor	purchase contracts, classification of materials, permits needed
3b	Hoisting Equipment Removal	1st qtr 2020	4/1/20	1e, 1h, 3b	purchaser	purchase contract, contractor availability
3c	Headframe Removal	4/1/20	5/31/20	1e, 2b, 3a, 3b	purchasers, earthwork contractor	purchase contract, contractor availability
3d	Shaft Closures	6/1/20	7/1/20	1e, 2b, 3c	earthwork contractor	contractor availability
3e	Contaminated-Material Excavation ²	4/1/20	7/1/20	3a, 3c	earthwork contractor	contractor availability
3f	Repository Construction ³	4/1/20	8/15/20	3a, 3c, 3e	earthwork contractor	contractor availability
3g	Site Grading	8/15/20	9/15/19	3d, 3e, 3f	earthwork contractor	contractor availability
3h	Revegetation	9/1/20	10/1/20	3g	Enchanted Seeds	contractor availability
3i	Monitoring	10/1/20	10/1/25	3h	AKA, SRI	none
3j	Documentation and Reporting	4th qtr 2019	10/1/20	3a-3h	AKA, SRI	none
4	Reclamation Summary Report	10/1/20	11/15/20	1,2,3	AKA, SRI	regulatory reviews

Notes: 1- Includes removal and disposal/ recycle of hazardous or radiological materials

2 - Includes removal and burial of non-recycled mine debris and trash

3- Includes construction of radon barrier and vegetative medium (loam)

DRAFT

TASK LIST - SECTION 12 MINE RECLAMATION PLAN

Rev. 0, 8/27/2019

- 1. Conceptual Reclamation Plan** – MMD approval pending. Includes decision on shaft investigations. Needed before end of September 2019.
- 2. Hoisting Equipment Inventory** – Alan Kuhn with Joe Lister
Access hoist house, inventory equipment and assess condition. Take measurements and photos. Document for listing for sale and for salvage. Complete before end of Sept. 2019
- 3. Shaft Surveys** – Jet West for downhole video, Stewart Bros. Drilling for water level probe and hoisting support. To be performed only if required by MMD/ NMED. Complete by end of October 2019.
- 4. Headframe Walk-through with Demolition Contractor** – Alan Kuhn with contractor for cost quote to remove headframe. Complete before end of Sept. 2019 for cost quote by November.
- 5. Vegetation Reference Area Survey** – Kevin Branum. Complete before end of first week of October 2019.
- 6. Waste Rock and Soil Sampling and Testing** – Alan Kuhn with Ed Loescher and John North. Collect approximately 10-15 samples of waste rock, 10 samples of clay, and 5-10 samples of loam from the mine site. Deliver to contract lab for testing of properties relevant to compacted density, plasticity, grain size, radon attenuation. Start mid-September, complete before end of November 2019.
- 7. GPS Mapping of Existing Waste Rock Piles and Future Repository** – Ed Loescher. Perform at the same time as #5. Collect topographic data for estimation of waste rock volumes and for base topography of the repository site (for use in post-construction calculation of earthwork payment quantities). Start mid September, complete before end of October 2019.
- 8. Reclamation Design** – Alan Kuhn, Ed Loescher, John North, Kevin Branum. Prepare:
 - a. Excavation Plan**
 - b. Shaft Backfill Plan**
 - c. Repository Design** including waste rock placement, radon barrier cover, growth medium cover

- d. Final Grading Plan**
- e. Revegetation Plan**

Start after completion of #1-7, complete by end of February 2020. Submit to MMD for approval.

9. Site Reclamation - Alan Kuhn, Ed Loescher, John North, Kevin Branum, contractors.

- a. Prepare contracts** – demolition, earthwork, vegetation, land surveying, construction management
- b. Remove hoisting equipment** – for sale or off-site storage
- c. Demolish headframe and buildings**
- d. Clear and grub vegetation**
- e. Backfill shaft**
- f. Prepare repository footprint**
- g. Excavate, transport and place waste rock in repository**
- h. Excavate, transport, place and compact clay for radon barrier**
- i. Excavate, transport, place loam for vegetative medium**
- j. Survey final waste pile topography** – for as-built drawings and earthwork contractor measurement and payment
- k. Deploy canisters for radon flux measurements**
- l. Perform final site grading and seed bed preparation**
- m. Apply seed, mulch, and erosion protection**

Start after completion of #8, complete by end of August 2020.

10. Reclamation Completion Report – Alan Kuhn, Ed Loescher, John North, Kevin Branum

- a. Compile data files in appendices** – daily reports, field and lab QC, as-built surveys and drawings, photographs
- b. Prepare narrative report**
- c. Submit report**
- d. Respond to comments and finalize report**

DRAFT RESPONSES TO MMD COMMENTS ON SECTION 12 MINE CONCEPTUAL RECLAMATION PLAN

MMD/ NMED comments are in italic font, SRI responses are in regular font.

MMD Comment #1: *Confirm whether or not the two vent shafts located northwest of the main shaft will be plugged and reclaimed in this reclamation plan.*

If SRI determines that the vent shafts are part of the Section 12 Mine and not the Dysart Mine, SRI intends to place bat-habitat cupolas on the vent shafts, rather than plugging them.

MMD Comment #2: *Include a section in 4.2 describing the clean-up and removal of remnant garbage and scrap in the SW¹/₄ of Section 12.*

A section will be included in the reclamation plan to describe the disposal of materials that will be included in the waste repository, recycled for off-site use, or disposed of off-site.

MMD Comment # 3: *Provide a map showing borrow source location(s) and include a section in 4.2 that talks about borrow material location and reclamation after borrow is removed.*

Site investigations scheduled for September-October 2019 will identify the locations and extents of borrow sources for radon barrier clay and loam for seeding medium. These locations will be described in the Reclamation Plan. Actual dimensions of borrow sources will not be known until after completion of construction. Reclamation of these borrow locations will include final grading to promote drainage to the lake basin followed by revegetation.

MMD Comment #4: *According to Section 4.2.5 it appears that an above-ground level repository design is being proposed. The preferred method by the agencies is a below-ground repository design. Please justify your choice for an above-ground level repository design.*

A below-ground repository is not appropriate for the Section 12 Mine site because:

- a) Most of the waste rock placed in a below-ground repository would reside below the maximum water level of the lake (elevation to be determine by GPS topography data collected in September-October 2019), potentially subjecting it to periodic saturation, posing a risk for mobilization of radionuclides from the waste rock. Placing the waste rock above natural ground surface keeps the radiological source material above the maximum lake level.
- b) Excavation of a below-ground repository basin would generate a large volume of soil and rock, only a fraction of which could be productively used in the repository cover. The remainder would be spoiled on site, wasting the owner's limited financial resources.
- c) Excavation of a below-ground repository basin would involve a few feet of soil excavation and substantially more excavation of rock. Rock excavation costs substantially more than soil excavation.

NMED MECS Comments

- *In Section 2.2 of the Plan, the uraniferous waste rock is referenced as Technically Enhanced Naturally Occurring Radioactive Material (TENORM). NMED does not concur that the term TENORM is representative of the uraniferous waste rock or waste rock that has been placed in the area of disturbance at the mine.*

The following is the US EPA definition of TENORM.

(see <https://www.epa.gov/radiation/technologically-enhanced-naturally-occurring-radioactive-materials-tenorm>):

Technologically Enhanced Naturally Occurring Radioactive Material (TENORM) is defined as, "Naturally occurring radioactive materials that have been concentrated or exposed to the accessible environment as a result of human activities such as manufacturing, mineral extraction, or water processing." ¹

"Technologically enhanced" means that the radiological, physical, and chemical properties of the radioactive material have been concentrated or further altered by having been processed, or beneficiated, or disturbed in a way that increases the potential for human and/or environmental exposures."

- *NMED concurs with the use of a video camera to be used downhole in the shaft to determine the conditions of the shaft and evaluate the presence or absence of ground water in the shaft.*

According to NMED's official definition of ground water:

20.6.2.7.G NMAC : "ground water" means interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply.

The historical records indicate that water was encountered at one level below 600 feet depth during shaft sinking, but the water inflow then ceased and did not continue during the following years of active mining. This is characteristic of perched water that resides above an impermeable stratum and has no recharge, so that it does not have "sufficient amounts to be utilized as a water supply" and, therefore, does not meet the definition of ground water.

During its years of operation, the Section 12 mine had no water well, had no surface impoundment for water, had no New Mexico Discharge Permit for ground water, and had no underground pumping system. The closest mine that encountered ground water was more than two miles away. Section 12 Mine was a dry mine, and there is no indication that water has subsequently appeared in the mine.

A few years ago, MMD employee Mike Coleman and another individual entered the mine through the Dysart shaft and walked through the Section 12 mine drifts to the area of the shaft. They found no water.

If there is no reason to believe that the Section 12 is not a dry mine, then the only reason for a video survey of the shaft is to determine the physical condition of the shaft. There is no requirement for a video or other survey of the shaft in the Mining Act or rules, so the decision about means of shaft investigation, if any, should be left to SRI.

- *Any recycling of metal (hoisting equipment, headworks, or buildings) should be evaluated to ensure that the metal has not become irradiated and may therefore not be accepted at commercial metal recycling facilities. The final Plan should include a process for evaluation of any metal that may be recycled that is protective of human health.*

This NMED comment does not specify a level of radiological contamination that would require on-site disposal in the repository or decontamination before release. SRI will develop a radiological screening protocol for inclusion in the reclamation plan that is consistent with industry guidelines.

NMED SWB Comments

- *SWQB provided comments dated October 5, 2018 regarding the "Supplement Documents (3) for the Closeout Plan" that described Ambrosia Lake as a closed depression. The Conceptual Reclamation Plan describes Ambrosia lake with the following statement: "overflow leaves from the southwest corner of Ambrosia Lake via Arroyo del Puerto". As Ambrosia lake is not a closed depression and has a surface water connection to Arroyo del Puerto, which is a surface water of the state (20.6.4.97 NMAC), Ambrosia Lake would be considered a water of the state subject to 20.6.4.98 NMAC with designated uses that include livestock watering, wildlife habitat, marginal warmwater aquatic life and primary contact.*

Ambrosia Lake is a closed depression, as evident on USGS topographic maps and Google Earth imagery. The low point of the depression basin perimeter is at the southwest corner, through which water can flow in from, or out to, Arroyo del Puerto. This is the natural topography that existed before the Section 12 Mine and will be preserved during reclamation. It is apparent that arroyo flood flows that rise above the basin perimeter low point can spill into the Ambrosia Lake basin, but only lake water above the elevation of that low point can flow out of the basin back into the arroyo - there is no natural channel connecting Ambrosia Lake with Arroyo del Puerto, and none will be created during mine reclamation. The mine surface lies completely within the basin and above the lake floodplain, except for some waste rock along the east side of the lake. That waste rock will be removed from the lake floodplain, and all uses designated for Ambrosia Lake will be preserved or restored; SRI's reclamation activities will not change those uses.

- *The Conceptual Reclamation Plan has identified two potential areas for the repository, and states that the selected location will be outside of the floodplain. SWQB recommends that a sufficient setback distance be determined, between the floodplain and repository, to ensure consistency with 19.10.5.507 A. NMAC and 20.6.4.98 NMAC.*

The location of the repository will be selected after the site investigations are completed and will be based primarily on providing the best possible isolation of the waste rock, including setback from the Ambrosia Lake floodplain.

- *Furthermore, the Conceptual Reclamation Plan states that the plan will probably include the creation of a shallow swale from the area south of the existing hoist to the west-southwest to reduce the potential for inundation by flooding in Ambrosia Lake and that the diversion berm above Ambrosia Lake will remain. Following SWQB comments from October 5, 2018, the long-term function and restoration of Ambrosia Lake should be discussed in the Final Reclamation Plan.*

The nexus for an NPDES permit appears to be discharge of water into the "waters of the state" (or the U.S.). To avoid any action that would trigger additional permitting, including an NPDES MSGP or other regulatory process, the reclamation plan will not include a swale or other change in the hydrologic condition or function of Ambrosia Lake that would create a link between runoff from the mine site and Arroyo del Puerto - whatever inflow or overflow that occurs naturally to or from the lake basin and Arroyo del Puerto will be unaffected by mine reclamation. Because the mine was dry, and there has been, and will not be, pumping or discharge of water as part of reclamation, an NPDES permit should not be required.

- *Activities within watercourses or wetlands may require coverage under a Clean Water Act Section 404 permit.*

There will be no reclamation activities within watercourses. The reference vegetation surveys to be conducted soon will evaluate whether the lake basin contains wetlands. If any are identified, they will be avoided or mitigated as part of reclamation.