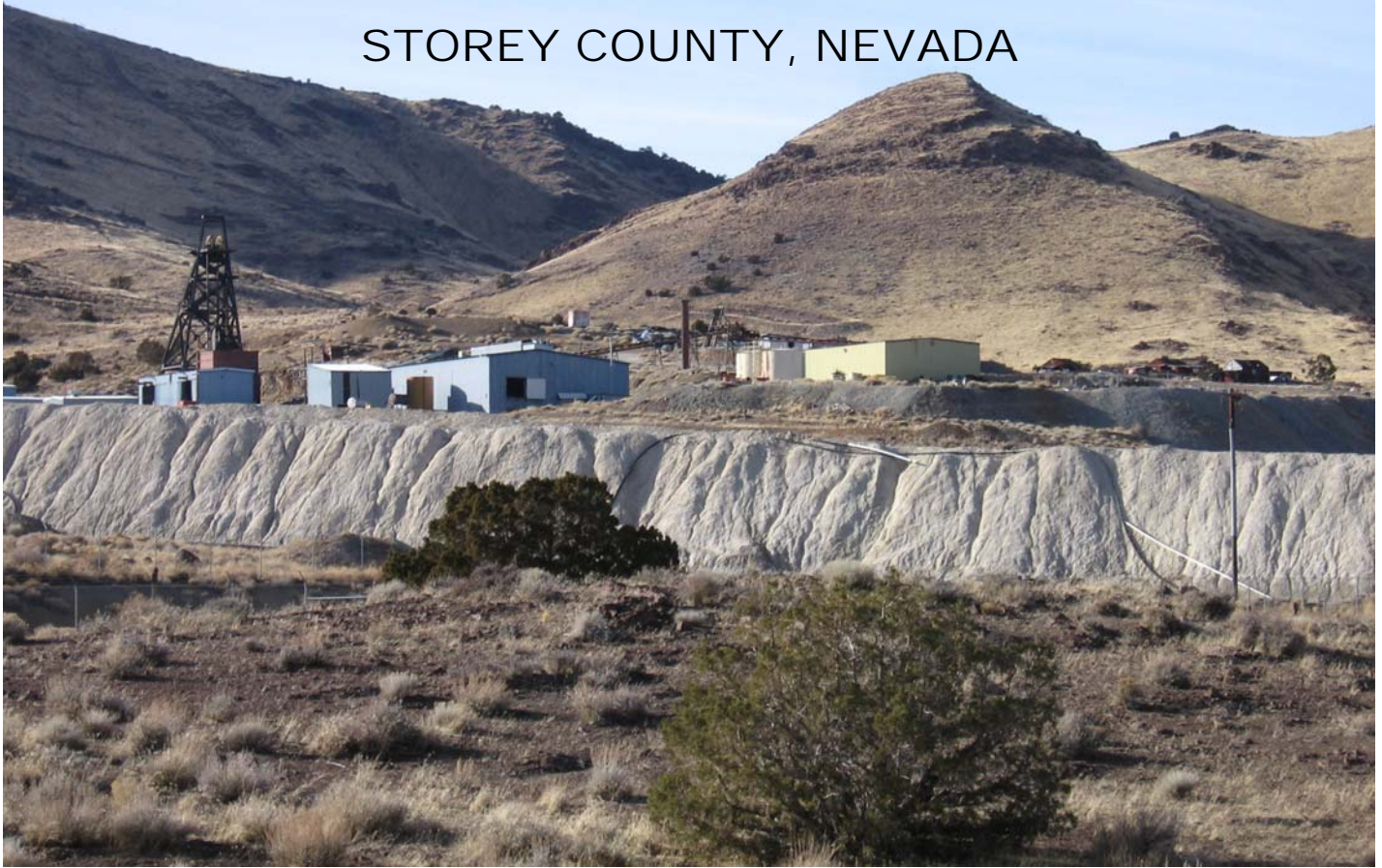


FINAL PERMANENT CLOSURE PLAN
GOOSEBERRY MINE
STOREY COUNTY, NEVADA



Submitted to:
Nevada Division of Environmental Protection
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701

Submitted by:
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December 2007
AMEC Project No. 6-417-000720





December 6, 2007
AMEC Project No. 6-417-000720

Nevada Division of Environmental Protection
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701

Attention: Mr. Sam Jackson
Bownfields Program Manager

Re: FINAL PERMANENT CLOSURE PLAN
Gooseberry Mine, Storey County, Nevada

Dear Mr. Jackson:

Enclosed are two hard copies and one electronic copy of AMEC Earth & Environmental, Inc.'s (AMEC's) draft final permanent closure plan for the Gooseberry Mine. This plan contains a description of the closure activities to take place at the site with future development activities considered. Much of the plan deals with the closure of mine process and waste facilities such as the heap leach pad, tailings and materials associated with the mill. The plan is general in nature regarding the removal of buildings and structures that may be salvaged or reused. Of special note is our proposed reuse of the waste rock dump for parking or low load bearing structures rather than the regrading and capping associated with typical closure activities. This has been proposed to try to maximize building space at the site. In addition, structural plugs for the shafts have been designed and presented. The purpose of these plugs is to allow for more useable land after closure activities have been completed.

This Final Permanent Closure Plan is intended as a guide. We envision that a prospective developer may wish to develop site plans that modify the proposed work. However, the plan presented herein should provide the guidance needed by both Storey County and a prospective developer on the issues to be managed at the site and how they may be addressed.

Respectfully submitted,

AMEC Earth & Environmental, Inc.

Brett Whitford, C.E.M.
Environmental Services Manager

Reviewed by,

John Dyer, C.E.M.
Senior Project Manager

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable federal, state and local statutes, regulations and ordinances.

BW/JD/mm

Enclosures

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1. INTRODUCTION

1.1 General

The Gooseberry Mine operated as an underground mine from about 1906 until 1992. Storey County obtained control of the site through tax foreclosure from Palace Resources Inc. in 2005. The site is located immediately adjacent to the Reno-Tahoe Industrial Park (the largest industrial park in the United States). The Gooseberry site location and former use as an industrial/mining site is thought to be compatible with surrounding land use and have potential for industrial redevelopment. Storey County wishes to divest itself of this site and return it to productive land.

The Nevada Division of Environmental Protection (NDEP) assisted Storey County by obtaining assessment funding for the site through a special grant from the U.S. E.P.A. Brownfields Program (Brownfields). This closure plan draws upon the data and information obtained through the use of the grant funding.

1.2 Statement of Purpose

The purpose of this Final Permanent Closure Plan (FPCP) is to identify the environmental issues at the site that have the potential to degrade waters of the state. This plan follows the guidelines for FPCP preparation as published by the NDEP. This document presents an assessment of onsite hazardous materials and the future management of these materials. AMEC understands that, unlike more remote mine sites in Nevada, this site may be redeveloped in the future and the Final Closure Plan should reflect future land reuse.

This Final Permanent Closure Plan is intended as a guide. Project specific modifications to proposed treatments should be incorporated into the plan as necessary to satisfy the requirements of any proposed development as well as to comply with State regulations.

2. SITE LOCATION AND BACKGROUND INFORMATION

2.1 Site Location

The site is located in Sections 25 and 36, T19N, R22E in Storey County, Nevada (refer to Figures 1 and 2) and is approximately 10 miles south of Interstate 80 from of the Tracy/Clark exit.



2.1.1 Site Climatology

Appendix A contains a reprint of the climatology section from the Plan of Operations prepared by Asamera Minerals in 1988. Updated climate data from the Virginia City and Stations is also provided. The largest variable for the site is precipitation. The site is higher in elevation than Reno, but not as high as Virginia City. Its location within the Virginia Range may provide some orographic enhanced precipitation during some precipitation events may be shadowed out by the up wind peaks of the Range.

2.1.2 Overall Site Geology

The overall site geology may be found in Appendix B that contains a reprint of the geology section of the Plan of Operations developed by Asamera in 1988.

2.2 Groundwater Depth and Quality

Groundwater was not encountered during assessment activities conducted by AMEC. However, the Plan of Operations (Asamera, 1988) indicated that groundwater existed at depths of 15-25 feet below grade within alluvial deposits and at varying depths in bedrock fracture zones within the project area. This reported condition may exist during wet periods when migrating meteoric water is perched on the bedrock–alluvium interface. Anecdotal information within files found at the Bureau of Land Management, Carson District Office (BLM) indicates that the depth to consistent groundwater is at least 500 feet below grade. Based on the data obtained and reviewed by AMEC, there does not appear to be a permanent or areally extensive aquifer below the site. Water quality data was not identified in site files held by the BLM or the NDEP.

2.3 Surface Water

The closest perennial surface water body is the Truckee River located ten miles south of the site. There are some mapped springs to the north and east of the site. These springs are located over a mile from the project site.

3. FACILITY DESCRIPTION

3.1 Facility Status

The entire facility is inactive. Most valuable commodities and equipment have been removed from the site and would require replacement in order to make the facility functional as a mine.



3.2 Process Flow Charts and Process Components

Appendix C contains copies of process flow charts obtained from the NDEP files. There were two process circuits in the Gooseberry mill. These included the Heap Leach Pad (HLP) process circuit and the underground mine ore process circuit. The HLP and the mine ore circuit used a Merrill-Crowe process that had a 150 gpm capacity to extract metals. The NDEP files indicate that the Merrill-Crowe circuit may have been replaced with a carbon circuit at some point during operations. The mine ore circuit consisted of a ball mill, flotation, agitator, solution mixing and metal recovery.

The capacities of the process containers in the mill building are not all known. However, we estimate that there is about 100 cubic yards of residual process material remaining in or associated with the mill. There are four tailings ponds on site. Figure 2 shows the location of the tailings ponds, process ponds, landfill and former biopad.

Heap leaching consisted of placement of agglomerated tailings onto 30 mil HDPE lined heap leach pad. The drainage system within the pad consists of a series of corrugated slotted pipe that is embedded in a coarse sand drainage layer. This system discharges into an HDPE lined collection ditch that surrounds three sides of the HLP. These ditches transfer solution flow to a HDPE lined pregnant pond (PP). The PP has a capacity of about 200,000 gallons and solution was pumped from this pond back to the mill building for processing. The PP has an overflow ditch to an HDPE lined pond. This pond acted as both a barren pond and a storm water storage facility.

3.3 Liners and Leak Detection Systems

The pregnant and barren ponds are lined ponds with leak detection and recovery systems. The ponds are lined with a single geomembrane liner. Leak detection systems consist of an underdrain that was constructed of PVC pipe and reported to a fifty five gallon drum. Drawings of the leak detection system are in the NDEP files for the site.

The HLP is also a lined facility as described above. The facility was reportedly built on an engineered subgrade with a 30-40 mil HDPE liner deployed over eight to ten cells. The variability in the thickness of liner and number of cells is due to the inconsistencies in various documents pertaining to the site. AMEC is unaware of a leak detection system for this facility.

The East and West Mill Tailings ponds are also single lined facilities. These facilities do not have a leak detection system or apparent underdrain system.

3.4 Mine Waste and Sources Requiring Closure

The following describes the mine wastes and sources that require closure.

3.4.1 Heap Leach Pad

The heap leach pad (HLP) shown on Figure 2 and Sheet 2 (Appendix D) is located to the south of the mill complex. According to plans held within the NDEP files it was constructed using 30 but possibly 40-mil HDPE liner and an overlying drainage layer. Agglomerated tailings were placed on the heap leach pad to a stack height of approximately twenty five feet. The agglomerated material consisted of tailings from a large storage facility located to the south of the heap leach pad. This material was mined with a dredge and stockpiled at the northern edge of the facility. This stockpile was called the surge pile (Asemara, 1988) and a significant amount of material is still present in this pile, as shown on the topographic map presented as Sheet 6 in Appendix D. The dredged material was then conveyed to the agglomerator which produced cementitious pellets that reportedly ranged from three eighths of an inch to about an inch in diameter. These agglomerated pellets were then placed on the HLP. An agglomeration flow sheet is located in Appendix C. It is apparent from the present state of the material on the heap leach pad that the durability of the agglomerated pellets was not sufficient.

The present configuration of the HLP allows for ponding of water to the top surface and the generation of leachate during wet periods. Based on the results of leachate sampling from 2006, leachate from the HLP does not meet present discharge standards for cyanide, silver and total dissolved solids.

Two ponds are associated with the HLP, a pregnant pond and a barren/storm pond. According to the Asamera Plan of Operations (APOO, 1988), the pregnant pond has a capacity of 200,000 gallons. However, the present pond has a significant amount of material that has washed into it, causing a significant loss of capacity. The pregnant pond was constructed using 30 mil PVC liner material. A leak detection sump was installed below the pond. A monitoring port consists of a pipe that leads to a 55 gallon drum. This drum is located about 150 feet east of the pond.

The barren/storm pond is located to the south of the HLP. This pond has a capacity of 1.5 million gallons. It was constructed using a 30 mil HDPE liner (Asamera, 1988).

3.4.2 Tailings Ponds

There are four tailings ponds on the mine site. Two of these facilities are lined (East and West Mill Leach Tailings Ponds) and the other two are not (reworked tailings and Asamera tailings). The tailings in the lined facilities will require removal and management. The other two facilities need to also be closed by regrading and capping.

3.4.3 Mill Wastes

As stated above there is approximately 100 cubic yards of waste materials in and immediately adjacent to the mill building. This material consists of partially processed ore.

3.4.4 Waste Rock

The waste rock dump is located to the east of the mine shafts and mill building. The rock sampled and analyzed through the assessment performed by AMEC (refer to Appendix E) indicated that it is relatively benign and could be developed upon.

3.4.5 Miscellaneous Mine Wastes

Drums containing apparent ore/waste rock are located on the north side of the Reagent Storage Building (RSB). This material should be managed along with the mill wastes. South of the RSB is a pallet of samples from the mill. These samples should also be managed as standard waste since the packaging volume is significant. Drill core located in the vicinity of the core shack and explosives bunker should be managed as standard wastes due to the volume of packaging.

3.4.6 Jello Pile Wastes

There is a significant volume (>1,000 cubic yards) of "jello pile" residuals associated with the former location of this named waste pile. It is apparent that either runoff or process water (or combination of both) mobilized cyanide and other chemicals of concern. This material is located in an area that would otherwise be available for redevelopment. Therefore, the material will be removed and placed in a waste containment facility.

3.4.7 Petroleum Wastes

Petroleum contaminated media are located in the vicinity of the former generators, biopad and the above ground fuel storage tanks area. The assessment activities performed by AMEC (refer to Appendix E) did not develop enough data to define the total extent of contaminated media with petroleum concentrations in excess of 100 mg/kg. However, sufficient data was developed to allow for the development of a remediation plan for this material as described herein.

3.4.8 Cyanide Mixing Tanks

Residual material with excessive concentrations of cyanide is present in the cyanide mixing tanks at the site. These tanks are located to the north of the mill building.

3.4.9 Landfill

A landfill is located to the west of the Reworked Tailings (RWT). This landfill consists of at least two cells. The eastern cell has some cover material over it, while the western cell remains

open. Most of the debris observed in this facility consists of metal scrap, empty drums and containers. According to Mr. Dennis LaPraire (former mine engineer and NDEP employee) the landfill was primarily used for discarding empty containers. Soil samples collected and analyzed in the immediate vicinity of the landfill did not indicate that a significant discharge of analytes assessed for had occurred.

3.4.10 Investigative Derived Waste

Investigative derived waste includes soil and mine waste generated during the investigation performed by AMEC (refer to Appendix E).

3.4.11 Miscellaneous Wastes and Contaminant Sources

There are several contaminant sources on both the private and BLM portions of the site. A brief description of each of these is presented below.

Private Land

- a. Acid Batteries – A stockpile of acid batteries is located in a boneyard area between the decline shaft and the water tanks.
- b. Asbestos Containing Building Materials - There are twenty fixed buildings on site. Many of the buildings are of metal construction with concrete foundations. However, a number of buildings have building materials that do not consist of metal, glass, wood or plastic. These materials are all suspected of containing asbestos and will require analysis and potentially abatement prior to demolition. Asbestos may also be associated with the onsite trailers and mechanical equipment such as hoist brakes and electrical panels.
- c. Transformers - The Reagent Storage Building (RSB) contains five non-mounted electrical transformers. The dielectric fluid in the transformers is not PCB containing. A downed transformer is also located in the lined ditch between the pregnant pond and barren/storm pond.
- d. Waste Filters and Crucibles – A round lined waste container is located to the north of the RSB. This facility contains waste filters and crucibles. These materials will require disposal in a Class I waste facility.
- e. Lead Based Paint – Given the potential age of many of the structures onsite, it is likely that they have lead based paint coated surfaces.

BLM Land

The following items of concern were noted on BLM Land. Although the Brownfields program provides for private/local government assessment and remediation funding these items are mentioned herein since they are a part of the overall mine site environment and will require closure/removal actions.

- a. Drums – There are numerous drums of mine wastes and chemicals located on the northern portion of the site. These drums of materials should be characterized and properly managed
- b. Fuel Tank – An apparent above ground fuel tank is located to the east of the laboratory building. This tank will be removed along with the contaminated soil associated with it.
- c. Open Dump – The northern portion of the site contains four shacks and a couple of trailers. An open dump is located to the north of a cluster of three shacks. The surface of the dump is characterized by what appears to be primarily household type wastes with some industrial waste. Numerous debris piles are also associated with this area of the site. The materials in the dump and debris piles should be removed and disposed of at a permitted facility.
- d. Septic Tanks – Septic tanks are known to exist in association with the Shower, Administration and Laboratory Buildings. These facilities will need to be closed per Storey County requirements. The laboratory septic system should be assessed for the discharge of hazardous pollutants.

3.5 Well Logs

AMEC understands that test wells and exploration borings were installed at the mine site. However, we do not have logs for all the wells or borings. A search of available logs from the Nevada Division of Water Resources Web Site revealed no logs for this site or associated sections of land.

4. SOURCE CHARACTERIZATION PROGRAM

AMEC conducted a site characterization study for NDEP. A copy of the report is presented in Appendix E.



5. INDIVIDUAL SOURCE STABILIZATION PROGRAM

5.1 Waste Rock

Although the waste rock analyzed during the characterization study performed by AMEC appears to have the potential to generate a leachate that does not meet drinking water standards for all analytes listed as Profile II parameters, it is relatively benign material. Presently, the Reagent Storage Building exists on the waste rock dump and the exposed slopes of the dump appear to be relatively stable. Also, the topographic profile of the dump is relatively flat (3 to 4 percent grade with a middle slope break). Given that the desire of Storey County is to have the site redeveloped as an industrial property, the waste rock dump could be incorporated into site redevelopment plans. These plans should include development of an impervious surface over the dump (parking area) with drainage that is contained until it is routed completely off of the facility. Further geotechnical assessment is required for the design of a parking area or other use of the waste rock dump as redeveloped land. This assessment will need to focus on identifying the eastern limits of the dump and its overall characteristics. In the event that the waste rock dump is not utilized in this manner, an alternative proposal will need to be submitted to the NDEP.

5.2 Mine Shafts

Appendix F presents a conceptual closure plan for the two mine shafts on site. The plan includes the design of structural plugs that can be installed in the shafts once the infrastructure around them has been removed. Implementation of this plan or an updated version should allow for redevelopment of the site over the top of these features.

5.3 Heap Leach Pad (HLP)

5.3.1 Capping Approach

Appendices D and G contain plans and specifications for the closure of the HLP. This plan is atypical of many pad closures since the pad retains the potential to generate a leachate that has excessive concentrations of cyanide as well as silver and other constituents. In addition, the HLP closure plan has to consider the existing waste containment cells within it. These cells hold wastes previously interred by the BLM. These wastes include those from the mill leach tailing pond and Jello Pile waste. The proposed capping plan also includes the placement of tailings from the two MLTP ponds.

In general terms, the top of the heap leach pad will be re-graded to minimize the potential for ponding of meteoric water. Care shall be taken during grading operations not to disturb the existing waste containment cells (SRK, 2004). Tailings from the mill leach tailings ponds (MLTPs) will be placed on the western portion of the pad where percolation trenches currently

exist. Tailings from the Reworked Tailings and Asamera Tailings ponds will be used to buttress the HLP and provide side slopes that extend from the current 1:1 (horizontal:vertical) form to a 3:1 slope. Once the buttress material has been placed, the entire surface of the HLP shall be compacted to minimize the potential for percolation of meteoric water into the waste. A final cover of two feet of soil will be used to cap the entire facility. This approach allows for the wastes encapsulated at the top of the pad to remain undisturbed while providing a surface that has better surface water drainage and is more resistive to erosion. Establishment of vegetation on the HLP will follow BLM guidance regarding application, seed mix and maintenance.

The perimeter ditches surrounding the existing pad will be re-established and the potential leachate generated from the HLP will be directed to a relined barren pond (Evaporation Pond).

5.3.2 Pregnant Pond

About a third of the pregnant pond capacity has been lost due to sedimentation. This equates to about 300 to 350 cubic yards of material. This material will be removed from the pond and placed on the heap leach pad as part of the closure operations. The existing liner will be removed and disposed of in a landfill. The pond excavation will be backfilled with compacted fill and the natural drainage path from the HLP to the barren pond will be re-established. Backfill specifications are presented in Appendix G.

5.3.3 Barren Pond (Evaporation Pond)

The barren pond will be relined with 80-mil HDPE geomembrane. This pond will serve as an evaporation pond that will receive incidental leachate from the HLP. This leachate will not be directly open to the atmosphere. It will be within a matrix that consists of geotextile, tailings and rock to allow for evaporation but not exposure of the leachate to human or animal contact.

5.3.4 Diversions

Appendices D and G contain plans and specifications for diversion structures that will route storm water around the HLP and other waste management facilities.

5.4 Tailings Impoundments

As stated above there are four tailings impoundments that exist on the site. They include the east and west mill leach tailings ponds (MLTPs), the reworked tailings pond and the Asamera Pond. The MLTPs will both be closed using a removal and disposal approach. While the other ponds will be closed in place. The work to be performed on these facilities is based on their individual characteristics.

5.4.1 Mill Leach Tailings Ponds

As described in Section 5.3, the material in the MLTPs will be placed on the heap leach pad. Liner materials will be removed from the ponds and disposed of in an off-site landfill. Soil below the liners will be observed for evidence of staining from leakage of process water. In the event that no apparent leakage is observed the excavations will be backfilled. If apparent leakage is observed, then samples of the stained material will be obtained and analyzed for Profile II constituents. Contaminated media, if encountered, will be addressed under an amendment to this closure plan.

5.4.2 Reworked Tailings Pond and Landfill

Material from the reworked tailings pond will be removed and placed against the sides of the HLP to establish a slope that is more resistant to erosion. The present surface topography of this area is very hummocky with significant depressions. These depressions hold meteoric water that may percolate through the material and form a leachate of undesired water quality. Therefore, the existing dam material will be pushed down to allow for positive drainage of the area. The residual material (post mining for HLP closure fills) will be covered with two feet of growth media. Establishment of vegetation on the Reworked Tailings Pond and landfill will follow BLM guidance regarding application, seed mix and maintenance. Appendix D contains a grading plan for these facilities.

Following grading activities, vegetation shall be established to increase evapotranspiration and stabilize the soil. A seed mix that contains seed from fast growing plants as well as long term successive species as approved by the BLM shall be applied to the reclaimed area.

5.4.3 Asamera Tailings Pond (ATP)

The ATP will be closed by establishing a flatter downstream slope on the dam and a storm water diversion channel along the south side of the facility. Grading plans for this facility are located in Appendix D. Once grading is completed, a BLM approved reclamation seed mix shall be applied per applicable means.

5.5 Jello Pile Residuals

The impacted material resulting from the migration of leachate from the Jello Pile was not fully assessed. The prescribed closure for this material consists of the following.

1. Over excavate the area assessed by AMEC at least five feet horizontally and vertically in each direction. Following excavation, resample the remaining material at the bottom of the excavation at approximate primary compass points and the center of the excavation bottom.



The samples shall be analyzed for Profile II constituents and the results of the analyses shall be used to determine if additional excavation of material is warranted.

2. Excavated material shall be stockpiled on and encapsulated with Visqueen until the final volume of material is known. The volume of excavated contaminated material should be assessed via survey.
3. Since it is known that there is at least 1,000 cubic yards of excessively contaminated material associated with this location it has been concluded that there is not sufficient room on the HLP for disposal. Therefore, an alternative waste containment cell is proposed. The east Mill Leach Tailings Pond (MLTP) could be encapsulated, thus saving room on the HLP for Jello Pile residual wastes. However, there are several reasons for proposing the alternative method of waste management as follows:
 - a. The east MLTP location conflicts with the overall plan of regrading the HLP and establishment of surface water diversion and drainage.
 - b. The age and type of construction for the MLTPs liners may have lead them to be compromised.
 - c. The concentration of contaminants associated with the materials in the MLTPs is generally greater and of a higher environmental threat than the Jello Pile residuals. Therefore, we would be placing all like materials on the HLP.

The Jello Pile residuals containment cell shall be designed as an amendment to this plan and shall consist of a fully lined/encapsulating containment cell. General specifications for the design and construction of this waste containment cell are presented in Appendices D and G.

5.6 Mill and Miscellaneous Mine Wastes

There are mine wastes present in tanks, vats and holding facilities within and associated with the Mill Building. There are also mine wastes located immediately south and north of the Reagent Storage Building (RSB). The material within and associated with the Mill should be removed and placed on the heap leach pad along with the mill leach tailings. Material located in drums to the north of the RSB shall also be placed on the heap leach pad and the drums discarded as standard waste. The wastes south of the RSB primarily consist of bagged samples of material from the Mill that were apparently for assay. These materials should be disposed of with the Jello Pile residuals. By placing these materials with the Jello Pile residuals the packaging will not interfere will compaction efforts that are required for the materials placed on the HLP.

5.7 Petroleum Wastes

Above ground fuel storage tanks shall be removed from the site and disposed of in accordance with applicable regulations and fire codes. Petroleum contaminated soil with a concentration in excess of 100 mg/kg of Total Petroleum Hydrocarbons as assessed using EPA Method 8015 modified shall be removed from the site and disposed of at an appropriately permitted facility. The Lockwood Landfill is one of such facilities that is local to the site. Petroleum contaminated soils were identified in association with the above ground fuel storage tanks located to the south east of the Mill Building, the former biopad, and the generator facility to the west of the Mill Building. Petroleum stained soils were also observed on the BLM portion of the site associated with the compressor building and an aboveground fuel tank located to the east of the laboratory and south of the maintenance building.

Following removal of the apparent petroleum contaminated soil, confirmation samples shall be obtained and analyzed in order to demonstrate that the excessively contaminated soil has been removed from each of the impacted areas. Excavated areas shall be backfilled with clean fill and the fill should be placed in compacted lifts such that these areas can be redeveloped. See Appendix G for backfill specifications.

5.8 Cyanide Mixing Tanks

The residual material in the cyanide mixing tanks shall be removed. This includes a 55 gallon drum of material located immediately south of the tanks. The tanks will then be triple rinsed and the rinsate collected for disposal. All residuals and rinsate shall be disposed of at an appropriately permitted facility. Once the tanks have been cleaned they can then be transported for disposal or recycling.

5.9 Miscellaneous Wastes

The following describes removal and disposal actions to take place regarding the miscellaneous wastes described in Section 3.

- a. Acid Batteries and Transformers – Acid batteries and transformers shall be removed from the site and either disposed of through recycling or disposed of at a facility permitted to accept these waste streams.
- b. Waste Filters and Crucibles – These materials should be removed from the site and disposed of at a permitted facility.
- c. Hazardous Building Materials – As stated above there are twenty buildings on site-not counting at least four trailers. Prior to demolition of these structures, a survey shall be performed to assess for asbestos containing building materials (ACBMs). If the buildings



are to be demolished whereby, grinding or torching of paint is a part of the process, then a lead based paint assessment is also needed. Prior to demolition, ACBMs requiring removal/abatement shall be removed by a licensed abatement contractor under the supervision of an asbestos consultant. Regulated asbestos containing wastes shall be disposed of in a permitted facility following appropriate procedures and regulations.

Lead based paint may remain on building materials that are disposed of or reused. However, grinding and sand blasting related activities will generate a regulated lead waste. In addition, cutting paint coated materials with a torch or burning paint off of surfaces will generate lead fumes. If these types of practices are proposed during the demolition of the buildings, a lead based paint assessment will need to be performed. Based on the results of this assessment special waste management and health and safety protocols will need to be followed in order to remain compliant with applicable regulations.

- d. Septic Tanks – Septic Tanks shall be closed per Storey County requirements. Wastes removed from the laboratory septic system shall be analyzed for cyanide and TCLP 13 RCRA primary metals as well as any other analysis required by Storey County or regulatory authority. In the event that the results of these analyses indicate that the septic material is hazardous it shall be disposed of in a permitted facility.
- e. North Dump – Material in the north dump (associated with the shacks at the north end of the site) shall be removed and disposed of at a permitted landfill. During removal of the waste, a Nevada Certified Environmental Manager shall be present to assess the material for items that may be considered as hazardous wastes. If identified, these potentially hazardous wastes shall be managed appropriately.
- f. Investigative Derived Waste – Labeled containers of investigative derived wastes were stockpiled at the heap leach pad. None of the materials assessed are considered to be hazardous wastes. Therefore, those materials may be placed on the heap leach pad along with other wastes to be deposited there.

6. PROCESS FACILITIES

Process facilities at the Gooseberry Mine include the Crusher Plant, Mill and Laboratory. Section 5 includes discussions regarding the removal of process wastes associated with the Mill and Laboratory septic system. AMEC conducted a brief tour of the laboratory in 2006. During that tour no significant inventory of reagents or chemicals were noted. However, prior to demolition of the laboratory, the facility should be inspected for chemicals.

The refinery portion of the Mill building has been stripped of plates, chemical baths and related equipment. No further assessment is suggested for this portion of the process facilities.



7. ANCILLARY BUILDINGS

The ancillary buildings and facilities at the site will be demolished. These facilities include water tanks, explosives magazine, conveyors and storage bins. Foundations will need to be removed in order to make way for redevelopment. Section 5 presents a discussion regarding the assessment and management of hazardous building materials (lead paint and asbestos) that may be present in these structures.

There may be salvage value in the steel structures. Therefore, AMEC does not wish to specify how the demolished buildings will be disposed of.

The power and water to the facility has long been removed. However, some water pipe remains on the surface.

The north wooden head frame and the shacks located on BLM Land may be considered historic structures. Removal of these structures should be coordinated through the State Historic Preservation Office.

8. SOURCE STABILIZATION

The closure activities described in Section 5 provide a means of stabilizing the waste materials at the site. Through regrading, encapsulating, capping, and contouring the waste materials, direct infiltration of meteoric water will be significantly reduced.

The heap leach pad has the greatest potential to generate leachate. Recontouring of this facility and placement of cover soil will minimize the potential for the formation of leachate. Analysis of samples by SRK, Inc. (SRK, 2004), indicates that the material on the HLP has a permeability of 2.3×10^{-6} cm/s. Provided that the top of the HLP is recontoured to shed water rather than pond water, as it presently does, the potential for leachate formation is minimized. Although it is minimized the potential exists for some leachate to form. For this reason, the present Barren Pond will be converted to an evaporation pond that will receive leachate from the HLP should it produce any following implementation of this plan.

Other mine waste sources (tailings and waste rock) should not impact waters of the state based on the following. Assessment activities performed to date indicate that degradation to soil in the immediate vicinity of these materials has not occurred. Also, the depth to permanent groundwater is at least 500 feet. The groundwater that does exist in the subsurface is not of sufficient quantity to provide a beneficial use. For this reason, a water pipeline was constructed from the Truckee River to provide water during operations at the mine.

9. MONITORING PLAN

No groundwater monitoring wells exist at the Gooseberry Mine site. Given the hydrogeologic conditions it would be extremely difficult to place monitoring wells that would provide samples and data that would reflect potential impacts from past mining activities. Therefore, no groundwater monitoring is proposed. The monitoring proposed consists of visual assessments of the reclamation activities proposed herein.

Monitoring Type: Visual assessment of all facilities within the fenced mine waste containment area, see Sheets 2 and 4, Appendix D. These facilities include:

- Heap leach pad and associated evaporation pond, Jello Pile waste containment cell, tailings impoundments (Asamera and Reworked) and the landfill. Assessment activities shall include recording of vegetation establishment, erosion of cap and cover material, presence of observed leachate, condition of evaporation pond and depth to water.

In the event that water is present in the evaporation pond, a sample shall be obtained for analysis of the list of constituents known as Profile 1.

- Monitoring and Reporting Frequency: Quarterly
- Corrective Actions: In the event that monitoring activities indicate that containment has been breached, the NDEP shall be notified of the nature and extent of the breach and waste release. The breach shall then be repaired with concurrence from the NDEP.
- Duration of Monitoring: Monitoring of the site shall be conducted for a period of no less than fifteen (15) years.