SHASTA COUNTY DEPARTMENT OF RESOURCE MANAGEMENT PLANNING DIVISION

SMARA REGULATORY PROGRAM RECLAMATION PLAN, APPLICATION CHECKLIST

SECTION 1: PROJECT SUMMARY

- A. Project Name: Iron Mountain Mine
- B. California Mine Identification Number: 91-45
- C. Federal (BLM, USFS) Mine Identification Number:
- D. Mine Operator:

ARTESIAN MINERAL DEVELOPMENT & CONSOLIDATED SLUDGE, INC. (AMD&CSI)

Street address or P.O. Box: PO BOX 182 City, State, Zip Code: CANYON, CA. 94516 Telephone Number: 925-878-9167 Contact Person: **JOHN F. HUTCHENS**

- E. Mine Operator's Representative: SAME Street address or P.O. Box: City, State, Zip Code: Telephone Number:
- F. Owner of Property Name: **T.W. ARMAN** Street address or P.O. Box: P.O. Box 992867 City, State, Zip Code: Redding, CA 96099 Telephone Number: 530-275-4550
- G. Owner of Mineral Rights: SAME Street address or P.O. Box: City, State, Zip Code: Telephone Number:

H. Location	: SHASTA C	OUNTY, CAL	FORNIA	
Assesso	r's Parcel Numb	ers:		
Assessors Parc	el No. (APN)	ACREAGE	Property tax year	Tax yr. Tax Due

				···· ,··· ,···	
1	011-160-042	206.34	2009	0	
2	011-160-046	156.25	2009	0	
3	011-160-048	36.14	2009	0	
4	046-110-008	61.72	2009	0	
5	046-140-005	127.7	2009	0	
6	046-140-006	514.4	2009	0	
7	046-160-012	857.19	2009	0	
8	046-170-016	434.13	2009	0	
9	046-170-017	81.79	2009	0	
10	046-170-018	276.19	2009	0	
TOT	AL ACREAGE	2,744.85	2009	0	
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Section, Township and Range: 1,2,3 of 32N, 6W, 36, 35, 34, 33, 27, 26, 22 of 33N, 6W

Latitude and Longitude (at center of project): 40°, 40', 30"N, 122°, 30W Directions to the site: from Redding, highway 99 to Iron Mountain Road

- I. Total parcel size(s): 2,744.85 acres
- J. Total area to be mined: 1400 acres
- K. Total area to be reclaimed: 1400 acres

L. Quantity and type of materials to be mined: 20 million tons massive sulfide ore, building stone, magnetite, sludge and dredging spoils.

M. Proposed start-up date and termination date: April 2010, September, 2030

N. Proposed land use after reclamation:

Hydropower, pump and battery storage, building materials, wildlife sanctuary, silviculture.

SECTION 2: DESCRIPTION OF ENVIRONMENTAL SETTING

1. Location Map: 6 miles north of the old town of Shasta, 9 miles north of Redding.



2. Topographic Map:



3. Aerial Photograph:



B. <u>Geology</u>: Apex of the Shasta Copper Belt, Complete description in Mining Report. SEE REPORT FROM KAISER ENGINEERS, 1981

1. Description of the geologic setting. **Island arc submarine deposit.**

2. Geologic map indication known stratigraphy, structure, and fault systems of the ore deposit .



- An assessment of the seismological stability of the affected area adequate to assess the safety of the proposed slopes and accessory facilities.
 A system of faults segments the ore bodies.
- 4. Mined aggressively from 1895 to 1908, continuously till 1920, gossan and tailings leached for gold by cyanide during 1930's, resumed briefly in WWII. Open pit begun in late 50's, mine closed in 1963.
- Geologic cross sections in the location of proposed slopes, dams, tailings facilities, etc. adequate to assess potential stability problems. All geologic hazards are well documented.
- C. <u>Hydrology</u>: Drainage and confluence of Spring, Boulder, and Slickrock Creeks.
 - 1. Evidence of contact with the Regional Water Quality Control Board regarding possible permitting requirements. **Final report on abandoned mines**

- 2. Flow estimates of watersheds that will be disturbed by or have a potential to impact the proposed mining operation. **Conversion to hydropower.**
- 3. A description of land and water uses in affected watersheds that may be impacted by the proposed mining operation including a hydrologic inventory of wells and springs in affected areas. **NONE**
- 4. An assessment of potential impacts on the ground water regime in the affected area. **NONE**
- 5. A map showing the relationship between the water table surface and the proposed mining operation. MINE ELEVATION 2600 FT. water table, 900 ft.
- 6. A map showing the boundary of the 100 year flood plain. **SHASTA DAM**
- D. <u>Soil Assessment</u>: If the reclamation plan proposed revegetation, an assessment of existing soil conditions is appropriate, including: **HEAVILY LEACHED ROCK.**
 - 1. A topsoil inventory map showing soil salvage depths to assess the volume of topsoil available. **NONE**
 - 2. A soil profile description of soil suitable for reclamation. **NONE**
 - 3. An analysis of soil texture, chemistry, Ph, porosity, permeability, etc., adequate to assess suitability for revegetation. **NONE**
 - 4. Note the soil classification for agriculture or timber production where applicable. **POOR**
- E. <u>Vegetation/Wildlife</u>: A discussion of existing plant and wildlife species is necessary, including: **DEER, BLACK BEAR**.
 - 1. A description of the biological setting, including habitat type(s).**STEEP**
 - 2. A map and description of vegetation types of affected areas. **PINE, OAK, AND MANZANITA**
 - 3. a. A list of plants. Note percent plant coverage (percent ground shading from existing plant cover), density (number of plants per unit area) and species diversity (number of different species per unit area)
 - b. A list of large and small mammals, birds, amphibians, and fish known or suspected to be on-site. Include the date of the survey.

- 4. The identification of unique, critical and important habitat types within the affected area. **NONE**
- 5. A discussion of potential wildlife impacts, short term and long term, resulting from the mining operation. **MINIMAL**
- 6. A list of the federal or state designated rare, threatened or endangered species, or Department of Fish and Game species of special concern (including invertebrates), if any, on or near the site. (Use the California Department of Fish and Game's Natural Diversity Data Base combined with on-site survey work) **NONE**
- 7. On the aerial photo, show the location of mature trees and other vegetation that will be maintained. **WILDFIRES IN 2008 DECIMATED FORESTS.**
- F. <u>In-stream Mining</u>: If mining will occur within the active channel of a stream, include the following information: **NA**
 - 1. Evidence of contact with the local flood control agency regarding possible permitting requirements. **NA**
 - 2. Identify other in-stream mining operations within five miles of the project site.
 - 3. Identify bridges, pipelines, cable crossings, etc, within one mile of the proposed operation.
 - 4. Show the pre-mining configuration of the gravel bar/stream bed on a map or aerial photograph.
 - 5. Provide cross-sections of pre-mining stream conditions which can be used to monitor future impacts of the mining operation.
 - 6. Discuss seasonal flow conditions and gravel replenishment rates.
 - 7. Describe previous mining activity, if any. LARGEST MINE IN CALIFORNIA

G. <u>Air Resources/Climatology</u>:

1. Include a general description of the climate of the area, including the average rainfall, average snowfall, season of rainfall, average winter low temperature, average summer high temperature, and the maximum intensity of the one hour 20 year storm and the source of the climate data.

SHASTA DAM, CALIFORNIA (048135)

Period of Record Monthly Climate Summary

Period of Record : 1/ 1/1943 to 8/31/2009

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
52.4	56.7	61.4	68.7	77.7	86.2	95.3	93.7	87.7	75.3	60.5	53.1	72.4
38.8	41.0	43.2	47.8	55.0	62.3	68.4	66.6	62.2	54.5	45.7	40.0	52.1
11.15	10.19	8.48	4.30	2.55	1.27	0.21	0.41	1.09	3.26	8.01	10.89	61.82
2.2	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.7	4.0
0	0	0	0	0	0	0	0	0	0	0	0	0
	Jan 52.4 38.8 11.15 2.2 0	Jan Feb 52.4 56.7 38.8 41.0 11.15 10.19 2.2 0.4 0 0	Jan Feb Mar 52.4 56.7 61.4 38.8 41.0 43.2 11.15 10.19 8.48 2.2 0.4 0.4 0 0 0	Jan Feb Mar Apr 52.4 56.7 61.4 68.7 38.8 41.0 43.2 47.8 11.15 10.19 8.48 4.30 2.2 0.4 0.4 0.0 0 0 0 0	Jan Feb Mar Apr May 52.4 56.7 61.4 68.7 77.7 38.8 41.0 43.2 47.8 55.0 11.15 10.19 8.48 4.30 2.55 2.2 0.4 0.4 0.0 0.0 0 0 0 0 0	Jan Feb Mar Apr May Jun 52.4 56.7 61.4 68.7 77.7 86.2 38.8 41.0 43.2 47.8 55.0 62.3 11.15 10.19 8.48 4.30 2.55 1.27 2.2 0.4 0.4 0.0 0.0 0.0 0 0 0 0 0 0	Jan Feb Mar Apr May Jun Jul 52.4 56.7 61.4 68.7 77.7 86.2 95.3 38.8 41.0 43.2 47.8 55.0 62.3 68.4 11.15 10.19 8.48 4.30 2.55 1.27 0.21 2.2 0.4 0.4 0.0 0.0 0.0 0.0 0 0 0 0 0 0 0 0	Jan Feb Mar Apr May Jun Jul Aug 52.4 56.7 61.4 68.7 77.7 86.2 95.3 93.7 38.8 41.0 43.2 47.8 55.0 62.3 68.4 66.6 11.15 10.19 8.48 4.30 2.55 1.27 0.21 0.41 2.2 0.4 0.4 0.0 0.0 0.0 0.0 0.0 0 0 0 0 0 0 0 0 0	Jan Feb Mar Apr May Jun Jul Aug Sep 52.4 56.7 61.4 68.7 77.7 86.2 95.3 93.7 87.7 38.8 41.0 43.2 47.8 55.0 62.3 68.4 66.6 62.2 11.15 10.19 8.48 4.30 2.55 1.27 0.21 0.41 1.09 2.2 0.4 0.4 0.0 0.0 0.0 0.0 0.0 0 0 0 0 0 0 0 0 0 0	Jan Feb Mar Apr May Jun Jul Aug Sep Oct 52.4 56.7 61.4 68.7 77.7 86.2 95.3 93.7 87.7 75.3 38.8 41.0 43.2 47.8 55.0 62.3 68.4 66.6 62.2 54.5 11.15 10.19 8.48 4.30 2.55 1.27 0.21 0.41 1.09 3.26 2.2 0.4 0.4 0.0 0.0 0.0 0.0 0.0 0.0 0 0 0 0 0 0 0 0 0	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov 52.4 56.7 61.4 68.7 77.7 86.2 95.3 93.7 87.7 75.3 60.5 38.8 41.0 43.2 47.8 55.0 62.3 68.4 66.6 62.2 54.5 45.7 11.15 10.19 8.48 4.30 2.55 1.27 0.21 0.41 1.09 3.26 8.01 2.2 0.4 0.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 52.4 56.7 61.4 68.7 77.7 86.2 95.3 93.7 87.7 75.3 60.5 53.1 38.8 41.0 43.2 47.8 55.0 62.3 68.4 66.6 62.2 54.5 45.7 40.0 11.15 10.19 8.48 4.30 2.55 1.27 0.21 0.41 1.09 3.26 8.01 10.89 2.2 0.4 0.4 0.0 0.0 0.0 0.0 0.0 0.0 0.7 0 0 0 0 0 0 0 0 0 0 0 0

Percent of possible observations for period of record. Max. Temp.: 99% Min. Temp.: 99% Precipitation: 99.2% Snowfall: 98.5% Snow Depth: 97.5% Check Station Metadata or Metadata graphics for more detail about data completeness.

Western Regional Climate Center, wrcc@dri.edu

REDDING, CALIFORNIA (047296)

Period of Record Monthly Climate Summary

Period of Record : 1/11/1931 to 4/30/1979

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	54.9	59.7	65.2	72.5	81.7	90.2	98.4	96.4	90.7	78.7	64.6	55.7	75.7
Average Min. Temperature (F)	37.4	40.5	43.3	47.9	54.9	62.3	68.1	65.9	61.3	53.2	44.4	38.8	51.5
Average Total Precipitation (in.)	7.96	5.89	5.00	2.99	1.48	0.97	0.16	0.31	0.78	2.19	4.69	6.95	39.37
Average Total SnowFall (in.)	1.7	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.2	4.8
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.

Max. Temp.: 98.4% Min. Temp.: 98.4% Precipitation: 98.6% Snowfall: 62.4% Snow Depth: 61.9%

Check Station Metadata or Metadata graphics for more detail about data completeness.

Western Regional Climate Center, wrcc@dri.edu

- 2. Provide evidence of contact with the Air Quality Management District regarding the need for air quality permits. (For information, contact the Shasta County Air Quality Management District at (916) 225-5674.)
- 3. Indicate any existing air quality problems in the area, whether caused on or off-site. **NONE**
- H. <u>Land Use</u>: Describe the current land use of the project site, the existing surrounding land uses, and the distance from the mine site to the nearest residences. **SUPERFUND SITE, NONE, 3 MILES**
- I. <u>Aesthetics</u>: Indicate the major roads or developed areas from which the project site can be seen, and how the proposed operation will affect the appearance of the project area from those vantage points. **REDDING, minimal effect at distance.**
- J. <u>Cultural Resources</u>: In order to complete processing of your application, your project must be reviewed by the Northeast Information Center of the California Archeological Inventory, at California State University Chico. The Center reviews the impacts of a project on the archeological and historical resources on the site. The Center requires a fee for review, payable by you, the applicant. Submit a check in the amount of \$60.00, payable to the Northeast Information Center, to the Shasta County Planning Division. <u>Do not</u> mail your check directly to the Center. We will send your check with your project information. **Not Applicable**.
- Based on the recommendation from the Northeast Information Center, the county may require a preliminary historical and archeological survey of the project site. A preliminary survey typically includes a search of archeological records for the area, a site visit during which the archeologist will walk the property in systematic transects, and final report with findings and recommendations. **Not Applicable**.

SECTION 3: DESCRIPTION OF THE PROPOSED MINING OPERATION

- A. <u>Map of operations</u>: On a site plan, provide <u>detailed</u> information on the following:
 - 1. Property boundaries, horizontal extraction limits, topsoil stockpile areas, siltation ponds, leach pads, haul roads, drainage facilities, hazardous materials storage areas, tailings ponds, waste/overburden dumps.
 - 2. All structures and equipment to be located on-site, such as offices, storage buildings, washing, screening, crushing, batch plant, and other processing equipment, power source, fuel storage, septic tank, leach fields, etc. Include the location, function, type, size, capacity, layout, anticipated generation of air and water pollution, anticipated noise generation, etc. If more than one location will be used, show each proposed location. It is recommended that

traffic and parking be restricted to outside the dripline area of the trees.

- 3. Include two topographic maps, one showing the existing topography and the other showing the final contours. If phasing is proposed, please submit a map showing the contours of each phase. Also include cross-sections at a maximum interval of 200 foot showing the vertical limits of each phase and the final extraction limits.
- B. <u>Production schedule</u>: Indicate (in cubic yards or tons) the proposed daily, weekly, yearly and total production of ore/product and overburden/waste of the proposed mine operation. If mining will be phased, specify quantities by phase. The annual estimated quantities should be summed to give the total anticipated production for the life of the mine. **500 MILLION TONS ANNUALLY, 10 BILLION TONS TOTAL**
- C. <u>Mining Plan</u>: Include the following information:
 - 1. Operating plan: Indicate the proposed initiation and termination dates of the mining operation. If seasonal, provide the proposed annual months of operation. **July of 2010 to July 2030**
 - 2. Topsoil: Describe:
 - a. The proposed stripping and handling techniques. **DEMOLITION**, **TRANSPORT, COMPACTION FOR DAM, CRUSHING FOR AGGREGATE.**
 - b. The location, base area, height and volume of the stockpiles of topsoil and/or fines **EXISTING**
 - c. How the topsoil will be treated to prevent erosion (for example: mulched and seeded). **HYDROSEED**
 - 3. Overburden/waste/ore: Describe: OVERBURDEN TO BUILD DAMS, WASTE TO BUILDING MATERIALS, ORE TO BE PROCESSED ON SITE BY HYDROMETALLURGY
 - a. The proposed type of mine (open pit, quarry, placer, dredge, etc.) **OPEN PIT AND DEEP TUNNELS.**
 - b. The type and size of mining and hauling equipment to be used. **BIG**
 - c. The use and handling of explosives. BY PROFESSIONALS
 - d. The proposed method of removing overburden and ore. **CRANE**

- e. The maximum anticipated depth of the mine.
 - TUNNEL ELEVATIONS FROM 900, PIT TO 2400 FT.
- f. The maximum depth of mining, bench width, and maximum slope angles (illustrate cross sections).
 - 3600 FT., 100 FT., 60°
- g. If the mining is phased, describe each phase and concurrent reclamation.

NOT APPLICABLE

- h. Indicate the proposed location and volume of the stockpiles overburden, waste and ore, the proposed height of the stockpiles, and how the stockpiles will be treated to prevent erosion. **RECYCLING**
- 4. Mine waste: Attach a copy of the report of waste discharge and waste discharge permit to the reclamation plan.

RECYCLING

D. <u>Size</u>: Indicate the total acreage, the total acreage to be disturbed, and the total acreage to be reclaimed.

2744 ACRES, 5200 ACRES, AND 8000 ACRES.

- E. <u>Water Requirements</u>:
 - 1. Indicate whether water will be used for aggregate washing, dust control or other uses.

YES

- Note the source of the water, the amount to be used per day and per year, whether the water will be recycled, the location of recycling ponds, etc.
 4 MILLION GALLONS PER DAY RECYCLED
- F. <u>Contaminants</u>:
 - 1. Identify potential contaminants to used on the site, including fuels, oils, flocculents, polymers, other chemicals, domestic garbage, and human waste
 - 2. Describe how potential contaminants will be controlled and disposed.
 - ALL OF THE ABOVE RECYCLED ON SITE.
- G. <u>Waste Water</u>:
 - 1. Estimate the daily and annual amount of water to be disposed of. **NONE**
 - 2. Describe the anticipated or possible contaminants (including turbidity). **NONE**
 - 3. Describe the proposed method of waste water treatment, disposal or recycling.

LIQUID/LIQUID EXTRACTION, CARBON FILTRATION

- H. <u>Water Impoundments and Diversions:</u>
 - 1. Impoundments: Include information regarding any water impoundments or diversions, including existing and proposed creeks, ponds, culverts,

sediments basins, etc. Provide evidence of contact with the California Department of Water Resources, Division of Dam Safety, regarding the construction and inspection of impoundment structures.

- 2. Diversions: Provide design capacity, grade and profile, cross section of typical diversion, erosion control methods (e.g. riprap, sealing, catchments, etc.), life of diversions. **3000 YEARS**
- I. <u>Ore Processing</u>:
 - 1. Describe the proposed method and equipment for processing ore (for example; washing, crushing, screening, refining, asphalt plants, dry screening, flotation, leaching, etc.). Indicate function, size, location, etc. **CONTAINMENT AND HYDROMETALLURGY**
 - 2. Estimate the minimum and maximum capacity (input and output) of the mill/processing facility. **4 MILLION GALLONS PER DAY**
 - 3. Provide the estimated life of the processing operation (if different from the mine life). **PERPETUAL RECYCLING FACILITY**
- J. In-Stream Mining: NA
 - 1. Describe methods that will be used to protect water quality.
 - 2. Describe precautions that will be taken to protect existing riparian vegetation and aquatic flora and fauna native to the area to be mined.
 - 3. Provide evidence of contact with the Department of Fish and Game regarding the need for a Stream Alteration Permit.
 - 4. Provide evidence of contact with the Army Corps of Engineers regarding the need for a "404 Permit"
 - 5. Please submit an analysis of the potential hydrologic impacts of the gravel removal on the creek, including the potential impacts on stream bed cross-sections and profiles both upstream and downstream from the project site. Include the expected gravel replenishment rate.
 - 6. If the site is flooded yearly, and new aggregate is recruited from the creek during flood periods, indicate in more detail how the site is prepared each year for the winter stream flows.
 - 7. Indicate what measures will be used to stabilize stream banks and prevent erosion at the completion of each phase and at project completion.

SECTION 4: DESCRIPTION OF PROPOSED RECLAMATION

A. <u>Subsequent Uses</u>:

1. Describe as specifically as possible, the proposed subsequent use of the reclaimed mined land.

HYDROPOWER PUMP STORAGE BATTERY, RECYCLING

2. Provide evidence that owner(s) of a possessory interest (including surface rights) have been notified of the proposed use or potential uses after reclamation.

AUTHORIZATION FOR SURFACE MINING ATTACHED

- 3. If the proposed use is for a public purpose (for example: stormwater retention basin, groundwater recharge area, etc.) provide evidence that a public agency agrees to the need for the project and will assume responsibility for it upon completion. If a commitment can not be obtained from a public agency, identify an alternative use and provide a plan for reclaiming the site for the alternate use. **TOWNSHIP OF MINNESOTA**
- B. <u>Reclamation Schedule</u>:
 - 1. Provide a time schedule that will ensure reclamation at the earliest possible time on those portions of the mined lands that will not be subject to further disturbance. **2030**
 - 2. Provide a map of the proposed phases of reclamation and the corresponding acreage and the dates for the completion of each phase. The plan could be designed so that extraction in one area of the project would completed and that area would be entirely reclaimed before extraction proceeds in another area of the site. **PENDING FINAL HYDROPOWER PLANS**
 - 3. If reclamation will not be concurrent, explain why.
- C. <u>Post-Mining Topography</u>:
 - 1. Provide a map of the proposed post-reclamation topography, including a contour map and cross-sections. Use a contour interval of one foot for flat areas and a contour interval of 5 feet for steep areas. Use a copy of the aerial photo for the final topography. Show drainage plan, benches, roads, planting and other pertinent features of the reclamation. **PENDING**

- 2. Attach cross sections through slopes, cuts and fills; show original ground surface, post mining surface, underlying geologic conditions and reclaimed surface. **PENDING**
- 3. Describe how slopes will be stabilized to prevent failures/landslides, earth flows, rock falls, and erosion. **CONCURRENT**
- 4. Specify slope design calculations, including safety factors. **CONCURRENT**
- D. <u>Impoundments</u>: Please submit more detailed information regarding the functioning of the pond. Include the source of water, how the water level will be maintained, the actual elevation of "stabilized water elevation," the range of potential fluctuations in water level, and proposed stocking with fish, amphibians, invertebrates, aquatic plants, etc. **NA**
- E. <u>Drainage</u>: Describe how natural drainages will be rehabilitated and how erosion of disturbed lands and sedimentation will be minimized (e.g. revegetation, rip rap, sedimentation basins, berms, ditches, water bars, regrading, etc.) . Submit a proposed final drainage plan for the site including any structures, such as culverts, sediment basins, channels, etc. **NA**
- F. <u>Disposition of Old Equipment</u>: Discuss the disposition of equipment, buildings, structures, refuse, etc. Indicate where and how disposal will occur. **RECYCLING**
- G. Soil Replacement
 - 1. Describe how the site will be prepared for soil replacement and planting (for example, ripping, disking, and incorporation of soil additives). **NA**
 - 2. Explain topsoil or soil substitute redistribution methods, including volumes of materials to be redistributed, equipment and methods for transport, methods for preventing over-compaction, and a schedule for replacement. Include
 - a. The average thickness of replaced topsoil on the mine site.**NONE**
 - b. Test that will be run to determine whether soil or mine wastes need to be modified to promote and support plant growth. **NONE**
 - c. Methods to be used to protect redistributed topsoil (or soil substitute) from wind and water erosion before and after seeding and planting. **NONE**
 - d. If soil replacement will be phased, indicate time schedule for phasing. **NONE**
 - 3. Explain the types and amounts of fertilizers, mulch, soil stabilizers, lime, or other materials that will be used in revegetation and indicate when they will

be applied. **AS NEEDED**

H. <u>Revegetation</u>

- 1. Submit a plan for revegetation of the site. **NATURAL**
 - a. A list of species (include both the botanical and the common names) to be planted.
 - b. The type of plant material to be used (e.g. seeds, cuttings, container, plugs, etc.).
 - c. The density or rate of planting (e.g. pounds of seed/acre, cuttings on 5 foot centers, etc.)
 - d. If different species will be planted together, show a diagram of the pattern of planting.
 - e. If different habitats are proposed, describe the types of habitats to be created, for example, riparian, meadow, shrub, woodland. Provide a list of species for each habitat. Include a map showing the locations of each habitat.
 - f. If revegetation will be phased, indicate the time schedule of phasing.
 - g. Describe what planting methods will be used (hydroseeding, hand planting, seed drill etc.)
 - h. Discuss when (during which months) planting will take place, the relationship between timing and the success of the revegetation plan, optimum moisture conditions for planting, and phasing.
 - i. Describe how the plants will be protected from predation and disturbance (e.g. fencing, signs, etc.) including any proposed means of protection of young plants, such as netting, wire mesh, etc.

For more information regarding revegetation we suggest that you consult the following:

For pasture and range land reclamation: the Shasta County Farm Bureau, the Home Advisor's Office

For wildlife habitat and timberland reclamation: California Department of Forestry, L.A. Moran Reforestation Center (916) 753-2441, or Magalia Nursery, (916) 873-0400, or The Nature Conservancy (916) 826-0947.

For California native plant material sources and private landscaping contractors: see "Nursery Sources for California Native Plants" published by the California Department of Conservation, Division of Mines and Geology (DMG Open-File Report 90-04). A copy is available from the Department of Conservation Publications and Information at (916) 445-5716.

For soil erosion and sediment control: the Western Shasta County Resource Conservation District.

- 2. If irrigation is proposed, then discuss:
 - a. The kind of irrigation system that will be used to water the plants **SPRINKLERS**
 - b. The water source and the water quality of that source **RECLAIMED**
 - c. How often (e.g. biweekly) and at what rate (e.g. 1/4 inch/session) the area will be irrigated. **SITE SPECIFIC**
 - d. How long the site will continue to be irrigated. **PERMANENTLY**
- 3. Describe how test plots will be used to evaluate the effectiveness of the proposed revegetation plan. Discuss how the County will be notified of changes made in the revegetation plan based on the success of the test plant and practical experience. **NONE**

Tests plots should be started as soon after the beginning of the project as feasible, so that years of test data are available when reclamation begins. Test plots could include areas reclaimed prior to final complete site reclamation. **NA**

- I. <u>Monitoring and Maintenance</u>:
 - 1. Describe the monitoring and maintenance program that will be instituted to ensure that the proposed reclamation is successful and is maintained. **NA**
 - 2. Describe or cite the standards to be used to determine the success of revegetation, erosion control treatments, and public safety measures. Provide criteria to determine the success of the revegetation over time. Include the expected percentage of plants that will survive on-site after the completion of the revegetation after two years without any human intervention (that is no irrigation, replanting, weeding, or fertilizer, etc.) and quantified measures of vegetative cover, density and species-richness. **NA**
 - 3. Please indicate who will perform the monitoring, and the proposed frequency,

date and total length of time for mitigation monitoring (for example: annually, on May 15th, for a minimum of two years after human intervention, until reclamation revegetation goals are met). **NA**

- 4. Discuss that action will be taken if the initial reclamation efforts are unsuccessful. **NA**
- J. <u>In-stream Mining</u>:
 - Describe the manner in which rehabilitation of the affected streambed channels and stream banks occur to minimize erosion and sedimentation.
 NA
 - 2. Provide an annual monitoring plan (using aerial photographs or cross section) to assess impacts of mining on pre-mining channel conditions.
 - NA
- K. <u>Future Mining</u>: Explain how the proposed reclamation of this site will affect the potential for future mining at the site. **NA**
- L. <u>Public Safety</u>: Indicate any potential public safety hazards on the site (such as vertical or steep cut banks), and what measures will be taken to ensure public safety (such as fences, gates, signs, or hazard removal) **NA**

SECTION 5: FINANCIAL ASSURANCES

Submit an itemized estimate for the total cost of reclamation, including specific tasks (e.g. equipment removal, recontouring, ripping, hydromulching, planting with shrubs and trees, etc.) the amount of time needed, the cost of labor, and the cost of materials. Please use the financial assurance estimate form prepared by the State.
 \$25 MILLION

After the financials assurance estimate is reviewed and approved by the County and the State, a financial assurance mechanism must be submitted. The mechanism may take one of three forms: an irrevocable letter of credit, a surety bond, or a certificate of deposit. Please use the forms prepared by the State. All surety bonds must use the state form. **NA**

If no cost for reclamation of stockpiled material is included in the financial assurance estimate for the reclamation plan, the County will need an agreement to release the rights to the stockpiled material in the event that the material remains on site, and reclamation has not been completed in conformance with the reclamation plan. **NA**

SECTION 6: STATEMENT OF RESPONSIBILITY

A. Include a page in the reclamation plan with the following statement and signature block:

I, the undersigned, hereby agree to accept full responsibility for reclaiming all mined lands described and submitted herein with any modification required by Shasta County as conditions of approval.

Signed this <u>6</u> day of <u>JANUARY</u>, 2010 s/ John F. Hutchens, for AMD&CSI

Operator or Operator's Agent

STATE MINING AND GEOLOGY BOARD

SURFACE MINING AND RECLAMATION PRACTICE.

' 3503. Surface Mining and Reclamation Practice.

The following are minimum acceptable practices to be followed in surface mining operations:

- (a) Soil Erosion Control.
 - (1) The removal of vegetation and overburden, if any, in advance of surface mining shall be kept to the minimum.
 - (2) Stockpiles of overburden and minerals shall be managed to minimize water and wind erosion.
 - (3) Erosion control facilities such as retarding basins, ditches, stream bank stabilization, and diking shall be constructed and maintained where necessary to control erosion.
- (b) Water Quality and Watershed Control.
 - (1) Settling ponds or basins shall be constructed to prevent potential sedimentation of streams at operations where they will provide a significant benefit to water quality.
 - (2) Operations shall be conducted to substantially prevent siltation of groundwater recharge areas.
- (c) Protection of Fish and Wildlife Habitat. All reasonable measures shall be taken to protect the habitat of fish and wildlife.
- (d) Disposal of Mine Waste Rock and Overburden. Permanent piles or dumps of mine waste rock and overburden shall be stable and shall not restrict the natural drainage without suitable provisions for diversion.
- (e) Erosion and Drainage. Grading and revegetation shall be designed to minimize erosion and to convey surface runoff to natural drainage courses or interior basins designed for water storage. Basins that will store water during periods of surface runoff shall be designed to prevent erosion of spillways when these basins have outlet to lower ground.
- (f) Resoiling. When the reclamation plan calls for resoiling, coarse hard mine waste shall be leveled and covered with a layer of finer material or weathered waste. A soil layer shall then be placed on this prepared surface. Surface mines that did not salvage soil during their initial operations shall attempt, where feasible, to upgrade remaining materials. The use of soil conditioners, mulches, or imported topsoil shall be considered where revegetation is part of the reclamation plan and where such measures appear necessary. It is not justified, however, to denude adjacent areas of

their soil, for any such denuded areas must in turn be reclaimed.

(g) Revegetation. When the reclamation plan calls for revegetation the available research addressing revegetation methods and the selection of species having good survival characteristics, for the topography, resoiling characteristics, and climate of the mined areas shall be used.

RECLAMATION STANDARDS

' 3700. Applicability.

Reclamation of mined lands shall be implemented in conformance with the standards in this Article.

- (a) The standards shall apply to each surface mining operation to the extent that:
 - (1) they are consistent with required mitigation identified in conformance with the California Environmental Quality Act, provided that such mitigation is at least as stringent as the standards; and
 - (2) they are consistent with the planned or actual subsequent use or uses of the mining site.
- (b) Where an applicant demonstrates to the satisfaction of the lead agency that an exception to the standards specified in this article is necessary based upon the approved end use, the lead agency may approve a different standard for inclusion in the approved reclamation plan. Where the lead agency allows such an exception, the approved reclamation plan shall specify verifiable, site-specific standards for reclamation. The lead agency may set standards which are more stringent than the standards set forth in this Article; however, in no case may the lead agency approve a reclamation plan which sets any standard which is less stringent than the comparable standard specified in this Article.
- (c) When substantial amendments are proposed to reclamation plans which were approved prior to January 15, 1993, the standards set forth in this Article shall be applied by the lead agency in approving or denying approval of the amended reclamation plan.
- (d) The standards in this Article shall not apply to mining operations:
 - (1) which completed reclamation prior to January 15, 1993 in conformance with an approved reclamation plan; or
 - (2) for which a reclamation plan has been approved prior to January 15, 1993.
- ' 3701. Definitions.

The following definitions shall govern the interpretation of these regulations:

Arid@ means landscapes with an average annual precipitation of five inches or less.

Contamination @ means an impairment of the quality of the waters of the state to a degree which creates a hazard to the public health through poisoning or through the spread of disease.

Highwall[®] means the unexcavated face of exposed overburden and ore in a surface mine.

Indigenous Plants@ means plants occurring naturally in an area, not introduced.

Native Species@ means plant species indigenous to California, using pre-European as the historic time reference.

Noxious Weeds@ means any species of plant that is or is likely to become destructive or difficult to control or eradicate, and is termed to be so by the Director of the Department of Food and Agriculture in section 4500, Title 3 of the California Code of Regulations, pursuant to the Food and Agriculture Code section 5004 et seq.

Vegetative Cover@ means the vertical projection of the crown or shoot area of a species to the ground surface expressed as a percentage of the reference area (percentage can be greater than 100 percent).

Vegetative Density@ means the number of individuals or stems of each species rooted within the given reference area.

Vegetative Species-richness@ means the number of different plant species within the given reference area.

Wetlands@ for the purposes of these regulations, the definition of wetlands shall be the same as defined in the California Fish and Game Code, section 2785, subdivision (g).

' 3702. Financial Assurances.

Lead agencies shall require financial assurances for reclamation in accordance with Public Resources Code section 2773.1 to ensure that reclamation is performed in accordance with the approved reclamation plan and with this

' 3703. Performance Standards for Wildlife Habitat.

Wildlife and wildlife habitat shall be protected in accordance with the following standards:

(a) Rare, threatened or endangered species as listed by the California Department of Fish and Game, (California Code of Regulations, Title 14, sections 670.2 - 670.5) or the U. S. Fish and Wildlife Service, (50 CFR 17.11 and 17.12) or species of special

concern as listed by the California Department of Fish and Game in the Special Animals List, Natural Diversity Data Base, and their respective habitat, shall be conserved as prescribed by the federal Endangered Species Act of 1973, 16 U.S.C. section 1531 et. seq., and the California Endangered Species Act, Fish and Game Code section 2050 et seq. If avoidance cannot be achieved through the available alternatives, mitigation shall be proposed in accordance with the provisions of the California Endangered Species Act, Fish and Game Code section 2050 et seq., and the federal Endangered Species Act, Fish and Game Code section 2050 et seq., and the federal Endangered Species Act of 1973, 16 U.S.C. section 1531 et seq.

- (b) Wildlife habitat shall be established on disturbed land in a condition at least as good as that which existed before the lands were disturbed by surface mining operations, unless the proposed end use precludes its use as wildlife habitat or the approved reclamation plan establishes a different habitat type than that which existed prior to mining.
- (c) Wetland habitat shall be avoided. Any wetland habitat impacted as a consequence of surface mining operations shall be mitigated at a minimum of one to one ratio for wetland habitat acreage and wetland habitat

' 3704. Performance Standards for Backfilling, Regrading, Slope Stability, and Recontouring.

Backfilling, regrading, slope stabilization, and recontouring shall conform with the following standards:

- (a) Where backfilling is proposed for urban uses (e.g., roads, building sites, or other improvements sensitive to settlement), the fill material shall be compacted in accordance with section 7010, Chapter 70 of the Uniform Building Code, published by the International Conference of Building Officials (1991), the local grading ordinance, or other methods approved by the lead agency as appropriate for the approved end use.
- (b) Where backfilling is required for resource conservation purposes (e.g., agriculture, fish and wildlife habitat, and wildland conservation), fill material shall be backfilled to the standards required for the resource conservation use involved.
- (c) Piles or dumps of mining waste shall be stockpiled in such a manner as to facilitate phased reclamation. They shall be segregated from topsoil and topsoil substitutes or growth media salvaged for use in reclamation.
- (d) Final reclaimed fill slopes, including permanent piles or dumps of mine waste rock and overburden, shall not exceed 2:1 (horizontal:vertical), except when site-specific geologic and engineering analysis demonstrate that the proposed final slope will have a minimum slope stability factor of safety that is suitable for the proposed end use, and when the proposed final slope can be successfully revegetated.

- (e) At closure, all fill slopes, including permanent piles or dumps of mine waste and overburden, shall conform with the surrounding topography and/or approved end use.
- (f) Cut slopes, including final highwalls and quarry faces, shall have a minimum slope stability factor of safety that is suitable for the proposed end use and conform with the surrounding topography and/or approved end use.
- (g) Permanent placement of piles or dumps of mining waste and overburden shall not occur within wetlands unless mitigation acceptable to the lead agency has been proposed to offset wetland impacts and/or losses.
- ' 3705. Performance Standards for Revegetation.

Revegetation shall be part of the approved plan, unless it is not consistent with the approved end use.

- (a) A vegetative cover suitable for the proposed end use and capable of self-regeneration without continued dependence on irrigation, soil amendments or fertilizer shall be established on disturbed land unless an artificially maintained landscape is consistent with the approved reclamation plan. Vegetative cover or density, and species-richness shall be, where appropriate, sufficient to stabilize the surface against effects of long-term erosion and shall be similar to naturally occurring habitats in the surrounding area. The vegetative density, cover and species richness of naturally occurring habitats shall be documented in baseline studies carried out prior to the initiation of mining activities. However, for areas that will not be reclaimed to prior conditions, the use of data from reference areas in lieu of baseline site data is permissible.
- (b) Test plots conducted simultaneously with mining shall be required to determine the most appropriate planting procedures to be followed to ensure successful implementation of the proposed revegetation plan. The lead agency may waive the requirement to conduct test plots when the success of the proposed revegetation plan can be documented from experience with similar species and conditions or by relying on competent professional advice based on experience with the species to be planted.
- (c) Where surface mining activities result in compaction of the soil, ripping, disking, or other means shall be used in areas to be revegetated to eliminate compaction and to establish a suitable root zone in preparation for planting.
- (d) Prior to closure, all access roads, haul roads, and other traffic routes to be reclaimed shall be stripped of any remaining road base materials, prepared in accordance with subsection 3705(g), covered with suitable growth media or topsoil, and revegetated.

When it is not necessary to remove road base materials for revegetative purposes, lead agencies may set a different standard as specified in section 3700(b) of this Article.

- (e) Soil analysis shall be required to determine the presence or absence of elements essential for plant growth and to determine those soluble elements that may be toxic to plants, if the soil has been chemically altered or if the growth media consists of other than the native topsoil. If soil analysis suggests that fertility levels or soil constituents are inadequate to successfully implement the revegetation program, fertilizer or other soil amendments may be incorporated into the soil. When native plant materials are used, preference shall be given to slow-release fertilizers, including mineral and organic materials that mimic natural sources, and shall be added in amounts similar to those found in reference soils under natural vegetation of the type being reclaimed.
- (f) Temporary access for exploration or other short-term uses on arid lands shall not disrupt the soil surface except where necessary to gain safe access. Barriers shall be installed when necessary to prevent unauthorized vehicular traffic from interfering with the reclamation of temporary access routes.
- (g) Native plant species shall be used for revegetation, except when introduced species are necessary to meet the end uses specified in the approved reclamation plan. Areas to be developed for industrial, commercial, or residential use shall be revegetated for the interim period, as necessary, to control erosion. In this circumstance, non-native plant species may be used if they are not noxious weeds and if they are species known not to displace native species in the area.
- (h) Planting shall be conducted during the most favorable period of the year for plant establishment.
- (i) Soil stabilizing practices shall be used where necessary to control erosion and for successful plant establishment. Irrigation may be used when necessary to establish vegetation.
- (j) If irrigation is used, the operator must demonstrate that the vegetation has been self-sustaining without irrigation for a minimum of two years prior to release of the financial assurances by the lead agency, unless an artificially maintained landscape is consistent with the approved end use.
- (k) Noxious weeds shall be managed: (1) when they threaten the success of the proposed revegetation; (2) to prevent spreading to nearby areas; and (3) to eliminate fire hazard.
- (I) Protection measures, such as fencing of revegetated areas and/or the placement of cages over individual plants, shall be used in areas where grazing, trampling,

herbivory, or other causes threaten the success of the proposed revegetation. Fencing shall be maintained until revegetation efforts are successfully completed and the lead agency authorizes removal.

Success of revegetation shall be judged based upon the effectiveness of the (m) vegetation for the approved end use, and by comparing the quantified measures of vegetative cover, density, and species-richness of the reclaimed mined-lands to similar parameters of naturally occurring vegetation in the area. Either baseline data or data from nearby reference areas may be used as the standard for comparison. Quantitative standards for success and the location(s) of the reference area(s) shall be set forth in the approved reclamation plan. Comparisons shall be made until performance standards are met provided that, during the last two years, there has been no human intervention, including, for example, irrigation, fertilization, or weeding. Standards for success shall be based on expected local recovery rates. Valid sampling techniques for measuring success shall be specified in the approved reclamation plan. Sample sizes must be sufficient to produce at least an 80 percent confidence level. There are standard statistical methods in commonly available literature for determining an 80 percent confidence level on a site-by-site basis. Examples of such literature include, but are not limited to, D. Mueller-Dombois and H. Ellenberg, 1974, AAims and Methods of Vegetation Ecology@, John Wiley and Sons, Inc., or C. D. Bonham, 1988, AMeasurements for Terrestrial Vegetation@, John Wiley and Sons, Inc., and are available at many university libraries. The texts are also available at some local libraries through the Inter-Library Loan Program.

' 3706. Performance Standards for Drainage, Diversion Structures, Waterways, and Erosion Control.

- (a) Surface mining and reclamation activities shall be conducted to protect on-site and downstream beneficial uses of water in accordance with the Porter-Cologne Water Quality Control Act, Water Code section 13000, et seq., and the Federal Clean Water Act, 33 U.S.C. section 1251, et seq.
- (b) The quality of water, recharge potential, and storage capacity of ground water aquifers which are the source of water for domestic, agricultural, or other uses dependent on the water, shall not be diminished, except as allowed in the approved reclamation plan.
- (c) Erosion and sedimentation shall be controlled during all phases of construction, operation, reclamation, and closure of a surface mining operation to minimize siltation of lakes and watercourses, as required by the Regional Water Quality Control Board or the State Water Resources Control Board.
- (d) Surface runoff and drainage from surface mining activities shall be controlled by berms, silt fences, sediment ponds, revegetation, hay bales, or other erosion control measures, to ensure that surrounding land and water resources are protected from

erosion, gullying, sedimentation and contamination. Erosion control methods shall be designed to handle runoff from not less than the 20 year/l hour intensity storm event.

- (e) Where natural drainages are covered, restricted, rerouted, or otherwise impacted by surface mining activities, mitigating alternatives shall be proposed and specifically approved in the reclamation plan to assure that runoff shall not cause increased erosion or sedimentation.
- (f) When stream diversions are required, they shall be constructed in accordance with:
 - (1) the stream and lake alteration agreement between the operator and the Department of Fish and Game; and
 - (2) the requirements of the Federal Clean Water Act, Sections 301 (33 U.S.C. 1311) and Section 404 (33 U.S.C. 1344) and/or Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- (g) When no longer needed to achieve the purpose for which they were authorized, all temporary stream channel diversions shall be removed and the affected land reclaimed.
- ' 3707. Performance Standards for Prime Agricultural Land Reclamation.

In addition to the standards for topsoil salvage, maintenance, and redistribution, the following standards shall apply to mining operations on prime agricultural lands where the approved end use is agriculture:

- (a) Mining operations which will operate on prime agricultural lands, as defined by the U.S. Soil Conservation Service, shall return all disturbed areas to a fertility level as specified in the approved reclamation plan.
- (b) When distinct soil horizons are present, topsoil shall be salvaged and segregated by defined A, B, and C soil horizons. Upon reconstruction of the soil, the sequence of horizons shall have the A atop the B, the B atop the C, and the C atop graded overburden.
- (c) Reclamation shall be deemed complete when productive capability of the affected land is equivalent to or exceeds, for two consecutive crop years, that of the premining condition or similar crop production in the area. Productivity rates, based on reference areas described in the approved reclamation plan, shall be specified in the approved reclamation plan.
- (d) Use of fertilizers or other soil amendments shall not cause contamination of surface or ground water.

' 3708. Performance Standards for Other Agricultural Land.

The following standards shall apply to agricultural lands, other than prime agricultural lands, when the approved end use is agriculture. In addition to the standards for topsoil salvage, maintenance, and redistribution, non-prime agricultural lands shall be reclaimed so as to be capable of sustaining economically viable production of crops commonly grown in the surrounding areas.

- ' 3709. Performance Standards for Building, Structure, and Equipment Removal.
- (a) All equipment, supplies, and other materials shall be stored in designated areas (as shown in the approved reclamation plan). All waste shall be disposed of in accordance with state and local health and safety ordinances.
- (b) All buildings, structures, and equipment shall be dismantled and removed prior to final mine closure except those buildings, structures, and equipment approved in the reclamation plan as necessary for the end use.
- ' 3710. Performance Standards for Stream Protection, Including Surface and Groundwater.
- (a) Surface and groundwater shall be protected from siltation and pollutants which may diminish water quality as required by the Federal Clean Water Act, sections 301 et seq. (33 U.S.C. section 1311), 404 et seq. (33 U.S.C. section 1344), the Porter-Cologne Act, section 13000 et seq., County anti-siltation ordinances, the Regional Water Quality Control Board or the State Water Resources Control Board.
- (b) In-stream surface mining operations shall be conducted in compliance with Section 1600 et seq. of the California Fish and Game Code, section 404 of the Clean Water Act, and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- (c) Extraction of sand and gravel from river channels shall be regulated to control channel degradation in order to prevent undermining of bridge supports, exposure of pipelines or other structures buried within the channel, loss of spawning habitat, lowering of ground water levels, destruction of riparian vegetation, and increased stream bank erosion (exceptions may be specified in the approved reclamation plan). Changes in channel elevations and bank erosion shall be evaluated annually using records of annual extraction quantities and benchmarked annual cross sections and/or sequential aerial photographs to determine appropriate extraction locations and rates.
- (d) In accordance with requirements of the California Fish and Game Code section 1600 et seq., in-stream mining activities shall not cause fish to become entrapped in pools or in off-channel pits, nor shall they restrict spawning or migratory activities.

' 3711. Performance Standards for Topsoil Salvage, Maintenance, and Redistribution. When the approved reclamation plan calls for revegetation or cultivation of disturbed lands, the following performance standards shall apply to topsoil salvage, maintenance, and redistribution activities:

- (a) All salvageable topsoil suitable for revegetation shall be removed as a separate layer from areas to be disturbed by mining operations. Topsoil and vegetation removal shall not precede surface mining activities by more than one year, unless a longer time period is approved by the lead agency.
- (b) Topsoil resources shall be mapped prior to stripping and the location of topsoil stockpiles shall be shown on a map in the reclamation plan. If the amount of topsoil needed to cover all surfaces to be revegetated is not available on site, other suitable material capable of sustaining vegetation (such as subsoil) shall be removed as a separate layer for use as a suitable growth media. Topsoil and suitable growth media shall be maintained in separate stockpiles. Test plots may be required to determine the suitability of growth media for revegetation purposes.
- (c) Soil salvage operations and phases of reclamation shall be carried out in accordance with a schedule that: (1) is set forth in the approved reclamation plan;
 (2) minimizes the area disturbed; and (3) is designed to achieve maximum revegetation success allowable under the mining plan.
- (d) Topsoil and suitable growth media shall be used to phase reclamation as soon as can be accommodated by the mining schedule presented in the approved reclamation plan following the mining of an area. Topsoil and suitable growth media that cannot be utilized immediately for reclamation shall be stockpiled in an area where it will not be disturbed until needed for reclamation. Topsoil and suitable growth media stockpiles shall be clearly identified to distinguish them from mine waste dumps. Topsoil and suitable growth media stockpiles shall be planted with a vegetative cover or shall be protected by other equally effective measures to prevent water and wind erosion and to discourage weeds. Relocation of topsoil or suitable growth media stockpiles for purposes other than reclamation shall require prior written approval from the lead agency.
- (e) Topsoil and suitable growth media shall be redistributed in a manner that results in a stable, uniform thickness consistent with the approved end use, site configuration, and drainage patterns.
- ' 3712. Performance Standards for Tailing and Mine Waste Management.

State Water Resources Control Board mine waste disposal regulations in Article 7 of Chapter 15 of Title 23, California Code of Regulations, shall govern mine waste and tailings, and mine waste disposal units shall be reclaimed in conformance with this article.

- ' 3713. Performance Standards for Closure of Surface Openings.
- (a) Except those used solely for blasting or those that will be mined through within one year, all drill holes, water wells, and monitoring wells shall be completed or abandoned in accordance with each of the following:
 - (1) Water Code sections 13700, et seq. and 13800, et seq.;
 - (2) the applicable local ordinance adopted pursuant to Water Code section 13803;
 - (3) the applicable Department of Water Resources report issued pursuant to Water Code section 13800; and
 - (4) Subdivisions (1) and (2) of section 2511(g) of Chapter 15 of Title 23 regarding discharge of waste to land.
 - (b) Prior to closure, all portals, shafts, tunnels, or other surface openings to underground workings shall be gated or otherwise protected from public entry in order to eliminate any threat to public safety and to preserve access for wildlife habitat.

Scoping Document For the Iron Mountain Mine Remediation Project Supplemental Environmental Impact Statement

Iron Mountain Mine California Prepared for Iron Mountain mine by Artesian Mineral Development & Consolidated Sludge, Inc. November 23, 2009 TABLE OF CONTENTS Purpose Introduction Background Agency Involvement

Permitting Requirements

Federal Authorities

State Authorities

Local Authorities

Purpose of Scoping

Scoping Schedule

Scoping Meetings

Information Sources

How to Comment

Activities after Scoping

Applicant's Proposed Project

Overview Development History of the Iron Mountain Mine Mining Operations Waste Rock Handling Milling Process Tailings Disposal Water Management. Other Facilities Employment Reclamation and Closure

Alternatives

Preliminary Issues of Concern Public Solicitation of Input for Actions in the Iron Mountain Project AreaLIST OF TABLES

Table 1: Existing and Future Surface Disturbance at the Iron Mountain Mine Table 2: Other Facilities at the Iron Mountain Mine i

LIST OF FIGURES

Figure 1: General Location Plan Figure 2: Iron Mountain Mine Remediation Project - SEIS Process and Schedule

Figure 3: Current Mine Site Layout

Figure 4: Site Layout End of Year 2020

Figure 5: Site Layout End of Year 2031

ACRONYMS AND ABBREVIATIONS

ADNR California Department of Natural Resources

AIDEA California Industrial Development and Export Authority

COE U.S. Army Corps of Engineers

CWA Clean Water Act

DOI US Department of Interior

DMTS DeLong Mountain Regional Transportation System

EA environmental assessment

EID environmental information document

EIS Environmental Impact Statement

EPA U.S. Environmental Protection Agency

FONSI Finding of No Significant Impact

Middle Fork Middle Fork of Iron Mountain Creek

MOU Memorandum of Understanding NABC Northwest Arctic Borough Code NANA NANA Regional Corporation NEPA National Environmental Policy Act NOI Notice of Intent NPDES National Pollutant Discharge Elimination System NPS National Park Service ROD record of decision SEIS Supplemental Environmental Impact Statement

Purpose

This scoping document has been prepared for Iron Mountain Mines, Inc. and for the Iron Mountain Mine Remediation Project which entails development of the Iron Mountain ore bodies of the existing Iron Mountain Mine in northwestern California. Scoping is one of the first steps in the National Environmental Policy Act (NEPA) process. Scoping serves to inform interested parties about the proposed project, issues, and alternatives, and to seek input on the project and issues of concern. This input will be used in developing a Supplemental Environmental Impact Statement (SEIS) for the Iron Mountain Mine Remediation Project. This scoping document provides a description of the existing Iron Mountain Mine and proposed Iron Mountain Project, lists significant issues, and identifies how and by when to submit comments.

Introduction

Background

The Iron Mountain Mine is located in northwestern California, approximately 9 miles north of Redding. The mine is on private land owned by Iron Mountain Mines, Inc. The previous removal actions are operated by AIG Consultants under a insurance policy issued pursuant to a partial settlement and Consent Decree between the responsible parties and the EPA and DOJ of Dec, 2000.

The proposed Iron Mountain Project encompasses the activities required for Iron Mountain mine to develop the Iron Mountain Deposits and reclaim the site with a hydropower pump storage project.

The Iron Mountain Mine consists of an open pit zinc-sulfur mine, mill sites for processing ore, tailings Impoundments, and support facilities.

After mine development, in 1978, Iron Mountain Mines, Inc. submitted an application for a Clean Water Act (CWA) Section 402 National Pollutant Discharge Elimination System (NPDES) permit to discharge treated wastewater from the mine through an outfall to the Sacramento river. The surface water discharge was a new source in accordance with 40 CFR Part 122.2.

Iron Mountain Mine Site

This Notice of Intent (NOI) is prepared by Iron Mountain Mines, Inc. and AMD&CSI as an Environmental Impact Statement (EIS) on the potential environmental impacts of the proposed operation in compliance with the Council on Environmental Quality NEPA regulations at 40 CFR Part 1500 and 40 CFR Part 6, EPA's NEPA implementing regulations. EPA and BLM issued an EIS in 1989. EPA issued the first NPDES permit in 1978.

The original NPDES permit for the mine site was superceded by ROD 1 issued in 1986. Since that time EPA has obtained interim waivers for compliance with numerical limits on pollution discharge. Prior to each permit action, EPA has not complied with NEPA by preparing an environmental assessment (EA) that evaluated the potential impacts of its actions.

On May 4, 2008, Iron Mountain Mines, Inc. submitted a request for resumption of mining for the Iron Mountain Project. The 1989 EIS did not evaluate potential impacts from developing the Iron Mountain Deposit.

Therefore, an SEIS is necessary in order to fully evaluate impacts from the Iron Mountain Project and support Iron Mountain Mine future NPDES permitting actions associated with the Iron Mountain Project. The SEIS is also intended to support permitting of the Iron Mountain Project by the U.S. Army Corps of Engineers (COE) under CWA Section 404. Both federal actions, the NPDES permit and the 404 permit require compliance with NEPA.

The Iron Mountain SEIS will evaluate impacts associated with the extension of operations resulting from developing the Iron Mountain Deposit. The SEIS will describe current site conditions and impacts projected in the 1989 EIS. As applicable, the SEIS will discuss whether significant impacts or changes occur Iron Mountain that were not anticipated in the 1984 EIS.

To support preparation of the Iron Mountain SEIS, Iron Mountain Mines, Inc. has prepared for Iron Mountain an environmental information document (EID) that details the proposed Iron Mountain Project, presents baseline data, and describes the impacts of the project. The EID can be obtained from the project website at www.ironmountainmine.com.

Agency Involvement

Shasta County will be the lead agency for the SEIS process, and will issue a record of decision (ROD) documenting the SEIS conclusions and Shasta County's decision regarding modification of the facility's NPDES permit. As one of the cooperating agencies, the DTSC and RSWQCB will issue their own ROD to document its permitting decision regarding fill activities in waters of the U.S., including jurisdictional wetlands under the CWA Section 404 permit.

In addition the California Department of Natural Resources (ADNR), and the department of fish and game will participate closely in the SEIS process as cooperating agencies. Shasta County will coordinate all of the State's permitting activities. The NPS's involvement relates to potential effects on the Sacramento river. While none of these entities has an independent requirement to comply with NEPA, they each provide special expertise to the project and the information in the SEIS may benefit their decisions regarding the project. The roles and responsibilities of the lead and cooperating agencies are described in a Memorandum of Understanding (MOU) between the agencies.

On May 17, 2008, EPA was given notice to enter with Iron Mountain Mines, Inc. into a MOU that sets out the terms of cooperation in the development of the SEIS for a jointly owned hazardous waste repository on private property. The proposed MOU also

outlines the terms under which the Iron Mountain Mines, Inc. will prepare the SEIS using a third-party contractor.

Permitting Requirements

The proposed Iron Mountain Project will require no new permits or modification of existing permits before development can proceed. The major permits or authorizations that may be required eventually by Iron Mountain are listed below.

Federal Authorities

U.S Environmental Protection Agency:

CWA Section 402 NPDES permit for wastewater discharges into waters of the U.S. U.S. Army Corps of Engineers:

CWA Section 404 wetlands permit for the discharge of Iron Mountain or fill material into waters of the U.S., including jurisdictional wetlands

FERC Section 401 hydropower permit.

State Authorities

California Department of Natural Resources:

Reclamation Plan approval

Closure/Post-closure Financial Assurance approval

Fish habitat permits for diversions and water withdrawals

State Water Rights permits for water withdrawals

Certificate of Approval to Construct Iron Mountain Tailings Dam and Back Dam Certificate of Approval to Operate Iron Mountain Tailings Dam and Back Dam

Coastal zone consistency determination under the Coastal Zone Management Act

and the California Coastal Management Program Act of 1977

California Department of Environmental Conservation:

Air Quality Permit to Operate (Title V) No. 290TVP014

Waste Management Permit covering disposal of mine tailings, waste rock,

overburden, and solid waste, management of open pits and ground water, storage and containment of hazardous chemicals, facility reclamation, and facility closure

Financial Assurance (in conjunction with ADNR requirements)

CWA Section 401 certifications of reasonable assurance for NPDES/Section 402 and COE/Section 404 permits

Local Authorities

Title 9 zoning permits

Master Plan or Revised Master Plan

Purpose of Scoping

Scoping is a process intended to reach out to all interested parties to assist Iron Mountain Mine and the cooperating agencies in identifying areas and issues of concern associated with the proposed Iron Mountain Project. The process is designed to help ensure that all significant issues are fully addressed during the course of the SEIS process. The main objectives of the scoping process are to:

Provide the public, regional stakeholders, and regulatory agencies with a basic understanding of the existing Iron Mountain Mine and proposed Iron Mountain Project;

Provide a framework for the public to ask questions, raise concerns, and identify specific issues; and recommend options other than those currently proposed; and

Explain where to find additional information about the project.

To assist in reaching these objectives, this scoping document:

Presents a schedule for the scoping process;

Describes the scoping open houses and public meetings to be held in October 2009; Presents a brief summary of the existing Iron Mountain operations and the proposed Iron Mountain Project;

Identifies where additional information about the proposed project can be obtained; Describes how the public can participate in the SEIS process after scoping; and Presents a tentative SEIS schedule.

Scoping Schedule

The scoping process will begin when EPA publishes the Notice of Intent (NOI) to prepare an SEIS in the Federal Register. This scoping document will be distributed for public and agency review and comment at the same time. The scoping comment period will end in 90 days. EPA will then review all comments, identify the issues, and distribute a scoping responsiveness summary to the public and to the State and Federal agencies and Tribal governments. The scoping responsiveness summary will summarize comments received during the scoping period and describe how EPA intends to respond to them during the SEIS process.

Scoping Meetings

EPA will host four Iron Mountain Project scoping open houses/public meetings. Each scoping meeting will include an informal open house held from 4:00 to 6:00 PM. This will be followed by a public meeting from 6:00 to 8:00 PM that will include:

(1) a presentation of the project by EPA and the cooperating agencies; (2) a time for questions and answers; and (3) a time for formal public testimony.

The scoping meetings will serve two important purposes. One is to listen to and record the public's comments about the Iron Mountain Project as described in this scoping document. The second is to respond to the public's requests for background information that they might need to fully understand the project description and proposed scope of the SEIS analysis before commenting.

EPA, the cooperating agencies, and staff from Tetra Tech will be available to answer questions and explain methodologies for interested members of the public. Scoping comments from the public will be welcomed during the scoping meetings, or they may be submitted to EPA in writing.

Information Sources

Copies of the scoping document, 1989 EIS, past EAs, and current NPDES may be viewed at the following locations:

Environmental Protection Agency

Redding library

How to Comment

Comments may be submitted at the open houses (in writing or recorded verbally), or they may be submitted to EPA in writing, by e-mail, or by fax, until the comment period deadline.

Activities after Scoping

Following the scoping process and identification of issues, EPA will prepare the SEIS under Iron Mountain Mines, Inc. direction. The steps involved in SEIS preparation and

public and agency review of the document are shown in Figure 2. The public is welcome to participate throughout the SEIS process, and there are specific points at which public input is specifically sought. These are listed below, along with their tentative dates, though schedule changes will likely occur.

Public participation process:

Distribution of Draft SEIS for public/agency review

Draft SEIS open houses and public hearings

Close of public/agency Draft SEIS review period

Distribution of Final SEIS

EPA Record of Decision and NPDES permit decision

Figure 2: Iron Mountain Mine Remediation Project - SEIS Process and Schedule

Applicant's Proposed Project

The Iron Mountain Project includes the activities required for Iron Mountain Mines, Inc. to develop the Iron Mountain Deposit using solution mining technologies to manage and mitigate the migration of minerals from the Iron Mountain Mines site. As such, the project is considered by Iron Mountain Mines, Inc.an extension of the existing Iron Mountain Mine superfund remediation. The following sections summarize the existing operations at the Iron Mountain Mine and the Applicant's current proposal for developing the Iron Mountain Deposit.

Overview

Development History of the Iron Mountain Mine

Initial development and construction of the Iron Mountain Mine Project began in 1896, and production started in November 1897.

Water Management

Current Water Management, Iron Mountain Development Other Facilities

The Iron Mountain Mine includes various additional infrastructure facilities that are summarized in Table 2. These are generally unaffected by the Iron Mountain Project.

Table 2: Other Facilities at the Iron Mountain Mine

Facility Description

Water Treatment treats raw acid mine water from the mine with lime

Facility Description

Employment

The mine will provide direct employment for approximately 360 people

Reclamation and Closure

20 years Alternatives

Preliminary Issues of Concern

EPA and the cooperating agencies have identified the following preliminary issues of concern associated with the proposed Iron Mountain Project.

Maintaining or improving the quality and quantity of water

Maintaining the quality and quantity of fishery habitat, and minimizing disruption of fish movements

Maintaining the quality and quantity of wildlife habitat, and minimizing impacts on wildlife

Protecting subsistence resources and their use

Minimizing potentially negative and maximizing potentially positive health impacts to residents

Minimizing impacts on vegetation at the site and along the road.

Minimizing the social, cultural, and economic impacts on residents of the region. Evaluating operational and post-closure water balance.

Maintaining the integrity of the tailings impoundment and associated dams Determining appropriate cleanup levels and sampling protocols for metals

contamination on NPS lands.

Mitigating possible cross-boundary impacts to NPS units from the mining operation and ancillary facilities including, but not limited to, vehicle and equipment air emissions, dust, night lighting, and noise.

Minimizing fugitive dust from all sources and maintaining air quality. Minimizing long-term environmental risks.

Assuring that closure and post-closure costs are accurately estimated and that there is adequate financial assurance to cover costs.

Minimizing long-term economic risks to the land owner and the State of California EPA is seeking public input to identify other significant concerns. All substantive issues identified by the public will be considered. by EPA in formulating the scope of analysis for the SEIS. Following scoping, EPA will prepare a scoping responsiveness summary that will describe how the above issues and additional issues raised by the public will be responded to in the SEIS process.

Public Solicitation of Input for Actions in the Iron Mountain Project Area

NEPA requires that EISs include an assessment of cumulative impacts. Specifically, 40 CFR Part 1508.7 defines cumulative impacts and directs federal agencies to assess, "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

All federal and state agencies, Tribal governments, local governments, private companies, organizations, and individuals are asked to notify EPA of any past, present, or future actions they are aware of near the Iron Mountain Project. EPA respectfully requests this information to ensure that the SEIS adequately addresses the cumulative impact that may occur to the environment if the Iron Mountain Project were to be developed. If you are aware of another agency or entity that has, is, or likely will take action near the Iron Mountain Project area, please contact John F. Hutchens by the close of the scoping process comment period.



Shasta County. 1862.



SURFACE MINING PLANT OF THE MOUNTAIN COPPER COMPANY, IN SLICK ROCK CANYON, WITH IRON MOUNTAIN AT THE RIGHT.









Iron Mountain Mine Project 1.0 EXECUTIVE SUMMARY

The Artesian Mineral Development & Consolidated Sludge, Inc. company (AMD&CSI) seeks to re-open the historical Iron Mountain Mine in accordance with all applicable federal, state and local laws and regulations for the purposes of:

- Extraction and containment of massive sulfide ore, tailings, and any other mineral hazards,
- Conducting underground resource exploration and development,
- Developing the industrial mineral and copper ore deposits,

• Processing the precious and industrial mineral deposits to produce copper, gold and manufactured stone and ceramic building products, and to build a hydropower, pump storage and battery complex.

• Operating and maintaining these facilities for the life of the project (estimated to be 3000 or more years, based on current projections), and

• Performing reclamation activities at the project sites at the conclusion of the project.

This document comprises the 2010 Revised Application for an Exploration and Mining Use Permit for the Iron Mountain Mine Project and is provided in the form of the five requisite permit applications required by the County of Shasta including the following, prepared in accordance with the County checklists:

- Formal Development Review Application (which includes a Planned Development Application),
- Mineral Project Application,
- General Plan Application,
- Rezone/Prezone Application, and
- Annexation Application.

1.1 Project Summary

The proposed project contains potential development properties that are located approximately 9 miles north of downtown Redding. The properties comprise a total of 8000 acres and include: the Iron Mountain Mine site (2744 acres); approximately 1656 acres of patented mine land claimed by right, and approximately 3600 acres of BLM land part of the Shasta-Chaffee park.

1.2 Permit Application Descriptions

The purpose of the General Plan Amendment, Rezone/Prezone, and Annexation Applications is to address the jurisdictional responsibilities of Shasta County (County) and the City for the project site as well as subsequent zoning designation. The Annexation Application proposes that the Iron Mountain Mine annex the BLM site that is currently within the County jurisdiction. The annexation will allow the permitting of the project as a whole under the single jurisdiction of the County. The General Plan

Amendment and Rezone/Prezone Applications seek to modify the County's General Plan land use designations to make them consistent with the Mineral Resource Element, the existing and historical uses of the property, and the proposed mining and hydropower use. Specifically, the application requests that the General Plan be amended to designate all 8000 acres of the Iron Mountain Mine site as M-I, anufacturing/industrial.

The application further proposes that the Iron Mountain Mine site be prezoned to M-2/MR, General Industrial, within the Mining Reclamation and Combining Zone. This will make the intended land use and zoning consistent with the General Plan land use designations and Policies.

The Mineral Project Application has been prepared in accordance with the California Surface Mining and Reclamation Act (SMARA) and CEQA.

1.3 Project Benefits

In conclusion, IMMC believes this application is for a project which will bring significant benefit to the City of Redding, the County of Shasta, and the State of California. Specifically these benefits may include:

• Stable, high wage employment;

• Substantial and stable tax revenue through increased property taxes generated by the project and indirectly through increases in other city revenues;

• Increased tax revenue can support increased bonding capacity for needed infrastructure projects;

• Large demand for goods and services to support local businesses within the community - strong economic multiplier effect;

- A long term commitment to the community;
- Restores a historical activity and culture to the community;
- Maintenance of environmental standards;
- Provide opportunities for local young people to be trained and employed in a good job;
- Attractive design of the project will be an addition to the City and restore the historical look of the site;
- Religious monument and spiritual retreat center will become an additional tourist and cultural attraction;

• Employment generated by the Project can improve jobs/housing balance with other proposed annexation projects which emphasize residential development;

• Project places relatively small demand on County services; and

• Community benefit of having a comparatively large company headquartered in the community. The IAMD&CSI acknowledges the significance and potential impact of a project of the proposed magnitude of the Iron Mountain Mine on the City, the surrounding communities, and County. We propose an ongoing series of open meetings and workshops where we address and will continue to address the concerns of our neighbors in order to establish and maintain a mutually beneficial and long-term relationship.

2.0 INTRODUCTION

The Artesian Mineral Development & Consolidated Sludge, Inc. company (AMD&CSI) has prepared the Revised Formal Development Review Permit, Mineral Project, General Plan Amendment, Rezone/Prezone, Annexation Applications (2010 Revised Application).

The Revised Application was prepared to comply with the applicable federal, state, and local laws and regulations administered by the County to permit the reopening of the historical Iron Mountain Mine. Application Document Set ("Revised Project Application") has been prepared in accordance with the County

requirements. In addition, the Mineral Project Application (Section 3) has been prepared in accordance with the California Surface Mining and Reclamation Act (SMARA).

PROPOSAL FOR MINE LAND RECLAMATION SITE SPECIFIC PLAN

Department of Mines and Geology, California Department of Conservation Shasta County Planning Department U.S. EPA, CVRWQCB, DTSC

Pursuant to the California Public Resource Code, Iron Mountain Mines, Inc. hereby submits the preliminary IMMI General Plan for hazard mitigation, surface restoration, beneficial reuse, and mine closure.

IMMI proposes that for the purpose of a cooperative approach to planning, that henceforth Acid Mine Drainage (AMD), shall be recognized as a geologic hazard, and that henceforth all efforts to control or mitigate the effects of AMD shall be undertaken in a cooperative effort to achieve a solution that is fully protective of human health and safety and compatible with a sustainable mining policy.

IMMI proposes to perform "Solution Mining", also known as *insitu* mining or bio-mining, as a remedy to AMD and the pollution hazards associated therewith.

IMMI submits that under the current regulations, Solution Mining would be regulated as environmental remediation (water treatment) rather than mining *per se*, and therefore recommends that the legislature consider regulations that would address these concerns and develop a more modern mining policy.

Solution mining is not surface mining, and it is anticipated that all surface activities will be constrained to existing facilities that will not subject the property to additional surface mining regulation.

All surface mining activities including tailings disposal or other environmental damages occurred prior to 1975, therefore all surface restoration work is at the discretion of the property owner.

For the purpose of providing the financial assurances as required by the Code, that any financial assurance requirements shall be provided by the Trust Funds provided in the "billion dollar" settlement of Dec. 2000 from the previous mine owners.

The cooperative planning shall be consistent with Public Resource Codes 2001-2779.

For the purposes of beneficial reuse, the property owner has developed a re-forestation plan for all areas damaged by mining or forest fire. The property is to be preserved for wildlife and forestry.

The mine owner intends to construct a religious facility for worship and spiritual retreat

along the ridge line near the summit, this facility to be accessible by gondola from the lower reaches of the property where public access and parking will be provided. No private vehicles are intended to have access to IMMI.

Architectural and engineering plans are underway for this project, with plans to be ready for review by the appropriate agencies by the summer of 2009.

IMMI plans to build a new facility for administration and laboratories for researchers at the old town site of Minnesota. Preliminary plans are ready for planning dept. review for this facility.

New technologies for water treatment provide for the beneficial reuse of all waters at IMMI, therefore a agreement will be required to facilitate the IMMI contribution to the public water supplies.

IMMI requests that any agencies that wish to contribute or participate in this planning process submit a letter of interest to the Department of Conservation or Shasta County, or to contact IMMI directly.

01/02/09

s/ T.W. (Ted) Arman,

President, Chairman, CEO, Iron Mountain Mines, Inc.

DETAILED DESCRIPTION OF THE CONCEPT

Summary

The winning of metals from the earth has historically involved mining the ores using either underground or open-pit mining methods followed by processing of the ores to concentrate or extract the metals in some type of above ground treatment facility. In-situ extraction of some highly soluble or easily liquefiable minerals (such as phosphates, salt and sulfur) has been commercialized. The recent advent of heap leaching technology and large scale earth moving equipment has resulted in making large tonnage low grade deposits economically viable due to economics of scale and/or production of refined metals on-site (thereby circumventing cost prohibitive concentrate shipping, handling and treatment charges). The emphasis over the last 20 years has leaned towards developing increasingly larger deposits due to improved economics of scale. Small, low-grade deposits may not be large enough to realize sufficient benefit from economics of scale to render them viable.

In-situ leaching of metals has been developed and undergone experimentation in the past few decades and has been tried in a number of different formats for a variety of metals. These efforts have been generally directed towards extraction of the metals from the rocks using some type of chemical solvent or collector coupled with collection and pumping of the pregnant solvent from within the deposit to an on-site treatment plant for refining. In almost all of the literature, the solutions are injected into the ore deposit through drilled wells and subsequently extracted using these same wells or other wells drilled for the expressed purpose of extracting the pregnant solution. Various patents deal with ways in which the "porosity" or "percolation rate" of the deposit are increased by fracturing the deposit using various types of explosives (including thermonuclear devices), hydro-fracturing or actual dissolution of some or all or the host rock to increase the solution flow

rate and/or wetted surface area and thereby the extraction rate and/or ultimate recovery of in-situ metals or minerals. Other patents deal with methods of aerating the rock mass by injecting compressed air, oxygen or oxygenating chemicals into the deposit. Oxygen is needed for metal dissolution and acid formation.

The mining and extraction process proposed herein contemplates establishing a system of underground draw points beneath a leachable deposit from which a slot raise (or raises) is driven to surface to act as a primary opening for blasting the entire deposit as a single event and undertaking in-situ leaching of the entire deposit over a very long time period. It is envisaged that the leaching process would continue for many years until either all leachable material has been extracted or the daily recovered metal revenue decreases to a point where it is less than operating costs.

The sequences of events for this new concept are as follows. The surface expression of the deposit is stripped of topsoil which is stockpiled for future replacement as a capping on the deposit when extraction is complete. The entire ore body is then drilled off from surface for blasting. In practice, multiple slots will be established and the deposit may be blasted in multiple events over a short time period of a few weeks to months. Concurrently, a decline is driven to establish the draw points and undercut system through which the leach solution is collected and mucking of broken ore is undertaken to keep the broken rock in continual motion. A slot and undercut openings equivalent to nominally 10% of the total deposit volume is first blasted and withdrawn to provide room for expansion to permit blasting the entire remainder of the deposit thereby rubblizing it for leaching. The degree of fragmentation achievable is, in general, a function of the quantity of explosive used. The slot muck removed from the draw points is hauled to surface and temporarily stockpiled prior to being eventually dumped on top of the blasted deposit.

The top of the entire fragmented deposit is then sprayed with leaching solution using high pressure nozzles to spread the leachate over the entire surface of the blasted deposit. The solution percolates through the rock mass down to the draw points which act as collection points to direct the pregnant solution to sumps. The pregnant solution is then be pumped to a surface recovery plant from which the desired metals are recovered. Barren solution is recycled to the top of the deposit. Blasted rock is continually drawn from the draw points throughout the life of the operation but at a very slow rate. Only sufficient rock is removed to keep the rock mass in a "constant" state of mixing. Over the life of the operation it is anticipated that only about 10% to 15% of the total rock mass will be mucked and hauled to surface and placed on top of the muck pile. The above sequences of activities are illustrated as Stages 1 to 4. Four figures are provided for each stage depicting the ongoing activities in plan, cross-section and vertical longitudinal projection with explanatory comments annotated on the sketches to highlight the state of events for each particular stage (see the appendix for the complete set of 16 figures).

By establishing a system of draw points beneath the leachable deposit, capital and operating costs are dramatically reduced in comparison with a conventional heap leach operation and the drawbacks associated with other proposed in-situ leaching methods are overcome. Specifically, aeration, solution channeling, solution collection, environmental contamination by leach solutions and porosity issues are alleviated by the continual movement of the blasted rock due to mining extraction through the draw points. Oxygenation of the rock mass occurs naturally due to the exothermic nature of the leaching process which draws air upwards by convection through the broken rock thereby aerating the mass while simultaneously providing ventilation throughout the underground workings.

The environmental disturbance using this methodology is minimal as there is very little need for surface disturbance initially and ultimate reclamation only requires replacing the original topsoil back on top of the leached deposit, removing the extraction plant and placing a small concrete plug in the decline collar. If warranted, all facilities could be located underground.

Heap Leaching Technology

Heap leaching technology has advanced rapidly in recent years. However, standard heap leaching operations are still plagued by a number of limiting technical factors. The leachability of any particular deposit is unique to that deposit and is a function of rock porosity and mineralization type. Some deposits are refractory and do not leach well under any conditions while others contain metal hosted in unoxidized sulfides or encapsulated in silica (quartz). Notwithstanding the above, many deposits are leachable and technology has been developed to predict the leachability and leach rates of any given deposit. The leachability of any deposit is usually only affected by the particle size being leached, which defines that amount of desired metal that can be leached over a given period of time, and the presence or absence of clay minerals that cause blinding in the heaps. Ore may be heap leached as run-of-mine or after crushing to optimize the economics of the operation. In practice, heap leaching operations typically are designed to extract approximately 70% of the contained metal over about a 12 month period. Heap leaching pads must be designed around the above parameters. A particle size is selected as optimal for the operation and the run of mine ore may need to be crushed in order to reduce it to a size that will permit a reasonable extraction over a 9 to 12 month period. Leach pads must be designed so that minimal compaction occurs as compaction hampers aeration within the heap as well as being one cause of solution blinding, pooling, and channeling. When the ore needs to be finely crushed prior to leaching or contains sufficient clay minerals to hamper leaching, the ore is frequently agglomerated to overcome these obstacles.

Heap leaching test work can predict, with reasonable accuracy, how quickly a deposit will leach. Usually this test work is only undertaken to project leach rates over a maximum one (1) year period. It is known that leaching follows an exponential decay curve and that leaching will continue theoretically until all the metal has been leached. The time frame involved for complete leaching to occur is very long. The new concept presented herein will take advantage of very low operating costs to be able to undertake continuous leaching of the ore for a period that may stretch to 20, 30 or more than 50 years.

Iron Mountain Mine Hydroelectric Pump Storage Project FERC No. #F196734 Pre-Application Document



Jan. 2010 Iron Mountain Mine

Arman Hydroelectric Pump Storage Project FERC No. #F196734 Pre-Application Document

Prepared by: Artesian Mineral Development & Consolidated Sludge, Inc. 3576 Terrace Way, Suite A, Lafayette, Ca. 94549 Telephone (925) 878-9167

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Artesian Mineral Development & Consolidated Sludge, Inc. (hereafter referred to as Licensee) is the Licensee for the Iron Mountain Mine Hydroelectric Pump Storage Project, FERC Project Number #F196734.

The licensee intends to file an Application for New License for the Iron Mountain Mine-Arman Hydroelectric Pump Storage Project, licensee is proposing to operate the Iron Mountain Mine Hydroelectric Pump Storage Project FERC Project Number #F196734. in the state of California, in the County of Shasta.

This document initiates the Pre-Application Document (PAD) process for project licensing and fulfills the requirements of Section 16 of Subpart B of the Federal Energy Regulatory

Commission's regulations for the filing and processing of and application for new license. This document contains information describing the project's physical features, location, and environmental setting, as well as Licensee's proposals for operations and studies.

These descriptions may change based on new information obtained through the consultation process and the results of future studies conducted through the preparation of the license application.

1.1 Purpose

The purpose of this PAD is to provide intended recipients with information that will assist in resource issue identification and development of study plans relevant to the proposed project.

The purpose of this project is to generate 900 GWh annually, enough power to provide electricity to over 70,000 homes in an environmentally friendly and economically sound manner.

A series of definitions and terms used in this document as they relate to the description of the project are given in the following list:

Project Refers to the Iron Mountain Mine Hydroelectric Pump Storage Project facilities within the identified project Boundaries.

Project area: The geographic zone of potential, reasonable direct impact.

This normally extends, but is not limited to, up to 100 feet out from the physical project features and includes the forebay, power plant, the project tailrace and the transmission facilities.

Immediate vicinity The area extending to approximately one mile out from project features.

Project vicinity The area extending to approximately ten miles our from project features.

Project region The area on the order of county or national forest scale.

Study area May differ within each section of the document, it is based upon the type of studies proposed and the area necessary to conduct those studies.

This PAD follows content requirements set forth in 18 CFR 5.6 (c) and (d) and is organized as follows:

Section 1 - Process plan and schedule for all pre-application activity that incorporates the time frames for prefiling consultation, information gathering, and studies set forth in this part. Section 1 also includes a proposed location and date for the scoping meeting and site visit, 18 CFR 5.6 (d)(1).

Section 2 - Description of the project location, facilities, and operations, 18 CFR 5.6 (d)(2).

Section 3 - Description of the existing environment, known resource impacts, and summary of existing data and studies by resource area, 18 CFR 5.6 (d)(3)(ii)-(xii) and General description of the river basin, 18 CFR 5.6 (d)(3)(xiii).

Section 4 - Preliminary resource issues and potential studies or information gathering needs associated with the issues, 18 CFR 5.6 (d)(4).

Section 5 - Literature and information sources cited in the description and summaries of existing resource data (18 CFR 5.6 (c)(2)) and summary of contacts made in preparing this document (18 CFR 5.6(d)(5))

Appendices - Project drawings, project boundary map, agency correspondence and distribution list.

1.2 Process Plan and Schedule

This PAD and the NOI have been filed by Artesian Mineral Development & Consolidated Sludge, Inc. to seek a new license for the Iron Mountain Mine Hydroelectric Pump Storage Project, FERC Project Number #F196734 utilizing the Integrated Licensing Process (18 CFR Part 5). The Integrated Licensing Process is intended to streamline the Commission's licensing process by providing a predictable, efficient, and timely licensing process that continues to ensure adequate resource protections. Table 1-1 presents a schedule for pre-application activities.

Iron Mountain Mine: Project Number F 196734 Pre-Application Document

Page ii © January 2010, Artesian Mineral Development & Consolidated Sludge, Inc.

3.3.1 Existing Environment	34
3.3.1.1 Background	.34

3.3.1.2 Fishes
3.3.1.3 Aquatic Invertebrates
3.3.2 Potential Impacts of Project
3.3.3 Protection and Mitigation of Resource
3.4 Wildlife and Botanical Resources
3.4.1 Existing Environment
3.4.1.1 Wildlife Habitat
3.4.1.2 Game, Non-game, and Other Important Wildlife
3.4.1.3 Botanical Resources
3.4.2 Potential Impacts of Project
3.4.2.1 Wildlife Resources
3.4.2.2 Botanical Resources
3.4.3 Protection and Mitigation of Resource
3.4.3.1 Wildlife Resources
3.4.3.2 Botanical Resources
3.5 Wetlands, Riparian and Littoral Zone
3.5.1 Existing Environment
3.5.2 Potential Impacts of Project 61
3.5.3 Protection and Mitigation of Resource
3.6 Rare, Threatened and Endangered Species 65
3.6.1 Existing Environment
3.6.1.1 Fisheries Resources
3.6.1.2 Botanical Resources
3.6.1.3 Wildlife Resources
3.6.2 Potential Impacts of Project
3.6.2.1 Fisheries Resources

3.6.2.2 Botanical Resources	5
3.6.2.3 Wildlife Resources	5
3.6.3 Protection and Mitigation of Resource	7
3.6.3.1 Fisheries Resources	7
3.6.3.2 Botanical Resources	7
3.6.3.2 Wildlife Resources	7
3.7 Recreation and Landuse	38
3.7.1 Existing Environment	3
3.7.1.1 Current and Future Recreation Needs	2
3.7.1.2 Kauai General Plan	4
3.1.7.3 Land Use	4
3.7.2 Potential Impacts of Project	5
3.7.3 Protection and Mitigation of Resource	5
3.8 Aesthetic Resources	96
3.8 Aesthetic Resources 96 3.8.1 Existing Environment 96	96 3
3.8 Aesthetic Resources 96 3.8.1 Existing Environment 96 3.8.2 Potential Impacts of Project 9	96 6 96
3.8 Aesthetic Resources 96 3.8.1 Existing Environment 96 3.8.2 Potential Impacts of Project 97 3.8.3 Protection and Mitigation of Resource 97	96 6 96 ,
3.8 Aesthetic Resources 96 3.8.1 Existing Environment 96 3.8.2 Potential Impacts of Project 9 3.8.3 Protection and Mitigation of Resource 97 3.9 Cultural Resources 97	96 6 96 97
3.8 Aesthetic Resources 96 3.8.1 Existing Environment 96 3.8.2 Potential Impacts of Project 9 3.8.3 Protection and Mitigation of Resource 97 3.9 Cultural Resources 97 3.9.1 Existing Environment 97	96 6 96 97
3.8 Aesthetic Resources 96 3.8.1 Existing Environment 96 3.8.2 Potential Impacts of Project 9 3.8.3 Protection and Mitigation of Resource 97 3.9 Cultural Resources 97 3.9.1 Existing Environment 97 3.9.2 Potential Impacts of Project 10	96 6 96 7 97 7
3.8 Aesthetic Resources 96 3.8.1 Existing Environment 96 3.8.2 Potential Impacts of Project 9 3.8.3 Protection and Mitigation of Resource 97 3.9 Cultural Resources 9 3.9.1 Existing Environment 97 3.9.2 Potential Impacts of Project 10 3.9.3 Protection and Mitigation of Resource 100	96 6 96 7 97 7)0
3.8 Aesthetic Resources 96 3.8.1 Existing Environment 96 3.8.2 Potential Impacts of Project 9 3.8.3 Protection and Mitigation of Resource 97 3.9 Cultural Resources 97 3.9.1 Existing Environment 97 3.9.2 Potential Impacts of Project 10 3.9.3 Protection and Mitigation of Resource 100 3.9.1 Existing Environment 100 3.9.2 Potential Impacts of Project 100 3.9.3 Protection and Mitigation of Resource 100 3.9.1 Socioeconomic Resources 1	96 6 96 7 97 7)0)
3.8 Aesthetic Resources 96 3.8.1 Existing Environment 96 3.8.2 Potential Impacts of Project 9 3.8.3 Protection and Mitigation of Resource 97 3.9 Cultural Resources 97 3.9.1 Existing Environment 97 3.9.2 Potential Impacts of Project 97 3.9.3 Protection and Mitigation of Resource 97 3.9.1 Existing Environment 97 3.9.2 Potential Impacts of Project 10 3.9.3 Protection and Mitigation of Resource 100 3.10 Socioeconomic Resources 1 3.10.1 Existing Environment 10	96 6 96 7 97 7)0) 00)0
3.8 Aesthetic Resources 96 3.8.1 Existing Environment 96 3.8.2 Potential Impacts of Project 9 3.8.3 Protection and Mitigation of Resource 97 3.9 Cultural Resources 97 3.9.1 Existing Environment 97 3.9.2 Potential Impacts of Project 10 3.9.3 Protection and Mitigation of Resource 100 3.9.1 Existing Environment 100 3.9.2 Potential Impacts of Project 100 3.9.3 Protection and Mitigation of Resource 100 3.10 Socioeconomic Resources 1 3.10.1 Existing Environment 10 3.10.2 Potential Impacts of Project 1	96 6 96 7 97 7 00 00 00 00
3.8 Aesthetic Resources 96 3.8.1 Existing Environment 96 3.8.2 Potential Impacts of Project 9 3.8.3 Protection and Mitigation of Resource 97 3.9 Cultural Resources 97 3.9.1 Existing Environment 97 3.9.2 Potential Impacts of Project 10 3.9.3 Protection and Mitigation of Resource 100 3.9.1 Existing Environment 10 3.9.2 Potential Impacts of Project 10 3.9.3 Protection and Mitigation of Resource 100 3.10 Socioeconomic Resources 1 3.10.1 Existing Environment 10 3.10.2 Potential Impacts of Project 1 3.10.3 Protection and Mitigation of Resource 1 3.10.3 Protection and Mitigation of Resource 10	96 6 96 7 97 7 00 00 00 00 00 03 03

3.11.1 Existing Environment	103
3.11.2 Potential Impacts of Project	104
3.11.3 Protection and Mitigation of Resource	104
3.12 River Basin Description	104
3.12.1 Existing Environment	104
3.12.2 Potential Impacts of Project	104
3.12.3 Protection and Mitigation of Resource	106
4.0 PRELIMINARY ISSUES AND STUDIES LIST	106
4.1 Issues Pertaining to Identified Resources	106
4.1.1 Geology and Soils	106
4.1.2 Water Resources	107
4.1.2.1 Construction Issues	107
4.1.2.2 Operation Issues	107
4.1.3 Fish and Aquatic Resources	107
4.1.3.1 Construction Issues	?
4.1.3.2 Operation Issues	107
4.1.4 Wildlife and Botanical Resources	108
4.1.4.1 Wildlife Issues	108
4.1.4.2 Botanical Issues	108
4.1.5 Wetlands, Riparian and Littoral Zone	109
4.1.6 Rare, Threatened and Endangered Species	109
4.1.6.1 Fisheries Issues	109
4.1.6.2 Botanical Issues	109
4.1.6.3 Wildlife Issues	110
4.1.7 Recreation and Landuse	111
4.1.8 Aesthetic Resources	112

4.1.9 Cultural Resources	112
3.8 Aesthetic Resources	
3.8.1 Existing Environment	96
3.8.2 Potential Impacts of Project	
3.8.3 Protection and Mitigation of Resource	
3.9 Cultural Resources	
3.9.1 Existing Environment	
3.9.2 Potential Impacts of Project	100
3.9.3 Protection and Mitigation of Resource	100
3.10 Socioeconomic Resources	100
3.10.1 Existing Environment	100
3.10.2 Potential Impacts of Project	103
3.10.3 Protection and Mitigation of Resource	103
3.11 Tribal Resources	103
3.11.1 Existing Environment	103
3.11.2 Potential Impacts of Project	104
3.11.3 Protection and Mitigation of Resource	104
3.12 River Basin Description	
3.12.1 Existing Environment	104
3.12.2 Potential Impacts of Project	104
3.12.3 Protection and Mitigation of Resource	106
4.0 PRELIMINARY ISSUES AND STUDIES LIST	106
4.1 Issues Pertaining to Identified Resources	106
4.1.1 Geology and Soils	106
4.1.2 Water Resources	107
4.1.2.1 Construction Issues	

4.1.2.2 Operation Issues	107
4.1.3 Fish and Aquatic Resources	107
4.1.3.1 Construction Issues	?
4.1.3.2 Operation Issues	107
4.1.4 Wildlife and Botanical Resources	108
4.1.4.1 Wildlife Issues	108
4.1.4.2 Botanical Issues	108
4.1.5 Wetlands, Riparian and Littoral Zone	109
4.1.6 Rare, Threatened and Endangered Species	109
4.1.6.1 Fisheries Issues	109
4.1.6.2 Botanical Issues	109
4.1.6.3 Wildlife Issues	110
4.1.7 Recreation and Landuse	111
4.1.8 Aesthetic Resources	112
4.1.9 Cultural Resources	112
4.1.10 Socioeconomic Resources	112
4.1.11 Tribal Resources	112
4.1.12 River Basin Description	112
4.2 Potential Studies	112
4.2.1 Geotechnical Study	113
4.2.2 Water Quality Monitoring Study	113
4.2.3 Sediment Transport Study	113
4.2.4 Lower South Fork Wailua River Fisheries/Habitat Study	113
4.2.5 Proposed Reservoir Physical/Biological Study	114
4.2.6 Opae Turbine Mortality Study	114
4.2.7 Upper Wailua River Basin Opae/Goby Study	114

4.2.8 South Fork Wailua River Newcomb's Snail Study	. 114
4.2.9 Vegetation Characterization	115
4.2.10 Weed Characterization	115
4.2.11 Sensitive Plant Surveys	115
4.2.12 Wetland Determination and Delineation	115
4.2.13 Visual Resources Study	115
4.3 Relevant Resource Management Plans	116
4.3.1 Qualifying Comprehensive Plans Deemed Applicable	116
4.3.2 Qualifying Comprehensive Plans Deemed Not Applicable	117
5.0 SUMMARY OF CONTACTS	117
5.1 List of Contacts	117
5.2 List of References	120

- Appendix A. Project Boundary Maps
- Appendix B. Existing and Proposed Project Facilities
- Appendix C. Soil Erosion Control Plan
- Appendix D. Revegetation Plan

Appendix E. Iron Mountain Mine Hydroelectric Pump Storage Project Irrigation System

Appendix F. Iron Mountain Mine Hydroelectric Pump Storage Project Wildlife Enhancement Plan

Appendix G. Plant Species Found In the Iron Mountain Mine Hydroelectric Pump Storage Project Drainage

Appendix H. Agency Correspondence

LIST OF FIGURES, LIST OF TABLES, LIST OF PHOTOGRAPHS

1.0 INTRODUCTION

Artesian Mineral Development & Consolidated Sludge, Inc. (hereafter referred to as Licensee) is the Licensee for the Iron Mountain Mine Hydroelectric Pump Storage Project, FERC Project Number #F196734. The licensee intends to file an Application for New License for the Iron Mountain Mine Hydroelectric Pump Storage Project, licensee is proposing to operate the Iron Mountain Mine Hydroelectric Pump Storage Project FERC Project Number #F196734. in the state of California , in the County of Shasta .

This document initiates the Pre-Application Document (PAD) process for project licensing and

fulfills the requirements of Section 16 of Subpart B of the Federal Energy Regulatory

Commission's regulations for the filing and processing of and application for new license. This

document contains information describing the project's physical features, location, and

environmental setting, as well as Licensee's proposals for operations and studies. These

descriptions may change based on new information obtained through the consultation process

and the results of future studies conducted through the preparation of the license application.

1.1 Purpose

The purpose of this PAD is to provide intended recipients with information that will assist in

resource issue identification and development of study plans relevant to the proposed project.

The purpose of this project is to generate 900. GWh annually, enough power to provide

electricity to over 70,000 homes in an environmentally friendly and economically sound manner.

A series of definitions and terms used in this document as they relate to the description of the

project are given in the following list:

Project Refers to the Iron Mountain Mine Hydroelectric Pump Storage Project facilities within

the identified project Boundaries.Project area The geographic zone of potential, reasonable direct impact. This normally extends, but is not limited to, up to 100 feet out from the physical project features and includes the forebay, power plant, the project tailrace and the transmission facilities.

Immediate vicinity The area extending to approximately one mile out from project features.

Project vicinity The area extending to approximately ten miles our from project features.

Project region The area on the order of county or national forest scale.

Study area May differ within each section of the document, it is based upon the type of studies proposed and the area necessary to conduct those studies.

This PAD follows content requirements set forth in 18 CFR 5.6 (c) and (d) and is organized as follows:

Section 1 - Process plan and schedule for all pre-application activity that incorporates the time frames for pre-filing consultation, information gathering, and studies set forth in this part. Section 1 also includes a proposed location and date for the scoping meeting and site visit, 18 CFR 5.6 (d)(1).

Section 2 - Description of the project location, facilities, and operations, 18 CFR 5.6 (d)(2).

Section 3 - Description of the existing environment, known resource impacts, and summary of existing data and studies by resource area, 18 CFR 5.6 (d)(3)(ii)-(xii) and General description of the river basin, 18 CFR 5.6 (d)(3)(xiii).

Section 4 - Preliminary resource issues and potential studies or information gathering needs associated with the issues, 18 CFR 5.6 (d)(4).

Section 5 - Literature and information sources cited in the description and summaries of existing resource data (18 CFR 5.6 (c)(2)) and summary of contacts made in preparing this document (18 CFR 5.6(d)(5))

Appendices - Project drawings, project boundary map, agency correspondence and distribution list.

1.2 Process Plan and Schedule

This PAD and the NOI will be filed to seek a new license for the Iron Mountain Mine Hydroelectric Pump Storage Project utilizing the Integrated Licensing Process (18 CFR Part 5). The Integrated Licensing Process is intended to streamline the Commission's licensing process by providing a predictable, efficient, and timely licensing process that continues to ensure adequate resource protections. Table 1-1 presents a schedule for pre-application activities.

The proposed location for scoping meetings is at Redding Public Library in Redding , California in mid-Februrary, 2010. The purpose of the visit is to allow all parties interested in the licensing of the project to view the area surrounding the proposed project area. The building and room information for these meetings will be filed separately 30 days prior to the meeting. Pursuant to 18 CFR Part 5, the filing of the NOI commences the licensing preceding and initiates scheduling for subsequent licensing activities. **Table 1-1.** Preliminary schedule for the Integrated Licensing Process for Iron Mountain

 Mine Hydroelectric Pump Storage Project

Arman Hydropower: Slickrock, Spring, & Boulder Creeks, Copley, Minnesota, & Democrat Mountain Dams Environmental Permit Procurement

Implementation Plan

This document provides a list of environmental permits required for implementation of the Slickrock, Boulder, Spring & Flat Creek Mining District Debris Removal projects and describes the permit procurement and implementation requirements.

Agency	Environmental	Need	Permit	Timeframe	Implementation		
	Permit	for	Application Procurement				
		Permit	Requirements				
Federal							
Army	Clean Water Act	Construction in	1.) Conduct	3-4 months	Comply with		
Corps	Section 404 Permit	waters of	delineation;		permit conditions		
of		the U.S. or wetlands	2.) Prepare Corps				
Engineers			application; and 3.) Submit to Corps				
U.S. Fish and	Section 7 Consultation / Biological	Direct/Indirect effects to potential habitat	Prepare Biological Assessment; and	3-4 months	Comply with permit conditions and implement		
Wildlife Service	Opinion	for endangered species habitat	Request Army Corps of Engineers initiate Section 7 Consultation		best management practices during construction.		
National Marine Fisheries Service	Section 7 Consultation / Biological Opinion	Direct/Indirect effects to potential habitat for endangered fish species including Fall Run Salmon and Steelhead	Prepare Essential Fish Habitat Assessment; and Request Army Corps of Engineers initiate Section 7 Consultation	3-4 months	Comply with permit conditions and implement best management practices during construction.		

State

California Department of Fish and Game	Streambed Alteration Agreement (Section 1601)	Construction work in or on streambanks	Prepare and submit notification for streambed alteration agreement	60 days	Comply with permit conditions and notify contractor
Regional Water Quality Control Board	Section 401 Water Quality Certification	Construction in waters of the U.S. or wetlands	Prepare and submit application for water quality certification	60 days	Comply with permit conditions and implement Best Management Practices
Local					
Shasta County	Tree Permit	Removal of Oak Trees	Prepare and submit tree mitigation plan	30 days	Implement Mitigation

Arman Dam Environmental Permit Procurement and Implementation Plan

(In 1954 the mine superintendent declared the mine unsafe for entry.)

This document provides a list of environmental permits required for implementation of the Arman Dam modification project and describes the permit procurement and implementation requirements.

Agency	Environmental	Need	Permit	Timeframe	Implementation
	Permit	for	Application Procurement		
		Permit	Requirements		
Federal					
Army	Clean Water	Construction in	1.) Conduct	3-4 months	Comply with
Corps	Act Section 404 Permit	waters of	delineation;		permit conditions
of		the U.S. or wetlands	2.) Prepare Corps		
Engineer	S		application; and 3.) Submit to Corps		
U.S. Fish	n Section 7	Direct/Indirect	Prepare Biological	3-4 months	Comply with

and Wildlife Service	Consultation / Biological Opinion	effects to potential habitat for endangered species habitat	Assessment; and Request Army Corps of Engineers initiate Section 7 Consultation		permit conditions and implement best management practices during construction.
National Marine Fisheries Service	Section 7 Consultation / Biological Opinion	Direct/Indirect effects to potential habitat for endangered fish species including Fall Run Salmon and Steelhead	Prepare Essential Fish Habitat Assessment; and Request Army Corps of Engineers initiate Section 7 Consultation	3-4 months	Comply with permit conditions and implement best management practices during construction.
State					
California Department of Fish and Game	Streambed Alteration Agreement (Section 1601)	Construction work in or on streambanks	Prepare and submit notification for streambed alteration agreement	60 days	Comply with permit conditions and notify contractor
Regional Water Quality Control Board	Section 401 Water Quality Certification	Construction in waters of the U.S. or wetlands	Prepare and submit application for water quality certification	60 days	Comply with permit conditions and implement Best Management Practices
Local					
Shasta County	Tree Permit	Removal of Oak Trees	Prepare and submit tree mitigation plan	30 days	Implement Mitigation

Agency	Environmental	Need	Permit	Timeframe	Implementation
	Permit	for	Application Procurement		
		Permit	Requirements		

Army Corps	Clean Water Act Section 404 Permit	Construction in waters of	1.) Conduct wetland delineation;	3-4 months	Comply with permit conditions
of Engineers		the U.S. or wetlands	2.) Prepare Corps application; and3.) Submit to Corps		
U.S. Fish and Wildlife Service	Section 7 Consultation / Biological Opinion	Direct/Indirect effects to potential habitat for endangered species habitat	Prepare Biological Assessment; and Request Army Corps of Engineers initiate Section 7 Consultation	3-4 months	Comply with permit conditions and implement best management practices during construction.
National Marine Fisheries Service	Section 7 Consultation / Biological Opinion	Direct/Indirect effects to potential habitat for endangered fish species including Fall Run Salmon and Steelhead	Prepare Essential Fish Habitat Assessment; and Request Army Corps of Engineers initiate Section 7 Consultation	3-4 months	Comply with permit conditions and implement best management practices during construction.
State					
California Department of Fish and Game	Streambed Alteration Agreement (Section 1601)	Construction work in or on streambanks	Prepare and submit notification for streambed alteration agreement	60 days	Comply with permit conditions and notify contractor
Regional Water Quality Control Board	Section 401 Water Quality Certification	Construction in waters of the U.S. or wetlands	Prepare and submit application for water quality certification	60 days	Comply with permit conditions and implement best management practices

Reclamation	Floodplain	Construction	Conduct HEC	90 days	Comply with
Board	Encroachment	in the	Analysis and		permit conditions
	Permit	floodplain of	Prepare		
		Miners Ravine	application for permit		
Local					
Minnesota	Tree Permit	Removal of oak trees	Prepare and submit tree mitigation plan	30 days	Implement mitigation

IRON MOUNTAIN MINE, TOWNSHIP OF MINNESOTA

WATER RECLAMATION PLAN

Sections:

Purpose.

Water reclamation policy.

Definitions.

Water reclamation master plan.

Procedures.

Sanctions.

Validity.

Purpose.

The State policies described in Water Code Sections 461 and 13510 are in the best interest of Iron Mountain Mine and the Township of Minnesota . The majority of jurisdictions in Shasta County have adopted measures to promote water reclamation. This chapter is necessary to protect the common water supply of the region which is vital to public health and safety, and to prevent endangerment of public and private property. Shasta County is highly dependent on limited domestic water for domestic, agricultural and industrial uses. The reliability of the supply of domestic water is uncertain. By developing and utilizing reclaimed water, the need for exportable water can be eliminated. In light of these circumstances, certain uses of potable water may be considered unreasonable or to constitute a nuisance where reclaimed water is available or production of reclaimed water is unduly impaired. Reclaimed water for nonessential uses may be uncertain.

Water reclamation policy.

It is the policy of the Iron Mountain Mine and the Township of Minnesota that reclaimed water shall be used within the jurisdiction wherever its use is economically justified, financially and technically feasible, and consistent with legal requirements, preservation of public health, safety and welfare, and the environment.

Definitions.

The following terms are defined for purposes of this chapter:

A. "Agricultural purposes" include the growing of field and nursery crops, raw crops, trees, and vines and the feeding of fowl and livestock.

B. "Artificial lake" means a human-made lake, pond, lagoon, or other body of water that is used wholly or partly for landscape, scenic or non-contact recreational purposes.

C. "Commercial office building" means any building for office or commercial uses with water requirements which include, but are not limited to, landscape irrigation, toilets, urinals, and decorative fountains.

D. "Reclaimed water distribution system" means a piping system intended for the delivery of reclaimed water separate from and in addition to, the potable water distribution system.

E. A "greenbelt area" includes, but is not limited to, golf <u>courses</u>, cemeteries, parks and landscaping.

F. "Industrial process water" means water used by any industrial facility with process water requirements which include, but are not limited to, rinsing, washing, cooling and circulation, or construction.

G. "Off-site facilities" means water facilities from the source of supply to the point of connection with the on-site facilities, normally up to and including the water meter.

H. "On-site facilities" means water facilities under the control of the owner, normally downstream from the water meter.

I. "Potable water" means water which conforms to the Federal, State and local standards for human consumption.

J. "Reclaimed water" means water which, as a result of treatment of wastewater, is suitable for a direct beneficial use or controlled use that would not otherwise occur (see Water Code Section 13050(n)).

K. "Water discharge" means water deposited, released, or discharged into a sewer system from any commercial, industrial, or residential source which contains levels of any substance or substance which may cause substantial harm to any water treatment or reclamation facility or which may prevent use of reclaimed water authorized by law.

Water reclamation master plan.

A. General. Upon adoption of this chapter, the Township shall prepare and adopt by resolution, a water reclamation master plan to define, encourage, and develop the use of reclaimed water within its boundaries. The master plan shall be updated not less often than every five years.

B. Contents of the Reclamation Master Plan. The master plan shall include, but not be limited to, the following:

1. Plants and Facilities. Evaluation of the location and size of present and future reclamation treatment plants, distribution pipelines, pump stations, reservoirs, and other related facilities, including cost estimates and potential financing methods;

2. Reclaimed Water Service Areas. A designation, based on the criteria set forth in this chapter, of the areas within the Township that can or may in the future use reclaimed water in lieu of potable water. Reclaimed water uses may include, but are not limited to, the irrigation of greenbelt and agricultural areas, filling of artificial lakes, and appropriate industrial and commercial uses;

3. Designate Tributary Areas. For each water reclamation facility identified in the master plan, designate proposed tributary areas. Within such areas, discharges to the sewage system shall be subject to permitting, monitoring and control measures to protect public health, safety and public and private property;

4. Quality of Water to be Reclaimed. For each water reclamation treatment facility, evaluate water quality with respect to the effect on anticipated uses of reclaimed water to be served by each treatment facility. Evaluate sources of waste discharge and sewer inflow that may, directly or cumulatively, substantially contribute to adverse water quality conditions (including but not limited to total dissolved solids, sodium, chloride and boron) in reclaimed water;

5. Tributary Protection Measures. Develop recommended control measures and management practices for each designated tributary area to maintain or improve the quality of reclaimed water. Such control measures may include capital improvements to the sewer collection system and waste discharge restrictions for industrial, commercial and residential discharges;

6. Mandatory Reclaimed Water Use. For each reclaimed water service area, evaluate whether greenbelt irrigation, agricultural irrigation, commercial office buildings, filling of artificial lakes, or industrial processes shall be limited to the use of reclaimed water. As appropriate, mandate construction of reclaimed water distribution systems or other facilities in new and existing developments for current or future reclaimed water use as a condition of any development approval or continued water service, if future reclamation facilities are proposed in the master plan that could adequately serve the development. Identify resources and adopt measures to assist water users in the financing of necessary conversions;

7. Rules and Regulations. Establish by resolution, general rules and regulations governing the use and distribution of reclaimed water;

8. Public Awareness Program. Establish a comprehensive water reclamation public awareness program;

9. Coordination Among Agencies. An examination of the potential for initiating a coordinated effort between the Township and other regional agencies to share in the production and utilization of reclaimed water.

Procedures.

A. Existing Potable Water Service.

1. Preliminary Determination. Based upon the master plan, upon the designation of each reclaimed water service area or the commencement of the design of new reclaimed water facilities, the Township shall make preliminary determinations as to which existing potable water customers shall be converted to the use of reclaimed water. Each water customer shall be notified of the basis for a determination that conversion to reclaimed water service will be required, as well as the proposed conditions and schedule for conversion.

2. Notice. The notice of the preliminary determination, including the proposed conditions and time schedule for compliance, and a reclaimed water permit application shall be sent to the water customer by certified mail.

3. Objections – Appeals. The water customer may file a notice of objection with the Township within 30 days after of any notice of determination to comply is delivered or mailed to the customer, and may request reconsideration of the determination or modification of the proposed conditions or schedule for conversion. The objection must be in writing and specify the reason for the objection. The preliminary determination shall be final if the customer does not file a timely objection. The Township Manager or his designee, shall review the objection with the objector, and shall confirm, modify or abandon the preliminary determination.

B. Development and Water Service Approvals.

1. Conditions. Upon application by a developer, owner or water customer (herein referred to as "applicant") for a tentative map, subdivision map, land use permit, or other development project as defined by Government Code Section 65928 the Township staff shall review the master plan and make a preliminary determination whether the current or proposed use of the subject property is required to be served with reclaimed water or to include facilities designed to accommodate the use of reclaimed water in the future. Based upon such determination, use of reclaimed water, and application for a permit for such use may be required as a condition of approval of any such application, in addition to any other conditions of approval.

2. Alterations and Remodeling. On a case-by-case basis, upon application for a permit for the alteration or remodeling of multifamily, commercial or industrial structures (including, for example, hotels), the Township staff shall review the master plan and make a preliminary determination whether the subject property shall be required to be served with reclaimed water or to include facilities designed to accommodate the use of reclaimed water in the future. Based

upon such determination, use of reclaimed water and provision of reclaimed water distribution systems or other facilities for the use of reclaimed water, and application for a permit for such use, may be required as a condition of approval of the application.

3. Notice of Determination. A notice of the basis for the preliminary determination, proposed conditions of approval and schedule for compliance shall be provided to the applicant prior to approval of the development application.

C. Reclaimed Water Permit Process. Upon a final determination by the Township Manager that a property shall be served with reclaimed water, or adoption of a condition of development approval requiring use or accommodation of the use of reclaimed water, the water customer, owner or applicant shall obtain a reclaimed water permit.

1. Permit Conditions. The permit shall specify the design and operational requirements for the applicant's water distribution facilities and schedule for compliance and shall require compliance with both the California Department of Health Services Wastewater Reclamation Criteria (see California Code of Administrative Regulations, Title 22), and requirements of the Regional Water Quality Control Board.

2. Plan Approval. Plans for the reclaimed and potable water distribution systems for the parcel shall be reviewed by the Township Manager or his designee and a field inspection conducted before the permit is granted.

3. Iron Mountain mine joint venturers to manufacture sodium sulfur (Nas) and zinc air batteries, Cadmium sulfide and telluride solar cells.

4 Iron Mountain mine joint venturers to construct superconducting supergrid.

5. Iron Mountain mine joint venturers to precast seismically engineered containment structures, schools, hospitals, and housing.

6. Permit Issuance. Upon approval of plans, the permit shall be issued. Reclaimed water shall not be supplied to a property until inspection by the Township Manager or his designee determines that the applicant is in compliance with the permit conditions.

D. Temporary Use of Potable Water. Upon the approval of the Township Manager or his designee, potable water may be made available temporarily. Before the applicant receives temporary potable water, a water reclamation permit must be obtained for new on-site distribution facilities. Prior to commencement of reclaimed water service, an inspection of the on-site facilities will be conducted to verify that the facilities have been maintained and are in compliance with the reclaimed water permit and current requirements for service. Upon verification of compliance, reclaimed water shall be served to the parcel for the intended use. If the facilities are not in compliance, the applicant shall be notified of the corrective actions necessary and shall have at least 30 days to take such actions.

E. Reclaimed Water Rate. The rate charged for reclaimed water shall be established by resolution of the Township.

ARTESIAN MINERAL WATER FROM THE "BELLY OF THE BEAST" THE "WORST WATER IN THE WORLD" DRAINAGE FROM IRON MOUNTAIN MINE (TREATED BY EXTRACTION, FILTRATION, AND LIME CONDITIONING)



STINKY PETE'S FAVORITE BEVERAGE