

CLOSURE AND
RECLAMATION PLAN FOR
BLUE POINT MINE

CA MINE ID #91-58-0021



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7/1/2005

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Appendices:

<u>No.</u>	<u>Description</u>
I	Holdrege & Kull Geologic Engineers Reclamation Plan 99-01 For Conditional Use Permit 99-13 for Blue Point Mine, 1/21/2002
II	Biological Survey Report
III	Natural Resources Conservation Service letter
IV	Blue Point Mine Construction Documents A-E (in Appendix); F (Grading Plan RP-2) folded & place in the back binder sleeve
V	Blue Point Mine Reference Photographs

VI	2004 SMARA Mine Inspection, Blue Point Mine
VII	Geologic Hazards and Post-SMARA Activities, Holdrege and Kull Geologic Engineers, 10/12/2004
VIII	Response to Comments Letter, Holdrege and Kull Geologic Engineers, 7/1/2005
IX	Reclamation Plan Cost Estimates
X	Culvert Sizing Calculations

1. INTRODUCTION

Mr. Steve Elder purchased the real property that comprises the old Smartville hydraulic mining pit from the Victor D. Klein estate in 2001. He leased that property to Blue Point Rock Products, Inc., and in 2004 sold the property to Blue Point Partners, a California Corporation.. The property includes portions of Sections 27, 28, 29 and 34, T16N, R6E, MDB & M. It has been continuously mined, first by hydraulic methods for gold during the mid 1800's, and more recently by mechanical means for gold, aggregate and rock products. A conditional use permit, CUP 79-02 was issued in 1979 for a gravel mining and crushing operation, Mine ID# 91-58-0021, located in a portion of the hydraulic mine area (AP Numbers 06-260-24 and 25). The applicant for that permit operated on that site until 1991, and infringed onto the property described as AP Number 06-260-26 as well. No reclamation plan or production reports were located that were submitted by that operator for that site. Blue Point Rock Products has ceased production at this site. The purpose of this plan is to provide a plan for closure and reclamation of the site, and determine the appropriate financial assurances, to comply with all federal, state, and county laws, rules and regulations.

It should be noted that an additional mine exists on adjacent property also owned by Mr. Elder. Blue Point Rock and Gravel Quarry, Mine ID# 91-58-0015, occupies the western portion of the property, specifically Assessor's Parcel Numbers 06-310-06, 07 and 08, and is currently permitted for a rock quarry and crushing operation under CUP 86-08 and its corresponding reclamation plan, RP 86-01. Production has ceased at this site as well, and will be reclaimed as specified by RP-86-01, amended to reflect the reduced scope of work that has occurred on the site. This reclamation plan does not deal with that site.

It should also be noted that in 1992, Micro Gold initiated production for gold at Mine ID# 91-58-0021. Their activities continued on AP Numbers 06-260-24 and 25 and also infringed onto parcels described as AP Numbers 06-340-06 and 06-310-03. They reported production under CUP 86-08, posted a financial assurance bond for RP 86-01, and used the California Mine ID# 9 1-58-0015. They submitted a reclamation plan dated January 1993, for the site on which they were actually operating, but that plan was never approved. Micro Gold declared bankruptcy and left without reclaiming the site in 1994.

A reclamation plan was later prepared by the Klein Estate and approved by Yuba County as RP 98-01 on September 16, 1998, to reclaim and close a portion of the site (Appendix I, Reclamation Plan RP 98-01.) No work proposed under that plan has been completed to date and no financial assurance has been posted. Blue Point Rock Products, Inc., amended the plan to provide for production at the site, but that amendment has not been accepted by the State Mining and Geology Board, the lead agency in Yuba County for implementation of the State Mining and Reclamation Act.

2. APPLICANT INFORMATION

Name: Blue Point Partners, Inc.
Responsible Individual: Brian Bisnett, representative
Physical Address: 8576 Krista Trail
Smartville, CA 95977
Mailing Address: 412 E. Main Street
Grass Valley, CA 95945
Telephone No. 530- 274-2400
Contact Individual: Brian Bisnett

3. PROPERTY LEGAL DESCRIPTION

The property within the consideration of this reclamation plan consists of Assessors Parcel Numbers 6-310-03, 6-260-24, 25 & 26 and 6-340-06, all located in Sections 27, 28, 29 and 34, T16N, R6E, MDB & M.

Figure 1 (following page) shows a flyover of the site flown in 1973 vs. 2004, well after the production of the site had ceased. Overlaid on the flyovers are the Bluepoint Property Lines with APN's.

Figure 2 (page 7) shows the Reclamation Area with acreage calculations.

4. ENVIRONMENTAL SETTING

a. GEOLOGY

The principal geological unit on this site is tertiary gravel of the ancestral Yuba River. These gravels are comprised of boulders, cobbles, pebbles, sand, silt and clay derived from the erosion of the granitic and metamorphic composition rocks of the Sierra Nevada Mountains. These gravels are the host of alluvial gold that has been a significant regional and national source of gold since it was first discovered during the 1800's. In addition, these deposits are now of significant value for construction aggregate. These gravel deposits overlay massive, Jurassic age pillow basalts of the Smartville Ophiolite Complex that are locally known as greenstone. The basalts form an impermeable bedrock unit under the tertiary gravels and are an effective barrier to ground water flow from the surface. (See Appendix I Holdrege & Kull Geologic Engineers Reclamation Plan 99-01.

The site is unique in that the most distinctive geologic feature, the tall escarpment that rises approximately 200' from the valley floor along the east and southern perimeter of the site, is manmade, created by the hydraulic mining that eroded the gold-bearing placer deposits between 1865 and 1885. A large landslide and tension cracks associated with the landslide constitutes what the geotechnical engineering firm of Holdrege and Kull refer to as the site's 'primary geologic hazard' in their Reclamation Plan 99-01, dated January 21, 2002 (Appendix VII) and their 'Geologic Hazards and Post-SMARA Activities' letter dated October 12, 2004 (Appendix VII.) The failure, which consists of 'partially to well cemented cobbles, gravel and sand' that occurred at the contact with the Jurassic aged basalt appears to be in excess of 20 years old, as evidenced by the mature trees growing at the scarp face. Holdrege and Kull report cracks appearing in aerial photographs as early as 1950. The vertical bluffs located north of the failed slope do not appear unstable, and no tension cracks or excessive erosion were observed by Holdrege and Kull at the top or base of their site visit in February 2000. Geotechnical studies performed by Holdrege and Kull indicated an average shear strength of 87 p.s.i. (12,500 p.s.f.) in unconfined compression tests and a factor of safety of approximately 1.2 under static loading and no saturation for the existing vertical slopes. Additionally, on a subsequent site visit in August of 2004, Holdrege and Kull observed that no additional grading or excavation had apparently taken place in the vicinity of the existing bluffs since the enactment of SMARA in 1975. Their recommendations for the bluffs were that in the event of potential future development of the site, geologic setbacks, not greater than the height of the bluffs, be provided and fencing and signs placed at the top of the bluffs to reduce hazards. However, due to the pre-SMARA characteristic of the escarpment and associated slope failure and tension cracks, further consideration of this feature is beyond the scope of this reclamation plan.

A post-SMARA haul road passes over a portion of the landslide area, below several buildings that overlook the site. Evidence exists of significant erosive scouring along the swales adjacent to the road. Holdrege and Kull evaluated the haul road and adjacent slopes during a site visit in June of 2005. Their conclusions were summarized in their 'Response to Comments' letter dated July 1, 2005 (Appendix VIII.) In that letter they conclude "Based on the horizontal distance from the haul road slopes to the residences, our opinion is that the haul road would not impact slope stability below the residences. However, we did observe severe erosion of the road shoulders. Implementation of the proposed mitigation plan should reduce erosion in this area."

The other potential geologic hazard present at the site are the water conveyance tunnels driven through the Jurassic aged basalt. According to Holdrege and Kull's letter of October 12, 2004 (Appendix VII.) the tunnels showed no sign of roof slab failure and appeared to be stable. The

tunnels are a product of the pre-SMARA hydraulic mining activity and have been unaffected by post-SMARA quarrying activity, and as such are beyond the scope of this reclamation plan: however the tunnels will be barricaded per CCR 3713(b), and the cost of this improvement has been added to the reclamation plan estimate.

b. BIOTIC RESOURCES

A detailed Biological Survey Assessment of the site was prepared by Michael W. Skenfeld, biological and wetland consultant, in December of 2001 (Appendix II, Biological Survey Report.) No substantive changes have occurred on the property since those reports were prepared. In his summary, Mr. Skenfeld stated that since the project site lies within a hydraulically mined area, its vegetative cover is a unique combination of trees, shrubs and herbaceous plants that were able to establish themselves on the highly eroded topography. Based on a detailed survey, Mr. Skenfeld concluded that “there is no rare, threatened or endangered species to be protected on the site.” Mr. Skenfeld further stated that “there is no habitat for any threatened or endangered species of wildlife on the project site.

c. HYDROLOGY

The site is somewhat unique in that a series of ephemeral drainages feed into drainage tunnels that open onto the cobble bars above the Yuba River, relics of the property’s hydraulic mining past. Nevada Irrigation District also releases excess water from the Meade Canal into the site on occasion. Though there is evidence minor erosion has occurred in the vicinity of the stockpiled sand material, and areas alongside the haul road, water observed exiting the property through the drainage tunnels has shown no signs of turbidity, and percolates into the cobble bars well before impacting the Yuba River watershed (see Holdrege and Kull’s ‘Response to Comments’ letter dated July 1, 2005 (Appendix VIII) .

Three ponds, two of which appear to have been of post-SMARA construction, are fed by groundwater, and contribute to the biotic and aesthetic attributes of the site (see photo 1, following page) These ponds do not receive significant surface run-off, and show minor evidence of sedimentation. Downstream, two detention basins (see photo 2 following page) that likewise receive little surface run-off hold water only seasonally, though are developing vegetation indicative of perennially moist soils and also appear to be contributing significantly to the biotic attributes of the site

In an analysis of groundwater for dissolved oxygen and turbidity contained in their Reclamation Plan 99-01, dated January 21, 2002 (Appendix I) Holdrege and Kull indicated that dissolved oxygen in water samples collected on the site were within typical ranges of saturation.



Photo 1 – Upper Ponds (Three)



Photo 2 – Lower Sediment/ Detention Basin

5. RECLAMATION PLAN OBJECTIVES

This is a plan for closure of the mine and reclamation of the site to its pre-SMARA open space values. The reclamation plan focuses on the following primary objectives:

a. EROSION CONTROL AND WATER QUALITY

The reclamation plan addresses erosion control and water quality in the following ways:

- i. The site's existing two detention basins will be maintained and an additional detention basin will be developed, providing settling and desiltation of run-off prior to entering the conveyance tunnels and from there the cobblefields above the Yuba River.
- ii. The erosive drainage swale adjacent to the haul road is specified to be cobble-lined, reducing its erosion-generating potential.
- iii. A culvert will be provided to conduct run-off concentrating in the lower portion of the swale adjacent to the haul road across disturbed portions of the site and into a proposed detention basin.
 1. Sizing of the culvert is specified as 24" per the rational method as calculated in Appendix X :
- iv. The stockpiled sand piles will be spread over the site as topdressing over scarified soils, to improve soil texture and aid in germination.
- v. Slopes are specified to be graded to below their angle of repose, reducing erosion and restoring the land forms to a pre-mining appearance.
- vi. Unused roads and exposed slopes will be scarified and seeded.

b. PROTECTION OF WATER QUALITY

As noted above, the existing historic drainage patterns, with ephemeral drainages entering drainage tunnels that exit onto cobble bars some distance from the Yuba River, have served to protect the watershed's water quality. This reclamation plan will maintain these historic drainage patterns and augment them as follows:

- i. Drainage from existing roads will be directed into uphill v-ditches, and culverted into detention basins.
- ii. Drainage will be redirected to detention basins for sediment settling prior to entering the drainage tunnels.

c. REMOVAL OF MINING EQUIPMENT, ABANDONED VEHICLES, SCRAP METAL AND TRASH

The abandoned vehicles, scrap metal and trash on site, and much of the mining equipment, have been removed.

d. PRESERVATION OF PRE-SMARA HISTORIC MINING RESOURCES

The site has a rich mining history, remnants of which remain intact and provide significant historic and cultural value. The existing hydraulicked escarpments, the drainage tunnels, the concrete foundations of pre-SMARA mining equipment and the numerous 'Chinese' stacked stone walls are all resources of value that have been identified and protected by this reclamation plan.

e. PRESERVATION OF BIOTIC RESOURCES

The site has areas identified of particular biotic value, among which are emergent wetlands and the swallow nesting habitat along the escarpment. These areas have been identified and protected by this reclamation plan.

f. RESTORATION OF PRE-SMARA LANDFORMS AND VEGETATION

This reclamation plan specifies the regrading of disturbed areas to form natural contours that will be topdressed with stockpiled sand and organic material generated from the grinding of the site's large stockpiles of tree stumps and slash, and then treated per the following specifications. It should be noted that the goal of this reclamation plan is to restore the site to open space and wild life habitat, not agricultural land, and the seed treatment has been selected appropriate to that goal. (See Appendix III, Natural Resources Conservation Service letter regarding non-significant status of existing soils in region.)

- i. **Hydroseeding** of disturbed portion of site in late fall (October 15th to November 15th) with following:

1. All exposed soil on slopes less than 20% with native perennial grass mix for wildlife forage per following specifications:
 - a. California Brome – 6 lbs/acre
 - b. Blue Wildrye – 6 lbs/acre
 - c. California Barley – 6 lbs/acre
 - d. ‘Ichaboe Plus’ organic fertilizer (13-6-2) – 300 lbs/acre
 - e. Straw mulch
2. All exposed soil on slopes greater than 20% with native perennial/erosion controlling grass mix for wildlife forage and erosion control per following specifications:
 - a. California Brome – 6 lbs/acre
 - b. Blue Wildrye – 6 lbs/acre
 - c. California Barley – 6 lbs/acre
 - d. Annual Ryegrass – 10 lbs/acre
 - e. Blando Brome – 10 lbs/acre
 - f. ‘Ichaboe Plus’ organic fertilizer (13-6-2) – 300 lbs/acre
 - g. Straw mulch with tackifier
 - h. Shrub seedling plantings from T-4 containers @ 100 plants/acre of:
 - i. Pinus ponderosa
 - ii. Quercus kelloggii
 - iii. Heteromeles arburifolia
 - iv. Rhamnus californica
 - v. Quercus wislizeni
 - vi. Arctostaphylos viscida
 - vii. Baccharis pilularis **and/or**
 - viii. Ceanothus cuneatus
3. Treatment shall be considered a success when:
 - a. during the fall after application the seed and mulch shall cover all exposed soil with an average thickness of 1-1/2”
 - b. treatment area exhibits minimum 80% cover, density and species-richness as compared to site baseline data
 - i. baseline data to be collected from one-acre undisturbed area on site by qualified biologist
 - ii. data to be collected annually from one-acre sample plot within treatment area until performance standard is met
4. Remedial measures shall be taken when:
 - a. Straw mulch shows exposed soil over greater than 20% of an inspection plot. Additional straw application shall than be made.

- b. Spring development of grass weighs less than the crop of endemic grasses on unimpacted grassland. Seeding and fertilizing shall be repeated the following fall with a seeding rate of 30 lbs/acre and a fertilization rate of 300 lbs/acre.
 - c. Less than 80% of seedlings planted are growing in a healthy condition. Additional seedlings to be replanted as required.
- g. **Weed control** of noxious weeds, particularly *Aegilops triuncialis* (Goatgrass) and *Centaurea solstitialis* (Yellow Star Thistle)
 - i. Primary control of noxious weeds will be cultural, through establishment of vigorous stands of competitive, non-noxious species throughout infested areas.
 - ii. Treatment will be considered a success when:
 - 1. Recorded areas of infestation decrease 10% annually
 - a. Areas of infestation to be mapped annually.
 - 2. Remedial actions shall be taken when:
 - a. Areas of infestation fail to decrease 10% annually
 - iii. Remedial actions to include:
 - 1. Reseeding and fertilization at seeding rate of 30 lbs/acre and a fertilization rate of 300 lbs/acre and/or:
 - 2. Manual eradication and/or
 - 3. Chemical eradication along perimeters of infestation.

h. MONITORING

Pursuant to CCR Section 2773(a), the success of reclamation will be monitored for three years, or 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. Remedial measures will be implemented as necessary to achieve the performance standards. A Reclamation Consultant or other qualified professional shall visit the site upon completion of reclamation treatments while equipment and reclamation contractors are still on site. Work completed shall be compared to aforementioned success. Remedial measures shall be taken if necessary. A report shall be submitted to the Lead Agency.

6. RECLAMATION PLAN SPECIFICATIONS

The Amended Reclamation Plan is specified in the following construction documents (see Appendix IV, Blue Point Mine Construction Documents):

- a. **A-E Bluepoint Mine Reclamation Site Plan:** This Sheet identifies subareas within the disturbed area and specifies their reclamation treatment. Locations of reference photographs are keyed on this sheet as well (see Appendix V, Blue Point Mine Reference Photographs.)

- b. **RP-2 (F) Bluepoint Mine Reclamation Grading Plan:** This Sheet specifies the grading which is to occur within the disturbed area. This sheet is folded in the back sleeve of the binder.

7. 2004 SMARA MINE INSPECTION

On October 12, 2004, Steven Testa of Testa Environmental Corporation performed an annual SMARA Mine Inspection (see Appendix VI, 2004 SMARA Mine Inspection, Blue Point Mine.) Mr. Testa's made the following observations in his Section 8.0 'Corrective Measures/Violations':

- a. **'No topsoil management program is in place...'** – No additional mining-related activity will take place on this site that might require topsoil management. However, this reclamation plan does specify the distribution of graded and stockpiled topsoil over the disturbed area to be seeded.
- b. **'No erosion control measures are in place...'** – This reclamation plan specifies erosion control measures to be implemented.
- c. **'No revegetation program has been implemented...'** – This reclamation plan specifies a revegetation program to be implemented.
- d. **'Health and safety concerns exist in regards to existing tunnel portals...'** – This reclamation plan specifies grating of existing tunnel portals.
- e. **'Several slope instability concerns were observed and require analysis...'** – The areas of potential slope instability are a result of pre-SMARA mining activity, most from pre-1900 hydraulic mining, therefore beyond the required purview of this reclamation plan. However, inspection of the areas of concern by a geotechnical engineer concluded that the slopes presented no concern to public health and safety, and that in the event of future development setbacks should be provided. (See Appendix I, Holdrege & Kull Geologic Engineers Reclamation Plan 99-01 For Conditional Use Permit 99-13 for Blue Point Mine, 1/21/2002)
- f. **'Since mining-related activities have ceased with no plans to resume such activities, reclamation should commence promptly.'** – Reclamation is in progress. All mining equipment, abandoned automobiles, scrap metal and trash have been removed from the property. Upon the end of the rainy season grading activities as specified by this reclamation plan will commence, with hydroseeding anticipated in the fall of 2005.

8. FINANCIAL ASSURANCES

A financial assurance is currently on file for the amount of \$207,189.00, as approved by SMGB in 2004. Subsequent to that filing, two general contracting firms have bid the improvements specified within this Amended Reclamation Plan (see Appendix IX, Reclamation Plan Cost Estimates.)

Robinson Enterprises, Inc. submitted the following cost estimate for the work, exclusive of hydroseeding:	\$205,137.00
Hudson Excavation, Inc. submitted the following cost estimate from the work, exclusive of hydroseeding:	\$173,449.50
Hydroseeding can be estimated at \$1,500 per acre * 33.78 acres:	\$ 50,670.00
Five year monitoring of revegetation and noxious weed eradication at \$2,000 per year * 5 years:	\$ 10,000.00
Barricading of two tunnel entrances at \$500 apiece	\$ 1,000.00
Per the above estimates provided by Hudson Excavation, Inc the appropriate financial assurance for the Amended Reclamation Plan is:	\$ 235,119.50.

9. OWNER'S CONSENT & STATEMENT OF RESPONSIBILITY

I, the undersigned, owner and operator of the subject property, hereby agree to accept full responsibility for reclamation of all mined lands as described and submitted herein and in conformance with the applicable requirements of Articles 1 and 9 (commencing with Sections 3500 et seq. and 3700 et seq. respectively) of Chapter 8 of Division 2 of Title 14 of the California Code of Regulations, the Surface Mining and Reclamation Act commencing with Section 2710 et seq., and with any modifications requested by the administering agency as conditions of approval.

Signed,

Blue Point Partners, Inc.,
Brian Bisnett, representative

SITE PHOTOS



Photo 1 – wrecked cars



Photo 2 – quarry equipment



Photo 3 – operations trailer



Photo 4 – quarry equipment



Photo 5 - trash



Photo 6 – sand stockpile



Photo 7 – sand stockpile & equipment



Photo 8 – gravel stockpile & equipment



Photo 9 – gravel processing equipment



Photo 10 – sand stockpiles



Photo 11 – sand stockpiles



Photo 12 – eroding sand stockpiles



Photo 13 – cobble stockpiles



Photo 14 – sand stockpiles



Photo 15 – gravel processing equipment



Photo 16 – lower detention pond



Photo 17 – rock stockpile area



Photo 18 – historic hydraulic escarpment