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October 29, 2013

Ref.: 2010-084

Mr. Pete Jones  
On-Scene Coordinator  
USDA Forest Service, Region 6  
645 Washington Street  
Ashland, Oregon 97520

Technical Memorandum  
October 2013 Site Inspection Report  
Blue Ledge Mine  
Rogue River-Siskiyou National Forest

Dear Mr. Jones:

Engineering/Remediation Resources Group, Inc. (ERRG) is submitting this technical memorandum summarizing the site inspection performed on October 14, 2013 at the Blue Ledge Mine site. ERRG performed the site inspection in accordance with the operations, maintenance, and monitoring (OM&M) requirements for the Blue Ledge Mine site under U.S. Department of Agriculture Forest Service (Forest Service) Contract No. GS-10F-0294R, Delivery Order No. AG-0489-D-10-0126. For a full list of elements inspected, please see the attached site inspection checklist ([Enclosure 1](#)), overall site plan ([Enclosure 2](#)), and photographic log ([Enclosure 3](#)).

### **Background**

In 2010, ERRG was contracted to perform a removal action to remove waste rock from four waste rock piles (WRPs) near the mine adits. The waste rock was relocated to a newly constructed onsite repository. The repository was capped after the waste rock had been removed from the WRPs. Disturbed soil areas within the reclamation areas were revegetated with native species. Nine pH treatment and sediment basins were constructed below the WRPs to capture sediment and to treat mine drainage prior to discharge into Joe Creek. ERRG was contracted to perform OM&M of the repository cap and structures constructed to control erosion and treat mine drainage, as outlined in the Removal Action Work Plan (RAWP)<sup>1</sup>. The RAWP specifies that site inspections will be performed after rain events generating greater than 0.5 inches of precipitation, as recorded by nearby representative weather stations, and on a monthly basis when the site is accessible, which is generally between April through October.

During each site inspection, ERRG reviews the following elements:

- Integrity of the reclamation areas
- Areas where erosion or deterioration has occurred since the last site visit
- Condition of the erosion control and sediment control measures
- Integrity of constructed site elements (documented via photographs)

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<sup>1</sup> ERRG, 2010. "Removal Action Work Plan, Non-Time-Critical Removal Action for Former Blue Ledge Mine Site, Siskiyou County, California."

- Condition of reclamation plantings
- Needed maintenance and repairs

**Summary of Site Inspection**

ERRG inspected all reclamation areas during the October 2013 site inspection. The reclamation areas were observed to be intact and in good functioning condition. The BMPs to control erosion were in good condition. No additional erosion had occurred since the September 2013 inspection in all reclamation areas.

The repository had no new erosion. No new erosion was observed on the incoming Forest Road 1060 and haul roads. Overall, the roads were in very good shape. The stockpile areas and WRPs 1, 2, 3, and 4 were observed to have no new erosion. All sediment basins have minimal accumulated sediment. Repository drain outlets were inspected and were found to not be plugged. No water was observed to be discharging from the drain outlets. The discharge pipe from the underdrain under the repository was also dry. The screens at the anchor trench drain outlets which had been damaged and were repaired with a second layer of galvanized mesh screen placed over the three drain outlets have new evidence of animals scraping through the screen. ERRG will find and install a heavier-duty wire screen to cover the outlets that should be more resistant to small animals.

The following table shows the pH of the EPA treatment basin, above basin 1F through 1A. No water was observed coming from WRP-2 to basins 2A and 2B or from WRP-3 into or below basin 3, thus no samples were collected from these locations during this site inspection.

**Table 1. pH of Sediment Treatment Basins**

WRP-1		WRP-2		WRP-3	
Joe Creek	7.4	2A-below	NS	3-below	NS
1A	5.5	2A-above	NS	3-above	NS
1B	5.0	2B-below	NS		
1C	4.3	2B-above	NS		
1D	4.3				
1E	4.8				
1F	4.7				
1F-above	4.7				

Note:

NS = no sample was collected at that location because there was no evidence of water.

The pH of the water in the WRP-1 drainage entering basin 1F was slightly higher than the pH 4.53 concentration measured in September 2013. The limestone in the basins appears to be successful in raising the pH prior to entry into Joe Creek.

The acid seep previously entering the east side of basin 1F is being captured by the USEPA acid seep collection basin. The water seeping from adit A1N2 has been diverted by the USEPA to flow down the face of the WRP-1 bedrock to run to the acid seep collection basin. The pH in the USEPA acid seep basin was measured at 3.65, which is 0.16 higher than the September 2013 measurement. The water in the acid seep collection basin is diverted into piping which runs into the treatment building before discharging

above basin 1D. The overflow spillway is currently not functioning as all water entering this basin is being diverted through the treatment system.

Reclamation plants were inspected in all areas to monitor the survival and health of the plants. All areas have low plant mortality. Most surviving trees and shrubs appeared to be healthy. Plants that have died since the 2012 inspection are randomly distributed and of random species. At WRP-1 the upper tier of the reclamation area is devoid of plants, likely due to seepage of acidic mine drainage from the adjacent bedrock. This area is approximately 20 feet by 30 feet and no plants have survived.

There is good diversity of surviving species distributed in each area. Maple leaves are turning to fall colors. Willows have lost their leaves. Alders still have their leaves for this inspection. Plant mortality at all areas was random with no large areas devoid of plants. Grasses have become established at all reclamation areas. Grasses at WRP-3 are patchy due to the steep, loose-rock exposures at this location.

Table 2 summarizes the count of dead plants in relation to the extra trees and shrubs planted in excess of the minimum number specified for each area. Plant survival in areas not exposed to mine waste ranges from 87% to 99%. The North Storage Area survival rate is likely lower because the area is rockier and a harsher exposure than the other areas not exposed to mine waste. Plant survival in former waste rock areas is generally consistent across all areas and ranges from 74% to 80%. The 7% to 25% lower survival rate in former waste rock areas is likely due to less available organic material in the soil, lower soil pH from residual waste rock impacts, and harsh exposures on steep and rocky slopes not shaded by mature trees and other vegetation. Estimated contract coverage shows the number of surviving plants compared to the design number of plants required for each area. Overall there are 108% surviving plants compared to the design.

**Table 2. Reclamation Planting Mortality Assessment**

Location	Initial Plants Oct 2011	Dead Plants Sept 2012	Extra Trees and Shrubs Planted 2011	New Plants Oct 2012	Estimated New Mortality Oct 2013	Estimated Total Survival %	Estimated Contract Coverage %
Repository (slope only)	4992	1,788	148	1640	Est. 5% 242	92%	95%
Repository Stockpile Area	443	50	7	50	5	99%	99%
North Storage Area	1366	165	172	0	12	87%	99%
South Storage Area	490	39	151	0	0	92%	133%
Rock Stockpile Area	237	1	2	0	2	99%	99%
WRP-1	241	39	49	0	23	74%	93%
WRP-2	24	3	0	0	3	75%	75%
WRP-3	1067	138	370	0	50	80%	126%
WRP-4	788	150	420	0	29	77%	175%

Notes:

Plant counts were conducted on September 25, 2012 and October 14, 2013.

In October 2012 1,640 new shrubs were planted on the repository slope and along the south end and southwest corner to replace shrubs that had died. An additional 50 plants were installed at the repository stockpile. The majority of repository replacement plants have survived, but have been heavily browsed by deer. Repository shrubs appear stunted due to the heavy browsing. The shrubs were treated with big game repellent after planting in October 2012 and again in the spring of 2013, but the deer are continuing to browse the plants.

Evidence of animal browsing was observed in the incense cedars planted on the north stockpile area. The cedars appear similar in size to the pine and fir planted in the area. Browsing was not noted on plants in any other areas.

Numerous maple and fir volunteer natural seedlings were observed on many of the reclamation areas and haul roads.

The depth to water in the repository sump during the site inspection on October 14, 2013, was measured at 249.5 inches below the rim which is 0.5 inches higher than the measurement from the September 2013 Site Inspection. The total depth to the bottom of the sump is 326 inches. Therefore there is 76.5 inches of water in the sump.

Site access gates and locks are in good condition, and no evidence of unauthorized access was observed during this site inspection. For a full list of elements inspected, please see the attached site inspection checklist ([Enclosure 1](#)), and photographic log ([Enclosure 3](#)).

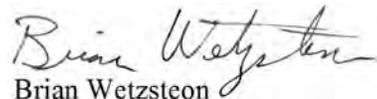
The 2013 fish and macroinvertebrate sampling in Joe Creek and Elliott Creek was performed during this inspection visit. The fall 2013 drinking water, stream water, and stream sediment sampling was also conducted during this period. Sample results will be provided with the Biannual Removal Action Monitoring Report.

If you have any questions or need additional information, please do not hesitate to contact Brian Wetzsteon at [brian.wetzsteon@errg.com](mailto:brian.wetzsteon@errg.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Annica Nord".

Annica Nord, LG  
Project Geologist

A handwritten signature in black ink, appearing to read "Brian Wetzsteon".

Brian Wetzsteon  
Northwest Construction Manager

AN/bw

Encl.: [Enclosure 1](#) – October 2013 Blue Ledge Mine Inspection Checklist  
[Enclosure 2](#) – Overall Site Plan  
[Enclosure 3](#) – October 2013 Site Inspection Photographic Log

cc: ERRG Project File

**Enclosure 1.      October 2013 Blue Ledge Mine  
Inspection Checklist**

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**BLUE LEDGE MINE  
INSPECTION CHECKLIST**

**MONTHLY INSPECTION**  
**Month: October, Year: 2013**

**BLUE LEDGE MINE MONTHLY INSPECTION CHECKLIST**

Month: October Year: 2013

**Blue Ledge Mine Removal Project  
Siskiyou County, California  
Operation, Maintenance, and Monitoring Period**

*NOTE: All photographs associated with this checklist were taken on October 14, 2013; Refer to Enclosures 2 and 3 in the inspection letter.*

**Repository**

1. Inspect the silt fence, wattles, and other BMPs at the Repository and Repository Stockpile Area (see Enclosure 2). Do BMPs require repair or replacement?  Yes\*  No

*\*If yes, repair or replace damaged components and make recommendations to reduce future damage. A listing of approved BMPs for implementation is shown in Appendix G of the SWPPP.*

Comments: All SWPPP controls are in place and functioning. No evidence of any erosion.

2. Inspect repository cover soil. Is there evidence of excessive or preferential erosion (see Enclosure 2)?  Yes\*  No

*\*If yes, notify project manager and place temporary BMPs to minimize further erosion until a solution can be found. A listing of approved BMPs for implementation is shown in Appendix G of the SWPPP.*

Comments: Wattles, Flexterra, and bark are functioning on the repository.

3. Inspect the repository access road (see Enclosure 2). Are there any areas of excessive erosion or other areas where the road requires repair?  Yes\*  No

*\*If yes, notify project manager of potential need for repair.*

Comments: \_\_\_\_\_

4. Inspect repository leachate sump tank and cap (see Enclosure 2). Is the sump and cap in good condition and locked? Is liquid present in the sump?  Yes  No\*

*\*If no, take several pictures of damage and make repairs to fix or secure prior to leaving site (if possible). If liquid is in the sump, measure the depth (requires a minimum 30-foot tape measure). Collection of a liquid sample may be required for profiling and disposal.*

Comments: Depth to water is 249.5 inches from the rim, bottom of sump is 326 inches, total water depth 76.5 inches. pH of the water is 4.25.

5. Inspect anchor trench drainage pipes and the repository underdrain where they daylight (see Enclosure 2). Is the screening damaged or is there evidence of the pipes being blocked?  Yes\*  No

*\*If yes, unblock pipe and/or repair screen.*

Comments: The southernmost anchor trench drain pipe is not blocked but no water is flowing from the drain. The screen was previously repaired with a second layer of screen over the pipe however, animals have scraped through the second layer. The underdrain is not blocked and is dry.

6. Inspect the repository stormwater drain ditch (see Enclosure 2). Is the stormwater drain ditch damaged or is there evidence of any portion of the stormwater drain ditch being blocked? Yes\* No

*\*If yes, unblock ditch.*

Comments: \_\_\_\_\_

7. Inspect plants in the repository and repository stockpile area (see Enclosure 2). Is there evidence that animals have browsed on the plants? Yes\* No

*\*If yes, reapply Big Game Repellant to prevent further browsing. A listing of grass seeds, fertilizers, animal repellants, and other reclamation products is shown in Appendix G of the SWPPP.*

Comments: Plants appear healthy. The plants are small as a result of heavy browsing by deer but remain alive. Grass is brown as a result of the lack of rain over the summer.

8. Have plants died in the Repository and Repository Stockpile Areas (see Enclosure 2)? Yes\* No

*\*If yes, estimate number of plants and record it in the comments. The total number of plants installed at the repository and repository stockpile areas are shown in the RACR.*

Comments: The grass appears to be well established. Currently the grass is brown as a result of the lack of rain during the summer. The majority of repository replacement plants (planted in October 2012) have survived, but have been heavily browsed by deer. Repository shrubs appear stunted due to the heavy browsing.

9. Inspect Flexterra and grass seeded areas on the repository (see Enclosure 2). Are any repairs needed or invasive species present? Yes\* No

*\*If yes, identify areas for repair or pull weeds and dispose of properly.*

Comments: The grass appears to be well established. Currently the grass is brown as a result of the lack of rain over the summer.

### North Storage Area

1. Inspect road leading to the Repository and North Storage Area (see Enclosure 2). Is there evidence of excessive erosion? Are the water bars damaged? Yes\* No

*\*If yes, apply temporary BMPs and make recommendations for repair. A listing of approved BMPs for implementation is shown in Appendix G of the SWPPP.*

Comments: The water bars are in good condition.

2. Inspect the silt fence, wattles, and other BMPs at the North Storage Area (see Enclosure 2). Do BMPs require repair or replacement? Yes\* No

*\*If yes, repair or replace damaged components and make recommendations to reduce future damage. A listing of approved BMPs for implementation is shown in Appendix G of the SWPPP.*

Comments: \_\_\_\_\_

3. Inspect Flexterra and grass seeded areas on the North Storage Area (see Enclosure 2). Are any repairs needed or any invasive species present? Yes\* No

*\*If yes, identify areas for repair or pull weeds and dispose of properly.*

Comments: Grass is brown from the lack of rain over the summer but appears to be established.

4. Inspect plants in the North Storage Area (see Enclosure 2). Have animals browsed on the plants? Yes\* No

*\*If yes, reapply Big Game Repellant to prevent further browsing. A listing of grass seeds, fertilizers, animal repellents, and other reclamation products is shown in Appendix G of the SWPPP.*

Comments: Evidence of animal browsing was observed in the incense cedars planted on the north storage area. The cedars appear similar in size to the pine and fir planted in the area.

5. Have any plants died in the North Storage Area (see Enclosure 2)? Yes\* No

*\*If yes, estimate number of plants and record it in the comments. The total number of plants installed at the North Storage Area is shown on Enclosure 2.*

Comments: This area has sufficient live plants. Plants look healthy. Very few plants appear to be dying. 99% of the plants are alive.

### South Storage Area

1. Inspect the silt fence, wattles, and other BMPs at the South Storage Area (see Enclosure 2). Do BMPs require repair or replacement? Yes\* No

*\*If yes, repair or replace damaged components and make recommendations to reduce future damage. A listing of approved BMPs for implementation is shown in Appendix G of the SWPPP.*

Comments: The uphill fence is no longer needed and was previously removed.

2. Inspect plants in the South Storage Area. Have animals browsed on plants? Yes\* No

*\*If yes, reapply Big Game Repellent to prevent further browsing. A listing of grass seeds, fertilizers, animal repellents, and other reclamation products is shown in Appendix G of the SWPPP.*

Comments: Plants are growing and becoming established.

3. Have any plants died in the South Storage Area (see Figure P-5)? Yes\* No

*\*If yes, estimate number of plants and record it in the comments. The total number of plants installed at the South Storage Area is shown on Figure P-5.*

Comments: The plants are green and appear healthy.

4. Inspect Flexterra and grass seeded areas along Joe Creek (see Figure P-5). Are any repairs needed or any invasive species present? Yes\* No

*\*If yes, identify areas for repair or pull weeds and dispose of properly.*

Comments: \_\_\_\_\_

### Rock Stockpile Area

1. Inspect the silt fence, wattles, and other BMPs at the Rock Stockpile Area (see Figure P-6). Do BMPs require repair or replacement?  Yes\*  No

*\*If yes, repair or replace damaged components and make recommendations to reduce future damage. A listing of approved BMPs for implementation is shown in Appendix H of the SWPPP.*

Comments: There is no existing silt fence. The ground is vegetated and appears to be stable.

2. Inspect plants in the Rock Stockpile Area (see Figure P-6). Have animals browsed on the plants?  Yes\*  No

*\*If yes, reapply Big Game Repellent to prevent further browsing. A listing of grass seeds, fertilizers, animal repellents, and other reclamation products is shown in Appendix G of the SWPPP.*

Comments: Plants appear healthy.

3. Have any plants died in the Rock Stockpile Area (see Figure P-6)?  Yes\*  No

*\*If yes, estimate number of plants and record it in the comments. The total number of plants installed at the south storage area is shown on Figure P-6.*

Comments: 99% of the plants remain alive and healthy.

4. Inspect Flexterra and grass seeded areas (see Figure P-6). Are any repairs needed or any invasive species present?  Yes\*  No

*\*If yes, identify areas for repair or pull weeds and dispose of properly.*

Comments: The grass is tall. The grass is brown as a result of the lack of rain over the summer.

### Forest Service Roads and Haul Roads

1. Are there areas of Forest Service Road 1060 that have experienced excessive erosion?  Yes\*  No

*\*If yes, document road condition with photographs and install temporary BMPs to help minimize further erosion. A listing of approved BMPs for implementation is shown in Appendix G of the SWPPP.*

Comments: \_\_\_\_\_

2. Are culverts along Forest Service Road 1060 marked and draining properly?  Yes  No\*

*\*If no, perform necessary maintenance or repair to culvert to return to good working condition.*

Comments: The culverts have been marked and are clear for drainage.

3. Inspect haul roads 1, 2, 3, and 4; the miner's trail parking area; and the decommissioned haul roads 2 and 4 (see Enclosure 2). Are there areas of excessive erosion? Are water bars damaged?  
 Yes\*  No

*\*If yes, place temporary BMPs and repair damaged water bars. A listing of approved BMPs for implementation is shown in Appendix G of the SWPPP.*

Comments: \_\_\_\_\_

4. Inspect BMPs along Haul Roads 1, 2, 3, and 4; the miner's trail parking area; and the decommissioned Haul Roads 2 and 4 (see Enclosure 2). Are BMPs in good condition?  Yes  No\*

*\*If no, repair and/or replace BMPs as necessary. A listing of approved BMPs for implementation is shown in Appendix G of the SWPPP.*

Comments: \_\_\_\_\_

5. Inspect areas of Haul Roads 1, 2, 3, and 4; the miner's trail parking area; and the decommissioned Haul Roads 2 and 4 (see Enclosure 2). Record grass growth progress. Are there bare areas that require reseeding?  Yes\*  No

*\*If yes, reseed bare areas. A listing of grass seeds, fertilizers, animal repellents, and other reclamation products is shown in Appendix G of the SWPPP.*

Comments: Grass is growing on the roads. Numerous maple and fir volunteer natural plants were observed on the haul roads.

### Waste Rock Pile 1

1. Inspect log wattles, straw wattles, and other BMPs at the reclamation areas on WRP-1 (See Enclosure 2). Are all BMPs in good condition?  Yes  No\*

*\*If no, repair and/or replace BMPs as necessary. A listing of approved BMPs for implementation is shown in Appendix G of the SWPPP.*

Comments: Straw wattles are in good condition and in place.

2. Inspect Flexterra and grass seeded areas at the reclamation areas on WRP-1 (see Enclosure 2). Are any repairs needed or any invasive species present?  Yes\*  No

*\*If yes, identify areas for repair or pull weeds and dispose of properly.*

Comments: \_\_\_\_\_

3. Inspect plants at the reclamation areas on WRP-1 (see Enclosure 2). Have animals browsed on the plants?  Yes\*  No

*\*If yes, reapply Big Game Repellent to prevent further browsing. A listing of grass seeds, fertilizers, animal repellents, and other reclamation products is shown in Appendix G of the SWPPP.*

Comments: . \_\_\_\_\_

4. Have any plants at the reclamation areas died on WRP-1 (see Enclosure 2)? Yes\* No

*\*If yes, estimate number of plants and record it in the comments. The total number of plants installed at WRP-1 is shown on Enclosure 2.*

Comments: The upper tier of the reclamation area is devoid of plants, likely due to seepage of acidic mine drainage from the adjacent bedrock. This area is approximately 20 feet by 30 feet and no plants have survived.

5. Are there areas of excessive erosion on WRP-1 (see Enclosure 2)? Yes\* No

*\*If yes, apply temporary BMPs. A listing of grass seeds, fertilizers, animal repellents, and other reclamation products is shown in Appendix G of the SWPPP.*

Comments: \_\_\_\_\_

6. Inspect each sediment treatment basin at WRP-1 (see Enclosure 2). For each basin, record the volume of sediment accumulated (as a percentage of capacity), the amount of fouled limestone (in inches), and the pH of water as listed below (if any). Record and photograph any excessive erosion in or around the sediment basin.

Sediment Treatment Basin 1A (closest to Joe Creek):

Accumulated sediment: 0%

Fouled limestone: N/A

pH in basin 1A: 5.5

pH below basin 1A: 7.4 (measured in Joe Creek. There was no access to water after basin 1A and before Joe Creek)

Water depth: 2 inches

Excessive erosion around the basin? Yes\* No

Sediment Treatment Basin 1B:

Accumulated sediment: 5%

Fouled limestone: N/A

pH in basin 1B: 5.0

Water depth: 12 inches

Excessive erosion around the basin? Yes\* No

Sediment Treatment Basin 1C:

Accumulated sediment: 10%

Fouled limestone: N/A

pH in basin 1C: 4.3

Water depth: 2 inches

Excessive erosion around the basin? Yes\* No

Sediment Treatment Basin 1D:

Accumulated sediment: 10%

Fouled limestone: N/A

pH in basin 1D: 4.3

Water depth: 4 inches

Excessive erosion around the basin?  Yes\*  No

Sediment Treatment Basin 1E:

Accumulated sediment: 10%

Fouled limestone: N/A

pH in basin 1E: 4.8

Water depth: 2 inches

Excessive erosion around the basin?  Yes\*  No

Sediment Treatment Basin 1F:

Accumulated sediment: 10%

Fouled limestone: N/A

pH in basin 1F: 4.7

pH above basin 1F: 4.7

Water depth: 2 inches

Excessive erosion around the basin?  Yes\*  No

USEPA Acid Seep Collection Basin:

pH in basin: 3.65

**Waste Rock Pile 2**

1. Inspect wattles, silt fence, and other BMPs at the reclamation areas on WRP-2 (see Enclosure 2). Are all BMPs in good condition?  Yes  No\*

*\*If no, repair and/or replace BMPs as necessary. A listing of approved BMPs for implementation is shown in Appendix G of the SWPPP.*

Comments: Silt fence on the north (upper) side of sediment basins 2A and 2B were previously removed.

2. Inspect plants at the reclamation areas on WRP-2 (see Enclosure 2). Have animals browsed on the plants?  Yes\*  No

*\*If yes, reapply Big Game Repellent to prevent further browsing. A listing of grass seeds, fertilizers, animal repellents, and other reclamation products is shown in Appendix G of the SWPPP.*

Comments: \_\_\_\_\_

3. Have any plants at the reclamation areas died on WRP-2 (see Enclosure 2)?  Yes\*  No

*\*If yes, estimate number of plants and record it in the comments. The total number of plants installed at WRP-2 is shown on Enclosure 2.*

Comments: \_\_\_\_\_

4. Are there areas of excessive erosion on WRP-2?  Yes\*  No

*\*If yes, apply temporary BMPs. A listing of grass seeds, fertilizers, animal repellants, and other reclamation products is shown in Appendix G of the SWPPP.*

Comments: \_\_\_\_\_

5. Inspect each sediment treatment basin at WRP-2 (see Enclosure 2). For each basin, record the volume of sediment accumulated (as a percentage of capacity), the amount of fouled limestone (in inches), and the pH of the water as listed below (if any). Record and photograph any excessive erosion in or around the sediment basin.

Sediment Treatment Basin 2A:

Accumulated sediment: 0%

Fouled limestone: N/A

pH in basin 2A: Not measured; no water in the basin

pH above basin 2A: Not measured; no water in the basin

Water depth: No water in the basin.

Excessive erosion around the basin?  Yes\*  No

Sediment Treatment Basin 2B:

Accumulated sediment: 0%

Fouled limestone: N/A

pH in basin 2B: Not measured; no water in the basin

pH above basin 2B: Not measured; no water in the basin

Water depth: No water in the basin.

Excessive erosion around the basin?  Yes\*  No

**Waste Rock Pile 3**

1. Inspect log wattles, straw wattles, and other BMPs at the reclamation areas on WRP-3 (see Enclosure 2). Are all BMPs in good condition?  Yes  No\*

*\*If no, repair and/or replace BMPs as necessary. A listing of approved BMPs for implementation is shown in Appendix G of the SWPPP.*

Comments: Straw wattles are in place. Silt fence on the south (upper) side of sediment basin 3 was previously removed.

2. Inspect plants at the reclamation areas on WRP-3 (see Enclosure 2). Have animals browsed on the plants?  Yes\*  No

*\*If yes, reapply Big Game Repellent to prevent further browsing. A listing of grass seeds, fertilizers, animal repellents, and other reclamation products is shown in Appendix G of the SWPPP.*

Comments: \_\_\_\_\_

3. Have any plants at the reclamation areas died on WRP-3 (see Enclosure 2)?  Yes\*  No

*\*If yes, estimate number of plants and record it in the comments. The total number of plants installed at WRP-3 is shown on Enclosure 2.*

Comments: Grass is brown from the lack of rain over the summer but appears to be stable.

4. Are there areas of excessive erosion on WRP-3?  Yes\*  No

*\*If yes, apply temporary BMPs. A listing of grass seeds, fertilizers, animal repellants, and other reclamation products is shown in Appendix G of the SWPPP.*

Comments: \_\_\_\_\_

5. Inspect each sediment treatment basin at WRP-3 (see Enclosure 2). For each basin, record the volume of sediment accumulated (as a percentage of capacity), the amount of fouled limestone (in inches), and the pH of the water as listed below (if any). Record and photograph any excessive erosion in or around the sediment basin.

Sediment Treatment Basin 3:

Accumulated sediment: 0%

Fouled limestone: N/A

pH in basin 3: Not Measured. No water in basin

pH above basin 3: Not Measured. No water in basin

Water depth: No water in basin

Excessive erosion around the basin?  Yes\*  No

**Waste Rock Pile 4**

1. Inspect log wattles, straw wattles, and other BMPs at the reclamation areas on WRP-4 (see Enclosure 2). Are all BMPs in good condition?  Yes  No\*

*\*If no, repair and/or replace BMPs as necessary. A listing of approved BMPs for implementation is shown in Appendix G of the SWPPP.*

Comments: \_\_\_\_\_

2. Inspect plants at the reclamation areas on WRP-4 (see Enclosure 2). Have animals browsed on the plants?  Yes\*  No

*\*If yes, reapply Big Game Repellent to prevent further browsing. A listing of grass seeds, fertilizers, animal repellents, and other reclamation products is shown in Appendix G of the SWPPP.*

Comments: \_\_\_\_\_

3. Have any plants at the reclamation areas died on WRP-4 (see Enclosure 2)?  Yes\*  No

*\*If yes, estimate number of plants and record it in the comments. The total number of plants installed at WRP-4 is shown on Enclosure 2.*

Comments: Plants looks healthy.

4. Are there areas of excessive erosion on WRP-4? Yes\* No

*\*If yes, apply temporary BMPs. A listing of grass seeds, fertilizers, animal repellants, and other reclamation products is shown in Appendix G of the SWPPP.*

Comments: \_\_\_\_\_

5. Inspect the reinforced slope stability fabric area at WRP-4 (see Enclosure 2). Is the fabric in good condition? Yes No\*

*\*If no, perform maintenance or repair.*

Comments: \_\_\_\_\_

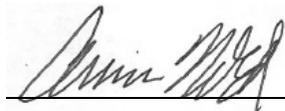
**Additional Notes (Time, temperature, wind direction, evidence of unauthorized access, condition of green gate, locks, and other observations)**

10/14/13 Time 8:00 a.m. to 3:30 p.m. The weather was sunny with a light breeze, temperature 70°F. The gates and locks were in good condition with no unauthorized access noted. The site is in very good condition. Streams appear to be running clear. A small amount of water was flowing through basins 1F through 1A. Basins 2A, 2B, and 3 were dry.

EPA treatment system above basin 1F appears to be functioning.

Annica Nord and Brian Wetzsteon  
Name of Inspector(s)

Engineering/Remediation Resources Group, Inc. (ERRG)  
Company

  
\_\_\_\_\_

Signature of Inspector

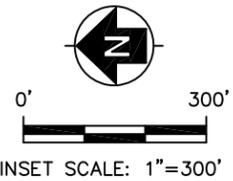
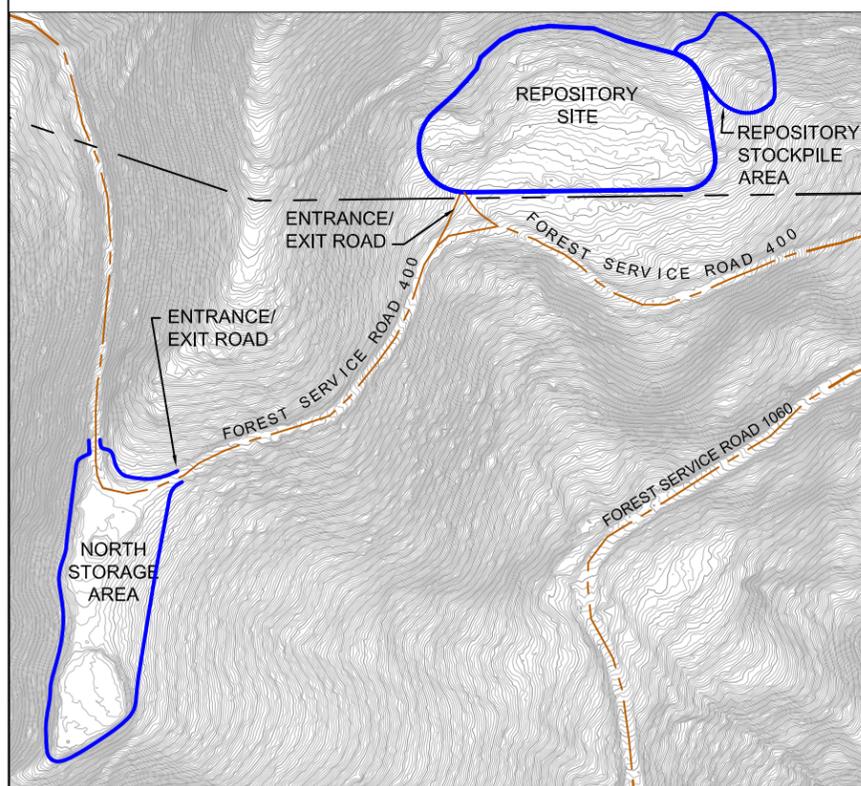
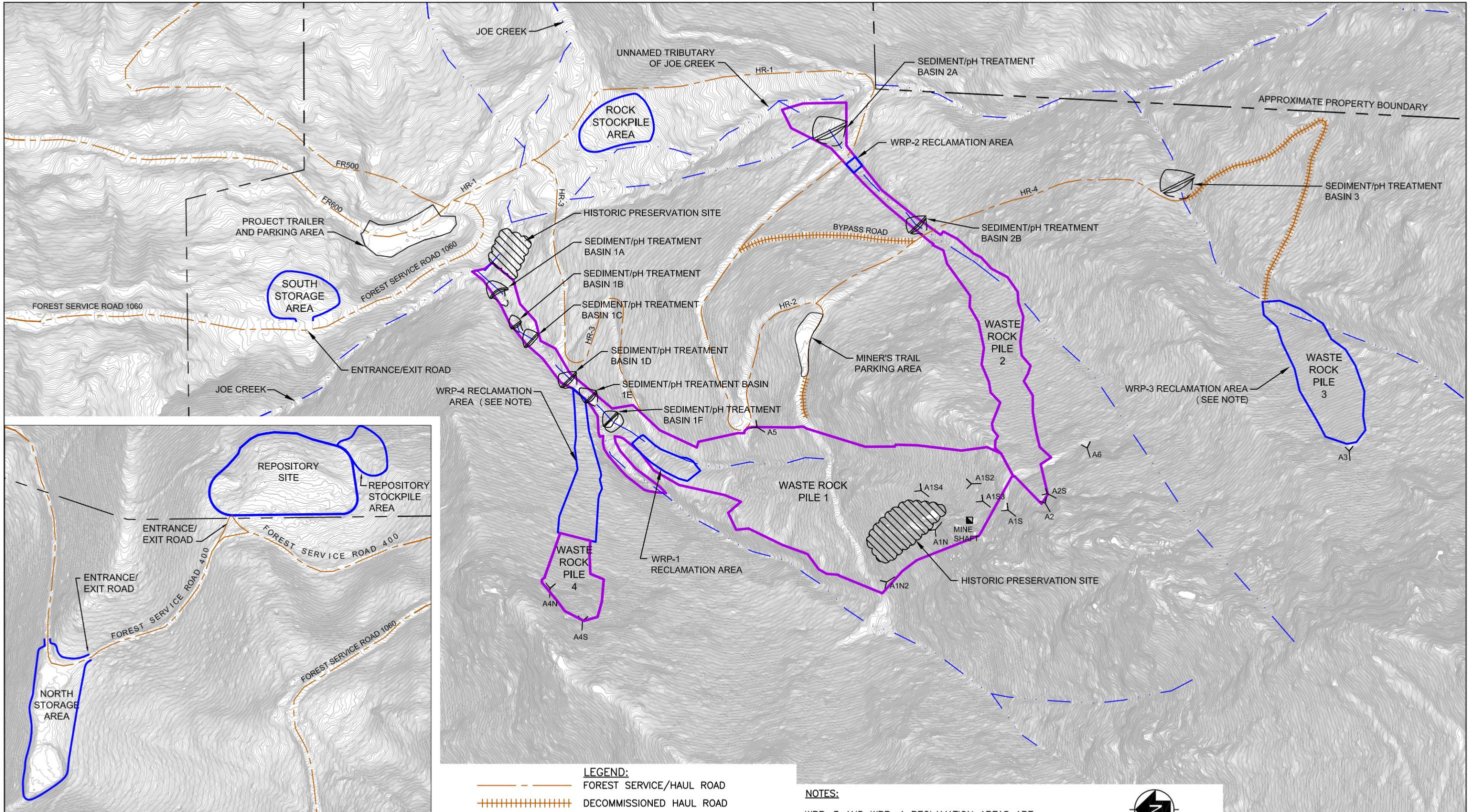
October 14, 2013

Date of Inspection

## **Enclosure 2. Overall Site Plan**

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FILE NAME: N:\Graphics\2010\2010-084 USFS Blueledge Mine\N\_Maps and Drawings\Final Report\Overall Site Plan 2.dwg LAYOUT NAME: 2 PLOTTED: Tuesday, May 29, 2012 - 11:08am



- LEGEND:**
- FOREST SERVICE/HAUL ROAD
  - DECOMMISSIONED HAUL ROAD
  - PROPERTY BOUNDARY
  - RECLAMATION AREA
  - STREAM
  - WASTE ROCK BOUNDARY REMOVAL LIMIT
  - APPROXIMATE LOCATION OF ADIT
  - APPROXIMATE LOCATION OF MINE SHAFT

**NOTES:**  
 WRP-3 AND WRP-4 RECLAMATION AREAS ARE ALSO THE WASTE ROCK BOUNDARY REMOVAL LIMITS.  
 FR = FOREST SERVICE ROAD  
 HR = HAUL ROAD

SOURCE: URS BLUE LEDGE MINE REMOVAL ACTION, DRAWING NO. 101, SHEET 7 OF 60, CAD FILE NO. 101, DATED: 2/2010.

<b>Engineering/Remediation Resources Group, Inc.</b> 4585 Pacheco Blvd, Suite 200 Martinez, California 94553 (925) 969-0750	<b>CLIENT:</b> USDA FOREST SERVICE	<b>OVERALL SITE PLAN</b>		
	<b>LOCATION:</b> BLUE LEDGE MINE REMOVAL ACTION	<b>DRAWN BY:</b> RDB 11/18/11	<b>CHECKED BY:</b> JGS 11/21/11	<b>PROJECT NO.</b> 2010-084

# **Enclosure 3.      October 2013 Site Inspection Photographic Log**

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**Photograph 1: Top of Repository looking south.**  
Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA  
Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 2: Repository slope and access road, facing southeast.**  
Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA  
Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 3: Repository stockpile looking south.**  
Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA  
Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 4: Shrubs browsed by deer on north end of repository.**  
Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA  
Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 5: North Storage Area pine, fir and cedar. Cedar browsed by deer.**

Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA

Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 6: South Stockpile Area looking east.**

Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA

Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 7: WRP 1 reclamation plants and grass.**  
Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA  
Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 8: WRP-1 area looking northeast from Adit A1S.**  
Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA  
Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 9: Reclaimed sediment disposal area near WRP-1.**

Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA

Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 10: Vegetation on abandoned haul road and miners trail parking area.**

Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA

Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 11: Bridge, silt fence, and haul road condition near Basin 2A.**

Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA

Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 12: Haul road winterized looking south from Rock Stockpile Area.**

Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA

Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 13: Natural regrowth seedlings (L-R) Fir, Maple, Cedar**

Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA

Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 14: WRP-2 looking east.**

Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA

Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 15: Typical plants on WRP-2.**  
Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA  
Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 16: Typical plants and patches of grass on WRP-3.**  
Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA  
Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 17: WRP-3 looking east showing plants and grass growth.**  
Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA  
Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 18: WRP-4 reclamation plants and grass.**  
Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA  
Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 19: Rock stockpile area, looking north.**  
Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA  
Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013



**Photograph 20: Sediment/pH Treatment Basin 1A.**  
Blue Ledge Mine, Rogue River - Siskiyou National Forest, CA  
Photographed by: Annica Nord (ERRG)

Date: October 14, 2013



**Photograph 21: Sediment/pH Treatment Basin 1B.**  
Blue Ledge Mine, Rogue River - Siskiyou National Forest, CA  
Photographed by: Annica Nord (ERRG)

Date: October 14, 2013



**Photograph 22: Sediment/pH Treatment Basin 1C.**  
Blue Ledge Mine, Rogue River - Siskiyou National Forest, CA  
Photographed by: Annica Nord (ERRG)

Date: October 14, 2013



**Photograph 23: Sediment/pH Treatment Basin 1D.**  
Blue Ledge Mine, Rogue River - Siskiyou National Forest, CA  
Photographed by: Annica Nord (ERRG)

Date: October 14, 2013



**Photograph 24: Sediment/pH Treatment Basin 1E.**  
Blue Ledge Mine, Rogue River - Siskiyou National Forest, CA  
Photographed by: Annica Nord (ERRG)

Date: October 14, 2013



**Photograph 25: Sediment/pH Treatment Basin 1F.**  
Blue Ledge Mine, Rogue River - Siskiyou National Forest, CA  
Photographed by: Annica Nord (ERRG)

Date: October 14, 2013



**Photograph 26: Sediment/pH Basin 1F and EPA acid seep collection basin.**  
Blue Ledge Mine, Rogue River-Siskiyou National Forest, CA  
Photographed by: Brian Wetzsteon (ERRG)

Date: October 14, 2013