Sunshine Mining Company

P. O. BOX 1080 PHONE: Area Code 208 -783-1211

Kellogg, Idaho
83837

February 21, 1984

Mr. Herman Bauer
Vice President - Exploration
Amoco Minerals Company
P.O. Box 3299
Englewood CO 80155

Dear Mr. Bauer:

Re: my letter of February 6, inquiring of the possibility of our participating in your Little North Santiam, Oregon and Northumberland, Nevada projects:

I have just learned that some recent Corporate policy decisions affecting our exploration activities will not permit us to undertake such projects for the foreseeable future. Accordingly, this letter is to ask that you disregard my earlier inquiry. I apologize for any inconvenience I might have caused you up to this point.

Very truly yours,

Gary L. Ojala

Gary L. Ojala
Manager of Exploration

Sunshine Mining Company

P. O. BOX 1080 PHONE: Area Code 208-783-1211

Kellogg, Idaho
83837

February 6, 1984

Mr. Herman Bauer
Vice President - Exploration
Amoco Minerals Company
P.O. Box 3299
Englewood CO 80155

Dear Mr. Bauer:

We have recently heard, through the "grapevine," that Amoco might be interested in dealing off or finding an operating venture partner for its Little North Santiam, Oregon Cu-Ag-Au deposit. (I have long had kind of a personal interest in that district, since it was about the first old mining area I visited, to collect samples, when I was an undergraduate student at Portland State.)

As I understand it, that deposit is of modest size and would require underground mining. It has occurred to my staff that Sunshine might be interested in such a deposit, since we are underground miners and do have the resources required to undertake medium-sized projects. Of course, any interest on our part would depend largely on the precious metals credits in the deposit.

If you are in fact seeking a participant for that project, I would be pleased to learn more about it. Perhaps you have some kind of brief, summary description we could study, as a first step. Then, if it is of further interest, we could discuss possible modes of participation. Also, we have a staff geologist in the Denver area who could visit your offices to review any more detailed information available, at a later date.

One other item -- can you divulge what your plans might be for the Northumberland project, Nevada, or whether or not you might be interested in a venture partner for that one?

Thank you very much for your consideration of these matters.

Very truly yours,

Gary L. Ojala
Manager of Exploration

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

To: E. V. Howard February 9, 1982

From: G. L. Ojala

Re: LITTLE NORTH SANTIAM DISTRICT HOLDINGS OF SHINY ROCK MINING CO.

Ref. attached memo of G. Sintay.

This is primarily lead/zinc, and appears to be of marginal grade and size. Normally, I think it would fall a little short of our search criteria. But in this case I believe it is just interesting enough that we should take a look at it, on the ground, when the snow goes off in the spring (if it is still available at that time). Reasons:

- Just enough silver and gold to make it interesting.
- Pretty good potential for substantially greater reserves than now known.
- Some veins in the area with much better copper content.
- Some veins in area with better precious metals content.
- It just could be that Amoco will (or has already) turn(ed) up some good vein deposits in the district as a result of their work the past couple years; maybe we could participate with them in some fashion throughout the district.

GLO

MEMORANDUM

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

TO: G. L. Ojala

January 8, 1982

FROM: G. W. Sintay

RE: Paper Review of the Shiny Rock Mining Corporation Mining Claims, Lester Mining District, Marion County, Oregon

INTRODUCTION

The Shiny Rock Mining Corporation ownes the Santiam No. 1, Mandalay, Ruth Nos. 1, 2, 4 and Morning Star Lode claims, and three mill sites; Hewitt, Poor Boy, and Starvation. The Santiam No. 1 and Mandalay are under lease contract to Amoco Minerals, a subsidiary of Standard Oil of Indiana. The lode claims Ruth 1, 2, 4, and three mill sites; Hewitt, Poor Boy, and Starvation are available for lease; and it is for the purpose of evaluating these claims, that this report is written.

POTENTIAL

A. Ruth Nos. 1 and 2 have probable ore reserves of 200,000 tons, possible ore reserves of 200,000 tons and the potential of finding more. The established mining width is 5 feet to 14 feet, with an average of better than 7 feet. The average grade is 8 percent zinc, 3 percent lead, .5 percent copper, .033 ounces gold, and 1.4 ounces silver for an overall average value at today's prices of $125.90 per ton.

B. Ruth No. 4 has no ore reserves, but assay data from a 5-foot wide vein indicates grade of mineralization to be 1.3 percent zinc, 1.28 percent lead, 1.68 percent copper, .038 ounces gold, and 2.67 ounces silver per ton. The potential for finding ore is good.

C. Morning Star claim has an average grade of 9.35 percent zinc, 2.5 percent lead, 0.63 percent copper, and 1.54 ounces silver with a probable reserve of 50,000 tons and possible reserve of 500,000 tons. At today's prices, the average value is $127.17 per ton.

The overall ore reserve picture could be developed to be greater than 1,000,000 tons of ore at today's average prices of $125.00 per ton.

LOCATION AND ACCESS

The mine can be reached from Portland, Oregon by traveling south on Interstate 4 to Salem, east on Highway 22 to the Lyons-Mechama area,

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

and northeast up the Little North Fork Road, which ends at the gate to the mine. From Portland by car it is 95 miles and takes nearly two hours to drive.

The nearest rail transportation is in Lyons, Oregon, at a station on the Detroit Branch of the Southern Pacific Railroad. A loading dock is available and the published shipping rate to Bunker Hill, Kellogg, Idaho is $27.10 per ton; East Helena, Montana is $30,00 per ton; and Tacoma, Washington $18.60 per ton.

Ship transportation is available from Portland, Oregon to points on the Pacific rim. Sample tariffs of $7.00 per ton open, and $6.00 per ton closed, shipped from Portland to Japan via Mitsubishi. Ore and concentrate transport from the mine to Portland dock is $8.00 per ton.

The mine is located on the west slope of the Cascade Range with a mild, humid climate and moderate ranges in temperature. The winters are generally very wet with heavy accumulations of snow followed by heavy spring rains. The summers and autumns are generally fair and mild.

PROPERTY

The property consists of four unpatented lode mining claims and three unpatented mill sites. Each unpatented lode mining claim is approximately twenty acres in size, and each unpatented mill site is approximately five acres in size. The Bureau of Land Management has assigned the following Oregon Mining claim serial numbers.

Ruth No. 1	ORMC	0027356
Ruth No. 2	ORMC	0027357
Ruth No. 4	ORMC	0027359
Morning Star	ORMC	0027304
Hewitt Millsite	ORMC	0027446
Starvation Millsite	ORMC	0027447
Poor Boy Millsite	ORMC	0027448

Shiny Rock Mining Corporation, a subsidiary of Persis Corporation, is the record owner of the claims and millsites.

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

HISTORY AND PRODUCTION

Between the 1860's and the 1890's, the oxidized sulfides were prospected for their gold content. The early attempts before the 1930's to operate the mines in the district were not successful. After 1930, some of the mines operated profitably for a time.

The Ruth and Morning Star mines on Battle Ax Creek, were originally known as the Lewis and Clark Mine, and until 1929 consisted of a few short adits and prospect pits with indications of a high-grade vein of lead and zinc. In the 1930's, the ore body was explored on two levels, with ore milled off the fourth and fifth levels in 1933 and 1934. A combination flotation and gravity separation ore mill was built just east of the present mill sites. In the 1940's, the Bureau of Mines, under reconstruction financing, developed three small stopes on the fifth level of the Ruth Mine and prepared a report on the property.

The Hewitt millsite consists of five acres on which 18 buildings have been constructed from 1932 to the present. The Starvation millsite is also five acres in size and is the site of the ore reduction plant which was constructed in 1976. The reduction plant has a crushing capacity of 150 tons and a concentrating capacity of 25 tons, based on a 24-hour day. The Poor Boy millsite consists of hydro-electric generation facilities, a cook house designed to feed 50 men, a core shed to store and log core from ongoing exploration projects, and storage buildings for heavy mining equipment, such as dump trucks, muckers, air lines, and rails.

In 1977 the entire area was leased to Freeport Mineral Company. After expiration of that lease, the Santian No. 1 and Mandalay claims were leased to Amoco Minerals. Portions of the Hewitt and Poor Boy millsites have been rented to Amoco at various times to support its operations on the leased group of claims.

The present development of the mining claims is in accordance with the rules and regulations of State and Federal Government agencies. The three millsites and Ruth No. 4 claim are presently being developed and operated in accordance with an operating plan approved by the United States Forest Service on March 4, 1977. The Ruth No. 1, Ruth No. 2, and Morning Star claims were earlier clear listed by the Forest Service under the 1955 Surface Rights Act and are not subject to the operating plan.

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

Ruth No. 1 and No. 2 have been developed as a single mine. Present underground development consists of approximately 5,000 feet of drift, numerous crosscuts, two 200-foot raises, and five levels. The fifth, fourth, and third levels are connected with various stopes and some runaround tunnels paralleling the ore deposit (see Appendix 12). Most recent development work was done in 1976 through 1978, although some development work continues. In 1976, the fifth level of the Ruth Mine was retimbered, starting at the 800 foot crosscut and then back to the first raise. New timbers and blocking were put into two stopes. A runaround tunnel was driven around an old stope left open by the Bureau of Mines, and mucking was started in an area caved just prior to the first raise between the fifth and fourth levels.

Various mining methods were used to try to hold the ground from caving just prior to the first raise. Because the muckpile was making water over the top of the pile, it was decided to drive a parallel drift in the hanging wall and crosscut in approximately 175 feet behind the first raise, between the first and second raises. When that was accomplished, pumps were placed in the area behind the first raise and water pumped out for approximately a week, and then mucking continued. Still, the mucking station continued to run ore and various methods of spiling and blocking ore in place were ineffective to go through the area. The determination was made that it would no longer be safe to try to timber through the first raise, so miners stayed at the station and mucked for about eight weeks. At some points, 150 feet of hanging wall were exposed forward and above the mucking station. By placing small bombs up on the vein, concussion started the ore flowing again. No dilution from breakage was observed at the hanging or foot walls in the ore.

A portion of the fifth level of the Ruth Mine, where it transverses from the Ruth No. 1 into the Ruth No. 2, has been developed as previously described. In addition, the fourth level was mucked to a station (just prior to the raise between the fourth and third levels) where a caving stope in the third level was causing the fourth level to cave. The portal of the fourth level was retimbered and an access road developed in prepraation of going in and reopening this portion of the mine. The first and second levels have been mucked to remove small cave-ins at the portals and the portals have been retimbered and drained to make them accessible for sampling. In addition, in 1976 new rail track and ties were put in from the fifth level portal to the face, along with new air lines.

Development of the Ruth No. 4 consists of an adit approximately 52 feet long. In 1980, 35 feet of open cut was exposed and old workings were cleaned out with a backhoe. The vein was opened up and sampled. The vein itself is approximately five feet wide and runs the length of the adit. The vein is loose gouge along a shear, comprised primarily of chalcopyrite, pyrite, lead, zinc, and silver.

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

The Morning Star has approximately 500 feet of drift with the first 350 feet being accessible at this time. A 40-foot stope has collapsed just past the 350-foot station. It is still possible, however, to climb across mining timbers and remains of the old ladders to a point approximately 25 to 30 feet above the old tunnel and take samples from the hanging wall of this vein. By shining a light on the ceiling, it is apparent that the vein is still well exposed; but will require more development work in order to make it safe for sampling and mining. Ore from the Morning Star vein, which is sitting in a bunker directly in front of the portal, was run through the ore reduction mill on the Starvation millsite in 1977.

GEOLOGY AND MINERALIZATION

The rocks of the Lester Mining District have been dated by Peck, 1964, to be late Miocene volcanic sardine formation. The Jawbone Stock is intrusive into the above formation. Associated with the Jawbone Stock is three facies of hydrothermal alteration; propylitic, phyllic (quartz-sericite) and potassic (biotite-orthoclase). The central alteration zone, referred to by (Callahan and Buddington, 1938) as the central potassic alteration contain the chalcopyrite veins. The complex sulfide veins are found peripheral to the potassic zone in the propylitic alteration zone.

Veins in the district are predominately lenticular masses implaced along sheared or brecciated country rock. They pinch and swell from a few inches up to 20 feet both horizontally and vertically. They trend northwesterly with the predominate strike between north 15° to north 70° west, with the greatest concentrations of metalic minerals taking place in veins striking north 35° west.

The principal rock types underground are calcitic andesite and prophyritic rhyolites. The predominate metalic minerals that constitute the veins are sphalerite, galena, chalcopyrite, pyrite, some silver and native gold. The gangue consists of altered wall rock, quartz, and gouge clays.

Ruth No. 1 and Ruth No. 2 have an average grade of 8 percent zinc, 3 percent lead, .5 percent copper, .033 ounces gold, and 1.4 ounces silver per ton. This average grade appears to be based on 1977 Shiny Rock Mining Corporation channel sampling and head sampling as the ore entered the reduction plant in 1977. Ore reserve calculations range from 183,000 tons probable and 100,000 tons possible to as high as 500,000 tons. Assay data from two other sources indicate the above average may be about right. One set of data is higher and one set lower.

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

Ruth No. 4 was sampled in 1980 after the portal was opened up and the vein was exposed over a distance of 35 feet of open cut. Shiny Rock results from samples taken were 1.3 percent zinc, 1.28 percent lead, 1.68 percent copper, .038 ounces gold, and 2.67 ounces silver per ton.

The Morning Star values, an average of Shiny Rock and Decker sampling, indicate 9.35 percent zinc, 2.5 percent lead, .68 percent copper, 1.54 ounces silver, and a trace of gold per ton. United States Geological Survey data have indicated the reserves could be as high as 500,000 tons.

EXPLORATION POSSIBILITIES

In general, attempt to develop ore reserves in excess of 1,000,000 tons and prove ore reserves already developed:

1. Exploring for inferred ore reserves down dip Ruth No. 1 and Ruth No. 2, Morning Star, and Ruth No. 4.

2. Explore along the strike of Ruth No. 4 and the Morning Star.

OPERATING METHODS AND CONDITIONS

General:

- Water available for mining, reduction plant, and power generation.
- Timber available on claims to be cut by portable sawmill.
- Labor pool nearby, although unskilled in mining.

Mining:

- Underground mine, information not known as to methods to be used or equipment to be used.

Milling and Smelting:

- Actual milling test through a 25-ton-per-day flotation plant gave recoveries of 84.4 percent zinc, 84.6 percent lead, 77.0 percent copper, 83.2 percent gold, and 100 percent silver. This makes the Ruth No. 1 and Ruth No. 2 ore worth $106.31 per ton as it leaves for the smelter. The average value recovered is 84.44 percent. 106.31/125.90

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

- Smelting cost and reductions reduce the value per ton of ore mined to approximately $78.00 or 62 percent, (78/125.90) of the original ore contained metal values.

PROS AND CONS

Positive Aspects:

- Underground mining.
- Considerable development has exposed extensive mineralization indicating moderate reserves may be developed.
- Partial infra-structure already constructed.
- Operational plan with government agencies okay.
- Location is such that year around operations can be conducted.
- Rail head close by.
- Wide veins.

Negative Aspects:

- Primary values in zinc.
- Environmental constraints on a large milling facility (more than 200 tons per day) may be prohibitive i.e. large mill ponds for waste control.
- Must generate own power.
- Ore grade may be marginal at today's prices.
- Current recoverable probable reserves of 250,000 tons would last only five years at 200 tons processed per day, 250 day work year.

ECONOMIC ANALYSIS

Net Income and Cash Flow:	Per Year
Revenue	$5,315,500
Operating costs	4,161,500
Operating income	$1,154,000
Depreciation	400,000
Net before depletion	$ 754,000
Depletion	354,380

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

Taxable income	$ 399,620
Income tax (State and Federal)	215,342
Net income	$ 184,278
Add back depreciation	400,000
Add back depletion	354,380
Cash Flow	$938,658

Profitability:

Accounting Return on Revenue	$\frac{\$938,658}{5,315,500}$ = .177 = 17.7%
Accounting Return on Investment	$\frac{\$938,658}{4,042,500}$ = .232 = 23.2%
Payout Without Interest	4.3 years
Annuity	$938,658
Table Factor @ 15%	Uniform Series Present Value Factor Compounded Annually
Present Value	$4,273,961
* Capital Investment	* 4,042,500
Net Present Value	170,500 in eighth year
Discounted Cash flow return on Investment (DCF-ROI)	16.4% in eighth year

* I have included in capital investment $1,500,000 that Shiny Rock Mining Corporation has not asked for.

CONCLUSIONS

The potential mine size will never be big as most zinc mines go, but certainly a small to moderate size underground mine could be developed here with ore reserves in the plus 1,000,000-ton range.

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

There is a good probability of proving the current probable reserves, 250,000 tons, exist but there are indications they could be lower grade. The potential for finding more ore, up to 1,000,000 tons, is good.

There may be environmental reasons that a larger than 200-ton-per-day reduction plant can not be operated on the present mill sites. If only 200 tons-per-day can be processed, it will take eight years of full capacity operations to bring the "Discounted Cash Flow Return on Investment" to be above 15 percent. 400,000 tons of mineable ore would have to be blocked to operate eight years.

The terms appear to be workable and reasonable; although no specific figures were mentioned. Mr. George Atiyeh indicated they were most interested in money put into the ground with Shiny Rock Mining Corporation recouping their investment from a percentage of N.S.R. They would like a progressive agreement whereas each year goes by, more money would be spent in preparing the property for production.

There does exist in the district other small mines that could enhance total ore reserves. Amoco has two such mines leased from Shiny Rock Mining Corporation that are primary in copper and have good values in precious metals. Amoco is looking for a large copper and precious metal deposit that can be mined from the surface so these underground mines would probably be available.

RECOMMENDATIONS

I believe we should spend some time checking out three or four items that could enhance the viability of this property. (1) Study the possibilities of a 500-ton-per-day reduction plant. (2) See if other mining properties in the district are available (3) Check with Amoco and the potential of developing and mining the underground mines they have under lease from Shiny Rock Mining Corporation (4) Visit the property as soon as the snow goes off to look at the mine and facilities.

George W. Sintay

George W. Sintay

GWS ms

MEMORANDUM

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

TO: G. L. Ojala

January 8, 1982

FROM: G. W. Sintay

RE: Paper Review of the Shiny Rock Mining Corporation Mining Claims, Lester Mining District, Marion County, Oregon

INTRODUCTION

The Shiny Rock Mining Corporation ownes the Santiam No. 1, Mandalay, Ruth Nos. 1, 2, 4 and Morning Star Lode claims, and three mill sites; Hewitt, Poor Boy, and Starvation. The Santiam No. 1 and Mandalay are under lease contract to Amoco Minerals, a subsidiary of Standard Oil of Indiana. The lode claims Ruth 1, 2, 4, and three mill sites; Hewitt, Poor Boy, and Starvation are available for lease; and it is for the purpose of evaluating these claims, that this report is written.

POTENTIAL

A. Ruth Nos. 1 and 2 have probable ore reserves of 200,000 tons, possible ore reserves of 200,000 tons and the potential of finding more. The established mining width is 5 feet to 14 feet, with an average of better than 7 feet. The average grade is 8 percent zinc, 3 percent lead, .5 percent copper, .033 ounces gold, and 1.4 ounces silver for an overall average value at today's prices of $125.90 per ton.

B. Ruth No. 4 has no ore reserves, but assay data from a 5-foot wide vein indicates grade of mineralization to be 1.3 percent zinc, 1.28 percent lead, 1.68 percent copper, .038 ounces gold, and 2.67 ounces silver per ton. The potential for finding ore is good.

C. Morning Star claim has an average grade of 9.35 percent zinc, 2.5 percent lead, 0.63 percent copper, and 1.54 ounces silver with a probable reserve of 50,000 tons and possible reserve of 500,000 tons. At today's prices, the average value is $127.17 per ton.

The overall ore reserve picture could be developed to be greater than 1,000,000 tons of ore at today's average prices of $125.00 per ton.

LOCATION AND ACCESS

The mine can be reached from Portland, Oregon by traveling south on Interstate 4 to Salem, east on Highway 22 to the Lyons-Mechama area,

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

and northeast up the Little North Fork Road, which ends at the gate to the mine. From Portland by car it is 95 miles and takes nearly two hours to drive.

The nearest rail transportation is in Lyons, Oregon, at a station on the Detroit Branch of the Southern Pacific Railroad. A loading dock is available and the published shipping rate to Bunker Hill, Kellogg, Idaho is $27.10 per ton; East Helena, Montana is $30,00 per ton; and Tacoma, Washington $18.60 per ton.

Ship transportation is available from Portland, Oregon to points on the Pacific rim. Sample tariffs of $7.00 per ton open, and $6.00 per ton closed, shipped from Portland to Japan via Mitsubishi. Ore and concentrate transport from the mine to Portland dock is $8.00 per ton.

The mine is located on the west slope of the Cascade Range with a mild, humid climate and moderate ranges in temperature. The winters are generally very wet with heavy accumulations of snow followed by heavy spring rains. The summers and autumns are generally fair and mild.

PROPERTY

The property consists of four unpatented lode mining claims and three unpatented mill sites. Each unpatented lode mining claim is approximately twenty acres in size, and each unpatented mill site is approximately five acres in size. The Bureau of Land Management has assigned the following Oregon Mining claim serial numbers.

Ruth No. 1	ORMC	0027356
Ruth No. 2	ORMC	0027357
Ruth No. 4	ORMC	0027359
Morning Star	ORMC	0027304
Hewitt Millsite	ORMC	0027446
Starvation Millsite	ORMC	0027447
Poor Boy Millsite	ORMC	0027448

Shiny Rock Mining Corporation, a subsidiary of Persis Corporation, is the record owner of the claims and millsites.

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

HISTORY AND PRODUCTION

Between the 1860's and the 1890's, the oxidized sulfides were prospected for their gold content. The early attempts before the 1930's to operate the mines in the district were not successful. After 1930, some of the mines operated profitably for a time.

The Ruth and Morning Star mines on Battle Ax Creek, were originally known as the Lewis and Clark Mine, and until 1929 consisted of a few short adits and prospect pits with indications of a high-grade vein of lead and zinc. In the 1930's, the ore body was explored on two levels, with ore milled off the fourth and fifth levels in 1933 and 1934. A combination flotation and gravity separation ore mill was built just east of the present mill sites. In the 1940's, the Bureau of Mines, under reconstruction financing, developed three small stopes on the fifth level of the Ruth Mine and prepared a report on the property.

The Hewitt millsite consists of five acres on which 18 buildings have been constructed from 1932 to the present. The Starvation millsite is also five acres in size and is the site of the ore reduction plant which was constructed in 1976. The reduction plant has a crushing capacity of 150 tons and a concentrating capacity of 25 tons, based on a 24-hour day. The Poor Boy millsite consists of hydro-electric generation facilities, a cook house designed to feed 50 men, a core shed to store and log core from ongoing exploration projects, and storage buildings for heavy mining equipment, such as dump trucks, muckers, air lines, and rails.

In 1977 the entire area was leased to Freeport Mineral Company. After expiration of that lease, the Santian No. 1 and Mandalay claims were leased to Amoco Minerals. Portions of the Hewitt and Poor Boy millsites have been rented to Amoco at various times to support its operations on the leased group of claims.

The present development of the mining claims is in accordance with the rules and regulations of State and Federal Government agencies. The three millsites and Ruth No. 4 claim are presently being developed and operated in accordance with an operating plan approved by the United States Forest Service on March 4, 1977. The Ruth No. 1, Ruth No. 2, and Morning Star claims were earlier clear listed by the Forest Service under the 1955 Surface Rights Act and are not subject to the operating plan.

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

Ruth No. 1 and No. 2 have been developed as a single mine. Present underground development consists of approximately 5,000 feet of drift, numerous crosscuts, two 200-foot raises, and five levels. The fifth, fourth, and third levels are connected with various stopes and some runaround tunnels paralleling the ore deposit (see Appendix 12). Most recent development work was done in 1976 through 1978, although some development work continues. In 1976, the fifth level of the Ruth Mine was retimbered, starting at the 800 foot crosscut and then back to the first raise. New timbers and blocking were put into two stopes. A runaround tunnel was driven around an old stope left open by the Bureau of Mines, and mucking was started in an area caved just prior to the first raise between the fifth and fourth levels.

Various mining methods were used to try to hold the ground from caving just prior to the first raise. Because the muckpile was making water over the top of the pile, it was decided to drive a parallel drift in the hanging wall and crosscut in approximately 175 feet behind the first raise, between the first and second raises. When that was accomplished, pumps were placed in the area behind the first raise and water pumped out for approximately a week, and then mucking continued. Still, the mucking station continued to run ore and various methods of spiling and blocking ore in place were ineffective to go through the area. The determination was made that it would no longer be safe to try to timber through the first raise, so miners stayed at the station and mucked for about eight weeks. At some points, 150 feet of hanging wall were exposed forward and above the mucking station. By placing small bombs up on the vein, concussion started the ore flowing again. No dilution from breakage was observed at the hanging or foot walls in the ore.

A portion of the fifth level of the Ruth Mine, where it transverses from the Ruth No. 1 into the Ruth No. 2, has been developed as previously described. In addition, the fourth level was mucked to a station (just prior to the raise between the fourth and third levels) where a caving stope in the third level was causing the fourth level to cave. The portal of the fourth level was retimbered and an access road developed in prepraation of going in and reopening this portion of the mine. The first and second levels have been mucked to remove small cave-ins at the portals and the portals have been retimbered and drained to make them accessible for sampling. In addition, in 1976 new rail track and ties were put in from the fifth level portal to the face, along with new air lines.

Development of the Ruth No. 4 consists of an adit approximately 52 feet long. In 1980, 35 feet of open cut was exposed and old workings were cleaned out with a backhoe. The vein was opened up and sampled. The vein itself is approximately five feet wide and runs the length of the adit. The vein is loose gouge along a shear, comprised primarily of chalcopyrite, pyrite, lead, zinc, and silver.

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

The Morning Star has approximately 500 feet of drift with the first 350 feet being accessible at this time. A 40-foot stope has collapsed just past the 350-foot station. It is still possible, however, to climb across mining timbers and remains of the old ladders to a point approximately 25 to 30 feet above the old tunnel and take samples from the hanging wall of this vein. By shining a light on the ceiling, it is apparent that the vein is still well exposed; but will require more development work in order to make it safe for sampling and mining. Ore from the Morning Star vein, which is sitting in a bunker directly in front of the portal, was run through the ore reduction mill on the Starvation millsite in 1977.

GEOLOGY AND MINERALIZATION

The rocks of the Lester Mining District have been dated by Peck, 1964, to be late Miocene volcanic sardine formation. The Jawbone Stock is intrusive into the above formation. Associated with the Jawbone Stock is three facies of hydrothermal alteration; propylitic, phyllic (quartz-sericite) and potassic (biotite-orthoclase). The central alteration zone, referred to by (Callahan and Buddington, 1938) as the central potassic alteration contain the chalcopyrite veins. The complex sulfide veins are found peripheral to the potassic zone in the propylitic alteration zone.

Veins in the district are predominately lenticular masses implaced along sheared or brecciated country rock. They pinch and swell from a few inches up to 20 feet both horizontally and vertically. They trend northwesterly with the predominate strike between north 15° to north 70° west, with the greatest concentrations of metalic minerals taking place in veins striking north 35° west.

The principal rock types underground are calcitic andesite and prophyritic rhyolites. The predominate metalic minerals that constitute the veins are sphalerite, galena, chalcopyrite, pyrite, some silver and native gold. The gangue consists of altered wall rock, quartz, and gouge clays.

Ruth No. 1 and Ruth No. 2 have an average grade of 8 percent zinc, 3 percent lead, .5 percent copper, .033 ounces gold, and 1.4 ounces silver per ton. This average grade appears to be based on 1977 Shiny Rock Mining Corporation channel sampling and head sampling as the ore entered the reduction plant in 1977. Ore reserve calculations range from 183,000 tons probable and 100,000 tons possible to as high as 500,000 tons. Assay data from two other sources indicate the above average may be about right. One set of data is higher and one set lower.

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

Ruth No. 4 was sampled in 1980 after the portal was opened up and the vein was exposed over a distance of 35 feet of open cut. Shiny Rock results from samples taken were 1.3 percent zinc, 1.28 percent lead, 1.68 percent copper, .038 ounces gold, and 2.67 ounces silver per ton.

The Morning Star values, an average of Shiny Rock and Decker sampling, indicate 9.35 percent zinc, 2.5 percent lead, .68 percent copper, 1.54 ounces silver, and a trace of gold per ton. United States Geological Survey data have indicated the reserves could be as high as 500,000 tons.

EXPLORATION POSSIBILITIES

In general, attempt to develop ore reserves in excess of 1,000,000 tons and prove ore reserves already developed:

1. Exploring for inferred ore reserves down dip Ruth No. 1 and Ruth No. 2, Morning Star, and Ruth No. 4.

2. Explore along the strike of Ruth No. 4 and the Morning Star.

OPERATING METHODS AND CONDITIONS

General:

- Water available for mining, reduction plant, and power generation.
- Timber available on claims to be cut by portable sawmill.
- Labor pool nearby, although unskilled in mining.

Mining:

- Underground mine, information not known as to methods to be used or equipment to be used.

Milling and Smelting:

- Actual milling test through a 25-ton-per-day flotation plant gave recoveries of 84.4 percent zinc, 84.6 percent lead, 77.0 percent copper, 83.2 percent gold, and 100 percent silver. This makes the Ruth No. 1 and Ruth No. 2 ore worth $106.31 per ton as it leaves for the smelter. The average value recovered is 84.44 percent. 106.31/125.90

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

- Smelting cost and reductions reduce the value per ton of ore mined to approximately $78.00 or 62 percent, (78/125.90) of the original ore contained metal values.

PROS AND CONS

Positive Aspects:

- Underground mining.
- Considerable development has exposed extensive mineralization indicating moderate reserves may be developed.
- Partial infra-structure already constructed.
- Operational plan with government agencies okay.
- Location is such that year around operations can be conducted.
- Rail head close by.
- Wide veins.

Negative Aspects:

- Primary values in zinc.
- Environmental constraints on a large milling facility (more than 200 tons per day) may be prohibitive i.e. large mill ponds for waste control.
- Must generate own power.
- Ore grade may be marginal at today's prices.
- Current recoverable probable reserves of 250,000 tons would last only five years at 200 tons processed per day, 250 day work year.

ECONOMIC ANALYSIS

Net Income and Cash Flow:	Per Year
Revenue	$5,315,500
Operating costs	4,161,500
Operating income	$1,154,000
Depreciation	400,000
Net before depletion	$ 754,000
Depletion	354,380

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

Taxable income	$ 399,620
Income tax (State and Federal)	215,342
Net income	$ 184,278
Add back depreciation	400,000
Add back depletion	354,380
Cash Flow	$938,658

Profitability:

Accounting Return on Revenue	$\frac{\$938,658}{5,315,500}$ = .177 = 17.7%
Accounting Return on Investment	$\frac{\$938,658}{4,042,500}$ = .232 = 23.2%
Payout Without Interest	4.3 years
Annuity	$938,658
Table Factor @ 15%	Uniform Series Present Value Factor Compounded Annually
Present Value	$4,273,961
* Capital Investment	* 4,042,500
Net Present Value	170,500 in eighth year
Discounted Cash flow return on Investment (DCF-ROI)	16.4% in eighth year

* I have included in capital investment $1,500,000 that Shiny Rock Mining Corporation has not asked for.

CONCLUSIONS

The potential mine size will never be big as most zinc mines go, but certainly a small to moderate size underground mine could be developed here with ore reserves in the plus 1,000,000-ton range.

Sunshine Mining Company
P.O. Box 1080 KELLOGG, IDAHO 83837

There is a good probability of proving the current probable reserves, 250,000 tons, exist but there are indications they could be lower grade. The potential for finding more ore, up to 1,000,000 tons, is good.

There may be environmental reasons that a larger than 200-ton-per-day reduction plant can not be operated on the present mill sites. If only 200 tons-per-day can be processed, it will take eight years of full capacity operations to bring the "Discounted Cash Flow Return on Investment" to be above 15 percent. 400,000 tons of mineable ore would have to be blocked to operate eight years.

The terms appear to be workable and reasonable; although no specific figures were mentioned. Mr. George Atiyeh indicated they were most interested in money put into the ground with Shiny Rock Mining Corporation recouping their investment from a percentage of N.S.R. They would like a progressive agreement whereas each year goes by, more money would be spent in preparing the property for production.

There does exist in the district other small mines that could enhance total ore reserves. Amoco has two such mines leased from Shiny Rock Mining Corporation that are primary in copper and have good values in precious metals. Amoco is looking for a large copper and precious metal deposit that can be mined from the surface so these underground mines would probably be available.

RECOMMENDATIONS

I believe we should spend some time checking out three or four items that could enhance the viability of this property. (1) Study the possibilities of a 500-ton-per-day reduction plant. (2) See if other mining properties in the district are available (3) Check with Amoco and the potential of developing and mining the underground mines they have under lease from Shiny Rock Mining Corporation (4) Visit the property as soon as the snow goes off to look at the mine and facilities.

George W. Sintay

GWS ms

TELEPHONE 212 575-5900
CABLES PHIBRO NEW YORK
TELEX ITT 5943

Philipp Brothers

phibro

DIVISION OF ENGELHARD MINERALS & CHEMICALS CORPORATION

1221 AVENUE OF THE AMERICAS NEW YORK, N.Y. 10020

September 22, 1978

Mr. George Atiyeh
Shiny Rock Mining Corp.
P.O. Box 132
Mehama, Ore. 97384

Re: Zinc and Lead Concentrates

Dear George:

I am really shocked to see that the last letter which you wrote to me goes all the way back to April 28!

The fact is that only the other day we received the assay of the zinc concentrate from the National Zinc Company.

One of the problems in getting the smelters more excited is that the quantities which you produce are rather small. However, I am pleased to tell you that at least as far as the assays are concerned both the zinc and lead concentrates will be acceptable for smelting.

If you can give me a fairly quick answer now whether you will shut down for the winter and, if so, when you will return to production, and also whether there is any chance whether that production can be increased, I promise to give you a very quick indication of prices obtainable for your material. One of the things that worry me about a small production will be the rather high transportation charge for small lots.

Please remember me to Mrs. Atiyeh.

Cordially,

PHILIPP BROTHERS

H.W.A. Gunzenhauser

/mb

NORTH PACIFIC COAST FREIGHT BUREAU

ROOM 315 UNION STATION

W. R. WATSON, Chairman — SEATTLE, WASHINGTON 98104 — PHONE: MAIN 3-6282

October 18, 1976

Mr. George A. Atiyeh, President
Shiny Rock Mining Corporation
P.O. Box 132
Mehama, Oregon 97384

SUBJECT: NC-4651 - ZINC and LEAD CONCENTRATES, CL.
Lyons, OR To East Helena, MT.
and Kellogg-Wardner, ID.

Dear Mr. Atiyeh:

Our Freight Traffic Committee at their October meeting approved for publication the following rates on Zinc and Lead Concentrates, carloads, from Lyons, Oregon to:

	RATES IN CENTS PER NET TON
East Helena, MT.	(1) 3150¢ 140M,
Kellogg-Wardner, ID.	(2) 2846¢ 140M,

All rates not subject Tariff X-330 nor prior increases.

(1) Applies only on Zinc Concentrates.
(2) Applies only on Lead Concentrates.

Publication will be arranged on statutory notice with advice of effective date as soon as determined.

Yours very truly,

W. R. Watson

W. R. WATSON
Chairman

YK/an

5-W-27-2

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Land Office
729 N. E. Oregon Street (P.O. Box 2965)
Portland, Oregon 97208

IN REPLY REFER TO:
100.5b-1b
Oregon 05295-L
Oregon 05295-M
27.2 P.L. 167

OCT 27 1966

Pacific Smelting & Refining Co.
Box 132
Mehama, Oregon

Gentlemen:

This refers to the Ruth No. 1 and Ruth No. 2 mining claims (located in sec. 19, T. 8 S., R. 5 E., W. M., Oregon) listed in your verified statement, Oregon 05295-L; also to the Santiam No. 1 mining claim (located in sec. 27, T. 8 S., R. 5 E., W. M., Oregon) listed in your verified statement, Oregon 05295-M.

On October 11, 1966, the Forest Service stipulated that the assertions made in the verified statements as to the rights in surface resources upon the three above-mentioned claims are accepted. In other words, the Government has no authority under the provisions of Section 4 of the Act of July 23, 1955 (69 Stat. 367) to manage and dispose of the vegetative resources and to manage other surface resources on these unpatented mining claims.

The proceedings are terminated and the cases are closed.

Sincerely yours,

M. M. Gorecki

M. M. Gorecki
Chief, Minerals
Adjudication Section

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Land Office
729 N. E. Oregon Street (P.O. Box 2965)
Portland, Oregon 97208

IN REPLY REFER TO:
100.5b-1b
Oregon 05295-H
27.2 P.L. 167

OCT 27 1966

Bertha E. Hewitt
Box 132
Mehama, Oregon

Dear Mrs. Hewitt:

This refers to the Morning Star mining claim listed in your verified statement, Oregon 05295-H. This claim is located in sec. 27, T. 8 S., R. 5 E., W. M., Oregon.

On October 11, 1966 the Forest Service stipulated that the assertions made in the verified statement as to the rights in surface resources upon the Morning Star claim are accepted. In other words, the Government has no authority under the provisions of Section 4 of the Act of July 23, 1955 (69 Stat. 367) to manage and dispose of the vegetative resources and to manage other surface resources on this unpatented mining claim.

The proceedings are terminated and the case is closed.

Sincerely yours,

M. M. Gorecki

M. M. Gorecki
Chief, Minerals
Adjudication Section

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PACIFIC NORTHWEST REGION
POST OFFICE BOX 3623
PORTLAND OREGON 97208

IN REPLY REFER TO
2810

January 11, 1966

Mr. and Mrs. J. P. Hewitt
P.O. Box 132
Mehama, Oregon

Dear Mr. and Mrs. Hewitt:

Enclosed are two standard Stipulations covering the Morning Star, Ruth No. 1, Ruth No. 2, and Santiam No. 1 mining claims.

As you know, these four claims were not contested in the hearings which were held to determine the surface rights on the claims in the Little North Fork Santiam drainage. Therefore, by means of the attached Stipulations, the Government agrees that the surface rights on these four claims are the same as they were prior to publication of the notice of determination of surface rights.

Please date and sign the Stipulations in the place indicated and return the two originals to us in the enclosed envelope. Mrs. Hewitt should sign the one covering the Morning Star claim, and Mr. Hewitt should sign the other one as President of Pacific Smelting and Refining Company. We will then file the original with the Land Office, and they will close your case on their records.

If you have any questions, please let us know.

Sincerely yours,

PHILIP L. HEATON
Assistant Regional Forester

By Jack L. Groome

Enclosures

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PACIFIC NORTHWEST REGION
POST OFFICE BOX 3623
PORTLAND, OREGON 97208

IN REPLY REFER TO

2810

June 11, 1969

Mr. Victor G. Atiyeh
7690 S. W. Fairmoor Street
Portland, Oregon 97225

Dear Senator Atiyeh:

This letter will serve to confirm our discussion of June 9.

Mr. Hewitt has decided to pursue the filing of millsites to include the buildings necessary in continuing to develop the mineral values of his nearby claims. The Forest Service has no objection to this action and in fact, we feel it is quite appropriate for as long a period as the millsites are used in a manner consistent with the provisions of the Mining Laws.

I believe it would be helpful both to Mr. Hewitt and the Forest Service for one of our mining engineers to meet with Mr. Hewitt at the site to fully discuss the millsites as to area and procedure. Following such a discussion a list of sequential steps will be prepared to allow simultaneous abandonment of the claims and filing of the millsites.

You expressed Mr. Hewitt's desire to gate the road leading to the improvements in the vicinity of the junction with the road being reconstructed probably on the Mandalay Fraction Claim. There is also the matter of the special use permit for the flume. District Ranger Lee Boecksteigel has been notified of these items by a copy of this letter, and he will be prepared to discuss the details at a mutually satisfactory time.

I sincerely appreciate your constructive efforts in taking time from your busy schedule to resolve these matters.

Sincerely,

DOUGLAS R. LEISZ
Assistant Regional Forester
Lands & Minerals

June 13, 1969

Mr. J. P. Hewitt
Mehama, Oregon

Dear Grandpa:

I have talked with Mr. Leisz of the Forest Service and have indicated that you would sign the easements. He had told me that you should apply for one or two millsites (whatever is necessary to cover from #7 to the old mill and from the cookhouse to where a new site was cleared--all approximate).

We also talked about fixing the road at the juncture of the new and old one so that we could build a gate around which no cars or motor cycles could get. Additionally, they suggested that a special use permit for the flume be acquired to protect your water supply.

All of the above information I have in a letter from Mr. Leisz and especially that they would have no objection to filing of the millsite (and that is the only way the request could be blocked). They would like to have someone from the Forest Service talk with you about the boundry location of the millsites as soon as possible.

Please get word to me as quickly as you can if this is O.K.

Very truly yours,

Vic

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
WILLAMETTE NATIONAL FOREST
P. O. Box 1272
Eugene, Oregon 97401

IN REPLY REFER TO

2810

October 9, 1969

Mr. Victor G. Atiyeh
7690 S. W. Fairmoor Street
Portland, Oregon 97225

Dear Mr. Atiyeh:

Attached is the platt for the mill site as discussed with you by phone on September 19.

Please send us the signed road easements for the Mandalay Fraction and the Santiam No. 1 claims.

Sincerely yours,

R. L. WORSTELL
Deputy Forest Supervisor

Enclosure (under seperate cover)

cc: Regional Office
Detroit Ranger Station

EASEMENTS SENT 10/13/69 (W)

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
WILLAMETTE NATIONAL FOREST
P.O. Box 1272
Eugene, Oregon 97401

IN REPLY REFER TO
2820

September 24, 1969

Mr. Victor G. Atiyeh
7690 S.W. Fairmoor Street
Portland, Oregon 97225

Dear Mr. Atiyeh:

This is to confirm Mr. Worstell's telephone conversation with you on September 19.

During the construction of the road, the access to the claims will be maintained except for the normal delays associated with construction. By this, I mean that the road might be closed for a period of up to four hours without notice. If a limited number of longer delays is necessary, the contractor will be required to provide at least 24 hours notice.

The approximate boundary for the mill site claim has been flagged on the ground by Lee Boeckstiegel. We are nearly finished with the map of the area, showing the proposed mill site boundary. Copies will be mailed to you within the next few days.

Sincerely yours,

D. R. GIBNEY
Forest Supervisor

cc: Detroit RD

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
WILLAMETTE NATIONAL FOREST

IN REPLY REFER TO

5460

May 21, 1969

Honorable Victor Atiyeh
Oregon State Senate
Salem, Oregon 97301

Dear Senator Atiyeh:

Mr. Leisz and Mr. Worstell agreed during their March 28 visit to advise you further of Mr. Hewitt's rights and responsibilities regarding his occupancy of the unpatented claims located near Opal Creek.

As they promised you, we have carefully considered the type of estate which the Forest Service would recommend under P.L. 87-851, the Mining Claims Occupancy Act. Our recommendation, upon receipt of an application from Mr. Hewitt, would be for a lifetime tenure lease for the residence and necessary outbuildings. In order to qualify, the Act provides that Mr. Hewitt must relinquish his mining claims which cover the occupancy area. An annual fee calculated on the basis of fair market value for the acreage of the lease would be required.

There is an alternative which we believe has merit for your consideration. Our mining engineers have found sufficient mineral values on some of Mr. Hewitt's claims to substantiate a discovery under the General Mining Laws, and these claims appear to warrant further development. Therefore, we would have no objection if Mr. Hewitt were to file mill sites to include the buildings which are necessary in continuing to develop the mineral values.

Before the mill sites could be filed, the Tennessee, Big Bend, and Lucky lode claims on which the improvements are located would have to be abandoned.

On a like basis, we propose that the flume system leading to the improvements be placed under special use to protect the interests of both the Forest Service and Mr. Hewitt.

MR. LEISZ
226-3361 X2156
(DIVISION OF LANDS & MINERALS)

The mill site approach might well provide the time for further claim development on a reasonable basis for Mr. Hewitt. If you elect to proceed in this manner, we will be happy to discuss this approach in more detail with you.

I hope the discussion on March 28 and this letter will provide you with sufficient information to advise Mr. Hewitt to sign the easements presented by Ranger Boeckstiegel on February 28. In order for our construction program to proceed in an orderly manner, the easement should be received by us no later than June 15.

Sincerely yours,

for D. R. GIBNEY
Forest Supervisor

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PACIFIC NORTHWEST REGION
POST OFFICE BOX 4137
PORTLAND 8, OREGON

January 18, 1961

IN REPLY REFER TO
2810

Mr. J. P. Hewitt
Box 132
Mehama, Oregon

Dear Mr. Hewitt:

Enclosed is a copy of the notes made at your recent meeting with our mining engineers. It is our intention to examine the remaining claims on the basis shown in the minutes of the meeting.

We believe that the enclosed notes are self-explanatory.

Sincerely yours,

W. E. BATES
Acting Assistant Regional Forester

IN WITNESS WHEREOF, Grantor has caused this instrument to be executed by its duly authorized officers and its corporate seal to be hereunto affixed on the day and year first above written.

By _____
(Title)

(Seal)
Attest: _____
(Secretary)

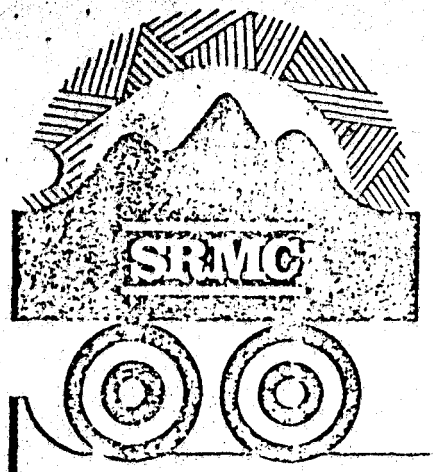
State of OREGON)
) ss.
County of Multnomah)

On this 23rd day of September, 19 69, before me the undersigned, a Notary Public in and for said County and State, personally appeared J. P. HEWITT and VICTOR ATTIYEH, known to me to be the President and Secretary, of SANTIAM COPPER MINES, INC., the Individuals that executed the within instrument, known to me to be the persons who executed the within instrument on behalf of the corporation therein named, and acknowledged to me that such individuals executed the within instrument pursuant to its bylaws or a resolution of its Board of Directors.

WITNESS my hand and Official Seal,

_____
Notary Public in and for said
County and State

My Commission expires 12-19-72



FOREST SERVICE
Willamette National Forest
DETROIT DISTRICT
JAN 21976
RECEIVED

SHINY ROCK MINING CORP.
P.O. BOX 132 · MEHAMA, ORE. 97384
PHONE: (503) 897-2336 · 854-3505

December 15, 1975

Detroit Ranger District
Star Route Box 320
Mill City, Oregon 97384

Re: Shiny Rock Mining Corp.
Plan of Operation

Dear Sirs:

In compliance with Forest Service regulations, Shiny Rock Mining Corp., PO Box 132, Mehama, Oregon 97384, (897-2336), submits its plan of operation starting in 1975 and continuing for an indefinite period. This plan covers only those operations that may cause significant surface disturbance. It is the intent of Shiny Rock to maintain, develop, mine, and process ore from the claims of the Ruth and Blue Jay group in Section 27 and 34 of Township 8S, Range 5E, east of W.M. The initial development will be centered around the Ruth 4, Ruth 1, Ruth 2, and Morning Star Lode claims (see attached map). Most development work will be underground and will not significantly affect the surface. Ore extracted from the development and subsequent stopeing operations wil be loaded aboard trucks at the portals of the 4th and 5th levels of the Ruth mine and the 2nd level of the Morning Star mine. It then will be trucked to the millsite claims known as the Poor Boy and Starvation millsites in Sec. 28, Township 8S, Range 5E, east of W.M., formally known as the Tennessee.

The initial route for ore transportation to the mill will be from the Ruth spurs to the junction with the Elkhorn-Elklake road then to the millsite. All spurs and portions of the Elkhorn-Elklake road necessary for hauling will be widened to 14' and rocked with coarse and fine rock to make them safe and capable of withstanding loaded hauling. Road alignment and

MINING RANCHING LOGGING SAWMILLING

SHINY ROCK MINING CORP.
P.O. BOX 132 · MEHAMA, ORE. 97384
PHONE: (503) 897-2336 · 854-3505

grade will follow the existing road. Eventually the road refered to as the tram road from the 5th level of the Ruth to its junction with Elkhorn-Elklake road will be improved to provide efficient transportation by either truck or rail to the mill.

A concentrating mill will be erected on the Starvation and Poor Boy millsites (see attached site plan drawing #1). Initial design capacity is 40 tons per day. Initial production capibility for the first year is estimated at 20 tons per day. As soon as grade and quality are established by bulk sampling, the mill will be expanded to a 150 ton per day production mill. The mill will reduce mine run ore to 65 mesh and then concentrate the valuable metal through flotation and gravity concentration methods (see attached equipment lay out plan and elevation drawing #2 and flow sheets FS #1 and FS #2). Construction of the mill will take place from November 1975 to July 1976 with initial start up scheduled for 1 July 1976. Electrical power to operate the concentrating portion of the mill will be produced by a Pelton water wheel. Electrical power to the ore reduction portion of the mill will be by diesel generator. A marine type heat exchanger on the diesel set will be used to heat the mill and finish drying the concentrate. Any water contaminated by concentrating will be recycled within the mill (see attached FS #2). Settling ponds and tailing storage will be on the site, in compliance with State and Federal environmental permits and restrictions. A lead-silver concentrate and a zinc concentrate will be produced by this mill and then trucked from the mill site to Lyons or Portland, depending on market conditions, via the Elkhorn-Elklake road, S-80, and the Little North Fork Road.

(continued)

SHINY ROCK MINING CORP.
P.O. BOX 132 • MEHAMA, ORE. 97384
PHONE: (503) 897-2336 • 854-3505

All efforts have been and will be made to minimize the impact of our proposed operation.

If any further information is required, please contact:

George A Atiyeh, President & Geologist
Shiny Rock Mining Corp.
PO Box 132
Mehama, Oregon 97384
Phone (897-2336)

GA/da
ENC: 1 map
2 flow sheets
1 site plan
1 equipment lay out plan

cc: Ogelsby Young

FILE

DEPARTMENT OF ENVIRONMENTAL QUALITY

Russell H. Fetrow, Jr., P.E.
Regional Administrator
Salem-North Coast Region
2585 State Street
Salem, Oregon 97301

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696
Salem 378-8240

ROBERT W. STRAUB
GOVERNOR

September 30, 1975

Mr. George Atiyeh, Vice President
Shiny Rock Mining Corp.
P.O. Box 132
Mehama, Oregon 97384

RE: AQ & WQ - Shiny Rock Mining Corp.
Marion County
Salem-North Coast Region

Dear Mr. Atiyeh:

This letter concerns your proposed ore concentrating plant to be located on the Little North Fork of the North Sanitam River and will confirm initial requirements pertaining to air contaminant and waste water handling and disposal as discussed during your conference with Department representatives on September 5, 1975.

Department rules require the review of, and a written approval for, the installation of any processing equipment discharging air contaminant emissions or having a waste water treatment facility.

From the standpoint of air quality, the review process can be initiated by completing the attached Notice of Construction Form and returning it to the Salem-North Coast Regional office. Engineering plans and specifications may be included with the form and if not included will be requested within 30 days of the date of receipt of the form. An Air Contaminant Discharge Permit is also required for the plant and the appropriate application forms will be forwarded from the headquarters office located in Portland. The forms should be completed and returned to the Portland office with the necessary exhibits and fees.

In regard to industrial waste water discharges, the established water quality standards for the adjacent stream

dictate that any proposed waste water treatment system be designed such that recirculation is maximized. No discharges from the system will be permitted to either directly or indirectly enter the waters of the State.

Review of the waste water treatment facility can be initiated by completing the State Water Pollution Control Facilities Permit Application Form, which was provided at the meeting on September 5. This application form should be returned to our headquarters office accompanied by the appropriate engineering plans and exhibits.

Your prompt attention to these matters will help avoid any unnecessary delays in construction of the proposed plant. If you have any questions concerning the applications, please contact the Salem office at 378-8240.

Sincerely,

LOREN KRAMER
Director

David St. Louis
Regional Air Quality Engineer

DSL/taa/033/164

Attachment (1)

1. Notice of Construction Form

cc: CK Ashbaker (RJ Nichols), Water Quality w/o attach.
FA Skirvin, Air Quality Division w/o attach.
Dave Black, State Forestry Dept., Detroit Ranger Station w/o attach.
M. Yuki, P.E., 1220 S.W. Morrison, Portland, Ore. w/o attach.

DEPARTMENT OF
ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-6093

ROBERT W. STRAUB
GOVERNOR

January 20, 1976

Shiny Rock Mining Corp.
PO Box 132
Mehama, Oregon 97384

Attn: George Atiyeh, President

Re: File 24-0719

Gentlemen:

The Department received your Air Contaminant Discharge permit application on January 12, 1976. However, the permit fee rates were increased, effective January 6, 1976. Therefore, an additional fee payment is required before the Department can process your application.

The fees submitted were:

Filing	$ 25
Application Investigation and Permit Issuing or Denying	100
Total	$125

The new fee rates are:

Filing	$ 25
Application Processing	175
Annual Compliance Determination	200
Total	$400

Under the new rules the total fee of $400 must be submitted with the application; therefore, the additional fee payment still due is $275.

Because the proposed process is a wet process and on a relatively small scale, it appears that you may apply to the Department (by letter to the Salem Region office) for a special letter permit in accordance with Oregon Administrative Rules 20-033(4)(d) which allows the payment of the filing fee only for a source with no or insignificant air emissions.

Please submit as soon as possible either the required fees or the letter requesting a special letter permit so that the Department can continue to process your air permit application.

If you have any questions, please feel free to contact Mr. David W. St. Louis of the Salem Region office at 378-8206.

Sincerely,

LOREN KRAMER
Director

H. M. Patterson
Assistant Director
Air Quality Programs

RP:mh
cc: Salem Region

DEPARTMENT OF ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229- 6087

ROBERT W. STRAUB
GOVERNOR

February 12, 1976

Shiny Rock Mining Corporation
P.O. Box 132
Mehama, Oregon 97384

Attention: Mr. George Atiyeh

Re: AQ - Shiny Rock Mining Corporation
File No. 24-2316, NC No. 696

Gentlemen:

The Department has completed review of the plans and specifications submitted on January 20, 1976. These plans and specifications describe an ore processing plant including the crushing and screening operation located at the Poor Boy Millsite in Jawbone Flats, Oregon.

It is the Department's conclusion that if the project described above is constructed, operated and maintained properly, it should comply with all applicable air quality control rules and statutes.

The plans and specifications are hereby approved subject to confirmation by the Environmental Quality Commission (EQC) and also subject to the following conditions:

1. The Department shall be notified and approve any expansion of the crushing operation.

2. Water sparys could be required following the Department's inspection of the operation.

This approval does not relieve your obligation to comply with the appropriate emissions standards and to demonstrate compliance.

Please be advised that:

1. The construction of the project shall be in strict conformance to the approved plans and specifications submitted. No changes or deviations shall be made without the prior written approval of the Department of Environmental Quality.

2. The enclosed Notice of Completion form (AQ-203) shall be completed and returned to this Department within 30 days of the date construction of the project was completed.

If the Department can be of assistance, or if there are any questions, please contact Mr. Jack Payne of the Air Quality Control Division at 229-6087, or Mr. David St. Louis of our Salem-North Coast Regional Office at 378-8240.

Sincerely,

LOREN KRAMER
Director

H. M. Patterson
Assistant Director
Air Quality Programs

JAP:cs

Enclosure

cc: Salem-North Coast Region, DEQ

DEPARTMENT OF
ENVIRONMENTAL QUALITY

Russell H. Fetrow, Jr., P.E.
Manager
Salem-North Coast Region
796 Winter Street N.E.
Salem, Oregon 97310

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696
Salem 378-8240

ROBERT W. STRAUB
GOVERNOR

May 27, 1976

Mr. George Atiyeh, President
Shiny Rock Mining Corporation
P.O. Box 132
Mehama, Oregon 97384

WILLAMETTE N. F.
DETROIT R. D.
DR ___ OR ___
FCO ___ RA ___
FCA ___ RT ___ Plans ___
June 76
MA ___ Oper ___ Admin ___
ars ___ PreS ___
oc ___ Raf ___
App'l ___ Engr ___

RE: AQ - Shiny Rock Mining Corp.
Marion County
Salem-North Coast Region

Dear Mr. Atiyeh:

This is in reference to your proposed Air Contaminant Discharge Permit (#24-2316), which was forwarded to you for your review and comment on May 24, 1976, and will serve as a follow-up to our telephone conversation of May 14, 1976.

As discussed, you are concerned about the provisions set forth by Special Condition 5 of your proposed Air Contaminant Discharge Permit. That Special Condition specifically prohibits any open burning at the plant site or facility. Your concerns center on the fact that the plant site is located on U.S. Forest Lands, and you are consequently requested on occasion to conduct open burning under the Forest Service's Management Program.

These concerns have been reviewed by Department staff, and it has been determined that such burning requests imposed upon you by Forest Service personnel will not be in violation of your Air Contaminant Discharge Permit. Please be advised however, that burning of material such as tires, garbage, trash, or any material which results from the operation or maintenance of your mining site, processing plant, and/or mining community is prohibited.

Your cooperative attention in this matter is appreciated. If there are any questions or if we can be of any assistance

please feel free to contact Dave St. Louis of our Salem offi
at 378-8240.

Sincerely,

LOREN KRAMER
Director

Stephen C. Downs, P.E.
Regional Engineer

SCD/taa

cc: Air Quality Control Division, Portland
FM Bolton, Regional Operations
Dave Black, U.S. Forest Service, Detroit Ranger
District, Star Route, Box 320, Mill City, Oregon 9738

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL WATER QUALITY LABORATORY

WESTERN FISH TOXICOLOGY STATION
1350 S.E. GOODNIGHT AVE
CORVALLIS, OREGON 97330

FOREST SERVICE
Willamette National Forest
DETROIT DISTRICT
NOV 19 1975
RECEIVED

November 10, 1975

Eric Siverts
Willamette National Forest
211 E. 7th
Eugene, Oregon 97401

Dear Eric,

The results of our analyses of the water samples we collected from the Little North Fork of the Santiam and its tributaries on 11/5/75 are attached. You will see that our results are similar to your older data which we discussed over the phone today (11/10). The metal levels are quite low and even for such soft water they are, in my opinion, of no concern.

I will plan on making another sampling trip with you in the spring and presumably again when and if the ore concentrator is in operation. I would also like to bring back a tailings sample to check on leachate composition.

Thank you for the opportunity to assist in this interesting problem.

Sincerely,

Gary A. Chapman

Gary A. Chapman, Ph.D.
Research Aquatic Biologist

11-11

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
CORVALLIS ENVIRONMENTAL RESEARCH LABORATORY

Rec'd 9/16

WESTERN FISH TOXICOLOGY STATION
1350 S.E. GOODNIGHT AVE
CORVALLIS, OREGON 97330

13 September 1976

Dave Black
Box 537
Detroit, Oregon 97342

Dear Dave:

Attached are the results of the water analyses which we conducted on the samples collected 08-31-76 from the Little North Fork Santiam drainage. These data are strikingly similar to those from the samples collected 11-05-75. The only apparent source of significant metal input is Battleaxe Creek which has had a consistantly high zinc concentration. The levels involved are not high enough to cause concern, however. Since Battleaxe Creek is high in Zn above the tailings pile, the source (either natural or man-caused) is apparently above the tailings. Perhaps the source of this zinc should be the subject of a future sampling trip.

Let me know if anything significant occurs regarding the metals activity in the drainage. Otherwise, I'll plan on arranging another sampling trip for late spring or early summer next year.

Best wishes,

Gary

Gary A. Chapman
Aquatic Biologist

Exhibit 5

DEZENDORF, SPEARS, LUBERSKY & CAMPBELL
(DEY, HAMPSON & NELSON)
(KOERNER, YOUNG, McCOLLOCH & DEZENDORF)
ATTORNEYS AT LAW
800 PACIFIC BUILDING
PORTLAND, OREGON 97204
(503) 228-6151

JAMES C. DEZENDORF
FRANK H. SPEARS
WILLIAM F. LUBERSKY
HARRY J. DEFRANCO
GEORGE B. CAMPBELL
JOHN P. BLEDSOE
JAMES D. TREDUP
HERBERT H. ANDERSON
OGLESBY H. YOUNG
WAYNE HILLIARD
JAMES M. CLARKE
LEWIS R. SCOTT
RICHARD S. BURST
GEORGE L. WAGNER
STANLEY R. LOEB
MICHAEL O. HOLMES
GEORGE L. KIRKLIN
LEIGH D. STEPHENSON
JOHN H. DOHAN
O. MEREDITH WILSON, JR.
ANTHONY J. BARKER
LAURENCE F. JANSSEN
ROBERT E. MALONEY, JR.
RICHARD C. HUNT
JOHN W. GOULD

CLARENCE J. YOUNG
OF COUNSEL

KENNETH E. JERNSTEDT
CRAIG E. IVERSON
JOHN M. BERMAN
YANTER PARKER
RICHARD H. WILLIAMS
EDWIN A. HARNDEN
ROY P. FARWELL
CHARLES J. PRUITT
MARK S. DODSON
STEPHEN F. ENGLISH
JOSEPH A. BRISLIN
NELSON D. ATKIN, II
MOLLY P. SUMNER
DAVID B. MARKOWITZ
JAMES E. BARTELS
DAVID H. WILSON, JR.

November 17, 1975

Mr. George Atiyeh
P. O. Box 132
Mahama, Oregon 97384

Re: Application to appropriate 1,000 gallons a minute for domestic and mining and milling purposes

Dear George:

On Friday, November 14, 1975, I was in Salem on another matter and dropped by the Water Resources Board in Salem to discuss this matter with Mr. Cline. I left the letter dated September 16, 1975 and explained at length that I had intended to contact him some time ago. Mr. Cline reiterated a position we have heard before.

First, agency officials do provide application forms. They simply would not send us an application form because they cannot accept an application for a permit which would require a change in their current policy. If you recall, we wanted to avoid a formal application for a modification of the water policy because it would require a hearing.

Second, Mr. Cline stated that we probably would need to check with the DEQ in regard to a waste discharge permit. This appears to be an additional complication which we had not anticipated. Earlier Mr. Cline and Mr. Learn had advised me that our use would be nonconsumptive and, therefore, there would be no need for a waste discharge permit.

Mr. Cline is going to send me a copy of the administrative rules and the current procedure for a modification or

...

variance in water policy. For the time being, however, we have the best of both worlds. We have applied for a permit with Mr. Cline and set things in motion. I conferred with Tom Atiyeh this morning and he assured me that this is all the forest service will need for now.

We will receive an application for a rule change, but the Board will not take any further action until we take the affirmative step of filing a second application. Therefore, we can control the pace of the entire agency process. Please let me know if it becomes necessary for us to contact the Board again. In the meantime, it may be advisable for someone to stop by the Salem office and pick up an application for a permit for domestic use.

Sincerely,

Mark S. Dodson

DEZENDORF, SPEARS, LUBERSKY & CAMPBELL
(DEY, HAMPSON & NELSON)
(KOERNER, YOUNG, McCOLLOCH & DEZENDORF)
ATTORNEYS AT LAW
800 PACIFIC BUILDING
PORTLAND, OREGON 97204
(503) 226-8161

JAMES C. DEZENDORF
FRANK H. SPEARS
WILLIAM F. LUBERSKY
HARRY J. DEFRANCO
GEORGE B. CAMPBELL
JOHN P. BLEDSOE
JAMES D. TREDUP
HERBERT H. ANDERSON
OGLESBY H. YOUNG
WAYNE HILLIARD
JAMES H. CLARKE
LEWIS K. SCOTT
RICHARD S. BORST
GEORGE L. WAGNER
STANLEY R. LOEB
MICHAEL G. HOLMES
GEORGE L. KIRKLIN
LEIGH D. STEPHENSON
JOHN H. DORAN
O. MEREDITH WILSON, JR.
ANTHONY J. PARKER
LAURENCE F. JANSSEN
ROBERT E. MALONEY, JR.
RICHARD C. HUNT
JOHN W. GOULD

CLARENCE J. YOUNG
OF COUNSEL

KENNETH E. JERNSTEDT
CRAIG E. IVERSON
JOHN M. BERMAN
WALTER PARKER
RICHARD H. WILLIAMS
EDWIN A. HARNDEN
ROY P. FARWELL
CHARLES J. PRUITT
MARK S. DODSON
STEPHEN F. ENGLISH
JOSEPH A. BRISLIN
NELSON D. ATKIN, II
HOLLY P. SUMNER
DAVID B. HARROWITZ
JAMES E. BARTELS
DAVID H. WILSON, JR.

September 18, 1975

Darrell A. Learn
Water Resources Department
1178 Chemeketa Street NE
Salem, Oregon 97310

Re: Application to appropriate 1,000 gallons of water a minute from unnamed stream located in Section 33, T 8 S, R 5 E

Dear Mr. Learn:

We have been advised by telephone that the State Water Resources Department does not have any formal application form for a permit to appropriate water.

In the absence of an application form, my client, Shiny Rock Mining Corporation, would like to apply for the following:

> Application to appropriate 1,000 gallons of water a minute or approximately one cubic foot per second from an unnamed stream located in Section 33, Township 8 South, Range 5 East, Marion County, Oregon.
>
> The water will be transported for domestic purposes and mining and milling. This water has been devoted to these purposes for many years by Shiny Rock Mining Corporation and its predecessors in interest.

Mr. Thomas E. Kline advised us that the major use of the water would be non-consumptive and that we would not need an additional waste discharge permit.

Very truly yours,

Mark S. Dodson

cc: George Atiyeh

Detroit Ranger District
Star Route Box 320
Mill City, Oregon 97360

2810

September 30, 1976

Freeport Exploration Company
P.O. Box 1911
Reno, Nevada 89505

Dear Dave:

Pursuant to the three phase plan of exploration explained in your letter of August 13, 1976 and the on-the-ground meeting with Donald Decker on September 7, 1976, I conclude that the operations you describe are excepted from the requirement of the Forest Service Mining Regulations, 36 CFR 252 to submit an operating plan.

It is understood that phase three of operations will consist substantially of the following activities:

Reopen the road constructed in the SW¼ of Section 29, T8S., R5E. by Shiny Rock Mining Corporation.

Construct additional access trails to the three drill sites as shown on the attached map. A rocky ford will be provided to cross the small stream on the access road to the lower corner of the Princess patented claim.

Drill cuttings and effluent will be impounded and collected as explained in your letter.

Drill sites and skid trails will be restored to original contour, water barred as necessary and reseeded to prevent runoff.

This work will be started in October and continue for about two months depending upon weather.

Any merchantable timber cut from unpatented claims in clearing during this part of the operation will be paid for by Shiny Rock Mining Corporation through provisions in their operating plan.

Slash will be scattered or piled as agreed on the ground.