MONTANA NATIONAL FINANCE INC.
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309 W. Mendenhall
Bozeman, MT
59715

TO: Alan Young

DATE: 2-09-89

COMPANY: Sunshine Mines

Brian Marler
USA Investment
& Mortgage Co.
1005 Durston
Bozeman, MT
59715

E:

FROM: Thomas H. Langel

SUBJECT: Alan,

Please reveiw the following information. Give me a call with any questions that you may have. I am sure that we can quickly answer them all now.

RIDDLE, OREGON
NICKEL MINE & SMELTER

Opportunity & Overview

Several large mineral facilities closed in the last few years during a low price cycle. Many of these properties have been purchased by entrepreneurial groups and put back into operation, taking advantage of current positive price cycles. Several have been spectacularly successful. Those that have, purchased hundreds of millions of dollars of infrastructure at pennies on the dollar and the market price of their product soared. This list includes the White Pine Copper Mine in Michigan, the Anaconda Mine in Butte, Montana, and the Anaconda Moly Mine in Tonapah, Nevada. The Hanna Nickel Mine & Smelter in Riddle, Oregon, falls into this same category.

The Hanna Nickel Mine and Smelter presents a tremendous opportunity. The plant and facility can be acquired at 5% of replacement cost. A worldwide nickel shortage has tripled nickel prices since the plant was closed down. Strong nickel prices are projected to continue for at least the next two years. The plant can be put back into operation within 150 days to quickly take advantage of the price window. The plant and infrastructure could not be replaced for $300 million and can be acquired for under $10 million.

With an investment of $4 million, the property can be started on a Phase 1 basis and could well return over $30 million of net profit in the next year.

SUMMARY OF ESTIMATES FOR NICKEL MINE

At current prices of more than $7.00 per pound, a dramatic economic opportunity seems to exist for venturers to reactivate the Riddle smelter. USA Investments has indications that customers are willing to option the production in exchange for assured availability. In order to utilize the current economic environment, the least time consuming renovation of remaining Riddle equipment would enable production from the ore stockpiled adjacent to the smelter during its 30 years of production. A modification of the kilns to permit drying as well as calcination would eliminate the immediate need to set up the dryers. The reject stockpiles would not upgrade appreciably anyway. If modest venture capital was available to organize an exploitation team, engineer the modifications and prearrange procurement; the production might commence as early as two months after satisfactory financing. The foregoing describes Phase 1 of a four phase program each of which stand alone. Market conditions would dictate whether the venturers would wish to proceed to the succeeding phase.

Over five million tons of ore have been stockpiled at the smelter site over the years of operation. This ore has a grade of .85% nickel, which, after process loss, would yield 14 pounds of nickel per ton. Approximately 2,400 tons per day could be smelted, yielding over one million pounds of nickel per month.

The smelter facility was closed in 1986 and partially salvaged. Because of this, certain reacquisitions of equipment and reconstruction is necessary, as outlined hereafter.

Description	Capital (million$)	Cum. Capital (million$)	Monthly Production Pounds Ni.	Product Cost per Pound	Startup Period
Phase 1 Modify rotary kiln with lifters & reline 2 furnaces & stock skulls	1.82	1.82	425,000	$4.09	2 mo.
Phase 2 Modify other kiln reline other 2 furnaces and stock skulls	1.56	3.38	850,000	$4.00	1 mo.

OPERATING COST ESTIMATE

Cost estimate for two (2) furnaces using stockpile to produce 6,000,000 pounds of Nickel per year (1984 cost basis).

	$1,000/yr
FeSi 3208 x $\frac{6}{17.6}$	1,094
Reclaim 414,000 tons x $1.5/ton	621
Calcining (9710 + 3833) .5	6,772
Smelting (14,465 - 3208 FeSi - 4418 Power) .5	3,420
Power $\frac{4418}{2}$ x $\frac{27}{7}$ = (27 mills)	8,520
Skulls	300
Refining 1526 x $\frac{6}{17.6}$	520
Product Handling 233 x $\frac{6}{17.6}$	80
O & A Supply	988
Taxes	750
TOTAL	$23,065

Without skull plant @ 425,000 lb/ni/yr:

Phase 1 $\frac{20,856 \text{ cost}}{5,100 \text{ lbs/ni/yr}}$ = $4.09 lb/ni cost

Phase 2 850,000 lb/ni/yr = $4.00 lb/ni cost (cost spread a little better)

With skull plant:

Phase 3 $\frac{20,856}{6,000}$ = 3.40/lb. Ni. @ 20 Mill Power

Phase 4 $\frac{40,047 \text{ cost}}{18,850 \text{ lbs/ni/yr}}$ = $2.22 lb/ni cost

$\frac{23,065}{6,000}$ 3.84/lb. Ni. @ 27 Mill Power

Each Mill increases cost per pound of nickel by $0.05
There are two years remaining on a seven (7) Mill Power contract operating 13 hours per day - off peak.

Phase3 Reactivate skull plant	0.06	3.98	1,000,000	$3.40	2 mo.
Phase 4 Contract Mining, replace mine screens and set up used dryers (see main data pkg)	2.73	6.71	1,500,000	$2.22	4 mo.

HDW 2-7-89

STARTUP CAPITAL PAYBACK AND NET PROFIT PER MONTH AFTER PAYBACK

Phase 1

425,000 lb.Ni x $2.80(profit)/lb = $1.19 million/month

1.82 (capital investment) = 1.53 mo. to recover capital then
1.23 (profit) Profits = $1.19 million/month

Phase 2

425,000 lb. Ni added x $2.90 (profit)/lb. = $1.23 million/month

1.56 (cap.inv.) = 1.26 months to recover capital then
1.23 (profit) Profits = 850,000 Ni x $2.90 profit =
$2.46 million/month

Phase 3

150,000 lb. Ni added x $3.50/lb = $0.525 million/month

0.600 (cap.inv.) = 1.14 months to recover capital then
0.525 (profit) Profits = 1,000,000 Ni x $3.50 profit =
$3.5 million/month

Phase 4

500,000 lb. Ni added x $4.68/lb = $2.34 million/month

2.73(cap.inv.) = 1.17 months to recover capital then
2.34 (profit)   Profits = 1,500,000 Ni x $4.68 profit =
$7.00 million/month

HDW 2-5-89

Costs for lease or acquisition assumptions of the property and kilns remain open but refurbishing costs can be economically evaluated as follows:

Universal Equipment owns the smelter and all infrastructure except the rotary kilns. Vancouver Energy purchased the kilns last summer. It is believed that Universal will accept a lease purchase offer that would require $500,000 to $1,000,000 front payment - monthly payments of $250,000 per month for 12 months and a purchase option price of $4-$6,000,000. All lease payments would be credited to the purchase price.

The rotary kilns can be purchased for $1-$2,000,000 on a lease basis with $250,000 to $500,000 up front - monthly lease payments and a buy-out at the end of a year.

Funds per month for capital based on nickel sales at $7.00 and an allowance of $0.10 for freight and commissions, a minimum of one month operation at reduced production would be required for crew training assuming 25% of experienced employees from the area can be rehired.

PROCESS & REBUILD DESCRIPTION

Phase 1

This phase consists of starting one rotary kiln and two smelting furnaces and acquiring and reactivating all other components in order to cast ferronickel ingots ready for market.

A 988 front-end loader and truck will be acquired to move ore from the stockpile to a feedbin in front of the rotary kiln. The feedbin must be constructed. The feedbin will feed the ore onto existing conveyer belts that feed the rotary kiln. The rotary kiln must be activated to combine the function of a dryer and a calciner. This is done by adding lifters in the first 100 feet of the 250 foot kiln. The lifters cause the ore to have better exposure to the hot air stream to remove the natural moisture then the other 150 feet of the kiln calcines the ore to remove the chemically bound moisture. The kiln must be relined with refractory. From the calciner, the ore is hoisted to holding bins at the top of the smelter and from there, feed almost continuously into the electric ore smelting furnaces. the furnace shells are 22 feet in diameter and constructed from 1.5 steel plate panels. Some of the panels must be replaced and the four shells must be relined with refractory (brick).

Once the ore is melted in the four furnaces, it is poured into large 18 by 10 foot reaction ladles. These ladles must be acquired along with several smaller slag ladles. These ladles ride on ladle cars and these cars must be fabricated. Ferro-silicon, which is produced in a fifth furnace, is added to the molten nickel ore in the reaction ladles and the molten ore is poured from one ladle to another to cause the reduction of the nickel leaving the slag on top. The slag is poured off into slag ladles and then poured into a granulator and sent to the slag pile by conveyer belt. The nickel is sent to two refining furnaces and then poured into molds and formed as ingots to be shipped to market.

Phase 2

Phase 2 parallels Phase 1 in process and requires installing lifters & relining in the second kiln and repairing the other two furnace shells and relining the furnaces.

Phase 3

This Phase requires reconstruction of the skull plant. This facility was salvaged and must be rebuilt. It is used to extract the nickel from the "skulls" that are formed in the various reaction, slag, and refining ladles, as nickel rich material cools and adheres to the surface of the ladles. This material is chipped out and processed at the skull plant which consists of a hammermill, a ball mill, magnetic separator, a screen and conveyers.

Phase 4

Phase 4 puts the mine back into operation and replaces the ore drying circuit along with crushing and screening. The benefit is creating a 1.3% nickel feed grade to the smelter instead of .85% from the reject ore stockpile.

The raw ore grade at the mine starts at an average of .85% to material containing the lower grade. Strip ratio would average 0.5 to 1.0 and then 10% of the ore mined is rejected in the pit. A set of wobbler bars set at 5.5" to 3.5" spacing rejects another 20% of the lower grade ore at the mine. The wobbler bars, a jaw crusher and reject conveying system needs to be reinstalled.

A contract miner would be brought in for the mining operations. The tram is still intact down the mountain but would have to be purchased at around $300,000. At the tram bottom, ore stockpile conveying equipment and pan feeders would have to be reinstalled to connect the tram with the dryers.

The ore is very wet with 18% to 24% moisture content. It has to be dried to 6% in order to screen it and crush to upgrade further. The dryers are 10 foot by 100 foot rotary kilns, fired by gas or hog fuel. Three dryers need to be reinstalled. Also, the screen and crusher need to be reinstalled. From this point on, the process circuit is intact from Phase 1 & 2.

RESTART CAPITAL COSTS

ITEM	MATERIAL & LABOR	MANPOWER men/shift		COMPLETION TIME (wks)
1. Ore feed to calciner				
frontend loader 988	100,000			
70 - ton truck	30,000			
Hopper feeder	60,000	2	1	2
2. Rotary Kiln (2)				
Install lifters and reline				
Lifters	50,000	8	1	2
Lining	140,000	12	2	2
Electric Controls	26,400			
3. Smelter feed cars	10,000			
4. Smelter furnaces				
Repair and reline				
install starter electrodes	45,000	3	1	2
Repair furnace shell & pour lips	260,000	16	3	2
Refractory lining	416,000	12	3	2
Catwalks & hoods	70,000	8	1	2
Deskuller (2)	60,000			
Electrode cables	268,000	8	1	2
5. Ladles				
Slag pots (6) used	120,000			
Ladles (20) used	550,000			
Ladle refractory	used kilnbrick	contract		
6. Slag cars (2)	60,000			
Reaction Ladle cars	90,000			
7. Water-cooled mandrills	72,000			
8. Slag conveyer	100,000			
Skull truck	30,000			
Skull Plant	600,000			

Total for 1 kiln and 2 furnaces = $1.82 million Phase 1

Total for 2 kiln and 4 furnaces = $3.38 million Phase 2

Skull plant equipment = $600,000 Phase 3

Mine & dryer circuit(main rpt) = $2.73 million Phase 4

TO: BRIAN MARLER

FROM: H.D. WEDGE

SUBJECT: ESTIMATE OF PRODUCTION FROM REJECT ORE USING KILNS MODIFIED WITH LIFTERS
ONE KILN AND TWO FURNACES - PHASE ONE
DOUBLE FOR PHASE TWO

Traditional kiln feed was 60 tons per hour of 5/16" ore @ 7% moisture and 10% LOI to produce a product at 2% LOI

60 tons x .07 H_2O = 4.2 tons H_2O eliminated
Energy equivalent 4.2 x 200 = 840
60 tons x .08 LOI =4.8 tons LOI eliminated
Energy equivalent 4.8 x 1000 = 4800 + 840 = 5640

Reject kiln feed scalped to 1" and feed directly to a kiln modified with lifters in the first 100' of the 250' long 9" diameter kiln.

Reject .8 x 4 = 3.2
.2 x 12 = 2.4

5.6% average moisture

60 tons x .056 H_2O = 3.4 tons H_2O eliminated
Energy equivalent 3.4 x 200 = 680
60 tons x .08 = 4.8 tons LOI
Energy equivalent 4.8 x 1000 = 4800 + 680 = 5480
$\frac{5640}{5480}$ x 60 tons = 61.8 tons kiln capacity for undryed reject

However, the two furnaces carrying a 46 kwh load @ 800 kwh/ton requires 58 tons of molten ore/hour. 58 tons/.92 = 63 tons needed to calcine.

Assume 300 ton rooster surge filled during 4 hours/day furnace delay.

4 x 61.8 tons = 247/24 = 10.3 tons available to supplement deficiency in kiln rate of 1.2 tons/hour.

REJECT PROGRAM

Reject @ 0.85% Ni FED DIRECTLY TO KILN
@ .08 LOI = 0.924% Ni in M.O. - .2 in slag nets
0.724% Ni/ton of M.O. produced.

$$\frac{58 \text{ tons}}{\text{hour}} \text{ M.O.} \times .85\% \text{ time} \times \frac{24 \text{ hours}}{\text{day}} \times \frac{350 \text{ days}}{\text{year}}$$

$$\frac{414120 \text{ tons}}{\text{year}} \text{ M.O.} \times \frac{14.48 \text{ lbs. Ni}}{\text{ton M.O.}} = 5{,}996{,}458$$

Say 6 million lbs./year without mine screening tram or drying cost.

STAFFING

WAGE

Smelter Crew 17 per shift x 4 shifts	136
Yard Crew	4
Millwright	10
Electricians	6
Brick layers	2
Mechanics	2
Fabrication	1
Shift Bosses	4

*Wage rate $20/hr. including taxes & benefits

TOTAL COST PER MONTH: $792,000

SALARY		YEARLY
General Manager	1	65,000
Lab Technician	1	40,000
Safety	1	40,000
Personnel	1	40,000
Clerical & Administrative	3	75,000
Maintenance Foreman	1	40,000
Engineer	1	45,000
Marketing	1	45,000
Purchasing & Warehouse	1	35,000

TOTAL COST PER MONTH: $35,417

TOTAL MONTHLY STAFF & LABOR: $827,417

INTEROFFICE MEMORANDUM

DATE: December 27, 1988

TO: Robert H. Peterson

FROM: Allan R. Young ARY

RE: Oregon Nickel Property Douglas County

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I spoke with Mr. Tom Langel on 12/20/88 regarding his option on a previously producing nickel mine in the Cabinet Mountains near Riddle, Oregon. This is the property which was operated by Hanna since the late 1940's and was the only significant nickel producer in the U.S. A processing plant and smelter exists at the site but would require some $8 million of rehabilitation work before start-up. Permits are still apparently valid.

I asked Mr. Langel to send a data package on this property to which he has not as yet responded. When the mine shut down in 1986, it was my understanding that it was considered "mined out," although at today's nickel prices Mr. Langel states that it has several years of reserves remaining. His estimate of cash flow is based on Hanna's operating costs prior to shutdown. It is quite probable, however, that the stripping ratio for a reactivated pit would be much higher since, during the final year of operation, waste mining was undoubtedly minimized.

Apparently the option which Mr. Langel has on this property has an extremely "short fuse." He reportedly must come up with the $7 million option in the next few weeks and suggests a $500,000 refundable payment now followed by a 10-day "due diligence."

If we had someone in the organization with intimate knowledge of this property, it may be worth pursuing. After all, nickel is now selling at almost three times what it was when the mine shut down. However, it would not be prudent for Sunshine, or any other company for that matter, to put down $7 million under the above time constraints. The apparent lack of any organized data package further supports this caution. Indeed, it is quite likely that, given Mr. Langel's handling of this matter to date, the property may again become available directly from the owners in the next month or two. In the meantime, it may be advisable for Sunshine to give some thought to whether we want to enter into the nickel business.

My recommendation is that we inform Mr. Langel that we are presently not interested in his proposal. Please advise.

ARY:rs
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STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

Nickel Mountain
Project

Hole No. 1 Location Riddle Quadrangle Flat 1000' E. hole 47 250' N. of cut at end of road.

north ½ of sec. 17 T. 30S R. 6W County Douglas

Coord. N. E.

Elev. collar 3525

Depth to top of bed 2' ?

Elev. of top of bed

Thickness of bed

Elev. bottom bed

Depth of hole 8' - 0"

Elev. water table

Bottomed in Limonite Box Work

****

Drill used 2"-3" hand auger

Number men 3

Engr. in charge Libbey

Mtrl. classfd. by Dole

Sampler Mason

Date hole began 8-20-47

Date hole finished 8-20-47

Shifts actually drilled ½

From	To	Thickness of sample	Sample No.	Description
6"	1' - 0"		P6544	Red Brown Soil Rock Fragments
1' - 0"	2' - 0"		P6545	Red Brown Soil Rock Fragments
2' - 0"	3' - 0"		P6546	Garnierite Chips, Yellow-Brown Rock Fragments
3' - 0"	4' - 0"		P6547	More Garnierite, Box Work. Qtz Rock Fragments
4' - 0"	5' - 0"		P6548	Serpentine - Peridotite, Yellow-Brown - Fine Qtz Chips
5' - 0"	6' - 0"		P6549	Serp. - Perid. - Qtz Limonite-Box Work, Rock Fragments
6' - 0"	7' - 0"		P6550	Little Change Rock Fragments
7' - 0"	8' - 0"		P6551	Yellow Limonite Box Work Qtz - Olivine, Rock Fragments

Remarks Hole abandoned when hard rock encountered.

WL-24b

Hole No. 1

STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

Nickel Mountain
Project

Hole No. 1 Location Riddle Quadrangle Flat 1000' E. hole 47 250' N. of cut at end of road.

north ½ of sec. 17 T. 30S R. 6W County Douglas

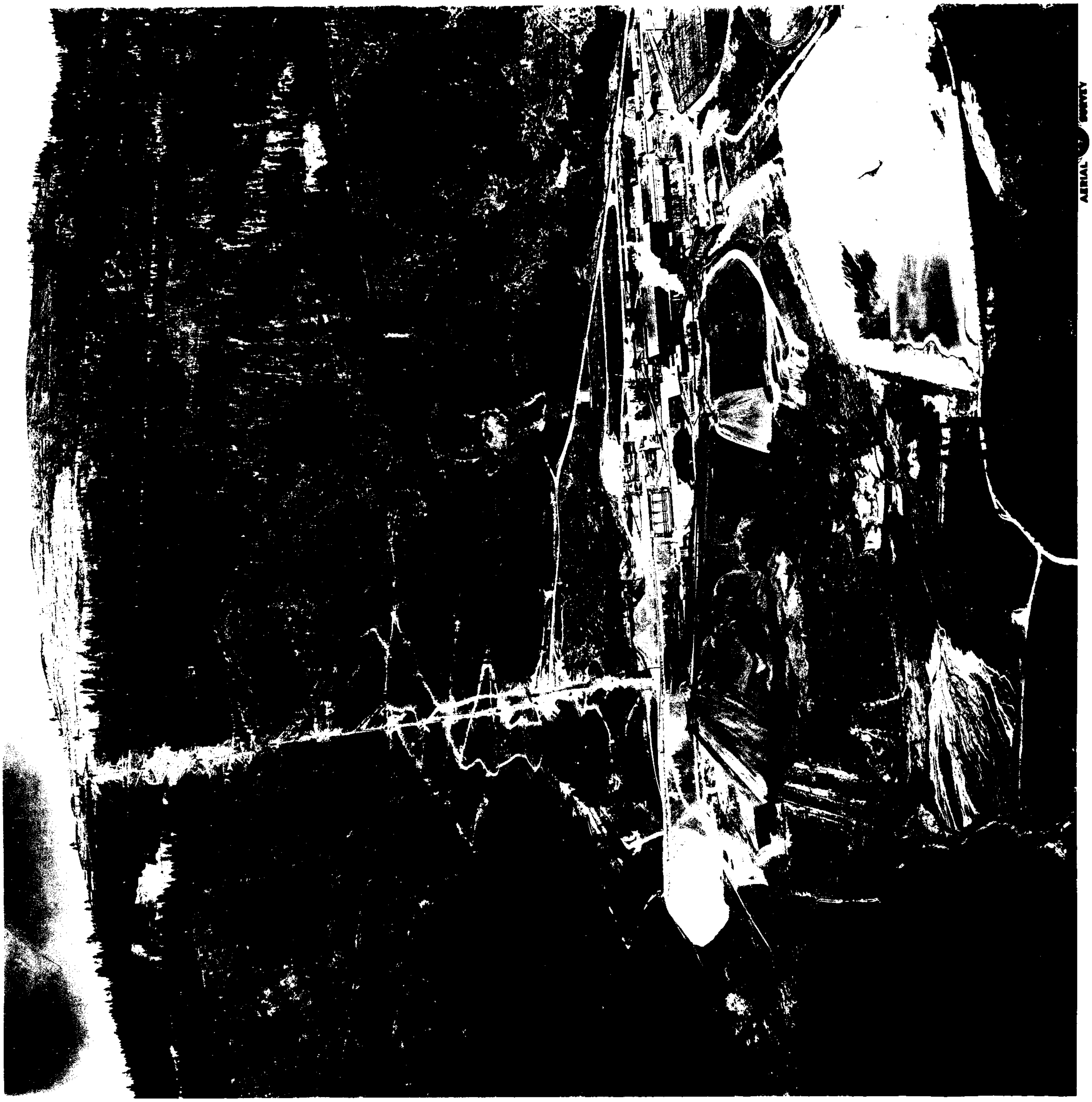
Coord. N. E.

	From	To	Thickness of sample	Sample No.	Description
Elev. collar 3525					
Depth to top of bed 2' ?	6"	1' - 0"		P6544	Red Brown Soil Rock Fragments
Elev. of top of bed	1' - 0"	2' - 0"		P6545	Red Brown Soil Rock Fragments
Thickness of bed	2' - 0"	3' - 0"		P6546	Garnierite Chips, Yellow-Brown Rock Fragments
Elev. bottom bed	3' - 0"	4' - 0"		P6547	More Garnierite, Box Work. Qtz Rock Fragments
Depth of hole 8' - 0"	4' - 0"	5' - 0"		P6548	Serpentine - Peridotite, Yellow-Brown - Fine Qtz Chips
Elev. water table	5' - 0"	6' - 0"		P6549	Serp. - Perid. - Qtz Limonite-Box Work, Rock Fragments
Bottomed in Limonite Box Work	6' - 0"	7' - 0"		P6550	Little Change Rock Fragments
***********	7' - 0"	8' - 0"		P6551	Yellow Limonite Box Work Qtz - Olivine, Rock Fragments
Drill used 2"-3" hand auger					
Number men 3					
Engr. in charge Libbey					
Mtrl. classfd. by Dole					
Sampler Mason					
Date hole began 8-20-47					
Date hole finished 8-20-47					
Shifts actually drilled 1					

Remarks Hole abandoned when hard rock encountered.

WL-24b

Hole No. 1



AERIAL
Box 718, Tulare

RIDDLE NICKEL DEPOSIT

By

W. A. Foster*

* Geologist, Hanna Coal & Ore Corporation,
Riddle, Oregon

RIDDLE NICKEL DEPOSIT

The Riddle nickel deposit is located in southwestern Douglas County in Oregon, four miles west of the town of Riddle, which is inland from the Pacific coast approximately fifty miles and north of the California border about seventy miles. The deposit was discovered in 1864. Since then much prospecting and preliminary development work has been done on the property, but no ore was shipped for other than metallurgical tests until Hanna Coal & Ore Corporation started mining operations in 1954.

The ore mineral is largely garnierite. It occurs as a lateritic concentration in an intricate meshwork of iron- and nickel-stained chalcedony boxwork in sheared and weathered peridotite. In its fresh state the peridotite contains about .2% nickel. The major axis of the ore body strikes northeast and exploration so far has shown it to be roughly 6000 feet long and 3000 feet wide. The concentration ranges in thickness from a few feet to a maximum of 250 feet. It consists of three general layers; a top, brick-red soil layer, an intermediate thick, yellow, limonitic layer with some quartz-garnierite boxwork, and a root layer composed of quartz-garnierite boxwork in nearly fresh bedrock that is a transition between weathered material and fresh peridotite.

The favorable condition of shearing and fracturing of nickel Mountain peridotite made possible the formation of the quartz boxwork and garnierite. The nickel is believed to have been derived from olivine in the peridotite by decomposition during lateritic weathering which probably took place in late Tertiary time prior to uplift and canyon cutting. The Nickel Mountain deposit is an erosional remnant that escaped destruction, and under present climatic conditions, the original laterite has been altered resulting in quartz boxwork and nickel-rich garnierite.

Exploration of the deposit is being accomplished by churn drilling and trenching. A few test shafts were put down for the purposes of studying the ore in place, determining volume and moisture factors, and gathering bulk samples for pilot plant and smelter tests. In churn drilling, 6-inch casing is driven down every two or three feet behind the drill bit and bottomed at each 5-foot interval. All the sludge for each cased 5-foot interval is dumped through a splitter and one-eighth is saved and analyzed. Churn drill holes are stopped after going through the ore zone and penetrating fresh peridotite in which the nickel content is less than .5%.

For estimative purposes we have used conservative factors as follows:

Cubic feet per short ton in place - 17

Moisture - 21%

Grade - 1.5% Ni.

Mining of the ore is done by open pit methods, utilizing 2-1/2-cubic-yard diesel shovels and 22-ton diesel trucks. The mining plan being developed at the property consists of a series of level benches, with a twenty-foot maximum height and a fifty-foot minimum width. Each bench is intersected at several points by access roads, for moving the ore from the benches to the crushing and screening plant. The mining operation can be divided into three phases, (1) mining and hauling, (2) crushing and screening, and (3) shipping.

The ore is dug from the face of a twenty-foot bench by a 2-1/2-yard-shovel and loaded into 22-ton trucks. The ore is hauled from the benches to a stockpile area in front of the screening plant. The truck loads average about 17 tons and using one shovel it is possible to handle 2500 tons per shift. Because of the fractured state of the ore in place, practically no blasting is necessary.

In the second phase of the operation the ore is screened and crushed and deposited by conveyor belt into a conical shaped surge pile of 25,000-ton capacity to await shipment. The ore is pushed by bulldozer into a hopper which feeds a 54-inch wobbler feeder. This feeder consists of thirteen rotating eliptical manganese bars spaced at 5 inches. Over the length of the feeder, the minus 5-inch portion of the ore passes between the wobblers and into a bin from which it is fed by a 42-inch apron feeder onto the 30-inch belt going to the surge pile. The plus 5-inch portion of the ore is carried over the length of the wobbler feeder by its rotating action, and passes down a chute into a 30 x 42 jaw crusher set at 5 inches. The crusher product can either be placed on top of the wobbler undersize on the 30-inch belt to the surge pile, or on the 24-inch conveyor belt going to the reject pile. The decision to waste or save the crusher product is made by the engineering staff. The ore on the belt from the plant to the surge pile is sampled at regular intervals as a part of the grade control procedure.

Transporting the ore from the surge pile on the mountain to the smelter stockpile at the foot of the mountain is accomplished by means of a continuous aerial tramway. In a concrete tunnel under the surge pile, the ore is fed by an apron feeder onto a 30-inch conveyor belt which deposits the crushed material in a 100-ton bin where it is stored before being loaded in the tram cars. The ore is weighed and sampled on the 30-inch belt between the surge pile and the storage bin. A 42-inch apron feeder, electrically controlled, places a measured quantity of ore from the bin, into the loader, the door of which is tripped by the moving cars. Once in the car, the ore travels a distance of 8,306 feet, and drops 2,000 feet in elevation before being deposited at the smelter stockpile. The 50-cubic-foot capacity cars each carry approximately 2-1/2 tons of ore down the mountain at a speed of 500 feet per minute. The cars, spaced 260 feet apart by a two-inch connecting cable, travel loaded on 2-inch track cables and return inverted and empty on 1-1/2-inch track cables. The tramway is held to constant speed by two 300-horsepower induction generators, which when the tram cars are fully loaded, generate 500 horsepower in the form of 375 Kilowatts of electricity being returned to the power source. Two 30-horsepower electric motors are utilized in the starting of the tramway to overcome inertia and friction in the