✓ File 400 Omea

PRS -1714

MAR -5 1954

Dear Bill:

Reference is made to my letter of October 30, 1953, regarding an earlier denial by the Defense Minerals Exploration Administration of an application for exploration assistance submitted by the Associated Red Flats Mining Group, our docket No. DMEA 3059 - Nickel. In that letter I told you that the Bureau of Mines was making preliminary metallurgical tests toward determining whether an economically possible treatment process for your ore could be developed, and I added that you would be informed of the results of our tests.

The Bureau of Mines has now reported that the sample tested responded to treatment very well in the preliminary tests, but the investigation was not extensive enough to use for the type of cost estimates that would be of greatest interest to anyone interested financially in your property: i.e., estimated smelting cost per pound of nickel produced; and estimated cost and capacity of the smallest plant ins allation to which such costs might apply. In the closely related question of minimum grade of ore to which such costs might apply, it was found to be doubtful that 0.7% percent nickel ore, the grade of the material found for use in our tests, is a commercial grade.

The metallurgical activities of the Bureau of Mines are limited to investigations of the technical sort already completed, and do not include the commercial type of testing which your property now seems to require. Such testing, therefore, could best be performed by consultants from private enterprise. Battelle Memorial Institute, 505 King Avenue, Columbus, Ohio, is, for example, well qualified.

Mr. S. M. Shelton, Regional Director, Region II, U. S. Bureau of Mines, P. O. Box 492, Albany, Oregon (Telephone: Albany 2400) reports further that if you would like

to visit our laboratory there and discuss with him the feasibility of smelting Red Flats nickel ore, you would be welcome to do so. This looks to me like a practical suggestion.

If there is anything else I can do, let me know.

With kind personal regards.

Sincerely yours,

Douglas McKay

Secretary of the Interior

Mr. William E. Walsh
Suite 201, American Building
Coos Bay, Oregon

Copy to: Secretary's Mails & Files
Secretary's Reading File
Asst. Secretary for Mineral Resources
Mr. Imhoff

DMEA Docket 3052
DMEA Adm. Read. File
Field Team, DMEA Region 2
DMEA Code 400

J. J. Forbes, US Bur. Mines
M. W. Davis, US Bur. Mines
Phillip Guild, US Geol. Survey

WSMartin/ls
3/2/54

OFFICE OF THE DIRECTOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

February 4, 1954

Air Mail

WSM

3052

Memorandum

To: Regional Director, Region [illegible]

From: Director

Subject: Metallurgical results of treating Red Flats ore

Mr. [illegible] Martin of Defense Minerals Exploration Administration desires to prepare a letter for Secretary Seaton to Mr. William [illegible] Walsh giving the results of the metallurgical tests on Red Flats ore. Your monthly reports show that this work has been completed. Accordingly, will you please furnish me with such information as you feel would be appropriate to pass along to [illegible]. In this connection I am attaching a copy of Mr. Martin's memorandum to Paul Zinner.

E. J. Forbes

Director

Enclosure 1

HWDavis:cb

Copy to: Ferrous Metals
H. W. Davis
P. Zinner
W. S. Martin, DMEA — 400
Director's Reading File
Files

400

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

Defense Minerals Exploration Administration
Feb 19 1954

dmea 3052

February 18, 1954

Memorandum

To: [illegible] Martin, Defense Minerals Exploration Administration

From: [illegible] Davis, Bureau of Mines

Subject: Preliminary smelting results of Troublesome Flat ore

[illegible], Regional Director, Region [illegible], in response to the Director's memorandum of February 4, has replied as follows:

"A 14.4 ton sample of Troublesome Flat ore was smelted in a continuous test in a 3-phase electric arc smelting furnace. This sample analyzed 0.74 percent nickel. No fluxing materials were used and the only reductant used in the furnace charge was hogged fuel. The furnace was lined with magnesite refractories.

"Technically, the results of the tests were quite satisfactory. One thousand, four hundred-forty-four pounds of low-carbon ferronickel was recovered which analyzed from 2.3% to 4 percent Ni, and from 34.5 to 36.5 percent Fe. Ninety-two percent of the nickel charged to the furnace was recovered.

"The power consumption, per pound of nickel contained in the ferronickel product was 11.1 kw.-hr., and the electrode consumption was 0.37 pound. Larger scale smelting operations would cut down somewhat on the power and electrode consumption."

Mr. Shelton states that although this ore was found to treatment very well in these preliminary smelting tests, the investigation was not extensive enough to give definite answers to your specific questions concerning (1) estimated smelting cost per pound of nickel produced, (2) estimated cost and capacity of the smallest plant installation to which such costs might apply, and (3) estimated minimum grade of ore to which such costs might apply. According to Shelton, it is doubtful if 0.74 percent nickel ore is a commercial grade. It is understood that Hanna Nickel Co. plans to smelt ore of considerably higher grade.

The final two paragraphs of Mr. Shelton's memorandum read as follows:

"The Government may be justified in continuing investigations on the Red Flat nickel deposit. Analysis of samples from diamond drill holes indicated that some of the holes did not bottom the ore deposit. Larger reserves of nickel may be present than has been indicated by the drilling program completed. Continued metallurgical investigations may also be warranted as higher grade head samples may be obtained with a consequent higher recovery of nickel. It may be possible also to recover the iron from the slag which contained about 35 percent iron, however, funds alloted to Region II, for fiscal 1954, for conducting this work have practically been depleted.

"If Mr. Walsh would like to visit our laboratory and discuss the feasibility of smelting Red Flat nickel ore, he would be welcome to do so."

H. W. Davis

February 2, 1954

MEMORANDUM

To: Mr. Paul Zinner, Chief
Mining Division, Bureau of Mines

From: W. S. Martin, Chief
Iron and Ferro-Alloys Division, DMEA

Subject: Correspondence concerning Red Flats nickel deposits, Curry County, Oregon (DMEA Docket 3052 - Nickel)

Reference is made to letters concerning the subject nickel deposit, from Secretary McKay to Mr. William K. Walsh, Coos Bay, Oregon, dated:

July 7, 1953 (PRS 1339)
July 31, 1953 (PRS 1714)
September 2, 1953 (PRS 1714)
October 10, 1953 (PRS 1714)
October 30, 1953 (PRS 1714).

The last paragraph of the latest of the above-itemized letters reads as follows:

> "I can tell you that we are continuing our efforts to determine whether an economically possible treatment process can be developed for your ore. The Bureau of Mines has arranged to make preliminary metallurgical tests on a sample weighing several tons. The results of our tests should be available in three or four months, and such results are expected to demonstrate whether the Government would be justified in conducting further tests on a larger scale. You will, of course, be informed when our tests are concluded, however favorable or unfavorable the results may be."

It will, therefore, be much appreciated if you will obtain for us such data and recommendations as will enable us to prepare in the near future a letter giving Mr. Walsh the information promised him as quoted above.

On the basis of the brief reports available here, Mr. Hubert W. Davis informs us that the "preliminary metallurgical tests" mentioned above have recently been completed, indicating to your research staff that the ore from Red Flats can be smelted in the same manner as that developed for smelting the

ore from the Riddle deposit. Apparently, however, the method used for your tests was a laboratory process developed by the Bureau of Mines and differs in at least two important respects from the operating process now being used by the Hanna Smelting Company on Riddle ore. We understand also that no further smelting test work is scheduled on Red Flats nickel ore.

In any event you will probably agree that Mr. Walsh should not be advised that Red Flats ore can be smelted by the Bureau of Mines' process unless we can give him at the same time: (1) estimated smelting cost per pound of nickel so produced; (2) estimated cost and capacity of the smallest smelting plant installation to which such costs might apply; and (3) estimated minimum grade of ore to which such costs might apply.

Syd

W. S. Martin, Chief
Iron and Ferro-Alloys Division

Copy to: Mr. H. W. Davis, USBM

CC: DOCKET
CODE 400
ADM. READ. FILE

WSMartin/ls

Int. of sender.

Mr. Hedges:

Mr. Martin left this for you to look over.

Looks O.K.

JHN

Copy for [illegible]DE 400

400

DMEA

file

PRS # 1714

OCT 30 1953

Dear Bill:

Reference is made to your letter of August 17, 1953, regarding the receipt of an application for exploration assistance submitted by the Associated Red Hills Mining Group, our docket No. DMEA 1042 - Nickel. By letters of September 2 and October 17, 1953, advised you that your letter had been referred to the Defense Minerals Exploration Administration for further review and comments, especially with regard to the metallurgical questions you raised.

The Defense Minerals Exploration Administration has discussed your proposed project informally with the appropriate commodity specialists of the Materials Division, Emergency Procurement Service, General Services Administration. That division is concerned with acquiring strategic materials for the National Stockpile, and therefore keeps in close touch with the Office of Defense Mobilization, whose function it is to set the stockpiling goals. While these goals are confidential, I can assure you that material of the Red Hills type, assaying approximately 1.4 percent nickel as silicate, is not presently under active consideration by the Government as an ore of nickel. To be a source of nickel, the material must be amenable to a metallurgical treatment process that will extract nickel at a cost not out of all reason under the circumstances that might be anticipated, even though that cost may well be unacceptable in ordinary times.

Your letter of August 17 advised that one of the engineers from the Nickel operations has reported to your people that the same process that is used in the south is used effectively on the Red Hills ore. It is not always safe to reason by analogy in metallurgical problems, and our information does not indicate that the available methods and processes would extract nickel from silicates on low grade ore in a manner effectively enough to justify Government participation in a search for ore material of similar characteristics.

You also refer to the Materials area - Nickel - mentioned by the [illegible] Department of State on May 14, 1953 and suggest, by what we believe to be a dangerous analogy with the description of the nickel occurrence in New Caledonia, that higher nickel content could be expected in lower portions of your property. Our geologists have done considerable work on lateritic deposits in southwestern France to satisfy us that higher nickel content operations are found there in upland or hillside deposits rather than at the base of steep slopes. Until my last comment on the need for stripping

overburden in fuke and the absence of overburden at Red Flats seems to be based on a misapprehension of the mining problem involved. The suggestion that the other valuable minerals you named are present in significant amounts is contrary to the result of our experience.

The conclusion of your letter urges that some effort be made to determine or explore the Red Flats area. However, as in this instance, an exploration application can be denied because the metallurgical problem is still unsolved, the applicant must bear the burden of proof that the ore is readily amenable to treatment. If you have doubts about the reliability of our metallurgical data, you could ask the Battelle Memorial Institute, 505 King Avenue, Columbus 1, Ohio, or some equally well prepared engineers, to investigate your treatment problem.

I can tell you that we are continuing our efforts to determine whether an economical possible treatment process can be developed for your ore. The Bureau of Mines has arranged to make preliminary metallurgical tests on a sample obtained earlier. The results of our tests should be available in three or four months, and such results are expected to demonstrate whether the Government would be justified in conducting further tests on a larger scale. You will, of course, be informed when our tests are completed, however favorable or unfavorable the results may be.

Sincerely yours,

(Sgd) Doug

Secretary of the Interior

Mr. Lillian S. Walsh
Suite 201 American Building
Coos Bay, Oregon

WSMartin/ls
10/22/53

Copy to: Secretary's Daily Files
Secretary's Meeting File
Asst. Secretary for Mineral Resources
Mr. Ianoff

BLM Docket 3052
BLM Adm. Rec. File
Field Team, BLM Region 2
BLM Code 400

J. J. Forbes, Dir. Mines
L. . Davis, Dep. Dir. Mines
Phillip Gould, BLM Geol. Survey

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
WASHINGTON 25, D. C.

400 file

FILE COPY
Surname:

DMEA

Rutledge
Martin
Davis
Meldrum
Spencer 10/15
Thayer 10/15

Not used 10/21/53

P.R.S. # 1714

Dear Bill:

Reference is made to your letter of August 18, 1953, regarding denial of an application for exploration assistance submitted by the Associated Red Flats Mining Group, our docket No. DMEA 3052 - Nickel. My letters of September 2 and October 10, 1953, advised you that your letter had been referred to the Defense Minerals Exploration Administration for further review and comments, especially with regard to the metallurgical questions you raised.

The Defense Minerals Exploration Administration has discussed your proposed project informally with the appropriate commodity specialists of the Materials Division, Emergency Procurement Service, General Services Administration. That Division is concerned with acquiring strategic materials for the National Stockpile, and, therefore, keeps in close touch with the Office of Defense Mobilization, whose function it is to set the stockpiling goals. While those goals are confidential, I can assure you that material of the Red Flats type, assaying approximately 1.1 percent nickel as silicate, is not presently under active consideration by the Government as an ore of nickel.

Under normal conditions an ore is a material from which a metal can be extracted profitably. Under the conditions of the Defense Program, an ore is any "source" of a metal. To be a source of nickel, the material must be amenable to some treatment process that will extract nickel at a cost not out of all reason under the circumstances that might be anticipated, even though that cost may well be unprofitable in ordinary times.

Your letter of August 18 advised that one of the engineers from the Cuban nickel operations has reported to your people on location about the ease of handling your ore. I am surprised that you did not take this opportunity to comply with the request in my letter of July 31, 1953, to send me a copy of any report you may have on test work indicating that the same process that is used in Cuba could be used effectively on the Red Flats ore. Our information does not indicate that the available methods and processes would extract nickel from silicates as low grade as yours effectively enough to justify Government participation in a search for more material of similar characteristics.

COPY FOR THE SECRETARY'S OFFICE

You also refer to the "Materials Survey - Nickel" (published by the U. S. Bureau of Mines on May 15, 1953) and suggest, by analogy with the description therein of the nickel occurrences in New Caledonia, that higher nickel grades could be expected in lower portions of your property. Our geologists have done enough work to satisfy us that, as lateritization has operated in southwestern Oregon, higher nickel concentrations are to be expected in upland or bench deposits rather than at the base of steep slopes.

What you say about the need for stripping overburden in Cuba and the absence of overburden at Red Flats seems to be based on a misapprehension of the mining problem involved. The term "overburden" is the technical name for material that cannot be profitably treated but must be removed in order to mine the "ore" that is found underneath that overburden. At Red Flats, so long as there is no material that can properly be called ore, there is no overburden, but whenever a suitable treatment process can be developed, the higher grade portions of the nickel-bearing material there will then become ore, and whatever lower grade or barren material is found above such ore will then become overburden.

Any suggestion that the other strategic minerals you named are present in significant amounts does not accord with our findings. The Defense Minerals Exploration Administration has at no time been authorized to aid exploration for magnesium; cannot assist in the search for aluminum occurring otherwise than as bauxite; as of May 15, 1953, is precluded from participation in exploration for iron, sulphur, or mercury; and would not be justified in basing a chrome project on the analyses reported for Red Flats material in the publications of the Oregon State Department of Geology and Mineral Industries.

The conclusion of your letter urges that some effort be made to determine or explore the Red Flats area. It appears that the essential problem in this case is to determine whether an economically possible treatment process can be developed for your ore. For your personal information, but not for publication, I am pleased to inform you that the Bureau of Mines has arranged to make preliminary metallurgical tests on a sample weighing several tons. Such tests, the results of which are expected to be available in three or four months, will demonstrate whether the Government would be justified in conducting further tests, perhaps on a larger scale.

You will, of course, be informed promptly whether the test results are favorable or not.

Sincerely yours,

Secretary of the Interior

Mr. William E. Walsh
Suite 201 American Building
Coos Bay, Oregon

Copy to: Secretary's Mails & Files
Secretary's Reading File
Asst. Secretary for Mineral Resources
Mr. Imhoff

DMEA Docket 3052
DMEA Adm. Read. File
Field Team, DMEA Region 2
DMEA Code 400

Mr. J. J. Forbes, Bur. Mines
Mr. H. W. Davis, Bur. Mines
Mr. Phillip Guild, Geol. Survey

WSMartin/ls
10/15/53

402

October 15, 1953

MEMORANDUM

To: Mr. Paul Zinner, Chief
Mining Division, Bureau of Mines

From: W. S. Martin, Chief
Iron and Ferro-Alloys Division, DMEA

Subject: Correspondence concerning Red Flats nickel deposits, Curry County, Oregon (DMEA Docket 3052 - nickel)

Correspondence as itemized below is returned herewith for your files. Your lending it to this office for review in connection with consideration of an application submitted by the Associated Red Flats Mining Group for exploration assistance, is appreciated.

(1) Memorandum of July 30, 1953, to Paul Zinner from Ming G. Agnew, transmitting 2 reports from the Mt. Weather Technical Files pertaining to nickel occurrences in southwestern Oregon.

(2) Three maps:
Fig. 1 - Location of Red Flats, Curry County, Oregon
Fig. 4 - Topography and drill holes, Red Flats, Curry County, Oregon
Fig. 5 - Cross section showing ore horizons--Red Flat, Curry County, Oregon

(3) Memorandum of August 11, 1953, to Paul Zinner from Stephen M. Shelton, Regional Director, Bureau of Mines, Albany, Oregon, transmitting report "Red Flats Nickel Deposit" by J. R. McWilliams, and requesting permission to release a copy to Mrs. Agnes Smedley, Gold Beach, Oregon, one of the owners of claims investigated by Bureau of Mines.

(4) Memorandum of August 26, 1953, to Stephen M. Shelton from Paul Zinner, returning two copies of manuscript on "Red Flats Nickel Deposit" without approving same for publication and forbidding release of copy to Mrs. Agnes Smedley since report contains interpretation of data on ore reserves.

LScott/10/15/53

Copy to: Mails & Files
Code 400
Adm. Read. File

Attachments

W. S. Martin, Chief
Iron and Ferro-Alloys Division

P.R.S. # 1714

OCT 10 1953

400 3052

Dear Bill:

My letter of September 2, 1953, advised you that I had referred to the Defense Minerals Exploration Administration, for further review, your letter of August 18, 1953, regarding denial of an application for exploration assistance submitted by the Associated Red Flats Mining Group, our docket No. DMEA 3052-Nickel.

Your letter raises a number of metallurgical questions that are now being investigated and answers, or at least partial answers, to those questions should soon be available. In the meantime your problem is not being neglected and you can expect to hear further from me on the subject in the near future.

Sincerely yours,

SIGNED

Secretary of the Interior

Mr. William E. Walsh
Suite 201 American Building
Coos Bay, Oregon

Copy to: Field Team, DMEA Region 2
J. J. Forbes, Bur. of Mines
Docket DMEA 3052
DMEA Adm. Read. File
Code 400
H. W. Davis, USBM
Phillip Guild, USGS
Secretary's Reading File
Asst. Secretary for Mineral Resources
Mr. Imhoff

WSMartin/ls
10/6/53

Sent to Sec'y's Mail Center OCT - 6 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE ELECTRIC POWER ADMINISTRATION
WASHINGTON 25, D. C.

FAR
9-8-53

400

Hold

not used

Dear Bill:

As stated in my letter of September 2, 1953, to you, I have referred your letter of August 18, 1953, to the Defense Minerals Exploration Administration for review with the request that further consideration be given Associated Red Flats Mining Group's application for exploration assistance, our docket No. DMEA 3052 - Nickel. After a careful and thorough reconsideration of the matter with special attention being given to the points raised by your comments, the Government is still of the opinion that the probability of disclosing minable ore reserves by the proposed program is not sufficiently promising to justify Government participation.

Your statement that the ore on the Red Flats Mining Group property is similiar to the Cuban ore and that considerable stripping of overburden is necessary in Cuba is partially true. The only trouble with this statement, however, is that it is the so-called overburden in Cuba, a laterite containing approximately 1 percent nickel, that is being stripped and presently discarded.

The Red Flat laterite was formed in place by the weathering of a peridotite. This type of deposit is not amenable to reconcentration such as takes place in forming a gold placer. In New Caledonia, it is true, there are concentrations of nickel at the base of the steep slopes, but these have been deposited by ground water. Deposits of this type, however, are local and should not be classified as "considerable deposits."

Your statement that "The Red Flats Mining Group has had

private tests made as well as the tests made by the State and it has been determined that there was enough magnesium, aluminum, iron, chromium, sulphur and mercury to justify their consideration" is unsupported by any data. Analytical data on samples taken from the Red Flat deposit by the State of Oregon, U. S. Bureau of Mines, and the U. S. Geological Survey, indicate the deposit does not contain strategic minerals in sufficient quantities to warrant further Government investigation.

Sincerely yours,

Secretary of the Interior

C
O
P
Y

Dmea 3052

Region II

Albany, Oregon
October 7, 1953

Memorandum

To: J. J. Forbes, Director

From: Regional Director, Region II

Subject: Metallurgy of Red Flats, Oregon Nickel Silicates

Reference is made to your memorandum of September 18 concerning comments on Red Flats nickel ore for Mr. Martin of D.M.E.A. Comments on the requested items are tabulated as follows:

(1) The chief similarities between Red Flats, Riddle and Nicaro are that they are low grade silicate deposits. Nicaro and Red Flats are lateritic deposits underlain with serpentine, but at Riddle the laterite is largely removed, leaving an altered serpentine. Nicaro laterite is high in iron, permitting a treatment feed material in excess of 35 percent iron. The Riddle deposit is much lower in iron. The iron content of Red Flats is yet to be determined. A large amount of metallurgical research has been done on both Nicaro and Riddle ore samples. Essentially no information on metallurgical treatment of Red Flats is available.

(2) There is reason to believe that high iron deposits such as Nicaro are more readily amenable to the leaching method and lower iron deposits such as Riddle more adaptable to smelting because less selective reduction of nickel from iron would be required to obtain a reasonable high nickel ferro alloy. However, we have no record of direct technical or economic comparisons of processes for either Riddle or Nicaro.

(3) Until analyses for iron and other possible components of Red Flats have been obtained, it is difficult to comment on the details of Mr. McWilliams' conclusion that "It is probable that Red Flats ore will be amenable to the same process." However, our test experience with Cle Elum iron-nickel ore - high in iron and Riddle ore - low in iron - indicates that no insurmountable technical problems would be expected in the smelting of Red Flats ore even if the iron value is high.

(4) It would be necessary to test the Red Flats ore to determine whether or not it would be amenable to the Nicaro process. It is my understanding that a careful balance of iron and nickel values, roasting temperatures and leaching conditions are necessary for economical leaching of Nicaro ores.

(5) The clipping from the Oregonian of Friday, September 5, 1952 mentioned a process using Riddle ore. There are no available test results that would indicate whether the Red Flats ore is amenable to the Bureau process. Incidentally, I disclaim responsibility for certain statements in the newspaper article such as, "---but surface deposits were said to have a 1.5 percent nickel content", "--- November might see tentative reports ready for release", and "---belief that proving of an appreciable reserve of nickel in the Red Flats area could be expected to bring the same type of development that is planned for Nickel mountain (Riddle) ---."

The distinction between the "Bureau Process" and the "Riddle Process" is that in the Bureau process, nickel in the ore is reduced to metal by carbon in a continuous electric smelting furnace. It is my understanding that the Ugéne process, to be used by the Hanna Smelting Company at Riddle, is a batch process, ferrosilicon will be added to molten ore in a special furnace to reduce the nickel to metal. Low carbon ferronickel metal is produced by both processes.

Stephen M. Shelton

Director's Reading File
Mf
Rf
LHB

Bureau of Mines

Paul Zinner
2324 3610

October 6, 1953

Stephen M. Shelton, U. S. Bureau of Mines, Albany, Oregon

DMEA is needling us for reply to memorandum of September 13, re Red Flats nickel. Please expedite reply by teletype or air mail.

Paul Zinner

CONFIRMATION

HShaw/hva

Copy to - Minerals Division
Audits
W. S. Martin - DMEA Room 3538
F i l e s

SENT
OCT 6 1953
Clerical Service Section

DRAFT

Memorandum

To: Stephen M. Shelton, Regional Director, Region II

From: J. J. Forbes, Director

Subject: Metallurgy of Red Flats, Oregon, Nickel Silicates

In an exchange of letters between Secretary McKay and William E. Walsh of Associated Red Flats Mining Group concerning the denial by DMEA of an application for exploration assistance (Docket No. DMEA 3052 - Nickel), Mr. Walsh has suggested that the Red Flats ore is similar to that of Riddle and Nicaro, and has stated that he believes that the process developed for Riddle ore or the process now used on Nicaro ore could be used on Red Flats ore. To aid DMEA in preparing a letter for Secretary McKay to send to Mr. Walsh, Mr. Martin of DMEA would like to have your comments on the following items:

1. Please tabulate the chief similarities and differences between Red Flats, Riddle, and Nicaro ores.

2. To what extent, if any, are the processes now in use on the Riddle and Nicaro ores interchangeable without sacrifice of recovery?

3. Mr. John R. McWilliams' report, covered by your memorandum of August 11, 1953, to Mr. Paul Zinnen, states that no metallurgical tests have been made on Red Flats ore. Is Red Flats ore sufficiently like Riddle ore to support Mr. McWilliams' conclusion that "it is probable that Red Flats ore will be amenable to the same process?"

4. Is Red Flats ore sufficiently like Nicaro ore to suggest that it would be amenable to the Nicaro process?

5. Enclosed is copy of a clipping from the Oregonian of Friday, September 5, 1952, mentioning a process developed by the Bureau of Mines, presumably using Riddle ore. Are there any available test results that would indicate whether the Red Flats ore is amenable to the Bureau process?

It will help us if you will reply at your early convenience to as much of the above as can be answered on the basis of information already available to you, supporting your conclusions wherever possible by references to the results of tests. You can readily understand, however, that in the absence of sufficient information, your best estimate or the estimates of those of your staff who have been closest to the problem, provided their estimates are clearly expressed as such, will also be of assistance to us and will be appreciated by DMEA.

DRAFT

PLE[illegible]

This was copied and sent [illegible] over Martin's signature on Sept. 18

Memorandum

To: Stephen M. Shelton, Regional Director, Region II

From: J. J. Forbes, Director

Subject: Metallurgy of Red Flats, Oregon, Nickel Silicates

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(1) Please tabulate the chief similarities and differences between Red Flats, Riddle, and Nicaro ores.

(2) To what extent, if any, are the processes now in use on the Riddle and Nicaro ores interchangeable without sacrifice of recovery?

(3) Mr. John R. McWilliams' report, covered by your memorandum to Mr. Paul Zimmer, dated August 11, 1953, states that no metallurgical tests have been made on Red Flats ore. Is Red Flats ore sufficiently like Riddle ore to support Mr. McWilliams' conclusion that "it is probable that Red Flats ore will be amenable to the same process"?

(4) Is Red Flats ore sufficiently like Nicaro ore to suggest that it would be amenable to the Nicaro process?

(5) Enclosed is copy of a clipping from the Oregonian of Friday, September 5, 1952, mentioning a process developed by the Bureau of Mines, presumably using Riddle ore. Are there any available test results that would indicate whether the Red Flats ore is amenable to the Bureau process?

It will help us if you will reply at your early convenience to as much of the above as can be answered on the basis of information already available to you, supporting your conclusions wherever possible by references to the results of tests. You can readily understand, however, that in the absence of sufficient information, your best estimate or the estimates of those of your staff who have been closest to the problem, provided those estimates are clearly expressed as such, will also be of assistance to us and will be appreciated by DMEA.

THE OREGONIAN, FRIDAY, SEPTEMBER 5, 1952

MINE BUREAU FINDS TRACES OF NICKEL IN CURRY COUNTY

Continued progress in exploration of the Red Flats nickel deposit in Curry County, possibly a factor in a bourgeoning nickel industry in Oregon, was reported Thursday by Stephen Shelton, Albany regional director for the United States Bureau of Mines.

Shelton said testing of the 4000-acre area had not progressed far enough to announce results, but surface deposits were said to have a 1.5 percent nickel content.

The deposit is one which the Oregon state department of geology and mineral industries gave some attention in 1948 under direction of Fay W. Libbey, department director, with about the same findings.

Search Made Intensive

However, the bureau of mines is making more exhaustive investigation, and Shelton said November might see tentative reports ready for release.

The Red Flats deposit is approximately 50 miles from Nickel mountain, near Riddle, Ore. where the M. A. Hanna Company, a steel concern of Cleveland, O., is planning to establish a mine and smelter, Shelton said.

Ore in the Nickel mountain deposit runs from 1.2 to 1.5 percent. Shelton said it is only comparatively recently and by a process developed by the bureau, that it has been economically feasible to develop Oregon ore of such low nickel percentage.

"Canadian sulphide ores are of about the same nickel content" said Shelton, "but the sulphide combination allows an inexpensive separation process. Oregon's nickel ores are in silicon combinations, which are more difficult to process."

Shelton indicated the belief that proving of an appreciable reserve of nickel in the Red Flats area could be expected to bring the same type of development that is planned for the Nickel mountain deposit by the Hanna company.

Clay Treatment Planned

Meanwhile, another activity of the bureau is scheduled to bear fruit soon in the form of an aluminum silicon alloy plant at Springfield or Eugene, Shelton said. This is a plant, explained, which Apex Smeltering company, Chicago, plans to build for processing of clay with high aluminum and silicon content into a type of aluminum used almost exclusively for castings.

The clay deposit is near Cottage Grove, and its processing, Shelton said, will use a system devised by the bureau.

DMEA

P. R. S. No. 1714

SEP - 2 1953

Dear Bill:

This will acknowledge receipt of your letter of August 18, 1953, discussing my letter of July 31, 1953, with reference to the denial of an application for exploration assistance submitted by the Associated Red Flats Mining Group, our docket No. DMEA 3052 - Nickel.

I am referring your letter to the Defense Minerals Exploration Administration for further review. Upon receipt of their comments on the points raised in your letter, I will answer you in detail.

Sincerely yours,

(sgd) Doug

Secretary of the Interior

Mr. William E. Walsh
Suite 201 American Building
Coos Bay, Oregon

cc: Docket DMEA 3052
Adm. Read. File
Field Team, Region II
Code 400
H. W. Davis, USBM
Phillip Guild, USGS
Secretary's Reading File
Asst. Sec'y for Mineral Resources
Mr. Imhoff

FARutledge/ls
8/27/53

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WILLIAM E. WALSH
Law Offices
Suite 201 American Building
Coos Bay, Oregon
August 18, 1953.

Honorable Douglas McKay
Secretary of the Interior
Washington 25, D. C.

In re: Red Flats Mining Group

Dear Doug:

I had contemplated answering your letter of July 31 at a sooner date but have been so tied up on these fire cases that I haven't had a chance to go over the situation. I am leaving today and will be gone about a week or ten days, so I am almost as bad off now as I was before. In any event, however, I did want to make some comments about what was in your letter.

I am informed from the people on location that one of the engineers from the Cuba nickel operation has also been on the Curry County operation, and that they inform us that the same type of ore is in both places, except that the Curry County ore has less iron content which should make it easier to handle, if anything.

I notice in your Materials Survey on nickel under date of April, 1952, on page I-14 that in Cuba they use the ammonia leaching process. It would seem to me that such a process could be used on the Curry County operation. Irrespective of what someone might say in the Bureau of Mines, only 200 acres of the 4,000 acres were tested and it was not at the lower portions of the property where you could normally expect a better result. In Cuba they have a considerable over-burden to strip while in the Curry County operation there is practically little or no over-burden. As shown in the Materials Survey which I quoted from before, on page IV-12, in the paragraph immediately preceding the last three lines it refers to the ore in New Caledonia and how the steep slopes have little or no nickel but at the base they found considerable deposits. I do not believe there is any question but what the percentage would be raised considerably in any tests that were taken in the lower portions of the Curry County property.

Speaking of the last paragraph of your letter, that there is no evidence of other strategic minerals, this is contrary to the tests made by the State of Oregon in which they found considerable amounts of other strategic minerals. These findings are certainly available to the Bureau of Mines and if they do not know about them it is because they have not asked. The Red Flats Mining Group has had private tests made as well

as the tests made by the State and it has been determined that there was enough magnesium, aluminum, iron, chromium, sulphur and mercury to justify their consideration.

The Red Flats Area containing such a large ore body compared to any other area having nickel in this part of the country, it would seem to me that it certainly justifies some effort being made to determine or explore the project to a far greater extent than has been done.

With best regards, I remain

Sincerely yours,

Sgd. Wm. E. Walsh

W. E. WALSH

WEW:jj

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Replying to Red 8/27
2 Incl. Copies
[illegible]

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WILLIAM P. WALSH
Law Offices
Suite 201 American Building
Coos Bay, Oregon
August 18, 1953.

Honorable Douglas McKay
Secretary of the Interior
Washington 25, D. C.

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With best regards, I remain

Sincerely yours,

[illegible]

[illegible]

WEW:jj

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THE SECRETARY OF THE INTERIOR

WASHINGTON

July 31, 1953

Dear Bill:

This will acknowledge receipt of your letter of July 22, 1953, commenting on the merits of the Red Flats and other claims in Curry County, Oregon.

Your office had forwarded to Defense Minerals Exploration Administration the application of the owner, Associated Red Flats Mining Group, for aid in financing an exploration project on those claims, and that application (filed here under Docket No. DMEA 3052 - Nickel) had been denied, as you were advised in my letter of July 7.

I would very much appreciate receiving a copy of any report you may have on test work indicating that the same process that is used in Cuba could be used effectively on the Red Flats ore. With your permission, such metallurgical data would also be transmitted to other Government agencies, more directly concerned with production problems, that ought to be advised immediately if there is there is good reason to anticipate a successful application of any existing process to nickel silicate mineralization of such low grade.

You are correct in your inference that Defense Minerals Exploration Administration based its conclusion about the nickel grade at Red Flats on the report of the U. S. Bureau of Mines. The property was churn drilled by the Bureau in the summer of 1952 in connection with a cooperative program financed in part by the California-Oregon Power Company, and permission from that company had to be obtained before the advance report could be furnished to your associates. Your suggestion that the Bureau drilled the ground which would be least likely to show good results in nickel content is contrary to our information. Records here show the area drilled was the most favorable, as indicated by earlier examinations by the Bureau, the Oregon State Department of Geology and Mineral Industries, and several private interests.

The Bureau work indicated over 4 million tons of nickel-bearing laterite in the area drilled, averaging 1.1 percent nickel. However, metallurgical tests conducted by the Bureau of Mines at Albany, Oregon, failed to develop an economically feasible process for recovery of the nickel from this ore. Unless and until such a process is found, there appears to be little justification for further exploration to develop additional reserves. This, I understand, was the basis for denial by DMEA of your application for exploration assistance.

You can be sure that the Interior Department, so long as I speak for it, is not interested in aiding or abetting any monopoly; I believe strongly in competitive free enterprise. If your associates chose not to lease their claims to the M. A. Hanna Company, or if the owners of a nickel deposit in Josephine County chose to lease to that company, this Department would have no authority to intervene in any way.

Your belief that nickel is a strategic metal is correct. I have not, however, been able to confirm your statement "that the ore in the Red Flats area has considerable other strategic minerals in it," and have seen no evidence to justify the applicant's intention to explore for "cobalt, platinum, tin and other strategic* metal in almost any ordinary rock specimen, but unless such elements are present in significant proportions that can be determined readily by conventional wet or dry assaying methods, serious consideration cannot be given to such trace elements as sources of the metals we need for the National Defense Program.

Sincerely yours,

(sgd) Douglas McKay

Secretary of the Interior

Mr. William E. Walsh
Suite 201 American Building
Coos Bay, Oregon

AP:jr

*(Note: Apparently in typing letter in Secretary's office from draft submitted by DMEA, an omission occurred in last paragraph, line 5, after word "strategic". It should read:

to explore for "cobalt, platinum, tin and other strategic (minerals" in addition to nickel in that area. As you probably know, an experienced man with a spectrograph can frequently find traces of more than one strategic) metal in almost any ordinary rock specimen, ...)

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WILLIAM E. WALSH
Law Offices
Suite 201 American Building
Coos Bay, Oregon

July 22, 1953

(1714
Interior Dept.
Received
JUL 24, 1953
Office of the
Secretary)

Personal

Honorable Douglas McKay
Secretary of the Interior
Washington 25, D. C.

Dear Doug:

I received your letter of July 7 regarding the Associated Red Flats Mining Group application under Docket No. DMEA 3052-Nickel. I guess my previous letter had crossed in the mail with yours.

I notice what you say regarding the Red Flats grade of nickel being less than the ore of Nickel Mountain being processed by the Hanna Company. Actually, however, from my study of the nickel situation in the country, nickel of 1.11 is a very good ore so far as the content is concerned. The ore in Red Flats is an oxide, the same as the Cuban ore, and while the Hanna process wouldn't probably work on the Red Flats ore, from what I am informed the same process that is used in Cuba could be used on the Red Flats ore.

Presumably Mr. Mittendorf, the Administrator of the Defense Minerals Exploration Administration, got his information regarding the Red Flats nickel from the Bureau of Mines. Actually I am informed from the people that were on the ground that when the Bureau of Mines did their borings and testing in the Red Flats area they actually only bored on 200 acres of the 4,000 acre tract and their work was all immediately about their camp on higher ground, which would be least liable to show good results in nickel content. They never even walked over the balance of the country. They promised the owners of the deposit to get a report out to them by last November, but only a couple of months ago was there an advance report made which is incomplete and that was only procured after a great deal of pressure being brought.

The Hanna Company have endeavored to lease the property of the Red Flats Mining Group, but at the time they attempted to do this there were so many parties involved that no satisfactory arrangement could be worked out. Since that time the Hanna Company has tied up a considerable nickel deposit in Josephine County as well as Nickel Mountain in Douglas County. It would seem that they are interested in dominating the field as much as possible. Having had experience in the past with a similar situation, this case has all the earmarks of a monopoly aided and abetted by a departmental help.

I believe if nickel is the strategic metal that it appears to be from the listing of such metals and with the further consideration of the fact that the ore in the Red Flats area has considerable other strategic minerals in it, that this area should be given some definite consideration, and I do not believe that that has been forthcoming. There are a large number of people interested in the Red Flats area in Curry County and it's not a pipe dream. If there is any way that you can help in giving this matter a fair test I would surely appreciate it.

I noticed your postscript on your letter saying you would like to see me when possible. I had hoped that I was going to have a chance to talk with you when you were out here last time, but certain matters came up that blocked me off from getting to the Detroit Dam where I expected to have a chance to see you. I don't at present see any opportunity of my getting to Washington in the immediate future, but if you are going to be out this way in the next couple of months I will certainly make it a point to get together with you. I would not only like to visit with you as always, but I am somewhat disturbed about certain administration policies so far as they effect the economic and political situation in the Northwest, and I certainly would like to discuss these matters with you.

I want to compliment you on the job you are doing. You certainly picked one of the most difficult ones for yourself that I can imagine. Sure wish you the best in your endeavors and hope to see you before too long.

With best regards, I remain

Sincerely,

Signed: Bill

WFW:jj

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Surnamed by:

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WORMSER
McCRILLIS

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DEPARTMENT OF THE INTERIOR

OFFICE OF THE SECRETARY

WASHINGTON 25, D. C.

July 22, 1953

Dear Bill:

I have your letter of July 10, and again our letters have crossed in the mail. By this time I am sure you have received my letter of July 7 which I am sure explains our position in regard to the Associated Red Flats Mining Company application.

If there is anything else I can do, let me know.

With kind personal regards.

Sincerely yours,

Sgd: DOUG

Secretary of the Interior

Mr. William E. Walsh
Suite 201, American Building
Coos Bay, Oregon

OBrown/b
cc: Secretary's Reading File
Sec. Wormser

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WILLIAM E. WALSH
Law Offices
Suite 201 American Building
Coos Bay, Oregon

July 10, 1953

Honorable Douglas McKay
Secretary
Department of the Interior
Washington, D. C.

Dear Doug:

On the 22nd of June I wrote you regarding the application of the Associated Red Flats Mining Group of Gold Beach, Oregon, regarding a loan under DMEA Order No. 1 covering a nickel deposit in Curry County. I realize that you have a tremendous volume of things to do and I didn't expect you personally to look into this matter. However, I have not heard from your office and I am wondering if you know anything about the situation.

Since writing you we got a letter from one of the Washington offices turning down the loan on the basis that the property in question does not show sufficient merit. The Bureau of Mines investigated a portion of the property but the only thing we can get out of them is the fact that they haven't got their report in as yet. With some competitors in the field on nickel deposits I am very suspicious of the action taken without even a report being made as to the findings of the Bureau of Mines. It looks to me like the chrome situation looked during the war when we were dealing with the Minerals Division of the War Production Board and had to make our request from dollar-a-year men who were down at Washington, so-called representing the government, but actually on the payroll of people competing in the field of chrome ore.

If there is any help you can give us on this matter I certainly would appreciate it. With best regards, I remain

Sincerely yours,

Signed: Bill

WM. E. WALSH

WEW:jj

D.M.E.A.

JUL -7 1953

P.R.S. No. 1339

Dear Bill:

This will acknowledge receipt of your letter of June 22, 1953, inquiring about the status of the application made to the Defense Minerals Exploration Administration by the Associated Red Flats Mining Group, covering the Red Flats and other claims in Curry County, Oregon, filed here under Docket No. DMEA 3052-Nickel.

Apparently your letter crossed in the mail a letter of June 23, 1953, from Mr. C. O. Mittendorf, Administrator, Defense Minerals Exploration Administration, advising the Associated Red Flats Mining Group that its application for exploration assistance was denied. For your information a copy of Mr. Mittendorf's letter is enclosed.

So far as we have been able to determine, the Nickel Mountain ore with which the M. A. Hanna Company is experimenting on a large scale near Riddle, Oregon, runs considerably higher in nickel than our estimate of the Red Flats material. Moreover, the iron content of the Nickel Mountain ore is low enough to lead the M. A. Hanna Company to believe that its process will produce ferro-nickel in salable form from that ore. The Red Flats material is not only significantly lower in nickel than the Nickel Mountain ore (1.11% as compared to 1.5%) but it also runs considerably higher in iron. It is, therefore, improbable that Hanna's process, in its present stage of development, could be applied to the Red Flats material.

The enclosures sent with your letter are returned herewith. Thank you for calling to our attention the clipping from The Oregonian of September 5, 1952.

With kindest personal regards,

Sincerely yours,

Doug

Secretary of the Interior

Mr. William E. Walsh
Suite 201, American Building
Coos Bay, Oregon

WEMartin/ls 7/2/53

Copy to: Docket DMEA 3052-Nickel
Adm. Reading File
Code 400
Field Team, Reg. II
H. W. Davis, USBur.Mines
T. P. Thayer, USGeol.Survey
Secretary's Reading File
Asst. Sec'y for Mineral Resources
Mr. Imhoff

Enclosures

P.S. I would like to see you whenever possible.

Doug

THE OREGONIAN, FRIDAY, SEPTEMBER 5, 1952

MINE BUREAU FINDS TRACES OF NICKEL IN CURRY COUNTY

Continued progress in exploration of the Red Flats nickel deposit in Curry county, possibly a factor in a bourgeoning nickel industry in Oregon, was reported Thursday by Stephen Shelton, Albany regional director for the United States bureu of mines.

Shelton said testing of the 4000-acre area had not progressed far enough to announce results, but surface deposits were said to have a 1.5 percent nickel content.

The deposit is one which the Oregon state department of geology and mineral industries gave some attention in 1948 under direction of Fay W. Libbey, department director, with about the same findings.

Search Made Intensive

However, the bureau of mines is making more exhaustive investigation, and Shelton said November might see tentative reports ready for release.

The Red Flats deposit is approximately 50 miles from Nickel mountain, near Riddle, Ore. where the M. A. Hanna company, a steel concern of Cleveland, O., is planning to establish a mine and smelter, Shelton said.

Ore in the Nickel mountain deposit runs from 1.2 to 1.5 percent. Shelton said it is only comparatively recently and by a process developed by the bureau, that it has been economically feasible to develop Oregon ore of such low nickel percentage.

"Canadian sulphide ores are of about the same nickel content" said Shelton, "but the sulphide combination allows an inexpensive separation process. Oregon's nickel ores are in silicon combinations, which are more difficult to process."

Shelton indicated the belief that proving of an appreciable reserve of nickel in the Red Flats area could be expected to bring the same type of development that is planned for the Nickel mountain deposit by the Hanna company.

Clay Treatment Planned

Meanwhile, another activity of the bureau is scheduled to bear fruit soon in the form of an aluminum silicon alloy plant at Springfield or Eugene, Shelton said. This is a plant, explained, which Apex Smeltering company, Chicago, plans to build for processing of clay with high aluminum and silicon content into a type of aluminum used almost exclusively for castings.

The clay deposit is near Cottage Grove, and its processing, Shelton said, will use a system devised by the bureau.

dmea # 3052

Bureau of Mines April report

Region II

A report in rough draft form concerning recent Bureau of Mines investigation of the Red Flats nickel deposit, Curry County, Oregon has been completed. The rough draft will be placed for editing and review within the coming period.

Bull 931-I Nickel Deposit near Riddle, Douglas County, Oregon

Ore Bin, Vol. 9 No. 3.
Nickel-Bearing Laterite, Red Flat, Curry County, Ore.

Ore Bin, Vol. 10 No. 5
Nickel-Bearing Laterite areas of southwestern Oregon
"Red Flat," "Woodcock Mountain" and "Nickel Mountain" (Riddle)

Is this part a worthwhile exploration project?_____

d) Are the cost estimates detailed?_____

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data?_____ If so, attach a draft.

e) Are the cost estimates reasonable?_____

f) Should more information be requested from applicant?_____

g) Is a field examination necessary to complete Exhibit A?_____

11. Exhibit B (question 23-d)*

a) Is it applicable?_____

b) If so, are sufficient data furnished?_____ If so, attach a draft.

c) Is a field check needed?_____

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable?_____

b) Sufficient data?_____ If so, attach a draft.

c) Are rents and charges reasonable?_____

d) Is a field check needed?_____

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data?_____

b) Is the schedule adequate for the work proposed?_____

c) Is the schedule excessive for the work proposed?_____

d) Are the proposed wages and salaries reasonable?_____

e) Is a field check needed?_____

DRAFT - P.R.S. Letter No. 1339
WSMartin/ls 7/1/53

dmea
3052

Dear Bill:

This will acknowledge receipt of your letter of June 22, 1953, inquiring about the status of the application made to the Defense Minerals Exploration Administration by the Associated Red Flats Mining Group, covering the Red Flats and other claims in Curry County, Oregon, filed here under Docket No. DMEA 3052-Nickel.

Apparently ~~I regret to advise you that~~ Your letter crossed in the mail a letter of June 23, 1953, from Mr. C. O. Mittendorf, Administrator, Defense Minerals Exploration Administration, advising the Associated Red Flats Mining Group that its ~~their~~ application for exploration assistance was denied. For your information ~~convenience~~ a copy of Mr. Mittendorf's letter is enclosed. ~~and for~~ your confidential information we quote the conclusions of the Iron and Ferro-Alloys Division of Defense Minerals Exploration Administration with respect to the application:

> "Denial of the subject application is recommended because of the low grade of the nickeliferous material and its occurrence as a high-iron, 'red soil' laterite. Tests have shown that the deposit is not amenable to either direct smelting or other known metallurgical treatment. Exploration of deposits of this type will not be warranted until a successful metallurgical process is developed for their treatment."

The material which you enclosed with your letter is returned herewith for your files.

The enclosures sent with your letter are returned herewith. Thank you for calling to our attention the clipping from The Oregonian of September 5, 1952

I am somewhat concerned by the clipping from The Oregonian of Friday, September 5, 1952, in which Mr. Stephen Shelton, Regional Director, U. S. Bureau of Mines, Albany, Oregon, was apparently misquoted ~~more or less seriously~~ in several respects. I am asking Mr. John J. Forbes, Director of the Bureau of Mines, to obtain for me Mr. Shelton's own comments on the ~~obviously erroneous~~ statements attributed to ~~Mr. Shelton~~ him. ~~You will be~~ I shall advised you of his comments as soon as ~~such comments~~ they are available.

So far as we ~~know~~ have been able to determine, the Nickel Mountain ~~material~~ ore with which the M. A. Hanna Company is experimenting on a large scale near Riddle, Oregon, runs considerably higher in nickel than our estimate of the Red Flats material. Moreover, the iron content of the Nickel Mountain ~~material~~ ore is low enough to lead the M. A. Hanna Company to believe that its process will produce ferro-nickel in salable form from ~~the~~ that ore. The Red Flats material is not only significantly lower in nickel ~~grade~~ than the Nickel Mountain ~~material~~ ore (not over 1.11% as compared ~~with~~ to 1.5%) but it also runs considerably higher in iron. It is, therefore, improbable that Hanna's process, in its present stage of development, could be applied to the Red Flats material.

With kindest personal regards,

~~(Comments on the last three paragraph of Mr. Walsh's letter should be added.)~~

Sincerely yours,

Secretary of the Interior

Mr. William E. Walsh
Suite 201, American Building
Coos Bay, Oregon

Enclosures

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WILLIAM E. WALSH

COOS BAY, OREGON

June 22, 1953

Honorable Douglas McKay
Secretary
Department of the Interior
Washington, D. C.

Dear Doug:

On the 20th day of May, 1953, I sent to the Spokane office of the Defense Minerals Exploration Administration the application of the Associated Red Flats Mining Group of Gold Beach, Oregon, under DMEA Order No. 1 for an exploration loan. This application covered nickel deposits in Curry County of approximately 4,000 acres.

So far we have never been able to get any information as to what has happened to our application, except that it was sent on to Washington. The docket number of this matter is DMEA-3052 and it was referred to the Iron and Ferro-Alloys Division. These people, approximately 31 in number, are very interested in getting going on this operation while we have some decent weather. I am wondering if there is anything that you can do to get a little action on the application. I really feel the applicants have something very worthwhile in Curry County, and the United States Bureau of Mines have already done considerable exploration themselves, although they have never issued a final report as yet. Nickel being one of the strategic minerals, we should be able to get this matter expedited.

I was certainly sorry that I missed you when you were West. I fully expected to get up to the Detroit Dam when you were there but didn't have a chance as I became involved in a term of court. I have heard some very find remarks about the way you have handled yourself in Washington, and, of course, I have also heard the brickbats that have been thrown at you on the power deal. I would expect that, however, and no doubt you will have to live with that as long as you are in the Department. I hope that one of these days when you are in Oregon that you, Patterson, Ralph Cake and some of the rest of us will be able to sit around and talk a little politics. There is much to talk about and much to be done during the next two or three years and some of it isn't going to be too easy.

JUN 23 1953

Associated Red Flats Mining Group
c/o Harry Hedderly
Gold Beach, Oregon

Re: Docket No. DMEA 3052 - Nickel
Associated Red Flats Mining Group
Red Flats et. al association claims
Curry County, Oregon

Dear Mr. Hedderly:

Your application for aid for an exploration project and other data available to us in Washington concerning the above referenced property have been reviewed.

Projects approved by the Defense Minerals Exploration Administration, must in its judgment, show definite promise of yielding materials of acceptable grade in quantities that will significantly improve the mineral supply position for the National Defense Program.

Careful study of all our information, although noting the occurrence of low grade nickel mineralization on your claims, indicates to us that the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Program and for bringing your property to our attention.

Sincerely yours,

C. O. Mittendorf
Administrator

FAHutledge:foc
6-18-53
cc: Docket
Code 400
Adm. Reading File
FT. REG. II
Oper. Comm.
H. W. Davis, USBM
T. P. Thayer, USGS

June 18, 1953

Memorandum

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of exploration project in the amount of $77,945.00
Associated Red Flats Mining Group - Docket No. DMEA 3052
Red Flats et al association claims
Curry County, Oregon

The denial of the subject application by this Division is based on the following information:

1. The applicant proposed to explore a lateritic deposit for the occurrence of nickel. The program was to consist of the following items.

a. Completely survey, subdivide and map entire area.

b. Build access roads to lateral from Forest Service road which traverses the approximate center of ore body to claim boundaries at six points.

c. Build cat and jeep trails to lateral from access roads wherever necessary to facilitate drilling.

d. Dig bulldozer pits to bedrock at intervals of one-fourth mile to facilitate bulk sampling.

e. Drill four-inch holes to bedrock at intervals of from 200 to 800 feet and sample each foot of depth.

f. All pits and drill holes to be marked, numbered and indicated on map.

2. The Red Flats nickeliferous deposit of laterite is located about 8 miles southeast of Gold Beach, Oregon, in Curry County. The laterite is confined to Red Flats and varies in depth up to 5 feet or more.

The property was originally located as a gold - quicksilver prospect in about 1932. In June 1945 after the property had been examined many times by private interests, the prospect was examined and sampled by the Bureau of Mines. Twenty-five samples were taken the majority of which came from two small areas that as indicated by previous sampling contained the best grade material. The samples contained only a trace of mercury and gold and the nickel ranged from 0.12 to 1.35 percent. Maximum depth sampled was 42 inches.

The deposit was examined by the Oregon State Department of Geology and Mineral Industries during the summer of 1946 and again in August 1947.

The Bureau of Mines continued their investigation of the Red Flats deposit during the summer of 1952. Twenty-two churn drill holes were spaced on a grid pattern on the most favorable area of the deposit. Twelve percent of the samples contained 1 percent of more of nickel and the Bureau of Mines estimated a reserve of 4,200,000 tons of 1.11 percent nickel ore.

Beneficiation tests of the nickel ore by the Bureau of Mines have not been found effective. Leaching at high temperatures with sulfuric acid is effective but iron and magnesium consume so much acid that the process is not economic at present. Direct smelting can be accomplished in an electric furnace using charcoal fuel,(residue from timber sawmills) as a reductant, but the ferro-alloy produced is not of the desired grade.

3. Denial of the subject application is recommended because of the low grade of the nickeliferous material and its occurrence as a high-iron, "red soil" laterite. Tests have shown that the deposit is not amenable to either direct smelting or other known metallurgical treatment. Exploration of deposits of this type will not be warranted until a successful metallurgical process is developed for their treatment.

FARutledge:foc
6-18-53
cc: Docket
Code 400
Adm. Read. File
Oper. Comm.

4. The Commodity Division of the Bureau of Mines recommends denial.

5. The Commodity Division of the Geological Survey concurs with the denial.

W. S. Martin, Acting Chief
Iron and Ferro-Alloys Division

400

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D. C.~~
So. 157 Howard Street
Spokane 4, Washington

June 12, 1953

WSM

Mr. William E. Walsh
Suite 201 American Building
Coos Bay, Oregon

Re: Docket No. DMEA-3052 (nickel)
Associated Red Flats Mining Group
Curry County, Oregon

Dear Mr. Walsh:

Acknowledgment is made of your letter of May 20 in which you enclosed the application for an exploration loan of the Associated Red Flats Mining Group, Gold Beach, Oregon.

This application was forwarded to the Defense Minerals Exploration office in Washington, D. C., on May 26 and you may expect to hear from them shortly.

Sincerely yours,

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

cc: DMEA (2)
USBM (2)

400

COPY

UNITED STATES

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

WASHINGTON, D. C.

June 10, 1953

Memorandum

To: W. S. Martin, Defense Minerals Exploration Admin.

From: H. W. Davis, Bureau of Mines

Subject: DMEA 3052 - Nickel. Associated Red Flats Mining Group $77,945.

The Red Flats deposit was investigated by the Bureau of Mines in the summer of 1952. Originally nine unpatented claims in the property were located as a gold-quicksilver prospect. No production of these metals was ever made, but indications of garnierite were found. This was the principal object of the work done by the Bureau.

The deposit was surveyed and mapped. Twenty-two holes t totaling 1,017 feet were drilled. Twelve percent of the 204 samples taken contained over 1.00 percent nickel. The sampling resulted in an estimate of 4,200,000 tons of 1.11 percent ore.

The work done on this property did not indicate the probability of its making a significant contribution toward the Nation's supply of nickel. Moreover, beneficiation of the ore was not found effective.

The proposal, in my opinion, is not justified.

/s/ H. W. Davis

40

UNITED STATES

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

WASHINGTON, D. C.

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/s/ H. W. Davis

dmea 3052

400

(Nickel, Oxide, Flat

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

1201 N. Division St.
Spokane 2, Washington
May 29, 1953

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Subject: Application for a DMEA contract by Associated Red Flats Mining Group on Red Flats Nickel Property, Curry County, Oregon

Dear Mr. Selfridge:

This application was transmitted to you by letter dated May 26, 1953 from Mr. Thor H. Kiilsgaard, acting for A. E. Weissenborn, Executive Officer, DMEA Field Team, Region II.

In the text of his letter Mr. Kiilsgaard states that "It is reported that the Red Flat deposit was examined by U. S. Bureau of Mines engineers during World War II but this publication is not in our files."

The purpose of this letter is to furnish additional information on the Red Flats property. Actually, this property was churn drilled by the Bureau of Mines in the summer of 1952 in connection with a cooperative program financed in part by the California-Oregon Power Co. A report has been prepared for publication but has not yet been forwarded to the Washington office of the Bureau of Mines; however, copies of a brief advance report furnished to the Associated Red Flats Mining Group have been sent to the Washington office.

The Bureau manuscript for publication describes the ore and its geologic setting, pointing out similarities to the larger Riddle Mountain deposit. At Red Flats a brick red soil mantle 5 feet or more in depth overlies a body of peridotite. Alteration of the peridotite and leaching of a minute content of nickel have resulted in perceptible concentration of this metal in the form of garnierite in the altered and partly altered peridotite.

Twenty-two holes were churn drilled on a grid pattern covering a flat-topped ridge. This work indicated about 4 million tons of nickel-bearing laterite averaging 1.1% Ni.

Tests on the laterite indicated that ore dressing is not particularly effective.

If you want additional information from the Bureau of Mines manuscript we can furnish a copy in advance of publication upon approval of the California-Oregon Power Co.

Sincerely yours,

M. E. Volin, Member
DMEA Field Team
Region II

cc: USGS (2)

400

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

No. 197 Howard Street
Spokane 4, Washington

May 26, 1952

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Dear Mr. Selfridge:

Enclosed are the original and two copies of an application for a DMEA contract submitted by the Associated Red Flats Mining group, concerning the Red Flat nickel-bearing property, Curry County, Oregon. One copy of the application has been retained for the files of this office.

The Red Flat property is described in the Ore Bin, Oregon State Department of Geology and Mineral Industries, Vol. [illegible], No. [illegible], March 1947. That publication describes the rocks of the area as peridotite and serpentine, which, upon weathering, have developed a lateritic red soil in which there has been some concentration of nickel. The authors of the Oregon report state that during the course of their examination four auger holes were drilled in the Red Flat deposit, the deepest of which was 11 feet. They found the nickel content of the laterite to increase with depth and that all samples contained chromite. Nickel analyses are given for each hole, the content ranging from 0.[illegible] percent to 1.46 percent Ni. Petrographic examination of the laterite from Hole No. 1 failed to reveal the nickel-bearing minerals although chemical analyses show that most of the nickel occurs in the slimes which are largely limonite. They note that weathering of the peridotite has concentrated the nickel, and that there are but few traces of nickel in the adjacent fresh peridotite.

It is reported that the Red Flat deposit was examined by U. S. Bureau of Mines engineers during World War II but this publication is not in our files.

A description of nickel-bearing laterite of a similar type of deposit, is to be found in U. S. Geol. Survey Bulletin [illegible]-I, Nickel deposits near Riddle, Douglas County, Oregon by William T. Pecora and H. Warren Hobbs.

As the aforementioned publication of the Ore Bin contains appreciable information on the geology of the Red Flint property, no field examination will be scheduled unless requested by the Operating Committee.

Sincerely,

Thor H. Kiilsgaard
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosure

cc: USBM (2)

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

RECEIVED
MAY 22 1953
U. S. G. S.
SPOKANE, WASH.

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. DMEA-3052
Metal or Mineral
Date Received 5/29/53
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Associated Red Flats Mining Group, c/o Harry Hedderly, Gold Beach, Oregon, a partnership

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract All of Sections 18, 19 & 30, W½ Sec. 20, 29, & 32, E½, E½W½, Sec. 31, Town. 37 S. Range 13 West, WM, Curry County, Ore. S½, S½N½, NE¼NE¼, NW¼NW¼, Sec. 24, SE¼ Sec. 13, Town. 37 S. Range 14 West, WM, Curry County, Oregon (4080 acres).

(*b*) State any mine name by which the property is known. Red Flats.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Owners

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it None

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Claim records attached.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you. Maps of area enclosed.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. These facts known to Bureau.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power. All available.

16—66551-1

The exploration project (o[illegible] the strategic minerals which you wis[illegible] explore Nickel, cobalt, platinum, tin and (o[illegible]

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc. See exhibit 5 (b)

(*c*) The work will start within 10 days and be completed within 12 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. See exhibit 5 (d)

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per hour of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.). See exhibit 6 (None)

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants. See exhibit 6

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. See exhibit 6

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be. See exhibit 6

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project. See exhibit 6

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project. None

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes. See 6 (e)

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs. See exhibit 6

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)? Yes

(*b*) How do you propose to furnish your share of the costs? Money, use of equipment and contributed labor

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated May 16, 3, 195---

Associated Red Flats Mining Group
(Applicant)

By H. F. Hedderly

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

Associated Red Flats Mining Group
Gold Beach, Oregon

Instruction 1 (d) List of Partners

Al LaChance, Agnes, Oregon
G. F. Anderson, Coos Bay, Oregon
LaVern Chesley, Coos Bay, Oregon
J. L. Kingery, Coos Bay, Oregon
Philip Lehl, Coos Bay, Oregon
Ida Matson, Coos Bay, Oregon
Joseph McKeown, Coos Bay, Oregon
George Ross, Coos Bay, Oregon
E. G. Sampson, Coos Bay, Oregon
Harold Savage, Coos Bay, Oregon
Robert Seip, Coos Bay, Oregon
George Spady, Coos Bay, Oregon
George Stout, Coos Bay, Oregon
J. F. Wallace, Coos Bay, Oregon
J. A. Walsh, Coos Bay, Oregon — No relation
Wm. E. Walsh, Coos Bay, Oregon
Don Alcorn, Gold Beach, Oregon
Paul Connet, Gold Beach, Oregon
H. Crossen, Gold Beach, Oregon
Edna Hedderly, Gold Beach, Oregon
H. F. Hedderly, Gold Beach, Oregon
John Hill, Gold Beach, Oregon
Albert R. Myers, Jr., Gold Beach, Oregon
George Myers, Gold Beach, Oregon
David Shaw, Gold Beach, Oregon
Mary Smedberg, Gold Beach, Oregon
Grady Younce, Gold Beach, Oregon
George Yost, North Bend, Oregon
Ivah R. Edwards, Portland, Oregon
Charles H. Skinner, Portland, Oregon
Paul Sibley, Portland, Oregon

Associated Red Flats Mining Group
Gold Beach, Oregon

Instruction 3 (f) Claims Records

Mining claims held under mineral rights by the Associated Red Flats Mining Group and recorded with the County Clerk, Curry County, Gold Beach, Oregon.

Red Flats Association	claims	No.	1 to 9 inc.	Recorded in Vol. 10
Hunters Creek	"	"	1 to 4 inc.	Recorded in Vol. 12
North Fork	"	"	1 to 3 inc.	Recorded in Vol. 12
Sunset	"	"		Recorded in Vol. 12
Red Rock	"	"		Recorded in Vol. 12
South Side No. 1		"		Recorded in Vol. 12
Bonanza	"	"		Recorded in Vol. 10
Red Ridge	"	"		Recorded in Vol. 11
Red Boy	"	"		Recorded in Vol. 1[illegible]
No. 23	"	"		Recorded in Vol. 12
Black Butte	"	"		Recorded in Vol. 13
Cedar Flats	"	"		Recorded in Vol. 13
Red "L"	"	"		Recorded in Vol. 13

Associated Red Flats Mining Group
Gold Beach, Oregon

Instruction 5 (b)

While the Associated Red Flats mining claims near Gold Beach in Curry County, Oregon, embrace an area of some 4,000 acres of highly mineralized ground with many millions of tons of positive ores in sight, less than 200 acres of the area have been systematically explored and tested.

Indications are that the entire ore body contains at least 1½% nickel, 36% iron, 10% magnesium, and substantial amounts of chrome, manganese, cadmium and free mercury. Cobalt, tin, platinum and gold have also been found to be present. Limited surveys and determinations by both the U. S. Bureau of Mines and the Oregon State Department of Geology and Mineral Industries have proven all of the above named minerals to be present in this ore body. Copies of their respective reports are available.

It is the belief of the claim holders that an intensive mineral survey of the property will prove it to be a vast and important source of several strategic minerals. Numerous engineers who have made preliminary examinations of the claims concur in this belief. It is for the purpose of making an intensive survey of said ore body that financial assistance is now being sought from the Defense Minerals Administration. Following is an outline of the project the claim holders propose:

1. Completely survey, subdivide and map entire area.

2. Build access roads to lateral from Forest Service road which traverses the approximate center of ore body to claim boundaries at six points.

3. Build cat and jeep trails to lateral from access roads wherever necessary to facilitate drilling.

4. Dig bulldozer pits to bedrock at intervals of one-fourth mile to facilitate bulk sampling.

5. Drill four-inch holes to bedrock at intervals of from 200 to 400 feet and sample each foot of depth.

6. All pits and drill holes to be marked, numbered and indicated on map.

7. Duplicates of all samples to be numbered, catalogued and stored for future reference.

Associated Red Flats Mining Group
Gold Beach, Oregon

Instruction 5 (b) continued

In order that all parties concerned may be assured that the various phases of the work will be carried out in accordance with accepted practices, it is proposed that the project, if it is carried out, be under the general supervision of a registered, professional mining engineer, and a qualified chemical and metalurgical engineer.

Associated Red Flats Mining Group
Gold Beach, Oregon

Instruction 5 (d)

Applicants are experienced in all phases of proposed exploration work, including the operation of heavy equipment for any type of mining operation.

Associated Red Flats Mining Group
Gold Beach, Oregon

Exhibit for Instruction 6 - Estimate of costs

6 (a) Independent contracts. None

6 (b) Labor, supervision, consultants.

Labor -- 6 men at $3,600.00	21,600.00	
Mining engineer -- part time	5,000.00	
Chemical and Metalurgical engineer -- part time	4,000.00	
Registered assayer -- full time	6,000.00	
Clerical and legal	4,500.00	41,100.00

6 (c) Operating materials and supplies.

Gas and oil	3,500.00	
Hand tools (to include tools for the repair of equipment, saws, axes, shovels, etc.)	300.00	
Additional laboratory equipment (to include chemicals, instruments, sample bags, etc.)	1,500.00	
Additional camp equipment (to include stoves, beds, gas operated water pump, plumbing, etc.)	600.00	5,900.00

6 (d) Operating equipment.

D6 cat with blade and drum	16,000.00	
Jeep truck with power take-off and drill equipment	3,500.00	
Power saw	400.00	19,900.00

6 (e) Rehabilitation and repairs.

Repair and maintenance of equipment	2,500.00	
Red Flats Camp - repairs:		
roofing 4 cabins	170.00	
lumber and other building material	600.00	
pipe and pipe fittings	80.00	
labor	300.00	
Hedderly Camp - repairs:		
roofing 4 buildings	300.00	
lumber and other building material	700.00	
repairs to water system including pipe and pipe fittings	285.00	
new wiring	160.00	
labor	450.00	5,545.00

6 (f) New buildings, improvements, installations. None

Associated Red Flats Mining Group
Gold Beach, Oregon
Instruction 6 continued

6 (g) Miscellaneous. See 6 (e).

6 (h) Contingencies.

Repairs to existing buildings, insurance, telephone and telegraph, necessary travel expense, emergency road maintenance	5,500.00
TOTAL ESTIMATE OF COSTS	$77,945.00