FEB 27 1956

Messrs. Elmer Wilson, Orville Rigby
and Maurice G. Dalgleish
c/o Mr. Elmer Wilson
6195 Walnut Drive
Eureka, California

Re: Docket No. DMEA 4034 - Nickel
Rattlesnake Mountain Group
Del Norte County, California

Gentlemen:

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 our information, although noting a small amount of nickel mineralization on the Rattlesnake Mountain Group claims, indicates to us that the probability of disclosing significant nickel ore reserves is not sufficiently promising to justify Government participation. Under these circumstances, we regret to advise you that your application is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Administration program and for bringing this property to our attention.

Sincerely yours,

C. O. Ringheim

Administrator

SPHolt:foc
2-20-56
cc to: Docket
Code 400
Adm. Read. File
Oper. Comm.
FT. REG. II
H. W. Davis, USBM
T. H. Kiilsgaard, USGS

11-23-55

Mr. Martin:

Mr. Runyon Code 190, Ext. 639 would like to talk to you re: Docket No. 4034.

DIC

Told him about it - He does not seem to want any kind of follow up WSM 11/23/55

February 20, 1956

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $56,000.00
Docket No. DMEA 4034 - Nickel
Elmer Wilson, et al.
Rattlesnake Mountain Group
Del Norte County, California

Denial of the subject application is recommended by this Division based on the following information:

(1) The applicants, Elmer Wilson, Orville Rigby and Maurice G. Dalgleish, c/O Elmer Wilson, 6195 Walnut Drive, Eureka, California, requested exploration assistance in the amount of $56,000.00 for rotary drilling on the Rattlesnake Mountain Group of claims.

(2) The applicants control by ownership the Ridge, et al. 67 unpatented lode mining claims, and by option to purchase, 6 additional unpatented claims, a total of 73 claims known as the Rattlesnake Mountain Group, situated in T. 15 and 16 N., R. 2 E., M.D.B. and M., Little Rattlesnake Mountain Mining District, Del Norte County, California.

(3) The proposed program is to drill 8,000 feet in about 80 holes, using a rotary drill, to test the thickness and nickel content of the soil mantle and the underlying rock on the Rattlesnake Mountain Group of claims.

(4) In the area of the Rattlesnake Mountain Group of claims sparse nickel mineralization occurs in the lateritic soil mantle derived from deep weathering of ultrabasic rocks, but there is little or no indication that significant bodies of nickel ore will be discovered by the work proposed under the applicants' exploration program.

(5) The Field Team concludes that further exploration of this property is not warranted, and recommends denial. The Commodity Divisions of the Geological Survey and the Bureau of Mines concur in this recommendation.

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

SPHOLT:foc
2-21-56
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.

400

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

February 20, 1956

Re: DMEA 4034
Elmer Wilson, et al.
Rattlesnake Mountain Group
Del Norte Co., California
$56,000 - Nickel

Memorandum

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

From: H. W. Davis, Bureau of Mines

Subject: Review of Field Team Report

This report pertains to Docket No. DMEA-4034, Elmer Wilson et al, Rattlesnake Mountain Group, Del Norte County, California - $56,000 - Nickel.

The field team found no nickel ore of minable grade present on the property or in the surrounding area, and, accordingly, recommended denial of the application.

I concur with the recommendation.

H. W. Davis

Copy to: T. H. Kiilsgard,
U. S. Geol. Survey,
Rm. 5222 Interior Bldg.

400

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

RECEIVED
JAN 31 1956

January 30, 1956

Re: DMEA 4034
Elmer Wilson, et al.
Rattlesnake Mountain Group
Del Norte Co., California
$56,000 - Nickel

Copy retained 400

Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report.

The applicant requested assistance in exploring a lateritic nickel deposit. The work proposed consists of 8,000 feet of test hole drilling at an estimated cost of $44,000. Assaying and metallurgical services at $6,000, and bulldozer work on roads and drill sites at $6,000 make the total estimated cost $56,000.

The examiners found a large area underlain by peridotite and serpentine with a lateritic mantel ranging in thickness from 0 to 20 feet. The laterite is nickel-bearing, but the average grade as indicated by a few samples taken by the applicants and the examiners is below ore grade. Exposures and test hole samples support the conclusion of the examiners that material of ore grade has not been found, is not likely to be found, and further work on the deposit is not warranted. Denial of the application is recommended.

I concur with the recommendation.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-1/30/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
H. W. Davis, 3519

400

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

RECEIVED
JAN 24 1956

1605 Evans Avenue
Reno, Nevada

January 18, 1956

WSM

Memorandum

To: Operating Committee, DMEA, Interior Building, Washington 25, D.C.

From: Executive Officer, DMEA Field Team, Region II

Subject: Docket No. DMEA-4034 (Nickel)
Elmer Wilson, et al
Rattlesnake Mountain Group
Del Norte County, California

Reference is made to your letter of November 9 relative to a field examination on subject property.

Attached are four copies of a report by H. K. Stager, Geological Survey and J. D. Warne, Bureau of Mines, in which it is recommended that the application for exploration aid be denied. Roscoe Smith and I concur in the recommendation.

There has been insufficient preliminary prospecting done by the applicants to indicate the possibility that exploration would disclose significant quantities of even marginal grade nickel ore. In addition, from data in the report, it is doubtful if more preliminary prospecting is justified.

S. Ricker

Attach.

SRicker:gh
cc: R. M. Smith
J. D. Warne
File

Reviewed by
DMEA OPERATING COMMITTEE

(date).

RECEIVED
JAN 24 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION II

APPLICATION REPORT

DMEA 4034 (Nickel)
Elmer Wilson, et al.
Red Ridge, et al. claims
Little Rattlesnake Mountain
Del Norte County, California

by

J. D. Warne
Mining Engineer
U. S. Bureau of Mines

H. K. Stager
Geologist
U. S. Geological Survey

January 17, 1956

Reviewed by
DMEA OPERATING COMMITTEE

_____
(date)

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SAMPLING	5
ORE RESERVES	7
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ILLUSTRATIONS

Figure 1 . . . . . Location map

2 . . . . . Geologic sketch map

RECEIVED
JAN 24 1956

INTRODUCTION

The partnership of Wilson, Rigby, and Dalgleish, 5195 Walnut Drive, Eureka, California, applied for Government assistance in a $56,000 program under the Defense Minerals Exploration Administration, docket DMEA-4034, to explore for nickel on the Red Ridge et al. claims on Little Rattlesnake Mountain, Del Norte County, California. The applicant estimates in excess of ten million tons of lateritic nickel ore, containing more than 1 percent nickel, and wishes to further test the property to determine the thickness and grade of the deposit in order to justify a mill to handle a large tonnage at low cost.

A field examination was requested by the Operating Committee, and was made by J. D. Warne, U. S. Bureau of Mines, and H. K. Stager, U. S. Geological Survey, on November 30 and December 1, 1955, accompanied by the applicants. Samples were taken at the accessible locations to check the applicants' sampling.

The property has been examined by Mr. Salem Rice, of the California State Division of Mines, and by a geologist of the M. A. Hanna Company, operators of the Nickel Mountain deposit at Riddle, Oregon. Neither was favorably impressed with the potential of the deposit.

CONCLUSIONS AND RECOMMENDATIONS

The claims contain a residual soil mantle of low grade nickel-bearing laterite. Indications of nickel ore of minable grade (1 percent nickel) and quantity have not been found. The results of the examination indicate that the deposit is too thin and too low in grade to permit economical mining, and that the geologic setting is not favorable for deposits of commercial size and grade.

The applicant proposed to test the thickness and grade of the soil mantle with 8,000 feet of drilling. This program is in essence one of prospecting to determine if a minable nickel deposit is present on the claims.

It is recommended that Government assistance under the IMEA program be denied.

LOCATION, PROPERTY, AND OWNERSHIP

The Red Ridge et al. claims on Little Rattlesnake Mountain consists of 73 unpatented claims in T. 15 and 16 N., R. 2 E., Del Norte County, California. The area covered by claims is shown in Fig. 2 and the names and recording data are listed in the application. A partnership (the applicants) own 57 of the claims, and an option to purchase six additional claims. The partners are Elmer Wilson, 6195 Walnut Drive, Eureka, California; Orville Rigby, 1200 Allard Drive, Eureka, California; and Maurice G. Dalgleish, Rt. 2, Box 335-C, Arcata, California.

The applicants have done little or no previous actual mining or exploration work, and they are not believed to be financially able or sufficiently experienced to properly conduct the proposed drilling program.

HISTORY AND PRODUCTION

No previous exploration or mining of nickel has been done in the Little Rattlesnake Mountain area. The group of unpatented claims were located and a small amount of preliminary exploration work was done during 1953 by the applicants as a result of a publication by the California Division of Mines in November 1954.

DEVELOPMENT

No housing facilities or equipment are on the property.

Previous exploratory work is limited to three shallow pits excavated to depths of less than 10 feet with a bulldozer and about six shallow hand-drilled auger holes. Records were incomplete as to the locations of the auger holes and samples taken by the applicants in connection with their discovery and assessment work.

No nickel ores have previously been explored or mined in this area.

GENERAL GEOLOGY

The rock exposed in the claim area is chiefly serpentinized peridotite and is part of a northwest-trending belt of ultrabasic rocks averaging about 2 miles wide. This belt is about 30 miles long and is bounded on the east by sedimentary and volcanic rocks of the Jurassic Galice formation and on the west by sedimentary rocks that probably belong to the Jurassic (?) Franciscan formation.

The peridotite is an olivine-rich saxonite, containing scattered clots of enstatite crystals in an even-grained groundmass of olivine. It has been partly serpentinized over much of the area and locally is completely serpentinized to dark green serpentine. The saxonite is distinguished by a characteristic rough surface on the outcrop which is caused by the differential weathering of the olivine and enstatite, leaving the enstatite crystals protruding from the otherwise smooth surface.

The tops of the ridges within the belt of ultrabasic rocks are the remnants of a Tertiary land surface of low relief and are mantled by dark red lateritic soil. It is within this lateritic soil mantle that concentrations of nickel-bearing minerals occur.

THE DEPOSIT

The nickel deposit on Little Rattlesnake Mountain is a nickel-bearing lateritic soil mantle that has been derived from the deep chemical weathering of ultrabasic rocks. The soil mantle ranges in thickness from a few inches to over 20 feet and probably averages about 5 feet over an area of about 2 square miles (fig. 2). The deposit is part of a Tertiary soil mantle which probably at one

time covered most or all of the ultrabasic rocks in the area. Erosion is cutting into and removing the deposit.

The upper 2 or 3 feet of the laterite zone contains from 0.3 to 0.5 percent nickel and is a brick-red soil composed principally of powdery and concretionary hydrous iron oxides. Beneath this red soil zone is a zone of yellow or ocher colored material from a few inches to over 20 feet thick that contains from about 0.6 to 0.8 percent nickel. Below this lateritic material is decomposed serpentine and peridotite that locally contains thin veinlets and fracture coatings of garnierite, the only nickel mineral that was seen. Assays of this partly decomposed bedrock range from about 0.2 percent to about 6 percent nickel and probably average about 0.6 percent.

Studies of other lateritic-nickel deposits, notably the one at Nickel Mountain, near Riddle, Oregon, has shown that minable nickel deposits form from the weathering of unserpentinized peridotite and are not found over serpentine. /

- - - - - - - -

/Pecora, William T. and Hobbs, S. Warren, 1943: Nickel Deposit Near Riddle, Douglas County, Oregon, U.S.G.S. Bull. 931, Part 1, p. 211.

- - - - - - - -

Nickel-bearing silica boxwork is typical of this type of deposit and constitutes the bulk of the ore at Nickel Mountain.

Notably lacking in the area of the Little Rattlesnake Mountain claims is any indication of the presence of large masses of unserpentinized peridotite and of silica bedrock.

SAMPLING

The applicant listed analyses of 10 samples ranging from 0.50 to 3.96 percent nickel content which were taken from rock on the surface of claims located in secs. 20 and 21, T. 15 N., R. 2 E., M.D.&M. The area from which these samples were taken is the most favorable in which to perform initial exploration work, according to the applicants. The higher assays of from 1 to 4 percent nickel that are listed in the application were obtained from small picked specimens of serpentine, that contained thin seams of garnierite, and are not representative of the grade of minable quantities of ore.

Insufficient exposures were available for sampling to provide a reliable estimate of the grade and quantity of nickeliferous material, but five check samples taken from prospects in this more favorable area are all less than ore grade. Analyses and descriptions of these samples are as follows:

Sample No.	% Ni	Description
1	0.81	No. 34 claim (Black Beauty), 5 foot pit, specimen sample of greenish rock material which appeared to contain some garnierite.
2	0.63	No. 48 claim (8 to 10 foot pit), grab sample of lateritic material.
3	0.69	Grab sample of material from auger hole, Snowfield claim.
4	0.65	Grab sample of lateritic material from Wanda Marie No. 2 dozer cut at airfield.
5	0.34	Grab sample of hematite gravel at surface adjacent to airfield.

ORE RESERVES

There are no reserves of ore grade material at this property. The applicants estimate that the reserves are in excess of ten million tons of material that contains more than 1 percent nickel. This estimate of tonnage is a poor guess based on the amount of surface area underlain by lateritic soil compared with the known tonnage of ore represented by the surface area of the deposit being mined at Nickel Mountain, Oregon. It is not supported by test pits or holes to determine the thickness and extent of the nickel-bearing material, by assay data, or by even a rudimentary geologic knowledge of the origin or characteristics of this type of deposit. It has not been established that there is nickel ore of minable grade present on the property or in

the surrounding area.

Insufficient work has been done to justify an estimate of tonnage and grade, but assays of material obtained from the widely scattered hand-auger test holes and shallow pits put down by the applicants show an average nickel content too low to be of economic interest. There is no geologic basis for inferring a deposit of higher grade.

PROPOSED EXPLORATION

The applicants have proposed a program consisting of about 40 test holes, averaging about 100 feet each, to test the thickness and nickel content of the soil mantle and the underlying rock. They propose to purchase a rotary drill and do the drilling themselves. They estimate the costs to be as follows:

8,000 feet of drilling @ $5.50/ft.	$44,000.00
Assaying and metallurgical services 12 mos. @ $500/mo.	6,000.00
Rental of D-8 bulldozer to build access roads and prepare drill sites 12 mos. @ $500/mo.	6,000.00
Total cost:	$56,000.00

To properly test a deposit of this type requires a drill that will yield a continuous sample from the surface to the base of the deposit, without danger of sample loss

through failure of water circulation. A conventional rotary or diamond core drill is not satisfactory for this reason. A churn drill or power-auger drill is best suited for obtaining the type of samples required.

Some shallow hand auger test holes, ranging in depth from a few inches to as much as 20 feet, have been put down by the applicants but the cuttings from these holes were not properly logged or sampled. The information obtained by this drilling, and from the shallow bulldozer cuts put in as discovery pits, was of little value and served more to discredit the potential of the deposit than to support it.

The proposed program is in essence one of prospecting rather than exploration as the presence in the area of nickel ore of minable grade and quantity has not been established.

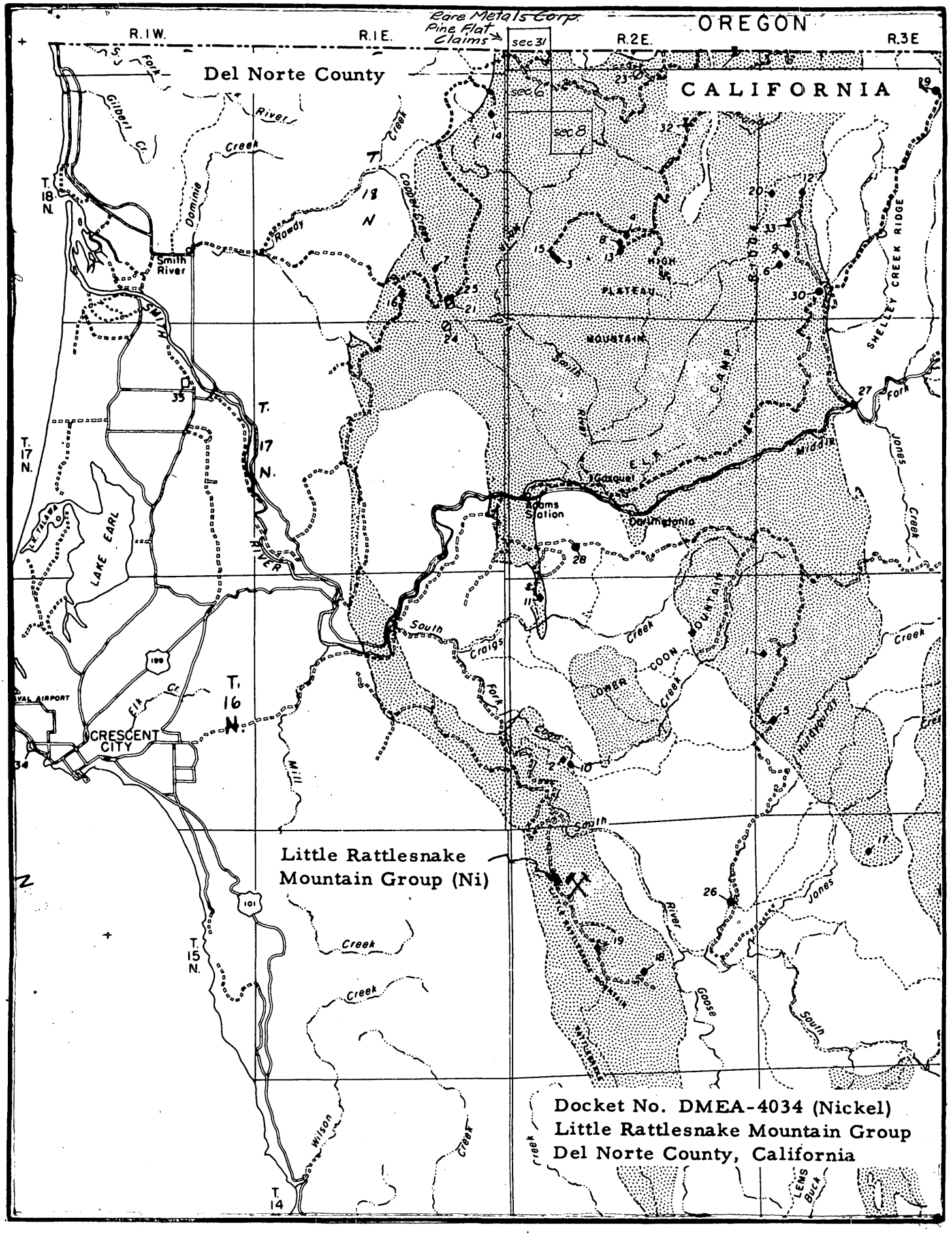

Fig. 1 LOCATION MAP CALIFORNIA

NOV - 9 1955

Mr. Spangler Richer, Executive Officer
DMEA Field Team, Region II
1605 Evans Avenue
Reno, Nevada

Re: Docket No. DMEA 403h - Nickel
Elmer Wilson, et al.
Rattlesnake Mountain Group
Del Norte County, California

Dear Mr. Richer:

The above docketed application for exploration assistance is being referred to your office for a field examination of the property.

Copies of memoranda dated November 2 and November 7, 1955, by N. E. Nelson, Geological Survey and H. W. Davis, Bureau of Mines, respectively, relating to the project, are enclosed for your information.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosure

APPROVED:

/s/ Robert W. Gechen
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

ADMcMahon/foc 11/8/55
cc to: Docket
Code 400
Admr. Read. File
Operating Comm.
FT. REG. II
Messrs. H. W. Davis, USBM
T. H. Kiilsgaard, USGS

NOV - 9 1955

Messrs. Elmer Wilson, Orville Rigby
and Maurice G. Dalglaish
% Mr. Elmer Wilson
6195 Walnut Drive
Eureka, California

Re: Docket No. DMEA 403h - Nickel
Rattlesnake Mountain Group
Del Norte County, California

Gentlemen:

The above docketed application for exploration assistance has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and referred to Mr. Spangler Ricker, Executive Officer, DMEA Field Team, Region II, 1605 Evans Avenue, Reno, Nevada, for a field examination of the property.

Any assistance you can give the members of the Field Team will be appreciated.

Sincerely yours,

C. O. Mittenden

Administrator

ADMcMahon/foc
11/8/55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. II
Messrs. H. W. Davis, USBM
T. H. Kiilsgaard, USGS

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

400

November 7, 1955

Re: Docket No. 4034
Elmer Wilson, 6195 Walnut
Drive, Eureka, Calif.
$56,000 - nickel

Memorandum

To: W. S. Martin, Chief, Iron and Ferroalloys Division, Defense Minerals Exploration Administration

From: H. W. Davis, Acting Chief, Branch of Ferrous Metals and Ferroalloys

Subject: Review of application

The applicant's proposal pertains to a loan of $56,000 to explore a nickel deposit in the Rattlesnake Mountain Group, Del Norte, California.

Inasmuch as the applicant has submitted insufficient information on which to base an opinion concerning a loan, it is recommended that the application be referred to the Field Team for its review and recommendations.

H. W. Davis

Copy to: Ferrous Metals
H. W. Davis
Division of Minerals
Thor H. Kiilsgaard, U.S.Geol.Survey
Files

IN REPLY REFER TO:

400

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

RECEIVED
NOV - 3 1955

November 2, 1955

Re: DMEA 4034
Elmer Wilson
Rattlesnake Mountain Group
Del Norte County, Calif.
$56,000.00 - Nickel

Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of application.

The application pertains to a laterite-type nickel deposit related to the Nickel Mountain (Riddle) deposit in Oregon.

The ten samples listed, if representative of substantial amounts of material, carry interest, but without more information the merit of the proposal cannot be judged.

Mineral Information Service, November 1, 1954, of the Division of Mines, California, makes mention of Rattlesnake Mountain as a locale of potential nickel ores.

Referral to the Field Team is indicated and so recommended.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-11/2/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
H. W. Davis, 3519

IN REPLY REFER TO:

402

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

November 1, 1955

Re: DMEA 4037
Cold Spring Tungsten, Inc.
Bake-off - Lily
Boulder County, Colorado
$7,563.00 - Tungsten

Memorandum

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

From: H. E. Nelson, U. S. Geological Survey

Subject: Review of application.

The applicant requests assistance in diamond drilling to find a possible downward and eastward extension of the Bake-off vein from the Gale (Clyde) mine. The holes would crosscut 600 feet of ground, much of it below the bed of Sherwood Creek, of which little is known except for the information obtained from drilling in the Bake-off mine.

Professional Paper 245 of the Geological Survey, Geology and Ore Deposits of the Boulder Co. Tungsten District (1953) contains much information on the area to be explored. Of the Bake-off vein where cut in the Lily tunnel it is said "The Bake-off vein is barren where it is cut by the Lily tunnel. Schist forms the north wall and altered coarse-grained aplite the south. The aplite is strongly altered close to the vein." And of the Bake-off vein " . . . most of the ore was found on the two veins west of the intersection and east of the schist area. The best ore was found between aplite walls, but excellent ore was found where only one wall was aplite. Where both walls were schist, the vein was barren."

The plan and section of the Gale mine on Plate 12 of the Professional Paper do not show the level shown on the map of the application as the level from which the drilling will be done. Presumably it is at such a level that horizontal holes from it will remain in bedrock under Sherwood Creek.

The information on the eastward extension of the Bake-off vein is not as favorable as might be liked. The Lily veins produced rich ore but were short and probably did not extend east of the

tunnel, the area to be prospected by the diamond drill holes. Except for the largest ore shoots the tungsten ore bodies do not make good targets for diamond drilling. However the application deserves consideration and referral to the Field Team is recommended.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-11/1/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)✓
Docket file
R. Holliday, 3513

MF-103
(Revised April 1952)

400

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
OCT 27 1955

Budget Bureau No. 42-R1035.2.

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. 4034
Metal or Mineral Nickel
Date Received October 24, 1955
Estimated Cost 5600.00
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: Elmer Allen, 4191 Walnut Drive, Eureka, Calif.
Orville Rigby, 1200 Alford Ave., Eureka, Calif.
Maurice G. Raleigh, Rt. 2, Box 335-A, Arcata, Calif.

(*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 Refer to enclosed maps for location and description.

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

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Little Nellie Mining Sheet. Owners by right of claims recorded in recorders office, Crescent City, Calif.

(*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. Refer to separate sheet for claim names, numbers etc.

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. Refer to sheet 3

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. Refer to sheet 4

(*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. Refer to sheet 5

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. Refer to sheet 6

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power. Refer to sheet 6

16—66551-1

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore Metal

(*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.

(*c*) The work will start within 30 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.

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 foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*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.

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

(*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.

(*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.

(*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.

(*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.

(*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.

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)?

(*b*) How do you propose to furnish your share of the costs? By labor and equipment

☐ 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 October 17, 1951

Elmer Wilson, Orville Ingby, Maurice Dalgleish
(Applicant)

By Elmer Wilson
Orville J. Ingby
Maurice G. Dalgleish

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

Sheet #3

4.
(a) Discovery work, assessment work, sampling and assaying have been done on these claims. All of this work is easily accessible for examination purposes.

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OCT 27 1955

Sheet #4

(b) There has been no production. Refer to enclosed assay reports.

Sheet #5

(6) These claims follow the crests and benches of a laterite mantel
(c) which covers the entire surface of Little Rattlesnake Mountain from an elevation of 1000 ft. to 3500 ft. Refer to topographical sketch and claim map.

The purpose of this exploration project is to determine the extent and quality of this deposit, and if possible to put it into production that it might contribute to the national defense mineral program, and provide a new industry for this area.

See Mineral Information bulletin report on this location.

Sheet #6

These claims extend for approximately six miles with a road running through the entire length. Highway 199 is within 12 miles
(d) ofthe nearest of the claims. Crescent City with its harbor facilities is within 25 miles. Crescent City, Smith River and Gasquet California are good sources of supply and residence, and within easy driving distance.

Manpower, materials, supplies & equipment are all readily available at Crescent City and vicinity 25 miles distant. On these claims
(e) are ample sources of good water for domestic use. Rock Creek on one side and the south fork of the Smith River on the other are sources of abundant water and is within ½ mile of the claims in the case of the Smith River. There is also a good site for a plant to process this ore and to dispose of the tailings. The nearest source of electric power at present is about 8 miles.

Sheet #7

5. (b) See inclosed maps and sketches.
(d) Our supervisor Mr. Elmer Wilson has had 15 yrs. experience in all types of mining and operating mining and drilling equipment. We plan to hire technical consultants whenever necessary.

Elmer Wilson
6195 Walnut Drive, Eureka Calif.

To cover reference to sections 9-11 under 6. (b) (c) (d) (e) (f) (g) and (h). To the applicants will furnish labor and equipment to complete this contract on a unit basis of $5.50 per ft. of drill hole.

6. (a) Estimated costs

8000 ft. of drilling @ $5.50 per ft. --	44,000.
* Assay and metallurgical services------	6,000.
Access road and leveling for drill rig and standby service with D-8 Cat---	6,000.
Total	56,000.
25% -- Applicants share	14,000.
75% --Government's "	42,000.

* Assay and metallurgical cost is based on 80 drill holes, 17 samples to the hole at a cost of $3.60 each.

1360 assays @ $3.00--	4,080.
Metallurgical	1,920.
	6,000.

To cover reference to sections 9-11 under 6. (b) (c) (d) (e) (f), (g) and (h). To the applicants will furnish labor and equipment to complete this contract on a unit basis of $5.50 per ft. of drill hole.

Elmer Wilson
6195 Walnut Drive
Eureka Calif.

SKYLAND URANIUM CORPORATION

RECEIVED
OCT 27 1955

PHONE _____ POST OFFICE BOX _____
RENO, NEVADA

Lot Indexed	Book	Page	Name of Claim, Block County
1[illegible]	6	399	
1[illegible]	6	400	Lost Chance
126	6	397	Mountain View
127	6	398	Chicagar
128	6	399	High Point
2[illegible]02	6	1[illegible]	Lost
2070	6	191	Dance
2071	6	192	Joe
2072	6	193	Louie Lunch
2073	6	197	Cuspidor
2074	6	199	Lucky Lucy
2075	6	201	Lucky Strike
2076	6	203	Blue Jay
2077	6	205	Bobbsy
2078	6	207	Grandpard
2079	6	209	Good Luck
2080	6	211	Lucky Corry
2081	6	213	Cloudy Mount
2082	6	109	Gold Ridge
2131	6	111	
2132	6	112	
2133	6	113	
2134	6	115	
2135	6	117	
2136	6	119	
2137	6	121	
2138	6	123	
2139	6	125	
2140	6	127	
2141	6	129	
2142	6	131	
2143	6	133	
2144	6	135	
2145	6	137	
2146	6	139	
2147	6	141	
2148	6	143	
2149	6	145	
2150	6	147	
2151	6	149	
2152	6	151	
2153	6	153	
2154	6	155	
2155	6	157	
2156	6	159	
2157	6	161	

Elmer Wilson
6145 Walnut Drive
Eureka Calif.

SKYLAND URANIUM CORPORATION

PHONE _____ POST OFFICE BOX _____

RENO, NEVADA

Indixed	Book	page	name of claim
3158	" 5	159	Red ridge # 40
3159	" 5 "	161	" " # 39
3160	" 5	163	" " # 38
3161	" 5	165	" " # 37
3162	" 5	167	" " # 36
3163	" 5	169	" " # 35
3164	" 5	171	" " # 34
3165	" 5	173	" " # 20
3166	" 5	175	" " # 50
3167	" 5	177	" " # 51
3168	" 5	179	" " # 52
3169	" 5	181	Azalea # 1
3170	" 5	183	" # 2
3171	" 5	185	Red Ridge # 6
3172	" 5	187	Wanda Marie # 1
3173	" 5	189	" " # 2
3174	" 5	191	" " # 3
3175	" 5	193	Juneau
3233	" 5	280	Red Ridge # 53
3234	" 5	282	" " # 54
3235	" 5	284	" " # 55
3236	" 5	286	" " # 56
3237	" 5	288	" " # 57
3238	" 5	290	" " # 58
3239	" 5	292	" " # 59
3240	" 5	294	" " # 60
3241	" 5	296	" " # 61
3242	" 5	298	" " # 62
3243	" 5	300	" " # 63
3244	" 5	302	" " # 64
3245	" 5	304	" " # 65

Elmer Wilson
6195 Walnut Drive
Eureka Calif.

CERTIFICATE OF ANALYSIS

METALLURGICAL LABORATORIES

Chemists and Metallurgists

TELEPHONE SUTTER 1-0750
604 Mission Street
SAN FRANCISCO 5, CALIFORNIA

REPORT TO Skyland Uranium Corporation,
6195-Walnut Drive,
Eureka, California.

DATE 10-12-55

SAMPLE OF MARK: Metal #1 to 10 inc.

RECEIVED 10-11-55

LABORATORY NO. 1 to 10 inc.

PURCHASE ORDER NO.

		Nickel
Lab.#1	Metal #1	.95 %
" 2	" 2	1.34
" 3	" 3	.81
" 4	" 4	3.96
" 5	" 5	2.05
" 6	" 6	1.65
" 7	" 7	2.76
" 8	" 8	1.20
" 9	" 9	.50
" 10	" 10	1.54

Respectfully submitted,

Metallurgical Laboratories.

Frank R. Geis.

[illegible] taken from [illegible] the [illegible] from [illegible] detailed in Report 1.

~/30/56

Mr.Mittendorf:

Miss Somers, Cong. Scudder's office (Calif.) (R),

has letter from constituent, Brizzard Matthews Machinery Co., re DMEA-4034, Elmer Wilson.

Letter says, "Elmer Wilson showed me copy of letter received from Dept. of Interior, DMEA, wherein they state a careful study was made of the following project:

DMEA-4034 - RattlesnakeMt. Group
Del Norte Co.

We
I just wonder if by any chance you can ask the Administrator to give us a copy of the above report. The Department has no doubt gone to great expense to have the report made..."

T.190
X639

fw

She was told by Mr. Mittendorf that the field team reports are confidential and therefore not available even to the applicant. She could suggest to the constituent that he employ a competent engineer or geologist to examine the property.

fw

RECEIVED
OCT 27 1955

DOCKET
SURNAME
Holt
McMahon
Martin
Kiilsgaard
Gibson
Selvidge
F E Johnson

400

FEB 27 1956

Messrs. Elmer Wilson, Orville Rigby
and Maurice G. Dalgleish
c/o Mr. Elmer Wilson
6195 Walnut Drive
Eureka, California

Re: Docket No. DMEA 4034 - Nickel
Rattlesnake Mountain Group
Del Norte County, California

Gentlemen:

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 our information, although noting a small amount of nickel mineralization on the Rattlesnake Mountain Group claims, indicates to us that the probability of disclosing significant nickel ore reserves is not sufficiently promising to justify Government participation. Under these circumstances, we regret to advise you that your application is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Administration program and for bringing this property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

SPHolt:foc
2-20-56
cc to: Docket
Code 400
Adm. Read. File
Oper. Comm.
FT. REG. II
H. W. Davis, USBM
T. H. Kiilsgaard, USGS

R.G.S.

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

February 20, 1956

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $56,000.00
Docket No. DMEA 4034 - Nickel
Elmer Wilson, et al.
Rattlesnake Mountain Group
Del Norte County, California

Denial of the subject application is recommended by this Division based on the following information:

(1) The applicants, Elmer Wilson, Orville Rigby and Maurice G. Dalgleish, c/O Elmer Wilson, 6195 Walnut Drive, Eureka, California, requested exploration assistance in the amount of $56,000.00 for rotary drilling on the Rattlesnake Mountain Group of claims.

(2) The applicants control by ownership the Ridge, et al., 67 unpatented lode mining claims, and by option to purchase, 6 additional unpatented claims, a total of 73 claims known as the Rattlesnake Mountain Group, situated in T. 15 and 16 N., R. 2 E., M.D.B. and M., Little Rattlesnake Mountain Mining District, Del Norte County, California.

(3) The proposed program is to drill 8,000 feet in about 80 holes, using a rotary drill, to test the thickness and nickel content of the soil mantle and the underlying rock on the Rattlesnake Mountain Group of claims.

(4) In the area of the Rattlesnake Mountain Group of claims sparse nickel mineralization occurs in the lateritic soil mantle derived from deep weathering of ultrabasic rocks, but there is little or no indication that significant bodies of nickel ore will be discovered by the work proposed under the applicants' exploration program.

(5) The Field Team concludes that further exploration of this property is not warranted, and recommends denial. The Commodity Divisions of the Geological Survey and the Bureau of Mines concur in this recommendation.

W S Martin

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

DOCKET
SURNAME
Holt
McMahon

400

February 20, 1956

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

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Elmer Wilson, et al.
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W. S. Martin, Chief
Iron and Ferro-Alloys Division

SPHOLT:foc
2-21-56
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.

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

February 20, 1956

Re: DMEA 4034
Elmer Wilson, et al.
Rattlesnake Mountain Group
Del Norte Co., California
$56,000 - Nickel

Memorandum

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

From: H. W. Davis, Bureau of Mines

Subject: Review of Field Team Report

This report pertains to Docket No. DMEA-4034, Elmer Wilson et al, Rattlesnake Mountain Group, Del Norte County, California - $56,000 - Nickel.

The field team found no nickel ore of minable grade present on the property or in the surrounding area, and, accordingly, recommended denial of the application.

I concur with the recommendation.

H. W. Davis

H. W. Davis

Copy to: T. H. Kiilsgard,
U. S. Geol. Survey,
Rm. 5222 Interior Bldg.

Copy retained 490

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

February 20, 1956

Re: DMEA 4034
Elmer Wilson, et al.
Rattlesnake Mountain Group
Del Norte Co., California
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Rm. 5222 Interior Bldg.

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

February 20, 1956

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Elmer Wilson, et al.
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U. S. Geol. Survey,
Rm. 5222 Interior Bldg.

Docket

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

RECEIVED
JAN 31 1956

January 30, 1956

Copy retained

Re: DMEA 4034
Elmer Wilson, et al.
Rattlesnake Mountain Group
Del Norte Co., California
$56,000 - Nickel

W34

Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report.

The applicant requested assistance in exploring a lateritic nickel deposit. The work proposed consists of 8,000 feet of test hole drilling at an estimated cost of $44,000. Assaying and metallurgical services at $6,000, and bulldozer work on roads and drill sites at $6,000 make the total estimated cost $56,000.

The examiners found a large area underlain by peridotite and serpentine with a lateritic mantel ranging in thickness from 0 to 20 feet. The laterite is nickel-bearing, but the average grade as indicated by a few samples taken by the applicants and the examiners is below ore grade. Exposures and test hole samples support the conclusion of the examiners that material of ore grade has not been found, is not likely to be found, and further work on the deposit is not warranted. Denial of the application is recommended.

I concur with the recommendation.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

RECEIVED
JAN 31 1956

January 30, 1956

Re: DMEA 4034
Elmer Wilson, et al.
Rattlesnake Mountain Group
Del Norte Co., California
$56,000 - Nickel

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I concur with the recommendation.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-1/30/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
H. W. Davis, 3519

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

RECEIVED
JAN 31 1956

January 30, 1956

Re: DMEA 4034
Elmer Wilson, et al.
Rattlesnake Mountain Group
Del Norte Co., California
$56,000 - Nickel

Memorandum

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Subject: Review of Field Team report.

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I concur with the recommendation.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-1/30/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
H. W. Davis, 3519

DOCKET
SURNAME
400 McMahon
Martin
Kilsgaard
Geehan
Selridge
Gibson

NOV 9 1955

Messrs. Elmer Wilson, Orville Rigby
and Maurice G. Dalgleish
% Mr. Elmer Wilson
6195 Walnut Drive
Eureka, California

Re: Docket No. DMEA 4034 - Nickel
Rattlesnake Mountain Group
Del Norte County, California

Gentlemen:

The above docketed application for exploration assistance has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and referred to Mr. Spangler Ricker, Executive Officer, DMEA Field Team, Region II, 1605 Evans Avenue, Reno, Nevada, for a field examination of the property.

Any assistance you can give the members of the Field Team will be appreciated.

Sincerely yours,

C. D. Mitchell (for)

Administrator

ADMcMahon/foc
11/8/55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. II
Messrs. H. W. Davis, USBM
T. H. Kiilsgaard, USGS

R.C.L.

DOCKET
SURNAME
400 McMahon
Martin
Selfridge
Johnson

NOV - 9 1955

Mr. Spangler Ricker, Executive Officer
DMEA Field Team, Region II
1605 Evans Avenue
Reno, Nevada

Re: Docket No. DMEA 403h - Nickel
Elmer Wilson, et al.
Rattlesnake Mountain Group
Del Norte County, California

Dear Mr. Ricker:

The above docketed application for exploration assistance is being referred to your office for a field examination of the property.

Copies of memoranda dated November 2 and November 7, 1955, by N. E. Nelson, Geological Survey and H. W. Davis, Bureau of Mines, respectively, relating to the project, are enclosed for your information.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SLB)

Enclosure

APPROVED:

/s/ Robert W. Geehan (SLB)
Member, Bureau of Mines

Thor H. Kiilsgaard (SLB)
Member, Geological Survey

ADMcMahon/foc 11/8/55
cc to: Docket
Code 400
Admr. Read. File
Operating Comm.
FT. REG. II
Messrs. H. W. Davis, USBM
T. H. Kiilsgaard, USGS

Dr Ea

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

RECEIVED
JAN 24 1956

1605 Evans Avenue
Reno, Nevada

January 18, 1956

Memorandum

WSG

To: Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region II

Subject: Docket No. DMEA-4034 (Nickel)
Elmer Wilson, et al
Rattlesnake Mountain Group
Del Norte County, California

Reference is made to your letter of November 9 relative to a field examination on subject property.

Attached are four copies of a report by H. K. Stager, Geological Survey and J. D. Warne, Bureau of Mines, in which it is recommended that the application for exploration aid be denied. Roscoe Smith and I concur in the recommendation.

There has been insufficient preliminary prospecting done by the applicants to indicate the possibility that exploration would disclose significant quantities of even marginal grade nickel ore. In addition, from data in the report, it is doubtful if more preliminary prospecting is justified.

S. Ricker

S. Ricker

Attach.

Reviewed by
DMEA OPERATING COMMITTEE
1-27-56
(date)

BUREAU OF MINES
WASHINGTON, D. C.
JAN 23 12 33 PM '56

RECEIVED
JAN 24 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION II

APPLICATION REPORT

DMEA 4034 (Nickel)
Elmer Wilson, et al.
Red Ridge, et al. claims
Little Rattlesnake Mountain
Del Norte County, California

by

J. D. Warne
Mining Engineer
U. S. Bureau of Mines

H. K. Stager
Geologist
U. S. Geological Survey

January 17, 1956

Reviewed by
DMEA OPERATING COMMITTEE
1-27-56
(date)

RECEIVED
JAN 24 1956

CONTENTS

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CONCLUSIONS AND RECOMMENDATIONS	2
LOCATION, PROPERTY, AND OWNERSHIP	2
HISTORY AND PRODUCTION	3
DEVELOPMENT	3
GENERAL GEOLOGY	4
THE DEPOSIT	4
SAMPLING	6
ORE RESERVES	7
PROPOSED EXPLORATION	8

ILLUSTRATIONS

Figure 1 . . . . . Location map

2 . . . . . Geologic sketch map

INTRODUCTION

The partnership of Wilson, Rigby, and Dalgleish, 6195 Walnut Drive, Eureka, California, applied for Government assistance in a $56,000 program under the Defense Minerals Exploration Administration, docket DMEA-4034, to explore for nickel on the Red Ridge et al. claims on Little Rattlesnake Mountain, Del Norte County, California. The applicant estimates in excess of ten million tons of lateritic nickel ore, containing more than 1 percent nickel, and wishes to further test the property to determine the thickness and grade of the deposit in order to justify a mill to handle a large tonnage at low cost.

A field examination was requested by the Operating Committee, and was made by J. D. Warne, U. S. Bureau of Mines, and H. K. Stager, U. S. Geological Survey, on November 30 and December 1, 1955, accompanied by the applicants. Samples were taken at the accessible locations to check the applicants' sampling.

The property has been examined by Mr. Salem Rice, of the California State Division of Mines, and by a geologist of the M. A. Hanna Company, operators of the Nickel Mountain deposit at Riddle, Oregon. Neither was favorably impressed with the potential of the deposit.

RECEIVED
JAN 24 1956

CONCLUSIONS AND RECOMMENDATIONS

The claims contain a residual soil mantle of low grade nickel-bearing laterite. Indications of nickel ore of minable grade (1 percent nickel) and quantity have not been found. The results of the examination indicate that the deposit is too thin and too low in grade to permit economical mining, and that the geologic setting is not favorable for deposits of commercial size and grade.

The applicant proposed to test the thickness and grade of the soil mantle with 8,000 feet of drilling. This program is in essence one of prospecting to determine if a minable nickel deposit is present on the claims.

It is recommended that Government assistance under the DMEA program be denied.

LOCATION, PROPERTY, AND OWNERSHIP

The Red Ridge et al. claims on Little Rattlesnake Mountain consists of 73 unpatented claims in T. 15 and 16 N., R. 2 E., Del Norte County, California. The area covered by claims is shown in Fig. 2 and the names and recording data are listed in the application. A partnership (the applicants) own 67 of the claims, and an option to purchase six additional claims. The partners are Elmer Wilson, 6195 Walnut Drive, Eureka, California; Orville Rigby, 1200 Allard Drive, Eureka, California; and Maurice G. Dalgleish, Rt. 2, Box 335-C, Arcata, California.

The applicants have done little or no previous actual mining or exploration work, and they are not believed to be financially able or sufficiently experienced to properly conduct the proposed drilling program.

HISTORY AND PRODUCTION

No previous exploration or mining of nickel has been done in the Little Rattlesnake Mountain area. The group of unpatented claims were located and a small amount of preliminary exploration work was done during 1953 by the applicants as a result of a publication by the California Division of Mines in November 1954.

DEVELOPMENT

No housing facilities or equipment are on the property.

Previous exploratory work is limited to three shallow pits excavated to depths of less than 10 feet with a bulldozer and about six shallow hand-drilled auger holes. Records were incomplete as to the locations of the auger holes and samples taken by the applicants in connection with their discovery and assessment work.

No nickel ores have previously been explored or mined in this area.

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GENERAL GEOLOGY

The rock exposed in the claim area is chiefly serpentinized peridotite and is part of a northwest-trending belt of ultrabasic rocks averaging about 2 miles wide. This belt is about 30 miles long and is bounded on the east by sedimentary and volcanic rocks of the Jurassic Galice formation and on the west by sedimentary rocks that probably belong to the Jurassic (?) Franciscan formation.

The peridotite is an olivine-rich saxonite, containing scattered clots of enstatite crystals in an even-grained groundmass of olivine. It has been partly serpentinized over much of the area and locally is completely serpentinized to dark green serpentine. The saxonite is distinguished by a characteristic rough surface on the outcrop which is caused by the differential weathering of the olivine and enstatite, leaving the enstatite crystals protruding from the otherwise smooth surface.

The tops of the ridges within the belt of ultrabasic rocks are the remnants of a Tertiary land surface of low relief and are mantled by dark red lateritic soil. It is within this lateritic soil mantle that concentrations of nickel-bearing minerals occur.

THE DEPOSIT

The nickel deposit on Little Rattlesnake Mountain is a nickel-bearing lateritic soil mantle that has been derived from the deep chemical weathering of ultrabasic rocks. The soil mantle ranges in thickness from a few inches to over 20 feet and probably averages about 5 feet over an area of about 2 square miles (fig. 2). The deposit is part of a Tertiary soil mantle which probably at one

time covered most or all of the ultrabasic rocks in the area. Erosion is cutting into and removing the deposit.

The upper 2 or 3 feet of the laterite zone contains from 0.3 to 0.5 percent nickel and is a brick-red soil composed principally of powdery and concretionary hydrous iron oxides. Beneath this red soil zone is a zone of yellow or ocher colored material from a few inches to over 20 feet thick that contains from about 0.6 to 0.8 percent nickel. Below this lateritic material is decomposed serpentine and peridotite that locally contains thin veinlets and fracture coatings of garnierite, the only nickel mineral that was seen. Assays of this partly decomposed bedrock range from about 0.2 percent to about 6 percent nickel and probably average about 0.6 percent.

Studies of other lateritic-nickel deposits, notably the one at Nickel Mountain, near Riddle, Oregon, has shown that minable nickel deposits form from the weathering of unserpentinized peridotite and are not found over serpentine.

- - - - - - - -

/Pecora, William T. and Hobbs, S. Warren, 1943: Nickel Deposit Near Riddle, Douglas County, Oregon, U.S.G.S. Bull. 931, Part 1, p. 211.

- - - - - - - -

Nickel-bearing silica boxwork is typical of this type of deposit and constitutes the bulk of the ore at Nickel Mountain.

Notably lacking in the area of the Little Rattlesnake Mountain claims is any indication of the presence of large masses of unserpentinized peridotite and of silica boxwork.

SAMPLING

The applicant listed analyses of 10 samples ranging from 0.50 to 3.96 percent nickel content which were taken from rock on the surface of claims located in secs. 20 and 21, T. 15 N., R. 2 E., H.B.&M. The area from which these samples were taken is the most favorable in which to perform initial exploration work, according to the applicants. The higher assays of from 1 to 4 percent nickel that are listed in the application were obtained from small picked specimens of serpentine, that contained thin seams of garnierite, and are not representative of the grade of minable quantities of ore.

Insufficient exposures were available for sampling to provide a reliable estimate of the grade and quantity of nickeliferous material, but five check samples taken from prospects in this more favorable area are all less than ore grade. Analyses and descriptions of these samples are as follows:

Sample No.	% Ni	Description
1	0.81	No. 34 claim (Black Beauty), 5 foot pit, specimen sample of greenish rock material which appeared to contain some garnierite.
2	0.63	No. 48 claim (8 to 10 foot pit), grab sample of lateritic material.
3	0.69	Grab sample of material from auger hole, Snowfield claim.
4	0.65	Grab sample of lateritic material from Wanda Marie No. 2 dozer cut at airfield.
5	0.34	Grab sample of hematite gravel at surface adjacent to airfield.

ORE RESERVES

There are no reserves of ore grade material at this property. The applicants estimate that the reserves are in excess of ten million tons of material that contains more than 1 percent nickel. This estimate of tonnage is a poor guess based on the amount of surface area underlain by lateritic soil compared with the known tonnage of ore represented by the surface area of the deposit being mined at Nickel Mountain, Oregon. It is not supported by test pits or holes to determine the thickness and extent of the nickel-bearing material, by assay data, or by even a rudimentary geologic knowledge of the origin or characteristics of this type of deposit. It has not been established that there is nickel ore of minable grade present on the property or in

the surrounding area.

Insufficient work has been done to justify an estimate of tonnage and grade, but assays of material obtained from the widely scattered hand-auger test holes and shallow pits put down by the applicants show an average nickel content too low to be of economic interest. There is no geologic basis for inferring a deposit of higher grade.

PROPOSED EXPLORATION

The applicants have proposed a program consisting of about 80 test holes, averaging about 100 feet each, to test the thickness and nickel content of the soil mantle and the underlying rock. They propose to purchase a rotary drill and do the drilling themselves. They estimate the costs to be as follows:

8,000 feet of drilling	
@ $5.50/ft.	$44,000.00
Assaying and metallurgical services	
12 mos. @ $500/mo.	6,000.00
Rental of D-8 bulldozer to build access roads and prepare drill sites	
12 mos. @ $500/mo.	6,000.00
Total cost:	$56,000.00

To properly test a deposit of this type requires a drill that will yield a continuous sample from the surface to the base of the deposit, without danger of sample loss

through failure of water circulation. A conventional rotary or diamond core drill is not satisfactory for this reason. A churn drill or power-auger drill is best suited for obtaining the type of samples required.

Some shallow hand auger test holes, ranging in depth from a few inches to as much as 20 feet, have been put down by the applicants but the cuttings from these holes were not properly logged or sampled. The information obtained by this drilling, and from the shallow bulldozer cuts put in as discovery pits, was of little value and served more to discredit the potential of the deposit than to support it.

The proposed program is in essence one of prospecting rather than exploration as the presence in the area of nickel ore of minable grade and quantity has not been established.

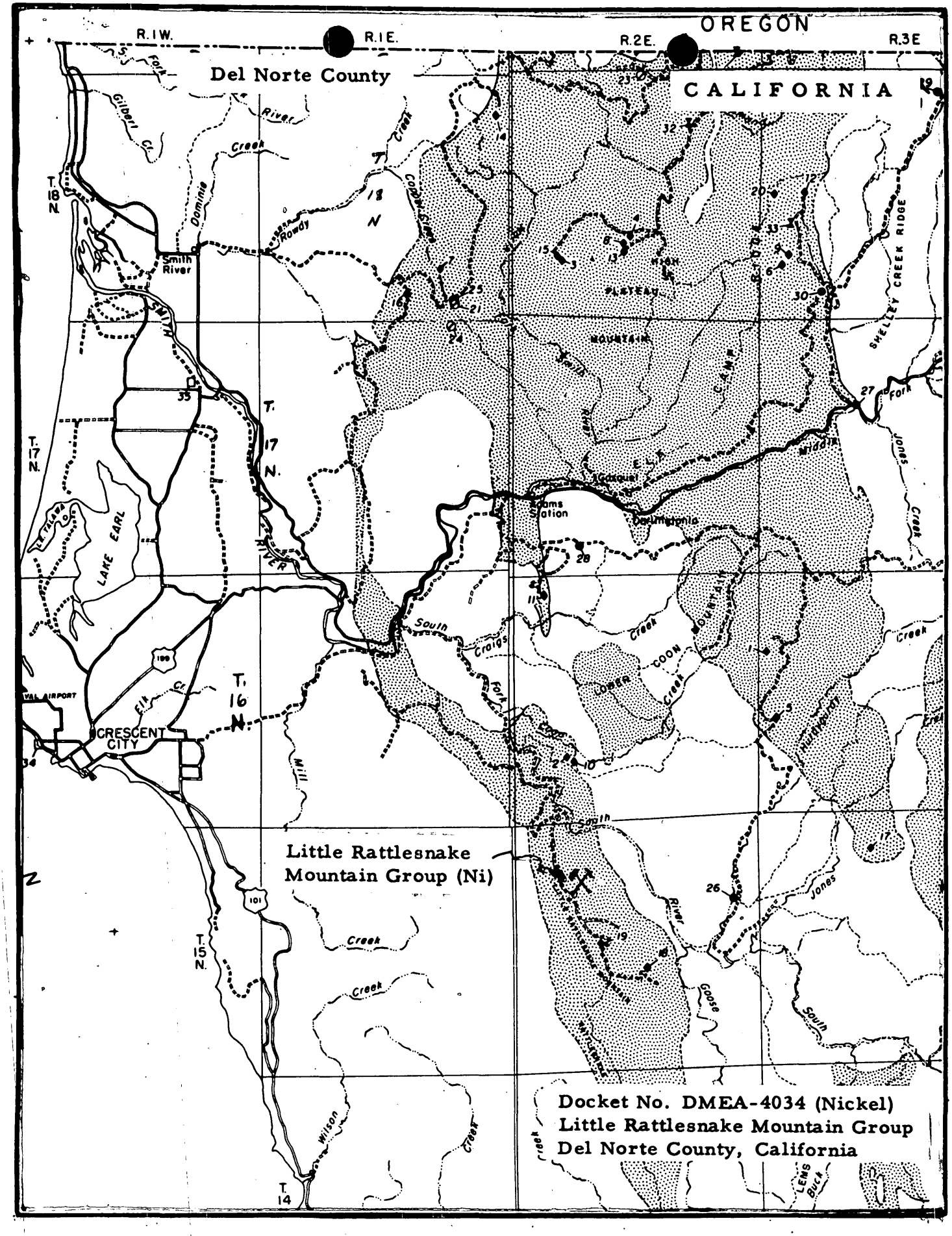

Fig. 1 LOCATION MAP CALIFORNIA

Docket

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

November 7, 1955

Copy retained 400

Re: Docket No. 4034
Elmer Wilson, 6195 Walnut Drive, Eureka, Calif.
$56,000 - nickel

Memorandum

To: W. S. Martin, Chief, Iron and Ferroalloys Division, Defense Minerals Exploration Administration

From: H. W. Davis, Acting Chief, Branch of Ferrous Metals and Ferroalloys

Subject: Review of application

The applicant's proposal pertains to a loan of $56,000 to explore a nickel deposit in the Rattlesnake Mountain Group, Del Norte, California.

Inasmuch as the applicant has submitted insufficient information on which to base an opinion concerning a loan, it is recommended that the application be referred to the Field Team for its review and recommendations.

H. W. Davis
H. W. Davis

Copy to: Ferrous Metals
H. W. Davis
Division of Minerals
Thor H. Kiilsgaard, U.S.Geol.Survey
Files

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IN REPLY REFER TO:

Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

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NOV - 8 1955

November 2, 1955

Re: DMEA 4034
Elmer Wilson
Rattlesnake Mountain Group
Del Norte County, Calif.
$56,000.00 - Nickel

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Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

WSM

Subject: Review of application.

The application pertains to a laterite-type nickel deposit related to the Nickel Mountain (Riddle) deposit in Oregon.

The ten samples listed, if representative of substantial amounts of material, carry interest, but without more information the merit of the proposal cannot be judged.

Mineral Information Service, November 1, 1954, of the Division of Mines, California, makes mention of Rattlesnake Mountain as a locale of potential nickel ores.

Referral to the Field Team is indicated and so recommended.

N. E. Nelson

N. E. Nelson

Copy retained 400

October 27, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region II

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region II.

DMEA-4034 Elmer Wilson, et al

Robert E. Adams
Chief, Operation's Control
and Statistics Division

Subject: DMEA-4034
Re: Exploration

Elmer Wilson, et al
6195 Walnut Drive
Eureka, California

October 27, 1955

Gentlemen:

The receipt of your application dated October 17, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-4034 and referred to the Iron and Ferro Alloys Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

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

RECEIVED
OCT 27 1955

1605 Evans Avenue
Reno, Nevada

October 25, 1955

Memorandum

To: Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region II

Subject: Loan Application (Nickel)

Elmer Wilson, et al
Little Rattlesnake Mt. Group Claims
Del Norte County, California

Attached are three sets of MF-103 Application for Aid forms pertaining to above subject. The fourth set has been retained in our files.

S. Ricker

Attach.

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

RECEIVED
OCT 27 1955

1605 Evans Avenue
Reno, Nevada

October 25, 1955

Memorandum

To: Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region II

Subject: Loan Application (Nickel)

Elmer Wilson, et al
Little Rattlesnake Mt. Group Claims
Del Norte County, California

Attached are three sets of MF-103 Application for Aid forms pertaining to above subject. The fourth set has been retained in our files.

S. Ricker

Attach.

SRicker:gh
cc: R. M. Smith
File

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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OCT 27 1955

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. 4034
Metal or Mineral Nickel
Date Received October 24, 1955
Estimated Cost 56,000.00
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: Elmer Wilson, 6195 Walnut Drive, Eureka, Calif.
Orville Rigby, 1200 Allard Ave., Eureka, Calif.
Maurice G. Dalgleish, Rt. 2, Box 335-C, Arcata, Calif.

(*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 Refer to enclosed maps for location and description.

(*b*) State any mine name by which the property is known. Little Rattlesnake Mt. Mining Dist.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Owners by right of claims recorded in recorders office, Crecent City, Calif.

(*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. Refer to separate sheet for claim names, numbers etc.

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. Refer to sheet #3

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. Refer to sheet #4

(*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. Refer to sheet #5

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. Refer to sheet #6

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.
Refer to Sheet #6

16—66551-1

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore Nickel

(*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. Refer to sheet # 7

(*c*) The work will start within 30 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. Refer to sheet #7

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: Sheet #8

(*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 foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.). 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. Refer to sheet #9

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. None

(*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. Refer to sheet #10

(*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. Furnishing own camp Accomodations

(*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. Refer to Sheet #11

(*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. Refer to sheet #11

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? By labor and equipment

☐ Money ☒ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper. Refer to sheet #12

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 October 17, 1955

Partnership
Elmer Wilson, Orville Rigby, M. Dalgleish
(Applicant)

By Elmer Wilson
Orville J. Rigby
Maurice G. Dalgleish

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

Sheet #3

4.
(a) Discovery work, Assessment work, sampling and assaying have been done on these claims. All of this work is easily accessible examination purposes.

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Sheet #4

(b) There has been no production. Refer to enclosed assay reports.

Sheet #5

(c) These claims follow the crests and benches of a laterite mantel which covers the entire surface of Little Rattlesnake Mountain from an elevation of 1800 ft. to 3500 ft. Refer to topographical sketch and claim map.

The purpose of this exploration project is to determine the extent and quality of this deposit, and if possible to put it into production that it might contribute to the national defense mineral program, and provide a new industry for this area.

See Mineral Imformation bulletin report on this location.

Sheet #6

(d) These claims extend for approximately six miles with a good road running through the entire length. Highway 199 is within 12 miles of the nearest of the claims. Crecent City with its harbor facilities is within 25 miles. Crecent City, Smith River and Gasquet California are good sources of supply and residence, and within easy driving distance.

(e) Manpower, materials, supplies & equipment are all readily available at Crecent City and vicinity 25 miles distant. On the claims are ample sources of good water for domestic use. Rock Creek on one side and the south fork of the Smith River on the other are sources of abundant water and is within ½ mile of the claims in the case of the Smith River. there is also a good site for a plant to process this ore and to dispose of the tailings. The nearest source of electric power at present is about 8 miles.

Sheet #7

5.
(b) See inclosed maps and sketches.
(d) Our supervisor Mr. Elmer Wilson has had 15 yrs. experience in all types of mining and operating mining and drilling equipment. We plan to hire technical consultants whenever necessary.

Elmer Wilson
6195 Walnut

6. (a) Estimate of costs.

8000 ft. of drilling @ $5.50 per Ft. --	$44,000.
* Assay and metallurgical services------	6,000.
Acess road and leveling for drill rig and standby service with D-8 Cat---	6,000.
Total	$56,000.
25%-- Applicants share	14,000.
75%--Government's "	42,000.

* Assay and metallurgicall cost is based on 80 drill holes , 17 samples to the hole at a cost of $3.00 each.

1360 assays @ $3.00--	$4,080 .
Metallurgical	$1,920.
	$6,000.

To cover reference to sheets #9-11 under 6. (b) (c) (d) (e) (f), (g) and (h). We the applicants will furnish labor and equipment to complete this contract on a unit basis of $5.50 per ft. of drill hole.

Elmer Wilson, 6195. Walnut Drive
Eureka Calif.

SKYLAND URANIUM CORPORATION

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RENO, NEVADA

Ln Indexed	Book	page	name of claim
3158	" 5	159	Red ridge # 40
3159	" 52"	161	" " # 39
3160	" 5	163	" " # 38
3161	" 5	165	" " # 37
3162	" 5	167	" " # 36
3163	" 5	169	" " # 35
3164	" 5	171	" " # 34
3165	" 5	173	# " # 20
3166	" 5	175	" " # 50
3167	" 5	177	"" # 51
3168	" 5	179	" " # 52
3169	" 5	181	Azalea # 1
3170	" 5	183	" # 2
3171	" 5	185	Red Ridge # 6
3172	" 5	187	Wanda Marie # 1
3173	" 5	189	" " # 2
3174	" 5	191	" " # 3
3175	" 5	193	Juneau
3233	" 5	280	Red Ridge # 53
3234	" 5	282	" " # 54
3235	" 5	284	" " # 55
3236	" 5	286	" " # 56
3237	" 5	288	" " # 57
3238	" 5	290	" " # 58
3239	" 5	292	" " # 59
3240	" 5	294	" " # 60
3241	" 5	296	" " # 61
3242	" 5	298	" " # 62
3243	" 5	300	" " # 63
3244	" 5	302	" " # 64
3245	" 5	304	" " # 65

Elmer Wilson
6195 Walnut Drive
Eureka Calif.

SKYLAND URANIUM CORPORATION

PHONE_____ POST OFFICE BOX_____

RENO, NEVADA

128	indexed	Book	6	page	399	name of claim	,	Black Beauty
129	"	"	6	"	400	"	"	Last Chance
126	"	"	6	"	397	"	"	Mountain View
127	"	"	6	"	398	"	"	Chicagof
125	"	"	6	"	396	"	"	High Point
2882	"	"	4	"	145	"	"	Lark
2870	"	"	4	"	191	"	"	Romeo
2871	"	"	4	"	193	"	"	Ace
2872	"	"	4	"	195	"	"	Lousie Brush
2873	"	"	4	"	197	"	"	Sugarpine
2874	"	"	4	"	199	"	"	LuckyMute
2875	"	"	4v	"	201	"	"	Lucky Strike
2876	"	"	4	"	203	"	"	c Blue Jay
2877	"	"	4	"	205	"	"	Nestagg
2878	"	"	4	"	207	"	"	Snowfield
2879	"	"	4	"	209	"	"	Good luck
2880	"	"	4	"	211	"	"	Hunkey Dorry
2881	"	"	4	"	213	"	"	Sloppy Weather
3133	"	"	5	"	109	"	"	Red Ridge # 33
3134	"	"	5	"	111	"	"	" 2 # 32
3135	"	"	5	"	113	"	"	" 2 # 31
3136	"	"	5	"	115	"	"	" 2 # 30
3137	"	"	5	"	117	"	"	" " # 29
3138	"	"	5	"	119	"	"	" " # 28
3139	"	"	5	"	121	"	"	" " # 27
3140	"	"	5	"	123	"	"	" " # 26
3141	"	"	5	"	125	"	"	" " # 25
3142	"	"	5	"	127	"	"	" " # 24
3143	"	"	5	"	129	"	"	" " # 23
3144	"	"	5	"	131	"	"	" " # 22
3145	"	"	5	"	133	"	"	" " # 21
3146	"	"	5	"	135	"	"	" " # 7
3147	"	"	5	"	137	"	"	" " # 5
3148	"	"	5	"	139	"	"	" " # 4
3149	"	"	5	"	141	"	"	" " #3
3150	"	"	5	"	143	"	"	" " # 2
3151	"	"	5	"	145	"	"	" 2" # 1
3152	"	"	5	"	147	"	"	" " # 48
3153	"	"	5	"	149	"	"	" " # 47
3154	"	"	5	"	151	"	"	" " # 46
3155	"	"	5	"	153	"	"	" " # 45
3156	"	"	5	"	155	"	"	" " # 43
3157	"	"	5	"	157	"	"	" " # 42

Elmer Wilson
6195 Walnut Drive
Eureka Calif.

A. H. HOLLAND, PRES.
EDMUND E. PHILLIPS, VICE-PRES.—GEN. MGR.

OUR MOTTO:—WHAT THERE IS IN IT, NO MORE, NO LESS.

M. E. HOLLAND, TREASURER
M. E. PHILLIPS, SECRETARY

THE COLORADO ASSAYING COMPANY

(Incorporated)

COMPLETE ANALYSIS ON ANY ORE $25.00 UP

THIS ANALYSIS WILL DETECT AND REPORT EVERY ELEMENT OR METAL THAT MAY BE PRESENT IN THE ORE, TOGETHER WITH THE PERCENTAGE AND VALUE OF EACH. IT IS THE MOST SATISFACTORY ANALYSIS TO APPLY ON ALL UNKNOWN ORES, WHOSE GENERAL APPEARANCE INDICATES PROBABLE VALUES

ASSAYERS AND CHEMISTS

2013 WELTON STREET

QUALITATIVE ANALYSIS $5.00

THIS ANALYSIS WILL DETECT AND REPORT THE ABSENCE OR PRESENCE OF THE FOLLOWING 23 METALS: LEAD, SILVER, MERCURY, GOLD, BISMUTH, ARSENIC, ANTIMONY, COPPER, CADMIUM, TIN, ALUMINUM, MANGANESE, COBALT, ZINC, CHROMIUM, STRONTIUM, IRON, NICKEL, BARIUM, CALCIUM, MAGNESIUM, TUNGSTEN AND MOLYBDENUM.

DENVER 1, COLO., May 30, 1955.

Report on Spectrographic Analysis submitted by Mr. Floyd Surprise, Arcata, California.

"Sample #2"

ELEMENTS PRESENT	APPROXIMATE PERCENTAGES
Silicon	major
Magnesium	major
Iron	10.
Aluminum	1.
Calcium	.1-.5
Chromium	1.-3.
Nickel	.5-2.
Sodium	.2
Potassium	.05
Manganese	.3
Titanium	.1-.3
Barium	.02
Copper	.01
Cobalt	.001
Gallium	.001
Lead	.001
Strontium	trace
Vanadium	.001
Zirconium	.001

Gold trace
Silver trace

REMARKS: This sample consists chiefly of altered or impure Serpentine (hydrous magnesium silicate with some iron, chromium, nickel, etc.).
Part of the Serpentine is white fibrous Asbestos.
The light brown mineral is Limonite (hydrous iron oxide).
The small concentrate of heavy black mineral is chiefly Magnetite (iron oxide) and part Chromite (chromium and iron oxide).
The Nickel content is of greatest commercial interest in this sample.
The Asbestos is poor grade and the Chromium content too low.

Respectfully submitted,

THE COLORADO ASSAYING COMPANY

Edmund E Phillips

Elmer Wilson
6195 Walnut Drive Eureka Calif.

RECEIVED
OCT 27 1955

CERTIFICATE OF ANALYSIS

METALLURGICAL LABORATORIES

Chemists and Metallurgists

TELEPHONE SUTTER 1-0750

604 Mission Street

SAN FRANCISCO 5, CALIFORNIA

RECEIVED OCT 27 1955

REPORT TO Skyland Uranium Corporation, 6195-Walnut Drive, Eureka, California.

DATE 10-12-55

SAMPLE OF MARK: Metal #1 to 10 inc.

RECEIVED 10-11-55

LABORATORY NO. 1 to 10 inc.

PURCHASE ORDER NO.

		Nickel
Lab. #1	Metal #1	.95 %
" 2	" 2	1.34
" 3	" 3	.81
" 4	" 4	3.96
" 5	" 5	2.05
" 6	" 6	1.65
" 7	" 7	2.76
" 8	" 8	1.20
" 9	" 9	.50
" 10	" 10	1.54

Respectfully submitted,

Metallurgical Laboratories.

Frank R. Geis

Frank R. Geis.

These samples were taken from rock on the surface from Claims located in Stage 1.

A. H. HOLLAND, PRES. — OUR MOTTO:—WHAT THERE IS IN IT, NO MORE, NO LESS. — M. E. HOLLAND, TREASURER

EDMUND E. PHILLIPS, VICE-PRES.—GEN. MGR. — M. E. PHILLIPS, SECRETARY

THE COLORADO ASSAYING COMPANY, INC.

(INCORPORATED)

ASSAYERS AND CHEMISTS

2013 WELTON STREET

DENVER 1, COLORADO June 24, 1955.

REPORT ON DETERMINATIONS MADE FOR — Mr. Oliver Wilson,
Skyland Uranium Corp.,
Eureka, Calif.

SAMPLE MARKS	METALS	Amount per Ton Ozs.	Amount per Ton Hds.	PER CENT	Value per Ton Dollars	Value per Ton Cents
#1	Nickel			0.63%		
#2	Nickel			1.01%		
#3	Nickel			0.56%		
#4	Nickel			0.97%		
#5	Nickel			0.44%		
#6	Nickel			2.40%		
#7	Nickel			0.81%		
#8	Nickel			0.42%		
#9	Nickel			0.[illegible]		
#10	Nickel			0.[illegible]%		
#11	Nickel			0.[illegible]%		
#12	Nickel			1.[illegible]%		
#13	Nickel			0.57%		
#14	Nickel			0.[illegible]%		
#15	[illegible]			1.[illegible]		

GOLD AT _____ PER OUNCE SILVER AT _____ PER OUNCE

LEAD AT _____ PER UNIT COPPER AT _____ PER UNIT

THE COLORADO ASSAYING COMPANY

By Edmund E. Phillips

Soil Samples only in Mantle
from 1 - 10 ft below surface

RECEIVED
OCT 27 1955

Elmer Wilson
6195 Walnut Drive Eureka Calif.

This is enclosed as Engineers Report

STATE OF CALIFORNIA
GOODWIN J. KNIGHT, Governor
DEPARTMENT OF NATURAL RESOURCES
DeWITT NELSON, Director

DIVISION OF MINES
Ferry Building, San Francisco 11
OLAF P. JENKINS, Chief

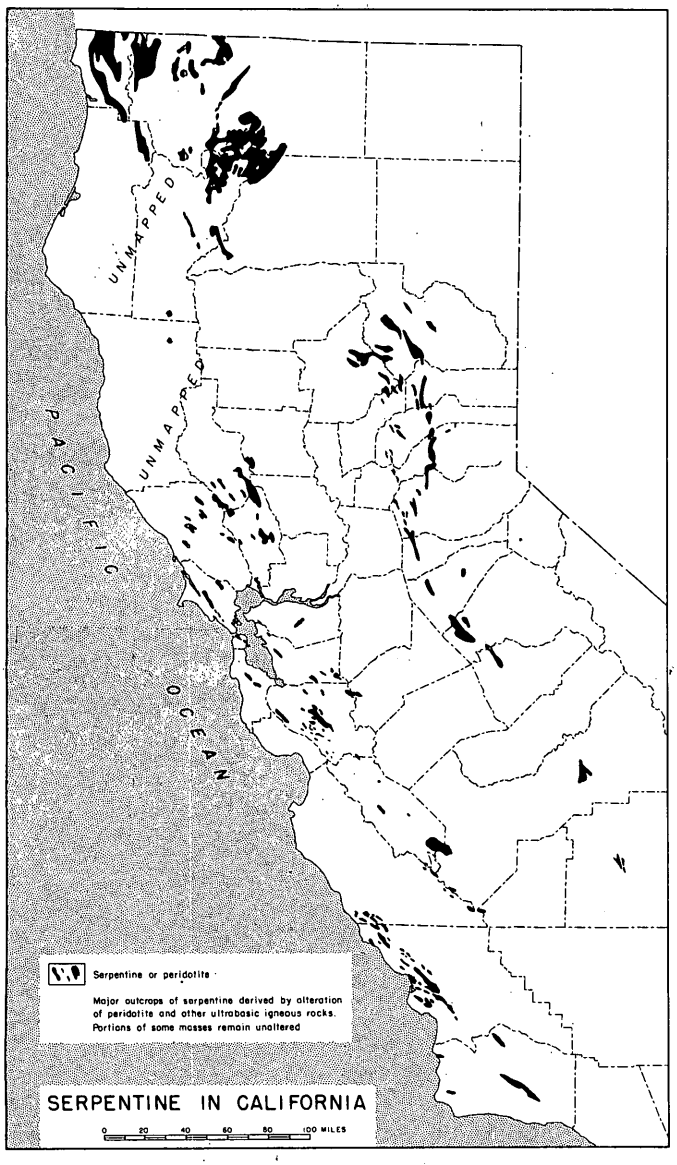
RECEIVED
OCT 27 1955

MINERAL INFORMATION SERVICE

Vol. 7 November 1, 1954 No. 11

MINERAL INFORMATION SERVICE is a monthly news release concerning the mineral resources and industry of CALIFORNIA, designed to inform the public of the discoveries, operations, markets, statistics, and new publications. It is distributed without cost upon request.

NICKEL IN CALIFORNIA



Nickel is one of the strategic metals in which the United States is critically deficient, especially in terms of domestic production. While we have consumed over 60 percent of the nickel production of the free world since 1940, more than 99 percent of this has come from foreign sources. During 1953, for instance, total consumption of nickel in the United States was 211,361,463 pounds, while domestic production amounted to only 1,203,000 pounds, largely recovered as a byproduct of copper refining. The needs of our accelerated military program have resulted in a critical shortage of this metal for the manufacture of non-military products. Prior to the last quarter of 1953, the International Materials Conference, composed of thirteen countries of the free world, allocated nickel and other scarce materials among their member nations. Although the situation has been eased somewhat through the development of new deposits, notably in Cuba and in Oregon, and through increased production from established sources, there still remains a ready market to absorb all production of nickel in 1954.

The resistance of nickel to corrosion forms the principal basis for its many industrial applications. In many instances, however, nickel is the unseen metal, contributing vital properties to an alloy, but receiving little of the credit afforded the finished product. In addition to its corrosion-resistant properties, nickel controls to a degree the strength, ductility, toughness, hardness, electrical resistance, magnetic properties, thermal expansion, and machinability of its various alloys. The hidden talents of nickel play a significant role in the manufacture of such items as automobile body and engine parts, kitchen appliances, food processing and chemical equipment, transformers, radios, television receivers, coinage, boilers, extrusion dies for plastics, and steam turbine blades, and as a catalyst in the hydrogeneration of vegetable oils, to mention only a few of its innumerable applications. The versatile properties of nickel have recently been employed in the field of high

Elmer Wilson
6195 Walnut Dr Eureka Calif

temperature metals. Jet engines, rockets, and gas turbines all require structural materials that can stand prolonged operation at elevated temperatures. Currently jet engines operate at temperatures ranging from below 0° to over 2000° F and require structural materials that can retain such properties as toughness and resistance to corrosion, impact, stress rupture and fatigue for periods in excess of a thousand hours. Alloys with nickel in concentrations from 1 to 26 percent are being used to meet the needs of a jet engine program that now produces nearly 20,000 units per month.

Although it was first described as a separate element in 1751, nickel found only limited use until its value in armor plate was demonstrated in 1891. The impetus created by the first World War further expanded its uses and helped to develop the Canadian deposits, which have provided 80 percent of the world's annual production for the past twenty-five years. The rise of automobile manufacture during the 1920's helped bring the nickel industry out of the post war deflation that reduced the annual nickel production to the 1900 level. For the past 20 years

View west from Elk Camp toward High Plateau, Del Norte County. Crests are part of a dissected early Tertiary erosion surface.

the nickel industry has steadily grown and now commands a position second only to chromium in volume production of ferroalloys.

The price of nickel has fluctuated between a high of $3.50 per pound in 1873 down to 21 cents per pound in 1895. With consolidation of the large nickel interests the price has remained relatively constant, and unlike most metals nickel increased only a few cents per pound during the period 1914 to 1918 and actually dropped during the second World War. The current price is stabilized at near 60 cents per pound.

Nickel, a silvery white metal, ranks twenty-fourth in abundance with the other elements of the earth's crust. Among the metals, for instance, it is more abundant than copper, lead, or cobalt, but less abundant than zinc, chromium, or manganese. Nickel has an atomic weight of 58.69; atomic number of 28; melts at 1455°C; and has two valences, 2 and 3. It is heavier than iron and lighter than lead, having a specific gravity of 8.9. Nickel is a member of the iron-cobalt group of metals. It is relatively hard, ductile, malleable, and somewhat magnetic, and is a fair conductor of heat and electricity. Chemically, nickel resembles cobalt and iron and all exhibit an affinity for sulfur and arsenic. The similar atomic radii of nickel, cobalt and iron (1.24, 1.25 and 1.27, respectively) account in part for the free substitution of these metals in their various mineral compounds.

Nickel has been reported as an essential constituent of 89 minerals and as an accessory in many others. It is found commonly as a sulfide, arsenide, or a hydrated silicate; never in the native state. Nickel alloyed with iron occurs in meteorites and in placer sands from various parts of the world. The principal minerals of nickel are: the sulfides, pentlandite ((Fe,Ni)S), polydymite (Ni_3S_4), and millerite (NiS); the arsenides, niccolite (NiAs), and chloanthite ($NiAs_2$); and the hydrated silicate of nickel and magnesium, garnierite. Pentlandite and garnierite are the most important ore minerals.

While nickel deposits have been found in many places throughout the world, most of them are too low grade to be handled profitably by the present known methods of processing. The largest known deposits are centered in Canada, Cuba, New Caledonia, Norway, and the U.S.S.R. In 1875 the lateritic nickel deposits of New Caledonia were opened and until 1905, when Canada emerged as the principal source of nickel, these deposits dominated the world market. The Sudbury deposits in Canada now account for about 90 percent of the Free World production.

The nickel deposits of the world may be separated into two different types, based upon mode of origin and mineral composition. These are: (1) the primary ores, comprising the nickel-bearing sulfides, and occurring as magmatic segregations or deposited by rising solutions in veins; and (2) the secondary or lateritic ores which were concentrated by descending solutions and form residual cappings on ultramafic rocks that originally contained small percentages of nickel.

The important primary nickel sulfide ores, of which the rich deposits of Sudbury, Canada, are examples, are almost always associated with basic intrusive igneous rocks such as gabbro and diorite. The principal ore minerals are pentlandite ((Ni,Fe)S) and chalcopyrite ($CuFeS_2$), which occur intimately associated with pyrrhotite (FeS). They are usually worked for both nickel and copper, and commonly contain minor amounts of cobalt, selenium, silver, tellurium, and platinum which may also be recovered.

The Sudbury deposits are localized along the periphery of a pre-Cambrian igneous body which has intruded older sedimentary rocks. This body, which crops out in a great ellipse 36 miles long and 20 miles wide, is presumed to be spoon shaped. Numerous faults offset the normal intrusive contact from a few feet to as much as $2\frac{1}{2}$ miles. The intrusive is in three distinct layers with norite, a basic igneous rocks of the gabbro family, at the base. The ore bodies are confined to the zone of contact with the underlying rocks or, in some instances, along the offsets. The mineralization for both contact and offset deposits occurs in the disseminated form, as stringers in the host rocks, as

veins along shears, as the matrix in breccia zones, and as lenses of clean sulfide ore. Other important deposits of this type are located in Canada, Union of South Africa, U.S.S.R., Norway, and in the United States. In California minor deposits of nickel sulfide ores have been reported in Ventura and San Diego Counties, but no production has been recorded from them.

The secondary nickel ores, which comprise the bulk of the nickel reserves of the world, originated by residual concentration resulting from the decay of ultramafic igneous rocks subjected to intense weathering conditions. Ultramafic rocks, of which serpentine and peridotite are the best known examples, are composed predominantly of silicate minerals rich in magnesium and iron, such as olivine, some pyroxenes, and the serpentine minerals. Almost all of these rocks contain nickel in amounts ranging from 0.1 to 0.5 percent and thus should be considered as potential primary sources, but such low concentrations are presently insufficient for commercial exploitation.

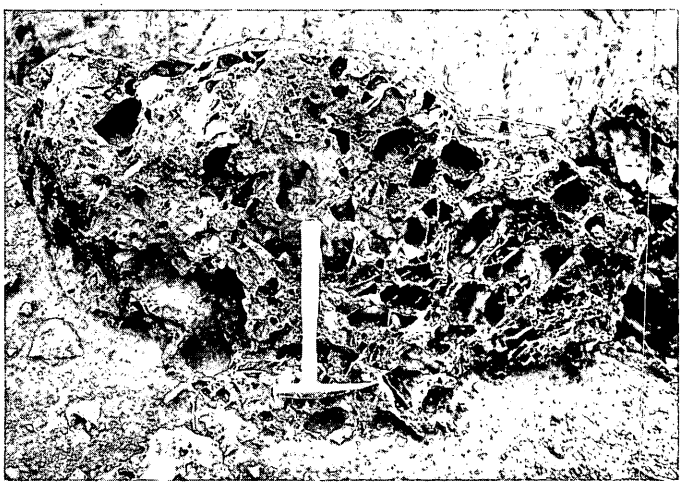
However, under proper conditions of intense weathering these rocks are decomposed, during which process all of the magnesium and some of the silica is removed by solution, and the iron, nickel, cobalt, and some of the silica is concentrated in the soil mantle as oxides and hydrated silicates. The resulting deep residual soil is known as laterite, and is mined in various places in the world for its iron, nickel, or cobalt content. Similar weathering of aluminum-rich rocks results in important residual concentrations of bauxite or clay. Other mineral commodities which may be concentrated by similar processes from small percentages in the parent rocks to form valuable deposits include gold, copper, barite, manganese, phosphates, and zinc. In each of these cases residual concentration forms important deposits in the United States and elsewhere.

The exact composition of nickeliferous laterite varies from place to place, according to differences in such factors as climate, topography, and composition and texture of the bedrock. The upper part of the laterite zone, which usually contains 0.5 to 1.0 or more percent of nickel, is always a brick-red to ocher colored soil composed principally of powdery and concretionary hydrous iron oxides. In places this gives way downward to a zone where much of the original silica has been redeposited in a boxwork or cellular structure, the cavities in places being filled with hydrated silicates of nickel and magnesium, such as garnierite. This zone may contain high-grade ores, ranging up to 5 percent or more in nickel content. The silica zone may be absent or may be made up of more or less massive brown chalcedony, sometimes called jasperoid. Below this zone lies somewhat decomposed bedrock, usually containing veins of garnierite and sparse veins of opal and chalcedony filling joint fractures, which gradually grades downward into fresh bedrock. The highest grade nickel ore occurs in the silica zone, if present, and in the partially decomposed bedrock just below the lateritic zone.

Garnierite, the principal mineral in the lateritic ores, varies considerably from place to place in the amount of nickel it contains. It is apparently amorphous, and is therefore not found as crystals but occurs in rounded masses with varnish-like surfaces or as earthy fillings in veins in the partially decomposed bedrock or as cavity fillings in the silica boxwork. It ranges in color from pale green when its nickel content is low to deep bluish green when the nickel content is high. However, the green color may be entirely masked by yellowish-brown iron oxides which are almost always present. Garnierite is soft and friable, with a conchoidal or earthy fracture, dull to greasy luster, and specific gravity from 2.3 to 2.8.

Occurrences of lateritic deposits containing nickel have been found at a number of places in the world, notably in New Caledonia, Brazil, Cuba, and in the United States at Riddle, Oregon, in North Carolina, and in California.

New Caledonia is second in importance only to Sudbury among the nickel-producing districts of the world. About one-third of the island is underlain by serpentine and peridotite, much of it covered by a blanket of laterite which ranges in thickness from a few feet to more than 100 feet. Garnierite,



Typical silica boxwork from laterite. Exposed by bulldozer at Elk Camp Ridge, Del Norte County.

the principal ore mineral, is concentrated in the silica zone beneath a thick surface zone composed principally of hydrous iron oxides. In places the ore is quite thick, descending into the serpentine along fissures where the surface solutions have been able to penetrate easily. Some of the highest grade ore is in dark brown earthy masses, called chocolate ore, in which the green silicate is not visible. After being mined by open pit methods, the ore is carefully graded and sorted, then smelted in a blast furnace with sulfur and suitable fluxes to produce a nickel-iron matte. The matte is enriched by roasting and melting, then reduced to nickel. Most of the cobalt present in the ore is recovered in the processing.

The Cuban nickeliferous iron ore deposits differ from those of New Caledonia in their mineralogy. The Cuban deposits lack the silica zone and are composed chiefly of limonite with the nickel content increasing and the iron content decreasing downward. In this case the parent rock is serpentine. The residual blanket averages 15 feet in thickness and contains an average of 0.8 percent to over 1 percent nickel, 40 to 50 percent iron, and 2 percent

WILSON - RIGBY Vol. 7

* Covered by 80 claims of DALGLEISH

chromium. No nickel minerals have been detected in the lateritic ores of these deposits. All of the magnesium and most of the silica was removed in solution, the nickel presumably having been deposited partly as silicate and partly as oxide. Later, circulating groundwater dissolved a portion of nickel in the upper zone and redeposited it just below the laterite in the fractured serpentine, where the richest ores are now found. The Cuban ores have been worked in the past for their iron, but not until the last war was there any attempt to utilize these deposits as a source of nickel. The largest and most productive deposits are at Nicaro, on Cuba's northeast coast, where the United States Government is developing reserves amounting to 31 million tons of ore averaging 1.45 percent nickel. It has been estimated that Cuba has reserves totaling 3 billion tons of nickeliferous iron ore.

The deposit at Nickel Mountain, near Riddle, Oregon, is at present the most important domestic source of nickel. This deposit is essentially similar to those in New Caledonia, with the nickel being concentrated principally in garnierite which occurs in and just below the silica boxwork zone. At Nickel Mountain, however, the lateritic blanket rests on a remnant of an old dissected erosion surface, and occurs only above an elevation of about 2000 feet. The richest ore is found principally on broad benches in the crest area and on the crest of the mountain itself. Terraces below 2000 feet in elevation are apparently Pleistocene in age and are not mantled by laterite.

At Nickel Mountain the surface zone of the laterite is composed essentially of porous brick-red to ocher-colored iron oxides which contain 0.5 to 1.2 percent NiO. This material is worked along with the lower silicate ores in the strip mining operation. The average tenor of the ore worked is reported to be around 1.5 percent nickel. Although this deposit has been known since 1865 and actively explored at times since then, no production has been recorded until recently. In 1953 the present operators signed a government contract to produce from 95 million to 125 million pounds of ferronickel. The government has loaned the company 24.8 million dollars to develop the property and will purchase the ore at a guaranteed price of 79.39 cents per pound for the first 5 million pounds and 60.5 cents per pound thereafter.

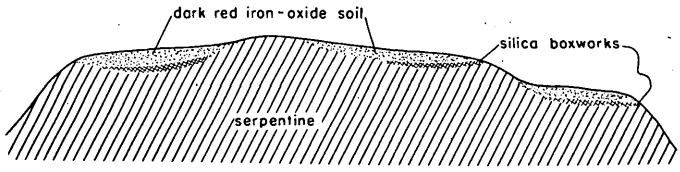
Hanna Coal + Ore Co.

Although the details of processes leading to the formation of lateritic nickel ores are incompletely known, it can be said definitely that the parent rock must be of an ultramafic type as discussed above. Soil scientists are uncertain as to the required climatic conditions necessary for such intense weathering, but because most laterites are found in presently tropical areas it is assumed that a tropical climate is one prerequisite.

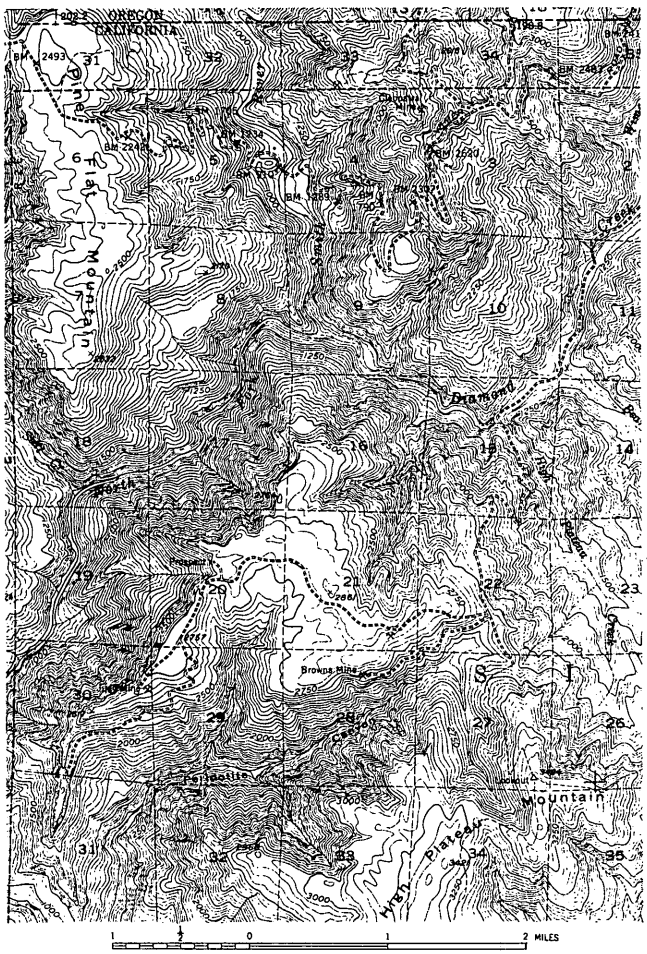
California, with its large outcrop area of serpentine (s[redacted]p), has the proper geological environment for the formation of laterite, and during late Cretaceous and early Tertiary times had the necessary tropical to subtropical climate. Thus laterite is to be expected and indeed is to be found in several areas of the state where early Tertiary erosion surfaces were developed on serpentine or peridotite, and where these old surfaces have not been destroyed by subsequent erosion. The crest area of Nickel Mountain in Oregon, represents a remnant of an early Tertiary erosion surface that once extended over most of the Klamath Mountains area, including much of northwestern California. Although extensively dissected by later streams, this surface has been preserved in places without significant change, particularly in the High Plateau area of Del Norte County. It is best preserved as flat topped crests and slightly lower benches on Pine Flat Mountain, High Plateau, Low Plateau, Elk Camp Ridge, Gasquet Mountain, Rattlesnake Mountain, and Red Mountain, all in Del Norte County. All of these remnants of the old erosion surface contain potential nickel ores.

A similar erosion surface is known to have existed in the Sierra Nevada region during much of early Tertiary time. Remnants of these old surfaces may be recognized as relatively flat to low rolling uplands forming inter-stream divides in the foothill belt, the late Tertiary and Quaternary streams generally having cut well below the old levels. Garnierite associated with laterite has been noted in California both in the High Plateau area of Del Norte County and at the Pilliken chrome mine in El Dorado County, but no deposits of commercial value have yet been recorded.

Detection of lateritic nickel ores is generally rather difficult. This is due principally to the usual covering of thick red soil and to the fact that the only characteristic nickel mineral, garnierite, powders easily on exposure and tends to be masked by iron oxide. However, if the silica zone is present in the laterite, fragments of silica boxwork will be found in recent stream cuts or at the surface where the soil zone has been stripped by erosion, and garnierite might be found within the boxwork. Secondary deposits of potential commercial interest in California are to be expected only on early Tertiary erosion surfaces, since more recent climates have not been conducive to the formation of laterite.



Idealized profile to show laterite occurrence on an old surface such as that shown on the adjoining map. The surface zone is a deep orange red to ochre yellow soil, which in places gives way downward to a zone containing silica veinlets in a boxwork structure. The entire lateritic zone may constitute ore when the nickel content is sufficiently high. Depth of the lateritic capping varies from place to place, depending principally upon the degree of jointing or fracturing in the bedrock. Where the bedrock jointing is sparse, serpentine may outcrop at the surface. However, the lateritic zone may be 100 feet or more in thickness where the serpentine is highly fractured and surface solutions have been able to penetrate more easily. Deep laterite may also occur in places on fairly steep slopes on spurs and between benches.



Contour interval 50 feet

Northwestern portion of Gasquet quadrangle, Del Norte County, California. Note flat-topped crest areas of Pine Flat Mountain, Low Plateau Mountain (center), and High Plateau Mountain. These are remnants of an extensive Early Tertiary erosion surface which has been uplifted and dissected by Smith River and its tributaries. The entire area included in this map is underlain by serpentine. Nickeliferous laterite, the potential nickel ore, occurs only on the relatively flat-topped crests and on benches and spurs down to an elevation of about 1800 feet.

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GUIDES TO PROSPECTING FOR NICKEL

Garnierite

Geologic Occurrence In silicified weathered mantles derived from ultra-basic rocks (serpentines, dunites, peridotites). Found principally as a vein or cavity filling in silica boxworks where it is associated with hematite and limonite.

Distinguishing Features Characterized by its softness, dull luster, and earthy texture. Normally light apple-green in color but becomes darker green when wet. Color may be masked by limonite coating.

Tests Infusible, decrepitates and becomes magnetic. Ammoniacal solutions of nickel yield a scarlet precipitate on addition of dimethylglyoxime.

Pentlandite

Geologic Occurrence As disseminated or massive sulphide bodies in basic rocks (norites). Associated especially with pyrrhotite along with primary copper and cobalt.

Distinguishing Features Recognized by its metallic bronze-yellow color and high specific gravity (5). Distinguished from pyrrhotite by its light bronze streak and octahedral cleavage.

Tests Fuses easily, yielding a magnetic bead. As above, ammoniacal solutions of nickel yield a scarlet precipitate on addition of dimethylglyoxime.

NEW URANIUM OCCURRENCE IN CALIFORNIA

A recently discovered uranium occurrence in Inyo County should be added to the map and list given on pages 10 and 11 of the October, 1954, issue of Mineral Information Service. This deposit, known as the Green Velvet claim, is located in the northern half of sec. 25, T. 19 S., R. 37 E., a few miles east of Olancha. Here autunite occurs disseminated in clay beds of the Coso formation of upper Pliocene age.

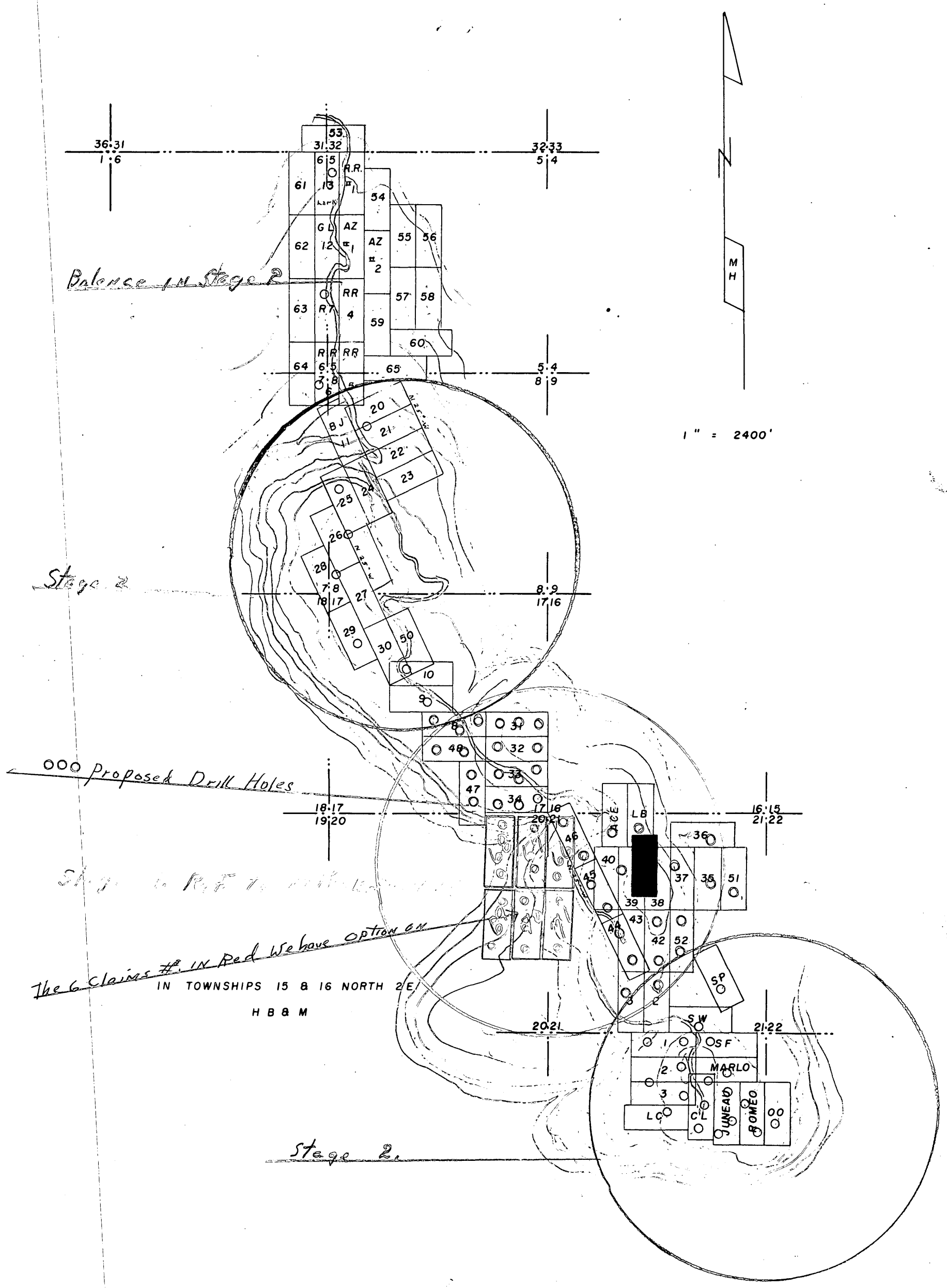
MORT TURNER APPOINTED CHIEF GEOLOGIST OF PUERTO RICO

The government of Puerto Rico has selected a member of the staff of the Division of Mines to be Chief Geologist of their geological survey. In accepting the position, Mort D. Turner leaves a well advanced program of clay investigations in California to be carried on by other members of the staff.

SCHEDULE OF PRICES FOR URANIUM ORE
(As Specified in Circ. 5 Revised, and Circ. 6)

Grade of ore, percent U_3O_8	Pounds of U_3O_8 per ton of ore	Base Price: Pound U_3O_8	Base Price: Ton of ore	Grade premium: 75¢ a lb. over 4-lb.	Grade premium: 25¢ a lb. over 10-lb.	Mine develop. allowance .50/lb.	Price per ton of ore: Price before initial prod. bonus & haulage allowance	Price per ton of ore: Initial prod. bonus on 10,000 lbs.	Price per ton of ore: Price before haulage allowance
0.10	2.00	$1.50	$ 3.00	$ -	$ -	$ 1.00	$ 4.00	$ 3.00	$ 7.00
0.11	2.20	1.70	3.74	-	-	1.10	4.84	3.74	8.58
0.12	2.40	1.90	4.56	-	-	1.20	5.76	4.56	10.32
0.13	2.60	2.10	5.46	-	-	1.30	6.76	5.46	12.22
0.14	2.80	2.30	6.44	-	-	1.40	7.84	6.44	14.28
0.15	3.00	2.50	7.50	-	-	1.50	9.00	7.50	16.50
0.16	3.20	2.70	8.64	-	-	1.60	10.24	8.64	18.88
0.17	3.40	2.90	9.86	-	-	1.70	11.56	9.86	21.42
0.18	3.60	3.10	11.16	-	-	1.80	12.96	11.16	24.12
0.19	3.80	3.30	12.54	-	-	1.90	14.44	12.54	26.98
0.20	4.00	3.50	14.00	-	-	2.00	16.00	14.00	30.00
0.21	4.20	do	14.70	0.15	-	2.10	16.95	14.70	31.65
0.22	4.40	do	15.40	0.30	-	2.20	17.90	15.40	33.30
0.23	4.60	do	16.10	0.45	-	2.30	18.85	16.10	34.95
0.24	4.80	do	16.80	0.60	-	2.40	19.80	16.80	36.60
0.25	5.00	3.50	17.50	0.75	-	2.50	20.75	17.50	38.25
0.26	5.20	do	18.20	0.90	-	2.60	21.70	18.20	39.90
0.27	5.40	do	18.90	1.05	-	2.70	22.65	18.90	41.55
0.28	5.60	do	19.60	1.20	-	2.80	23.60	19.60	43.20
0.29	5.80	do	20.30	1.35	-	2.90	24.55	20.30	44.85
0.30	6.00	3.50	21.00	1.50	-	3.00	25.50	21.00	46.50
0.31	6.20	do	21.70	1.65	-	3.10	26.45	21.70	48.15
0.32	6.40	do	22.40	1.80	-	3.20	27.40	22.40	49.80
0.33	6.60	do	23.10	1.95	-	3.30	28.35	23.10	51.45
0.34	6.80	do	23.80	2.10	-	3.40	29.30	23.80	53.10
0.35	7.00	3.50	24.50	2.25	-	3.50	30.25	24.50	54.75
0.36	7.20	do	25.20	2.40	-	3.60	31.20	25.20	56.40
0.37	7.40	do	25.90	2.55	-	3.70	32.15	25.90	58.05
0.38	7.60	do	26.60	2.70	-	3.80	33.10	26.60	59.70
0.39	7.80	do	27.30	2.85	-	3.90	34.05	27.30	61.35
0.40	8.00	3.50	28.00	3.00	-	4.00	35.00	28.00	63.00
0.41	8.20	do	28.70	3.15	-	4.10	35.95	28.70	64.65
0.42	8.40	do	29.40	3.30	-	4.20	36.90	29.40	66.30
0.43	8.60	do	30.10	3.45	-	4.30	37.85	30.10	67.95
0.44	8.80	do	30.80	3.60	-	4.40	38.80	30.80	69.60
0.45	9.00	3.50	31.50	3.75	-	4.50	39.75	31.50	71.25
0.46	9.20	do	32.20	3.90	-	4.60	40.70	32.20	72.90
0.47	9.40	do	32.90	4.05	-	4.70	41.65	32.90	74.55
0.48	9.60	do	33.60	4.20	-	4.80	42.60	33.60	76.20
0.49	9.80	do	34.30	4.35	-	4.90	43.55	34.30	77.85
0.50	10.00	3.50	35.00	4.50	-	5.00	44.50	35.00	79.50
0.60	12.00	do	42.00	6.00	0.50	6.00	54.50	42.00	96.50
0.70	14.00	do	49.00	7.50	1.00	7.00	64.50	49.00	113.50
0.80	16.00	do	56.00	9.00	1.50	8.00	74.50	56.00	130.50
0.90	18.00	do	63.00	10.50	2.00	9.00	84.50	63.00	147.50
1.00	20.00	3.50	70.00	12.00	2.50	10.00	94.50	70.00	164.50
2.00	40.00	do	140.00	27.00	7.50	20.00	194.50	140.00	334.50
3.00	60.00	do	210.00	42.00	12.50	30.00	294.50	210.00	504.50
4.00	80.00	do	280.00	57.00	17.50	40.00	394.50	280.00	674.50
5.00	100.00	do	350.00	72.00	22.50	50.00	494.50	350.00	844.50
6.00	120.00	3.50	420.00	87.00	27.50	60.00	594.50	420.00	1,014.50
7.00	140.00	do	490.00	102.00	32.50	70.00	694.50	490.00	1,184.50
8.00	160.00	do	560.00	117.00	37.50	80.00	794.50	560.00	1,354.50
9.00	180.00	do	630.00	132.00	42.50	90.00	894.50	630.00	1,524.50
10.00	200.00	do	700.00	147.00	47.50	100.00	994.50	700.00	1,694.50

Prices from Atomic Energy Commission. An example of a purchase settlement for uranium ore is shown in Engineering and Mining Journal, vol. 155, no. 9, p. 111, September, 1954.


1" = 2400'
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Balance in Stage 2
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The 6 Claims #, in Red We have option on
IN TOWNSHIPS 15 & 16 NORTH 2E
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Table I. Classification of Uranium Deposits by Host Rock

HOST ROCKS		FORM OF DEPOSIT	DESCRIPTION OF URANIUM DEPOSITS
IGNEOUS ROCKS	INTRUSIVES	VEIN	URANINITE IN SILICEOUS-PYRITE-GALENA VEINS URANINITE IN NICKEL-COBALT-COPPER-SILVER VEINS *DAVIDITE IN SILICEOUS TITANIUM-RICH VEINS
		PEGMATITE	URANIFEROUS PEGMATITE
		DISSEMINATED	*BRANNERITE IN GRANITE
	EXTRUSIVES	VEIN	*URANINITE IN VEINS CUTTING BASALT URANINITE IN VEINS CUTTING ANDESITE URANINITE IN VEINS CUTTING RHYOLITE
		DISSEMINATED	URANIUM PHOSPHATES IN EXTRUSIVE ROCKS
SEDIMENTARY ROCKS	CLASTIC SEDIMENTS	DISSEMINATED IN FLUVIAL SANDSTONES AND CONGLOMERATES	*URANINITE-VANOXITE DEPOSITS COPPER-URANIUM DEPOSITS URANIFEROUS ASPHALTITE DEPOSITS CARNOTITE DEPOSITS *DEPOSITS OF "SECONDARY" HYDROUS URANIUM OXIDES, PHOSPHATES, ARSENATES, ETC.
		DISSEMINATED IN SHALES	*URANIUM MINERALS IN SHALES ADJACENT TO FRACTURES AND SHEARS URANIFEROUS BLACK SHALES
		PLACERS AND BEACH SANDS	URANIFEROUS PLACERS AND BEACH SANDS
	CHEMICAL-ORGANIC SEDIMENTS	DISSEMINATED IN CALCAREOUS SEDIMENTS	URANIUM MINERALS IN LIMESTONE, ADJACENT TO FRACTURES URANIFEROUS PHOSPHATIC DEPOSITS
		LIGNITE BEDS	URANIFEROUS LIGNITE DEPOSITS
METAMORPHIC ROCKS	METAMORPHOSED SEDIMENTS	VEIN	IN SCHISTS AND PARAGNEISS
		DISSEMINATED	*IN QUARTZITE AND METACONGLOMERATE *IN SCHISTS AND PARAGNEISS
	METAMORPHOSED IGNEOUS ROCKS	VEIN	IN AMPHIBOLITES

SIGNIFICANT DEVELOPMENTS IN 1953

Table II. Tentative Classification of Uranium Deposits by Origin

	MAGMATIC ORIGIN	HYDROTHERMAL ORIGIN	ULTIMATE ORIGIN OBSCURED, AFFECTED BY GROUNDWATER REDISTRIBUTION	POSSIBLE GROUNDWATER FLUSHING FROM VOLCANICS	SEDIMENTARY ORIGIN	BIOGENIC ORIGIN
DEPOSITS IN IGNEOUS ROCKS	BRANNERITE IN GRANITE	PITCHBLENDE IN VEINS CUTTING FELSIC INTRUSIVES				
	URANIFEROUS PEGMATITES	URANINITE IN VEINS CUTTING EXTRUSIVE ROCKS				
		URANIUM PHOSPHATES IN EXTRUSIVE ROCKS				
DEPOSITS IN METAMORPHIC ROCKS		PITCHBLENDE OR DAVIDITE IN VEINS CUTTING METASEDIMENTS OR AMPHIBOLITES				
		(*)	URANINITE DISSEMINATED IN METASEDIMENTS		(?)	
DEPOSITS IN SEDIMENTARY ROCKS		PITCHBLENDE OR THUCOLITE IN VEINS CUTTING SEDIMENTS				
		(*)	COPPER-URANIUM DEPOSITS		(?)	
		URANIUM MINERALS IN LIMESTONE, ADJACENT TO FRACTURES (?)				
			? URANINITE-VANOXITE DEPOSITS ?			
			? CARNOTITE DEPOSITS ?			
			"SECONDARY" HYDROUS URANIUM OXIDES IN SEDIMENTARY BASINS ?			
			URANIFEROUS ASPHALT DEPOSITS			
				URANIFEROUS LIGNITE DEPOSITS		
					URANIFEROUS BLACK SHALES (?)	
	(*) more likely origin (?) less likely origin				URANIFEROUS PHOSPHATIC DEPOSITS	
					URANIUM MINERALS IN PLACERS AND BEACH SANDS	

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(25¢ each)

Mariposa County
Siskiyou County
Trinity County
Tuolumne County

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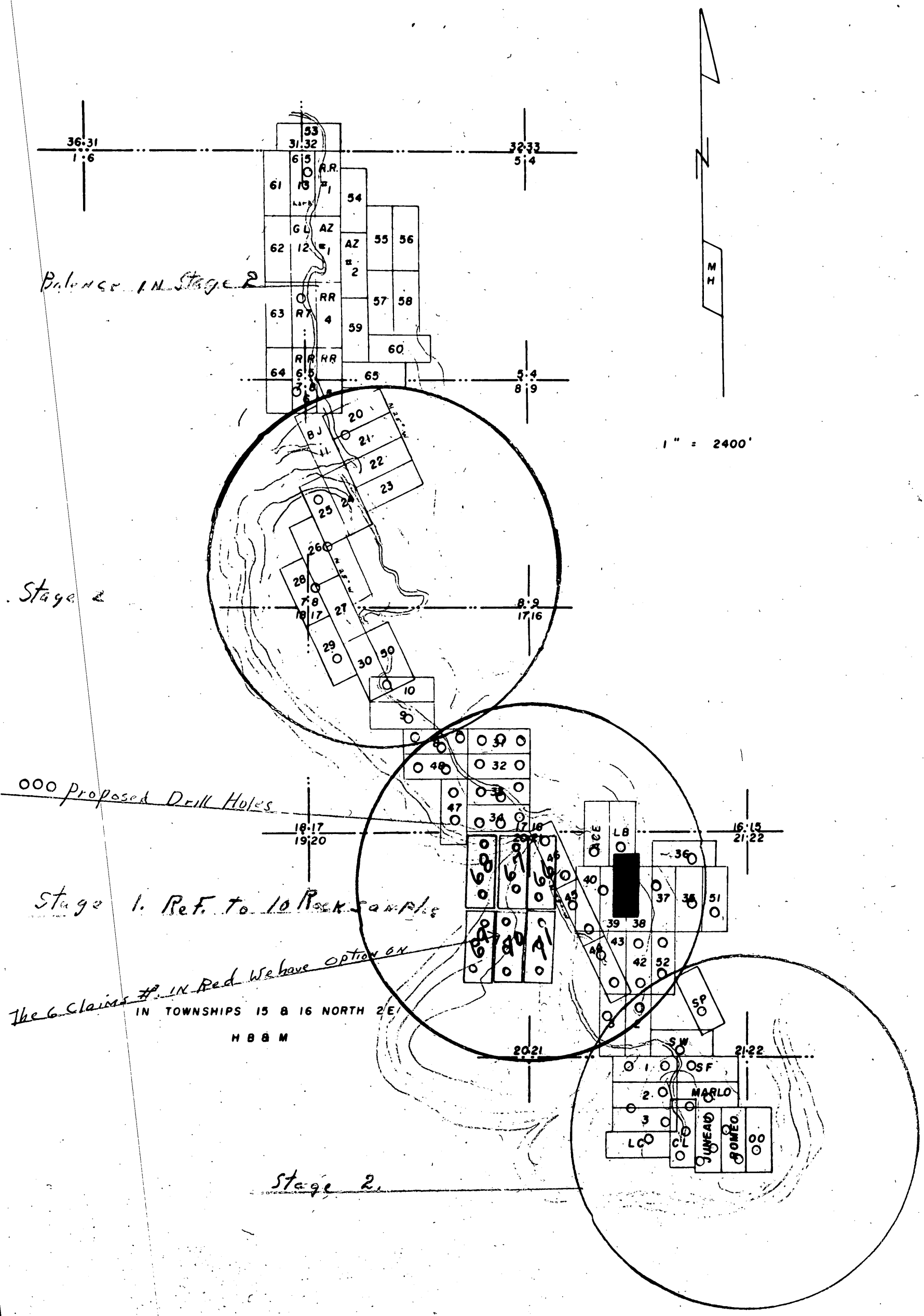
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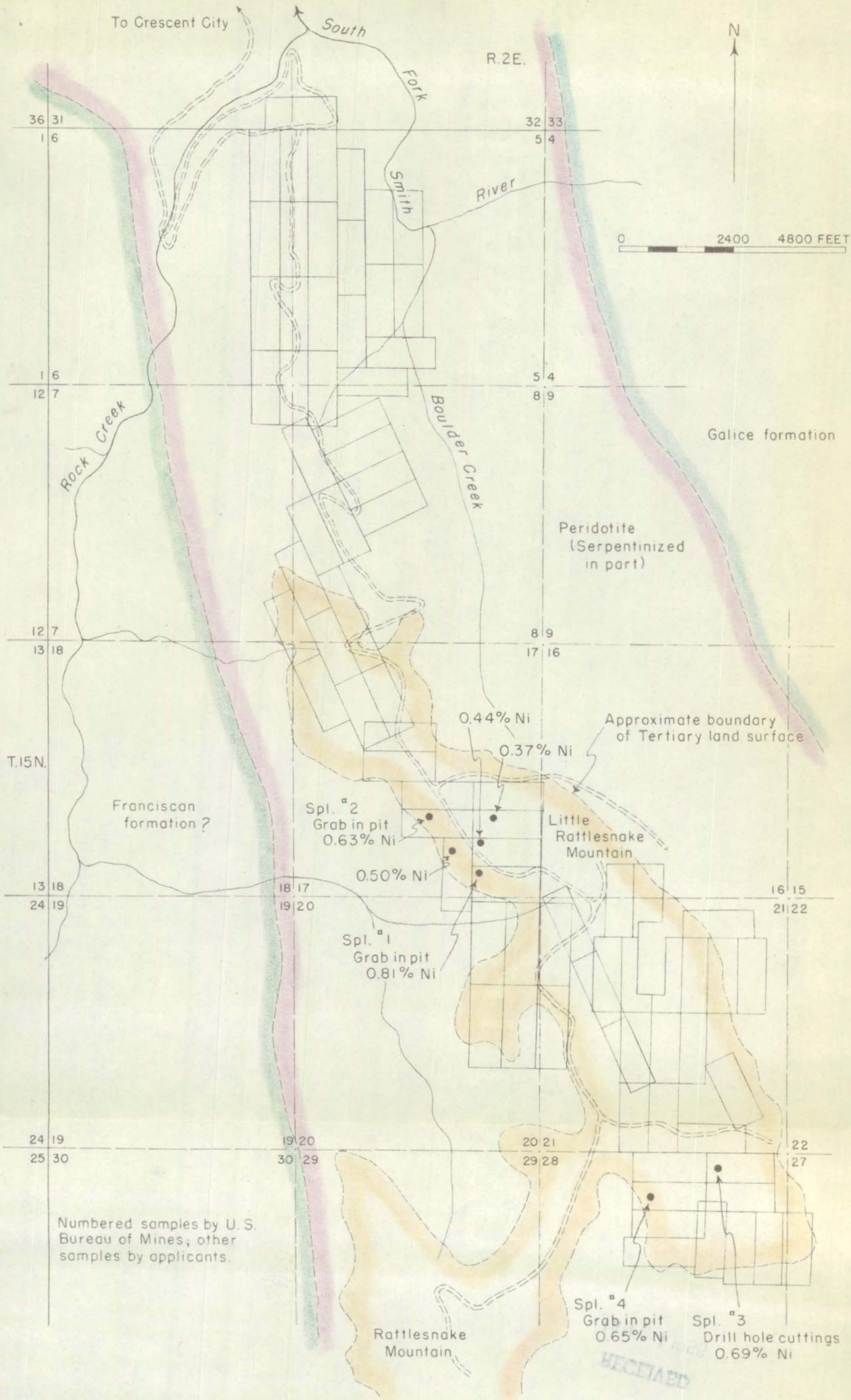

Figure 2. Sketch map of the Little Rattlesnake Mountain nickel claims, Del Norte County, California.

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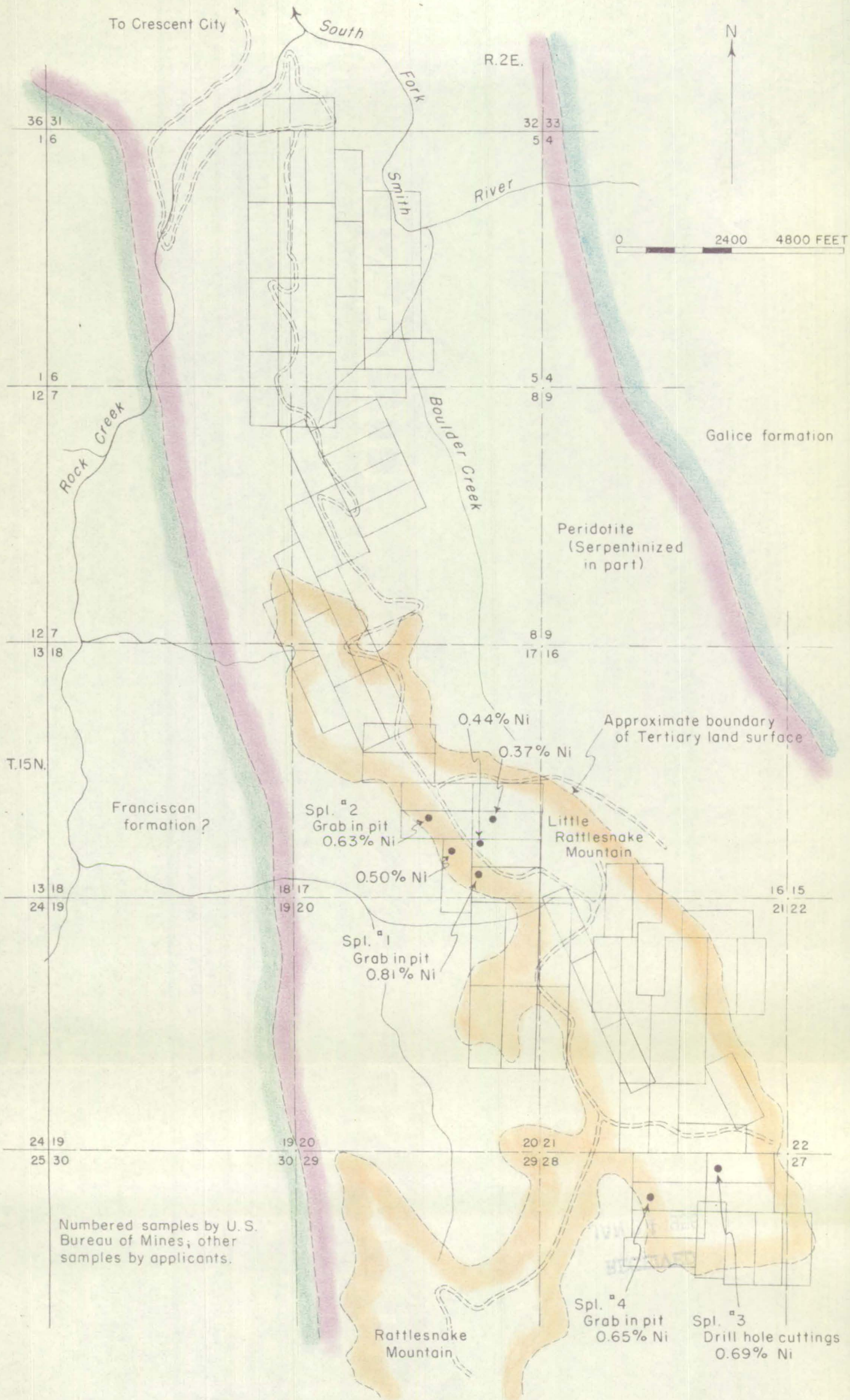

Figure 2. Sketch map of the Little Rattlesnake Mountain nickel claims, Del Norte County, California.

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