DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

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DMA Docket No. 2694

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EXPLORATION PROJECT

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Routing Slip
Copies to: USGS & USBM

To:	Code 400, Rm. 3538	Date	9-12-52
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2694

Copied from The Mining Record - Thursday, May 13, 1954

Big Q Tungsten Will Increase Production

SPOKANE, WASH. -- Big Q Tungsten Mine, Inc., expects to be able to triple production from its property on Blue Grouse mountain, north of Deer Park, Wash., when operations are resumed this spring, President William M. Quigley, Seattle, said in Spokane last week following a visit to the property.

Read C3

DMEA 2694 - Tungsten

Big Q Tungsten Mine, Inc.

Mr.Geehan requested permission to keep one copy of application from Big Q Tungsten Mine, Inc. and send same to Mt. Weather for the Bureau of Mines files. Mr. Selfridge said O.K.

ls 10/2/52

Administrator, DMEA Sept. 23, 1952

Iron and Ferro-Alloy Division, DMEA

Denial of application for exploration assistance in the amount of $64,525.00
Big Q. Tungsten Mine, Inc.
William Quigley, Sr., President
Blue Grouse Mountain Tungsten Deposit
Stevens County, Washington
Docket No. DMEA 2694 - Tungsten

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

1. No detailed plan of exploration was received with the application. A two stage program was requested consisting of 25 days of bulldozing and 1,000 feet of crosscuts, drifts, and raises but location of work and targets were not given.

2. Tungsten occurs as hubnerite associated with quartz veins in the argillite and disseminated along the contact zone between the argillite and granite.

   All evidence to date indicates that the tungsten ore shoots are small and spotty and as yet have never been capable of sustained mining.

3. An application by the Pacific Mining Company to develop the Blue Grouse claims, Docket No. DMA 688, was denied by Tom Lyon, March 15, 1951.

4. A field examination by C. H. Brosdal, U. S. Geological Survey, in August, 1951, recommends denial.

5. A report by W. M. Stoll for an unnamed company, probably Kennecott, recommended against any exploration by his company.

6. Frank Eichelberger and Associates did some exploration or development on the property for the Pacific Mining Company in 1951 but withdrew at its conclusion.

7. The tungsten occurrences are too small and scattered to be considered as sufficiently promising to warrant DMEA exploration assistance.

8. The Commodity Division of the U. S. Geological Survey recommends denial.

cc: Adm. Reading File
Docket
G. C. Selfridge
F. A. Rutledge

FARutledge:lm
9/23/52

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

Mr. William Quigley, Sr., President
Big Q. Tungsten Mine, Inc.
417 - 419 Lloyd Building
Seattle, Washington

Re: Docket No. DMEA 2694 - Tungsten
Big Q. Tungsten Mine, Inc.
William Quigley, Sr., President
Mine Grouse Mountain Tungsten
Deposit
Okanogan County, Washington

Dear Mr. Quigley:

Your request for exploration assistance and other reports concerning the Mine Grouse Mountain tungsten deposit available to us in Washington have been carefully reviewed.

This information, although noting the occurrence of a small amount of huebnerite mineralization in quartz veins and also along the contact zone on your property, indicates to us that the probability of disclosing minable reserves by additional exploration is not sufficiently promising to justify Government participation. We regret, therefore, to inform you that your application is denied.

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

Sincerely yours,

FARutledge'lm
9/23/52

(signed) FRANK E. JOHNSON

ACTING Administrator

cc: Admn. Reading File
Docket
R. W. Graham, UMRM
D. M. Lemmon, MRGS
Field Team Reg. II
Operating Committee
C. C. Selfridge
F. A. Rutledge

IN REPLY REFER TO:

G-MD-CP

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

402

September 16, 1952

Memorandum

To: George C. Selfridge, DMEA

From: D. M. Lemmon, USGS

Subject: Exploration application $64,525 DMEA 2694 - Tungsten
Big Q Tungsten Mine, Inc.
Wm. Quigley, Sr., President
417-419 Lloyd Bldg.
Seattle, Washington

Property: Blue Grouse Mountain Tungsten Group
Secs. 15, 16, 17, T. 30 N., R. 42 E.
Stevens County, Washington
(Formerly Pacific Mining Co. - DMA 688)

Proposal: Twenty-five days of bulldozer trenching and hand work, followed by 1,000 feet of drifting and crosscutting from the No. 1 adit.

Sources of information: The Blue Grouse Mountain deposits are described by H. E. Culver and W. A. Broughton in "Tungsten Resources of Washington", Washington Department of Conservation and Development, Division of Geology, Bull. 34, pp. 73-76, 1945. They are also described in an unpublished memorandum of the Geological Survey, by L. R. Page and S. W. Hobbs, 1943, based on examinations made in 1940, 1941 and 1942. Hobbs revisited the property in January 1951 (see letter from Weissenborn to L. F. Strobel, DMA 688, February 19, 1951).

The applicant has also submitted a copy of a memorandum report by William M. Stoll, dated August 13, 1951. The memorandum is not addressed to anyone, but was probably prepared for Kennametal, Inc., by whom Stoll was employed in 1951. Stoll's report is in agreement with the other information available to me. His recommendation was unfavorable, and against participation by his own employer in operation of the property.

Geology: Huebnerite occurs in 4 poorly-exposed, faulted quartz veins that dip 30° to 45° SW, in argillite and quartzite intruded by granite. The veins are 3 to 36 inches wide, in part contain 0.5 percent of WO_3 with a few richer pockets. The veins do not extend into the granite, but some huebnerite is contained in greisen formed along the contact between granite and argillite. The most widely separated mineral exposures are 4,000 feet apart, and much of the intervening area is covered.

The property has been prospected by a 130-foot inclined shaft and about 1,500 feet of drifts and crosscuts from adits and from the shaft.

Sampling by Stoll and by some engineer on Eichelberger's staff showed very little material of ore grade in exposed faces.

Past production is estimated by the applicant to be about 2,500 units of WO_3. Records are incomplete, although total production of the area is certainly not more than 5,000 units.

Comment: The known tungsten deposits are unimportant, and past production was probably at a financial loss. Small future production might result from carefully managed exploration, but the deposits do not merit expenditures of the magnitude requested. The applicant has not presented a detailed exploration program, and has made no statement of his own competence to conduct an exploration project.

The property on which the proposed exploration project would be conducted is owned by the State of Washington and leased for mining purposes to various individuals who assigned their leases to Pacific Mining Co., Inc. Whatever interest or rights that the Pacific Mining Co., Inc. had in these leases was sold at public auction July 22, 1952 to Wm. Quigley by the U. S. Collector of Internal Revenue, Tacoma, Washington to satisfy unpaid taxes.

The applicant has not submitted copies of the various leases. Presumably subordination liens would be required from the State of Washington and the original lessees; some legal interpretation is necessary to determine whether the applicant actually has valid property rights as a result of purchase from Internal Revenue. I suspect that the original and subsidiary agreements might forbid transfer of leases without permission.

Recommendation. I suggest that the Field Team be requested for an opinion on the proposal and suggestions for an alternative program more in keeping with the size of target, provided any program is warranted. Decision on whether DMEA should approve a contract might well depend on a favorable appraisal of the applicant's competence to conduct exploration.

Unless the Field Team expresses firm convictions in favor of the applicant's program or an alternative, I favor denial of the proposal made.

DM Lemmon

DMLemmon:gt

dmea 2694

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box [illegible] Howard Street
Spokane 4, Washington
~~SEP 1951~~

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 11 1952

Memorandum

To: A. J. Weissenborn, Exec. Officer, DMA Field Team, Region II

From: C. H. Broadel, Geologist, U. S. Geological Survey

Subject: Blue Grouse Mountain tungsten deposit
Secs. 13, 16 and 17, T. 30 N., R. 42 E.
Stevens County, Washington
DMA Docket 688
Pacific Mining Company, Seattle, Washington

RECOMMENDATION

The DMA examiner recommends that an application for an exploration loan be denied because of the lenticular and limited occurrence of the ore bodies in the Blue Grouse shaft and vicinity, and the lack of a feasible objective of a commercial ore shoot in the No. 2 adit.

Since recent operations commenced in the Blue Grouse shaft, no appreciable ore reserves have been established and fissures or seams along which the ore bodies occur are limited in strike and dip length below the argillite contact. The examiner believes that the ore shoots within the quartz vein of the No. 2 adit are not large enough to justify an exploration program in depth.

SUMMARY OF RECENT WORK

The Pacific Mining Company has been engaged in exploration for tungsten ore in the Blue Grouse inclined shaft and construction of a mill near the camp adit since July 21, 1951. During 1950 the company exposed the contact between preincalized granite and overlying argillite by bulldozing for a distance of 1,000 feet west and east of the Blue Grouse shaft portal. A crosscut called the Innertrack or contact adit about 400 feet west of this shaft was driven during the same period. No ore bodies were exposed along the contact by bulldozing, and sampling of the preincalized granite was not encouraging.

Reviewed by
DMEA OPERATING COMMITTEE

(date)

About [illegible] feet of exploration has been done from the Blue Grouse shaft since the Geological Survey's report on the property in 1943. A set of this footage was mined prior to acquisition of the property by the Pacific Mining Company, which was in March, 1943.

The operators report that the company's mill has been completed and is at present making test runs of ore from the shaft. The operators also report that seven tons of tungsten concentrates have been shipped to General Services Administration and [illegible] tons to Kennametal Inc., Latrobe, Pennsylvania.

Mr. Frank Mienelberger of Spokane has recently made a complete examination of the property for the Pacific Mining Company. In his report he recommends that further exploration be abandoned and that the available ore from the Blue Grouse shaft workings be mined and milled followed by cessation of operations. The report states that total shipments from the shaft workings are valued at $11,000 and that probably 1000 units of WO_3 has been produced from 400 tons. The average grade of the ore is 0.3 percent WO_3, high-grade ore averaging about 10 percent WO_3.

SUMMARY OF FIELD INVESTIGATION

The BM examiner visited the property on September 14, 1951 to obtain information on mining operations since Mr. E. W. Hobbs' visit for BM in January, 1951.

In the Blue Grouse shaft workings exploration has been carried out on three levels, the difference between levels ranging from 12 to 24 feet. A relatively small tonnage of huebnerite ore has been discovered in the exploration of this shaft. The ore shoots which strike northwest, are lenticular and occur along numerous fractures or shear planes in the prehenized granite and underlying aplite granite. The examiner observed only one steeply-dipping structure of commercial ore in prehenized granite and this structure apparently contains very little ore below the second level. This structure shows a maximum three-foot width of ore at the first level and two feet on the second level. The fissures on the third level in aplite granite are apparently too far below the argillite granite contact to be mineralized.

The Tomerack adit was driven 41 feet toward the southeast in prehenized granite, and was stopped at the argillite granite contact. The only ore seen is a small pod along a fissure near the portal. The tungsten-bearing quartz vein of the No. 2 adit was visited and about 150 feet of drift mined since 1943 was inspected. Toward the southeast end of the adit the quartz vein decreases in width, and may lens out beyond the present face.

APPLICANT'S PROPOSAL

The Pacific Mining Company proposes to explore the quartz vein of the No. 2 shaft by sinking a winze and drifting on the vein at a lower level. They also propose to explore the possible extension south of the Blue Canyon shaft.

cc: W. [illegible], Park Ne
W. B. M., [illegible]

[illegible]

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 11 1952

Not to be filled in by applicant

Docket No. Omen-264
Metal or Mineral
Date Received 9-11-52
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: [illegible]

(*b*) [illegible]

Wm. Quigley, Sr., President & Treasurer, 303 Park Avenue, Renton, Washington
Ed M. Weston, Vice-President & Director, 2611 Harvard N., Seattle, Wash.
J. E. Chandler, Secretary & Director, 8823 Fauntleroy, Seattle, Washington.

(*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 [illegible]

(*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 [illegible]

(*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 [illegible]

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

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

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

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

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

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

16—66551-1

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

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

(*c*) The work will start within ...30... days and be completed within ...6... 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.). None

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

(*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?

☒ 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 August 25, 1952

BIG Q TUNGSTEN MINE INC.
417-19 Lloyd Building
Seattle 1, Washington
(Applicant)

By Wm M Quigley Jr Pres

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

INFORMATION RE DMEA FORM MF103 (April 1952)

INSTRUCTIONS

4. The principal recent workings are known as No. 1 and the No. 2 mines. (See map by Eichelberger and a report by W.M. Stoll.) The No. 1 workings consist of a crosscut tunnel and an incline shaft (known as the winze) all in the contact zone. Some production was had from the winze workings within the last year. The winze workings are accessible. The No. 1 crosscut is partly caved near the portal. The No. 2 workings are caved for some distance from the portal, but the innermost workings are accessible through an air raise to the surface. (See Stoll's report) Necessary facilities on property for small operation. Applicant invested money in Pacific Mining Co. the last operators. Now attempting to revive the operation.

(b) No current production. Small erratic operations have been attempted over a number of years with production unknown. Some production was had during the early 40's and again within the last two years. An estimate of total production would be in the vicinity of 2,500 L.T. units. There are no ore reserves.

(c) The oldest rocks on Blue Grouse Mountain are metamorphosed sediments consisting of quartz mica schist, argillites and quartzites. They are thought to be an erosional remnant of the Deer Lake argillites. These rocks were intruded by the Loon Lake granite which is a major geologic feature of the area. Subsequent erosion has exposed the contact between these rocks on the northern slope of the hill, running roughly east and west with a flat dip south. Extensive alteration is present along the contact with considerable greisen developed in the granite. The metamorphic rocks as a rule strike northwest with varying dips to the southwest. Two types of ore occurrences are present. (1) mineralized quartz veins conforming with the structure of the argillites. (2) mineralization along certain structures in the contact zone. (See report by W. H. Stoll) The mineral of economic interest is the tungsten mineral hubnerite. Both types of occurrence have been worked in a somewhat haphazard manner, the point of attack probably being determined by the chance discovery of a promising surface showing without any thought as to the overall geologic picture.

(d) The property is lated 8 miles east of Loon Lake, Washington from where it is accessible by a good secondary motor road. Another road from Deer Park connects with this road about midway to the property. Both Loon Lake and Deer Park are served by the Great Northern Railroad. Spokane would be the main supply point which is thirty-some miles distant by paved highway.

(e) Manpower, materials, supplies and equipment are all available locally or in Spokane. A small dam may have to be constructed to provide water storage. Power is generated locally by internal combustion engines

5. The tungsten mineral hubnerite.

(b) The present work has exposed the outcrops of the quartz veins in only a comparatively few places compared with their probable lateral extent. Also where the veins intersect the contact zone should be favorable locations for ore deposition.

INSTRUCTIONS (Continued)

With the above considerations in mind, it is suggested that the first work consist of surface bulldozer work to crosscut the outcrops often as possible, also to explore for contact intersections. Where favorable vein intersections are indicated by the bulldozer the work should be supplemented by hand work in order to secure reliable information on the attitude of the veins. This information will be important in later underground work where the location of the vein due to dip and elevation will have to be considered, also the flat dips and change in surface elevations causes the surface trace of the outcrops to vary greatly from the true strike. With information secured from the surface work, underground work should be carried out from the No. 1 crosscut with the same objectives in mind. It is estimated that this phase will require at least 1,000 feet of narrow work, crosscuts, drifts and raises.

(d) Applicant good organizer. Will secure experienced men to supervise the work. At present has tentatively arranged for the services of an experienced foreman and an accredited professional mining engineer as consultant.

6. (a) Surface Work

Bulldozer and operator 25 days @ $75.00	$1,875.00	
2 swampers and muckers 25 " 12.00	600.00	
Supervision (part time)	150.00	
Engineering (surveying & sampling	500.00	
Assays	300.00	
Head Office	150.00	$3,575.00

(b) Underground Work

2 miners, 4 muckers, 2 trammers @ $1.80 Hr.
Foreman $450.00 per month
Engineer consultant $300.00 per month

1,000 feet drifting, crosscutting, etc. @ $25.00		25,000.00

(c)

8 tons 16# mine rails (new) @ $240.00 per ton	$1,920.00	
1,000 ft. 2" air pipe @ 50¢	500.00	
1,000 ft. 1" water pipe @ 25¢	250.00	
Track, ties and supplies	300.00	
4 4'x4'x3/16" mucking sheets	75.00	
Small tools (shovels, picks, axes, wrenches)	150.00	
Timber	500.00	
2 Heating stoves	50.00	
6 Gas lanterns	60.00	
Kitchen equipment	100.00	
10 steel cots and pads	100.00	
Explosives (4 tons)	2,000.00	
Fuel	1,000.00	
Fuel for power	1,500.00	
Bookkeeper's cabinet	150.00	8,650.00

INSTRUCTIONS (Continued)

(d) To be Purchased			
Army 4 wheel drive weapon's carrier		$1,500.00	
3 mine cars (1 ton)		450.00	
2 light rock drills with mountings, hose, etc.		2,000.00	
1 ventilating Fan		250.00	
1,000' Vent. pipe		1,500.00	$5,700.00
Owned by Operator			
1 315 cu.ft. Diesel driven compressor	$5,000.00		
1 160 cu.ft. Gas " "	2,000.00		
1 6x6 Studebaker Army Truck. Operator will supply attachments to make it usable as snow plow	4,000.00		
	$ 11,000.00		
? Use allowance for 8 months @ 5% of cost per month			4,400.00
(e) All buildings and equipment in good condition.			
(f) 1 20x30 bunkhouse		1,000.00	
Water storage dam		1,500.00	
Widen road (to permit plowing snow)		1,500.00	4,000.00
(g) Maintenance $200 per month			
Assaying 150 "			
Accounting 150 "			
Indr.Ins. 350 "			
Pyroll Tax 175 "			
8 Mos. @ $1,025			8,200.00
(h) Contingencies			5,000.00
TOTAL ESTIMATE			$64,525.00

dmea 2694

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 11 1952

August 30, 1952

400

Mr. Frank E. Johnson
Chairman, Operating Committee
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

Re: Application of Big Q Tungsten Mine, Inc., Tungsten, Blue Grouse Mountain, Stevens County, Washington

Dear Mr. Johnson:

Enclosed are 3 copies of an application submitted by the Big Q Tungsten Mine, Inc., for exploration of a tungsten property on Blue Grouse Mountain, Stevens County, Washington. You will note that this is the same property formerly controlled by the Pacific Mining Company of Seattle. This company has since been reorganized into the Big Q Tungsten Mine, Inc. Several applications for loans were submitted by the Pacific Mining Company to develop the Blue Grouse group, the last of which, Docket DMA 638, was denied in a letter from Tom Lyon, Director, Supply Division, DMA, dated March 15, 1951. Following this, Frank Eichelberger & Associates did some development or exploration on the property on behalf of the Pacific Mining Company. Enough ore was reportedly produced (about $11,000) to pay for the cost of this work but on the conclusion of it, Eichelberger withdrew from any further activity on the property. At the request of the company which was contemplating submitting an application for exploration assistance, the property was visited on August 31, 1951, by C. H. Broedel of this office. His conclusion was that the ore shoots are not large enough to justify exploration in depth. Inasmuch as no formal application was ever submitted by the Pacific Mining Company, Broedel's report was never sent to Washington. Copies of it are attached. Please note that the paragraph Broedel quotes from Eddy's report (Eddy was the engineer for Eichelberger) is to be considered confidential and should not be divulged to the company.

Attached to the application is a report by W. H. Stoll, dated August 13, 1951. Stoll's conclusions are in agreement with Broedel's in that he did not consider the size of the ore shoot on the No. 2 vein sufficient to justify further work. He does, however, recommend some further bulldozing.

Inasmuch as all evidence to date indicates that the tungsten ore shoots are small and spotty and as yet have never been capable of sustained mining, the property is not, in the opinion of the Field Team, an attractive exploration bet. It is very probable that small amounts of tungsten will continue to be produced on the property, but due to the erratic distribution of the small ore shoots it seems almost impossible to lay out a systematic exploration program. Certainly, the present application which merely proposes bulldozing without specifying where this is to be done does not indicate that the applicant has worked out a systematic plan. We, therefore, feel that the application should be denied and do not plan to make an examination of the property unless we are instructed to do so by you. We are, however, retaining one copy of the application for our files.

By DMEA Field Team, Region II

A. E. Weissenborn, Executive Officer
(U. S. Geological Survey)

M. E. Volin, Member
(U. S. Bureau of Mines)

cc: USBM (2)
Puffett

Enclosures

AEW/iml

C
O
P
Y

U. S. TREASURY DEPARTMENT
Office of the Collector of Internal Revenue
Washington Building
Tacoma 2, Washington

Certificate No. 173

Certificate of Sale of Personal Property under Warrant for Distraint
(Section 3194 R.S.U.S.)

United States Internal Revenue Service
Collection District of Washington-Alaska

Spokane, Washington, July 22, 1952

This is to certify that on the 21st day of July 1952 I sold at public auction at Loon Lake Post Office in the city of Loon Lake, Washington, the interest of Pacific Mining Company, Inc. in the following described personal property seized from Pacific Mining Company, Inc., of 418 Lloyd Building, Seattle, Washington, under Warrants for Distraint Nov 51 Coll Suppl #2 8/3, Feb 52 Coll Suppl #2 18/6 inclusive, for nonpayment of United States Internal Revenue Taxes which had been duly assessed and remained unpaid for more than 10 days after notice and demand; 1944 Studebaker Truck, Motor #DR 1585618, Serial #86-106818; 1948 Chevrolet DeLuxe, Motor #FAA 168218, Serial #6FJD 3858; 2 Victor welding gauges & torch.

The interest in the above described property sold to William Quigley 203 Park Street, Apt. E Renton, Washington, for the sum of Twelve hundred dollars ($1,200.00) which amount was the highest bid received, the receipt for which is hereby acknowledged.

This certificate transfers to the purchaser all right, title and interest of the said Pacific Mining Company, Inc. in and to the property sold.

Seal of
Collector of Internal
Revenue
District of Washington

(Signed) Clark Squire
Clark Squire, Collector
A

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U. S. TREASURY DEPARTMENT
Office of the Collector of Internal Revenue
Washington Building
Tacoma 2, Wash.

Certificate No. 172

Certificate of Sale of Personal Property under Warrant for Distraint
(Section 3194 R.S.U.S.)

United State Internal Revenue Service
Collection District of Washington-Alaska

Spokane, Washington, July 22, 1952

This is to certify that on the 21st day of July 1952 I sold at public auction at Pacific Mining Co., Inc., mill, Rural Loon Lake, Wn. in the County of Stevens, Washington, the interest of Pacific Mining Company, Inc. in the following described personal property seized from Pacific Mining Company, Inc. of 418 Lloyd Building, Seattle, Washington under Warrants for Distraint Nov 51 Coll Suppl #2 8/3, Feb 52 Coll Suppl #2 18/6 inclusive, for nonpayment of United States Internal Revenue Taxes which had been duly assessed and remained unpaid for more than 10 days after notice and demand: See Inventory attached

The interest in the above described property sold to William Quigley, 203 Park Street, Apt. #E, Renton, Washington for the sum of Six hundred Dollars ($600.00) which amount was the highest bid received, the receipt for which is hereby acknowledged.

This certificate transfers to the purchaser all right, title, and interest of the said Pacific Mining Company, Inc. in and to the property sold.

Seal of
Collector of Internal
Revenue, District of
Washington

(Signed) Clark Squire
Clark Squire, Collector

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INVENTORY
PACIFIC MINING COMPANY, INC.

July 8, 1952

1	1938 Chevrolet Panel Truck
2	Mine cars
1	No. 7 Sludge pump model A
	approximately 100 feet of fire hose
	Approximately 10 shovels
3	Mine axes
2	Rock hammers
2	Picks
2	Pipe dyes
1	Breast drill
2	Blow troches
1	Jim crow
1	Sullivan stopper
	Approximately 124 feet of air hose
1	Barrel pump
3	Lime oilers
	Approximately 5 starter steels
	Approximately 9 starter seconds
3	Oil bottles
2	Chuck wrenches
1	CP-42 Chicago Pneumatic jack hammer
	Various assortment pipe fittings
	Various assortment small hand tools
1	Pipe vice
1	Gardiner-Denver air lift with approximately 125 feet of cable
1	100-gallon air tank
	Approximately 500 feet of mine rail
	Approximately 400 feet of iron pipe
1	Portable Chicago Pneumatic air compressor PG-20
1	Ingersoll-Rand long-hole machine
	Approximately 100 feet drill steel
1	Wood and coal range
	Approximately 14 kitchen pots and pans
4	Wash pans
2	Thermos jugs
4	Coffee pots
1	Meat Grinder
1	Flashlight
1	Garbage can
	Miscellaneous assorted kitchen utensils, cleaver, knife, ladles, etc.
2	Frying pans
2	Laundry tubs
1	Sprinkler can
	Approximately 15 service place settings of dishes, cups, saucers, soup bowls
	Approximately 7 platters and vegetable bowls
	Approximately 18 water glasses
8	Home and gas lamps
7	Rolls paper towels

	Approximately 1/2 case toilet tissue
1	First aid kit
11	3/4 rods cots and mattresses
	approximately 5 pillows
	approximately 12 cords fire wood
1	Air-tight heater
8	Mine hats
10	Jack bits
1	Double-drum heater
1	Pitcher Pump
8	Wilfley concentraing tables
	Approximately 100 15-gallon drums
6	Buckets
1	Platform scale
1	Wisconsin gas motor
1	Screw vice
1	Forge
1	Anvil
	Various assortment shafts and pulleys
	Approximately 18 feet feeder chain
10	Drag betls - various sizes
1	Joint shaft sproket
2	Buncides welding rod
1	24" crescent wrench
1	Ladle
1	Elevator bek and buckets
1	Sampson crusher - 5x9
1	Shaker screen and pulley
1	Holt motor - gas
4	Steel ore shoots

Whatever interest or rights that the Pacific Mining Company, Inc., may have in the following leases in property described:

Lease agreement with Charles Shadel applicable to the N1/2 to NW 1/4 of Section 16, Township 30 North, Range 42 East, W. M., containing 80 acres, more or less, according to the government survey thereof; in Stevens county, Washington

Lease agreement with John A. Kennedy and Vikki Kennedy applicable to the SW 1/4 of Section 15, and the E 1/2 of Section 17, Township 30 N. Range 42 E. W. M., and the N 1/2 SEE 1/4 of Section 16, Township 30 North, Range 42 East of the Williamette Merilian, Stevens County, Washington.

Lease agreement with O. M. Kimmel, Mabel Kimmel, and Keturah Kimmel applicabel to the west half (# 1/2) of the Northeast Quarter (NE 1/4) under Mining Contract No. 233, with the State of Washington; those portions of the SE 1/4 of NW 1/4; NE 1/4 of SW 1/4, and NW 1/4 of SE 1/4 included in a tract described by metes and bounds in Mining Contract No. 232 with the State of Washington; and those portions of the SE 1/4 of NW 1/4 and NE 1/4 of SW 1/4 included in a tract described by metes and bounds in Mining Contract No. 234 with the State of Washington, containing approximately 51 acres.

Lease agreement with Donald McPhee and Cecila McPhee applicable to the S1/2 of SW1/4 of Section 16, Township 30 North, Range 42 East, W.M. containing 80 acres, more or less, according to the government survey thereof, in Stevens County, Washington.

Lease agreement with L. O. Hale and Jean R. Hale applicable to all that portion of the S1/2 of the NW1/4 of Section 16, Township 30 North, Range 42 East, W.M., described by metes and bounds as follows: Beginning at the northeast corner of said S1/2 of the NW1/r and running thence West along the North line of said S1/2 1500 feet, thence South 230 feet, more or less, to a point on the North line of Summit No. 5 lode, described in Mineral Lease No. 272; thence N73' 23" E along said North line of said S1/2 of NW1/4; thence East on a line parallel to and 600 feet South of said North line; 1200 feet, more or less, to a point on the North and South center line of Section 16; thence North 600 feet to the place of beginning, containing an acre of 17.80 acres, more or less.

Lease agreement with Earl H. Bunn and Grace E. Bunn aplicable to the S1/2 of SE1/4 of Section 16, Township 30 North, Range 42 East, W.M., containing 80 acres, more or less according to the Government survey thereof, in Stevens County, Washington.

Lease agreement with Ella Kennedy and Gardiner B. Kennedy applicable to the SE 1/4 of NE 1/4 of Section 16, Township 30 North, Range 42 East, W.M., containing 40 acres, more or less, according to the government survey thereof, situate in Stevens county, Washington.

Lease agreement with A. D. Kemp, executor of the estate of A. W. Kemp, applicable to the SW1/4 of NW1/4 and the NW1/r of SW1/4, of Section Sixteen (60), Township Thirty (30) North, Range Forty-two (42) E. W. M., in Stevens County, Washington, except such part of said land as, on March 29, 1937, the date of said State contract of Mining, the State of Washington had were then included in State Mining Contract No. 73.

May 21, 1951

Mr. Geo. A. Chatel, President
Pacific Mining Co., Inc.
Seattle, Washington

Dear Mr. Chatel:

My opinion has been requested with regard to the validity of the agreements between the mining company and certain people holding lands in Stevens County on which the company proposed to conduct mining operations. With one exception, - that of Burton G. Christopherson hereinafter mentioned, the lands belong to the State of Washington, and are controlled by outstanding contracts for Mining.

My opinion is confined to the validity of the agreements held by the company, since I have not been furnished with abstracts of title nor title reports, covering the recorded instruments. Therefore the opinion cannot, in the circumstances, have any bearing upon the rights of third persons shown by the records of the Auditor of Stevens County.

BURTON G. CHRISTOPHERSON

On December 15, 1944 the above party leased to John A. Kennedy 160 acres in Sections 15 and 17, Twp. 30 North, Range 42 E. W. M. The lease was filed for record in Stevens County on December 17, 1948, and was recorded in Book 15 of Leases, page 66, records of Stevens County under Auditor's number 89731. On June 8, 1950 John A. Kennedy and wife assigned the lease to the company by written assignment, which assignment was filed for record August 3, 1950 and recorded in Vol. 15 of Leases, page 287, records of Stevens County, under Auditor's number 251670. The lease is, for 10 years, for mining purposes, on a royalty basis.

The lease is a valid one, and the company holds said lease under a valid assignment. Of course, the company's right to hold the land under the lease depends upon performance by it of the terms of the lease.

[illegible] MYERS

On December 2, 1948 the State of Washington leased 160 acres for mining No. 277 to the above named party, on its printed form. The area covered overlaps 70 acres in section 16. The contract is for 30 years from July 7, 1948, and is on a royalty basis as provided by law.

On December 14, 1948 Myers and wife gave to John A. Kennedy an option to purchase said contract for $10,000 within 3 years. Meanwhile the contract is to have the right to operate the ground, paying a royalty thereon to Myers, and such royalty payments apply on the option price. The option agreement was filed for record December 17, 1948 and recorded in Vol. 137 of Misc., page 23, records of Stevens County, under Auditor's number 89730.

On December 27, 1949 John A. Kennedy assigned said option to the company in writing. On May 31, 1950 the Commissioner of Public Lands approved the option. There is an 80 acre limitation on the acreage which any one individual may hold of state mining land.

On June 6, 1950 John A. Kennedy and wife entered into a written agreement with the company whereby they again in effect assigned their rights under the option to the company. This assignment was filed for record August 3, 1950 and recorded in Vol. 8 of Leases, page 241, records of Stevens County under Auditor's number 251600. This agreement was approved by the Land Commissioner June 26, 1950.

If the company should wish to exercise the option it would need to qualify as not holding other land under contracts or assignments from the State.

The option, and assignment agreements, are valid, subject only to performance by the company.

[illegible]

On June 1, 1950 the State of Washington issued the Contract for Mining No. 371 to the above party, on its usual printed form. The area covered is 40 acres in section 16. The Contract is for 20 years from the date of the Contract, on a royalty basis.

On July 22, 1950 Shell entered into a written agreement with the company whereby he consolidated his contract with others of Shell and joint operations. This agreement is on a contract rental basis. The agreement was filed for record August 3, 1950 and was recorded in Vol. 8 of Leases, page 247, records of Stevens County under Auditor's No. 251601. The agreement was approved by the State Land Commissioner July 26, 1950.

The lease agreement of July 22, 1950 is valid, subject only to performance by the company.

[illegible]

On June 1, 1950 the State of Washington issued its Contract for Mining No. 365 to Hovee, on the usual printed form. The area covered is 20 acres in section 16; and is on a royalty basis. On July 22, 1950 he also entered into a written agreement with the company, like that in Shell. The agreement was filed for record August 3, 1950 and was recorded in Vol. 8 of Leases, page 239 records of Stevens County under Auditor's number 251599. The agreement was approved by the State Land Commissioner July 26, 1950.

The latter agreement is valid, subject only to performance by the company.

[illegible]

On June 1, 1950 the State issued its Contract for Mining No. 372 covering about 10 acres, for 20 years, on a royalty basis. On July 22, 1950

John and wife entered into a written agreement with the company, like that in Chadel and McKee. The agreement was filed for record August 3, 1950, and recorded in Vol. 8 of Leases, page 300, records of Stevens County under Auditor's No. 251662. The agreement was approved by the State Land Commissioner July 26, 1950.

The agreement is valid subject only to performance by the company.

[illegible], H. Earl

On June 1, 1950 the State issued its Contract for Mining No. 303 to Mr. Dunn, on the usual printed form. The area covered is 40 acres in section 16. The contract runs for 20 years on a royalty basis. On July 22, 1950 Mr. Dunn entered into a written agreement with the company like that in Chadel, McKee and Halo, which agreement was filed for record August 3, 1950 and was recorded in Vol. 8 of Leases at page 306, records of Stevens County, under No. 251614, and was approved by the State Land Commissioner July 26, 1950.

The agreement is valid, subject only to performance by the company.

[illegible]

On April 15, 1950 the State issued its Contract for Mining No. 307 on the usual printed form. The area covered is 40 acres in section 16 on a royalty basis. On May 31, 1950 the lessee entered into a written agreement with the company like that in Chadel, McKee, Halo and Dunn. The agreement was filed for record August 3, 1950 and was recorded in Vol. 8 of Leases, page 301, records of Stevens County under No. 251587. It was approved by the State Land Commissioner June 21, 1950.

The agreement is valid, subject only to performance by the company.

[illegible], (Mabel, Estarah B. and C. M.)

On April 20, 1957 the State issued its Contracts for Mining Nos. 232, 234 and 233 respectively, to the above parties. The area is 160 acres more or less, all in section 16, and the contracts are on a royalty basis in the usual form. On April 5, 1951 the lessees entered into a written agreement with the company on a royalty basis for joint consolidated operations. The agreement was filed for record May 14, 1951 and was recorded in Vol. 11 of Leases, page 453, records of Stevens County, under No. 254[illegible]. It was approved by the State Land Commissioner May 10, 1951.

The agreement is valid subject only to performance by the company.

A. L. [illegible]

On March 29, 1957 the State issued its Contract for Mining No. 230. The area is in section 36, and the contract is on a royalty basis. On April 5, 1951 the lessee entered into a written agreement with the company on a royalty basis for joint operations. The agreement was filed for record May 14, 1951 and was recorded in Vol. 11 of Leases, page 457, records of Stevens County, under No. 253409. It was approved by the State Land Commissioner May 20, 1951.

The agreement is valid, subject only to performance by the company.

* * * * * * *

These constitute the only rights the company holds, which pertain to mining in Stevens County, Washington to my knowledge.

Respectfully submitted,

Clinton H. Hartsen
Attorney for Pacific Mining Co.

clh

C O P Y

W. M. Stoll
August 13, 1951

Report on the Blue Grouse Tungsten Deposits,
Loon Lake District
Washington

This property, being operated by the Pacific Mining Co. of Seattle, Wn., was examined by the writer on August 9th, 1951, and talks were had with officials of the company. The mine has sold a small amount of concentrates to date and indications are that it will make further similar shipments this year. The mine must be regarded as a minor source of tungsten on its present scale of operation.

The tungsten deposits lie on Blue Grouse Hill, 7.5 miles east of the Loon Lake, Wn., Post Office, and are reached by good secondary motor road. The tungsten occurrences, like others in Stevens County, are recognized as high-temperature quartz-hubnerite veins. The veins, outcropping near the summit of Blue Grouse Hill, between 3,200 and 4,000 feet elevation, generally strike northwest and dip 30 to 35 degrees southwest. They are enclosed in argillite.

Tungsten, as small hubnerite grains, also occurs to an as yet unknown extent, in an east-west trending contact zone - essentially a belt of intense hydrothermal alteration along which granitic rocks to the north and argillites and quartzites to the south have been softened and altered drastically in appearance and mineral content. As a rule, this altered contact zone is composed of kaolin, sericite, and muscovite, the rocks in the zone being generally soft or powdery, and containing scattered breccias of quartz and fragments of metamorphic rocks. The term "Greisen" has been applied where quartz accompanies the muscovite.

Contact Deposits

The contact zone of alteration appears to be at least 1,000 feet wide in places, and dips to the south at approximately 30 degrees. Trenches, bulldozer cuts, short tunnels, and winzes have been dug along the zone. The two workings in the zone currently receiving attention by the operators are the Tamarack tunnel and the Blue Grouse winze. The Tamarack tunnel is an exploratory cross-cut run southerly through the upper part of the contact zone for about 120 feet, to the contact with argillite. Near the portal of the tunnel, at least two iron and manganese stained seams, each about 2 feet wide, have been exposed, and dip gently south. They are enclosed in highly kaolinized and sericitized rock, and contain small hubnerite crystals. Hubnerite also occurs disseminated through clay-sericite rock nearby. The showing might yield several hundred tons of 1 to 2% WO_3 ore.

About 400 feet east of the Tamarack tunnel, the Blue Grouse winze has been reopened and retimbered. The winze inclines 35 degrees southward, roughly parallel to the dip of the altered contact zone, and in the zone. Three short, irregular levels have been run off the winze, which has a slope length of about 150 feet. Each of the short levels has cut one or more obscure, northwest striking breccia zones which are probably similar and of the same origin as the quartz-hubnerite veins lying to the south of the contact in argillite. Most of the winze area has been pervaded by manganese and iron oxides. The northwest trending breccia zones cut by the levels are quite irregular and are up to 6 feet wide in places. However tungsten mineralization in them is spotty and sometimes confined to a 6-inch seam within the breccia zone. By careful, selective mining, small tonnages averaging as high as 30% WO_3 have been mined. The process is simply gopher holing, as the ore shoots do not appear to be very long. Without doubt, a further limited tonnage of ore will be found and mined from these zones, which cut across the belt of alteration at the contact, however developing ore ahead is virtually impossible and the operation at this locality is bound to remain small and uncertain. At present, the operators are attempting to reach an output from the winze workings of 5 tons of sorted ore per day grading 5% WO_3.

Quartz-Hubnerite Veins

The best vein exposure of this type is in the No. 2 mine workings, located about 1,000 feet south of the contact diggings (described above), and near the top of Blue Grouse Hill. At the No. 2 mine, a drift has been run 400 feet easterly from the portal, on a quartz vein striking N. 63° W. and dipping 30 degrees southwest. The vein is entirely enclosed in argillite, and where strongest has a width of from 2 to 3 feet. The vein filling is white, coarsely crystalline quartz, and the two principal ore minerals are manganese oxide, as black, amorphous masses up to 1-inch across, and brownish black hubnerite crystals, commonly as long, slender crystals, contemporaneous with the quartz.

For an interval of about 240 feet from the portal, caving and faulting obscure the structural relationships, but the final 160 feet of drift follow a strong quartz vein which varies from 2 to 3 feet in width. This latter drift length is accessible via an air raise which has been driven to the surface from the drift level. About one-half of the available vein area above the 160 foot drift length has been stoped over an average vein width of close to 3 feet, to within roughly 100 feet of the surface. Below the level, a winze has been sunk about 80 feet on the vein, and some stoping done on both sides of the winze. It is estimated that about 1200 tons of vein material was thus mined, sorted in the stopes, and the major portion discarded as barren quartz. The hand sorted product contained visible crystals of hubnerite and was concentrated.

Near the end of the drift, a crosscut was turned off into the footwall, and a 4 to 6" vein lying parallel to the main vein was cut and a small overhand stope started. The footwall vein was found to be richer than the main vein but much narrower.

Between the main vein and the footwall vein, a shear was encountered and was followed east for about 200 feet, running parallel to the other two veins. Toward the east end of the drift the vein grows stronger and averages about 1 foot in width.

Lack of records make it impossible to estimate the grade of the tonnage stope on the main vein. The work was done at a time when tungsten was less than half the current price. The present stope faces do not look as if they would make ore, however it must be assumed that the material stoped was of better grade. The portion of the winze now caved is reported to be in good ore. why?

The main vein in the No. 2 mine, described above, should continue to considerable depth below the present level. It is certain that no substantial overhead tonnage could be blocked out at the present drift elevation.

Conclusion

At their present stage of development, the altered contact zone tungsten deposits look too uncertain to warrant an undertaking. The No. 2 mine shows no developed ore along the drift level, and further activity on this vein must consist of gaining depth. The property is therefore primarily an exploration proposition. But since the No. 2 vein shows evidence of a past ore shoot of small dimensions, it seems doubtful if the possible reward would justify the outlay required to gain more depth on the vein by sinking or crosscutting at a lower elevation. It is recommended that no undertaking on the property be considered at this time, however that further developments be watched, for possible reconsideration. It is also suggested that further knowledge of the veins in the general area be obtained, including other outcroppings, as yet undeveloped, on Blue Grouse Hill.

Respectfully submitted,

William M. Stoll

Note: A list of the samples taken are shown on page 4 herewith.

The following samples were taken from the Pacific Mining Co. property, and shipped for WO_3 analysis.

List of Samples

No. 1. From mineralized seam at portal of Tamarack tunnel, cut across 2 feet; 0.12 %

No. 2. From point 18 feet inside Tamarack tunnel, mineralized seam, cut across 2 feet; 0.12 %

No. 3. Grab sample from one ton of sorted ore, Tamarack tunnel; 0.68 %

No. 4. Grab sample from ore bin at portal of Blue Grouse winze, bin containing an estimated 10 tons of ore from winze workings; 0.87 %

No. 5. Chip sample from Dog Hole (underhand stope), across 6" vertical seam in 5 foot breccia zone, 2nd level west, Blue Grouse Winze; 0.75 %

No. 6. Channel sample from shear zone striking NW, vertical, cut across 45", near face of 3rd level west, Blue Grouse winze; 0.07 %

No. 7. Channel sample cut in breccia zone, length of cut 30", near floor, east wall at foot of Blue Grouse winze; 0.08 %

No. 8. Channel sample from stope face on west side of air raise, cut across 24" quartz vein, No. 2 mine; 0.14 %

No. 9. Channel sample from south (hanging wall) side of drift, at east upper corner of stope on east side of winze, cut at drift level across 30" quartz vein; No. 2 mine; 0.12 %

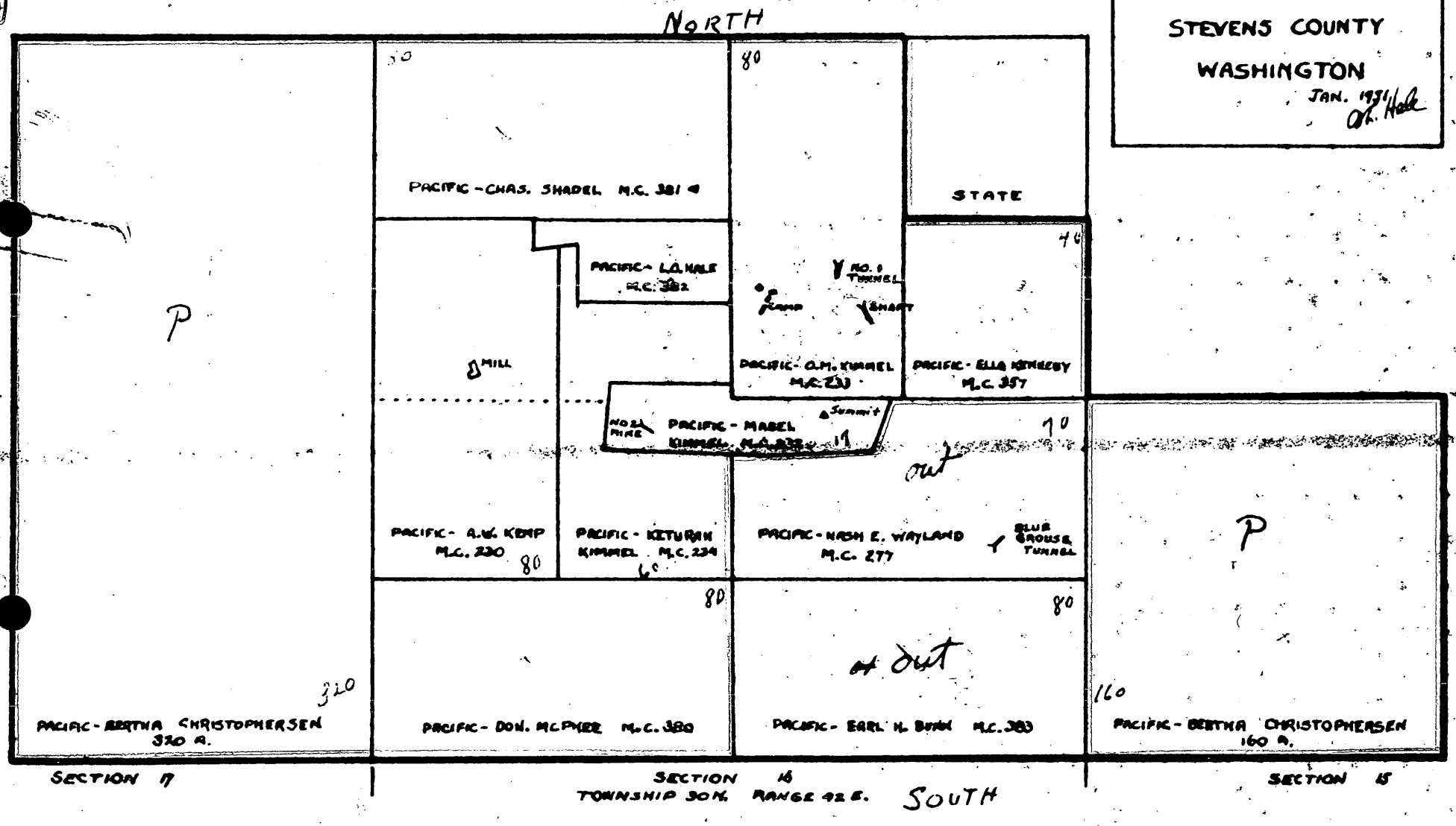
No. 10. Grab sample, quartered down, of minus 1/4" tailings from old west mill; estimated tonnage 200 tons; 0.15 %

No. 11. Grab sample from an estimated 30 tons of ore in lower mill coarse ore bin; this ore mined from Blue Grouse winze. 3.52 %

2694

PROPERTY MAP
PACIFIC MINING CO. INC.
STEVENS COUNTY
WASHINGTON

JAN. 1934
A. Hale



PLAN
No TWO MINE
QUARTZ VEINS IN QUARTZITE AND ARGILLITE
N
Scale 1" = 20ft.
TRUCK ROAD
DUMP
PORTAL
AIR RAISE
WINZE
old road
This tracing was made for study only -

FILE COPY
SURNAME:

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

Rutledge
Selfridge
Martin
Geehan
Johnson
Rinehart
Ellis

Mr. William Quigley, Sr., President
Big Q. Tungsten Mine, Inc.
417 - 419 Lloyd Building
Seattle, Washington

Re: Docket No. DMEA 2694 - Tungsten
Big Q. Tungsten Mine, Inc.
William Quigley, Sr., President
Blue Grouse Mountain Tungsten
Deposit
Stevens County, Washington

Dear Mr. Quigley:

Your request for exploration assistance and other reports concerning the Blue Grouse Mountain tungsten deposit available to us in Washington have been carefully reviewed.

This information, although noting the occurrence of a small amount of hubnerite mineralization in quartz veins and also along the contact zone on your property, indicates to us that the probability of disclosing mineable reserves by additional exploration is not sufficiently promising to justify Government participation. We regret, therefore, to inform you that your application is denied.

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

Sincerely yours,

9-25-52

(signed) FRANK E. JOHNSON

ACTING Administrator

FARutledge'lm
9/23/52

cc: Admn. Reading File
Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. II
Operating Committee
G. C. Selfridge
F. A. Rutledge

FILE COPY 400
SURNAME:

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

Administrator, DMEA

Sept. 23, 1952

Rutledge
Selfridge
Martin
Sullivan

Iron and Ferro-Alloy Division, DMEA

Denial of application for exploration assistance in the amount of $64,525.00
Big Q. Tungsten Mine, Inc.
William Quigley, Sr., President
Blue Grouse Mountain Tungsten Deposit
Stevens County, Washington
Docket No. 2694 - Tungsten

9.25.52

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

1. No detailed plan of exploration was received with the application. A two stage program was requested consisting of 25 days of bulldozing and 1,000 feet of crosscuts, drifts, and raises but location of work and targets were not given.

2. Tungsten occurs as hubnerite associated with quartz veins in the argillite and disseminated along the contact zone between the argillite and granite.

   All evidence to date indicates that the tungsten ore shoots are small and spotty and as yet have never been capable of sustained mining.

3. An application by the Pacific Mining Company to develop the Blue Grouse claims, Docket No. DMA 688, was denied by Tom Lyon, March 15, 1951.

4. A field examination by G. H. Broedel, U. S. Geological Survey, in August, 1951, recommends denial.

5. A report by W. M. Stell for an unnamed company, probably Kennametal, recommended against any exploration by his company.

6. Frank Eisbelberger and Associates did some exploration or development on the property for the Pacific Mining Company in 1951 but withdrew at its conclusion.

7. The tungsten occurrences are too small and scattered to be considered as sufficiently promising to warrant DMEA exploration assistance.

8. The Commodity Division of the U. S. Geological Survey recommends denial.

cc: Admn. Reading File
Docket
G. C. Selfridge
F. A. Rutledge

FARutledge:lm
9/23/52

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : Administrator, DMEA DATE: Sept. 23, 1952

FROM : Iron and Ferro-Alloy Division, DMEA

SUBJECT: Denial of application for exploration assistance in the amount of $64,525.00
Big Q. Tungsten Mine, Inc.
William Quigley, Sr., President
Blue Grouse Mountain Tungsten Deposit
Stevens County, Washington
Docket No. DMEA 2694 - Tungsten

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8. The Commodity Division of the U. S. Geological Survey recommends denial.

G. C. Selfridge by WSM
G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

IN REPLY REFER TO:

G-MD-CF

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

September 16, 1952

Memorandum

To: George C. Selfridge, DMEA

From: D. M. Lemmon, USGS

Subject: Exploration application $64,525 DMEA 2694 - Tungsten
Big Q Tungsten Mine, Inc.
Wm. Quigley, Sr., President
417-419 Lloyd Bldg.
Seattle, Washington

Property: Blue Grouse Mountain Tungsten Group
Secs. 15, 16, 17, T. 30 N., R. 42 E.
Stevens County, Washington
(Formerly Pacific Mining Co. - DMA 688)

Proposal: Twenty-five days of bulldozer trenching and hand work, followed by 1,000 feet of drifting and crosscutting from the No. 1 adit.

Sources of information: The Blue Grouse Mountain deposits are described by H. E. Culver and W. A. Broughton in "Tungsten Resources of Washington", Washington Department of Conservation and Development, Division of Geology, Bull. 34, pp. 73-76, 1945. They are also described in an unpublished memorandum of the Geological Survey, by L. R. Page and S. W. Hobbs, 1943, based on examinations made in 1940, 1941 and 1942. Hobbs revisited the property in January 1951 (see letter from Weissenborn to L. F. Strobel, DMA 688, February 19, 1951).

The applicant has also submitted a copy of a memorandum report by William M. Stoll, dated August 13, 1951. The memorandum is not addressed to anyone, but was probably prepared for Kennametal, Inc., by whom Stoll was employed in 1951. Stoll's report is in agreement with the other information available to me. His recommendation was unfavorable, and against participation by his own employer in operation of the property.

Copy retained 400

Geology: Huebnerite occurs in 4 poorly-exposed, faulted quartz veins that dip 30° to 45° SW, in argillite and quartzite intruded by granite. The veins are 3 to 36 inches wide, in part contain 0.5 percent of WO_3 with a few richer pockets. The veins do not extend into the granite, but some huebnerite is contained in greisen formed along the contact between granite and argillite. The most widely separated mineral exposures are 4,000 feet apart, and much of the intervening area is covered.

The property has been prospected by a 130-foot inclined shaft and about 1,500 feet of drifts and crosscuts from adits and from the shaft.

Sampling by Stoll and by some engineer on Eichelberger's staff showed very little material of ore grade in exposed faces.

Past production is estimated by the applicant to be about 2,500 units of WO_3. Records are incomplete, although total production of the area is certainly not more than 5,000 units.

Comment: The known tungsten deposits are unimportant, and past production was probably at a financial loss. Small future production might result from carefully managed exploration, but the deposits do not merit expenditures of the magnitude requested. The applicant has not presented a detailed exploration program, and has made no statement of his own competence to conduct an exploration project.

The property on which the proposed exploration project would be conducted is owned by the State of Washington and leased for mining purposes to various individuals who assigned their leases to Pacific Mining Co., Inc. Whatever interest or rights that the Pacific Mining Co., Inc. had in these leases was sold at public auction July 22, 1952 to Wm. Quigley by the U. S. Collector of Internal Revenue, Tacoma, Washington to satisfy unpaid taxes.

The applicant has not submitted copies of the various leases. Presumably subordination liens would be required from the State of Washington and the original lessees; some legal interpretation is necessary to determine whether the applicant actually has valid property rights as a result of purchase from Internal Revenue. I suspect that the original and subsidiary agreements might forbid transfer of leases without permission.

Field Team denial 8/30/52 on basis of previous opinion

Recommendation. I suggest that the Field Team be requested for an opinion on the proposal and suggestions for an alternative program more in keeping with the size of target, provided any program is warranted. Decision on whether DMEA should approve a contract might well depend on a favorable appraisal of the applicant's competence to conduct exploration.

Unless the Field Team expresses firm convictions in favor of the applicant's program or an alternative, I favor denial of the proposal made.

D. M. Lemmon

Mr. William Quigley, Sr., President
Big Q. Tungsten Mine, Inc.
417-419 Lloyd Building
Seattle, Washington

Subject: DMEA-~~2693~~ 2694
Re: Exploration Assistance
Blue Grouse Mountain,
Tungsten King,
Pacific Mining Co.
September 12, 1952

My dear Mr. Quigley:

The receipt of your application dated August 25, 1952 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-~~2693~~ 2694 and referred to the Iron & Ferro-Alloys Division,

Kindly refer to DMEA-~~2693~~ 2694 in any future correspondence relating to your application.

Sincerely yours,

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

25451

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 11 1952

August 30, 1952

Mr. Frank E. Johnson
Chairman, Operating Committee
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

Re: Application of Big Q Tungsten Mine, Inc., Tungsten, Blue Grouse Mountain, Stevens County, Washington

Dear Mr. Johnson:

Enclosed are 3 copies of an application submitted by the Big Q Tungsten Mine, Inc., for exploration of a tungsten property on Blue Grouse Mountain, Stevens County, Washington. You will note that this is the same property formerly controlled by the Pacific Mining Company of Seattle. This company has since been reorganized into the Big Q Tungsten Mine, Inc. Several applications for loans were submitted by the Pacific Mining Company to develop the Blue Grouse group, the last of which, Docket DMA 688, was denied in a letter from Tom Lyon, Director, Supply Division, DMA, dated March 15, 1951. Following this, Frank Eichelberger & Associates did some development or exploration on the property on behalf of the Pacific Mining Company. Enough ore was reportedly produced (about $11,000) to pay for the cost of this work but on the conclusion of it, Eichelberger withdrew from any further activity on the property. At the request of the company which was contemplating submitting an application for exploration assistance, the property was visited on August 31, 1951, by C. H. Broedel of this office. His conclusion was that the ore shoots are not large enough to justify exploration in depth. Inasmuch as no formal application was ever submitted by the Pacific Mining Company, Broedel's report was never sent to Washington. Copies of it are attached. Please note that the paragraph Broedel quotes from Eddy's report (Eddy was the engineer for Eichelberger) is to be considered confidential and should not be divulged to the company.

Attached to the application is a report by W. M. Stoll, dated August 13, 1951. Stoll's conclusions are in agreement with Broedel's in that he did not consider the size of the ore shoot on the No. 2 vein sufficient to justify further work. He does, however, recommend some further bulldozing.

Inasmuch as all evidence to date indicates that the tungsten ore shoots are small and spotty and as yet have never been capable of sustained mining, the property is not, in the opinion of the Field Team, an attractive exploration bet. It is very probable that small amounts of tungsten will continue to be produced on the property, but due to the erratic distribution of the small ore shoots it seems almost impossible to lay out a systematic exploration program. Certainly, the present application which merely proposes bulldozing without specifying where this is to be done does not indicate that the applicant has worked out a systematic plan. We, therefore, feel that the application should be denied and do not plan to make an examination of the property unless we are instructed to do so by you. We are, however, retaining one copy of the application for our files.

By DMEA Field Team, Region II

A. E. Weissenborn, Executive Officer
(U. S. Geological Survey)

M. E. Volin, Member
(U. S. Bureau of Mines)

cc: USBM (2)
Puffett

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 11 1952

AUG 1 8 1951

SEP 1951

Memorandum

To: A. E. Weissenborn, Exec. Officer, DMA Field Team, Region II

From: C. H. Broedel, Geologist, U.S. Geological Survey

Subject: Blue Grouse Mountain tungsten deposit
Secs. 15, 16 and 17, T. 30 N., R. 42 E.
Stevens County, Washington
DMA Docket 688
Pacific Mining Company, Seattle, Washington

RECOMMENDATIONS

The DMA examiner recommends that an application for an exploration loan be denied because of the lenticular and limited occurrence of the ore bodies in the Blue Grouse shaft and vicinity, and the lack of a feasible objective of a commercial ore shoot in the No. 2 adit.

Since recent operations commenced in the Blue Grouse shaft, no appreciable ore reserves have been established and fissures or shears along which the ore bodies occur are limited in strike and dip length below the argillite contact. The examiner believes that the ore shoots within the quartz vein of the No. 2 adit are not large enough to justify an exploration program in depth.

SUMMARY OF RECENT WORK

The Pacific Mining Company has been engaged in exploration for tungsten ore in the Blue Grouse inclined shaft and construction of a mill near the Kemp adit since July 21, 1951. During 1950 the company exposed the contact between greisenized granite and overlying argillite by bulldozing for a distance of 1500 feet west and east of the Blue Grouse shaft portal. A crosscut called the Tamarack or contact adit about 400 feet west of this shaft was driven during the same period. No ore bodies were exposed along the contact by bulldozing, and sampling of the greisenized granite was not encouraging.

About 485 feet of exploration has been done from the Blue Grouse shaft since the Geological Survey's report on the property in 1943. Most of this footage was mined prior to acquisition of the property by the Pacific Mining Company, which was in March, 1949.

The operators report that the company's mill has been completed and is at present making test runs of ore from the shaft. The operators also report that seven tons of tungsten concentrates have been shipped to General Services Administration and $1\frac{1}{2}$ tons to Kennametal Inc., Latrobe, Pennsylvania.

Mr. Frank Eichelberger of Spokane has recently made a complete examination of the property for the Pacific Mining Company. In his report he recommends that further exploration be abandoned and that the available ore from the Blue Grouse shaft workings be mined and milled followed by cessation of operations. The report states that total shipments from the shaft workings are valued at $11,000 and that probably 1300 units of WO_3 has been produced from 4000 tons. The average grade of the ore is 0.3 percent WO_3, high-grade ore assays about 10 percent WO_3.

SUMMARY OF FIELD INVESTIGATION

The DMA examiner visited the property on September 10, 1951 to obtain information on mining operations since Mr. S. W. Hobbs' visit for DMA in January, 1951.

In the Blue Grouse shaft workings exploration has been carried out on three levels, the difference between levels ranging from 12 to 24 feet. A relatively small tonnage of huebnerite ore has been discovered in the exploration of this shaft. The ore shoots which strike northwest, are lenticular and occur along numerous fractures or shear planes in the greisenized granite and underlying aplite granite. The examiner observed only one steeply-dipping structure of commercial ore in greisenized granite and this structure apparently contains very little ore below the second level. This structure shows a maximum three-foot width of ore on the first level and two feet on the second level. The fissures on the third level in aplite granite are apparently too far below the argillite granite contact to be mineralized.

The Tamarack adit was driven 88 feet toward the southeast in greisenized granite, and was stopped at the argillite-granite contact. The only ore seen is a small pod along a fissure near the portal. The tungsten-bearing quartz vein of the No. 2 adit was visited and about 150 feet of drift mined since 1943 was inspected. Toward the southwest end of the adit the quartz vein decreases in width, and may lens out beyond the present face.

APPLICANT'S PROPOSAL

The Pacific Mining Company proposes to explore the quartz vein of the No. 2 adit by sinking a winze and drifting on the vein at a lower level. They also propose to explore the granite argillite contact south of the Blue Grouse shaft.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 11 1952

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

Not to be filled in by applicant

Docket No. Dmea - 2694
Metal or Mineral
Date Received 9-11-52
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Wm. Quigley, Sr., 417-419 Lloyd Bldg., Seattle, Washington
(b) Big Q Tungsten Mine, Inc., Washington State Corporation
Wm. Quigley, Sr., President & Treasurer, 303 Park Avenue, Renton, Washington
Ed M. Weston, Vice-President & Director, 2611 Harvard N., Seattle, Wash.
J. E. Chandler, Secretary & Director, 8823 Fauntleroy, Seattle, Washington

(*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 Sec. 16, T. 30 N. R. 42 E. W.M. (for exceptions see "Property Map) + S.W.¼ Sec. 15 + East 1/2 Sec. 17, all in T. 30 N. R. 42 E. W.M. Stevens County, Washington
(b) Blue Grouse Mountain, Tungsten King, Pacific Mining Co.

(*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 Lessee
(d) See Property Map with record of State Mining contracts, also copy of lease from K. Kimme and Pacific Mining Co.

(*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 No encumbrances

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

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

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

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

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

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

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

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

(*c*) The work will start within ...30... days and be completed within ...8... 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.). **None**

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

(*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?

[X] 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 August 25, 1952

BIG Q TUNGSTEN MINE INC.
417-19 Lloyd Building
Seattle 1, Washington

(Applicant)

By Wm M Quigley Pres.

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

INFORMATION RE DMEA FORM MF103 (April 1952)

INSTRUCTIONS

4. The principal recent workings are known as No. 1 and the No. 2 mines. (See map by Eichelberger and a report by W.M. Stoll.) The No. 1 workings consist of a crosscut tunnel and an incline shaft (known as the winze) all in the contact zone. Some production was had from the winze workings within the last year. The winze workings are accessible. The No. 1 crosscut is partly caved near the portal. The No. 2 workings are caved for some distance from the portal, but the innermost workings are accessible through an air raise to the surface. (See Stoll's report) Necessary facilities on property for small operation. Applicant invested money in Pacific Mining Co. the last operators. Now attempting to revive the operation.

(b) No current production. Small erratic operations have been attempted over a number of years with production unknown. Some production was had during the early 40's and again within the last two years. An estimate of total production would be in the vicinity of 2,500 L.T. units. There are no ore reserves.

(c) The oldest rocks on Blue Grouse Mountain are metamorphosed sediments consisting of quartz mica schist, argillites and quartzites. They are thought to be an erosional remnant of the Deer Lake argillites. These rocks were intruded by the Loon Lake granite which is a major geologic feature of the area. Subsequent erosion has exposed the contact between these rocks on the northern slope of the hill, running roughly east and west with a flat dip south. Extensive alteration is present along the contact with considerable greisen developed in the granite. The metamorphic rocks as a rule strike northwest with varying dips to the southwest. Two types of ore occurrences are present. (1) mineralized quartz veins conforming with the structure of the argillites. (2) mineralization along certain structures in the contact zone. (See report by W. M. Stoll) The mineral of economic interest is the tungsten mineral hubnerite. Both types of occurrence have been worked in a somewhat haphazard manner, the point of attack probably being determined by the chance discovery of a promising surface showing without any thought as to the overall geologic picture.

(d) The property is located 8 miles east of Loon Lake, Washington from where it is accessible by a good secondary motor road. Another road from Deer Park connects with this road about midway to the property. Both Loon Lake and Deer Park are served by the Great Northern Railroad. Spokane would be the main supply point which is thirty-some miles distant by paved highway.

(e) Manpower, materials, supplies and equipment are all available locally or in Spokane. A small dam may have to be constructed to provide water storage. Power is generated locally by internal combustion engines

5. The tungsten mineral hubnerite.

(b) The present work has exposed the outcrops of the quartz veins in only a comparatively few places compared with their probable lateral extent. Also where the veins intersect the contact zone should be favorable locations for ore deposition.

With the above considerations in mind, it is suggested that the first work consist of surface bulldozer work to crosscut the outcrops often as possible, also to explore for contact intersections. Where favorable vein intersections are indicated by the bulldozer the work should be supplemented by hand work in order to secure reliable information on the attitude of the veins. This information will be important in later underground work where the location of the vein due to dip and elevation will have to be considered, also the flat dips and change in surface elevations causes the surface trace of the outcrops to vary greatly from the true strike. With information secured from the surface work, underground work should be carried out from the No. 1 crosscut with the same objectives in mind. It is estimated that this phase will require at least 1,000 feet of narrow work, crosscuts, drifts and raises.

(d) Applicant good organizer. Will secure experienced men to supervise the work. At present has tentatively arranged for the services of an experienced foreman and an accredited professional mining engineer as consultant.

6. (a) Surface Work

Bulldozer and operator 25 days @ $75.00	$1,875.00	
2 swampers and muckers 25 " 12.00	600.00	
Supervision (part time)	150.00	
Engineering (surveying & sampling	500.00	
Assays	300.00	
Head Office	150.00	$3,575.00

(b) Underground Work

2 miners, 4 muckers, 2 trammers @ $1.80 Hr.		
Foreman $450.00 per month		
Engineer consultant $300.00 per month		
1,000 feet drifting, crosscutting, etc. @ $25.00		25,000.00

(c)

8 tons 16# mine rails (new) @ $240.00 per ton	$1,920.00	
1,000 ft. 2" air pipe @ 50¢	500.00	
1,000 ft. 1" water pipe @ 25¢	250.00	
Track, ties and supplies	300.00	
4 4'x4'x3/16" mucking sheets	75.00	
Small tools (shovels, picks, axes, wrenches)	150.00	
Timber	500.00	
2 Heating stoves	50.00	
6 Gas lanterns	60.00	
Kitchen equipment	100.00	
10 steel cots and pads	100.00	
Explosives (4 tons)	2,000.00	
Fuel	1,000.00	
Fuel for power	1,500.00	
Bookkeeper's cabinet	150.00	8,650.00

INSTRUCTIONS (Continued)

(d) To be Purchased			
Army 4 wheel drive weapon's carrier		$1,500.00	
3 mine cars (1 ton)		450.00	
2 light rock drills with mountings, hose, etc.		2,000.00	
1 ventilating Fan		250.00	
1,000' Vent. pipe		1,500.00	$5,700.00
Owned by Operator			
1 315 cu.ft. Diesel driven compressor	$5,000.00		
1 160 cu.ft. Gas " "	2,000.00		
1 6x6 Studebaker Army Truck. Operator will supply attachments to make it usable as snow plow	4,000.00		
	$ 11,000.00		
Use allowance for 8 months @ 5% of cost per month			$1,466.64 4,400.00
(e) All buildings and equipment in good condition.			
(f) 1 20x30 bunkhouse		1,000.00	
Water storage dam		1,500.00	
Widen road (to permit plowing snow)		1,500.00	4,000.00
(g) Maintenance $200 per month			
Assaying 150 "			
Accounting 150 "			
Indr.Ins. 350 "			
Pyroll Tax 175 "			
8 Mos. @ $1,025			8,200.00
(h) Contingencies			5,000.00
	TOTAL ESTIMATE		$64,525.00

C O P Y

W. M. Stoll
August 13, 1951

Report on the Blue Grouse Tungsten Deposits,
Loon Lake District
Washington

This property, being operated by the Pacific Mining Co. of Seattle, Wn., was examined by the writer on August 9th, 1951, and talks were had with officials of the company. The mine has sold a small amount of concentrates to date and indications are that it will make further similar shipments this year. The mine must be regarded as a minor source of tungsten on its present scale of operation.

The tungsten deposits lie on Blue Grouse Hill, 7.5 miles east of the Loon Lake, Wn., Post Office, and are reached by good secondary motor road. The tungsten occurrences, like others in Stevens County, are recognized as high-temperature quartz-hubnerite veins. The veins, outcropping near the summit of Blue Grouse Hill, between 3,200 and 4,000 feet elevation, generally strike northwest and dip 30 to 35 degrees southwest. They are enclosed in argillite.

Tungsten, as small hubnerite grains, also occurs to an as yet unknown extent, in an east-west trending contact zone - essentially a belt of intense hydrothermal alteration along which granitic rocks to the north and argillites and quartzites to the south have been softened and altered drastically in appearance and mineral content. As a rule, this altered contact zone is composed of kaolin, sericite, and muscovite, the rocks in the zone being generally soft or powdery, and containing scattered breccias of quartz and fragments of metamorphic rocks. The term "Greisen" has been applied where quartz accompanies the muscovite.

Contact Deposits

The contact zone of alteration appears to be at least 1,000 feet wide in places, and dips to the south at approximately 30 degrees. Trenches, bulldozer cuts, short tunnels, and winzes have been dug along the zone. The two workings in the zone currently receiving attention by the operators are the Tamarack tunnel and the Blue Grouse winze. The Tamarack tunnel is an exploratory crosscut run southerly through the upper part of the contact zone for about 120 feet, to the contact with argillite. Near the portal of the tunnel, at least two iron and manganese stained seams, each about 2 feet wide, have been exposed, and dip gently south. They are enclosed in highly kaolinized and sericitized rock, and contain small hubnerite crystals. Hubnerite also occurs disseminated through clay-sericite rock nearby. The showing might yield several hundred tons of 1 to 2% WO_3 ore.

About 400 feet east of the Tamarack tunnel, the Blue Grouse winze has been reopened and retimbered. The winze inclines 35 degrees southward, roughly parallel to the dip of the altered contact zone, and in the zone. Three short, irregular levels have been run off the winze, which has a slope length of about 150 feet. Each of the short levels has cut one or more obscure, northwest striking breccia zones which are probably similar and of the same origin as the quartz-hubnerite veins lying to the south of the contact in argillite. Most of the winze area has been pervaded by manganese and iron oxides. The northwest trending breccia zones cut by the levels are quite irregular and are up to 6 feet wide in places. However tungsten mineralization in them is spotty and sometimes confined to a 6-inch seam within the breccia zone. By careful, selective mining, small tonnages averaging as high as 30% WO_3 have been mined. The process is simply gopher holing, as the ore shoots do not appear to be very long. Without doubt, a further limited tonnage of ore will be found and mined from these zones, which cut across the belt of alteration at the contact, however developing ore ahead is virtually impossible and the operation at this locality is bound to remain small and uncertain. At present, the operators are attempting to reach an output from the winze workings of 5 tons of sorted ore per day grading 5% WO_3.

Quartz-Hubnerite Veins

The best vein exposure of this type is in the No. 2 mine workings, located about 1,000 feet south of the contact diggings (described above), and near the top of Blue Grouse Hill. At the No. 2 mine, a drift has been run 400 feet easterly from the portal, on a quartz vein striking N. 63 W. and dipping 30 degrees southwest. The vein is entirely enclosed in argillite, and where strongest has a width of from 2 to 3 feet. The vein filling is white, coarsely crystalline quartz, and the two principal ore minerals are manganese oxide, as black, amorphous masses up to 1-inch across, and brownish black hubnerite crystals, commonly as long, slender crystals, contemporaneous with the quartz.

For an interval of about 240 feet from the portal, caving and faulting obscure the structural relationships, but the final 160 feet of drift follow a strong quartz vein which varies from 2 to 3 feet in width. This latter drift length is accessible via an air raise which has been driven to the surface from the drift level. About one-half of the available vein area above the 160 foot drift length has been stoped over an average vein width of close to 3 feet, to within roughly 100 feet of the surface. Below the level, a winze has been sunk about 80 feet on the vein, and some stoping done on both sides of the winze. It is estimated that about 1200 tons of vein material was thus mined, sorted in the stopes, and the major portion discarded as barren quartz. The hand sorted product contained visible crystals of hubnerite and was concentrated.

Near the end of the drift, a crosscut was turned off into the footwall, and a 4 to 6" vein lying parallel to the main vein was cut and a small overhand stope started. The footwall vein was found to be richer than the main vein but much narrower.

Between the main vein and the footwall vein, a shear was encountered and was followed east for about 200 feet, running parallel to the other two veins. Toward the east end of the drift the vein grows stronger and averages about 1 foot in width.

Lack of records make it impossible to estimate the grade of the tonnage stope on the main vein. The work was done at a time when tungsten was less than half the current price. The present stope faces do not look as if they would make ore, however it must be assumed that the material stoped was of better grade. The portion of the winze now caved is reported to be in good ore.

The main vein in the No. 2 mine, described above, should continue to considerable depth below the present level. It is certain that no substantial overhead tonnage could be blocked out at the present drift elevation.

Conclusion

At their present stage of development, the altered contact zone tungsten deposits look too uncertain to warrant an undertaking. The No. 2 mine shows no developed ore along the drift level, and further activity on this vein must consist of gaining depth. The property is therefore primarily an exploration proposition. But since the No. 2 vein shows evidence of a past ore shoot of small dimensions, it seems doubtful if the possible reward would justify the outlay required to gain more depth on the vein by sinking or crosscutting at a lower elevation. It is recommended that no undertaking on the property be considered at this time, however that further developments be watched, for possible reconsideration. It is also suggested that further knowledge of the veins in the general area be obtained, including other outcroppings, as yet undeveloped, on Blue Grouse Hill.

Respectfully submitted,

William M. Stoll

Note: A list of the samples taken are shown on page 4 herewith.

The following samples were taken from the Pacific Mining Co. property, and shipped for WO_3 analysis.

List of Samples

No. 1. From mineralized seam at portal of Tamarack tunnel, cut across 2 feet; 0.12%

No. 2. From point 18 feet inside Tamarack tunnel, mineralized seam, cut across 2 feet; 0.12%

No. 3. Grab sample from one ton of sorted ore, Tamarack tunnel; 0.68%

No. 4. Grab sample from ore bin at portal of Blue Grouse winze, bin containing an estimated 10 tons of ore from winze workings; 0.87%

No. 5. Chip sample from Dog Hole (underhand stope), across 6" vertical seam in 5 foot breccia zone, 2nd level west, Blue Grouse Winze; 0.75%

No. 6. Channel sample from shear zone striking NW, vertical, cut across 45", near face of 3rd level west, Blue Grouse winze; 0.07%

No. 7. Channel sample cut in breccia zone, length of cut 30", near floor, east wall at foot of Blue Grouse winze; 0.08%

No. 8. Channel sample from stope face on west side of air raise, cut across 24" quartz vein, No. 2 mine; 0.14%

No. 9. Channel sample from south (hanging wall) side of drift, at east upper corner of stope on east side of winze, cut at drift level across 30" quartz vein; No. 2 mine; 0.12%

No. 10. Grab sample, quartered down, of minus 1/4" tailings from old west mill; estimated tonnage 200 tons; 0.15%

No. 11. Grab sample from an estimated 30 tons of ore in lower mill coarse ore bin; this ore mined from Blue Grouse winze. 3.52%

May 21, 1951

Mr. Chas. A. Shadel, President
Pacific Mining Co. Inc.
Seattle, Washington

Dear Mr. Shadel:

My opinion has been requested with regard to the validity of the agreements between the mining company and certain people holding lands in Stevens County on which the company proposed to conduct mining operations. With one exception, - that of Bertha C. Christophersen hereinafter mentioned, the lands belong to the State of Washington, and are controlled by outstanding contracts for Mining.

My opinion is confined to the validity of the agreements held by the company, since I have not been furnished with abstracts of title nor title reports, showing the recorded instruments. Therefore the opinion cannot, in the circumstances, have any bearing upon the rights of third persons shown by the records of the Auditor of Stevens County.

BERTHA C. CHRISTOPHERSEN

On December 16, 1948 the above party leased to John A. Kennedy 480 acres in Sections 15 and 17, Twp. 30 North, Range 42 E. W. M. The lease was filed for record in Stevens County on December 17, 1948, and was recorded in Book H of Leases, page 65, records of Stevens County under Auditor's number 239231. On June 8, 1950 John A. Kennedy and wife assigned the lease to the company by written assignment, which assignment was filed for record August 3, 1950 and recorded in Vol. H. of Leases, page 289, records of Stevens County, under Auditor's number 251678. The lease is, for 40 years, for mining purposes, on a royalty basis.

The lease is a valid one, and the company holds said lease under a valid assignment. Of course, the company's right to hold the land under the lease depends upon performance by it of the terms of the lease.

NASH E. WAYLAND

On December 2, 1948 the State of Washington issued its Contract for Mining No. 277 to the above named party, on its printed form. The area covered approximates 70 acres in section 16. The Contract is for 20 years from July 7, 1939, and is on a royalty basis as provided by law.

On December 14, 1948 Wayland and wife gave to John A. Kennedy an option to purchase said Contract for $10,000 within 3 years. Meanwhile the optionee is to have the right to operate the ground, paying a royalty thereon to Wayland, and such royalty payments apply on the option price. The option agreement was filed for record December 17, 1948 and recorded in Vol. 137 of Deeds, page 23, records of Stevens County, under Auditor's number 239230.

On December 29, 1948 John A. Kennedy assigned said option to the company in writing. On May 31, 1950 the Commissioner of Public Lands approved the option. There is an 80 acre limitation on the acreage which any one individual may hold of state mining land.

On June 8, 1950 John A. Kennedy and wife entered into a written agreement with the company whereby they again in effect assigned their rights under the option to the company. This assignment was filed for record August 3, 1950 and recorded in Vol. H of Leases, page 294, records of Stevens County under Auditor's number 251680. This agreement was approved by the Land Commissioner June 14, 1950.

If the company should wish to exercise the option it would need to quality as not holding other land under contracts or assignments from the State.

The option, and assignment agreements, are valid, subject only to performance by the company.

CHARLES SHADEL

On June 1, 1950 the State of Washington issued its Contract for Mining No. 381 to the above party, on its usual printed form. The area covered is 80 acres in section 16. The Contract is for 20 years from the date of the Contract, on a royalty basis.

On July 22, 1950 Shadel entered into a written agreement with the company whereby he consolidated his contract with others similarly situated, for joint operations. This agreement is on a nominal rental basis. The agreement was filed for record August 3, 1950 and was recorded in Vol. H of Leases, page 297, records of Stevens County under Auditor's No. 251681. The agreement was approved by the State Land Commissioner July 26, 1950.

The lease agreement of July 22, 1950 is valid, subject only to performance by the company.

DONALD McPHEE

On June 1, 1950 the State of Washington issued its Contract for Mining No. 380 to McPhee, on the usual printed form. The area covered is 80 acres in section 16; and is on a royalty basis. On July 22, 1950 McPhee entered into a written agreement with the company, like that in Shadel. The agreement was filed for record August 3, 1950 and was recorded in Vo. H of Leases, page 303 records of Stevens County under Auditor's number 251683. The agreement was approved by the State Land Commissioner July 26, 1950.

The latter agreement is valid, subject only to performance by the company.

L. O. HALE

On June 1, 1950 the State issued its Contract for Mining No. 382 covering about 18 acres, for 20 years, on a royalty basis. On July 22, 1950

Hale and wife entered into a written agreement with the company, like that in Shadel and McPhee. The agreement was filed for record August 3, 1950, and recorded in Vol. H of Leases, page 300, records of Stevens County under Auditor's No. 251682. The agreement was approved by the State Land Commissioner July 26, 1950.

The agreement is valid subject only to performance by the company.

EARL H. BUNN

On June 1, 1950 the State issued its Contract for Mining No. 383 to Mr. Bunn, on the usual printed form. The area covered is 80 acres in section 16. The contract runs for 20 years on a royalty basis. On July 22, 1950 Mr. Bunn entered into a written agreement with the company like that in Shadel, McPhee and Hale, which agreement was filed for record August 3, 1950 and was recorded in Vol. H of Leases at page 306, records of Stevens County, under No. 251684, and was approved by the State Land Commissioner July 26, 1950.

The agreement is valid, subject only to performance by the company.

ELLA KENNEDY

On April 15, 1949 the State issued its Contract for Mining No. 357 on the usual printed form. The area covered is 40 acres in section 16 on a royalty basis. On May 31, 1950 the lessee entered into a written agreement with the company like that in Shadel, McPhee, Hale and Bunn. The agreement was filed for record August 3, 1950 and was recorded in Vol. H of Leases, page 291, records of Stevens County under No. 251679. It was approved by the State Land Commissioner June 14, 1950.

The agreement is valid, subject only to performance by the company.

KIMMEL (Mabel, Keturah E. and O. M.)

On April 20, 1937 the State issued its Contracts for Mining Nos. 232, 234 and 233 respectively, to the above parties. The area is 160 acres more or less, all in section 16, and the contracts are on a royalty basis in the usual form. On April 5, 1951 the lessees entered into a written agreement with the company on a royalty basis for joint consolidated operations. The agreement was filed for record May 14, 1951 and was recorded in Vol. H of Leases, page 453, records of Stevens County, under No. 258040. It was approved by the State Land Commissioner May 10, 1951.

The agreement is valid subject only to performance by the company.

A. W. KEMP

On March 29, 1937 the State issued its Contract for Mining No. 230. The area is in section 16, and the contract is on a royalty basis. On April 5, 1951 the lessee entered into a written agreement with the company on a royalty basis for joint operations. The agreement was filed for record May 14, 1951 and was recorded in Vol. H of Leases, page 457, records of Stevens County, under No. 258403. It was approved by the State Land Commissioner May 10, 1951.

The agreement is valid, subject only to performance by the company.

* * * * * * * *

These constitute the only rights the company holds, with respect to mining in Stevens County, Washington to my knowledge.

Respectfully submitted,

Clinton H. Hartson
Attorney for Pacitic Mining Co.

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U. S. TREASURY DEPARTMENT
Office of the Collector of Internal Revenue
Washington Building
Tacoma 2, Washington

Certificate No. 173

Certificate of Sale of Personal Property under Warrant for Distraint
(Section 3194 R.S.U.S.)

United States Internal Revenue Service
Collection District of Washington-Alaska

Spokane, Washington, July 22, 1952

This is to certify that on the 21st day of July 1952 I sold at public auction at Loon Lake Post Office in the city of Loon Lake, Washington, the interest of Pacific Mining Company, Inc. in the following described personal property seized from Pacific Mining Company, Inc., of 418 Lloyd Building, Seattle, Washington, under Warrants for Distraint Nov 51 Coll Suppl #2 8/3, Feb 52 Coll Suppl #2 18/6 inclusive, for nonpayment of United States Internal Revenue Taxes which had been duly assessed and remained unpaid for more than 10 days after notice and demand: 1944 Studebaker Truck, Motor #DR 1585618, Serial #S6-106818; 1948 Chevrolet DeLuxe, Motor #FAA 168218, Serial #6FJD 3858; 2 Victor welding gauges & torch.

The interest in the above described property sold to William Quigley 203 Park Street, Apt. E, Renton, Washington, for the sum of Twelve hundred dollars ($1,200.00) which amount was the highest bid received, the receipt for which is hereby acknowledged.

This certificate transfers to the purchaser all right, title and interest of the said Pacific Mining Company, Inc. in and to the property sold.

Seal of
Collector of Internal
Revenue
District of Washington

(Signed) Clark Squire
Clark Squire, Collector

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U. S. TREASURY DEPARTMENT
Office of the Collector of Internal Revenue
Washington Building
Tacoma 2, Wash.

Certificate No. 172

Certificate of Sale of Personal Property under Warrant for Distraint
(Section 3194 R.S.U.S.)

United State Internal Revenue Service
Collection District of Washington-Alaska

Spokane, Washington, July 22, 1952

This is to certify that on the 21st day of July 1952 I sold at public aution at Pacific Mining Co., Inc., mill, Rural Loon Lake, Wn. in the County of Stevens, Washington, the interest of Pacific Mining Company, Inc. in the following described personal property seized from Pacific Mining Company, Inc. of 418 Lloyd Building, Seattle, Washington under Warrants for Distraint Nov 5_ Coll Suppl #2 8/3, Feb 52 Coll Suppl #2 18/6 inclusive, for nonpayment of United States Internal Revenue Taxes which had been duly assessed and remained unpaid for more than 10 days after notice and demand: See Inventory attached

The interest in the above described property sold to William Quigley, 203 Park Street, Apt. #E, Renton, Washington for the sum of Six hundred Dollars ($600.00) which amount was the highest bid received, the receipt for which is hereby acknowledged.

This certificate transfers to the purchaser all right, title, and interest of the said Pacific Mining Company, Inc. in and to the property sold.

Seal of
Collector of Internal
Revenue, District of
Washington

(Signed) Clark Squire
Clark Squire, Collector

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INVENTORY
PACIFIC MINING COMPANY, INC.

July 8, 1952

1	1938 Chevrolet Panel Truck
2	Mine cars
1	No. 7 Sludge pump model A
	approximately 100 feet of fire hose
	Approximately 10 shovels
3	Mine axes
2	Rock hammers
2	Picks
2	Pipe dyes
1	Breast drill
2	Blow troches
1	Jim crow
1	Sullivan stopper
	Approximately 124 feet of air hose
1	Barrel pump
3	Lime oilers
	Approximately 5 starter steels
	Approximately 9 starter seconds
3	Oil bottles
2	Chuck wrenches
1	CP-42 Chicago Pneumatic jack hammer
	Various assortment pipe fittings
	Various assortment small hand tools
1	Pipe vice
1	Gardiner-Denver air lift with approximately 125 feet of cable
1	100-gallon air tank
	Approximately 500 feet of mine rail
	Approximately 400 feet of iron pipe
1	Portable Chicago Pneumatic air compressor PG-20
1	Ingersoll-Rand long-hole machine
	Approximately 100 feet drill steel
1	Wood and coal range
	Approximately 14 kitchen pots and pans
4	Wash pans
2	Thermos jugs
4	Coffee pots
1	Meat Grinder
1	Flashlight
1	Garbage can
	Miscellaneous assorted kitchen utensils, cleaver, knife, ladles, etc.
2	Frying pans
2	Laundry tubs
1	Sprinkler can
	Approximately 15 service place settings of dishes, cups, saucers, soup bowls
	Approximately 7 platters and vegetable bowls
	Approximately 18 water glasses
8	Home and gas lamps
7	Rolls paper towels

	Approximately 1/2 case toilet tissue
1	First aid kit
11	3/4 rods cots and mattresses
	approximately 5 pillows
	approximately 12 cords fire wood
1	Air-tight heater
8	Mine hats
10	Jack bits
1	Double-drum heater
1	Pitcher Pump
2	Wilfley concentraing tables
	Approximately 100 15-gallon drums
6	Buckets
1	Platform scale
1	Wisconsin gas motor
1	Screw vice
1	Forge
1	Anvil
	Various assortment shafts and pulleys
	Approximately 18 feet feeder chain
10	Drag betls - various sizes
1	Joint shaft sproket
2	Buncides welding rod
1	24" crescent wrench
1	Ladle
1	Elevator belt and buckets
1	Sampson crusher - 5x9
1	Shaker screen and pulley
1	Holt motor - gas
4	Steel ore shoots

Whatever interest or rights that the Pacific Mining Company, Inc., may have in the following leases in property described:

Lease agreement with Charles Shadel applicable to the N1/2 to NW 1/4 of Section 16, Township 30 North, Range 42 East, W. M., containing 80 acres, more or less, according to the government survey thereof; in Stevens county, Washington

Lease agreement with John A. Kennedy and Vikki Kennedy applicable to the SW 1/4 of Section 15, and the E 1/2 of Section 17, Township 30 N. Range 42 E. W. M., and the N 1/2 SEE 1/4 of Section 16, Township 30 North, Range 42 East of the Williamette Meridian, Stevens County, Washington.

Lease agreement with O. M. Kimmel, Mabel Kimmel, and Keturah Kimmel applicabel to the west half (# 1/2) of the Northeast Quarter (NE 1/4) under Mining Contract No. 233, with the State of Washington; those portions of the SE 1/4 of NW 1/4; NE 1/4 of SW 1/4, and NW 1/4 of SE 1/4 included in a tract described by metes and bounds in Mining Contract No. 232 with the State of Washington; and those portions of the SE 1/4 of NW 1/4 and NE 1/4 of SW 1/4 included in a tract described by metes and bounds in Mining Contract No. 234 with the State of Washington, containing approximately 51 acres.

Lease agreement with Donald McPhee and Cecila McPhee applicable to the S1/2 of SW1/4 of Section 16, Township 30 North, Range 42 East, W.M. containing 80 acres, more or less, according to the government survey thereof, in Stevens County, Washington.

Lease agreement with L. O. Hale and Jean R. Hale applicable to all that portion of the S1/2 of the NW1/4 of Section 16, Township 30 North, Range 42 East, W.M., described by metes and bounds as follows: Beginning at the northeast corner of said S1/2 of the NW1/r and running thence West along the North line of said S1/2 1500 feet, thence South 230 feet, more or less, to a point on the North line of Summit No. 5 lode, described in Mineral Lease No. 272; thence N73' 23" E along said North line of said S1/2 of NW1/4; thence East on a line parallel to and 600 feet South of said North line; 1200 feet, more or less, to a point on the North and South center line of Section 16; thence North 600 feet to the place of beginning, containing an acre of 17.80 acres, more or less.

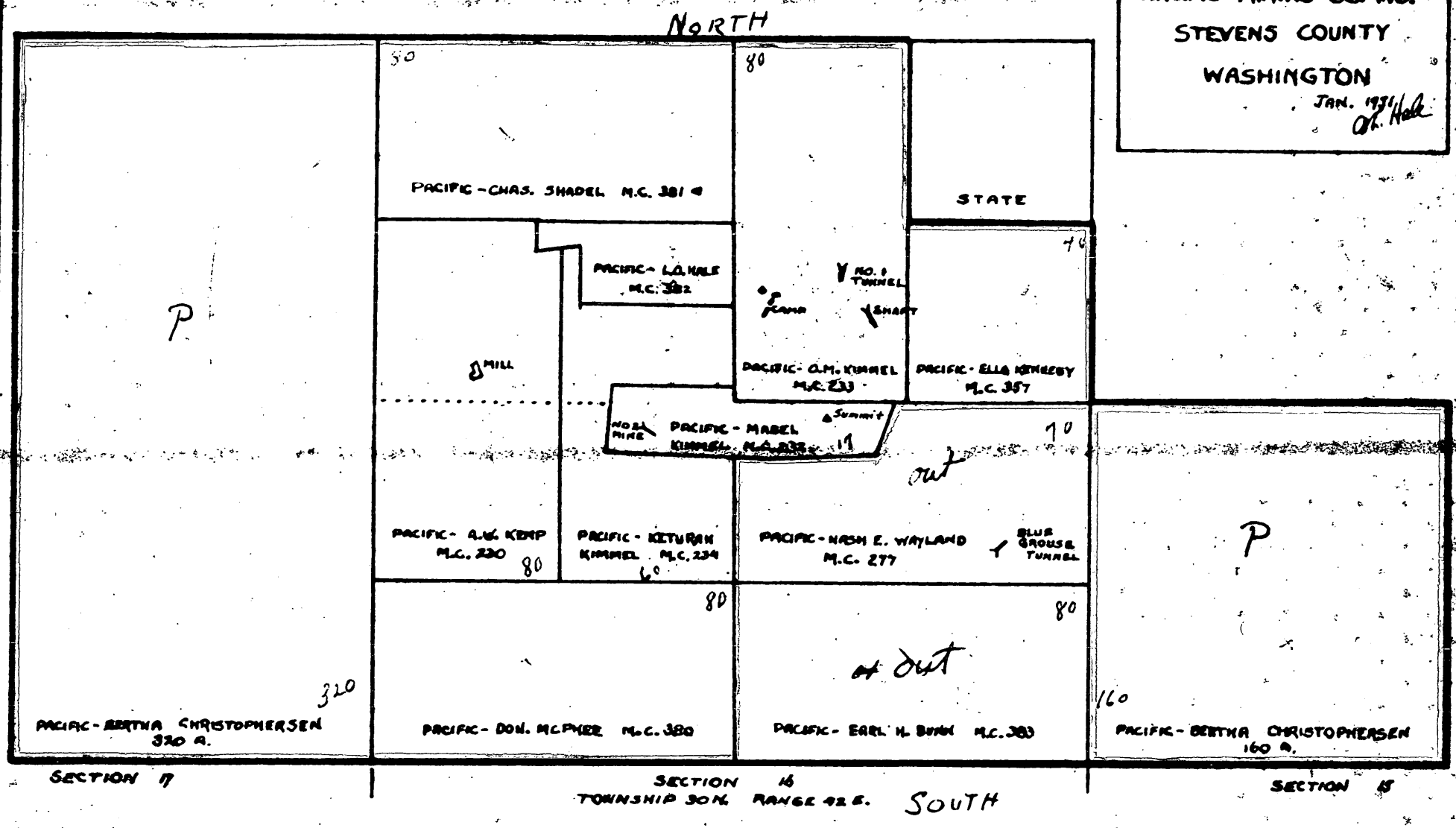
Lease agreement with Earl H. Bunn and Grace E. Bunn aplicable to the S1/2 of SE1/4 of Section 16, Township 30 North, Range 42 East, W.M., containing 80 acres, more or less according to the Government survey thereof, in Stevens County, Washington.

Lease agreement with Ella Kennedy and Gardiner B. Kennedy applicable to the SE1/4 of NE 1/4 of Section 16, Township 30 North, Range 42 East, W.M., containing 40 acres, more or less, according to the government survey thereof, situate in Stevens county, Washington.

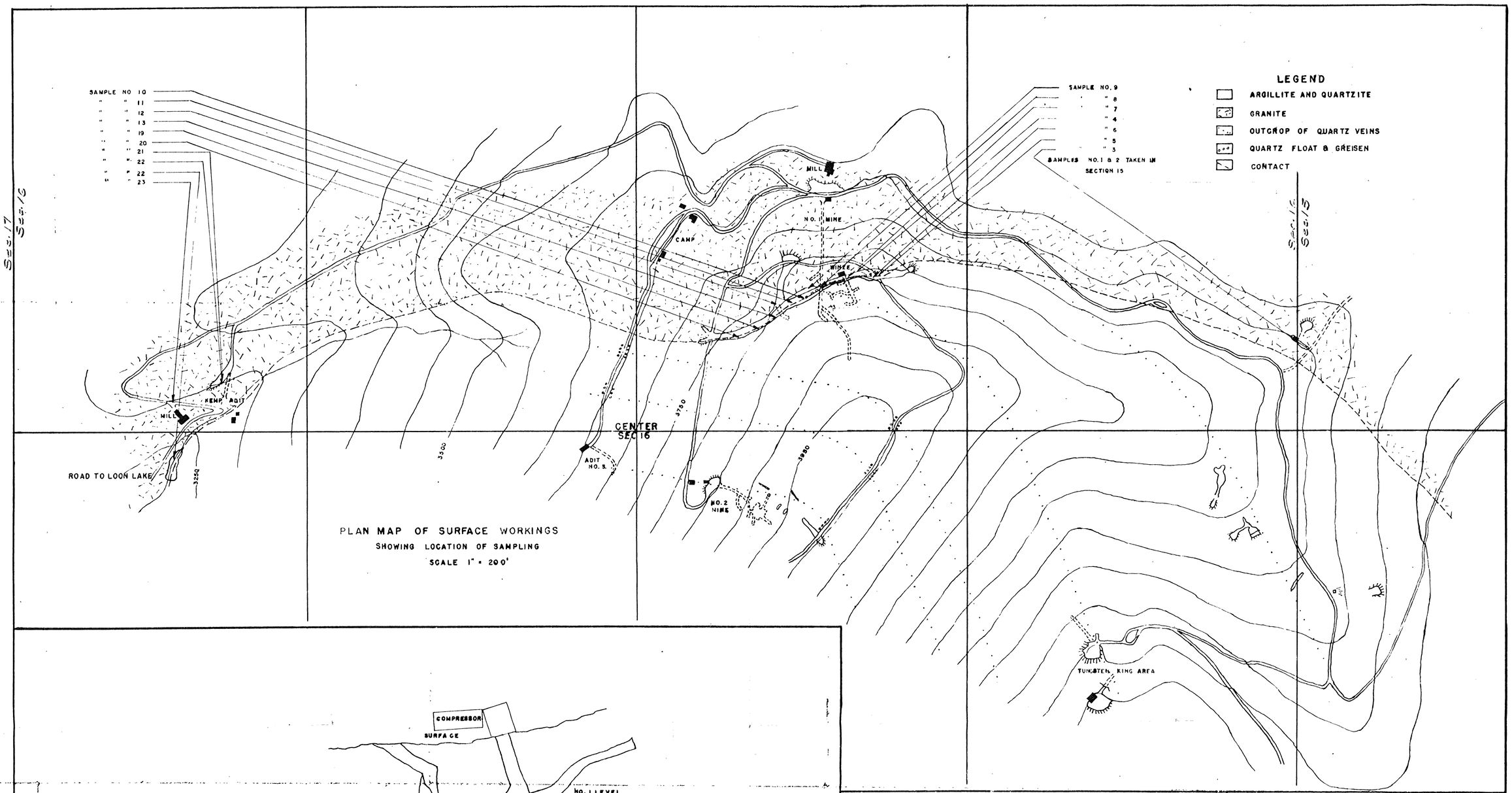
Lease agreement with A. D. Kemp, executor of the estate of A. W. Kemp, applicable to the SW1/4 of NW1/4 and the NW1/r of SW1/4, of Section Sixteen (60), Township Thirty (30) North, Range Forty-two (42) E. W. M., in Stevens County, Washington, except such part of said land as, on March 29, 1937, the date of said State contract of Mining, the State of Washington had were then included in State Mining Contract No. 73.

PROPERTY MAP
PACIFIC MINING CO. INC.
STEVENS COUNTY
WASHINGTON

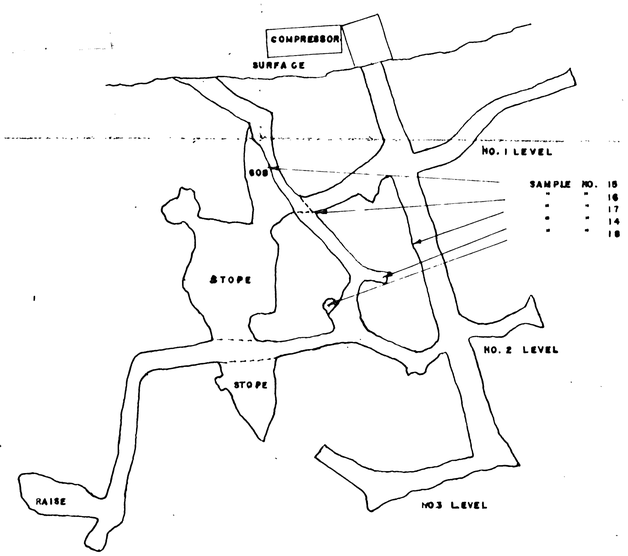
JAN. 1951
A. Hale



PLAN
NO TWO MINE
QUARTZ VEINS IN QUARTZITE AND ARGILLITE
N
scale 1" = 20 ft.
Copied from print by Abbott, 1949.
Note: original map modified and had no notes of surface - evidently done in 1944 or 1945
Truck Road
PORTAL
SLOPE
Dump
Old road



PLAN MAP OF SURFACE WORKINGS
SHOWING LOCATION OF SAMPLING
SCALE 1" = 200'



PLAN MAP OF WINZE WORKINGS NO. 1 MINE.
SHOWING LOCATION OF SAMPLING
SCALE 1" = 20'

ASSAY RECORD

SAMPLE	LENGTH	DESCRIPTION	% WO_3
1	GRAB	CONTACT TUNNEL SECTION 16, 120' FROM PORTAL	0.02
2	20'	" " " " ALTERED GRANITE	NIL
3	13'	DOZER CUT AT HARRISON SHAFT. TYPICAL GREISEN	NIL
4	10'	MANGANESE STAINED GRANITE. NO SILICA. NO MICA	NIL
5	12'	TYPICAL GREISEN WITH SILICA MICA & MANGANESE	NIL
6	10'	" " " " " " "	NIL
7	GRAB	SOFT SILICIOUS GRANITE WITH STREAKS OF MANGANESE	NIL
8	8'	COARSE " " " MUCH MANGANESE	NIL
9	10'	SOFT DECOMPOSED LIGHT COLORED GRANITE	NIL
10	10'	CONTACT QUARTZ & MUCH IRON STAIN	NIL
11	10'	TYPICAL GREISEN	NIL
12	10'	" "	NIL
13	7'	" "	NIL
14	54"	SHEARING CUT BY NARROW SEAM W/ VISIBLE TUNGSTEN	TRACE
15	GRAB	GOB IN LINK STOPE	0.71
16	36"	VERTICAL CUT IN SHEARED GRANITE EDGE OF LINK STOPE	NIL
17	GRAB	WEST WALL OF WINZE 32' ABOVE NO. 2 STATION	0.45
18	"	ORE FROM 6" SEAM IN PROSPECT HOLE. NO. 2 LEVEL	1.77
19	10'	TYPICAL GREISEN	NIL
20	10'	" "	NIL
21	10'	" "	NIL
22	GRAB	PROSPECT HOLE IN ROAD CUT AT MILL. SELECTED ORE	2.74
23	-	TAILING FROM 5 HOLES IN TAILING POND	NIL
24	"	SAME AS 21 TEN POUNDS PANNED TO ONE POUND	0.68
25	"	" " 4 " " " " " "	0.35
26	"	CHECK SAMPLE FOR NO. 23	0.10
27	"	" " " NO. 22	1.22

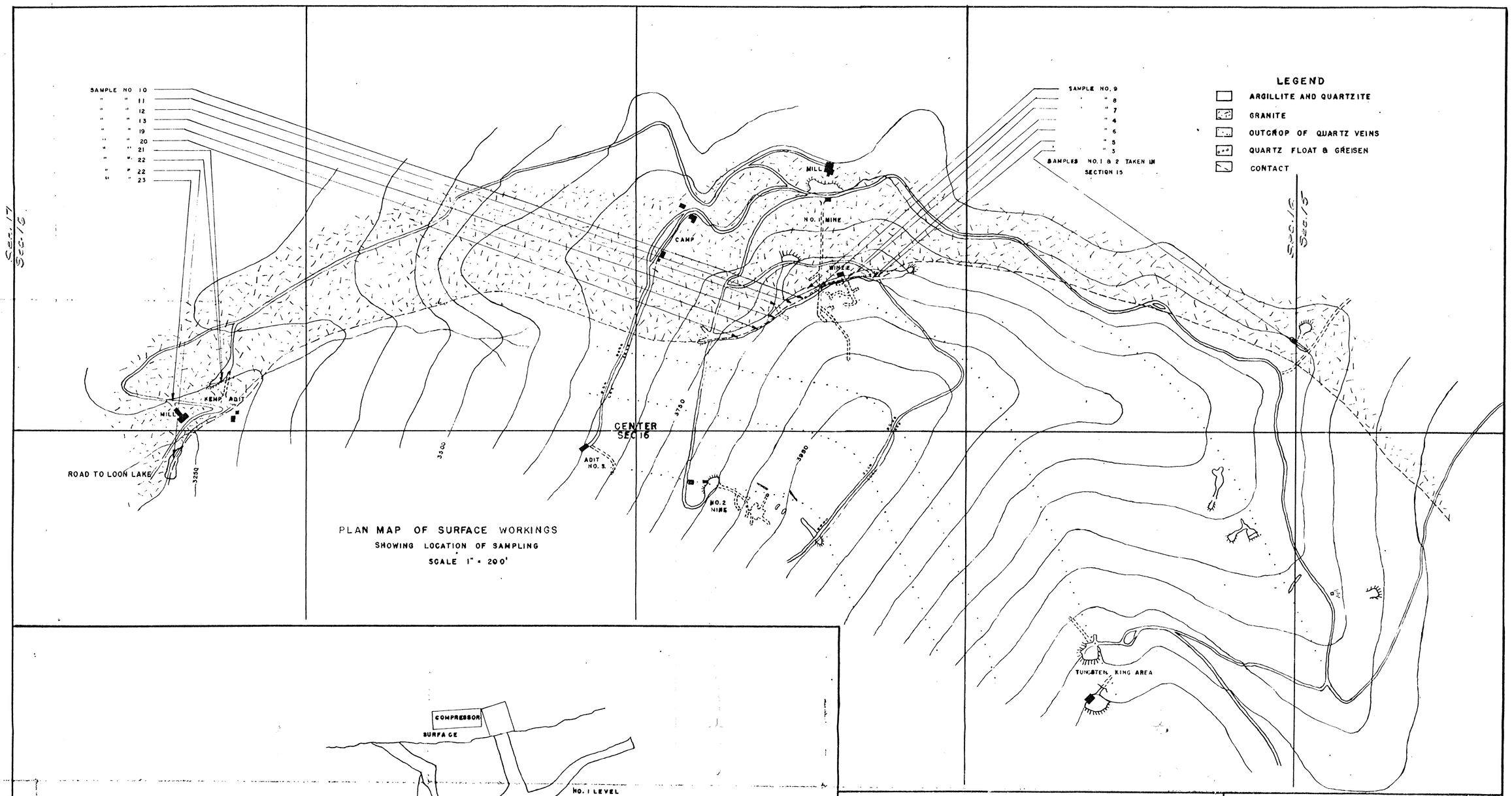
NOTE

SAMPLES 1 TO 23 INC. ASSAYED BY WILLIS OTT
SAMPLES 24 & 25 " " PETER MACK
SAMPLES 26 & 27 " " UNION ASSAY CO.

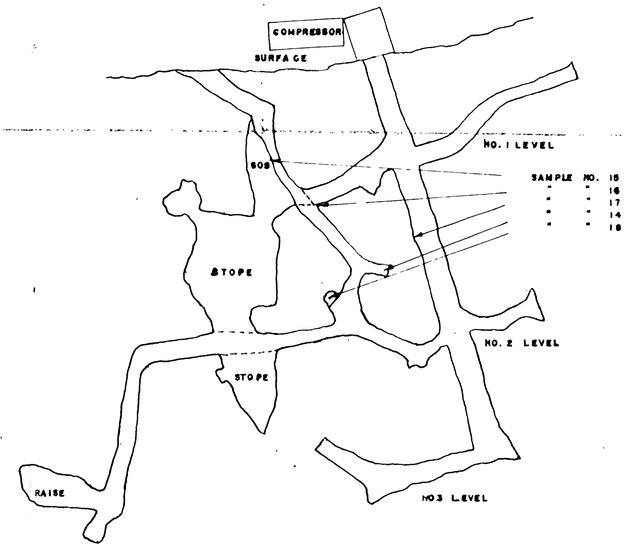
FRANK EICHELBERGER
AND ASSOCIATES
401 SYMONS BUILDING SPOKANE WASHINGTON

ASSAY MAP
PACIFIC MINING COMPANY
STEVENS COUNTY WASH.

DATE	DRAWN BY	CHECKED BY
7/1/51	E.E.E.	



PLAN MAP OF SURFACE WORKINGS
SHOWING LOCATION OF SAMPLING
SCALE 1" = 200'



PLAN MAP OF WINZE WORKINGS NO. 2 MINE.
SHOWING LOCATION OF SAMPLING
SCALE 1" = 20'

ASSAY RECORD

SAMPLE	LENGTH	DESCRIPTION	% WO_3
1	GRAB	CONTACT TUNNEL SECTION 16, 120' FROM PORTAL	0.02
2	20'	" " " " ALTERED GRANITE	NIL
3	13'	DOZER CUT AT HARRISON SHAFT. TYPICAL GREISEN	NIL
4	10'	MANGANESE STAINED GRANITE. NO SILICA. NO MICA	NIL
5	12'	TYPICAL GREISEN WITH SILICA MICA & MANGANESE	NIL
6	10'	" " " " " " "	NIL
7	GRAB	SOFT SILICIOUS GRANITE WITH STREAKS OF MANGANESE	NIL
8	8'	COARSE " " " MUCH MANGANESE	NIL
9	10'	SOFT DECOMPOSED LIGHT COLORED GRANITE	NIL
10	10'	CONTACT QUARTZ & MUCH IRON STAIN	NIL
11	10'	TYPICAL GREISEN	NIL
12	10'	" "	NIL
13	7'	" "	NIL
14	54"	SHEARING CUT BY NARROW SEAM W/ VISIBLE TUNGSTEN	TRACE
15	GRAB	GOB IN LINK STOPE	0.71
16	36"	VERTICAL CUT IN SHEARED GRANITE EDGE OF LINK STOPE	NIL
17	GRAB	WEST WALL OF WINZE 32' ABOVE NO. 2 STATION	0.46
18	"	ORE FROM 6" SEAM IN PROSPECT HOLE. NO. 2 LEVEL	1.77
19	10'	TYPICAL GREISEN	NIL
20	10'	" "	NIL
21	10'	" "	NIL
22	GRAB	PROSPECT HOLE IN ROAD CUT AT MILL. SELECTED ORE	2.74
23	-	TAILINGS FROM 5 HOLES IN TAILING POND	NIL
24	"	SAME AS 21 TEN POUNDS PANNED TO ONE POUND	0.66
25	"	" " 4 " " " " " "	0.38
26	"	CHECK SAMPLE FOR NO. 23	0.10
27	"	" " " NO. 22	1.22

NOTE

SAMPLES 1 TO 23 INC. ASSAYED BY WILLIS OTT
SAMPLES 24 & 25 " " PETER MACK
SAMPLES 26 & 27 " " UNION ASSAY CO.

FRANK EICHELBERGER
AND ASSOCIATES
401 SYMONS BUILDING SPOKANE WASHINGTON

ASSAY MAP
PACIFIC MINING COMPANY
STEVENS COUNTY WASH.

DATE	DRAWN BY	CHECKED BY
7/1/51	E.E.E.	

THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a series of standard topographic maps to cover the United States. This work has been in progress since 1882, and the published maps cover more than 47 percent of the country, exclusive of outlying possessions.

The maps are published on sheets that measure about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, the areas that they represent are of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, miles, and kilometers. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 of the same units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys and the resulting maps have for many years been of three types, differentiated as follows:

1. Surveys of areas in which there are problems of great public importance—relating, for example, to mineral development, irrigation, or reclamation of swamp areas—are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{31,680}$ (1 inch = one-half mile) or $\frac{1}{24,000}$ (1 inch = 2,000 feet), with a contour interval of 1 to 100 feet, according to the relief of the particular area mapped.

2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile), with a contour interval of 10 to 100 feet.

3. Surveys of areas in which the problems are of minor public importance, such as much of the mountain or desert region of Arizona or New Mexico, and the high mountain area of the northwest, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 2 miles) or $\frac{1}{250,000}$ (1 inch = nearly 4 miles), with a contour interval of 20 to 250 feet.

The aerial camera is now being used in mapping. From the information recorded on the photographs, planimetric maps, which show only drainage and culture, have been made for some areas in the United States. By the use of stereoscopic plotting apparatus, aerial photographs are utilized also in the making of the regular topographic maps, which show relief as well as drainage and culture.

A topographic survey of Alaska has been in progress since 1898, and nearly 44 percent of its area has now been mapped. About 15 percent of the Territory has been covered by maps on a scale of $\frac{1}{500,000}$ (1 inch = nearly 8 miles). For most of the remainder of the area surveyed the maps published are on a scale of $\frac{1}{250,000}$ (1 inch = nearly 4 miles). For some areas of particular economic importance, covering about 4,300 square miles, the maps published are on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile) or larger. In addition to the area covered by topographic maps, about 11,300 square miles of southeastern Alaska has been covered by planimetric maps on scales of $\frac{1}{125,000}$ and $\frac{1}{250,000}$.

The Hawaiian Islands have been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

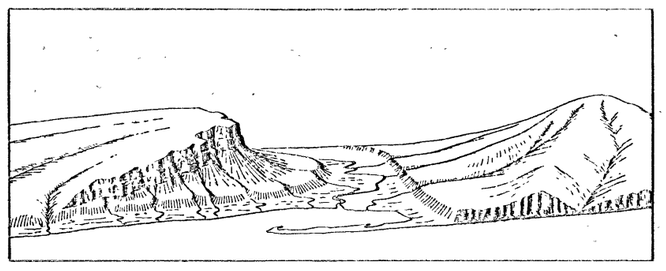
A survey of Puerto Rico is now in progress. The scale of the published maps is $\frac{1}{30,000}$.

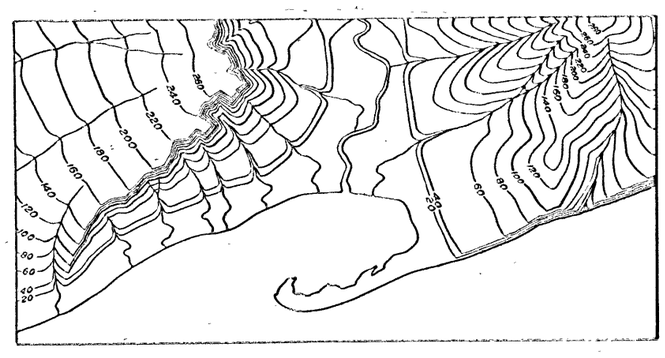
The features shown on topographic maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams by double lines. The larger streams, lakes, and the sea are accentuated by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on a few maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The datum or zero of altitude of the Geological Survey maps is mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet above mean sea level. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope, lines that are close together indicate a steep slope, and lines that run together indicate a cliff.

The manner in which contour lines express altitude, form, and grade is shown in the figure below.





The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly enclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp, from which it slopes gradually away and forms an inclined tableland that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped: in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. In order that the contours may be read more easily certain contour lines, every fourth or fifth, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road intersections, summits, surfaces of lakes, and benchmarks—are also given on the map in figures, which show altitudes to the nearest foot only. More precise figures for the altitudes of benchmarks are given in the Geological Survey's bulletins on spirit leveling. The geodetic coordinates of triangulation and transit-traverse stations are also published in bulletins.

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Public roads suitable for motor travel the greater part of the year are shown by solid double lines; poor public roads and private roads by dashed double lines; trails by dashed single lines. Additional public road classification if available is shown by red overprint.

Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. More than 4,100 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

Geologic maps of some of the areas shown on the topographic maps have been published in the form of folios. Each folio includes maps showing the topography, geology, underground structure, and mineral deposits of the area mapped, and several pages of descriptive text. The text explains the maps and describes the topographic and geologic features of the country and its mineral products. Two hundred twenty-five folios have been published.

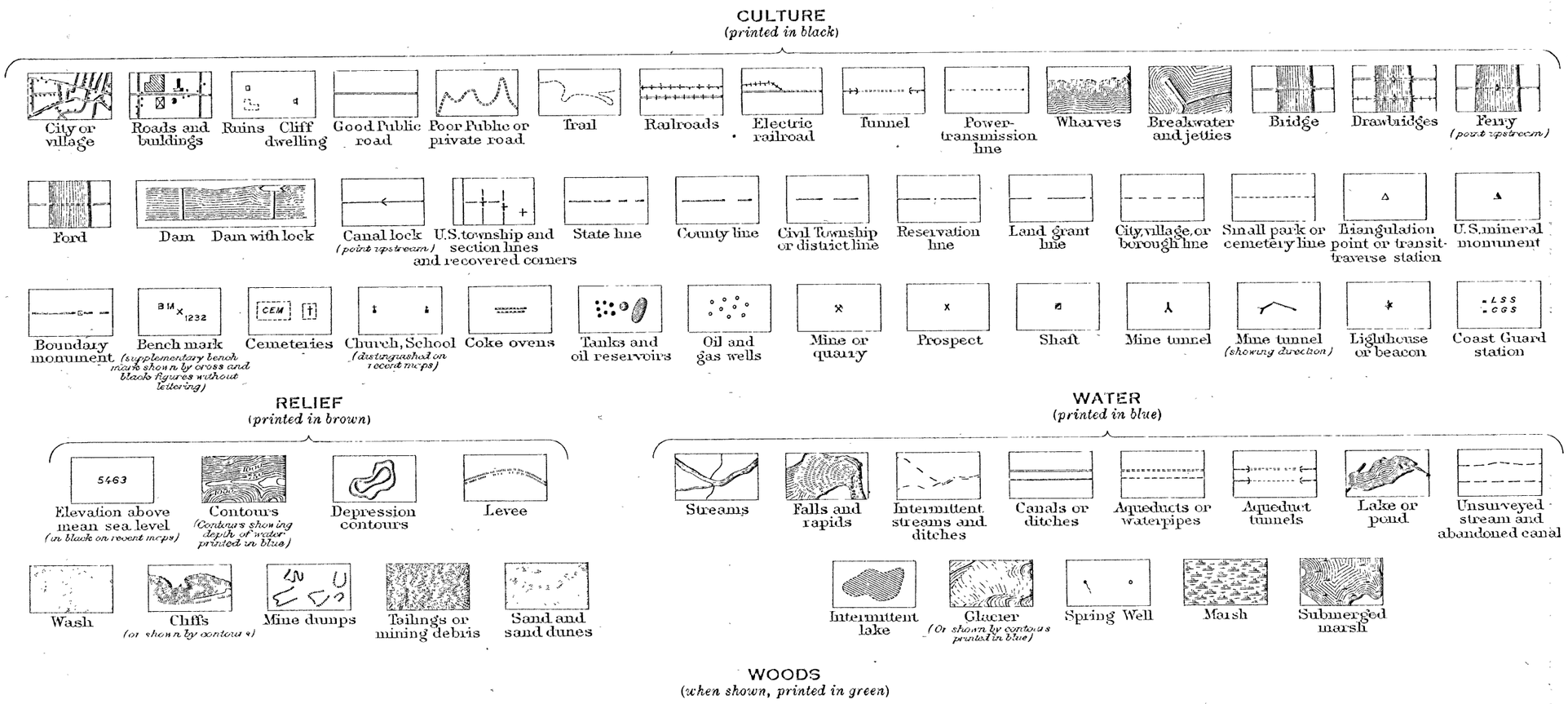
Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 40 percent is allowed on an order amounting to $5 or more at the retail price. The discount is allowed on an order for maps alone, either of one kind or in any assortment, or for maps together with geologic folios. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

November 1937.

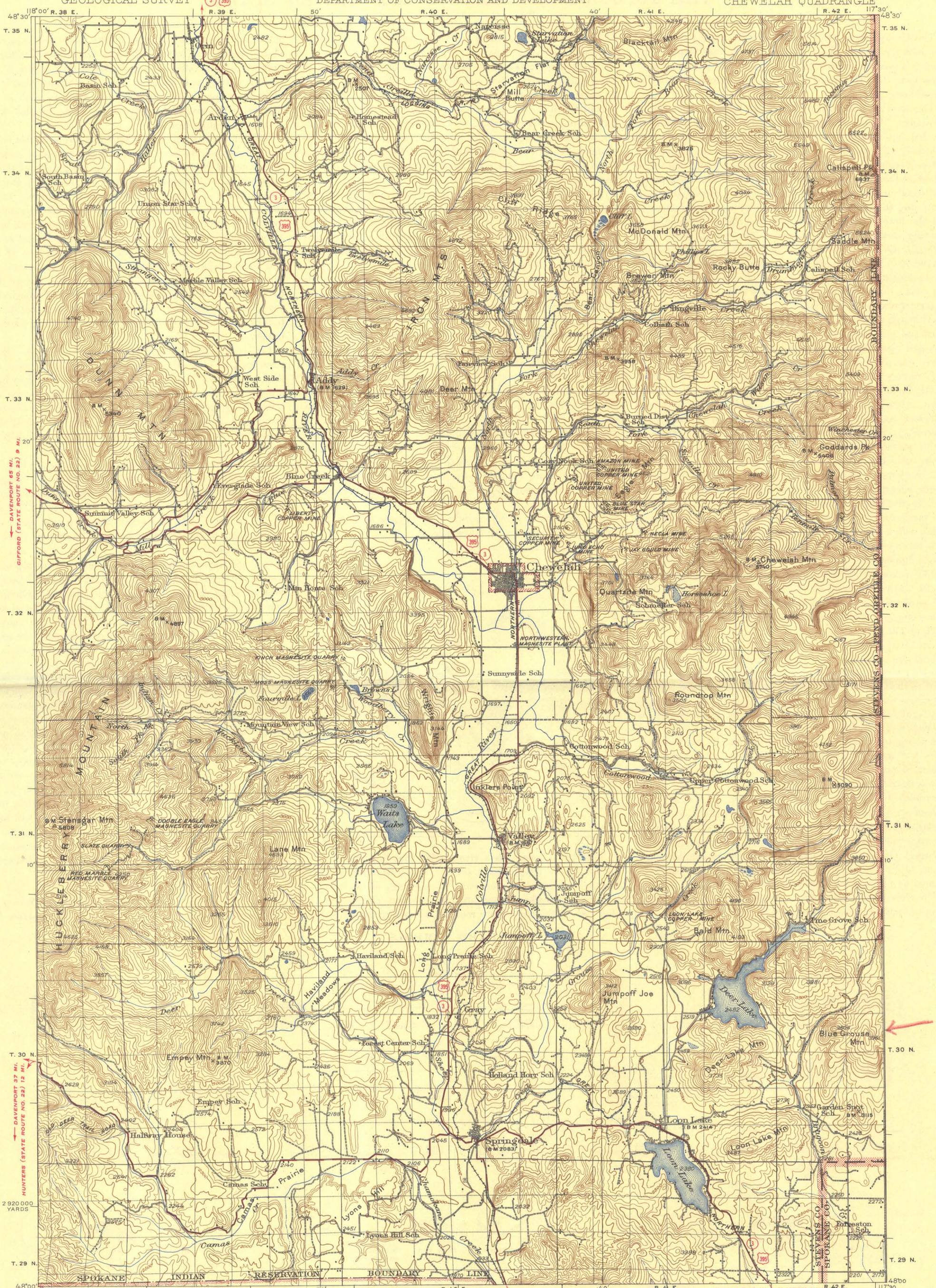
STANDARD SYMBOLS



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT

WASHINGTON
CHEWELAH QUADRANGLE



Topography by J.P. Harrison, J.L. Lewis, W.G. Carson, E.S. Rickard, and L.O. Newsome
Surveyed in 1924 and 1927

Scale $\frac{1}{125000}$

1 ½ 0 1 2 3 4 5 Miles

1 ½ 0 1 2 3 4 5 Kilometers

Contour interval 100 feet
Datum is mean sea level

APPROXIMATE MEAN DECLINATION, 1927

Polyconic projection North American datum
5000 yard grid based upon U.S. zone system, G.

ROUTES USUALLY TRAVELED
HARD IMPERVIOUS SURFACES
OTHER SURFACE IMPROVEMENTS
1940

(2) U. S. ROUTE
(3) STATE ROUTE

CHEWELAH, WASH.
Edition of 1930
Reprinted 1941

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