SEE FOLDER NO. 3, beginning JANUARY 1955.

SEMI-ANNUAL DMEA REPORT

Docket No.: DMEA-2082 (Tungsten) December 31, 1954

Contract No.: Idm-E248 and Idm-E248 - amended

Period: (Second) July 1, 1954 to December 31, 1954

Date of contract: Original contract - Jan. 29, 1952
Amended contract - May 20, 1954

Exploration work completed: Original contract - Jan. 29, 1953
Amended contract - In progress

Amendment No. 1 - concerning equipment rental.

Amendment No. 2 - provided for change room and extended completion date.

Amendment No. 3 - permitted drifting 45 feet on ore encountered in extending Lateral No. 5 northward 200 feet.

Amendment No. 4 - allowed exploration in new area north of Pole adit.

Amendment No. 5 - extended completion date.

Name and address of operator: James D. Williams
Mt. Wheeler Mines, Inc.
P. O. Box 150
Salt Lake City 10, Utah

Name and location of property: Mt. Wheeler tungsten mine, White Pine County, Nev., about 47 miles southeast of Ely, Nev.

Date certified:

Certification recommended by examining engineers, but no Certificate of Discovery has been issued by the Administrator, DMEA.

Expenditures:

	Operator	Government	Total
Original contract:	$20,702.35	$62,107.06	$82,809.41
Amended contract:	$ 4,585.00	$13,755.00	$18,340.00

Statement of operations:

Production during the period amounted to 430 tons of tungsten ore averaging 1.25 percent WO_3. The total value of this ore was $17,417.71; transportation and sampling charges were $4,953.74; leaving a net value of the ore at $12,463.97. Royalty payments were $573.67.

Settlement sheets were furnished the Mining Section, Region II, by the Regional Office.

Remarks:

Exploration under the DMEA contract is continuing in an area approximately 900 feet north of the Pole adit. Production was obtained from the Pole adit area as a result of exploration under the original contract. ?

not as of Dec 31

A. C. Johnson

A. C. Johnson
Mining Engineer

400 Docket

Mr Wheeler
2082
P-6

December 15, 1954

MEMORANDUM

To: Administrator, DMEA

From: Chief, Iron and Ferro-Alloys Division

Subject: Inspection of selected projects in Region III (November 16 - 26, 1954)

The subject trip had the following more or less related purposes:

(1) To allow an engineer from the Washington office:
  (a) To see some typical DMEA projects, and
  (b) To meet and recognize some of the every-day problems of the field engineers and geologists.

(2) To help maintain cordial relations through personal conversations:
  (a) With DMEA project operators, and
  (b) With executives and members of DMEA field teams.

(3) To allow first-hand observation of a few properties covered by new applications having such features as:
  (a) Unusual geologic occurrences, or
  (b) Exploration programs that include essential workings which could, however, also be expected to serve subsequently as mine development openings.

Four of the proposed inspections were omitted:

(1) Helmke, Thomas, and Janssen - Docket DMEA 3407, Chromium,
(2) The Brownstone Mining Co. - Docket DMEA 3455, Tungsten,
(3) Wm. L. Petersen, et al. - Docket DMEA 3478, Manganese, and
(4) Valle's Mining Syndicate - (Contract Idm-2678) Docket DMEA 3261, Nickel.

Travel plans previously made by the Field Team prevented any visit to the first property named above, but during a luncheon at the Engineers' Club in San Francisco with Messrs. Helmke, Janssen, and S. Ricker, we learned that the Owner's Consent to Lien forms required for the proposed contract had already been forwarded to Washington.

Snow and road conditions at the time prevented the second proposed inspection. The third had just been visited by Mr. Glenn G. Gentry, who will recommend only a limited amount of surface work. The fourth had been listed tentatively, but conversation with Mr. Roscoe Smith indicated that all work at the property had stopped and the operator had no desire or intention to drill any additional footage.

The time schedule for the trip is given below:

Date Nov.	Travel	Projects visited	DMEA Docket
16	Washington, ~~D. C.~~ to San Francisco, Calif.	-	-
17	At San Francisco	Office of S. Rieker	-
		Office of H. C. Carlisle (Wah Chang)	3512
		Office of George Maver	2688
18	San Francisco, Calif., to Grass Valley, Calif.	Idaho-Maryland Mill, and Brunswick Mine and Mill	3347
19	At Reno, Nevada	Office of A. C. Johnson	-
20	Reno to Eureka, Nevada Eureka to Ely, Nevada	Nigans Mine (Hogle Bros.)	3395
21	Ely to Mt. Wheeler, Nevada	Mt. Wheeler Mine	2082
		Stopper Mill	-
22	Ely to Minerva Mine, Nevada Minerva Mine to Castleton, Nevada Castleton to Pioche, Nevada	Minerva & Silver Bell mines	2688
		Office of F. Gemmell (N.I.A. Mining Co.)	2688
23	Pioche to Tem Piute, Nevada Tem Piute to Glendale, Nevada	(Lincoln Mine /Wah Chang/	3512
		(N.Z. Mine /Lorry M.Freg/	3273
24	Glendale to Riverside, Nev. Riverside to Las Vegas, Nev. Las Vegas to Salt Lake City, Utah	Key West Mine	3479
25	At Salt Lake City, Utah	Office of J. D. Williams (Mt. Wheeler Mines, Inc.)	2082
		Office of S. S. Arentz (N.I.A. Mining Co.)	2688
26	Salt Lake City, Utah, to Washington, D. C.		

The most gratifying feature of the trip was the whole-hearted cooperation of Mr. Spangler Richer and the DMEA Field Team.

My plane left Washington at noon Tuesday and arrived at San Francisco shortly after dinner that evening. On Wednesday morning, after we reviewed some correspondence which Mr. Richer had held at the San Francisco office for discussion, he accompanied me to call on Mr. Henry C. Carlisle, who shares offices at 315 Montgomery Street with Ira H. and Peter Jurelessen and Rogers Peale.

Mr. Carlisle had the necessary Wah Chang mine plans and sections and showed us ore reserve and production figures that substantiated the need for prompt and extensive exploration at the Black Rock Mine, but especially at the Lincoln Mine. There were some questions not covered at our morning meeting and we returned to conclude our conference in the afternoon.

At the Engineers' Club, as previously mentioned, Mr. Helms talked about his project and reported that Owner's Consent to Lien forms had been obtained after some temporary difficulty. With another group at an adjoining table was Mr. W. Church Halman, manager of Sunshine Mining Company's Exploration Division, and we took the opportunity to speak to him later, although Sunshine has now relinquished its interest in the Garnet Tungsten Mine (our docket DMEA 3080). On the way out we thanked Mr. Granville S. Harden for arranging to have not only the manager and mine engineer but also his consulting geologist present at Grass Valley during my proposed visit.

These seemingly inconsequential meetings are believed to be typical examples of the close but informal contacts that can be maintained most easily with mining company managements from an office in San Francisco. It should be recognized, however, that our Executive Officer, Region XIX, with a geological staff operating out of Menlo Park, California, and a mine engineering staff operating out of Reno, Nevada, faces operational difficulties that would not occur, for example, in Region XI. There the same two divisions of the Field Team are within a mile or so of each other; furthermore, the Executive Officer, Region XI, has his own office in one of these divisions in Spokane, Washington.

Thursday morning, as planned before my arrival, Mr. Roscoe Smith, drove me to Grass Valley. On the way, there was an excellent opportunity to discuss a number of DMEA projects and problems.

Immediately upon arrival we went underground at the Brunswick Mine of the Idaho-Maryland Co. (Docket DMEA 334/-Tungsten). With us were mine staff members: Edmond F. Lawrence, Geologist; Neil Whiting, Engineer and Mine Superintendent; Sam Veale, Mine Foreman; and the Safety Engineer.

The route was:

Down Brunswick Shaft to 800 Level;

Up and down a raise to see scheelite showings on, or dipping into footwall of stope on 19 Vein closest to the Union Hill area;

Down a raise to 900 Level;

Down and up a raise to see showings in stope on 45 Vein;

Down a raise to 1000 Level to see showing in 65 D and 12 XC (site of raise proposed on basis of sampling only, but insufficient information on dips and strikes of tungsten stringers and veinlets);

Down a raise to 1100 Level to see best showings on 44 Vein;

Return to surface.

Without asking about the mine ore reserves or costs, we were told that 3 feet of $3.00 ore is not worth stoping. One possible limitation on our proposed exploration program is the reluctance of the mine management to hoist any avoidable waste rock. By choice, waste is dumped into old stopes as fill, but few such areas are available below the 1100 Level convenient to the prospective DMEA drives. The maps available in Washington are lacking in several respects desirable for making a sound choice here of any alternative exploration workings:

(1) Geology is not shown;
(2) Development is not up to date;
(3) Stoped areas are not all shown; and
(4) Areas of caved hanging wall over old open stopes are not indicated.

The maps do not show how much minor rehabilitation would be required in such worked-out areas as might be used now for access to a project area. Pencilled "Manway Open" signs, and many other indications of an active mine safety department were in evidence. However, where raises came up on the hanging wall side, or close to the center of some drifts we walked through, the admonition was "Keep on the footwall," or "Walk on the track," because the planks laid for a walkway were obviously affected by rot. In at least one place, we walked over recently fallen ground. Some of the ladders and stulls in the manways seen, especially the wet ones, might require replacement or maintenance.

The Brunswick Mill, visited next, has a jaw crusher followed by a Traylor cone and jigs, with hutch product to Wilfley tables and overflow through Ball mills and Classifiers in closed circuit to two banks of flotation cells. The proposed new scheelite section, designed by Western Machinery Company to be cut in or out as the mill feed shifts between tungsten rich and tungsten poor ore reserve blocks, will have a conditioner followed by flotation, using a bank of cells now idle in the mill.

On our way out, we stopped at the Idaho-Maryland Mill where the experimental equipment was installed for testing purposes after May 30, 1953, when an earlier application, Docket DMEA 2783, was denied. All the mill feed for such tests had to be trucked from the Brunswick shaft. The new flexible proposal, with the milling at only one shaft, seems deservedly to have met with no question.

Mr. Richer picked me up at Colfax, California; we drove to Reno, Nevada, and arrived shortly after dark. Friday morning we called on Mr. A. G. Johnson, Chief, at the new Reno office of the Mining Division, Region XXI, Bureau of Mines. Four engineers in that division who have previously worked at least part time on DMEA examinations and reports - Messrs. W. T. Benson, R. R. Trengrove, F. J. Riebelt, and G. H. Holmes, Jr. - are now assigned to research or related non-DMEA work. All but Holmes, who was in the field, were at the office.

The Bureau of Mines, as we were informed, has no more exploration projects in that area, although some DMEA work is now being done at or near former Bureau of Mines project sites. In such cases, if DMEA issues a certification of discovery or development, any public announcement thereof might well mention the earlier work, especially if the results of the same earlier work helped to establish our justification for exploration programs at these sites.

Messrs. R. W. Jones, R. M. Sheehan, and J. D. Warne, three of the four engineers on DMEA work, were out in the field. Mr. Glenn G. Gentry, who had returned the evening before from a 2000-mile trip, cheerfully agreed to take me in his car as far as Las Vegas, Nevada, and to introduce me to the DMEA operators whom we were to meet on the way. After our schedule had been planned to take advantage of the then open roads, and follow a route that would take us through the highest summits first, Mr. Johnson made as many of my necessary appointments as he could by telephone. The other appointments we made later from points along the route.

Leaving Reno Saturday morning, we reached Eureka at lunch time and our telephone call caught Mr. Roger H. Caywood, mine superintendent for two Eagle Bros. properties, at home at the Diamond Mine (Consolidated Eureka Mining Co., Docket DMEA 2992-Lead-Zinc). We met at the turnoff to Route 20, east of Eureka about 10 miles on U. S. 50, and drove south to the Nigger Mine, on the Ciballini property (Docket DMEA 3395 - Nickel, Manganese). We went down the 300-foot inclined shaft which has run off into the hanging wall shaft and saw the 30-foot crosscut being driven from the shaft bottom toward the ore zone. A 4-inch stringer of what was said to be good manganese

had already been encountered in the face of the crosscut. We also went into an earlier adit driven from a portal perhaps 10 feet lower than the shaft collar and cutting a mineralized zone visible for at least 50 feet, although there was no way to determine the true width. The ore for the shipment described in the application was gophered from workings beside and below the adit. The new crosscut is being driven at a labor contract of $13.50 per foot. Three men, one on the hoist and two below, making about $24.00 each per day, and a boy whose day's pay comes out of their contract price, work on each of two shifts, breaking about 6 feet per shift with an 11-hole round which they then muck out with a machine. Carbide bits and jackhammers with an air feed are used. Augur type steel was tried, but was entirely unsuited to the work. They work 6 days per week. The operator lets them ride the power wagon to and from work or gives them 5 gallons of gas per day if they choose to drive their own cars. Giving the gas is more economical for the management.

Inasmuch as the operator has returned without execution the contract provided by DMEA, we had no official status, but we were shown all the courtesy that any visitor could expect. My only comment was that the work being done seemed eligible for exploration assistance under our program and that DMEA would be glad to consider any reasonable proposals for revising the first proposed contract. Presumably the problem of obtaining Owner's Consent to Lien influences the applicant's opinion of the relative advantages of doing the work with or without DMEA aid.

Shortly after dark we reached Ely, Nevada, and tried, without success, to make an appointment with Mr. James D. Williams to see the Mt. Wheeler Mine (Docket DMEA 2002-Tungsten). For the record, his telephone numbers are: Office, 409 Felt Building, Salt Lake 22-0536; and home, 130 South 5th East, Apt. 310, Salt Lake 9-2397.

Information reached us, however, that the mine was working that week end and on Sunday we found the foreman, Lee Yelland, and a miner threading pipe at the Pole adit portal, with two more miners in the Pole heading. In the company's jeep we drove the short distance to the North adit and inspected the work there. It was recognized that your letter of November 16, 1954, advised Mr. Williams the work accomplished to October 25, 1954, would be accepted as substantial compliance with the work required by the contract. Mr. Gentry's lamping, however, showed about 2 feet of good scheelite at one point in the West wall of the lateral. Accordingly, Mr. Yelland was told that a few rounds driven to determine whether this last ore showing has any appreciable continuity, would be allowable

work against the contract funds remaining if the operator agreed to comply that much more closely with the terms of Amendment No. 4, Exhibit "A", Stage III(b) of Contract Idm-8248.

Meantime the crew in the Pole adit advance had blasted and we did not go all the way into the heading. Instead an inspection was made of the broken ore on the floor of, and ore showing in the walls and face of, the East drift and stope off No. 5 North lateral, source of the best production found by this DMEA project. The ore seemed to be pinching down into the floor as the drift advanced, and apparently sorted ore only was shipped from the workings examined. On top of the broken ore was one piece noticed to contain an unexploded dynamite cartridge from a missed hole, or perhaps from a hole loaded to the collar, as it seems to be the district custom to use no tamping material. Generally speaking, however, everything about the project is well kept up and in good order; consequently, a visitor is most likely to receive a favorable impression of the operation.

Because of snow, the jeep trail from the Pole adit portal to the lead showings on the St. Lawrence fissure was impassible; some of the turns are reportedly so tight that the jeep must be backed once or twice to get around. By taking a road that turns easterly from the north-south road that connects the Stopper Mill and the Mineral Mine, we were able to drive about 2 miles up Lawrence Canyon. Beyond that the road up the canyon rapidly became more steep and narrow and the washouts were deeper.

The Stopper Mill treats about 25 tons per day of scheelite ore from the Canary Yellow Mine. The flow sheet, includes picking belt, crusher, trommel, screens, rod mill, and two wilfley tables. A home-made jig, or perhaps more properly a hindered settling device, for which the mill helper, Mr. Martin Lintsch, has applied for patent, followed each table and scalped a unit or one and one-half units per day of scheelite out of the slimes. The device was about the size of a shallow desk drawer and had a head motion improvised from a household washing machine. Mr. Robert Stopper had offered to treat the Minerva ore on a toll basis, but his terms were not accepted.

On Monday we visited the Minerva Mine of the M.I.A. Mining Co. (Docket DMEA 2608-Tungsten), and saw most of the DMEA project work, accompanied by Mr. R. G. Lee, Engineer and Mine Superintendent, and Mr. Jim Hulse, Mine Foreman. The trip through the Scheelite Chief adit was made in the ore train as far as the 43-24-D raise; up that ladderless raise in the steel bucket, which holds two men; to and from each

end of three levels, each driven on the vein both ways from the raise; and then from the top of the raise and through an old stope along the Silver Bell 400 level to the Silver Bell shaft, where we were hoisted to surface. Our visit concluded with an inspection of the sorting plant where two men up-graded the product under black light by picking waste from the hummer screen oversize off a moving belt.

Mr. Gentry lamped any workings which he had not inspected previously and in at least one instance picked up, in place in the wall behind the heading, a showing of scheelite that had been assumed to be no more than a layer of fine ore thrown against barren rock. A round or two will be taken out to determine what extent the showing has.

During our inspection a timberman came to Mr. Lee and asked for 8 X 8 timbers for a chute. The answer was that there were plenty of 10 X 10's available, but only a few 6 X 8's and that these were needed at Castleton. The timberman said that 6 X 8's were heavy enough for the job, but that if he could not get them he would use 10 X 10's. This seems to be characteristic of the project. The operator is doing an excellent mine development job while successfully completing our exploration project.

The operator is incurring non-reimbursable costs in two ways. Certain raise work, for an example of the first such way, is frankly recognized as stope preparation and is not charged to the DMEA project, nor will any request be made for inclusion of such work in our project. Other project work, for an example of the second way, is being completed either on a scale or with a permanence that is not necessary so far as the exploration program itself is concerned. Inasmuch as the allowable costs in the contract were not set up to include any work not directly required for exploration alone, the operator's share of the total cost in such instances is more than 25 percent of the actual cost.

That evening after driving to Pioche, we called at the Combined Metals Reduction Company office at Castleton and talked to Mr. Paul Gemmill and Mr. R. G. Lee about the proposed amended contract and further proposed amendments to the M.I.A. contract. The conversation was far from a success, and proved clearly that the longer a misunderstanding about a contract is allowed to go uncorrected the more awkward can be the results. Mr. Frank Anderson, the accountant, was not available for the meeting.

On Tuesday we drove to Tempiute to inspect the project north of the Lincoln Mine covered by the application of Wah Chang Mining Company, Docket DMEA 3512-Tungsten. Neither Mr. J. J. Stutzel, Jr. (whose phone number is 8911, Bishop, California) nor Mr. George Reed were present, but we discussed the proposed project with Mr. C. M. Dice, Executive Vice President, Mr. Robert Kirtman, Mine Superintendent, and the company's geologist, Mr. Armand R. Santeire. After reviewing the geologic surface plan, we visited the adit, which had then been driven about 80 feet from the portal. A relatively short tunnel, with one end about 50 feet from the adit portal, will have its other end about 40 feet above and 50 feet from the mill.

Subsequently an inspection of the open cut at the outcrop of the Lincoln showed that a typical plan of the ore body can be seen in the pit floor, while a typical cross section is exposed in the south end of the pit and the steep hillside below the north end. Topographic considerations limit stringently the choice of a center line for the adit. The best line for minimum length with adequate backs and closeness to the projected position of the potential ore zones northeast and northwest of the Lincoln, is also almost inevitably the best line for a haulage adit from the Lincoln to the existing mill.

An inspection of the Y. Z. Mining Company project (Docket DMEA 3273-Tungsten) indicated strongly that the Lincoln mineralization is persistent toward the south and could well be expected because of its intensity to persist toward the northeast or northwest, or both. Finding water for a mill could easily become a greater problem to Mr. Lary M. Free than finding more tungsten ore, but he told us he is interested in doing further exploration work to determine whether the vertical continuity of the ore is on any such scale as the horizontal extent. His workings are at a higher elevation than the active part of the Lincoln and his additional exploration would have a good probability of success.

That afternoon we drove to Glendale and on Wednesday morning went to Riverside, where we met Mr. A. F. Carper and accompanied him to the Key West Mine of Key West Nickel & Copper Corporation (Docket No. DMEA 3479-Nickel). The regular DMEA field examination had already been completed, with the report in preparation, and we, therefore, made our inspection brief. The general information obtained will be useful to us in Washington when the Field Team's recommendations are received here.

Wednesday afternoon we reached Las Vegas. Mr. Gentry expected by hard driving all the next day to be back in Reno in time for his Thanksgiving dinner. Thanks to a cancellation, there was a seat for us on an evening plane that reached Salt Lake City, Utah, at midnight.

Mr. James D. Williams of Mt. Wheeler Tungsten Mines came down to his office to meet me Thursday morning, and we discussed what had been seen at his DMEA project and what had been said to his foreman there, as mentioned above. He then arranged in the illuminated viewer a few pairs of air photos, selected from the many made of the same claims by Mr. P. A. Laylander, to show especially the upper part of Lawrence Canyon.

The offices of Combined Metals Reduction Company are also in the Felt Building and Mr. Sam S. Arentz (whose home address is 1[illegible]0 Orchard Drive, Salt Lake City, telephone 87-3197) came in to talk about the proposed amended M.I.A. Mining Company's contract. We had already discussed the matter at some length by telephone from the above-mentioned meeting at Castleton, and he had talked afterwards to Mr. Gemmill and to our Washington office. Our meeting was short and amicable. The final understanding was that a further amendment, allowing a unit cost as requested, would be considered here after the proposed amended contract was executed.

Many flights had been cancelled because of the holiday, but a 2:00 a.m. plane brought me back to Washington just before lunch time Friday.

Generally speaking, no one should count on being able to duplicate the foregoing trip in the same amount of time at this season of the year. Any rough weather at all could have delayed us or made road conditions difficult during the 1200 miles of automobile travel. No amount of good weather would have helped much had the Field Team not been so thoroughly cooperative. Finally, it seems appropriate to express my great satisfaction at having had the pleasant personal associations which were incidental to the official purposes of the trip.

400

DOCKET
Surname:

Chapman
Rutledge
Selfridge
Johnson

NOV 16 1954

Mr. James D. Williams, President
Mt. Wheeler Mines, Inc.
P. O. Box 159
Salt Lake City, Utah

Re: Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler mine
White Pine County, Nevada
Contract No. Idm-8248, Amended

Dear Mr. Williams:

Reference is made to your request by letter dated October 25, 1954, for a further amendment to the subject contract, as amended. We note the suggestion that you discontinue the work authorized by Amendment No. 4 in the North adit and that we allocate the remaining 249 feet of work to No. 7 lateral in the Pole adit.

Inasmuch as the work in the North adit indicates little possibility of making a substantial discovery of minable ores, we agree with you that further work in this area is not justified.

Careful study of the work proposed and a review of all our information on the Pole adit, laterals, drifts, crosscuts, and raises, indicates to us that Government participation in additional exploration for tungsten in the Pole adit of the Mt. Wheeler mine is not warranted. Under the circumstances, we regret to advise that your request for transfer of funds to further explore the bedding from No. 7 lateral of the Pole adit is denied.

As it is agreed that no further work is justified in the North adit, we will accept the work accomplished to October 25, 1954, and at the points indicated in your letter of the same date, as substantial compliance with the work required by the contract.

We would appreciate the submission of the MF-104 cost reports and a final report at your earliest convenience.

Sincerely yours,

C. O. Mittendorf

Administrator

cc: Docket
FT, Reg. 3
Code 400
Finance Office
Code 800
Oper. Committee
R. W. Geehan, USBM
Thor Kiilsgaard, USGS
Adm. Read. File

R.C.S.

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

November 9, 1954

Memorandum

To: W. S. Martin, DMEA, Room 3538

From: Robert W. Geehan

WSM

Subject: DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
White Pine County, Nevada

I agree in principle but think the wording on page 2 of the attached memo to Administrator needs revision. Accordingly, I have not surnamed the letter.

Robert W. Geehan
Robert W. Geehan

Attachment

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

November 8, 1954

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for an amendment to Contract No. Idm-E248, to transfer 249 feet of work from North adit (Amendment No. 4) to Pole adit, Lateral No. 7.
Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mr. James D. Williams, President
P. O. Box 150, Salt Lake City, Utah
Mt. Wheeler Mine, White Pine County, Nevada

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

1. The original Contract No. Idm-E248 called for 1,500 feet of adit, drifts, crosscuts, and raises, at a cost of $75,476.00; and the amended contract dated May 11, 1953, allowed for an additional 1,200 feet of work; at a total cost for original and amended contract of $141,076.00. On December 12, 1953, this work was completed, with 2,670 feet of work charged to the contract at the total cost of $141,076.00, or a cost of $52.84 per foot.

2. In this work only one important zone of scheelite mineralization was disclosed in the Pole adit area. The final field team report shows that the total measured, indicated, and inferred ore in the area is 16,770 tons that will assay 0.80 percent WO_3, with a total of 13,416 units. Assuming that this ore was milled with a saving of 80 percent, 10,732.8 units would be produced.

10,732.8 units at $63.00 per unit	$676,166.40
16,770 tons mined and milled at $17.00 per ton	- 285,090.00
Net on direct operating cost	$391,076.40
Royalty to Government-- 5% of $676,166.40 is	$ 33,808.32
Government share (75%) of $141,076.00 is	$105,807.00

Hence the Government's loss on the exploration contract would be $71,998.68.

3. The operator's investment in the Pole adit project to date are as follows:

Sale of Treasury stock	$156,000.00
DMEA contribution, $105,807.00 less $563.00 royalty	105,244.00
Sale of concentrates	11,260.00
Total	$272,504.00

A mill would be necessary for the operator and a 50-ton mill would cost: $ 75,000.00

Mining and milling	285,090.00
Ultimate cost to operator	$632,594.00

Sale value of concentrates	$676,166.40
Cost to operator	-632,594.00
Net to operator	$ 43,572.40

If the operation stopped at this point, only $33,808.32 in royalties would have been paid to the Government, and the operator would be an additional $71,998.68 ahead, the balance due from the Government participation.

4. If 10,732.8 units were saved at a cost of $141,076.00 for exploration, the cost would be $13.15 per unit.

5. On October 27, 1953, Mr. Williams made an application for an amendment to extend the Pole adit 1,200 feet to the Sheffield fissure with 1,300 feet of laterals and drifts. The operator also applied for an amendment to drive a 500-foot adit at a point 900 feet north of the Pole adit with 200 feet of laterals and drifting.

On the basis of the small amount of ore found in the 2,670 feet of work already done in the Pole adit at a cost of $141,076.00, the application for the additional 2,500 feet of work at a cost of $103,600.00 was denied.

Amendment No. 4 was written on May 20, 1954, granting the application for 700 feet of work on the North adit at a cost of $29,700.00.

6. On October 25, 1954, the operator made a request to use 249 feet of work remaining from the North adit amendment on Lateral No. 7 in the Pole adit. In the accompanying letter to the Administrator, DMEA, Mr. Williams advises as follows:

"To date we have completed 451.0 feet of exploration work in the North zone under the above captioned contract, * * * and, as you will note, the tungsten showings encountered have not been very encouraging. The bedding has been broken by numerous faults which have been filled with mud and a good portion of the bed itself has been replaced by mud. The face of the main drift at +323.0 feet, has also broken into a mud area. In view of these conditions we see little reason for continuing with the project in that area."

We agree with Mr. Williams' conclusions, and it is advisable that the work be stopped in this area.

In view of the poor results from the work in the Pole adit, we do not believe it advisable to do any more work in this area and, as a result, we are denying the request for transferring the 249 feet remaining in the North zone to the Pole adit area.

7. As the results have been poor in the Pole adit area and the North zone, we believe it is advisable to terminate the contract at this point.

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

IN REPLY REFER TO:

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

Department of the Interior
Defense Minerals Administration
RECEIVED
NOV 3 - 1954

November 2, 1954

Re: DMEA-2082
Mt. Wheeler Mines, Inc.
(Contract Idm-E248)
Tungsten

Memorandum

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

From: E. L. Newcomb, U. S. Geological Survey

Subject: Proposed amendment

The operator has completed 451 feet of work in the North zone and 249 feet of contract footage is still available. However the results to date have been so discouraging that the operator now wishes to amend his contract to allow 249 feet of work on the No. 7 lateral on the Pole adit.

This is an appropriate time to terminate the contract. Sufficient work has been done to indicate that significant amounts of tungsten ore are unlikely to be found by further exploration. I do not believe further participation by the Government on this tungsten project is warranted.

E. L. Newcomb

E. L. Newcomb

402

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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NOV 1 - 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

420 Custom House
555 Battery Street
San Francisco 11, Calif.

Date: October 29, 1954

Memorandum

WBM

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA -2082

Contract Idm-E 248

Commodity Tungsten

Operator - Mt. Wheeler Mines, Inc.

Property - Mt. Wheeler Tungsten Mine
White Pine County, Nevada

By Glenn G. Gentry, Mining Engineer

Dated October 14, 1954

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

Roscoe Smith, USGS (With one copy of report)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 1 - 1954

INTERIM REPORT

Docket No.: DMEA-2082 (Tungsten) October 14, 1954

Name and address of operator: Mt. Wheeler Mines, Inc.,
P. O. Box 150
Salt Lake City 10, Utah

Name and location of property: Mt. Wheeler Tungsten Mine
White Pine County, Nev.

Contract No.: Idm-E248 (Amended contract dated May 20, 1954 - amendment No. 4)

SUMMARY

The Mt. Wheeler Tungsten Mine was visited on October 5 and 9, 1954 for the purpose of inspecting the exploration work performed by the applicant under amendment No. 4. During the inspection on October 5 the examining engineer was accompanied by Mr. A. C. Johnson, Chief, Mining Division, Region III and Mr. J. D. Williams, President, Mt. Wheeler Mines, Inc. During the inspection on October 9, Mr. Williams was not available to accompany the examining engineer.

The operator has confined the majority of his work in extending the No. 1 crosscut in a northeasterly direction. The face of the crosscut has now reached a distance of 111 feet from the main adit. The main adit has been extended a distance of 39 feet east of the No. 1 crosscut, at which point, caving ground, loose lime boulders and con-

siderable ankerite mud indicated an open water course or a large fault zone could be expected to be encountered. As the ground would require timbering and spiling and no mineralization had been observed, the operator had discontinued the advance of the adit during the month of September. Very little scheelite has been exposed in the crosscut. Timber supports were required at one location north of the raise. Two sets of round timbers were installed and lagged on top; second hand timbers were used and appear adequate to support the ground.

A large amount of ankerite mud, encountered in a water course approximately 43 feet north of the raise, slowed progress. A fissure, containing quartz, limestone and ankerite mud, was encountered at approximately 73 feet north of the raise, however, no scheelite mineralization was observed in this material.

The operator has continued to employ two miners on a contract basis and working one shift per day. What rate of pay?

The removal of broken rock in the crosscut is accomplished by means of an air operated slusher to the ore pocket in the raise; tramming to the waste dump is done by hand.

CONCLUSIONS

No significant quantity of scheelite mineralization has been encountered in either the main adit or the crosscut. The character of the exploration work is considered as satisfactory to the Government.

PRODUCTION

The narratives submitted monthly by the applicant, have failed to mention the production and disposition of scheelite ore from the Pole Adit and resulting from the DMEA exploration contract, however, Mr. Williams reports that several hundred tons of ore have been produced and shipped to the Bauer, Utah plant of the Combined Metals Reduction Co., and that details of such shipments have been and/or will be transmitted to the Executive Officer of the DMEA in San Francisco, Calif.

On the dates of this inspection, no ore was being produced from the Pole Adit area. Two miners were employed in extending the No. 7 crosscut in a northerly direction from the Pole Adit for the purpose of intersecting an ore shoot exposed in an east drift off No. 5 lateral, north. No. 7 is a new crosscut and has been advanced entirely at the expense of the operator.

GEOLOGY

The adit, from the No. 1 crosscut to the face, disclosed hard limestone which contained no scheelite. In the face, caving ground disclosing large, loose lime boulders, was encountered. Considerable ankerite mud was also noted in this area. This condition indicated that the adit heading was approaching one of the numerous mud filled water courses and/or a fault zone of considerable size.

Crosscut No. 1 has been extended principally through non-mineralized limestone. At approximately 43 feet north of the raise the crosscut encountered a large water course which was partially filled with ankerite mud. This fissure strikes N. 25° W., has nearly vertical walls, and a width of 15 feet at the crosscut level. The cavity narrows to approximately 6 feet in width at about 30 feet above the crosscut.

Approximately 60 feet north of the raise, an exposure of scheelite mineralization was noted. The width of mineralization varies from 12 inches to 2 feet and has a general strike of northeast to southwest. No definite dip could be obtained. However, the dip is probably comparable to the quartz exposed at 73 feet north of the raise which has a dip of 70 degrees north.

The fissure at approximately 73 feet north of the raise is 6 feet in width, has a general east-west strike and dips 70 degrees north. The fissure is filled with quartz, brecciated limestone and ankerite mud. No scheelite mineralization was observed.

On October 9, the crosscut had been extended a distance of 6 feet north of the hanging wall of the fissure, through hard crystalline limestone in which no scheelite mineralization was noted.

SAMPLING

Three samples were secured in the crosscut in the only

locations where scheelite had been encountered:

Sample No.	Width, feet	%, WO_3	Location
BM-1375	1.0	6.97	Across back of 63 feet north of raise.
BM-1391	2.0	4.49	West wall of crosscut at same location as BM-1375. Material is quartz, limestone and ankerite mud.
BM-1392		15.26	East wall of crosscut at top of raise. A narrow fracture is exposed which shows a thin face of mineralization. The mineralight was used in obtaining selected pieces for assay.

No samples were taken in the main adit as the inspection by the use of a mineralight failed to disclose scheelite mineralization.

STATEMENT OF WORK COMPLETED

Drifting:

Previously reported	303.7 feet
Advance 8/5-10/9/54	20.0 feet
Total	323.7 feet

Timbering: 7 sets installed - 40 feet

Crosscut No. 1 North:

Previously reported	None
Advance 8/5-10/9/54	111.0 feet
Total	111.0 feet

Timbering: 2 sets installed - 20 feet

FINANCIAL REPORT

Exhibit "A", amendment No. 4 of the amended contract, provides for additional exploration work under Stage III, as follows:

500 feet of drifting @ $40/ft.	$20,000
200 feet of crosscutting and/or raising @ $40/ft.	8,000
200 feet of timbering @ $6/ft.	1,200
Assaying	148
Total estimated cost of Stage III	$29,348

Government participation @ 75% = $22,011

Expenditures (approved by contract)		$29,348
June 1954	$6,700	
July "	4,840	
August "	2,680	
Sept. "	3,180	
	$17,400	$17,400
Unexpended balance		$11,948

Resume:

	%, Completed	%, Uncompleted
Drifting	64.74	35.26
Crosscutting	55.50	44.50
Timbering	30.00	70.00

Contract period:

Date of amendment No. 4 of the contract: May 20, 1954
Date of amendment No. 5 of the contract: June 9, 1954
Expiration date, under amendment No. 5: Prior to January 29, 1955

Glenn G. Gentry
Mining Engineer

MT. WHEELER MINES, INC.

P. O. BOX 150

SALT LAKE CITY 10, UTAH

October 25, 1954

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration

OCT 29 1954

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
United States Department of the Interior
Washington 25, D.C.

Re: Docket DMEA-2082-Tungsten
Contract Idm-E-248 (Amend. 5-20-54)
Mt. Wheeler Mines, Inc.
White Pine County, Nevada
Request for Amendment

Dear Mr. Mittendorf:

To date we have completed 451.0 feet of exploration work in the North zone under the above captioned contract, as shown on the attached Progress Map C-100, and , as you will note, the tungsten showings encountered have not been very encouraging. The bedding has been broken by numerous faults which have been filled with mud and a good portion of the bed itself has been replaced by mud. The face of the main drift at +323.0 feet, has also broken into a mud area. In view of these conditions we see little reason for continuing with the project in that area.

We should like to request, however, that the balance of the contract footage, amounting to 249.0 feet, be diverted to driving up bedding from No. 7 Lateral North in the Pole Adit as per attached Map C-101. We have attempted to outline briefly the geological justification for this change in location for the balance of the footage in the attached Geological Summary and Report.

Mr. A. C. Johnson, Chief, Mining Division III, and Mr. Glen Gentry, Examining Engineer, U.S. Bureau of Mines, Reno, Nevada, examined the project during the week of October 9, and concur fully in the wisdom of this change. I have also discussed this with Mr. Roscoe Smith, U.S.G.S. member of the DMEA Field Team in San Francisco, and he sees no objection to the proposal. Insofar as this request entails only 249 feet of work and may give us very valuable information as well as additional ore discovery under new and different geological conditions, might not your approval of the amendment be immediate? Incidentally, the Field Team has suggested that such an amendment should properly be granted by Washington; hence, this request is directed to you.

We shall, as always, appreciate your favorable consideration in this matter.

Very truly yours,

MT. WHEELER MINES, INC.
By

James D. Williams
President

JDW-K

Enc.

GEOLOGICAL SUMMARY AND REPORT
TO ACCOMPANY REQUEST FOR AMENDMENT

DEPARTMENT OF THE
Defense Minerals A.
OCT 29 1954

Docket DMEA-2082-Tungsten
Contract Idm-E-248 (Amend. No. 4-5-20-54)
North Zone Exploration
Mt. Wheeler Mines, Inc.
White Pine County, Nevada

This brief report has been prepared for the purpose of presenting pertinent geological and engineering data to support our request, as per the attached letter, to divert 249 feet of authorized contract footage from the North zone to a bedding drive Northerly from No. 7 Lateral North in the pole adit, as per attached Maps C-100 and C-101.

1. Resume of North Zone Exploration
(See Map C-100)

A Main Drift

The main drift has been advanced a total of 323.0 feet; 46.0 feet on an E-W course; 36.0 feet on S 80° E course and 241.0 feet on a S 68° E course. In general, the drift followed the contact of the lower shale member with the bottom of the Wheeler limestone bedding. Five small quartz fissures, striking around N 85° E with steep North dips, showing scattered scheelite mineralization were cut. Three N 30° W faults, mud filled, were cut which necessitated 30 feet of timbering. The face of the drift at +323.0 feet has broken into another mud area and would undoubtedly require considerable timbering in order to drive through. The tungsten showings in the drift were not considered important. There seems little or no reason at all to advance the drift farther Easterly. The drift progress was impeded by the mud and open ground; the average advance being somewhat under 3.5 feet per shift.

B North Lateral

A turnout from the main drift was cut at +284.0 feet and driven on the level 31.0 feet on a N 45° E course. At the face a short raise was driven into the Wheeler bed, a slusher installed, and the bedding drift advanced 97.0 feet on a N 25° E course, just on top of the lower shale. This drive turned out to be a most difficult one. Three large mud filled faults were cut which ran upwards about 30 feet. Approximately 400 mine cars of mud sloughed into the drift from these faults and a large quantity of temporary timbering was required. The progress here was extremely difficult, averaging less than 2.0 feet per shift.

Two small N 80° E quartz fissures showing scattered scheelite were cut at the slusher raise; two more near the large quartz zone; 18" of good looking ore was cut on the South side, and 6" of fair ore was cut on the North side, of the wide quartz zone. The zone itself was barren. None of the ore exposures

are of sufficient size or value to justify mining operations. In all, this work has been most disappointing and further exploration in the area is not indicated.

2. Requested Exploration from No. 7 Lateral North in Pole Adit (See Map C-101)

A Mining Operations conducted.
Since the completion of Stage I (January 29, 1953), we have advanced the pole adit 191.0 feet Easterly to +1263.0 feet. At +1156.0 feet Lateral No. 7 North was cut and driven 37.0 feet off the pole adit. This 228 feet of work was done on company account.

Since the completion of Stage II (December 12, 1953), we have conducted mining operations Easterly on the main ore channel in No. 5 Lateral North and have produced an additional 156.5 tons of ore which mill settled at 2.39% WO_3. We have also produced 278.0 tons of ore from Laterals Nos. 1, 2 and 3 which mill settled at 0.59% WO_3. This was also done on company account.

B Geological Information.
From the above new work we have gained additional information which may be briefly summarized as follows -

1. In Laterals Nos. 1, 2, 3 and 4, driven Northward up bedding, the E-W trending ore zone has been almost entirely obliterated by ankerite mud. What ore has been mined along the channel has been fairly low grade; averaging in the aggregate approximately 0.5% WO_3. The Easterly work in No. 5 Lateral has been entirely free of any mud replacement of the bed. A study of the surface indicates the probable reason for this. The shale formation is exposed on the surface to an Easterly point which corresponds to just about vertically above the mid point between No. 4 and 5 Laterals. At this point the shale plunges under the St. Lawrence limestone and from there Easterly we have limestone cover. The shale, which ordinarily is thought to be impervious to water, certainly has permitted considerable water percolation into the Wheeler bed via numerous small cracks and a few larger fissures. This undoubtedly has resulted in the heavy mud replacement encountered. Further, at No. 4 Lateral the Wheeler bed is approximately 190 feet below the surface. From this point on Easterly the surface rises quite abruptly so that at No. 7 Lateral the Wheeler bed is about 500 feet below the surface. We believe these two factors have contributed materially in eliminating the mud in No. 5 Lateral and Easterly. This is demonstrated fully by two facts; i.e., first, absolutely no mud has been found anywhere in the No. 5 Lateral area; and, second, the grade of bedded ore mined from the No. 5 Lateral area, 434 tons, has averaged 1.56% WO_3, which is approximately three times that mined from the other laterals where mud conditions prevailed. We expect this favorable bedding condition to continue Easterly.

2. The only major fault which has thus far been cut by the pole adit was at +1040.0 feet, just past No. 6 Lateral North. The lateral was driven before the fault was known. Up to this fault the lime-shale

contact was striking quite uniformly S 73° E with a 9° Southerly dip. The fault strike is N 10° W with a fairly flat Easterly dip (45°), with the East block down approximately 27 feet. Beyond this fault the strike of the lime-shale contact changed to S 67° E and gradually swung to S 62° E at +1263.0 feet. The Southerly dip steepened to 12°. This indicates some Southerly rotation of the block and possibly a flat anticlinal fold with a N-S axis. This being the case, we should reasonably expect additional physical preparation of the Wheeler bedding in the area of the E-W ore zone which may result in a much larger replacement area. The requested drive North from No. 7 Lateral is intended to test this possibility.

3. Description of the Proposed Work

No. 7 Lateral has been cut, the switch installed and advance Northerly on the adit level has been 37.0 feet. It is proposed to extend the lateral approximately 30.0 feet, turning it to a N-S course. At the face, +67.0 feet from the adit, a short raise is to be driven into the Wheeler bed, a chute built, slusher installed and a drift driven up bedding to cut the E-W ore zone. Two hundred feet has been allowed for this bedding drift although it is believed that the ore zone will probably be cut at about 160 feet. This is based upon our observation that little or no horizontal movement took place on the N 10° W fault. The diverted footage of 249 feet will be allocated essentially as follows -

Extend drift lateral	30.0	Feet
Raise into Wheeler bed	12.0	
Drift up bedding	200.0	
Misc. drift in ore zone	7.0	
	249.0	Feet

Any footage saved by virtue of cutting the ore zone at a distance of less than 200 feet may be used in drifting in the ore zone and raising thru the ore zone as indicated. If no footage remains the company will do this on its own account.

4. Conclusions

Based upon careful observation and study we have firmly concluded that bedding conditions from No. 5 Lateral Easterly are much more favorable for ore for the following reasons -

1. The bedding is more regular and there is a total absence of mud.
2. Structural preparation of the ore bed has undoubtedly been better East of the major fault.
3. Grade of ore mined has been materially higher from No. 5 Lateral Easterly (3 times average of Nos. 1, 2, 3 Laterals).

This short drive will be an important link in the chain of geological evidence which is so necessary for the proper understanding of what we are dealing with in the exploration of the mine. It will explore what we believe to be a strong ore zone but under new and different conditions which appear to be much more favorable. The crew, equipment and facilities are available and ample time remains before winter to complete the proposed work.

October 25, 1954

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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AUG 31 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

420 Custom House
555 Battery Street
San Francisco 11, Calif.

Date: August 26, 1954

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA-2082

Contract Idm-E 248

Commodity Tungsten

Operator - Mt. Wheeler Mines, Inc.

Property - Mt. Wheeler Tungsten Mine
White Pine County, Nevada

By Glenn G. Gentry - Mining Engineer

Dated August 23, 1954

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

Roscoe Smith, USGS (With one copy of report)

INTERIM REPORT

Docket No.: DMEA-2082 (Tungsten) Augst 23, 1954

Bureau of Mines
Bureau of Mines Administration
RECEIVED
AUG 31 1954

Name and address of operator: Mt. Wheeler Mines, Inc.,
P. O. Box 150
Salt Lake City 10, Utah

Name and location of property: Mt. Wheeler Tungsten Mine
White Pine County, Nevada

Contract No.: Idm-E248 (Amended contract dated May 20, 1954 - Amendment No. 4)

SUMMARY

The Mt. Wheeler Tungsten mine was visited on August 5, 1954 for the purpose of inspecting the exploration work performed under Amendment No. 4. During this inspection, the examining engineer was accompanied by Messrs. Don Honeycutt and Abraham Clausen, miners employed by the operator. Mr. James D. Williams, president of Mt. Wheeler Mines, Inc., was reported to be in Salt Lake City, Utah, and Mr. Vern Jepson, mine foreman, was reported to be in Ely, Nevada securing repairs on the operator's automotive equipment.

Two miners are employed in advancing the exploration adit and have completed a total advance of 303.7 feet. The major portion of the limestone stands well and no timber supports have been installed since the last inspection. However, some additional timbering may become necessary in the numerous mud filled faults which have been encountered.

The operator expects to begin crosscutting in a northerly direction, immediately, and at approximately 290 feet east of the portal.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 31 1954

CONCLUSIONS

No commercial deposition of scheelite mineralization was observed in the adit, though light and scattered scheelite crystals were noted over narrow widths and three samples were secured.

The character and progress of the exploration work is satisfactory.

PRODUCTION

With reference to the approximately 300 wet, short tons of tungsten ore, reported in the Interim Report dated July 15, 1954:

The examining engineer was informed that this tonnage averaged about 0.70% WO_3. However, the applicant has not mentioned this shipment in his July 1954 report, and therefore, no details of milling settlement are presently available.

Additional production has been maintained from the No. 5 Lateral, North, from the Pole adit and has amounted to approximately 200 wet, short tons of crude tungsten ore which the operator's representatives estimate may contain 1.5% WO_3. This ore is stockpiled in the ore bin at the portal of the Pole adit, awaiting shipment to the Bauer, Utah plant of the Combined Metals Reduction Co. The applicant's Narrative Report for the month of July 1954 did not mention this latter production.

GEOLOGY

The adit has been advanced through hard limestone and shale and has encountered numerous northeast and northwest faults and water courses some of which were filled with ankerite mud. No ground movement was

observed along the faulting and very little scheelite mineralization was found with the mineralight.

At the face of the adit, 303.7 feet east of the portal, the shale bedding had dropped to the floor of the adit.

SAMPLING

Three samples, BM-1339 to BM-1341, were taken by the Bureau engineer; the analysis will be included in the next interim report.

STATEMENT OF WORK COMPLETED

Drifting:

Advance previously reported	90.00 feet
Advance 6/18 - 8/5/54	213.70 "
Total advance	303.70 "

FINANCIAL REPORT

Exhibit A, amendment No. 4 of the amended contract, provides for additional exploration work under Stage III, as follows:

500 feet of drifting @ $40.00/ft.	$20,000.00
200 feet of crosscutting and/or raising @ $40.00/ft.	8,000.00
200 feet of timbering @ $6.00/ft.	1,200.00
Assaying	148.00
Total estimated cost of Stage III	$29,348.00

Government participation @ 75% = $22,011.00

Expenditures: (Approved by contract)		$29,348.00
June, 1954	$6,700.00	
July, 1954	4,840.00	
		$11,540.00
Unexpended balance		$17,808.00

Date of amendment No. 4 of contract: May 20, 1954.
Date of amendment No. 5 of contract: June 9, 1954.

Expiration date, under amendment No. 5: Prior to January 29, 1955.

At the present rate of progress, the exploration may be completed on or about November 1, 1954.

Glenn G. Gentry
Mining Engineer

PROGRESS CHART

MT. WHEELER MINES, INC.

Amendment No. 4

DRIFTING	SAMPLES	% WO_3	CROSS CUTTING	SAMPLES	% WO_3
MAY 24-54-JUNE 18-54 = 90.0 FT.	BM 1339				
JUNE 18-54- AUG 5-54 = 213.7"	1340				
	1341				

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 11-2-53

REFERRED TO:
1. Mr. Chambers 454
2. Legal - 4627
3. ~~Call 400 - 35-38~~
4. Code 220

FOR:

	Action		Recommendation
	Approval		Record
✓	Comment		of
	Conference		Referring
	Consideration		to
	Filing		Reply for signature of
	Instructions		
	Investigation		Rewriting
	Initials		Signature
	Mailing		Suggestions
	Previous correspondence		Your information

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NOV - 2 1953
GENERAL COUNSEL
DEFENSE MINERALS ADMINISTRATION

REMARKS: Project work nearly completed without these two items; therefore do not appear to be "necessary costs" to which Gov. participation is limited by Art. 6(b) of contract.
Talbert

Check (X) before the items needing attention.

W. S. Martin

Initials of sender.

GPO 16—63815-1

Transmit to Martin with

Note:

"May we have your written comments on factual statements made by operator."

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 11-20

REFERRED TO:

1. 100
2.
3.
4.

FOR:

..... Action	..... Recommendation
..... Approval	..... Record of .....
..... Comment	..... Referring to .....
..... Conference	..... Reply for signature of .....
..... Consideration	..... Rewriting
..... Filing	..... Signature
..... Instructions	..... Suggestions
..... Investigation	..... Your information
..... Initials	
..... Mailing	
..... Previous correspondence	

REMARKS: This file is on Mr. Mitterling's desk. On connection with phone call from Mr. William M. Ho

Check (X) before the items needing attention.

ROBERT G. ADAMS

Initials of sender.

GPO 16—63815-1

ACTION ON INTERIM E-248 2082
OR FINAL FIELD TEAM REPORT

Date 7/29

Referred to:

1. ~~Mr. Mittendorf~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chambers~~
4. ~~Docket Control Mails and Files~~
5. ~~Ed Fenn Alloy Ace~~ Division
6. Docket Control Mails and Files

Note comments in report regarding:

1. present shipments & stockpile plans
2.
3.
4.

and take appropriate action. Detail

- - - - -

Action taken by Division:
None - FT is watching production
F.J.R.

Initials

402

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

420 Custom House
555 Battery Street
San Francisco 11, Calif.

Date: July 20, 1954

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA-2082

Contract Idm-E 248

Commodity Tungsten

Operator - Mt. Wheeler Mines, Inc.

Property - Mt. Wheeler Tungsten Mine
White Pine County, Nevada

By Glenn G. Gentry - Mining Engineer

Dated July 15, 1954

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

Roscoe Smith, USGS (With one copy of report)

INTERIM REPORT

Docket No.: DMEA-2082 (Tungsten) July 15, 1954

Name and address of operator: Mt. Wheeler Mines, Inc.
P. O. Box 150
Salt Lake City 10, Utah

Name and location of property: Mt. Wheeler Tungsten Mine
White Pine County, Nevada

Contract No.: Idm-E248 - Amended contract dated May 20, 1954, Amendment No. 4.

SUMMARY

The Mt. Wheeler Tungsten mine was visited on June 18, 1954 for the purpose of inspecting the exploration work performed under amendment No. 4. The amended contract was dated May 20, 1954 and the operator reports that actual work under the contract was begun on May 24, 1954. During the inspection the examining engineer was accompanied by Mr. James D. Williams, president of the Mt. Wheeler Mines, Inc. and Mr. Vern Jeppson, mine foreman.

Preliminary work, conducted by the operator at his expense, consisted of installation of about 800 feet of 2-inch pipe and 100 feet of 1-inch pipe from the portal of the Pole adit to the portal of the new exploration adit. Transfer of mine rail, cross ties and mine car and mucking machine to the new exploration adit, together with the removal of considerable loose ground in preparing the portal site.

Two men are employed on a bonus agreement and are working a single shift for six to seven days per week. These men furnish the labor for drilling, blasting, mucking, tramming by hand and the installation of track, and necessary pipe lines and timbers.

Exhibit A, amendment No. 4 of the amended contract, provides for additional exploration work under stage 3 as follows:

500 feet of drifting @ $40.00 per foot	$20,000.00
200 feet of crosscutting and/or rais-raising @ $40.00 per foot	8,000.00
200 feet of timbering @ $6.00 per foot	1,200.00
Assaying	148.00
Total estimated cost of stage 3	$29,348.00

Government participation @ 75% = $22,011.00

Pursuant to the above amendment, the applicant has extended a drift in a general southeasterly direction for a distance of 90 feet. The purpose of this drift is to explore a quartz filled fissure in which surface indications showed varying grades of scheelite mineralization. Only very light and scattered crystals of scheelite were observed in the drift as presently extended. The new drift is located approximately 900 feet north of the Pole adit which was the site of exploration under the original phases of the contract.

CONCLUSIONS AND RECOMMENDATIONS

While no commercial deposition of tungsten ore was observed in the present 90 feet of adit, North-South faulting and crosscutting through the quartz ledge is expected by the operator to find more favorable areas

of the Wheeler Beds and additional concentrations of mineralization.

As the drift is advanced at approximately 6 feet per day, it will soon be necessary to provide sufficient ventilation equipment for the removal of powder smoke. The applicant expects to install the required equipment as soon as it becomes necessary.

PRODUCTION

From crosscuts Nos. 1 to 2 and 5 off the Pole adit and driven with the assistance of DMEA funds, the applicant has produced approximately 300 wet, short tons of tungsten ore and shipped to the Combined Metals Reduction Co., Bauer Plant, Bauer, Utah, for milling. The grade of this ore will not be known until the results of the automatic sample are available.

This ore was hauled by truck from the mine ore bin to a stockpile located 3.8 miles west of the mine and dumped on the ground. Reloading into 20-ton trucks for haulage to Bauer, Utah was done by means of a shovel loader. Some dilution could therefore be expected, however, the applicant considers such dilution will not exceed one percent.

The applicant's narrative report for the month of June 1954 did not mention the above tonnage of ore shipped to the Combined Metals Reduction Company and it is therefore assumed that complete details will be rendered to the Government after settlement has been received. watch next report

Due to the high cost of transportation from the mine to the mill,

it appears obvious that ore below 1.0% WO_3 will not be profitable to ship. The applicant reports that future production from the Pole Adit will be stockpiled at the mine until adequate milling facilities are available within a reasonable hauling distance.

Presumes adequate sampling will be employed to indicate weighted grade stockpile

The loss in fine grained shheelite from railroad cars may be important, if car bottoms are not carefully checked prior to loading and properly calked. This matter was called to the applicant's attention.

Production of ore is presently continuing at the rate of about 30 tons per day and principally from the East drift off No. 5 North Lateral. The face of this drift has been extended by the applicant and shows a width of 6 feet of ore which is estimated to assay from 2.0% to 3.0% WO_3. Some smaller concentrations of scheelite will probably contain 10.0% or more, WO_3.

GEOLOGY

The drift has followed along the south side of the quartz ledge and through limestone and shale. The shale bedding in the face of the drift had risen to 5.5 feet above the floor. The applicant expects to turn the drift to approximately S. 68° E. course in the expectation of keeping above the shale. The narrative report for the month of June indicates the shale was in the bottom of the drift at the end of the month. Due to the lack of mineralization in the drift at the time of the examination, no samples were taken by the examining engineer.

STATEMENT OF WORK COMPLETED

Drifting:

Date started: May 24, 1954

Advance previously reported	None
Advance 5/24/54-6/18/54	90 feet
Total advance	90 feet

FINANCIAL REPORT

Expenditures:	(Approved by contract)	$29,348.00
	June 1954	6,700.00
	Unexpended balance	$22,648.00

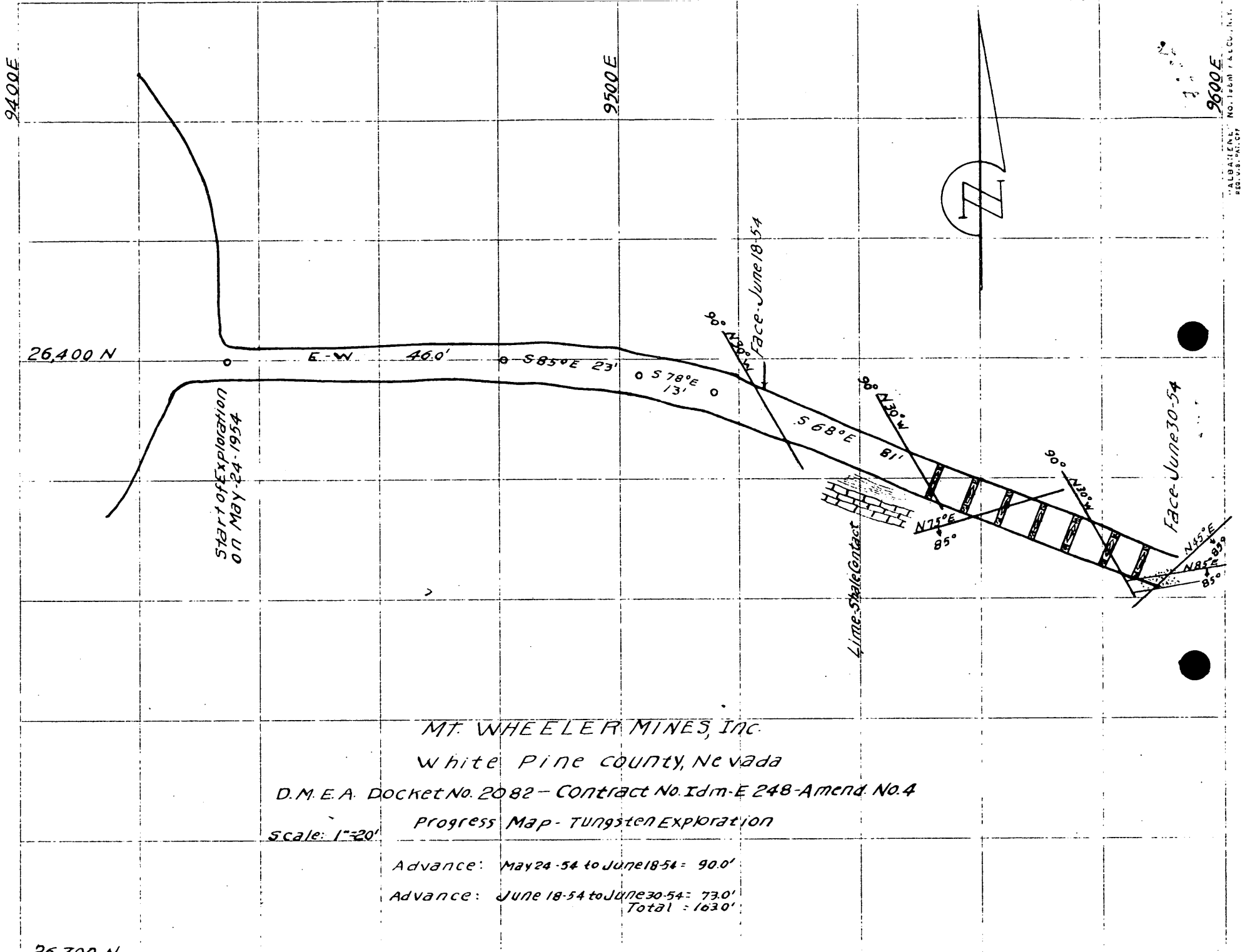
Contract period:

Date of amendment No. 4 of contract: May 20, 1954
Date of amendment No. 5 of contract: June 9, 1954
Expiration date, under amendment No. 5: Prior to Jan. 29, 1955
Unexpended time: 7 months

Resume:

The exploration work is considered to have been conducted according to the contract and satisfactory to the Government.

Glenn G. Gentry
Mining Engineer


9400E
9500E
9600E
26,400 N
26,300 N
E-W 46.0'
S85°E 23'
S 78°E 13'
S 68°E 81'
90° N30°W
90° N30°W
90° N30°W
Face-June 18-54
Face-June 30-54
Start of Exploration on May-24-1954
Lime-Shale Contact
N75°E 85°
N45°E 85°
N85°E 85°
N
MT. WHEELER MINES, Inc.
White Pine County, Nevada
D.M.E.A. Docket No. 2082 – Contract No. Idm-E 248-Amend. No. 4
Progress Map - Tungsten Exploration
Scale: 1"=20'
Advance: May 24-54 to June 18-54 = 90.0'
Advance: June 18-54 to June 30-54 = 73.0'
Total = 163.0'

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

Talbot
Chambers
Rutledge
Patton
Hoffman
Selfridge
Johnson
Mitchell

Mr. H. C. Miller
Executive Officer
DMEA Field Team, Region III
420 Custom House
555 Battery Street
San Francisco 11, California

JUL 15 1954

INTERIOR DEPT.
JUL 20 1954
SOLICITOR

Re: Docket No. DMEA-2082, Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E248

Dear Mr. Miller:

Reference is made to the December, 1953, Forms MF-104 and MF-104A applicable to the subject Exploration Project Contract.

It is noted that the Form MF-104 has been approved and vouchered in the full amount claimed by the Operator despite the fact that the Form MF-104 specifically indicates that the claim is based on performance of 1,249 feet of drifting and crosscutting. This is 49 feet in excess of the total of 1,200 feet authorized by the contract and specifically limited by the description of work under Exhibit "A" to "not in excess of 600 feet" in each of the Phases A and B of Stage II.

A review of the monthly Forms MF-104 and the Operator's narratives indicates the following footage as being applicable to Stage II:

	Laterals					
	No. 1	No. 2	No. 3	No. 4	No. 5	Total
Phase A:						
May	56.	-	59.	-	76.	191.
June	40.5	-	95.5	-	129.5	265.5
July	70.5	-	70.5	-	-	141.
	167.	-	225.	-	205.5	597.5
Phase B:						
July	-	21.	-	21.5	-	42.5
August	19.	34.5	36.5	39.	25.	154.
September	5.	51.	-	6.	34.5	96.5
October	-	56.5	-	-	130.	186.5
November	-	45.	-	-	59.	104.
December	34.	34.	-	-	-	68.
	58.	242.	36.5	66.5	248.5	651.5

RCG.

From the foregoing tabulation it appears that the Operator has claimed and been paid for 51.5 feet of drifting and crosscutting in excess of the maximum of 600 feet authorized for Phase B. Accordingly, it is suggested that you check the indicated footage by Phases A and B and effect an appropriate correction, at the contract rate of $40.00 per foot, for any footage in excess of the 600 feet allowable for each phase. This correction may be accomplished by deduction on the first Form MF-104 submitted by the Operator for work performed under Stage III as authorized by Amendment No. 4 dated May 20, 1954.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (2LB)

APPROVED:

J. H. Hedges
Member, Bureau of Mines (2LB)

D. M. Larrabee
Member, Geological Survey (2LB)

EDTalbert/ama 6-30-54
Copy to: Docket
Admr. Reading File
Operating Committee
Mr. R. W. Geehan, Room 3513
Mr. T. P. Thayer, Room 4205, GSA Bldg.
Mr. Martin
Mr. Chambers
Mr. Mavor
Region III (2)

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

420 Custom House
555 Battery Street
San Francisco 11, California

June 22, 1954

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Amended Contract No. Idm-E248

Attached are the original and two copies of Amendment No. 5, dated June 9, 1954, extending the termination date of the subject contract to January 29, 1955.

A justification sheet is attached to each copy of the amendment.

Proper distribution has been made of the remaining copies.

S. Ricker for
H. C. Miller
Executive Officer, DMEA Field Team
Region III

Attachments

Copy to: A. C. Johnson, Reno (with copy of amendment)
Finance Officer, Region III (with copy of amendment)
Roscoe M. Smith (USGS)
George Mavor

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

420 Custom House
555 Battery Street
San Francisco 11, California

June 15, 1954

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-2082, Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Amended Contract No. Idm-E248

Reference is made to your letter dated May 28, 1954, in connection with December 31, 1952 inventory of materials and supplies items which were to be deducted from payments to subject operator in accordance with Item 4, of Annex 11 of Amended Exploration Contract Idm-E248, dated May 11, 1953.

It is pointed out that the operator exceeded the cost of the contract by the sum of $7,294.66 as of January 31, 1953, when work was completed under the terms of the original contract and these excess costs are accounted for as follows:

Total Costs of Project to 1/31/53	$82,770.66
Less: Amount of Contract	75,476.00
Excess Costs Disallowed	$ 7,294.66

The materials and supplies under discussion were comprised of the following items:

Item	Cost	Appraised Value Gov't.	Appraised Value Operator
Track	$3,255.13	50%	30%
Air and Water Lines	1,959.99	70%	30%
Vent Tube	880.85	35%	25%
Miscellaneous Tools	702.64	25%	25%
Total:	$6,798.61		

From the above it will be noted that the material cost of $6,798.61 is less than excess costs disallowed in amount of $7,294.66, therefore, in accordance with the penultimate paragraph of your letter dated May 28, 1954, no further adjustment will be made. Also, for your information, I just received word from A. C. Johnson and Glenn Gentry in the Reno office, whereby they both agree that the above listed material would have an overall appraised value of 30% at the present time, which would bring the salvage value considerably below the excess costs as of January 31, 1953.

H. C. Miller
Executive Officer, DMEA Field Team
Region III

Copy to: Roscoe Smith, USGS
A. C. Johnson, Reno
Finance Officer
George Mavor

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

420 Custom House
555 Battery Street
San Francisco 11, Calif.

June 14, 1954

Memorandum

To: C. O. Mittendorf, Administrator, DMEA, Interior Building
Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract No. Idm-E248 (Amended)

Reference is to your Day Letter to Mr. James D. Williams dated May 28, 1954, concerning your need for Owner's Consent to Lien on revised form to replace Owner's Consent to Lien dated May 18, 1953, attached to contract.

With a letter dated June 9, 1954, Mr. Williams sent this office five copies of the revised Owner's Consent to Lien dated May 19, 1954.

Three copies of the revised Lien are attached herewith; one copy is being retained for our Finance Office and the fifth copy is going to the field.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Roscoe Smith, USGS
A. C. Johnson, Reno (with attachment)
Finance Officer, Region III (with attachment)

400

DOCKET
SURNAME
Rutledge
Martin
Johnson
Hetherington

JUL 12 1954

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
420 Customhouse Building
555 Battery Street
San Francisco 11, California

Re: Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E248

Dear Mr. Miller:

Reference is made to Amendment No. 5 to the subject contract.

The attached justification is transmitted for your records. We believe that this justification substantiates the referenced amendment more precisely than the one prepared by your office.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GHS)

Enclosure

FARUTIEDGE:foc
7-9-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. Reg. III
R. W. Geehan, USBM
T. P. Thayer, USGS
Mr Chambers

APPROVED:

J. H. Hedges (GHS)
Member, Bureau of Mines

Philip W. Guild (GHS)
Member, Geological Survey

R.C.S.

400

Docket
Martin
Jackson
Selfridge
K Jones

JUN 10 1954

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
420 Custom House
555 Battery Street
San Francisco 11, California

Re: Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E248

Dear Mr. Miller:

We are enclosing the original and five copies of proposed Amendment No. 5 to the subject contract, signed by the Administrator for the Government. When all six copies of the amendment have been signed, the usual distribution should be made.

Sincerely yours,

George C. Selfridge

(24B)

Chairman, Operating Committee

Enclosures

APPROVED:

J. H. Hedges (24B)

Member, Bureau of Mines

T. P. Thayer (24B)

Member, Geological Survey

cc: DOCKET
FIELD TEAM, REG. III
CODE 400
ADM. READING FILE
OPERATING COMMITTEE
R. W. GEEHAN, USBM
T. P. THAYER, USGS

WSMartin/ls
6-8-54

R.C.B.

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 7 1954

420 Custom House
555 Battery Street
San Francisco 11, Calif.

June 2, 1954

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract No. Idm-E248 (Amended)
Amendment No. 4

Attached are the original and two copies of Amendment No. 4, dated May 20, 1954, made in connection with subject contract.

A justification sheet is attached to each copy of the amendment.

Proper distribution has been made of the remaining copies.

For your information there is attached a copy of Mr. Williams' letter to me dated May 25, 1954.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachments

Copy to: A. C. Johnson, Reno (With copy of amendment and letter)
Finance Officer, Region III (With copy of amendment)
Roscoe Smith, USGS (With copy of letter)
George Mavor

MT. WHEELER MINES, INC.
P. O. BOX 168
SALT LAKE CITY 10, UTAH

Answered

May 25, 1954

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
United States Bureau of Mines
420 Custom House - 55 Battery Street
San Francisco 11, California

Re: Docket No. DMEA-2082-Tungsten
Mt. Wheeler Mines, Inc.
Contract Idm-E 248 (Amended)
Amendment No. 4

Dear Mr. Miller:

Enclosed are the executed original and four copies of Amendment No. 4 to the above captioned contract. We have retained the Operator's copy for our files. With reference to this contract (Amendment No. 4) there are several matters which we should like to elaborate upon at this time in order that you may be apprised of our current thinking.

First, in Exhibit "A", "Description of the Work", wherein a studied effort has been made to delineate the course of the projected North drift Easterly in order to avoid driving underneath the favorable section of the Wheeler limestone bed as was necessary at times in the Pole Adit; we are in complete accord with this. However, we must point out some of the difficulties which may beset us in performing this work. The North zone consists of a prominent quartz fissure about 5' wide, striking nearly E-W with a fairly steep North dip. This is in approximately the center of an E-W shear zone having an indicated width of some 40-50'. The Wheeler bed in this area strikes approximately S 80° E with a 9-12° Southerly dip. Now, from this geometric pattern it becomes very obvious that at some point of advance in the drift Easterly the shale will undoubtedly rise into the drift, necessitating the turning of the drift Southerly in order to remain within the Wheeler bed as required by the contract. Under this set of physical conditions it is quite possible that at 500' the drift may be outside the South limit of the shear zone by as much as 50'. As against this, however, we have another set of conditions which suggest that the North shear zone may be plus 100' wide with a S 80-85° strike. In this event we may encounter no serious difficulty in keeping within the most favorable area.

We bring these matters to your attention in order that both parties shall appreciate the nature of the problem inherent in this project. At the same time we wish to assure you that we will do everything possible to conduct this work within the purview and intent of our agreement. In view of our telephone conversation with you this afternoon covering these matters, we feel assured that you will give due consideration to this mutual problem in evaluating our work.

Second, under Section "B", "Estimated Cost of the Project", the timbering allowance has been cut to $6.00 per foot. We call to your attention the fact that this price will not cover the actual cost of the timer in a 5' set. A 5' drift set consisting of 4-7' posts 8" x 8", 2-5' caps 8" x 8", 2-5' braces 4" x 6", and 5 top lagging 5' x 12" x 2" requires 272 board feet of timber. Our delivered cost of No. 2 mine timber is $125.00 per thousand board feet. On this basis our timber cost per set would be $34.00 exclusive of blocking, wedges and

possible foot boards. The labor required to stand a set amounts to about one-half shift for two men, or $16.00. Thus, against a total allowance of $30.00 for a 5' set, our cost would be not less than $50.00 and could be considerably more. We feel that should much timbering be required (which we do not feel will be necessary), an adjustment should be made within the total sum allowable for this item.

Third, under Section "D", last paragraph, in which the matter of the Government's equitable interest in equipment secured under rental-purchase agreement is stipulated, we wish to make the following observation. We very much appreciate the assistance given us by government and recognize the much larger risk as assumed on a 75% basis. We have also keenly recognized our responsibility to furnish the best management possible in the expenditure of public funds. Therefore, when the rental allowance on this equipment was used up we felt it our duty to convert these rentals to purchase equity and did so. We also feel that fairness demands that government receive equity for its share paid by rental allowances and to so intended to stipulate this. However, equity is a two-way street and we feel that any reasonable cost incidental to the conversion of these rental agreements to purchase agreements, wherein public funds have been conserved, should become a part of the total cost of such equipment. We merely wish to bring this to government's attention at this time.

We feel this contract has been fairly drawn in good spirit and we shall do everything possible to conduct our operations in accordance with it. Should serious problems arise because of physical conditions beyond our control, we are certain that you will be more than fair in resolving them in a manner which will not harm us financially because we are now working on very limited funds.

Sincerely yours,

MT. WHEELER MINES, INC.
By

James D. Williams
President

JDW-K

Enc. (4)

Selfridge

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

June 1, 1954

Memorandum

To: The Administrator

From: George C. Selfridge, Special Assistant

Subject: Unit Costs - Proposed Amendment No. 4
Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E248

As a supplement to the memoranda of Mr. Chambers and the writer, dated May 12 and 14, 1954, respectively, the writer herewith presents a cost study of the original project and a calculation of the probable cost of the work to be done under Amendment No. 4. The cost schedules appearing below do not include items for the purchase, rental, or depreciation of equipment because the $40 a foot unit price, not including timbering, allowed in Amendment No. 4 was in addition to all of the equipment in which the Government has an equity. Under the Amended Contract the $40 unit price included an unknown amount for equipment in addition to $13,881.90 for the purchase of more new equipment and $15 a foot for timbering.

The original contract was last audited as of December 31, 1952. Mt. Wheeler finished the work in January 1953 and submitted a voucher for $8,018.95 which was almost entirely disallowed because only a few hundred dollars ($724.29) remained to be spent under the contract as of the end of 1952. However, the writer has used the January figures in most cases to calculate costs as they are more representative of the entire original project. The $724.29 was charged entirely to January 1953 labor.

A physical inventory of the items in which the Government had an equity at the end of the original project was made on May 7, 1953, by Mr. Glenn Gentry. He listed all of the equipment, rail, pipe, etc., and with Mr. Williams placed a salvage value on the listed items. The listing showed:

1000 feet of rail on dump, in shop and stockpiled
2 track switches in storage
180 new ties in storage in No. 1 Lateral South
51 feet of 3" pipe
462 feet of 2" pipe
180 feet of 1" pipe
210 feet of 1" galvanized pipe

The inventory report was closed with the sentence "Supplies on hand at the end of exploration project: None." This is an ambiguous sentence. Aside of the listing above, enough powder remained as of the end of December 1952 to drive 230 feet of drift in January 1953. Only extra Miscellaneous operating supplies ($41.44), Fuel and Lube ($561.53), Steel and bits ($66.08), and Vent tube ($270.75) were purchased to do the January work. Average December cost for advance was $48.69 a foot. At this rate the Operator could not have driven more than 15 feet of advance before exhausting the $75,476 provided for in the original contract.

The Operator bought 760 feet of rail (380 feet of track) or 2.5 tons in excess of that provided in the contract. The inventory lists 500 feet of track on dump, in shop, and in storage. It is 92 feet from the adit portal to the compressor at the far end of the shop. On the steep hillside possibly another 100 feet of tract would provide dumping room for a long period. Possibly the rail in storage amounted to 600 feet, sufficient for 300 feet of track. None of this could have been used under the Amended Contract because all of the work was above the adit level in slusher drifts and raises.

Further study of the docket shows that Mt. Wheeler paid the following prices for certain items under the original contract:

$156.00/ton for 20# rail	$ 0.52/pair splice bars
11.40/cwt for track spikes	16.65/cwt for splice bar bolts
70.38/100' for 3" pipe	34.30/100' for 2" black pipe
16.65/100' for 1" pipe	250.00 a month cook
500.00 a month supervision	14.50/shift - blacksmith-compressorman
9.50/ft. contract, straight time	14.25/ft. contract, overtime
10.32/ft. contract, average	Hauling for 11.70/ton

The January 1953 voucher, which was corrected for the December audit, shows the following footage costs for 1,465 feet of advance:

Labor	$16.24	
Supervision	2.39	
Timber	0.28	
Explosives	2.76	
Pipe	1.34	(including in storage and long water installations)
Track	1.21	(without switches, but including in storage)
Switches (10)	.49	
Fuel and lube [a]	1.79	(December $1.67)
Steel and bits	1.62	
Vent tube	0.80	
Misc. supplies [b]	0.51	
Freight on supplies	0.64	(December $0.58)
Repairs to equipment	0.49	

Sampling	$ 0.03 (0.0266)
Payroll taxes	0.98
Liability Ins.	1.75
Administrative	1.64
Truck rent-hauling	0.34

$35.31[c] - less timber ($0.28) and assay ($0.03) = $35.00[c]

a. The supplies under this item included as a minimum the fuel and oil for the 315 cu. ft/min. compressor and a 10 K.W. generator and oil for the drilling machines, shovels etc. It may also have included fuel and oil for a 5 K.W. generator at the camp and gasoline for the truck. The increase in cost in January over December is due to a purchase item of $561.63 charged off in January.

b. Gentry's inventory report states, "These tools, consisting in large part of picks, shovels and wrenches were worn out or broken during the project." For a project using a mechanical shovel one wouldn't expect that many picks and shovels would be used. A lot of these and pipe wrenches can be bought at $3 to $4 each.

c. Includes $2,145.13 for payroll taxes, liability insurance, and administrative expense for project prior to July 31, 1952. The adit advance was started June 30, 1952. Thus, approximately $1,814.22 ($1.22/ft.) was incurred for these items before adit advance was started. Just how much of this expense was chargeable to advance is conjectural. Possibly the overall cost of $35.00 might have been reduced by as much as one dollar. The total cost does not reflect salvage.

The writer has calculated the following costs per foot [d] for the 700 feet of work proposed in Amendment No. 4:

Labor	$12.13	Vent tube	$ 1.00
Supervision	2.67	Misc. supplies	0.30
Explosives	2.76	Freight on supplies	0.61
Pipe	0.65	Truck operation	0.23
Track	1.47	Repairs to equipment	0.75
Fuel and tube	1.67	Payroll taxes	0.98
Steel and bits	1.45	Liability insurance	1.63
		Administrative	1.20
		Total	$29.50

d. The footage cost does not include salvage of pipe and rail of at least 30 per cent as agreed to by Mr. Williams on inventory under original contract. Timbering and assaying were provided for separately.

The costs were derived as follows:

(2) Labor, supervision, consultants

2 miners at $10/ft. straight time, $15/ft. overtime
25-day month, 4.5 ft/shift, 2 shifts - 225 ft/month

1 cook

225' x 10 =	$2250	
36' x 5 =	180	
cook	300	
	2730	
	225	= $12.13/ft.

The man that Williams reported needed 3 hours a day to set up and tear down averaged some months near the portal approximately 4.6 feet per round and worked twoshifts a day. He should be able to get better men now. At the proposed rate, a man should make approximately $24.00 a day straight time with a 4.5-foot round a shift. The short adit does not warrant a third man.

In contrast to this rate, a recent contract set up by the Rico Argentine Mining Company for driving a 2700-foot 7.5' x 8' drift uses a base of 4.5 feet/shift untimbered for a 5-man crew. To earn $25.00 a shift, the men would have to advance 9 feet each shift. On this basis labor costs per foot would increase from $12.76 to $13.88.

Supervision @ $600/month. This is $100 more than under original contract.

$$\frac{\$600}{225'} = \$2.67/\text{ft.}$$

Under the Amended Contract three headings were driven on a one shift a day basis. A maximum of 265.5 feet was driven in any one month. At $500 a month for supervision, unit cost is reduced to $1.88 a foot. If Williams devotes any of his time to another activity, then actual supervision cost will be less than the $2.67.

3. Operating materials and supplies.

Explosives

Twenty-one holds, load 18.

Powder	- $11.00/box	Use Box	=	$11.00	excessive
Fuse	- 13.00/1000'	Use 180'	=	2.34	
Caps	- 0.02	Use 18	=	.36	
				$13.70	
				4.5	= $3.04

A full box of powder ought to pull 5 to 6 feet. Therefore, the project cost figure of $2.75/ft. is used.

Pipe

700' of 2" @ 40¢	=	$280.00
700' of 1" @ 19¢¢	=	133.00
35 - 2" couplings @ 40¢	=	14.00
6 - 2" T's @ 86¢	=	5.16
1 - 2" valve	=	10.50
2 - 2" plug cocks	=	12.00
		$\frac{\$454.66}{700}$ = $0.65/ft.

It is doubtful that the Operator will need to buy any 2" pipe as it must have several hundred feet available in the barren ends of the slusher drifts.

Track

700' of 20# rail @ $1.25/ft.
2 - switches @ $75 each = $150 or $0.22/ft.
Total $1.47/ft.

While 200 feet of the work will be above the adit level, 700 feet was used because of dump, etc. Two switches under the original contract were in storage and should be available.

Steel and bits

Carbide-tipped integral steel casting $5.30/ft. (In North Carolina one can buy a 3-foot and a 5-foot steel for $32.00. The quoted price of $5.30 is from Philipsburg, Montana.) Drill 630 feet or 6 rounds, plus sharpening = $1.00/ft. American Zinc of Tennessee reports steel averages 1066 feet in hard dolomite. By its use the company reduced costs from $0.045 to $0.025 a foot of hole. Williams used Liddicoat single-use bits at least in the beginning. Calera Mining Company reports integral steel cost at $1.23/ft. Cleve Creek Mines, Inc., asked $1.55 a foot for steel and bits to drive 1200 feet of adit in same series of formations. About one-third of this was in the Prospect Mountain quartzite. About $1.45 a foot should be a reasonable figure.

Fuel and lube

Use $1.67, the December voucher average. Cleve Creek Mines, Inc., listed $1.32/foot for 1200-foot adit with 400 feet in quartzite.

Miscellaneous supplies

Two hundred dollars should cover several sets of pipe wrenches, picks, and shovels and two sets of new hoses.

$\frac{\$200}{700}$ = $0.29 - say $0.30/ft.

Freight on Supplies

Use same as cost for December-January average on original contract.

Repairs to Equipment

The repairs under the original contract seem high as all of the equipment was new, and it was used only seven months. Most of the $720.77 repair item must have been for parts and the labor that the compressorman-blacksmith couldn't do. Although the unit repair price seems equitable, the equipment is older and therefore the writer would add 50 per cent to the price making $0.75 a foot.

Payroll Taxes

These amount to 4.5 per cent of payroll. Labor at $12.13 and supervision at $2.67 amount to $14.80 a foot. Therefore, payroll taxes would be $0.67 a foot.

Liability Insurance

The underground rate is 11 per cent. Thus, use $1.63 a foot, disregarding the 2 per cent for cook.

Administrative

Included in this item under the original contract were $100 a month for bookkeeping, mileage for a jeep averaging 1263 miles a month, and office supplies and miscellaneous. For the purpose of Amendment No. 4 at least the accounting item should be deducted. This would amount to $0.44 a foot. Thus, use $1.20.

The difference between the two cost lists is largely due to less labor, pipe, and the exclusion of expense items incurred under the original contract prior to drift advance. Because Mr. Williams has objectedto the Government's claim of equity in the equipment procured under rental-purchase agreements, one might allow the full cost $24,000, for calculating depreciation. This would amount to $400 a month or $1.78 a foot. If one also adds 10 per cent more for contingencies, the $29.50 would be increased to $34.41 a foot before salvage. Thus, it would appear that $35.00 a foot should have been the maximum price.

George C. Selfridge

George C. Selfridge

GCSelfridge/esf
6/1/54
cc to: Docket
Admr. R. File
Messrs: Chambers
Johnson
Martin
Selfridge

FILE COPY
SURNAME:

Chambers
Martin
Butry
Holt
Selfridge
Larrabee
Hendry

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

MAY 28 1954

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Amended Contract No. Idm-E248

Dear Mr. Miller:

The last sentence under Item 4 of Annex II of Amended Exploration Project Contract Idm-E248, dated May 11, 1953, states:

> "All remaining supplies purchased pursuant to the terms of the Prior Contract shall be immediately inventoried, the value of the Government's equity therein determined and credited to any monies the Government is required to pay the Operator hereunder."

The last sentence of Mr. Glenn G. Gentry's Inventory Report, dated May 12, 1953, sent to us with your letter of May 15, 1953, states:

> "Supplies on hand at end of exploration project: None."

It is presumed that Mr. Gentry had reference to the items provided for in the contract under the heading "Materials and Supplies" (Page 5 Exhibit "A"), and not to "stockpile" items such as rail, pipe, tubing and small equipment which appear in his inventory report. In our opinion, these items are actually "materials and supplies on hand" the actual value of which should be a credit to the project.

If, however, the value of these is less than the costs in excess of the contract amount as deducted in payment of the January 1953 MF-104, no further adjustment is required.

Please advise as to your findings in this matter.

Sincerely yours,

George C. Selfridge By ESY
Chairman, Operating Committee

D. M. Larrabee By ESY
Member, Geological Survey

APPROVED:

C. H. Johnson By ESY
Member, Bureau of Mines

WSMartin/ls;JLChambers/wb 5-27-54

Copy to: Docket, Reg. III FT, Operating Committee, Admin. Reading File, Mr. Geehan, USBM, Mr. Thayer, USGS, Mr. Martin, Mr. Chambers

R.C.G.

FILE COPY
SURNAME:

Rubin
Hofflund
Martin

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

MAY 28 1954

Air Mail

Mr. James D. Williams
President, Mt. Wheeler Mines, Inc.
P. O. Box 150
Salt Lake City 10, Utah

Re: Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mine
White Pine County, Nevada
Contract Idm-E248

Dear Mr. Williams:

Attached are the revised Owner's Consent-to-Lien forms mentioned in our telegram dated May 28, concerning Amendment No. 4 to the subject contract.

Sincerely yours,

C. O. Mittendorf (for) Rg
5-28

Administrator

Enclosures 6

HCRubin:ep 5-28-54
Copy to: Docket
Administrator
Admin. Reading File
Operating Committee
Field Team, Reg. III (2)
Mr. Martin
Mr. Hofflund
Mr. Rubin
Chron.
Pending

DMEA

FILE COPY
SURNAME:

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

Legal
14X4401 (01) Revolving Fund,
Defense Production Act,
Interior (Allocated Working Fund
the Office of the Secretary)

Rubin
Hofflund
Schodde
Gilbertson
Martin

MAY 28 1954

Day Letter

Mr. James D. Williams
President, Mt. Wheeler Mines, Inc.
Salt Lake City, Utah

In connection with Amendment No. 4 to Exploration Contract Idm-E248 (Docket No. DMEA-2082), we neglected pointing out to Executive Officer that Owner's Consent to Lien on revised form is required to replace Owner's Consent to Lien dated May 18, 1953, attached to contract. We are airmailing revised forms. Revised form need not be received by us before you start work under Amendment No. 4, but no payments will be made thereunder until we receive form.

C. O. Mittendorf

Administrator

HCRubin:ep 5-28-54

Copy to: Docket
Confirmation
Admin. Reading File
Field Team, Reg III (2)
Mr. Martin
Mr. Hofflund
Mr. Rubin
Audits
Chron.
Pending

R.C.G.

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

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

May 24, 1954

Mr. James D. Williams, President
Mt. Wheeler Mines, Inc.
P. O. Box 150
Salt Lake City, Utah

Re: Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
White Pine County, Nevada
Contract No. Idm-E248 (Amended)
Amendment No. 4

Dear Mr. Williams:

We are enclosing the original and five copies of Amendment No. 4 to the referenced contract, signed by the Administrator for the Government.

If the terms and conditions of this proposed amendment are satisfactory to you, all six copies should be signed. Please return the original and four copies to this office promptly - the copy marked "Operator's Copy" should be retained by you for your files.

Note that the Pole No. 8 and Pole Fraction No. 3 claims, which we understand are owned by you, have been added to the lands of the contract. If you are not the owner, we should be provided with six copies of lease and Owner's Consent to Lien for both claims.

In our Field Team report of March 4, 1954, the Team reported that "the adit is planned to follow the ore zone within the favorable part of the bed - not underneath it as in the Pole adit zone." The Team recommended that the contract so stipulate. Accordingly, the amendment was worded to allow the Field Team's representatives to insure compliance with the foregoing recommendation.

I have no reason to believe that that recommendation cannot be complied with. Suitable changes in azimuth should make it possible to follow the ore zone closely so long as you do not encounter substantial down faulting of such ore as the project may find.

The engineers in Washington felt that it was not practical to attempt to anticipate the nature of all the awkward problems that could be introduced by faulting and it is our belief that the language used

in the amendment is sufficiently elastic, but is also clear as to intent, and that we can rely on the supervisory ability and ingenuity of the Field Team's engineers and geologists.

Tomorrow the Regional Office moves to the Custom House as the Government has given up its lease on the Flood Building. Our new address is:

U. S. Bureau of Mines
420 Custom House
555 Battery Street
San Francisco 11, California

Our telephone number is unchanged - YUkon 6-3111.

Sincerely yours,

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: DMEA, Washington, D. C.
Roscoe Smith, USGS
A. C. Johnson, Reno

400

Docket
Martin
Chandler
Selfridge
Johnson
Wittenberg

MAY 20 1954

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E248

Dear Mr. Miller:

We are enclosing the original and five copies of Amendment No. 4 to the referenced contract, signed by the Administrator for the Government.

If the terms and conditions of this proposed amendment are satisfactory to you and the Operator, all six copies should be signed and the usual distribution made. If any part of the amendment does not meet with your approval, please return all six copies with your comments.

Please note that the Pole No. 8 and Pole Fraction No. 3 claims, which we understand are owned by the Operator, have been added to the lands of the contract. If the Operator is not the owner, we should be provided with copies of lease and Owner's Consent to Lien for both claims.

According to the Field Team report of March 4, 1954:

"The adit is planned to follow the ore zone within the favorable part of the bed - not underneath it as in the Pole adit zone. The contract should so stipulate."

Please advise us immediately if you have any doubt that the contract wording will allow the Field Team's representatives to insure compliance with the foregoing recommendation. You will appreciate that suitable changes in azimuth

R.C.G.

should make it possible to follow the ore zone closely so long as we do not encounter substantial down faulting of such ore as the project may find. It does not seem practicable to attempt to anticipate the nature of all the awkward problems that could be introduced by faulting. We feel, however, that the language used is sufficiently elastic, but is also clear as to intent, and that we can rely on the Field Team's supervisory ability and ingenuity.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosure

APPROVED:

J. H. Hedges

Member, Bureau of Mines

T. P. Thayer

Member, Geological Survey

cc: DOCKET
FIELD TEAM, REG. III
CODE 400
OPER. COMMITTEE
ADM. READ. FILE
R. W. GEEHAN, USBM
T. P. THAYER, USGS

WSMartin/ls
5/19/54

Docket File
Martin Chamb

Revised 5/19/54

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E248

Dear Mr. Miller:

We are enclosing the original and five copies of Amendment No. 4 to the referenced contract, signed by the Administrator for the Government.

If the terms and conditions of this proposed amendment are satisfactory to you and the Operator, all six copies should be signed and the usual distribution made. If any part of the amendment does not meet with your approval, please return all six copies with your comments.

Please note that the Pole No. 8 and Pole Fraction No. 3 claims, which we understand are owned by the Operator, have been added to the lands of the contract. If the Operator is not the owner, we should be provided with copies of lease and Owner's Consent to Lien for both claims.

Sincerely yours,

Chairman, Operating Committee

Enclosure

APPROVED:

Member, Bureau of Mines

Member, Geological Survey

cc: DOCKET
FT, REGION III
CODE 400
OPER. COMMITTEE
ADM. READ. FILE
R. W. GEEHAN, USBM
T. P. THAYER, USGS

WSMartin/ls
5/12/54

D. In Annex I to the Amended Contract, add the following:

> Use of plant and equipment in which the Government has an equity. The Operator shall furnish to the Government complete tonnage, sampling, assaying, and settlement data for any ore produced or transported through the Pole Adit between the date of completion of Stage II and the time when all obligations of the Operator under the contract have been completed or terminated. In consideration of the Operator furnishing these data, the Operator shall be allowed to use any project plant and equipment in which the Government has an equity and that is not required for the work of Stage III for the work of production from the Pole Adit ore zone for so long as work under Stage III is in progress. All costs of said production shall be for the Operator's sole account without contribution by the Government. The agreed unit costs under Stage III of Exhibit "A" contemplate that the Operator be allowed to use without charge during Stage III of the contract all plant and equipment in which the Government has an interest.

E. In Article 2 of the Amended Contract form, add the Pole No. 8 and Pole Fraction No. 3 claims, as to which the Operator represents and undertakes that it is the owner, in possession and entitled to possession, and there are no liens or encumbrances against them.

F. Annex III, attached hereto and made a part hereof, is substituted for Article 9 of the Amended Contract form.

G. In Article 8 of the Amended Contract form, delete the sums "$105,807.00" and "$141,076.00," and substitute the sums "$127,818.00" and "$170,424.00," respectively.

H. That part of the second sentence of Article 10 of the Amended Contract form which begins with the word "Provided," is deleted.

Rewritten

 5-19-54

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By _____
Administrator, Defense Minerals Exploration Administration

Robin Hoffman
Alexander

MT. WHEELER MINES, INC

By _____

_____

rewritten

5-19-54

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

May 14, 1954

Memorandum

To: The Administrator

From: George C. Selfridge
Special Assistant

Subject: Proposed Amendment No. 4
Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E248

A review of the docket shows:

1. Letter of transmittal of Field Team report, dated August 30, 1951, mentions reserves of 15,755 tons of tungsten ore, of which only 355 tons are measured and indicated. Suggests that drift be driven along one of two veins occurring about 50 feet apart in order to make the exploration largely self-supporting.

2. The writer having qualms about the potentiality of the deposit, as did others, drew up a contract for one-half the adit distance requested when he was unsuccessful in getting field backing to keep the adit in ore. The letter transmitting the contract, dated January 29, 1952, states that "the project was drawn up on a compromise basis in that the adit will not be driven either in a straight line or within the orebody." It was also pointed out that the nature of the mineralized ground and the average grade of the ore should be learned as soon as possible.

3. Under the contract the Operator drove 1,470 feet of advance at an overall cost of $75,476 before salvage including buildings, etc. Little was learned concerning the continuity or grade of the ore.

4. As a result of the above-mentioned exploration, the Field Team report, dated March 25, 1953, set forth the following reserves:

Class	Tons	Per cent WO_3
Measured	160	2.0
Indicated	1,450	1.0
Inferred (Pole adit)	7,860	1.0
	9,470	
Inferred 1/ (North zone)	6,400	1.0
	15,870	

At a cost of $75,000 measured and indicated reserves were increased from 355 tons to 1,610 tons, a net gain of 1,255 tons.

5. Additional work was recommended in order to learn more about the continuity and average grade of the mineralization. An Amended Contract providing for 1,200 feet of additional work in two stages, the construction of a powder magazine, and the purchase of $13,881.90 worth of equipment was granted on May 11, 1953. This increased the total to $141,076, Government participation to $105,807.00. Annex II of the Amended Contract retained the Government's equity in the prior equipment which was being obtained on a rental-purchase basis unbeknown to the Government.

6. After Stage A but before Stage B of the Amended Contract, the project was examined to see if the latter stage was warranted. The results of Stage A suggested the following reserves in the block of ground explored (see memorandum by Smith to Bailey dated July 22, 1953).

Class	Tons	Per cent WO_3
Measured	70	1.0
Indicated	2,900	0.5
Inferred	500	0.5
	3,470	0.5

Smith recommended Stage B.

At the same time Paul Bateman in an undated memorandum mentioned a maximum reserve potential of 8,000 tons for the 800 feet explored by the Pole adit. He recommended using part of the footage of Stage B in exploring new ground because of the limited amount of ore

---

1/ Subject of Amendment No. 4.

that was inferred in the block of ground already explored. The recommendation assigned 255 feet of the 600 to new ground.

7. In Mr. Miller's memorandum of March 11, 1954, which transmits the second final field report, he mentions that Mr. Williams had stated that no ore would be mined unless he was granted the requested funds to extend the Pole adit. His overhead, he stated, would be too great to permit profitable operation if some of the overhead could not be charged to new exploration.

8. Page 8 of the report, which is dated March 4, 1954, mentions that the North zone (the subject of proposed Amendment No. 4) is explored by a short adit which reveals a quartz vein 3 feet wide. Three samples average 0.93 per cent WO_3 across 1.5 feet. No mention is made whether the quartz contains scheelite. The description of the samples offers little information. What a systematic sampling of the entire adit would indicate is not mentioned.

9. At no time have the field men been able to obtain samples from the stockpile that would average assay more than about 25 per cent of what Williams says it will assay. On page 26 of the final report the following statement appears: "The applicant has submitted no assay certificates to substantiate his statements of the tungsten content of various ores placed in this stockpile."

10. On page 31 of the final report the field men state that no new data are available to warrant changing the 6,400-ton inferred reserve figure for the North zone. However, they did drop the grade from 1.0 per cent WO_3 to 0.80 per cent.

Until the zone is explored, they can only assume that the ore bodies of the North zone will be similar in size and grade to those of the Pole adit zone. Because the zone can be seen on aerial photographs and checked on the surface and the Pole adit zone neither can be seen nor checked, they believe there is a reasonable chance that the ore bodies may be larger. The adit they recommend is planned to follow the ore zone within the favorable part of the bed - not underneath it as in the Pole adit. They state, "The contract should so stipulate."

11. On page 35 of the final report, calculations suggest that 10,000 tons of ore might return $28,353 before royalties, taxes, etc., if a 50-ton mill were built on the property. In contrast a report by Mr. Chas. A. Dobbell, dated February 1, 1954, sets up a slightly larger ore reserve as economic. (See page 4.)

12. Everyone agrees that Government participation in further work in the Pole adit for tungsten is not warranted. All favor some work on the North zone and in the ore zone.

13. Mr. Geehan in his memorandum of April 5, 1954, which comments on the final field report and the proposed work, shows that the 5,470 tons of measured and indicated ore located by work to date, which contain 4,376 units of WO_3, cost the Government $24.18 a unit and the project $32.24 a unit before salvage. The latter figure is more than the present world price. Mr. Geehan also points out the figure of $95,000 appearing in the report as representing the Government's loss if and when the ore located to date is mined and royalties paid.

14. The results of the work under the Amended Contract suggested the following reserves:

Class	Tons	Per cent WO_3	Units
Pole adit zone			
Measured	180	0.8	144
Indicated	5,290	0.8	4,232
Inferred	4,900	0.8	3,920
	10,370	0.8	8,296

Thus at a cost of $65,600, or $17.00 a ton, measured and indicated ore reserves were increased from 1,610 to 5,470 tons. Total reserves were increased from 9,470 to 10,370 tons.

15. Mr. Thayer in his memorandum of April 7, 1954, comments on the cost of the exploration to date. Analysis of the Field Team's reserve figures suggests that they may be optimistic. He questions the indicated reserve believing one-half of it should be inferred. Thayer also wants to see the work done in the ore zone without compromise as formerly.

16. Proposed work on the North zone over a horizontal length of 500 feet may yield 1,450 tons of ore averaging 0.8 per cent WO_3, or 1,160 units at a cost of $29,348, or $25.30 a unit. The gross value of this amount of ore would be only $73,080 at $63.00 a unit.

17. Mr. Chambers, in a memorandum dated May 12, 1954, has taken exception to the proposed Amendment No. 4 because of the high cost and the matter of equipment in which the Government has an equity. The amendment allows $40 a foot for untimbered drift, $6 additional for timbered drift, and the use of all the equipment. The writer would be inclined to agree with Mr. Chambers. To date the Government has participated to the extent of 75 per cent in the purchase of $18,089.04 worth of equipment. In addition, it supposedly has the same percentage equity in $12,541.54 worth of equipment bought on a rental-purchase basis. There is also the matter of pipe, rail, and buildings of amount unknown to the writer.

While the writer has no strong objection to exploring the North zone, he does believe that 500 feet of adit is too much to start with and that there will be only a duplication of the not-too-sure results obtained at the Pole adit. As far as is known now, the only additional merit that the North zone has is one of stronger structure. It would appear that 300 feet of adit with lateral work, at least in the first stage, would be sufficient, if the work is properly done, to determine the relative merits between the zone and the Pole adit zone. If one doesn't know then, he should forget the property.

After reading the Amendment, the writer does not believe that paragraph (a) of Stage III gives the Government the automatic control over the location of the adit that it should have. When the writer wrote the original contract, as a compromise it was his intention that the Pole adit should have been turned immediately southward to get as near the mineralization as possible and stay there as long as possible and feasible. The adit was not turned until much later.

In the case of the North zone, the wording of the Amendment is not quite clear. The writer believes that the adit should start in the ore zone and stay in the ore zone as long as a reasonable track grade can be carried. Consideration should be given to strike of beds and direction of ore zone to allow for a maximum eastward advance before the adit, if no faulting, may have to leave the ore zone. When this happens, the adit should be stopped, and the ore zone should be followed by a scraper drift, inclined if necessary, as far as feasible. Then the advance should be thoroughly explored and sampled by lateral work before the adit is advanced again if warranted.

If faulting occurs and it is impossible to keep the adit in the ore zone, lateral work should be done at once to learn its location. If the adit is carried ahead in a blind fashion in barren ground, the Amendment should stipulate that such work would be for the account of the Operator. The idea that the writer is trying to get across is that the Operator should know where the ore is and where it is going before the adit is driven if it cannot be driven in the ore.

There is nothing in the Amendment that is going to make the Operator furnish reliable assay data. Unless some systematic procedure is set up, DMEA will get the same kind of results it got before. The matter of sampling should be discussed. The type that has been done is questionable because it has not been systematic. One could get almost any result he wished by cutting samples here and there as has been done.

Does paragraph D of proposed Amendment No. 4 serve a real purpose? Would the information be any more dependable than some already given? The Operator could take its sweet time about doing the work under Stage III just to get to use the equipment. Under the contract

the writer understands that the Government can audit the production records which would include about as much data as the Operator will probably keep. Most of the ore will probably be mined by judging grade with a mineral light. Probably tonnage will depend solely on a car count. The only true weights and grades will be those of the settlement sheets.

The cost of the work is high for an adit (starting from scratch) in limestone. The Government has already bought lots of pipe and track under the original contract, and there appears to be no reason why some of it should not be used for the new work. Track usually costs around $1.25 a foot. At Mt. Wheeler one calculation the writer made indicated that the track cost $2.87 a foot including some footage that did not require track. Undoubtedly work will also be going on at the Pole adit which should reduce costs at the North zone. There is quite a spread between the approximately $10.00 contract price for labor and $40.00 considering that no equipment is included. As the writer recollects, the $40.00 previously given was to take care of some equipment cost. Surely by now the Operator must have paid for most, if not all, of the equipment.

George C. Selfridge

George C. Selfridge

DOCKET

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

May 12, 1954

MEMORANDUM FOR THE FILES

Re: Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E248

From an audit standpoint this contract is all right. I have two objections to the contract as follows: (1) it should have been on an allowable maximum basis of $40.00/foot with schedules waived; and (2) the contract should not be executed until a final agreement is made in regard to property heretofore purchased by the Operator to which ownership remains in doubt.

OK

At one time Williams agreed that he purchased most of the equipment on a purchase-rental basis and that in his next application for an amendment this material would be listed as Government property. This application went through and the amendment was approved, and yet no settlement of property was made. Now another amendment is going through with settlement still pending.

Jay L. Chambers, Chief
Contract Administration
and Audit Division

FILE COPY
SURNAME:

Rubin
Hofflund

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

N. S. in A. R.

May 10, 1954

Memorandum

To: The Administrator
Through: Mr. W. S. Martin

From: Acting Assistant Solicitor

Subject: Mt. Wheeler Mines, Inc., Docket No. DMEA-2082 (Tungsten), Amended Contract Idm-E248

Attached is Amendment No. 4 to the subject Amended Contract, in satisfactory legal form for execution subject to the attachment of the map referred to therein.

J. L. Hofflund
J. L. Hofflund
Acting Assistant Solicitor

Attachments

HCRubin:ep

Copy to: Docket
Mr. Martin
Mr. Hofflund
Mr. Rubin
Chron.

Docket in
Copy
Martin

Chief Counsel, DMEA

May 5, 1954

Iron and Ferro-Alloys Division, DMEA

Review and preparation of Amendment No. 4
Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E248

Transmitted herewith is a draft of a proposed amendment to the subject contract for your use in preparing the amendment in final form.

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

Attachment

cc: Docket
Adm. Read. File
Code 400

WSMartin/ls

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 4/27

Previous correspondence Your information

REMARKS: Has the Sheffield fissure area been referred by FET for inclusion of PB-Zn or W mineralization on the surface? JEJ

Check (X) before the items needing attention.

WSM
Initials of sender.

GPO 16—63815-1

Frank:

OK by me to start drafting amdmt — Comm JEJ

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

April 28, 1954

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Application for increased exploration aid
Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E248

On October 27, 1953, the subject Operator applied for a contract amendment covering the following program:

(A) Pole Adit

1. Extend Pole Adit 1200 feet easterly to cut the Sheffield fissure.

2. Drive 6 short laterals approximately 200 feet apart, and short raises where necessary, with a combined total not exceeding 600 feet.

(B) North Zone (900 feet North of Pole Adit Portal)

1. Drift easterly 500 feet within the Wheeler bed ore zone.

2. Drive 3 short laterals and 3 short raises to determine width and thickness of ore, with a combined total not exceeding 200 feet.

The above project was estimated to require 12 months to complete at a total cost of $113,014.00, or $75,150.00 for Part A alone and $29,350.00 for Part B alone.

PART A

Denial of Government aid for the work of Part A above is recommended on the basis of the following information:

1. The Field Team's ore reserve estimate for the Pole Adit part of the exploration project to date is:

Class	Tons	% WO_3	Units
Measured	180	0.8	144
Indicated	5,290	0.8	4,232
Inferred	4,900	0.8	3,920
	10,370	0.8	8,296 = [illegible]

2. The Operator's ore reserve estimates are:

Engineers	Class		%WO_3	Units
L. K. Requa & E. B. Young (Operator's final report) Date: 12/17/53	Probable	4,000	1.0	4,000
	Possible	6,000	1.0	6,000
	Total	10,000	1.0	10,000 1/
James A. Williams Date: 1/28/54	Probable	8,690	0.88	
	Possible	24,980	1.66	
	Total	33,670	1.46	
Chas. A. Dobbel Date: 2/1/54	Sorted	13,000 2/	1.0	13,000

1/ The Operator's final report states, page 7:

"We believe that there is a possibility of up-grading this ore into 3000 tons of about 3% WO_3, or 9000 units of tungsten. Further sorting of ore will have to be conducted before this can be said to be definite, but at the time of our visit up-grading of ore by sorting was in successful progress."

2/ Shown on tonnage summary as 13,702 tons of 1% WO_3.

3. The production figures reported by the Field Team are:

Production	Tons	% WO_3	Units WO_3
Milled			
Sorted ore	65 3/	1.88	122
Mine Run	361 4/	0.78	282
DMEA Stockpile (Estimate by USBM)	800	0.32	256
	1,226	0.54	660

3/ The Operator's final report states, page 6:

"Over the past month tests have been made on sorting crude ore in the stopes. This was done in Laterals A & B and more lately in Lateral No. 5. The results have been gratifying and at the time we left the mine approximately 75 tons of this sorted product had been produced. It had an estimated grade of 3% WO_3."

The report gives no proportion between non-DMEA ore (Laterals A & B) and DMEA ore (Lateral No. 5).

Mr. James A. Williams' report of January 28, 1954, immediately following the ore reserve estimated quoted in item "2." above, states: (page 9)

"The reasonableness of this grade estimate is demonstrated by our selectively mining 65 tons of ore from the upper bedding of Laterals "B" and No. 5 during the month of November, 1953, and milling in the Stopper mill. This 65 tons of ore produced 3,668 lbs. of concentrate assaying 52.44% WO_3 showing a mill recovery of 1.48% WO_3 per ton. The calculated heads of this ore was 1.88% WO_3."

4/ From the table on page 5 of the Operator's final report we can determine distribution of this tonnage as follows:

Source	Tons	Recovery, Units WO_3 per Ton
Non-DMEA	54	1.12
DMEA	307	0.48

4. In round figures, as reported in Operator's final report, pages 7 - 8, the costs were:

Provided by DMEA - $104,175

Provided by Operator - $156,250 after taking a credit of $11,260 for sale of concentrates.

Total expenditures - $271,685 as reported, can be grouped as follows:

Distribution of Expense		Amount	
Payment on optioned claims	$12,500		
Location of 72 mining claims	7,500		
Initial organization expense	2,500		
Initial geology and engineering	2,000		
Initial surface exploration	7,500		
(Total pre-project expenses)*		$32,000	
Camp construction	35,000		
Camp equipment	9,500		
Mine surface buildings	13,000		
Mine ore bins	3,750		
Road construction	5,500		
Water system	1,250		
(Project & non-project surface costs)*		68,000	
Automotive equipment	10,500		
Mining equipment	42,500		
(Equipment)*		53,000	
Pole adit - 1108 feet		58,750	$53.00/ft.
Bedding exploration - 1592 ft.		53,000	$33.30/ft.
Office, travel, assaying, etc.		6,935	

* N.B.: The report quoted does not include the groupings shown in parentheses above and marked with asterisks. In the same report, if the note therein (apparently in Mr. Williams' handwriting) is correct, he has taken a double credit for $11,260 from sale of concentrates.

5. The Field Team's final report, pages 2 and 3, states:

"Only one important zone of scheelite mineralization appears to have been disclosed by the DMEA exploration. This zone within the Wheeler limestone bed is situated north of the Pole adit and has been explored in a limited manner and in an easterly direction from laterals 1, 2, 3, and 5. Exploration of the mineralized zone, allowed by

the contract and the various amendments, does not indicate sufficient occurrences of economic ore to justify additional participation by the Defense Minerals Administration . . ."

"The extension of the Pole adit, requested by the applicant for the purpose of exploring the Sheffield fissure, does not offer any better possibilities of finding tungsten ore bodies, than the 1,200 feet of work that has been completed. Exploration on Pole adit, Zone No.1, to date has indicated approximately 5,290 tons of 0.8% WO_3. In the event an additional 5,000 tons of similar grade ore were developed by the proposed work, it would still be insufficient to justify additional assistance by the Government for the work contemplated.

"Mining costs will be high due to the necessity for careful mining and sorting under mineralight in order to up-grade the ore for milling. To obtain the maximum profit in operations, a milling plant should be located adjacent to the mine ore bins. However, the estimated ore reserves are not considered sufficient to justify the cost of a mill at this time."

6. The Field Team considers that sufficient scheelite mineralization has been disclosed and sufficient tungsten ore mined and milled to certify that the Government is entitled to royalties from production.

7. The Field Team's report of March 4, 1954, states, page 4:

"A moderate economic production should be feasible by careful, selective mining."

Their report also states, page 35:

"Mr. Williams has informed the examining engineer that he plans to install a milling plant at the mine and that adequate financing for this plant has been secured."

The Field Team's letter of March 11, 1954, submitting the same report, states:

"Another matter I brought up at the conference was whether or not ore already developed by the Pole adit was going to be mined and milled so we would get royalty on it. Mr. Williams replied that no ore will be mined unless he is granted requested funds to extend the Pole adit. His overhead, he stated, would be too great to permit profitable operation if some of the overhead cannot be charged to new exploration."

8. "The field team representatives do not consider that DMEA assistance is justified in continuing the further development of the Pole adit easterly toward the Sheffield fissure for the following reasons:

"1. Due to the moderate tonnage of tungsten ore disclosed in the previous exploration contract, it appears unlikely that sufficient ore could be developed for repayment of the loan.

"2. The most favorable mineralized bed has been explored with disappointing results.

"3. Further extension of the Pole adit in an easterly direction and laterals in a northerly direction are considered to be highly speculative.

"4. The work proposed by the operator specifies 600 feet for laterals which does not provide enough footage for more than two laterals to reach the zone of inferred ore as each lateral would have to be at least 250 feet long."

Reasons "1." and "2." given above by the Field Team representatives express conclusions based on the foregoing ore reserve, production, and cost figures. Reason "4." can be checked with a scale against the map submitted by the Operator with his application for increased exploration aid.

Reason "3.", concerning the speculative character of the proposed extension of the Pole adit toward the Sheffield fissure, brings into consideration geological theories that cannot be proved or disproved by the data now available. The Operator's final report states, page 4:

"There is a zone of very pronounced faulting and fissuring 1200 feet ahead of the present face of the Pole Tunnel. This is known as the Sheffield zone and can be easily seen on the surface and in aerial color photograph. This zone is composed of several prominent fissures striking about N 15° E and dips westerly. The zone itself is about 300 feet wide and extends for many hundreds of feet. It is marked by numerous diggings of early day miners. The intersection of the Pole fissure zone with the Sheffield zone would form an unusually favorable locus for ore deposition. The heretofore nonproductive, northerly striking fissures and fractures seen in the presently developed area at Mt. Wheeler, could become important ore producers under the conditions that might exist along the Sheffield zone."

Under date of December 16, 1952, Mr. Earl B. Young in his report on "Tungsten Ore Reserve at Mt. Wheeler Mine" stated:

"In general, the east-west fractures are frequently filled with quartz, sometimes carrying scheelite, while the north-south fractures tend to be open or filled with aragonite, mud and pebbles."

The commodity specialist of the U. S. Geological Survey at that time commented as follows:

"N-S fractures may be post scheelite according to this description?"

9. The U. S. Geological Survey's tungsten specialist, in a memorandum of April 7, 1954, with substantiating geologic and economic data, concurs with the Field Team that:

"The exploration of the Pole Adit to date has shown the basic possibilities of the zone, and has therefore accomplished its purpose--exploration. On this basis I recommend that no more work be undertaken at Government expense. The Sheffield Fissure seems not to be a legitimate tungsten exploration target, as it cuts across the tungsten-bearing fissure system and the known mineralization in it is not encouraging for tungsten."

10. The U. S. Geological Survey's lead-zinc specialists feel that we do not have enough information to justify asking them to comment on the project.

11. The U. S. Bureau of Mines' tungsten specialist concurs with the Field Team in the following recommendation: "Reject the present proposal for extension of the Pole adit." He would, however, approve extension of the Pole adit, without laterals, as far as the Sheffield zone, at the 50-50 lead-zinc rate if the applicant so requested and the lead-zinc specialists passed the proposal.

12. The U. S. Bureau of Mines' lead-zinc specialist quotes from the Operator's final report as follows: "The north-south fracture zones appear to be only of importance where they intersect the east-west mineralizers."

He comments that, "Whether such intersecting east-west mineralizing fractures can be identified or exist is unknown, but no evidence of them is given in the application." He, therefore, recommends that continuation of the Pole adit to the Sheffield shear zone be denied, or held in abeyance until justifying evidence is produced.

PART B

Approval of Government aid for the work of Part B above is recommended on the basis of the following information:

1. The Field Team's ore reserve estimate for the whole 2200 feet of the north zone is:

   Measured - a few tons
   Indicated - a few tons
   Inferred - 6,400 of 0.8 % WO_3 ore, or 5,120 units.

   Of this tonnage, the 500-foot block to be explored as proposed now is estimated to contain 1,450 tons averaging 0.8% WO_3 or 1,160 units.

2. The Operator's final report states, page 4:

   "Other attractive zones of fissuring parallel the Pole Ore Channel. The north ore zone has been recognized for some time. Indeed a small tunnel was driven years ago on a quartz fissure, which is a part of this zone. This lies about 1100 feet north of the Pole Ore Channel. It is a zone of good fracturing about 50 feet wide and contains strong veins and some notable showings of scheelite."

   It is our understanding that the small tunnel mentioned is the "Old powder tunnel: (Approximately 900 feet north of Pole adit)", mentioned on page 16 of the Field Team report and sampled as follows:

Sample No.	Width, Feet	%, WO_3	
1055	1.7	2.0	Surface exposure 7 feet north of adit cut. Light scattered scheelite.
1056	1.4	0.63	In powder tunnel, west wall of south branch and 5.5 feet south of center line of adit cut.
1057	1.5	*0.01	Surface bedding over portal of old powder tunnel and on north side.

   *Less than

3. The estimated cost of $29,350 for an estimated 1,160 units amounts to an exploration cost of $25.30 per unit, without including any charges for use of inventory items now at the Pole adit.

4. The Field Team recommends:
   (a) approval of exploration of the eastward-trending exposure of scheelite mineralization at coordinates 26400 N. & 9500 E.
   (b) a separate contract for this separate exploratory program on a separate deposit from the Pole adit deposit, why?
   (c) doing the new work only if it is in the national interest to explore for deposits of this size and grade, !!?
   (d) planning the adit to follow the ore zone within the favorable part of the bed--not underneath it as in the Pole adit zone. "The contract should so stipulate."

5. The tungsten specialist of the U. S. Geological Survey concurs with the Field Team, emphasizing that the project should not be a compromise between development and exploration, and that if nothing good shows up in the course of the work outlined, further exploration for tungsten should be abandoned.

6. The tungsten specialist of the U. S. Bureau of Mines concurs with the Field Team, favoring the proposal because of the strong surface expression of the favorable structure.

7. The zinc-lead specialist of the U. S. Bureau of Mines specifically restricts his comments to the Pole adit extension.

8. This division concurs with the above-recommendations of the Field Team and the commodity specialists, but makes exceptions as to procedure as follows:

   We will not attempt to define the national interest so narrowly in terms of tonnage and grade for exploration targets. Among other factors that must be considered in this case are: (a) camp property and equipment in which the Government has an equity are now available, and (b) approval of the recommended north zone phase of the project may encourage the Operator to mine and mill a more significant tonnage of ore from the Pole adit zone, and thus give us more dependable information about the grade thereof. Consequently, instead of a separate contract, we recommend amendment of the subject contract.

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

Docket

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

April 9, 1954

Memorandum

WSM

To: W. S. Martin, DMEA (Iron and Ferro Alloys)

From: O. M. Bishop, Base Metals Branch

Subject: Docket No. DMEA-2082 (Tungsten), Mt. Wheeler Mines, Inc., White Pine County, Nevada. Request of October 27, 1953 for admendment to Contract Idm-E248 to allow additional work estimated to cost $113,014

The proposed work consists of (1) extending the Pole adit 1,200 feet to the eastward to intersect the Sheffield Zone, (2) crosscutting from the Pole adit with short raises not to exceed 600 feet, (3) drifting 500 feet eastward on the North Zone within the Wheeler ore horizon and (4) driving 3 short crosscuts with short raises from the North Zone drift to determine ore widths and thickness.

Item 1, the extension of the Pole adit appears to have its greatest potential for lead and zinc while the other three items of exploration are clearly for tungsten. The following remarks are directed only to exploration under item 1.

The Combined Metals member of the Pioche formation (the Wheeler ore bed of the application) is a notable producer of lead and zinc with precious metal values at Pioche, Lincoln County, Nevada, and the underlying Prospect Mountain quartzite is the country rock of the Comet mine in White Pine County. There is a possibility that the intersection of the Sheffield shear zone with these two favorable horizons has produced an orebody, but the applicant has not asked assistance in lead-zinc exploration, nor presented evidence that would in my mind justify the 1,200-foot extension of the Pole adit. The Requa-Young report of December 17, 1953 to E. H. Snyder describes the Sheffield Zone as 300 feet wide and several hundred feet long, and states that it is composed of several prominent fissures, striking about N. 15° E., is marked by numerous diggings of early day miners, and is easily seen on the surface and in an aerial color photograph. The same report notes that the northerly striking fissures and fractures "appear to be only of importance where they intersect the east-west mineralizers."

Operator's Final Report

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Whether such intersecting east-west mineralizing fractures can be identified or exist is unknown, but no evidence of them is given in the application.

It is therefore recommended that item 1 as it relates to lead-zinc potential on the Sheffield shear zone be denied, or held in abeyance until justifying evidence is produced.

O. M. Bishop

O. M. Bishop

Copy to: Minerals Division
A. R. Kinkle
O. M. Bishop
Files

IN REPLY REFER TO:

Docket

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

April 7, 1954

WSM

Memorandum

To: W. S. Martin

From: T. P. Thayer

Subject: Docket IMEA-2082 TUNGSTEN
Mt. Wheeler Mines, Inc.
White Pine County, Nevada

The final Field Team report of March 4, 1954 on work under Contract Idm -E248 is correct in saying the project should be certified as a "discovery or development" so that any Government royalty will be paid. Whether the project has shown that the "reserves" found are minable, or additional exploration is justified, is something else.

Figures provided by the Field Team indicate that it has cost $141,654 to find 4,376 units of WO_3 in measured and indicated ore and mine about 800 tons of ore worth maybe $12,000. The Field Team further infers about 3,920 units of WO_3 in 4900 tons of ore in 1200 feet of veins on the strike of the completed work. The exploration cost per unit of WO_3 in measured and indicated ore appears to be about $32.00 per unit; if the inferred ore be added, the overall cost would be $17.00 per unit. To bring the inferred ore into the indicated and measured categories, according to the applicant, would cost an additional $113,014, or about $29.00 per unit. Taken at face value, on the Field Team's reserve estimates and Operator's cost estimates, exploration in the Pole Adit zone costs about $30.00 per unit of WO_3, or about half the theoretical value of the ore in the ground.

Analysis of the Field Team's reserve figures suggests that they may be optimistic. The ore bodies are assumed to be 7 by 7 feet in cross section, and to occupy two-thirds of the vein length. The average grade in the 7x7 foot cross-section is estimated to be about 0.5%, with ore sortable to 0.8% WO_3, by discarding one third of the volume. The longest channel sample listed, assaying more than 0.5% WO_3, is 5 feet, and the average length of 21 channels assaying more than 0.5% WO_3 is about 3.2 feet. The average length of 30 low-grade samples is about 4 feet. According to the detailed sections few, if any, samples were taken end to end, though they are at various levels and horizontal positions. The sketches all agree

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in showing that distribution of the ore of minable grade is very spotty. In these circumstances absence of major face samples leaves a great deal to judgment. It appears, however, that irregularity in distribution of ore will present major mining problems, and the 7 by 7 foot figure will have no counterpart in actual mining.

The comments by Mr. Bateman after an examination of the project on July 15 are pertinent:

> "Within the limestone, the base of the zone favorable to mineralization is about 5 feet above the lower contact, and the zone extends upward about 5 feet on the average. The ore bodies in this zone are adjacent to east-trending near-vertical quartz veins and silicified zones. The exposed ore ranges in width from a few inches up to a maximum observed width of 18 feet. The side boundaries of the ore bodies are irregular but fairly sharp; the rock in the favorable stratigraphic zone between the ore bodies contains only scattered crystals of scheelite. Probably the ore bodies vary both in size and scheelite content in their longer directions. There is no proof that any two ore showings are parts of the same ore body, but some continuity seems probable. Scheelite is commonly in coarse crystals associated with quartz, ankerite (?), and calcite, and in some places is concentrated in bands parallel with the bedding in the limestone. .... Because of uncertainties as to the continuity of the ore between the various showings, the volume of ore that is contained in the explored block can be calculated only in terms of order of magnitude. If it is arbitrarily assumed that the best ore showings on laterals A and B, 1, 3, and 5 are all parts of a single ore body, possibly offset by faults, that extends from lateral No. 5 to the adit portal, such a body would contain about 4,000 tons of ore (average dimensions: 5' high, 11' wide, 800' long). On the further assumption (possibly unduly generous) that as much additional ore is contained in other ore bodies, the total reserve within the block explored may be as much as 8,000 tons. Even if the showings are not continuous, but the ore encountered in the laterals is assumed to be representative of the amount that might be encountered in any intervening lateral, the reserve estimate would be about the same. Little of this ore could be classed as measured; most of it is indicated or inferred."

The Field Team figure for measured ore is economically insignificant, so the method of calculation is academic. The "indicated" ore estimate seems very generous, and the inferred estimate is essentially without basis. When ore can be calculated no closer than "in terms of order of magnitude" as Bateman says, it should be classed largely as inferred. The Field Team includes ore as indicated between points 250 feet apart (laterals No. 3 and No. 5), on the basis of 2 shoots, even where one crosscut shows only one

shoot! For purposes of mining, I would feel the "indicated" ore reserve should be cut by at least half, and the other half counted as inferred.

The figure for inferred ore postulates continuity and uniformity of mineralization over a length of 2000 to 2200 feet, despite the spotty distribution in the half of the vein zone that has been explored. This, it seems to me, is carrying inferred ore rather far.

The nub of the question seems to be in the table on page 11 of the Field Team report, giving estimates of cost for production. It appears that production would be doubtful, even with an ultimate DMEA subsidy of $18 to $22 a unit, on top of the guaranteed purchase program.

"The exploration on the Pole Adit to date has shown the basic possibilities of the zone, and has therefore accomplished its purpose - exploration. On this basis I recommend that no more work be undertaken at Government expense. The Sheffield Fissure seems not to be a legitimate tungsten exploration target, as it cuts across the tungsten-bearing fissure system and the known mineralization in it is not encouraging for tungsten."

Exploration on the fissure zone 900 feet north of the Pole Adit seems reasonable, in view of the apparent greater magnitude of the zone. One might ask why it was not chosen in preference to the Pole Adit location. If undertaken, it should be on a basis which will give much better information on continuity of the ore bodies. The drift, in other words, should follow the main ore zone as closely as possible, even if it entails somewhat higher costs. The project should not be a compromise between development and exploration, as the present one has been. If nothing good shows up in 500 feet of drifting, plus a few short crosscuts, further exploration for tungsten should be abandoned.

T. P. Thayer

T. P. Thayer

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

Defense Minerals Administration
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APR 6 1954

April 5, 1954

Memorandum

To: W. S. Martin, DMEA

From: Robert W. Geehan

Subject: DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada

The company has requested approval of additional work estimated to cost $113,014. The field team report recommends approval of only the work at the North Zone at a cost estimated to be $29,350. In the letter transmitting this report, H. C. Miller points out factors that would favor approval of the entire proposal but does not specifically recommend approval.

The field team report (Page 30) points out 4 reasons for rejection of additional work in the Pole adit. These boil down to the assumption that the cost of the exploration is far too high in relation to the ore that can be expected. This is a valid reason for rejection of the proposal. The field team estimate of ore located by work to date (measured and indicated) is 5,470 tons containing 4,376 units. The DMEA work is listed at $141,076, Government participation $105,807 (Page 18). The total cost including non-DMEA is listed as $271,685 (Page 11). Thus, the cost per unit would be:

$$\text{Government } \frac{\$105,807}{4,376} = \$24.18$$

Total DMEA $\frac{\$141,076}{4,376} = \$32.24$

Total, all costs $\frac{\$271,685}{4,376} = \$62.09$

The field team report also points out (Page 11) that if ore located to date was mined the royalties would fail, by $95,000, to return the Government participation.

The calculations listed above provide ample reason for rejection of the proposal for further exploration of the type done to date.

The applicant and the Requa-Young report infer a very large ore body at the junction of the favorable bed and the Sheffield fissure zone. The field team report states, "The extension of the Pole adit, requested by the applicant for the purpose of exploring the Sheffield fissure, does not offer any better possibilities of finding tungsten ore bodies than the 1,200 feet of work that has been completed." (Page 3). The field team report also points out (Page 10) that the Sheffield fissure has been explored for lead-zinc. No reference is made to showings of tungsten ore at the outcrop.

The type of mineralization located so far is best explored by mining. Drifting below a 7 by 7-foot pipe of ore, with laterals extended at about 100 foot intervals is not a sound method of exploration. The "experience factor" mentioned by Requa and Young can be used. The applicants appear to have the Sheffield zone as their primary target, as the proposed extension of the adit does not stay near the projected tungsten ore; in fact, the field team has pointed out that the footage for laterals listed would not be enough to explore the structure.

The only justification for extension of the Pole adit is "wildcat" exploration of an area where a large ore body of lead-zinc-silver ore or tungsten ore may be found. Approval of this work would be contrary to the recommendation of the field team.

The field team recommends approval of the work proposed in the North Zone, with a contract calling for work on the ore, rather than below it. This proposal is favored because of the strong surface expression of the favorable structure.

Recommendations:

1. Approve the North Zone work, with a strict contract calling for work on the ore zone. (Page 31 - field team report)

2. Reject the present proposal for extension of the Pole adit.

3. If the applicant proposes extension of the Pole adit, with no laterals prior to the intersection with the Sheffield zone, with the 50-percent rate for lead-zinc (or a combined 50-percent to 75-percent rate) and advance Washington office approval for any change order or for any laterals, I would recommend approval. This would: (1) Reduce the cost to the Government. (2) Recognize the probability of encountering lead-zinc mineralization. (3) Prevent costly exploration of a "pipe" of tungsten ore, but provide a haulage way to encourage the company to work this showing.

4. Because of the added costs for the applicant's account, a more conservative appraisal of the project can be expected.

The lead-zinc specialists should also pass on such a proposal.

Robert W. Geehan

Robert W. Geehan

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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MAR 18 1954

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

March 11, 1954

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract No. Idm-E248 (Amended)

Attached are four copies of our final report on the Mt. Wheeler Mine, entitled "DMEA-2082, Mt. Wheeler Mines, Inc., White Pine County, Nevada, (Tungsten)," by Glenn G. Gentry, Mining Engineer, U. S. Bureau of Mines, and Roscoe M. Smith, Geologist, U. S. Geological Survey, dated March 4, 1954. Attached also are four copies of the Operator's Final Report.

According to the Field Team engineer and geologist, only one important zone of scheelite mineralization appears to have been disclosed by the DMEA exploration. This zone within the Wheeler limestone bed is situated north of the Pole adit and has been explored in a limited manner and in an easterly direction from laterals 1, 2, 3, and 5. Exploration of the mineralized zone, allowed by the contract and the various amendments, does not indicate sufficient occurrences of economic ore to justify additional participation by the DMEA for further exploration. The extension of the Pole adit, requested by the applicant for the purpose of exploring the Sheffield fissure, does not offer any better possibilities of finding tungsten ore bodies than the 1,200 feet of work that has been completed.

On the basis of the examining engineer and geologist's findings as brought out in their report:

1. Additional expenditure of Government funds for further exploration in the Pole adit is not justified and such expenditure is not recommended.

Reviewed by
DMEA OPERATING COMMITTEE
3-22-54
(date)

2. Sufficient scheelite mineralization has been disclosed and sufficient tungsten ore mined and milled to certify that the Government is entitled to royalties from production.

3. A moderate economic production should be feasible by careful, selective mining.

The examining team, however, recommends approval be given to the exploration of the eastward trending exposure of scheelite mineralization located approximately 900 feet north of the portal of the Pole adit. The proposed work would be/separate exploration program on a separate deposit.

Mr. J. D. Williams called at the office on March 9, at which time Roscoe Smith and I discussed with him his application for further work. Several matters came out of our discussion that probably should be given studied consideration in Washington by those engineers who are to decide whether or not additional exploration is advisable. For example, the drive to the Sheffield fissure always has been a primary objective of the work at the Mt. Wheeler mine. The original application pointed out that.

The proposed extension of the Pole adit will cut across an East-West shearing which shows on the surface south of the Pole adit and which strikes essentially N80°E.

The major North-South shear zone in the Sheffield area is over 300 feet wide and may carry tungsten mineralization. Mr. Smith is of the opinion that it is the most ideal structural preparation for an ore deposit. Mr. Smith brought out also that in driving the Pole adit eastward, the adit will get increasingly closer to the quartz monazite stock which is inferred to be the source of tungsten in the area. Requa and Young, on page 4 of their report (included in Operator's Final Report), also bring out that the exploration of the Sheffield area is a worthy objective and recommended that every effort should be made to reach it.

Another matter I brought up at the conference was whether or not ore already developed by the Pole adit was going to be mined and milled so we would get royalty on it. Mr. Williams replied that no ore will be mined unless he is granted requested funds to extend the Pole adit. His overhead, he stated, would be too great to permit profitable operation if some of the overhead cannot be charged to new exploration. No additional equipment, other than an air receiver costing $600, is needed to carry out mining and extension of the Pole adit simultaneously. If the above is true and the operator fails to get approval to extend the Pole adit, the Government may get back nothing at all on the funds spent for exploring the property to date.

The Field Team's final report gives, on page 29, an itemization of the estimated cost of the new work proposed by Mr. Williams. The following additional information given by Mr. Williams clears up some points I brought up regarding that estimate.

1. If only extension of the Pole adit is allowed, then only an air receiver need be purchased.

2. If only the North area work is allowed, neither a compressor nor air receiver will have to be purchased.

3. A new compressor is needed only if both projects are allowed.

4. On the basis of the Pole adit extension only, the estimated costs are:

1200 feet of drifting at $40/ft.	$48,000
600 feet of laterals at $40/ft.	24,000
Timbering where needed at $15/ft.	2,400
Assaying	150
1 - 4X8' air receiver	600
Total	$75,150

5. On the basis North area work alone is approved, the estimated costs are:

500 feet drifting at $40/ft.	$20,000
200 feet laterals at $40/ft.	8,000
Timbering at $15/ft.	1,200
Assaying	150
Total	$29,350

104,500

6. If both projects are allowed, the estimated cost, of course, is $113,014.00.

H. C. Miller, Executive Officer
DMEA Field Team, Region III

Attachments

Copy to: Roscoe Smith, USGS
A. C. Johnson, Reno
George Mavor
F. Horton

DMEA-2082, Mt. Wheeler Mines, Inc.

White Pine County, Nevada

CONTENTS

	Page No.
Summary, conclusions and recommendations	1
Geology and Ore Deposits	5
Ore Reserves	12
Sampling	13
Description of work completed	17
Financial	20
Efficiency of operations	21
Production	22
Equipment	27
Applicant's proposal	29
Recommendations	30
Other information	33
Expenditures	36

ILLUSTRATIONS

Fig. 1 Assay map of Mt. Wheeler Tungsten Mine
Fig. 2 Geologic sketch map and sections
Fig. 3 Longitudinal sections, looking north
Fig. 4 Plan of northern exposure, Pole Canyon project
Fig. 5 Map showing proposed exploration

F.T. Final Rpt.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

Defense Minerals Administration
RECEIVED
MAR 18 1954

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

GGG
3/25/54

Idm-E248

DMEA-2082, Mt. Wheeler Mines, Inc.

White Pine County, Nevada

(Tungsten)

Glenn G. Gentry, Mining Engineer
U. S. Bureau of Mines

Roscoe M. Smith, Geologist
U. S. Geological Survey

March 4, 1954

Reviewed by
DMEA OPERATING COMMITTEE
3-22-54
(date)

FINAL REPORT

Docket No.: DMEA-2082 (Tungsten)

Name and address of operator: Mt. Wheeler Mines, Inc.
218 Felt Bldg.
Salt Lake City, Utah

Name and location of property: Mt. Wheeler Mine,
White Pine County, Nev.

Contract No.: Idm-E248

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary:

The Mt. Wheeler mine was explored under a Defense Minerals exploration contract between Jan. 29, 1952 and Dec. 12, 1953. The purpose of the work was to explore a favorable layer of the Wheeler limestone for the eastward extension of tungsten showings at the Pole adit, and to test adjacent areas within the limestone for inferred ore bodies.

The work was conducted in stages and was accomplished by extending the Pole adit easterly under the favorable limestone, and as close to it as practicable. At intervals, laterals and raises were driven into the ore bed and flat crosscut raises driven up-dip of the bed to test for parallel ore bodies. Drifts were driven short distances along most of the ore bodies cut, and raises were driven above the two of the drifts to test upper layers of the limestone.

Pursuant to the completion of the amended contract, dated May 11, 1953, which allowed an additional 1,200 linear feet of exploration, a final examination of the Mt. Wheeler Tungsten Mine was made from Dec. 10 to 13, 1953, inclusive by a geologist[1/] of the Geological Survey and an engineer[2/] of the Bureau of Mines.

The purpose of the examination was to evaluate the exploration completed by the applicant under Phases A and B of Stage II of the amended contract and to examine, sample and map the exposures of scheelite mineralization. During the examination, the field team were accompanied at various times and for short periods by Mr. James D. Williams, president of Mt. Wheeler Mines, Inc. and/or Vern Jeppson, mine foreman.

On Dec. 12, 1953, the applicant had completed the 1200 feet of exploration allowed under the amended contract and has presented a further application for the extension of the Pole adit, various exploration laterals, together with a request for additional mining equipment, all at his estimated cost of $113,014.00.

Conclusions:

Only one important zone of scheelite mineralization appears to have been disclosed by the DMEA exploration. This zone within the Wheeler limestone bed is situated north of the Pole adit and has been explored in a limited manner and in an easterly direction from laterals 1, 2, 3, and 5. Exploration of the mineralized zone, allowed by the contract and the var-

1/ Roscoe M. Smith
2/ Glenn G. Gentry

ious amendments, does not indicate sufficient occurrences of economic ore to justify additional participation by the Defense Minerals Administration for further exploration.

The extension of the Pole adit, requested by the applicant for the purpose of exploring the Sheffield fissure, does not offer any better possibilities of finding tungsten ore bodies, than the 1,200 feet of work that has been completed. Exploration on Pole adit, Zone No. 1, to date has indicated approximately 5,290 tons of 0.8% WO_3. In the event an additional 5,000 tons of similar grade ore were developed by the proposed work, it would still be insufficient to justify additional assistance by the Government for the work contemplated.

Mining costs will be high due to the necessity for careful mining and sorting under mineralight in order to up-grade the ore for milling. To obtain the maximum profit in operations, a milling plant should be located adjacent to the mine ore bins. However, the estimated ore reserves are not considered sufficient to justify the cost of a mill at this time.

Approximately 900 feet north of the portal of the Pole adit, the applicant has exposed an east-west fissure zone containing scheelite. Three samples of this material taken by the examining engineer assayed as follows:

Sample No.	Width/feet	%, WO_3
1055	1.7	2.0
1056	1.4	0.63
1057	1.5	0.01*

*less than.

Recommendations:

1. The field team consider that additional expenditure of Government funds for further exploration in the Pole adit are not justified and such expenditures are not recommended.

The expenditure of funds, in order to prospect the Scheffield fissure for lead-zinc and/or scheelite minerals, will be a highly speculative venture.

2. The field team consider that sufficient scheelite mineralization has been disclosed and sufficient tungsten ore mined and milled to certify that the Government is entitled to royalties from production, as evidenced by the following table:

Class	Tons at start of project	%, WO_3	Tons at end of project	%, WO_3	Net change Tons	Units
Measured	80	1.0	180	0.8	+100	+64
Indicated	175	1.0	5,290	0.8	+5,115	+4,057
Inferred	15,400	1.0	11,300	0.8	-4,100	-6,360
Total	15,655		16,770		+1,115	-2,239

The increase in measured and indicated reserves constitute a discovery.

3. A moderate economic production should be feasible by careful, selective mining.

Future exploration:

The field team recommend that approval be given to the exploration of the eastward trending exposure of scheelite mineralization located approximately 900 feet north of the portal of the Pole adit at coordinates

26400 N. and 9500 E. They consider the work proposed at the North zone to be a separate exploratory program on a separate deposit. Inferred reserves in the block to be explored are 1,450 tons averaging 0.8% WO_3.

They recommend that the Government enter into a new contract to do the work proposed by the operator only if it is in the national interest to explore for deposits of this size and grade. If the project is approved, the field team recommend drifting along the vein for a maximum distance of 500 feet and crosscutting and raising where indicated by the mineralization for a maximum distance of 200 feet.

The contract should be drawn on a unit or footage basis at $40.00 per foot and necessary timbering at the rate of $15.00 per foot. The applicant should furnish all labor, equipment and supplies. No additional funds should be allowed for new equipment, as it is believed the operator has adequate machinery and buildings on hand applicable for this project. Total cost of the project should not exceed $30,000.

GEOLOGY AND ORE DEPOSITS

The ore bodies revealed by the DMEA work are scheelite-bearing quartz veins and nearly horizontal pipe-like replacement bodies in limestone. The veins range from a fraction of an inch to about 6 inches in width and occupy steep east-striking fractures. The replacement bodies consist of scheelite-bearing ankerite (?), calcite, siderite, and iron oxide adjacent to the scheelite-bearing quartz veins. They range in width

and height from a few inches to about 15 feet within the favorable part of the Wheeler (CM) limestone, and they pinch and swell along the strike.

Steep, north-striking faults and fractures cut the ore bodies. The east side is commonly down thrown and the throw may be as much as 25 feet. One of the most prominent faults has been named the Sheffield fissure; displacement along it is inferred to be several hundred feet. The age of the north-striking fractures is not known, but most of them are thought to be post-mineral, although a few contain scheelite and are pre-mineral. In some places, especially laterals A and B, replacement ore bodies appear to be localized at the intersections of these fractures with east-striking quartz stringers. In other places the north-striking fractures appear to have little or no relation to the ore bodies.

The ore mineral is principally scheelite which is commonly in coarse crystals in the quartz veins and in the ankerite replacement bodies where it is commonly concentrated in layers parallel to the bedding planes.

The best ore occurs in the bottom part of the Wheeler (CM) limestone bed from 3 to 10 feet above the underlying shale. A second layer of ore near the top of the Wheeler bed, 12 to 18 feet above the underlying shale, is exposed in raises above laterals 3 and 5 (see fig. 3). The extent and continuity of this layer is not known but it is inferred that it will be favorable for ore deposition elsewhere. Lower grade ore occurs between the upper and lower layers.

Parts of the favorable lower layer of limestone were dissolved by supergene waters and the cavities were filled with mud. These mud-filled cavities occur along the north-striking fractures and extend outward from them as much as 15 to 20 feet. Presumably the favorable upper layer is also similarly affected but this was not observed. In some localities, notably near lateral No. 4, 20 percent of the area of the bed may be replaced with mud. This percentage may decrease eastward where distance to the surface is greater.

The ore bodies occur in an east-striking zone about 100 feet wide extending easterly from the portal of the Pole adit as far as explored - about 800 feet. Within this zone, two pipe-like ore bodies appear to have reasonable continuity; they are roughly parallel but may join or cross in places, or there may be three parallel ore bodies in other places (fig. 2, laterals 1 and 5).

The average grade of all rock mined from the Pole adit ore zone is about 0.5 percent WO_3 as shown by the production figures:

Production	Tons	%, WO_3	Units WO_3
Milled			
Sorted ore	65	1.88	122
Mine run	361	0.78	282
Stockpiled - est.	800 1/	0.32	256
	1226	.54	660

1/ U.S. Bureau of Mines samples and estimated tonnage.

The ore pinches and swells along the strike. Most of the scheelite is contained in about two-thirds of the rock so that the average grade of the ore bodies is about 0.8 percent WO_3. This grade applies to material which contained some proportion of waste, because parts of the drifts were driven on or near the shale contact (e. g. lateral No. 5 - fig. 3) and included some of the bottom three feet of the Wheeler limestone. By selective mining, a grade of 1.0 percent WO_3 probably can be maintained.

About 900 feet north of the Pole adit the North zone (fig. 4) is explored by a short adit which reveals a quartz vein 3 feet wide. Other parallel quartz stringers occur over a width of 60 feet. Three samples taken here by the Bureau of Mines average 0.93 percent WO_3 across 1.5 feet.

This zone appears to be more persistent than the Pole adit zone as it can be observed in aerial photographs to extend eastward about 1,500 feet from the short adit, whereas the same photographs show no trace of the Pole adit zone.

Geologic Resume:

This project was originally recommended in a report by R. M. Smith and D. C. Arnold August 22, 1951 to test the three-way intersection of the Wheeler (CM) bed, strong mineralized north-striking fractures, and tungsten-bearing east-striking quartz stringers.

As the intersection nearest to the surface is about 2200 feet from the portal, the cost of the work would be great; as there is no direct evi-

dence from which to infer large ore bodies at this intersection, the work was, and still is, considered warranted as a DMEA project only if tungsten ore in significant quantities is revealed at reasonable intervals throughout the east-striking zone as the work progresses. Although ore has been revealed in five out of seven laterals in this zone, the small size and low grade of the ore bodies does not warrant exploration for more of the same size and grade because they probably can be mined at a profit only if the exploration is largely subsidized by DMEA. Although the long range objectives ought to be explored, this is the kind of project that might be undertaken by the U.S. Bureau of Mines or the U.S. Geological Survey.

The operator's hope of finding ore bodies larger than those that can be inferred by direct evidence constitutes his chief justification for the Pole adit project. This expectation is founded in the concept that ore solutions, rising through a chemically inert rock (Prospect Mountain quartzite) may react readily with the first soluble rock they encounter (CM--Wheeler--limestone) to form large replacement ore bodies. The lead-zinc ore bodies at Pioche, Nevada demonstrate this process. Although the process has never been demonstrated to apply to tungsten, replacement of limestone by scheelite occurs through the Pole adit zone to a marked extent. Nowhere to my knowledge has a productive tungsten ore body been followed into the CMbed, although three favorable settings occur in White Pine County: (1) Minerva Mine (DMEA-2688) where the CM bed is 1,000 feet or less below the mine workings, (2) Kolchek Mine(DMEA-3217)

where the bed is 800 feet below high grade croppings, and (3) the Mt. Wheeler Mine where scheelite occurs in the bed along the strike of a stringer zone which has no surface expression whatsoever. In the Mt. Wheeler area, the locality most favorable for tungsten ore bodies is the intersection of the Wheeler (CM) bed with the east-striking tungsten-bearing Canaan quartz vein, but about 1500 feet of winze would be required to reach the locality before exploration along the vein could be started. The intervening bed cannot be inferred to contain any ore bodies, the winze would require timber and pumps and the cost would be greater. Therefore, the Pole adit zone is considered to be the locality best suited to test the three-way intersection.

The geologic conditions existing in the explored part of the Pole adit zone are inferred to extend eastward as far as the Sheffield fissure, except that the quartz monzonite is expected to be closer to the bed at the fissure. As the Sheffield fissure is one of the north-striking fractures, its effect on tungsten deposition cannot be predicted (see "Geology" - 2nd paragraph). In this area on the surface, however, small lead-zinc showings have been explored along the Sheffield fissure, and the St. Lawrence fissure, also one of this set, has yielded a few hundred tons of high-grade lead-silver ore. (See DMEA-89, application approved.) Near the Sheffield fissure it is expected that the Wheeler bed will be highly brecciated, but it cannot be predicted that the bed will be mineralized with tungsten; it may be mineralized with lead-zinc ore.

If no further exploration or development were done at the Mt. Wheeler mine and the indicated ore were mined and milled, the operation would show an estimated net loss of $140,000, whereas if the Pole adit ore zone were developed all the way to the Sheffield fissure and the inferred reserves were developed, mined, and milled, the operation would show an estimated net loss of only $108,000, as illustrated in the following table:

Block	Existing	Existing and North zone	Existing and Pole adit	Existing and Pole adit and North zone
Ore reserve tons	5,470	6,920	10,370	11,820
Ore reserve units at 0.8% WO_3	4,376	5,536	8,296	9,456
Gross return at 85% recovery $61 per unit	$226,895	$287,042	$430,148	$490,294
Mining, milling and marketing at $17.50 per ton	$ 95,725	$121,100	$181,475	$206,850
Exploration cost to date	$271,685	$271,685	$271,685	$271,685
Exploration cost proposed	--	$ 28,000	$ 85,014	$113,014
Net loss	$140,515	$133,743	$108,026	$101,255
Loss to Govt.	$ 95,237	$113,868	$150,990	$169,621
Govt. cost/unit	$ 21.76	$ 20.57	$ 18.20	$ 17.94

ORE RESERVES

The ore reserves are summarized as follows:

Class	Tons	Percent WO_3	Units
Pole adit ore zone			
Measured	180	0.8	144
Indicated	5,290	0.8	4,232
Inferred	4,900	0.8	3,920
	10,370	0.8	8,296
North ore zone			
Measured - a few tons			
Indicated - a few tons			
Inferred	6,400	0.8	5,120
Grand total	16,770	0.8	13,416

The measured ore reserves were calculated as follows: The total strike length of ore bodies mined during the exploratory work is 223 feet in six locations. Measured ore extends along the strike eastward and westward from each location a distance equal to 10 percent of the strike-length exposed, or a total of 45 feet. The measured reserve block is 7 feet high, 7 feet wide and 45 feet long, and contains 180 tons. A factor of 12 cubic feet per ton was used.

Indicated ore extends 1000 feet along two quartz stringers in the ore zone between the laterals and also as far east as lateral No. 6. The two stringers have a combined length of 2000 feet; ore bodies 7 feet high and 7 feet wide may occupy about two-thirds of this length. Indicated reserves in this block are 5,470 tons less 180 tons measured ore,

or 5,290 tons containing about 0.8 percent WO_3. No reserve tonnage figure is estimated for the upper ore layer, but a few tons averaging 1.0 percent WO_3 or more (samples 1035, 1036, 1042) is indicated.

Ore is inferred to extend eastward from lateral No. 6 along at least two quartz stringers in the ore zone 1200 feet long as far east as the Sheffield fissure. The two stringers have a total length of 2400 feet, one half of which may be in ore 7 feet high and 7 feet wide. Inferred reserves in this block are 4,900 tons which may average 0.8 percent WO_3. No tonnage figure is estimated for the upper ore layer, but it is reasonable to infer that some ore will be found.

In addition, ore is inferred along two quartz stringers in the North ore zone (fig. 5). The two stringers have a total length of 4400 feet, one half of which may contain ore bodies averaging 5 feet high and 7 feet wide, totaling 6,400 tons averaging 0.8 percent WO_3.

SAMPLING

As most of the ore in the ore bodies explored is removed by the exploratory work, and relatively little is left on the walls, channel sampling is difficult and individual samples are not representative of the material excavated. This difficulty has been partly overcome by taking a large number of samples. The arithmetic average of 58 samples taken in all drifts is 1.1 percent WO_3; the weighted average is 0.8 percent WO_3; and the average length is 3.7 feet.

Car samples from all material mined are reported by the operator to average 0.5 percent WO_3. He has increased this figure to 0.88 percent WO_3 by multiplying 0.5 by 7/4, the ratio of total tons to ore tons mined. Although some increase is justifiable, this ratio is too high as all drifts are not on the shale contact.

No. 5 Lateral, North:

Sample No.	Width Feet	%, WO_3	Remarks
BM-1024	5.2	*0.01	Vertical cut across limestone bedding in face of the lateral.
1025	2.3	4.63	Scheelite mineralization in upper face of West drift off lateral - 8.5 feet west of center line of No. 5 lateral.
1026	2.0	0.05	Face of West drift off lateral - 4.6 feet north of BM-1025 and 2.0 feet lower elevation.
1027	4.5	0.14	West wall of No. 5 lateral - 13 feet north of center line of East drift and 6 feet above the floor of No. 5 lateral.
1028	3.6	0.05	In East drift off No. 5 lateral - 20 feet east of center line of No. 5 lateral and on north wall of East drift.
1029	2.7	2.35	South wall of East drift off lateral. Short lens of scheelite at 4 feet east of side of No. 5 lateral.
1030	3.3	*0.01	In West drift off lateral. North wall of drift at 4 feet east of face. Shows light scheelite.
1031	3.6	1.84	On east wall of lateral - 16 feet north of BM-1027. Shows lower grade ore.
1032	3.0	0.09	East wall of lateral and 1 foot north of BM-1031; low grade ore; walls washed for samples BM-1031, BM-1032, and BM-1033 then water supply exhausted.
1033	3.6	1.41	West wall of lateral and opposite BM-1031.
1034	1.7	0.94	Face of West drift off lateral - 3 feet west of BM-1026. Round blasted night of 12/10/53.
1035	3.2	1.82	East drift off No. 5 lateral. Back of East drift at face.

No. 5 Lateral, North: (Cont'd.)

Sample No. BM-	Width Feet	%, WO_3	Remarks
1036	2.6	6.83	Back of East drift off No. 5 lateral and 4 feet west of BM-1035. Some high grade ore in upper bedding.
1037	3.6	2.17	Near center of East drift off No. 5 lateral.

No. 3 Lateral, North:

1038	4.2	0.92	Narrow vertical fissure in northwest corner at face of East drift. Appears to be good ore.
1039	5.8	1.13	East drift off No. 5 lateral and 2.7 feet east of BM-765; south wall of drift.
1040	5.0	0.82	Across back of East drift and 2.0 feet west of BM-765; looks like good ore.
1041	3.8	0.25	East drift off No. 3 lateral; northwest corner at junction of lateral and East drift.
1042	4.0	0.52	North side of raise at junction of East drift; 14 to 18 feet above floor of No. 3 lateral; should be good ore in upper part of bedding.

No. 2 Lateral, North:

1043	4.3	0.29	West wall of lateral at the junction of No. A East drift; about average grade WO_3.
1044	4.1	0.08	West wall of lateral and 4.8 feet north of BM-1043. Low grade scheelite.
1045	1.6	0.32	Taken across back of lateral and over BM-1044. The best ore appears to be in the back.
1046	5.0	0.66	Across back of lateral and at north side of B drift. Should be good ore.
1047	4.3	0.17	On west wall of lateral and 2.5 feet north of BM-1046.

No. 1 Lateral, North:

1048	4.3	0.26	West wall of lateral and 8 feet north of center line of East drift. Quartz and gouge.
1049	4.9	*0.01	West wall of lateral and 4.7 feet south of BM-1048. Quartz and gouge.
1050	3.3	1.19	South wall of East drift and 17.5 feet east of center line of No. 1 lateral. Should be good ore.

"A" and "B" Laterals, South: (Exploration on company account)

Sample No.	Width, Feet	%, WO_3	Remarks
BM-1051	2.6	2.49	East drift 23.7 feet east of center line of lateral. The company have been mining, sorting and shipping ore from these laterals.
1052	1.4	2.01	North wall of West drift off B lateral; 36 feet west of center line of B South drift. Narrow seams of good scheelite ore.
1053	0.9	6.23	Face of West drift and 20 feet west of BM-1052. Narrow band of high grade ore appears at top of bedding which appears at floor of drift.
1054	1.6	7.15	20 feet west of center line of B lateral south, at junction of east-west and north-south fissures. Should be high grade ore.

Note:- The high grade and economic minable ore has been almost mined out from the A and B laterals, south. Narrow widths of ore remain on the fringes of the mined area and are fairly well represented by samples BM-1051-BM-1054.

Old powder tunnel: (Approximately 900 feet north of Pole adit)

1055	1.7	2.0	Surface exposure 7 feet north of adit cut. Light scattered scheelite.
1056	1.4	0.63	In powder tunnel, west wall of south branch and 5.5 feet south of center line of adit cut.
1057	1.5	*0.01	Surface bedding over portal of old powder tunnel and on north side.

DMEA stockpile: (At portal of Pole adit)

1058		0.31	Shovel sample of fines, combined with chip sample from representative section of large boulders.

*Less than.

All samples secured underground were caught on a canvas sheet and all of the material used for the sample. Water for washing the walls was not available and it was therefore impossible to thoroughly clean the

walls in all places sampled.

The mathematical averages of samples reported are as follows:

A & B Laterals, South	4.47% WO_3 (company account)
No. 1 Lateral, North	0.80% WO_3 (DMEA project)
No. 2 Lateral, North	0.412% WO_3 (DMEA project)
No. 3 Lateral, North	0.461% WO_3 (DMEA project)
No. 5 Lateral, North	1.2435% WO_3 (DMEA project)
Old powder house tunnel	0.877% WO_3 (company account)

The operator considers that channel cut samples are valueless and a waste of time and money and that bulk sampling by means of milling will be the only accurate method of determining the average scheelite content of the ore mined. The field team consider that automatic sampling and milling will be the only entirely accurate method of determining values, and that sufficient channel samples have been secured to reasonably establish the grade of the present exposures of scheelite mineralization.

DESCRIPTION OF WORK COMPLETED

Phase "A" of the amended contract was started on May 11, 1953 and was completed on July 30, 1953. Phase "B" of the amended contract was started on July 30, 1953 and completed on December 12, 1953. Total exploration 1,200 feet.

The applicant has performed the exploration work in a satisfactory manner, has followed good mining practice and has conformed to the specifications of the contract. It is recommended that the exploration work be accepted by the Government.

Exhibit "A", Stage II, Phase A, has allowed the following work and costs:

600 feet of drifts, crosscuts, and/or slusher drifts @ $40.00/ft.	$24,000.00
100 feet of timbering @ $15.00/ft.	1,500.00
	$25,500.00

Equipment to be purchased:

10 27-cu. foot, side dump, mine cars @ $506.50/ea.	$ 5,065.00
1 General purpose truck	6,040.00
1 Slusher, Joy, double drum, Model AAF-12 complete, (or 3 air slushers, Model S-211)	2,776.90

New buildings, improvements, installations:

1 12' x 12' powder magazine	$ 1,109.10
Assaying	309.00
	$40,800.00

Stage "B" of the amended contract allowed the following work and costs:

600 feet of drifts @ $40.00/ft.	$24,000.00
36 feet of timbering @ $15.00/ft.	540.00
Total	$24,540.00

Grand total, Phases A & B	$65,600.00
Add original contract authorization	$75,476.00
Total contract authorization	$141,076.00

Government participation @ 75% = $105,807.00

In addition to funds supplied by the Government, the applicant reports that he has expended approximately $167,260.00. The expense for company account has included the construction of:

1 Mess hall, with equipment
1 Bunkhouse, with equipment and furniture
1 Manager's residence and office and furnishings
1 Building housing camp water tank
1 Building housing 15 kw generator

1 Building housing 5 kw generator
1 Change house
1 Blacksmith shop
1 150-ton ore bin
Road construction and improvements
Excavation of A & B laterals
Misc. mining equipment

Construction provided by Government participation has included:

1 Warehouse building, 18' x 32", concrete foundation walls, cement floor, frame construction, covered with aluminum sheets.
1 Compressor building, 16' x 24', concrete foundation walls, cement floor, frame construction, covered with aluminum sheets.
1 Powder magazine, 12' x 12', cement block construction

Exploration work completed: (Reported by applicant and reimbursement claimed on MF-104 forms)

May 1953	191.0 feet
June "	265.5 "
July "	183.5 "
August "	154.0 "
Sept. "	96.5 "
Oct. "	186.5 "
Nov. "	104.0 "
Dec. "	68.0 "
Total	1,249.0 "

Excess over contract allowance = 49 feet

The exploration has been divided as follows:

	Slusher Drifts Feet	East & West Drifts * Feet	Raising Feet	Total Feet
Lateral No. 1	172.0	44	9.0	225
Lateral No. 2	190.0	33	19.0	242
Lateral No. 3	203.0	45	13.5	261.5
Lateral No. 4	57.5	9	8.0	66.5
Lateral No. 5	401.0	45	8.0	454.0
	1,023.5	176	49.5	1,249.00

*Off slusher drifts.

FINANCIAL

Contract allowance:

Stage II, Phase "A"	Total approved
600 feet of drifting @ $40.00/ft.	$24,000.00
100 feet of timbering @ $15.00/ft.	1,500.00
Equipment	13,881.90
Buildings	1,109.10
Assaying	[illegible],309.00
	$40,800.00
Stage II, Phase "B"	
600 feet of drifting @ $40.00/ft.	$24,000.00
36 feet of timbering @ $15.00/ft.	540.00
Assaying	260.00
	$24,800.00
Total contract allowance, Stage II, Phases A & B	$65,600.00

Expenditures:

Month	Total cost of project: Drifting	Timbering	Assaying	Equipment	Buildings
May 1953	$ 7,640.00	$450.00	$ None	$ 2,776.90	$ None
June "	10,620.00	300.00	95.00	None	448.73
July "	7,340.00	225.00	26.00	5,065.00	None
Aug. "	6,160.00	None	41.00	None	175.60
Sept. "	3,860.00	None	32.00	None	477.19
Oct. "	7,460.00	None	3.00	6,040.00	None
Nov. "	4,160.00	None	30.00	None	None
Dec. "	2,720.00	None	33.00	None	None
	$49,960.00	$975.00	$260.00	$13,881.90	$1,101.52

Excess over contract $1,960.00 (Drifting)

Unexpended:

$1,065.00	(Timbering)
309.00	(Assaying)
--	(Equipment)
7.58	(Buildings)
$1,381.58	

Total expenditures allowed	$65,600.00
Less unexpended funds	1,381.58
	$64,218.42

Brot forward	$64,218.42
Add excess drifting costs	1,960.00
	$66,178.42
Expenditures prior to amended contract	$75,476.00
Total expenditures Stage I and Stage II	$141,654.42
Less excess ex penditures, Stage II, Phase B	578.42
Total authorized expenditures	$141,076.00

Government participation @ 75% = $105,807.00

Government participation @ 75% of the expenditures in the amount of $141,654.42 claimed by the applicant would be $106,240.81. This would increase the Government's share of the contract $433.81 above the allowable maximum.

Exploration completed as of January 29, 1953	1,470 feet
Exploration completed as of December 12, 1953	1,249 "
Total	2,719 "

Excess over contract allowance	49 feet

Total expenditures authorized by contract	$141,076.00
Expenditures reported by applicant	141,654.42
Cost per foot, based upon applicant's reports	$ 52.10

EFFICIENCY OF OPERATIONS

The operator has conducted the exploration work in an efficient manner, has followed good mining practice and the field team consider that the condition of the mine workings at the conclusion of the contract are acceptable to the Government.

During the period of the exploration contract, all of the mining and construction work has been under the personal supervision of Mr. James D. Williams, president of Mt. Wheeler Mines, Inc. Mr. Williams has done an excellent job and is to be commended upon the character of the work.

PRODUCTION (from operator's report)

"B" Lateral, South: (Company Operation)

54 tons of crude ore produced 2,061 lbs. of concentrates, assaying:

58.57% WO_3 = 1,207 lbs. net
WO_3 recovery = $\frac{1,207}{54}$ = 22.35 lbs. WO_3 per ton = 1.12% WO_3

Tailing assay = 0.20% WO_3
Calculated assay of ore = 1.36% WO_3
Indicated mill recovery = 85.4%

No. 1 Lateral, South: (with DMEA assistance)

82 tons of crude ore produced 1,082 lbs. of concentrates, assaying:

22.60% WO_3 = 245 lbs. WO_3, Net
WO_3 recovery = $\frac{245}{82}$ = 2.99 lbs. WO_3 per ton = 0.15% WO_3

Tailing assay = 0.26% WO_3
Calculated assay of ore = 0.41% WO_3
Indicated mill recovery = 36.5%

No. 3 Lateral, North: (with DMEA assistance)

120 tons of crude ore produced 3,198 lbs. of concentrates, assaying:

23.70% WO_3 = 758 lbs. WO_3, Net
WO_3 recovery = $\frac{758}{120}$ = 6.32 lbs. WO_3 per ton = 0.32% WO_3

Tailing assay = 0.18% WO_3
Calculated assay of ore = 0.50% WO_3
Indicated mill recovery = 63.2%

No. 5 Lateral, North: (with DMEA assistance)

105 tons of crude ore produced 4,500 lbs. of concentrates, assaying:

43.55% WO_3 = 1,960 lbs. WO_3, Net

WO_3 recovery = $\frac{1,960}{105}$ = 18.67 lbs. WO_3 per ton = 0.93% WO_3

Tailing assay	= 0.18% WO_3
Calculated assay of ore	= 1.10% WO_3
Indicated mill recovery	= 84.8%

Composite results:

361 tons of crude ore contained	0.78 units WO_3 per ton
Recovery in concentrates was	0.58 " " " "
Indicated over-all mill recovery was	74.40%
Total WO_3 concentrates produced	10,841 lbs.
Less concentrates from company operations	2,061 "
Government participates in	8,780 "
Financial revenue reported by applicant	$11,260.00

Royalty

Concentrate sales: (from operator's report)

On November 9, 1953, the concentrates were trucked to Bishop, California for roasting and magnetic separation at the Benware Concentrating Corp., P. O. Box 272, Bishop, Calif. A slight difference in weight developed between the sampler weight and mill weights reported in the September 1953 MF-104. These were as follows (Mill Lots 2 and 3 were consolidated into Sampler Lot 2 since they were of the same grade and type):

Mill Lot No.	Mill Wt. Lbs.	Sampler Lot No.	Sampler Wt. Lbs.	Assay %, WO_3
1	2,061	1	1,998	58.57
2	1,082	2	4,239	23.42
3	3,198			
4	4,500	3	4,200	43.55
	10,841		10,437	

Weighted average assay 38.25% WO_3
Total contained WO_3 3,992 lbs.

After roasting and magnetic separation, these lots were upgraded as follows:

Lot No.	Weight	%, WO_3
1	1,675	69.45
2	1,866	50.01
3	2,721	65.99
	6,262	

Weighted average assay 62.15% WO_3
Total contained WO_3 3,892 lbs.
Loss in magnetic rejects = 100 lbs. = 2.5%

According to the operator's report, the assays for impurities were below the allowable GSA maximum for all except phosphorus, which showed a weighted average of 0.146% P. This would have imposed a penalty of $2.40 per unit ($0.25 per 0.01 in excess of 0.05%; i.e., 9.6 x 0.25 = $2.40); however, since this control assays showed considerably less phosphorus, they decided to blend these concentrates with an equal weight of phosphorus-free concentrates and ship to GSA in South San Francisco. Final payment will be made on the basis of the GSA phosphorus assay. To date this has not been reported. How-

ever, a preliminary settlement, charging one-half the phosphorus penalty was made, amounting to $11,242.70 on the following basis:

Gross pay for 194.6 units @ $61.00 = $11,870.60		
Less:		
Roasting & magnetic separation	$223.83	
Sampling	31.24	
Assaying	54.00	
Phosphorus	318.83	
		627.90
Net provisional settlement		$11,242.70

These concentrates were purchased by Mr. C. W. Jones, 108 South Warren Street, Bishop, Calif., on Nov. 14, 1953. It is anticipated that the GSA phosphorus results will be received at an early date and at that time a complete financial statement will be made covering all costs and charges incurred in the production of these concentrates. This statement will be rendered with the December MF-104 report.

Ore presently stockpiled at Mt. Wheeler Mine from exploration headings: (from operator's final report)

Source	No. cars	Est. tons	Sampled Est. %, WO_3	Units WO_3
No. 1 Lateral Area:				
No. 1 ore zone	90	65	0.26	16.90
No. 2 ore zone	15	12	0.23	2.76
No. 3 ore zone	42		0.36	15.12
No. 3 ore zone	30		1.74	52.20
No. 2 Lateral Area:				
No. 1 ore zone	35		0.75	26.25
No. 2 ore zone	25		0.75	18.75
No. 2 ore zone-drifts	90		+0.75	67.50
No. 3 Lateral Area:				
No. 1 ore zone	30		0.73	21.90
No. 2 ore zone	64		0.82	52.48
No. 2 ore zone	40		1.56	62.40

No. 4 Lateral Area: Source	No. cars	Est. tons	Sampled Est. %, WO_3	Units WO_3
No production				
No. 5 Lateral Area:				
No. 1 ore zone	15		0.75	11.25
No. 2 ore zone	55		0.50	27.50
No. 2 ore zone	36		0.32	11.52
Estimate	539 tons - wt. average		0.7171	386.53

Estimated tons reported as of January 28, 1953: 150
Total tonnage estimated by operator: 800, est. grade 0.5% WO_3

Sampling of the DMEA stockpile by the field team has indicated the difficulty in securing dump samples which are representative of the entire stockpile. The following samples are indicative of the erratic distribution of scheelite:

Sample No.	%, WO_3
BM-476	0.02
BM-548	*0.02
BM-549	*0.02
BM-550	0.16
BM-900	0.40
BM-908	0.26
BM-1058	0.31

*Less than.

The applicant has submitted no assay certificates to substantiate his statements of the tungsten content of various ores placed in this stockpile.

Estimated value of 800 tons DMEA stockpile: (Using average of USBM samples 900, 908, and 1058)

800 tons x 0.323% WO_3 = 258.4 units WO_3
Assuming 80% recovery in mill = 206.72 units WO_3
206.72 units WO_3 x \$61.00 = \$12,609.92 = gross value

EQUIPMENT

Equipment purchased for the project:

Stage I:	Listed page 28, amounts to	$15,089.63
Stage II:	" " 28, and buildings, amounts to	14,983.42
	Total	$30,073.05

The field team recommend that if approval is granted for the 700 feet of new exploration proposed, that the applicant be allowed to use said machinery and buildings for that purpose.

Should this application for new exploration be denied, the field team recommend that the Government's interest in the machinery and buildings be offered to the operator at approximately the prices set forth in the detailed inventory. If the operator is unwilling to negotiate reasonable prices, then the itemized machinery, equipment and buildings should be advertised for sale, or disposed of according to Government requirements. Under Stage I of the contract, there was certain equipment acquired by the operator under a purchase-rental agreement that is a legal matter for the consideration and action by the Government attorneys.

Pursuant to a letter from Mr. George Selfridge of the Washington, D.C. office of DMEA, dated April 28, 1953 and addressed to Mr. H. C. Miller, Executive Officer, DMEA, San Francisco, Calif., the examining engineer inspected the items of equipment covered by the inventory at the Mt. Wheeler Tungsten Mine on May 7, 1953. The itemization of the equipment purchased by the applicant, which has been substantiated by the auditor's records, follows:

APPLICANT'S PROPOSAL

Under date of October 27, 1953, Mr. James D. Williams, President, Mt. Wheeler Mines, Inc., requested a further amendment to contract Idm-E248 to provide for additional exploration footage at the Mt. Wheeler mine. Description of the work requested follows:

A. (1) Extend the Pole adit 1200 feet easterly (approximately S. 80° E. to E.), driving as far as possible within the Wheeler limestone bedding and then turning northerly to follow just under the limeshale contact as heretofore, to cut the Sheffield fissure and accompanying north trending shear zone.

(2) Drive six short laterals northerly approximately 200feet apart and within the strongest north-south trending shear zones cut by the adit advance. Drive short raises where necessary to enter the ore zone. Lateral and raise footage not to exceed 600 feet.

B. Drive easterly at North zone.

(1) Drive a drift easterly 500 feet within the Wheeler bed ore zone to explore this important ore exposure.

(2) Drive three short laterals north and south at appropriate intervals to determine the width of the ore zone. Drive three short raises to determine the thickness of the ore zone. Lateral and raise footage not to exceed 200 feet.

Time schedule = 12 months.

Operator's estimated cost of project: (Stage III)

1200 feet of Pole adit easterly @ $40.00/ft.	$48,000
600 feet of Pole adit laterals @ $40.00/ft.	24,000
500 feet of North zone drift @ $40.00/ft.	20,000
200 feet of North zone laterals @ $40.00/ft.	8,000
2500	
240 feet of timbering as required @ $15.00/ft.	3,600
	$103,600

Operating equipment to be purchased:

1 315-cubic foot Diesel compressor, Joy, Model WK80, skid mounted	$8,514.00	
1 4' x 8' welded, air receiver	600.00	
	$9,114.00	
		$ 9,114.00
Assaying		300.00
Operator's total estimated cost of project		$113,014.00

RECOMMENDATIONS

Pole Adit:

The field team representatives do not consider that DMEA assistance is justified in continuing the further development of the Pole adit easterly toward the Sheffield fissure for the following reasons:

1. Due to the moderate tonnage of tungsten ore disclosed in the previous exploration contract, it appears unlikely that sufficient ore could be developed for repayment of the loan.

2. The most favorable mineralized bed has been explored with disappointing results.

3. Further extension of the Pole adit in an easterly direction and laterals in a northerly direction are considered to be highly speculative.

4. The work proposed by the operator specifies 600 feet for laterals which does not provide enough footage for more than two laterals to reach the zone of inferred ore as each lateral would have to be at least 250 feet long.

North Zone:

Phase "B" of the operator's application is recommended for approval as this mineralized exposure has not previously been explored and appears to be within the scope of exploration.

The inferred reserves in the block to be explored are 1,450 tons

estimated to contain 1,160 units of WO_3. Gross value of the ore at $61.00 per unit is $70,760.00; the exploration cost at $40.00 per foot is $28,000.00 or $24.14 per unit.

Inferred reserves in the entire North Zone are 6,400 tons of 0.8 percent WO_3 distributed along a strike length of 2,200 feet, or 2.91 tons per foot, but as the proposed exploration will extend only 500 feet along the strike, only 1,450 tons (500 x 2.91) are inferred.

Reserves in the North zone were estimated by geologic inference in the 1951 report to be 6,400 tons averaging 1.0 percent WO_3. No new data are available to warrant changing the tonnage figure, but new information on grade of the Pole adit ore bodies indicates that a grade of 0.8 percent WO_3 should be used. Until other direct evidence is available, it must be assumed that ore bodies in the North zone will be similar in size and grade to those in the Pole adit zone. There is a reasonable chance, however, that they may be larger owing to better preparation of the limestone by more intense brecciation - as suggested by the observation that the North zone is persistent enough to be seen at the surface, whereas, the Pole adit zone is not. (Aerial photographs confirmed by direct examination of the surface).

The adit is planned to follow the ore zone within the favorable part of the bed - not underneath it as in the Pole adit zone. The contract should so stipulate.

Resume:

Proposed exploration:

Location: Approximately 900 feet north of the portal of the Pole adit (fig. 5).

Purpose: To drift in an easterly direction and explore an exposure of scheelite mineralization which appears to justify additional work.

Amount of exploration:	
Drift, following the vein, a total of	500 feet
Crosscut, including raising, in delineating limits of ore exposures	200 "
Maximum total exploration	700 "
Timbering	100 linear feet

Estimated costs:

700 feet of drifting @ $40.00/ft.	$28,000
100 feet of timbering @ $15.00/ft.	1,500
Assaying	200
Total allowable costs	$29,700

The above exploration to be on a unit or footage basis. The applicant to furnish all labor, supplies and equipment at no cost to the Government.

The location and amount of crosscutting and/or raising to be approved by the Government prior to the excavation.

The exploration project to be started within 45 days after approval of contract and to be completed within a period of 6 months.

Independent contracts: None
Labor, supervision, consultants: None
Operating materials and supplies: None
Operating equipment: To be rented - None
To be purchased - None

Rehabilitation and repairs: None
New buildings, improvements, installations: None
Total estimated cost of project: $29,700.00
Government participation - 75%: $22,275.00

If this new exploration project is approved, it is recommended that it be set up as a new contract and not as a further amendment to contract Idm-E248. The proposed exploration is in a separate location from the work previously performed by the applicant and a new contract will lessen the confusion caused by numerous and varied amendments.

OTHER INFORMATION

On Dec. 12, 1953, the applicant completed all of the exploration work allowed under Stage II, Phases A and B and discontinued the majority of operations as of this date.

Two men will be retained to complete the preparations for dumping rock this winter, install the 15 k.w. generator after repairs, and install a gate across the road at approximately three-fourths mile west of the camp.

After Jan. 1, 1954, the operator reports that he will employ two men in extending the Pole adit toward the Sheffield and Washington fissures.

After Dec. 22, 1953 and the installation of the locked gate, anyone wishing to inspect the mine should write to Mr. Vern E. Jeppson, Mine Foreman, c/o Mt. Wheeler Mines, Inc., Waysack, c/o Shoshone Stage, Ely, Nev.

Mr. Jeppson will receive mail on Monday and Friday of each week. Therefore, arrangements should be made well in advance and details of time and place of meeting be specified. The Mt. Wheeler mine location and Mr. Jeppson's residence are in an area of Mountain Time.

The field team recommend that the Mt. Wheeler Mines, Inc. be instructed to provide necessary protection for any and all property in which the Government has a financial interest, and this protection to cover fire, theft, and/or damage of Government's interest. This is important, as with only two men working on a day shift, the property will be unprotected at night and probably on Sundays.

Recommended disposition:

The field team recommend that an effort be made to sell the Government's equity in the equipment to the Mt. Wheeler Mines, Inc., in the event further DMEA assistance is denied, as they are the operators of the property and would desire to utilize all of the equipment and buildings. The buildings would be difficult to sell and the cost of dismantling would probably discourage potential purchasers.

The mine cars and the general purpose truck are in new condition and should command a good price.

The buildings and equipment will be used by the operator either in his mining operations and/or in his plans to extend the Pole adit a distance of 1200 feet in an easterly direction. Therefore, the operator

should be charged a reasonable rental until final disposition of the Government's equity is made.

General:

Economics:

Assuming a total of 10,000 tons of all classes of ore
Assuming a 15% dilution = 8,500 tons ore to mill
Assuming an overall grade of 0.75% WO_3 can be obtained
7,545 tons x 0.75% WO_3 = 6,375 units
Indicated recovery = 80%, or 5,100 units
Less loss of 2.5% in roasting and magnetic separation = 4,973 units recovered

Gross value @ $61.00 per unit = $303,353.00		$303,353.00
Less:		
Mining and milling @ $17.50/ton =	$175,000.00	
Sorting @ $2.50/ton =	25,000.00	
	$200,000.00	
Est. cost of 50-ton mill	75,000.00	
		$275,000.00
	Balance	$ 28,353.00

When royalties, taxes, marketing and interest on investment are paid, it is doubtful that there will be any returns from the exploration of the project.

Mr. Williams has informed the examining engineer that he plans to install a milling plant at the mine and that adequate financing for this plant has been secured.

The field team consider that construction of a mill is not justified at this time and should be postponed until the results of the proposed new exploration are known. If immediate milling is desired, two milling plants may be available to handle custom ore:

1. The Stopper mill, previously used by the operator, and located approximately 10 miles from the mine.

2. The Baltimore-Camas mill, with concentrating and flotation equipment, located approximately 50 miles from the mine.

EXPENDITURES

(As reported by operator to 12/1/53 - refer to letter of 12/16/53)

Total expenditure $271,000

From the following sources:

Sale of Treasury stock	$156,000.00	
DMEA 75% contribution	105,807.00	
Sale of concentrates	11,260.00	
Approximate	$273,067.00	(reported by applicant as $271,685.00

The company funds provided for the erection of necessary camp buildings and equipment, together with all roads and improvements, ore bin and new change room and blacksmith shop at the mine. Distribution of expense: (From applicant's records)

	Amount	%
Payment on optioned claims	$ 12,500	4.60
Camp construction	35,000	12.89
Camp equipment	9,500	3.49
Mine surface buildings	13,000	4.78
Mine ore bins	3,750	1.38
Road construction	5,500	2.02
Automotive equipment - 3 units	10,500	3.86
Mining equipment	42,500	15.64
Location of 72 mining claims	7,500	2.76
Water system	1,250	0.46
Initial organization expense	2,500	0.92
Initial geology and engineering	2,000	0.74
Initial surface exploration	7,500	2.76
Pole adit - 1,108 feet	58,750	21.63
*Bedding exploration - 1,592 feet	53,000	19.52
Office, travel, assaying, etc.	6,935	2.55
	$271,685	100.00

*After credit of $11,260 concentrate sales.

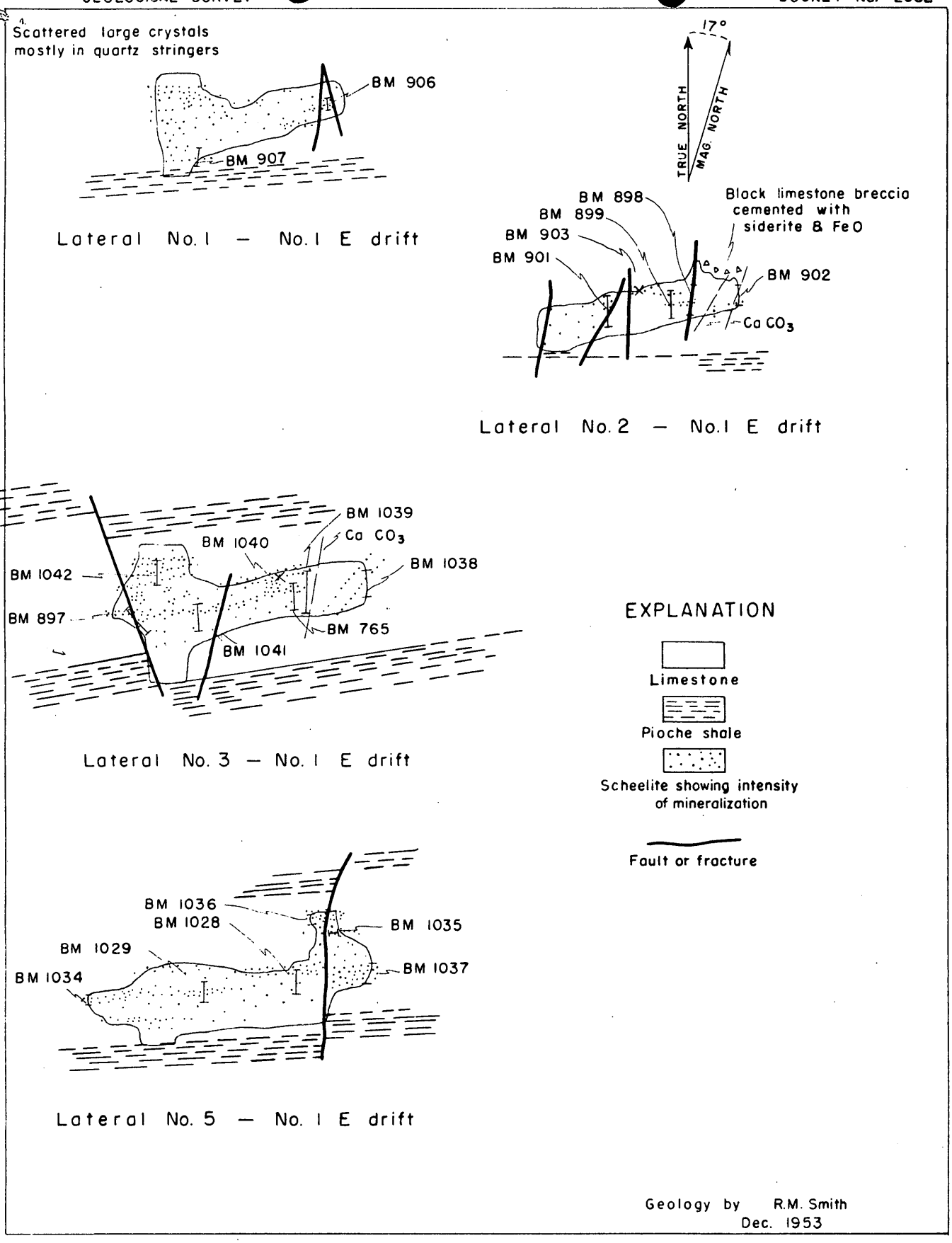


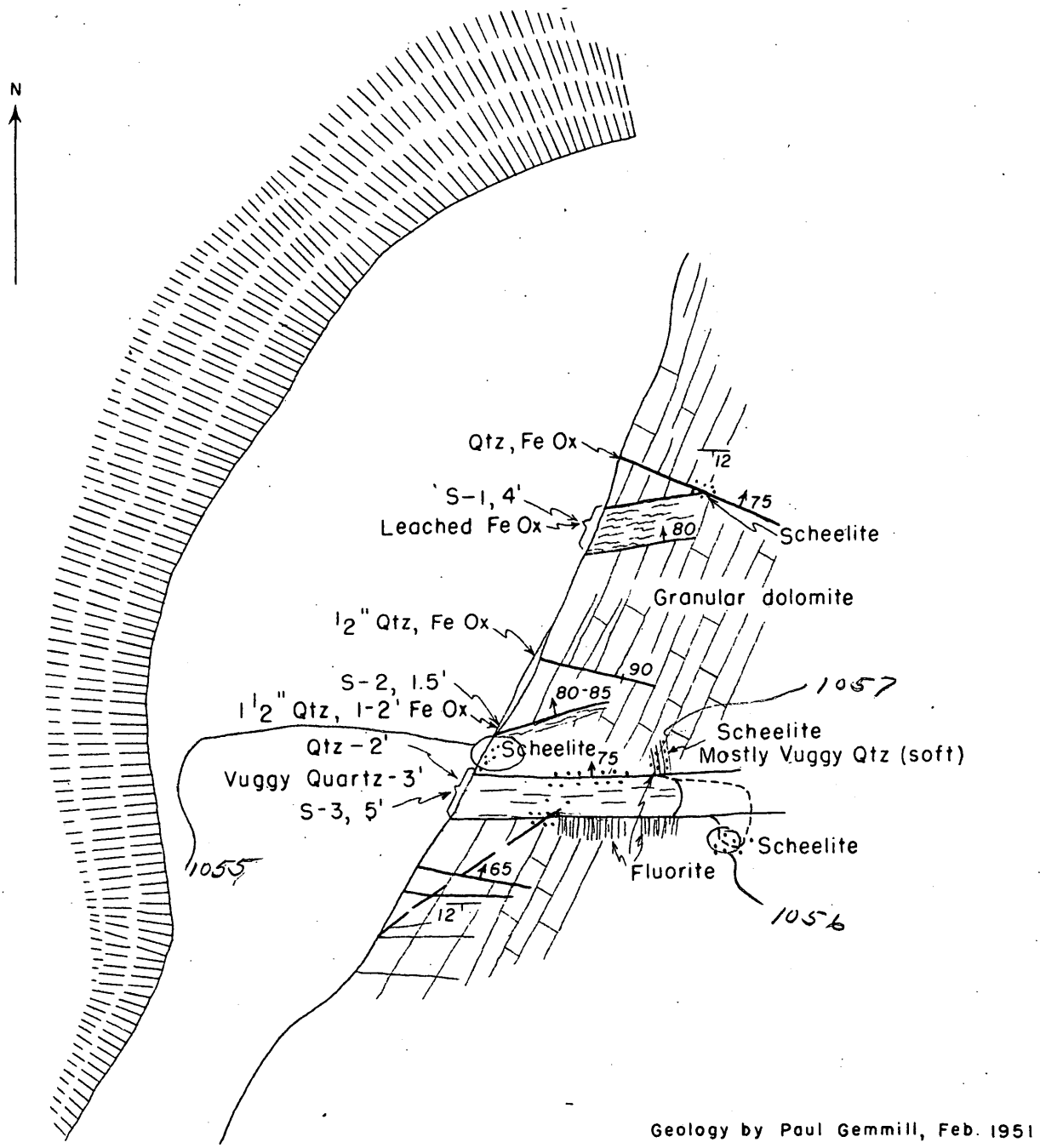
FIG. 3 LONGITUDINAL SECTIONS LOOKING NORTH

MT. WHEELER MINE

WHITE PINE COUNTY, NEVADA

0 20 40 FEET

Scale



PLAN OF NORTHERN EXPOSURE, POLE CANYON TUNGSTEN PROJECT
MT. WHEELER MINES INC. WHITE PINE COUNTY, NEVADA

20 0 20 40 FEET

Figure 4

C R O S S R E F E R E N C E

February 5, 1954

See: Official docket contains letter from R. A. Young, Vice President of American Zinc, Lead and Smelting Company, sending copy of Mr. Dobbel's report on Mt. Wheeler project. Dobbel's report is dated February 1, 1954 & contained in special brown manila notebook.

Mr. Young also sent copy of "Resume of Exploration Completed" prepared by James D. Williams & dated 1/28/54. (This latter is same as that included in Operator's final report & submitted by Williams by letter on 1/28/54).

C DOCKET

American Zinc, Lead and Smelting Company

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
FEB 8 1954

R. A. YOUNG
VICE-PRESIDENT

1600 PAUL BROWN BUILDING
SAINT LOUIS 1, MISSOURI

February 5,
1954

WSM

Mr. C. O. Mittendorf
Administrator
United States Department
of the Interior
Defense Minerals Exploration Admin.
Washington 25, D. C.

Re: Mt. Wheeler Mine 208

Dear Mr. Mittendorf:

When I was last in your office I promised I would send a copy of Mr. Dobbel's report on the Mt. Wheeler project when it became available. In line with this commitment I am attaching hereto a copy of this report which was handed to me yesterday. I am also attaching copy of James Williams' summary on the work at Mt. Wheeler to date, which I believe you will find interesting.

Very truly yours,

Vice President

RAY:PR

Enc.

Mitchell of

R. A. Young.

RECEIVED
FEB 1 1954
Office of Vice P...

RESUME OF EXPLORATION COMPLETED

I. THE WORK

Work was started under Contract Idm-E248 (amended May 11, 1953) on May 11, 1953. Concurrent with the underground preparations and mining the company undertook the construction of a 225 ton - 3 compartment ore bin in order to provide ore storage and truck loading facilities for the bulk mill sampling of ore produced from the bedding exploration within the ore zone pursuant to an informal agreement with the Tungsten Division of DMEA. In addition to this, the company constructed a modern change house and a blacksmith shop and repair building. The road from the County highway to the Pole adit, 4.6 miles in length, was widened and fully graveled in order to accommodate heavy trucking units. A concrete and cement block powder magazine, conforming to U. S. Bureau of Mines specifications, was completed with DMEA funds. The Exploration Project was completed on December 12, 1953, with the following results - (See attached Map D100-6)

A. No. 1 Lateral Area.

Total footage driven in this area was 225.0 ft.; 172.0 ft. on a Northerly course, 20.0 ft. on a N75°E course, 24.0 ft. Easterly within the third ore zone North, and 9.0 ft. of raise within this same ore zone. In driving the lateral North, three distinct ore zones were cut, i.e., No. 1, 27.0 ft. wide from 0-27.0 ft.; No. 2, 7.0 ft. wide from 43.0-50.0 ft.; and No. 3, 25.0 ft. wide from 57.0-82.0 ft. These ore zones have all been reported in the monthly narrative reports with supporting assays on samples taken from mine cars dumped into the stockpile. However, a summary of these will be given.

1. No. 1 Ore Zone; 0.0 to 27.0 ft.

90 cars, (65 tons), placed into the stockpile sampled 0.26% WO_3. This muck was heavily diluted by driving through the underlying shale plus about 3-4 ft. of the lower portion of the Wheeler bed which is usually barren. Our best judgement is that this ore will break about 0.60% WO_3 when mining is confined to the vertical limits within the bedding. It is well to point out at this time that this ore undoubtedly continues Southerly to the #3 raise in No. 1 Lateral South as is indicated on the map.

2. No. 2 Ore Zone; 43.0 to 50.0 ft.

15 cars, (12 tons), placed in the stockpile sampled 0.23% WO_3. Again, this muck was heavily diluted by the lower portion of the bed which is barren. There is no doubt but that in mining the actual ore zone the muck could be held to about 0.60% WO_3.

3. No. 3 Ore Zone; 57.0 - 82.0 ft.

42 cars produced in driving through the zone assayed 0.36% WO_3; 30 cars from the 9.0 ft. raise within the zone assayed 1.74% WO_3. These two average 0.94% WO_3. Again, on the first sample we had considerable dilution which prudent mining, on a production basis, would avoid.

B. No. 2 Lateral Area.

Total footage in this area was 242.0 ft.; 130.0 ft. on a Northerly course, 60 ft. on a Southerly course, 25.0 ft. Easterly and 19.0 ft. of raise within the first ore zone, and 8.0 ft. Easterly within the second ore zone.

In driving the lateral North two ore zones were cut, viz., No. 1, 12.0 ft. wide from 82.0 - 94.0 ft., and No. 2, 10.0 ft. wide from 107.0 - 117.0 ft.

1. No. 1 Ore Zone; 82.0 to 94.0 ft.

35 cars dumped into the stockpile were estimated at 0.75% WO_3; the trammer forgot to take grab samples from the cars. However, this was good ore. In this area the scheelite appeared to make in the lower portion of the bedding.

2. No. 2 Ore Zone; 107.0 to 117.0 ft.

25 cars of stockpile ore were estimated at 0.75% WO_3. This zone had numerous small E-W quartz fissures containing high grade scheelite with considerable dissemination within the limestone.

A total of 33.0 ft. of drifting was done Easterly within these two ore zones which produced approximately 90 cars, (65 tons), of ore which easily averaged +0.75% WO_3. We first considered these separate zones but after driving Easterly and carefully washing down the East and West walls of the North Lateral between the two zones, we are now of the opinion that mining for production may demonstrate this area to be one ore zone some 35 feet wide.

C. No. 3 Lateral Area.

Total footage in this area was 261.5 ft.; 203.0 ft. on a Northerly course, 13.0 ft. on a N50°E course, and 32.0 ft. of E-W drifting and 19.0 ft. of raising within the second ore zone.

This Lateral produced two ore zones, viz., No. 1, 15.0 ft. wide from 0.0 - 15.0 ft., and No. 2, 20.0 ft. wide from 30.0 - 50.0 ft.

1. No. 1 Ore Zone; 0.0 to 15.0 ft.

   30 cars grab sampled 0.73% WO_3 when dumped into the stockpile. The N50°E drift in this zone has a full face of ore which appears to be of somewhat higher grade, possibly 1.0%.

2. No. 2 Ore Zone; 30.0 to 50.0 ft.

   64 cars to stockpile grab sampled 0.82% WO_3. A 13.5 ft. raise was run vertically through this ore zone and 40 cars to the stockpile grab sampled 1.56% WO_3. This is very good ore and has a demonstrated thickness at this point of plus 16.0 ft.

D. No. 4 Lateral Area.

Total footage in this area was 66.5 ft.; 57.5 ft. Northerly and 9.0 feet Westerly.

The exploration in this area was abandoned because the entire bedding traversed by the North drift was replaced by a heavy ankerite mud which entirely obliterated the scheelite mineralization. However, a 2.0 ft. E-W quartz fissure was cut at interval 22.0 - 24.0 ft., which contained high grade ore. No effort was made to save this ore.

E. No. 5 Lateral Area.

Total footage amounted to 454.0 ft.; 401.0 ft. Northerly, 10.0 ft. Westerly within No. 1 ore body, 35.0 ft. Easterly plus 4.5 ft. of raise within No. 2 ore body, and 3.5 ft. of raise for the second slusher station.

This Lateral produced two ore zones, viz., No. 1, 5 ft. wide from 44.0 - 49.0 ft. and No. 2, 35.0 ft. wide from 114.0 to 149.0 ft.

1. No. 1 Ore Zone; 44.0 to 49.0 ft.

   Muck piles from this zone were estimated at 0.75% WO_3 and were placed in the stockpile. The 10.0 ft. drift Westerly in this zone showed three E-W quartz fissures 2" to 4" wide containing high grade scheelite. Some disseminated scheelite mineralization was also observed.

2. No. 2 Ore Zone; 114.0 to 154.0 ft.

This is the widest and highest grade ore zone thus far exposed by exploration from the Pole adit. In driving through this zone at intervals 114.0 to 134.0 ft., with the North drift, 55 cars of ore placed in the stockpile grab sampled 0.50% WO_3. This was heavily diluted by the bottom portion of the Wheeler bed which was barren. At interval 134 - 139 ft. an E-W fault was cut which dropped the North side about 2.0 ft. Between interval 139.0 and 154.0 ft. a 15.0 ft. ore zone was cut. 36 cars broken grab sampled 0.32% WO_3. A 5.0 ft. raise was run vertically at 119.0 to 126.0 ft. and the grab sample of the muck pile assayed 1.76% WO_3.

A 35.0 ft. drift was run Easterly at 123.0 ft. and produced 105.0 tons of ore having mill heads of 1.10% WO_3. Later, a 13.0 ft. raise was run vertically at the end of this 35 ft. East drift and the cut sample in the face of the raise assayed essentially 7% WO_3. This opened up the very best ore we have thus far observed in the mine. More will be said about this under Section II - Geology.

II. PROBABLE ORE RESERVES

This estimate is based upon the limited information made available by the exploration work completed within the Wheeler bedding; essentially all of which was done immediately North of the Pole adit. The factors used are average width of ore zones but by North Laterals, average thickness of these zones as shown by drifts and raises, average assays compiled from ore car grab samples, weight factor of 12 cu. ft. per ton in place and the assumption that such ore zones will be continuous Easterly and Westerly between the laterals.

No. 1 Lateral Area.

(a) Ore zone dimensions -

Total widths 27.0 + 7.0 + 25.0 =		59.0 ft.
Indicated thickness from drifts		7.0 ft.
Assumed Length:		
To "B" Lateral - Westerly	120.0 ft.	
To No. 2 Lateral - Easterly (1/2)	75.0 ft.	
	195.0 ft.	195.0 ft.

(b) Average assay from grab samples -

90	cars	@	0.26%	
15	"	@	0.23%	
42	"	@	0.36%	
147	"	"	0.29%	0.29% WO_3

(c) Calculated tonnage -

$$\frac{(59.0)(7.0)(195.0)}{12} = 6{,}710 \text{ tons} \qquad 6{,}710 \text{ tons}$$

No. 2 Lateral Area.

(a) Ore zone dimensions -

Total widths 12.0 + 10.0 =		22.0 ft.
Indicated thickness from drifts		7.0 ft.
Assumed length:		
1/2 dist. Westerly to No. 1 Lateral	75.0 ft.	
1/2 dist. Easterly to No. 3 Lateral	55.0 ft.	
	130.0 ft.	130.0 ft.

(b) Average assays from grab samples -

35	cars	@	0.75%) Estimated	
25	cars	@	0.75%)	
60	"	"	0.75%	0.75% WO_3

(c) Calculated tonnage -

$$\frac{(22.0)(7.0)(130.0)}{12} + 1{,}670 \text{ tons} \qquad 1{,}670 \text{ tons}$$

No. 3 Lateral Area.

(a) Ore zone dimensions -

Total widths 15.0 + 20.0 =		35.0 ft.
Indicated thickness from drifts		7.0 ft.
Assumed length:		
1/2 dist. Westerly to No. 2 Lateral	55.0	
1/2 dist. Easterly to No. 4 "	60.0	
	115.0 ft.	115.0 ft.

(b) Average assays from grab samples -

30 cars	@	0.73% WO_3		
64 "	@	0.82% "		
94 "	"	0.79% "		0.79% WO_3

(c) Calculated tonnage -

$$\frac{(35.0)(7.0)(115.0)}{12} = 1{,}000 \text{ tons}$$ 1,000 tons

No. 5 Lateral Area.

(a) Ore zone dimensions -

Total widths 5.0 + 35.0 =		40.0 ft.
Indicated thickness from drifts		7.0 ft.
Assumed length:		
1/2 dist. Westerly to No. 4 Lateral	70.0 ft.	
Total dist. to fault at No. 6 Lateral	180.0 ft.	
	250.0 ft.	250.0 ft.

(b) Average assays from grab samples -

15 cars	@	0.75% WO_3		
55 "	@	0.50% "		
36 "	@	0.36% "		
12 "	@	1.76% "		
118 "	"	0.62% "		0.62% WO_3

(c) Calculated tonnage -

$$\frac{(40)(7)(250)}{12} = 5{,}830 \text{ tons}$$ 5,830 tons

From this set of calculations we arrive at the following preliminary tonnages:

Location	Tonnage	Grade-%WO_3
No. 1 Lateral	6,710	0.29
No. 2 Lateral	1,670	0.75
No. 3 Lateral	1,000	0.79
No. 5 Lateral	5,830	0.62
	15,210	0.50

However, this estimate is based upon the lower 7.0 ft. section of the Wheeler ore bedding, immediately above the shale, which was opened by the exploration drifts. It is a demonstrated fact that the first 3-4 ft. above the shale was generally barren or very low grade, but this material was all included in the stockpiled ore from which the grab samples were taken. Obviously, this 3-4 ft. section would not be mined under a production schedule. Therefore, in order to obtain a true estimate of tonnage and grade, we must reduce the above preliminary tonnage by 4/7 and correspondingly increase the grade by 7/4. This gives us the following estimate of probable ore reserves:

$$(15{,}210)(4/7) = \underline{\underline{8{,}690 \text{ tons}}}$$

$$(0.50)(7/4) = \underline{\underline{0.88\% \ WO_3}}$$

By reforming the preliminary estimate on this basis, we arrive at the following summary of probable ore:

Location	Tonnage	Grade
No. 1 Lateral	3,834	0.51
No. 2 Lateral	954	1.31
No. 3 Lateral	571	1.38
No. 5 Lateral	3,331	1.09
Total	8,690	0.88% WO_3

It will now be noted that in milling ore from Laterals 1, 3 and 5, (as reported in MF-104 narrative for the month of September, 1953) wherein the lower 3.0 ft. barren portion of the Wheeler bedding was avoided as much as possible during mining, the following calculated grades were reported:

*Location	Tonnage Milled	Calculated Heads
No. 1 Lateral	82.0	0.41% WO_3
No. 3 Lateral	120.0	0.50% "
No. 5 Lateral	105.0	1.10% "
	307.0	0.68% "

*Lateral "B" omitted.

This checks remarkably close with the estimate of probable ore grade in Lateral No. 1, (0.51% against 0.41%) and Lateral No. 5, (1.09% against 1.10%). However, we are at a loss to explain Lateral No. 3, (1.38% against 0.50%), but it has been suggested, and it is a physical fact, that this ore drift Easterly within the ore zone was driven practically on the shale contact and included the lower barren portion of the ore bedding.

If we add Lateral "B" ore to the above, we come out with an actual milling head of essentially 0.80% WO_3 which is in close agreement with the final estimate of probable grade of 0.88% WO_3.

III. POSSIBLE ORE RESERVES

This estimate is based upon evidence of ore in the upper portion of the Wheeler bedding as demonstrated by the raise in No. 1 Lateral, which was driven 9.0 ft. above the back of the drift, indicating an ore zone thickness of at least 13.0 ft. (total above shale of 16.0 ft. less 3' barren lower portion of bedding); the raise in No. 3 Lateral, which was driven 13.5 ft. above the back of the drift, indicating an ore zone thickness of at least 17.5 ft. (total above shale of 20.5 ft. less 3.0 ft. of barren lower bedding); and the raise in No. 5 Lateral, which was driven 13.0 ft. above the back of the drift, indicating an ore zone thickness of at least 16.0 ft. (total above shale of 20.0 ft. less 4.0 ft. of barren lower bedding).

The grab samples from the muck piles broken in driving these raises through the ore bedding were as follows -

Location	Total Ore Thickness	Cars to Stockpile	Assay - % WO_3
No. 1 Lateral	13.0 ft.	30	1.74%
No. 3 Lateral	17.5 ft.	40	1.56%
No. 5 Lateral	16.0 ft.	20	1.76%
Average	15.5 ft.	90	1.66%

By using the ratio of this suggested additional ore thickness to the 4.0 ft. thickness used in arriving at the final estimate of probable ore $\left(\frac{15.5-4.0}{4.0}\right)$ and multiplying by the net tonnage (8,690 tons) we arrive at a fairly reasonable guess of estimated possible ore as follows -

$$\frac{(8{,}690)(11.5)}{4.0} = 24{,}980 \text{ tons}$$

And, while it is admitted that the estimated grade of 1.66% WO_3 is based upon inadequate sample data and may be somewhat high, we know from careful observation that such upper bedding ore is certainly of an appreciably higher grade than heretofore mined in the lower portion of the bedding. This is especially noticeable in No. 5 Lateral where samples up to 7.0% WO_3 have been cut in the face of the raise.

Based upon the foregoing analysis, the total estimated ore reserves are suggested as follows -

1.	Probable ore	8,690 tons		0.88% WO_3
2.	Possible ore	24,980 tons		1.66% "
	Total	33,670 tons	@	1.46% "

The reasonableness of this grade estimate is demonstrated by our selectively mining 65 tons of ore from the upper bedding of Laterals "B" and No. 5 during the month of November, 1953, and milling in the Stopper mill. This 65 tons of ore produced 3,668 lbs. of concentrate assaying 52.44% WO_3 showing a mill recovery of 1.48% WO_3 per ton. The calculated heads of this ore was 1.88% WO_3. (This milling is reported in the attached MF-104 narrative for the month of December, 1953).

III. GEOLOGY

The initial concept of the Wheeler limestone replacement by scheelite was borrowed by analogy from the lead-zinc replacement pattern in an equivalent lower cambrian section at Pioche, Nevada. In this Pioche pattern the high grade ore is generally found in the lower portion of the bedding just above the shale. It was, therefore, quite natural for us to use this system in our thinking. However, within the last few months other facts have been uncovered which tend to indicate that our best ore will be found in an upper bedding, just under the shale, where, in effect, the shale has acted as an impervious lid to the ascending mineral. This was indicated fairly clearly in the raises in Nos. 1 and 3 Laterals, but was well demonstrated in the raise at the end of the East drift in No. 5 Lateral, where face assays up to 7% WO_3 have been reported. Limited ore production, based upon this new concept, has demonstrated the existence of this upper productive bed and indicates its grade will be considerably higher grade than estimated for the lower portion of the bed.

Another significant factual development is that the size and grade of the ore zones increase materially as we go East. No. 5 Lateral has opened a zone at least 35 ft. wide having a lower ore bed of about 5-6 ft. which will assay 1.1% WO_3 as broken, and an upper ore bed of about 4-5 ft. which will probably break at least 1.5 - 1.7% WO_3. Of course, as we drive Easterly we approach the large igneous stock which outcrops about a mile and a quarter to the Northeast and it seems reasonable to connect the scheelite mineralization in the Wheeler bed genetically with this igneous stock. Such being the case, we should expect a decided increase in mineralization as we approach the source.

A third observation to which we attach considerable importance is the fact that thus far, all exploration in the Wheeler bed has been done in an area open to intense alteration by surface waters (the face of the Pole adit being less than 300 ft. below the surface). All major fissuring, both N-S and E-W, shows a complete filling with an ankerite mud, and large areas of the Wheeler bed, particularly in Laterals Nos. 2, 3 and 4, are completely replaced with this same mud. The only Lateral in which no mud was encountered was No. 5 and we explain this exception by pointing out that we have limestone cover over the shale vertically above No. 5. This limestone cover tends to seal off surface waters which normally accumulate in the shale talus and run down the more or less open fissures. It is our firm conviction, based upon these studies, that Easterly exploration to the Sheffield area, will open significantly larger ore zones of considerably higher scheelite content.

January 28, 1954

Jas.

MT. WHEELER MINES, INC.

P. O. BOX 150

SALT LAKE CITY 10, UTAH

Bureau of Mines
RECEIVED
JAN 18 1954

January 28, 1954

Mr. A. C. Johnson, Chief
Mining Division, Region III
United States Bureau of Mines
P. O. Box 1551
Reno, Nevada

Re: Mt. Wheeler Mines, Inc.
DMEA-2082-Tungsten; Idm-E
248 MF-104 Statement -
December, 1953

Dear Mr. Johnson:

Enclosed are the original and four copies of our MF-104 voucher for the month of December, 1953. This constitutes our final report for work authorized under Contract Idm-E248 as amended May 11, 1953. Included also are the following -

1. ~~Narrative Report of Progress~~
2. Monthly Progress Maps
3. Report on Geology and Ore Reserves by Messrs. Earl B. Young and Lawrence K. Requa, Geological Staff, Combined Metals Reduction Company
4. Resume of Exploration Completed.

#1 Pulled and attached to MF104 and MF104a.

Very truly yours,

MT. WHEELER MINES, INC.

By James D. Williams
President

Gen. Final Rpt.

COMBINED METALS REDUCTION COMPANY

P. O. BOX 150

SALT LAKE CITY 10, UTAH

Subject: Mt. Wheeler Mines, Inc. - Geology and Ore Reserves
Date : December 17, 1953

To : Mr. E. H. Snyder
From : L. K. Requa and E. B. Young

In accordance with your instructions we went to the Mt. Wheeler mine, White Pine County, Nevada, and during the period of November 30, to December 2, made an examination for the purpose of revising the ore reserve estimate, and we submit our opinion in this regard herewith. We also have made some comments on the geology of the tungsten ore occurrence, which we hope will be helpful to all concerned.

Mode of Occurrence of the Mt. Wheeler Orebodies

We consider that a clear understanding of the geological structure of this deposit is of first importance. If exploration can be kept within the zones of the greatest promise, the profitable operation of the mine will be more definitely assured.

The development of replacement tungsten orebodies at the Mt. Wheeler mine in the Combined Metals bed, or Wheeler bed as this Cambrian limestone horizon is locally called, represents in our opinion a significant development in tungsten mining because this deposit is a type of tungsten deposit not generally heretofore recognized and it promises to be a more dependable ore structure than the other better known types of tungsten deposits.

The greater number of tungsten deposits that have been mined in the western part of the United States have been either the fissure veins or the contact metamorphic type. Innumerable small, erratic and unpredictable orebodies dot the western states. Now and then a bonanza has been found such as Atolia and Yellow Pine, but these have been more a matter of luck than planned exploration. If the Mt. Wheeler type of orebodies will permit more orderly planning of exploration it will be a great advance in domestic tungsten mining. We believe this can be done.

The fundamental conception of this geology is that a mineralizing fissure, or zone of fissuring, has intersected a favorable limestone bed (the Wheeler bed), and that by following this intersection the miner will stay in the most favorable position for following ore. If the fissure, or zone, is of substantial width then the probability of having continuous ore is good.

At Mt. Wheeler there are several good zones of multiple fissuring, but to date the exploration has been confined to one, which has been called the Pole Ore Channel and it has been crosscut in seven different places over an east-west distance of about 800 feet.

While this type of ore deposit is new to the tungsten industry it does have some precedent in other types of mining. At Pioche the Combined Metals Reduction Company has mined lead, zinc and more lately manganese ores in important quantities from a similar horizon. The ore zone in the Combined Metals bed at Pioche has been mined continuously for several miles.

This gave a general background for different kinds of ores and it seemed reasonable to suppose that in a good tungsten area, this same horizon under favorable structural conditions, would also be a good localizer of tungsten ores. This was suggested in 1950 by Mr. E. H. Snyder and it is now being proven.

Experience Factor

Any ore estimate must be made with the aid of an experience factor. At Pioche estimates of ore made on the experience factor basis have been remarkably accurate. We are just now building up this experience factor at Mt. Wheeler and while we have more knowledge than a year ago we must still use it with caution in projecting known orebodies.

Details of the Exploration Work

The Pole Tunnel has been driven eastward, mostly under the Wheeler bed, for a distance of 1108 feet. Laterals have been driven from this tunnel, in the Wheeler bed and up dip, for from 100 to 400 feet in length. These laterals are from 100 to 200 feet apart, and while several ore occurrencies have been noted, there is only one strong and probably continuous ore channel found in these laterals. This we have called the Pole Ore Channel and we believe that it will be found to contain continuous ore when mined through its presently developed length.

A typical log of the Wheeler bed, as seen in Lateral No. 5, is as follows -

Top - Pioche Shale

5 - 7	Feet	Limestone	- Unexplored; may contain important ore
3	"	"	- Upper ore bed; only partially explored
4	"	"	- Barren interbed
4 - 5	"	"	- Lower ore bed; exploration concentrated here
4 - 5	"	"	- Barren lower bed

Bottom - Pioche Shale

The individual laterals can be described as follows:

A & B

The work in the bed here has mined out an area about 75 feet long by 6 to 7 feet wide, with an ore thickness of 2 to 5 feet. Grade of ore is in excess of 2% WO_3. This work was done prior to the first DMEA contract. Some additional ore will be obtained here and exploration to the south and into the upper part of the bed is indicated.

No. 1 Lateral

Approximately 220 feet from portal. Driven 180 feet north. Three mineralizers were crosscut.

1. At the back of the raise a zone 25 feet wide was cut by four east-west fractures. Low grade rock was mined. There may be better ore above and raising is indicated.

2. At 35 feet north a 5 foot zone was cut showing mineralization. Raising is indicated.

3. At 55 feet north a 10 foot ore zone was cut and a drift extended east 25 feet, which is probably under better ore as a raise assayed 1.74% WO_3. A 6" quartz fissure strikes east-west and widens in the upper part of the bed. Mud and loose ground were found in the upper part of the bed.

No. 2 Lateral

Approximately 170 feet from No. 1 Lateral. Driven 135 feet north.

1. First ore zone found 80 feet north of chute is 12 feet wide by 5 feet thick. Thirty cars mined for stockpile were estimated to run 1% WO_3.

2. At 100 feet north of chute there is an ore zone 10 feet wide by 6 feet thick, estimated to run over 1%.

No. 3 Lateral

Approximately 120 feet east of No. 2 Lateral. Driven 210 feet north.

1. Between 14 and 24 feet north of chute there is a 10 foot ore zone 12 feet thick beginning 6 feet above the bottom of the Wheeler bed. A 30 foot drift has been extended east and ore from this working is estimated at 0.8% WO_3. This ore seems to be the continuation of the best ore cut in A, B, Nos. 1 and 2 Laterals.

No. 4 Lateral

Approximately 125 feet east of No. 3 Lateral. Driven 65 feet north.

This was driven north along a strong fault filled with mud and was abandoned due to the bad nature of the ground. However pieces of high grade ore were found in this mud and in some small east-west fissures. Definite measurements are impossible due to caving ground.

No. 5 Lateral

Approximately 170 feet east of No. 4 Lateral. Driven 401 feet north.

Three ore zones were cut.

1. At 30 feet north from chute a 5 foot zone was cut associated with a small east-west fissure containing some high grade. Muck pile estimated to run 0.75% WO_3.

2. At 100 to 120 feet north of the chute the most important ore zone in the mine was cut. A 35 foot drift was run east and two raises were put up. An upper bed of ore is readily seen here. Ore is estimated to run over 1%.

3. A third zone was cut between 125 to 140 feet north from the chute. It is low grade. Thirty-six cars ran 0.32% WO_3. It is important to note that this exploration largely proves an upper bed about 4 feet above the better known lower bed. There is also a possibility of a third bed directly under the upper shale contact that may be the highest grade of all. This indicates that the full thickness of the Wheeler bed should be explored in all ore areas.

Other Ore
Possibilities

It has been our opinion that the presently developed ore is only a minor part of a much larger ore structure and that the best part of this structure is yet to be seen.

Where the Wheeler bed has been explored there is a lack of any pronounced throw in the faulting. While large faults, in themselves, are seldom good mineralizers, the fractured zones adjacent to such large faults are frequently very favorable areas for ore deposition.

There is a zone of very pronounced faulting and fissuring 1200 feet ahead of the present face of the Pole Tunnel. This is known as the Sheffield zone and can be easily seen on the surface and in aerial color photograph. This zone is composed of several prominent fissures striking about N 15° E and dips westerly. The zone itself is about 300 feet wide and extends for many hundreds of feet. It is marked by numerous diggings of early day miners. The intersection of the Pole fissure zone with the Sheffield zone would form an unusually favorable locus for ore deposition. The heretofore nonproductive, northerly striking fissures and fractures seen in the presently developed area at Mt. Wheeler, could become important ore producers under the conditions that might exist along the Sheffield zone.

This is a very worthy objective and every effort should be made to reach it.

Other attractive zones of fissuring parallel the Pole Ore Channel. The north ore zone has been recognized for some time. Indeed a small tunnel was driven years ago on a quartz fissure, which is a part of this zone. This lies about 1100 feet north of the Pole Ore Channel. It is a zone of good fracturing about 50 feet wide and contains strong quartz veins and some notable showings of scheelite.

Between the Pole Ore Channel and the North Ore Zone there is a minor fissure zone, which has not been explored and could contain tungsten ore.

South of the Pole Ore Channel there are several possible objectives. These have not been given much consideration because most of them are too far down dip to be economically developed from the Pole Tunnel. However a short drive was made in Lateral No. 2 South and at a point 120 feet south of the Pole Ore Channel a 4 inch quartz vein was cut in the shale below the Wheeler bed. A raise on this vein into the bed showed only minor amounts of scheelite, but we still believe that this zone should be investigated in other localities.

The biggest east-west zone of all lies about 2300 feet south of the Pole Tunnel. This is the Canaan Vein which has a strong surface outcrop accompanied by a good showing of porphyry and scheelite. It is unlikely that any immediate development of this vein will be attempted, but it is definitely something to consider for the future.

Mill Test on Ore

During September of this year a milling test was made at the Stopper mill at the Minerva mine, near by. This is a small gravity mill equipped with two concentrating tables, but no flotation units. Four lots of ore were mined from four different laterals and the milling results were as follows -

Lateral	Tons	Calculated Grade of Ore	Units in Concentrates	Units in Tailings	Units Recovered Per Ton
B South	54.0	1.36% WO_3	58.57/Ton	0.20/Ton	1.12
No. 1 South	82.0	0.41	22.60	0.26	0.15
No. 3 North	120.0	0.50	23.70	0.18	0.32
No. 5 North	105.0	1.10	43.55	0.18	0.93

This ore was mined without selection and in the case of the ore from No. 3 Lateral North we believe that it was mined too low in the bed. The ore from Lateral No. 1 South was mined outside of what we consider the Pole Ore Channel.

Composite Results

361 Tons of crude ore averaged	0.78% WO_3	Per Ton
Average recovery per ton	0.58	"
Percent of total scheelite recovered	74.4	

Omitting the ore mined from the No. 1 Lateral South, which cannot be considered Pole Ore Channel ore, we get an average weighted grade of 0.96% WO_3 per ton.

The concentrates made in this milling test were taken to Bishop, California, where they were roasted and put through a magnetic separator. The resulting concentrates assayed as follows -

Lot 1	69.45%	B Lateral Ore
Lot 2	50.01	Composite No. 1 South & No. 3 North
Lot 3	65.99	No. 5 North

Sorting and Upgrading Crude Ore

Over the past month tests have been made on sorting crude ore in the stopes. This was done in Laterals A & B and more lately in Lateral No. 5. The results have been gratifying and at the time we left the mine approximately 75 tons of this sorted product had been produced. It had an estimated grade of 3% WO_3.

It is possible that the entire production can be so upgraded and if so it may permit putting the mine on a profitable basis as soon as milling facilities can be provided. Two milling outlets are available. The first is the Stopper mill, already mentioned. This is a small gravity mill, with a capacity of one ton, or less, per hour. Its only advantage is its proximity to the Mt. Wheeler mine. The other milling outlet is the new tungsten circuit at the Bauer mill of Combined Metals Reduction Company. Here a flotation section has been converted to tungsten. Milling Mt. Wheeler ores here would involve about a 275 mile haul.

Irrespective of which milling outlet is selected the mine now could be put on a productive basis.

Ore Reserves

The work accomplished at the mine during the past year has given us much more information on the behavior that may be expected from this type of ore structure.

Last year an estimate of 15,000 tons of possible ore was made. The estimate was made on inferences which seemed justifiable at the time. It was then believed that both the north-south and east-west series of fractures would be mineralizers. Later development has shown that the principal mineralization in this section of the deposit follows the east-west fissuring. The north-south fracture zones appear to be only of importance where they intersect the east-west mineralizers.

In making the present estimate we have confined it to the Pole Ore Channel. No ore reserves for any of the other structures, even though some of them are quite important, have been figured.

We believe that the Pole Ore Channel will be fairly continuous and that it may be considered as one ore channel.

A figure for proven ore is not set up as we do not have enough experience to project proven ore faces. There is certainly proven ore in the mine, but any arbitrary projection of this ore would not be based on sound experience as the total drifting on ore so far amounts to only about 200 feet. We therefore believe that all the ore estimated should be put in the classes of probable and possible ore.

The average exposed cross section of the ore channel is 60 square feet and 800 linear feet of ore channel is indicated. We believe that a projection of this channel for an additional 200 feet is warranted, but such ore would be classed as "possible".

Our estimate of ore at the present time is as follows -

Probable Ore	Tons	Grade WO_3
For 800 feet of Pole Ore Channel in the lower ore stratum	4,000	1.0%
Possible Ore		
For 200 additional feet eastward in Pole Ore Channel, lower ore stratum	1,000	1.0
For 1000 feet in Pole Ore Channel, upper ore stratum	5,000	1.0
Total Ore Reserve	10,000	1.0%

We believe that there is a possibility of up-grading this ore into 3000 tons of about 3% WO_3, or 9000 units of tungsten. Further sorting of ore will have to be conducted before this can be said to be definite, but at the time of our visit up-grading of ore by sorting was in successful progress.

Cost of the Venture

The total expense of the Mt. Wheeler venture to date is close to $271,685. In round figures this sum can be distributed as follows -

Source of Income	
Sale of Treasury Stock	$156,250
DMEA Participation	104,175
Sale of Concentrates	11,260
	$271,685

Distribution of Expense	Amount	% of Total
Payment on optioned claims	$ 12,500	4.60
Camp construction	35,000	12.89
Camp equipment	9,500	3.49
Mine surface buildings	13,000	4.78
Mine ore bins	3,750	1.38
Road construction	5,500	2.02
Automotive equipment - 3 units	10,500	3.86
Mining equipment	42,500	15.64
Location of 72 mining claims	7,500	2.76
Water system	1,250	0.46
Initial organization expense	2,500	0.92

Initial geology and engineering	2,000	0.74
Initial surface exploration	7,500	2.76
Pole adit - 1108 feet	58,750	21.63
* Bedding exploration - 1592 feet	53,000	19.52
Office, travel, assaying, etc.	6,935	2.55
	$271,685	100.00

*after credit of $11,260 concentrate sales.

Against this there is a possible 9000 units of WO_3 to show with an overall gross value of $567,000. In addition there is an estimated 800 tons of ore on the dump at the mine with an approximate content of 0.5% WO_3 per ton.

Mr. James D. Williams has estimated that by sorting the ore in the stopes, to up grade crude ore, there is a net profit of $40 per unit of WO_3 after mining, sorting in stopes, trucking, milling, transportation of concentrates, roasting up-grading concentrates and marketing.

Conclusions

1. It is our opinion that Mt. Wheeler will eventually be a large mine.

2. The area so far explored is probably the fringe of a bigger and more important ore structure.

3. In the 22 foot Wheeler bed exploration has largely been confined to the bottom part. The recently demonstrated upper bed is known in only a few places. The upper shale contact is entirely unexplored. These news areas should be considered in all future exploration. Also drifting in ore in this bed is better practice than crosscutting it.

4. The structural controls in the Mt. Wheeler deposit appear to be more definite than in the usual tungsten deposit. This should permit better results from exploration. The concept of a continuous east-west ore channel is logical.

5. As we build up our experience factor on structural control we should be able to make better estimates of the probable productive length of the ore channels.

6. With the $271,685 spent to date at Mt. Wheeler, with 9000 units of tungsten in the probable and possible ore reserve, with large ore structures still to be explored and the price of tungsten guaranteed by the government for almost five years more, it can be said that this venture was well warranted.

7. The nearest important large structural unit is the Sheffield fissure zone, about 1200 feet ahead of the present face of the Pole Tunnel. This drive should be made in the immediate future.

8. The North Ore Zone, which parallels the Pole Ore Channel about 1100 feet north and which is almost entirely unexplored, is also worthy of immediate attention.

9. Production could start at this mine in the very near future if weather conditions would permit. It could certainly start in the spring of next year. By sorting ore in stopes there is the possibility of making a 3% WO_3 product. Using either the Stopper mill at Minerva or the tungsten circuit at Bauer, 100 tons a month of such a product should carry expenses.

We wish to take this opportunity of expressing our thanks to Mr. James D. Williams, the president and general manager of Mt. Wheeler Mines, Inc., for the courtesy and cooperation extended to us during our visit. Mr. Williams has done a fine job in bringing this mine to its present state of development.

L. K. Requa

L. K. Requa
Director of Exploration

Earl B. Young

E. B. Young
Chief Geologist

K

RESUME OF EXPLORATION COMPLETED

I. THE WORK

Work was started under Contract Idm-E248 (amended May 11, 1953) on May 11, 1953. Concurrent with the underground preparations and mining the company undertook the construction of a 225 ton - 3 compartment ore bin in order to provide ore storage and truck loading facilities for the bulk mill sampling of ore produced from the bedding exploration within the ore zone pursuant to an informal agreement with the Tungsten Division of DMEA. In addition to this, the company constructed a modern change house and a blacksmith shop and repair building. The road from the County highway to the Pole adit, 4.6 miles in length, was widened and fully graveled in order to accommodate heavy trucking units. A concrete and cement block powder magazine, conforming to U. S. Bureau of Mines specifications, was completed with DMEA funds. The Exploration Project was completed on December 12, 1953, with the following results - (See attached Map D100-6)

A. No. 1 Lateral Area.

Total footage driven in this area was 225.0 ft.; 172.0 ft. on a Northerly course, 20.0 ft. on a N75°E course, 24.0 ft. Easterly within the third ore zone North, and 9.0 ft. of raise within this same ore zone. In driving the lateral North, three distinct ore zones were cut, i.e., No. 1, 27.0 ft. wide from 0-27.0 ft.; No. 2, 7.0 ft. wide from 43.0-50.0 ft.; and No. 3, 25.0 ft. wide from 57.0-82.0 ft. These ore zones have all been reported in the monthly narrative reports with supporting assays on samples taken from mine cars dumped into the stockpile. However, a summary of these will be given.

1. No. 1 Ore Zone; 0.0 to 27.0 ft.

90 cars, (65 tons), placed into the stockpile sampled 0.26% WO_3. This muck was heavily diluted by driving through the underlying shale plus about 3-4 ft. of the lower portion of the Wheeler bed which is usually barren. Our best judgement is that this ore will break about 0.60% WO_3 when mining is confined to the vertical limits within the bedding. It is well to point out at this time that this ore undoubtedly continues Southerly to the #3 raise in No. 1 Lateral South as is indicated on the map.

2. No. 2 Ore Zone; 43.0 to 50.0 ft.

15 cars, (12 tons), placed in the stockpile sampled 0.23% WO_3. Again, this muck was heavily diluted by the lower portion of the bed which is barren. There is no doubt but that in mining the actual ore zone the muck could be held to about 0.60% WO_3.

3. No. 3 Ore Zone; 57.0 - 82.0 ft.

42 cars produced in driving through the zone assayed 0.36% WO_3; 30 cars from the 9.0 ft. raise within the zone assayed 1.74% WO_3. These two average 0.94% WO_3. Again, on the first sample we had considerable dilution which prudent mining, on a production basis, would avoid.

B. No. 2 Lateral Area.

Total footage in this area was 242.0 ft.; 130.0 ft. on a Northerly course, 60 ft. on a Southerly course, 25.0 ft. Easterly and 19.0 ft. of raise within the first ore zone, and 8.0 ft. Easterly within the second ore zone.

In driving the lateral North two ore zones were cut, viz., No. 1, 12.0 ft. wide from 82.0 - 94.0 ft., and No. 2, 10.0 ft. wide from 107.0 - 117.0 ft.

1. No. 1 Ore Zone; 82.0 to 94.0 ft.

35 cars dumped into the stockpile were estimated at 0.75% WO_3; the trammer forgot to take grab samples from the cars. However, this was good ore. In this area the scheelite appeared to make in the lower portion of the bedding.

2. No. 2 Ore Zone; 107.0 to 117.0 ft.

25 cars of stockpile ore were estimated at 0.75% WO_3. This zone had numerous small E-W quartz fissures containing high grade scheelite with considerable dissemination within the limestone.

A total of 33.0 ft. of drifting was done Easterly within these two ore zones which produced approximately 90 cars, (65 tons), of ore which easily averaged +0.75% WO_3. We first considered these separate zones but after driving Easterly and carefully washing down the East and West walls of the North Lateral between the two zones, we are now of the opinion that mining for production may demonstrate this area to be one ore zone some 35 feet wide.

C. No. 3 Lateral Area.

Total footage in this area was 261.5 ft.; 203.0 ft. on a Northerly course, 13.0 ft. on a N50°E course, and 32.0 ft. of E-W drifting and 19.0 ft. of raising within the second ore zone.

This Lateral produced two ore zones, viz., No. 1, 15.0 ft. wide from 0.0 - 15.0 ft., and No. 2, 20.0 ft. wide from 30.0 - 50.0 ft.

1. No. 1 Ore Zone; 0.0 to 15.0 ft.

   30 cars grab sampled 0.73% WO_3 when dumped into the stockpile. The N50°E drift in this zone has a full face of ore which appears to be of somewhat higher grade, possibly 1.0%.

2. No. 2 Ore Zone; 30.0 to 50.0 ft.

   64 cars to stockpile grab sampled 0.82% WO_3. A 13.5 ft. raise was run vertically through this ore zone and 40 cars to the stockpile grab sampled 1.56% WO_3. This is very good ore and has a demonstrated thickness at this point of plus 16.0 ft.

D. No. 4 Lateral Area.

Total footage in this area was 66.5 ft.; 57.5 ft. Northerly and 9.0 feet Westerly.

The exploration in this area was abandoned because the entire bedding traversed by the North drift was replaced by a heavy ankerite mud which entirely obliterated the scheelite mineralization. However, a 2.0 ft. E-W quartz fissure was cut at interval 22.0 - 24.0 ft., which contained high grade ore. No effort was made to save this ore.

E. No. 5 Lateral Area.

Total footage amounted to 454.0 ft.; 401.0 ft. Northerly, 10.0 ft. Westerly within No. 1 ore body, 35.0 ft. Easterly plus 4.5 ft. of raise within No. 2 ore body, and 3.5 ft. of raise for the second slusher station.

This Lateral produced two ore zones, viz., No. 1, 5 ft. wide from 44.0 - 49.0 ft. and No. 2, 35.0 ft. wide from 114.0 to 149.0 ft.

1. No. 1 Ore Zone; 44.0 to 49.0 ft.

   Muck piles from this zone were estimated at 0.75% WO_3 and were placed in the stockpile. The 10.0 ft. drift Westerly in this zone showed three E-W quartz fissures 2" to 4" wide containing high grade scheelite. Some disseminated scheelite mineralization was also observed.

2. No. 2 Ore Zone; 114.0 to 154.0 ft.

This is the widest and highest grade ore zone thus far exposed by exploration from the Pole adit. In driving through this zone at intervals 114.0 to 134.0 ft., with the North drift, 55 cars of ore placed in the stockpile grab sampled 0.50% WO_3. This was heavily diluted by the bottom portion of the Wheeler bed which was barren. At interval 134 - 139 ft. an E-W fault was cut which dropped the North side about 2.0 ft. Between interval 139.0 and 154.0 ft. a 15.0 ft. ore zone was cut. 36 cars broken grab sampled 0.32% WO_3. A 5.0 ft. raise was run vertically at 119.0 to 126.0 ft. and the grab sample of the muck pile assayed 1.76% WO_3.

A 35.0 ft. drift was run Easterly at 123.0 ft. and produced 105.0 tons of ore having mill heads of 1.10% WO_3. Later, a 13.0 ft. raise was run vertically at the end of this 35 ft. East drift and the cut sample in the face of the raise assayed essentially 7% WO_3. This opened up the very best ore we have thus far observed in the mine. More will be said about this under Section II - Geology.

II. PROBABLE ORE RESERVES

This estimate is based upon the limited information made available by the exploration work completed within the Wheeler bedding; essentially all of which was done immediately North of the Pole adit. The factors used are average width of ore zones but by North Laterals, average thickness of these zones as shown by drifts and raises, average assays compiled from ore car grab samples, weight factor of 12 cu. ft. per ton in place and the assumption that such ore zones will be continuous Easterly and Westerly between the laterals.

No. 1 Lateral Area.

(a) Ore zone dimensions -

Total widths 27.0 + 7.0 + 25.0 =		59.0 ft.
Indicated thickness from drifts		7.0 ft.
Assumed Length:		
To "B" Lateral - Westerly	120.0 ft.	
To No. 2 Lateral - Easterly (1/2)	75.0 ft.	
	195.0 ft.	195.0 ft.

(b) Average assay from grab samples -

90	cars	@	0.26%	
15	"	@	0.23%	
42	"	@	0.36%	
147	"	"	0.29%	0.29% WO_3

(c) Calculated tonnage -

$$\frac{(59.0)(7.0)(195.0)}{12} = 6{,}710 \text{ tons} \qquad 6{,}710 \text{ tons}$$

No. 2 Lateral Area.

(a) Ore zone dimensions -

Total widths 12.0 + 10.0 =		22.0 ft.
Indicated thickness from drifts		7.0 ft.
Assumed length:		
1/2 dist. Westerly to No. 1 Lateral	75.0 ft.	
1/2 dist. Easterly to No. 3 Lateral	55.0 ft.	
	130.0 ft.	130.0 ft.

(b) Average assays from grab samples -

35	cars	@	0.75%) Estimated	
25	cars	@	0.75%)	
60	"	"	0.75%	0.75% WO_3

(c) Calculated tonnage -

$$\frac{(22.0)(7.0)(130.0)}{12} + 1{,}670 \text{ tons} \qquad 1{,}670 \text{ tons}$$

No. 3 Lateral Area.

(a) Ore zone dimensions -

Total widths 15.0 + 20.0 =		35.0 ft.
Indicated thickness from drifts		7.0 ft.
Assumed length:		
1/2 dist. Westerly to No. 2 Lateral	55.0	
1/2 dist. Easterly to No. 4 "	60.0	
	115.0 ft.	115.0 ft.

(b) Average assays from grab samples -

30 cars	@	0.73% WO_3		
64 "	@	0.82% "		
94 "	"	0.79% "		0.79% WO_3

(c) Calculated tonnage -

$$\frac{(35.0)(7.0)(115.0)}{12} = 1{,}000 \text{ tons}$$ 1,000 tons

No. 5 Lateral Area.

(a) Ore zone dimensions -

Total widths 5.0 + 35.0 =		40.0 ft.
Indicated thickness from drifts		7.0 ft.
Assumed length:		
1/2 dist. Westerly to No. 4 Lateral	70.0 ft.	
Total dist. to fault at No. 6 Lateral	180.0 ft.	
	250.0 ft.	250.0 ft.

(b) Average assays from grab samples -

15 cars	@	0.75% WO_3		
55 "	@	0.50% "		
36 "	@	0.36% "		
12 "	@	1.76% "		
118 "	"	0.62% "		0.62% WO_3

(c) Calculated tonnage -

$$\frac{(40)(7)(250)}{12} = 5{,}830 \text{ tons}$$ 5,830 tons

From this set of calculations we arrive at the following preliminary tonnages:

Location	Tonnage	Grade-%WO_3
No. 1 Lateral	6,710	0.29
No. 2 Lateral	1,670	0.75
No. 3 Lateral	1,000	0.79
No. 5 Lateral	5,830	0.62
	15,210	0.50

However, this estimate is based upon the lower 7.0 ft. section of the Wheeler ore bedding, immediately above the shale, which was opened by the exploration drifts. It is a demonstrated fact that the first 3-4 ft. above the shale was generally barren or very low grade, but this material was all included in the stockpiled ore from which the grab samples were taken. Obviously, this 3-4 ft. section would not be mined under a production schedule. Therefore, in order to obtain a true estimate of tonnage and grade, we must reduce the above preliminary tonnage by 4/7 and correspondingly increase the grade by 7/4. This gives us the following estimate of probable ore reserves:

$$(15{,}210)(4/7) = \underline{\underline{8{,}690 \text{ tons}}}$$

$$(0.50)(7/4) = \underline{\underline{0.88\% \ WO_3}}$$

By reforming the preliminary estimate on this basis, we arrive at the following summary of probable ore:

Location	Tonnage	Grade
No. 1 Lateral	3,834	0.51
No. 2 Lateral	954	1.31
No. 3 Lateral	571	1.38
No. 5 Lateral	3,331	1.09
Total	8,690	0.88% WO_3

It will now be noted that in milling ore from Laterals 1, 3 and 5, (as reported in MF-104 narrative for the month of September, 1953) wherein the lower 3.0 ft. barren portion of the Wheeler bedding was avoided as much as possible during mining, the following calculated grades were reported:

*Location	Tonnage Milled	Calculated Heads
No. 1 Lateral	82.0	0.41% WO_3
No. 3 Lateral	120.0	0.50% "
No. 5 Lateral	105.0	1.10% "
	307.0	0.68% "

*Lateral "B" omitted.

This checks remarkably close with the estimate of probable ore grade in Lateral No. 1, (0.51% against 0.41%) and Lateral No. 5, (1.09% against 1.10%). However, we are at a loss to explain Lateral No. 3, (1.38% against 0.50%), but it has been suggested, and it is a physical fact, that this ore drift Easterly within the ore zone was driven practically on the shale contact and included the lower barren portion of the ore bedding.

If we add Lateral "B" ore to the above, we come out with an actual milling head of essentially 0.80% WO_3 which is in close agreement with the final estimate of probable grade of 0.88% WO_3.

III. POSSIBLE ORE RESERVES

This estimate is based upon evidence of ore in the upper portion of the Wheeler bedding as demonstrated by the raise in No. 1 Lateral, which was driven 9.0 ft. above the back of the drift, indicating an ore zone thickness of at least 13.0 ft. (total above shale of 16.0 ft. less 3' barren lower portion of bedding); the raise in No. 3 Lateral, which was driven 13.5 ft. above the back of the drift, indicating an ore zone thickness of at least 17.5 ft. (total above shale of 20.5 ft. less 3.0 ft. of barren lower bedding); and the raise in No. 5 Lateral, which was driven 13.0 ft. above the back of the drift, indicating an ore zone thickness of at least 16.0 ft. (total above shale of 20.0 ft. less 4.0 ft. of barren lower bedding).

The grab samples from the muck piles broken in driving these raises through the ore bedding were as follows -

Location	Total Ore Thickness	Cars to Stockpile	Assay - % WO_3
No. 1 Lateral	13.0 ft.	30	1.74%
No. 3 Lateral	17.5 ft.	40	1.56%
No. 5 Lateral	16.0 ft.	20	1.76%
Average	15.5 ft.	90	1.66%

By using the ratio of this suggested additional ore thickness to the 4.0 ft. thickness used in arriving at the final estimate of probable ore and multiplying by the net tonnage (8,690 tons) we arrive at a fairly reasonable guess of estimated possible ore as follows -

$$\frac{(8{,}690)(11.5)}{4.0} = 24{,}980 \text{ tons}$$

And, while it is admitted that the estimated grade of 1.66% WO_3 is based upon inadequate sample data and may be somewhat high, we know from careful observation that such upper bedding ore is certainly of an appreciably higher grade than heretofore mined in the lower portion of the bedding. This is especially noticeable in No. 5 Lateral where samples up to 7.0% WO_3 have been cut in the face of the raise.

Based upon the foregoing analysis, the total estimated ore reserves are suggested as follows -

1.	Probable ore	8,690 tons		0.88% WO_3
2.	Possible ore	24,980 tons		1.66% "
	Total	33,670 tons	@	1.46% "

The reasonableness of this grade estimate is demonstrated by our selectively mining 65 tons of ore from the upper bedding of Laterals "B" and No. 5 during the month of November, 1953, and milling in the Stopper mill. This 65 tons of ore produced 3,668 lbs. of concentrate assaying 52.44% WO_3 showing a mill recovery of 1.48% WO_3 per ton. The calculated heads of this ore was 1.88% WO_3. (This milling is reported in the attached MF-104 narrative for the month of December, 1953).

III. GEOLOGY

The initial concept of the Wheeler limestone replacement by scheelite was borrowed by analogy from the lead-zinc replacement pattern in an equivalent lower cambrian section at Pioche, Nevada. In this Pioche pattern the high grade ore is generally found in the lower portion of the bedding just above the shale. It was, therefore, quite natural for us to use this system in our thinking. However, within the last few months other facts have been uncovered which tend to indicate that our best ore will be found in an upper bedding, just under the shale, where, in effect, the shale has acted as an impervious lid to the ascending mineral. This was indicated fairly clearly in the raises in Nos. 1 and 3 Laterals, but was well demonstrated in the raise at the end of the East drift in No. 5 Lateral, where face assays up to 7% WO_3 have been reported. Limited ore production, based upon this new concept, has demonstrated the existence of this upper productive bed and indicates its grade will be considerably higher grade than estimated for the lower portion of the bed.

Another significant factual development is that the size and grade of the ore zones increase materially as we go East. No. 5 Lateral has opened a zone at least 35 ft. wide having a lower ore bed of about 5-6 ft. which will assay 1.1% WO_3 as broken, and an upper ore bed of about 4-5 ft. which will probably break at least 1.5 - 1.7% WO_3. Of course, as we drive Easterly we approach the large igneous stock which outcrops about a mile and a quarter to the Northeast and it seems reasonable to connect the scheelite mineralization in the Wheeler bed genetically with this igneous stock. Such being the case, we should expect a decided increase in mineralization as we approach the source.

A third observation to which we attach considerable importance is the fact that thus far, all exploration in the Wheeler bed has been done in an area open to intense alteration by surface waters (the face of the Pole adit being less than 300 ft. below the surface). All major fissuring, both N-S and E-W, shows a complete filling with an ankerite mud, and large areas of the Wheeler bed, particularly in Laterals Nos. 2, 3 and 4, are completely replaced with this same mud. The only Lateral in which no mud was encountered was No. 5 and we explain this exception by pointing out that we have limestone cover over the shale vertically above No. 5. This limestone cover tends to seal off surface waters which normally accumulate in the shale talus and run down the more or less open fissures. It is our firm conviction, based upon these studies, that Easterly exploration to the Sheffield area, will open significantly larger ore zones of considerably higher scheelite content.

January 28, 1954

JRA.

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

Received
DEC 21 1953

1012 Flood Bldg.
870 Market St.
San Francisco 2, Calif.

December 16, 1953

Memorandum

To: Operating Committee, DMEA, Interior Bldg., Washington, D.C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

The attached report on Sampling is to be made a part of Glenn G. Gentry's Interim Inspection Report of November 16, 1953, which was transmitted to you with our memorandum of November 30, 1953, concerning Contract Idm-E248, DMEA-2082 (Tungsten), Mt. Wheeler Mines, Inc.

S. Ricker for H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

Docket No.: DMEA-2082 (Tungsten) November 30, 1953

Name and address of operator: Mt. Wheeler Mines, Inc.
P. O. Box 150
Salt Lake City 10, Utah

Name and location of property: Mt. Wheeler Tungsten Mine
White Pine County, Nev.

Contract No.: Idm-E248

G.C.L
3/25/54

SAMPLING

No. 5 Lateral, North:

Sample No.	Width, Feet	%, WO_3	Description
BM-895	3.0	*0.01	Face of lateral; very few scheelite crystals noted.

No. 4 Lateral, North:

BM-896	3.0	*0.01	East wall of lateral 3 feet north of sample BM-763 taken on 9/10/53. Mostly brown, soft, ankerite mud showing very little scheelite under lamp.

No. 3 Lateral, North:

BM-897	5.5	0.31	West wall of lateral and opposite East drift at 24 feet north of slusher raise. Considerable quartz and scheelite.

No. 2 Lateral, North:
"A" Drift, East

BM-898	4.2	0.32	6 feet west of face of drift and on north wall.
BM-899	4.2	0.27	3 feet west of BM-898 and on south wall
BM-901	2.0	1.30	12 feet west of BM-898 and on north wall; upper part of bedding; ankerite and limestone; shows some scheelite.
BM-902	4.8	0.06	Face of drift. Mostly calcite, very little scheelite.
BM-903	4.6	0.30	Across back of drift 8 feet west of BM-898; shows light, scattered scheelite.

No. 2 Lateral, North:
"B" Drift, East

Sample No.	Width, Feet	%, WO_3	Description
BM-904	1.0	0.94	Quartz vein in face of drift.
BM-905	3.5	0.57	3 feet east of intersection of lateral and drift. Taken across back of drift; scattered scheelite.

No. 1 Lateral, North:
East Drift

BM-906	2.5	1.12	North wall of East drift - 3 feet west of face. Scattered scheelite; also some sulphides noted.
BM-907	2.8	0.07	North wall of East drift at intersection of main lateral. Considerable quartz carrying scheelite.

DMEA Stockpile:

BM-900	0.40	Chip sample from large boulders at toe of stockpile.
BM-908	0.26	Shovel sample near top of stockpile; mostly fines.

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 18 1953

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

December 14, 1953

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract No. Idm-E248 (Amended)
Amendment No. 3

Attached are the original and two copies of Amendment No. 3, dated November 24, 1953, made in connection with subject contract.

A justification sheet is attached to each copy of the amendment.

Proper distribution has been made of the remaining copies.

S. Ricker for H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: A. C. Johnson, Reno (With copy of amendment)
Finance Officer, Region III (With copy of amendment)
E. H. Bailey, USGS
George Mavor

RECEIVED
DEC 30 1953
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

ce 12-16

Doc. Lect.

FILE COPY
SURNAME:

Chamberlin
Newton
Hoffelund
Jamieson
Schroder
Williams

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

DEC - 4 1953

Mr. R. C. Miller
Executive Officer
[illegible] Field Team, Region [illegible]
[illegible] Flood Building
[illegible] Grant Street
San Francisco 2, California

Re: Pocket No. [illegible]-2012 (Master)
Contract No. IDa-22 (Amended)
Mt. Hooker Mines, Inc.
Mt. Hooker Inc, [illegible]
Mount, Idaho

Dear Mr. Miller:

Reference is made to a telephone conversation of November [illegible], 1953, between you and the Administrator and to a teletype of November [illegible], 1953, re payment for truck and power house attached in the above-cited contract.

Reports from information received that the truck was authorized for the purpose for which it served, namely, to carry ore from the mine to the mill for a mill test. The Administrator decided that in this case a mill test would give more significant results as to the probability of the ore being of grade sufficient for commercial operation than would ordinary channel or grab sampling followed by assays of the local samples, and that the cost of the mill tests including the cost of the truck would not be greater than the cost of the assays and analyses.

In regard to the power house it is noted that there was too much delay on the part of the operator in its construction. It was finished in time, however, for use in bad weather conditions. Moreover, the operator had practically completed the new crusher of the power house prior to his attention being called to a probable disallowance for the cost of the building; nor was he warned in time to make other arrangements for the probable storage of power in case such arrangements could have been made.

For these reasons it is believed that the cost of the truck and the power house must be disallowed as project costs under the terms of the contract.

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

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

December 1, 1953

Mr. James D. Williams, President
Mt. Wheeler Mines, Inc.
P. O. Box 150
Salt Lake City, Utah

Re: Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
White Pine County, Nevada
Contract Idm-E248 (Amended)
Amendment No. 3

Dear Mr. Williams:

I have your letter dated November 27, 1953, with which you returned Amendment No. 3 unsigned and a long list of plus and minus footages run under Stages A and B of your contract, together with your request to be allowed to use the remaining 75.5 feet of your contract to drift southerly in Lateral No. 2. Originally you calculated the remaining footage as 64 feet but you say that you made an error and find it amounts to 75.5 feet. I have tried to check your calculations, but with the information at hand I cannot do so.

I agree that you were allowed a maximum of 600 feet of footage under the amended contract, but that doesn't mean that exactly 600 feet of work has to be done to prove whether you have made a discovery or not. I must again emphasize that your contract is for exploration and not for development, and that we have the authority to stop the work anytime we feel that the purpose of the contract has been fulfilled.

Mr. Bailey and I have studied your proposal to drive south in Lateral No. 2 and are willing to switch the unused footage (45 feet) from Lateral 5 to Lateral 2. We feel, however, that 45 feet of exploration south in Lateral No. 2 is enough to indicate whether you have ore or not.

I am, therefore, returning Amendment No. 3 to you for your signature. The footage allowed by this amendment is the maximum we will consider.

H. C. MILLER
H. C. Miller, Executive Officer
DMEA Field Team, Region III

Enclosure

Copy to: DMEA, Washington, D. C.
E. H. Bailey, USGS
A. C. Johnson, Reno

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 4 - 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Date: November 30, 1953

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA-2082

Contract Idm-E 248

Commodity Tungsten

Operator - Mt. Wheeler Mines, Inc.

Property - Mt. Wheeler Tungsten Mine, White Pine County, Nevada

By Mr. Glenn G. Gentry

Dated November 16, 1953

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

INTERIM REPORT

Docket No.: DMEA-2082 (Tungsten) Nov. 16, 1953

Name and address of operator: Mt. Wheeler Mines, Inc.,
P. O. Box 150
Salt Lake City 10, Utah

Name and location of property: Mt. Wheeler Tungsten Mine
White Pine County, Nev.

Contract No.: Idm-E248

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The Mt. Wheeler Tungsten mine was visited on Nov. 3 and 4, 1953, for the purpose of inspecting the work being performed on the exploration project. Mr. James D. Williams, president of the mining company, was not at the mine and therefore no company representative accompanied the examining engineer during the inspection.

Amendment No. 1, dated October 15, 1953, allowed raising in laterals 1 and 5 to expose the vertical limits of the bedded scheelite mineralization. However, under date of October 28, 1953, amendment No. 2 was issued which cancelled amendment No. 1. Amendment No. 2 allowed the following:

Lateral No. 2 - total footage	165 feet
Lateral No. 4 - " "	66.5 feet
Lateral No. 5 - " "	293.5 feet
	525.0 feet (maximum allowed 600 feet)

The exploration work has proceeded satisfactorily though progress was decreased due to a 14-day period of lost time caused by a broken crank shaft in the air compressor unit.

The weather, aside from a snow storm reported during the latter part of October, has been good and on Nov. 3 and 4, the roads to the mine were dry and free from snow.

Production of tungsten ore from Laterals "A" and "B" was being accomplished by one to two men for the account of the mining company and at their expense.

Production delivered to DMEA stockpile:

		Reported by applicant
September 1953:		
No. 1 Lateral area	15 tons	No grade reported
No. 2 Lateral area	35 "	Estimated 1.0% WO_3
October 1953:		
No. 2 Lateral area	90 "	Estimated1.0% WO_3
	140 "	

Tungsten ore milled at Stopper Mill

The applicant states in his October narrative report: "that a full financial report on the milling operations will be completed during November."

Recommendations:

It is again recommended that upon completion of phase "B" and prior to the final examination, that the operator be required to wash the walls in all areas considered pertinent to the final examination and evaluation and to provide adequate staging and/or facilities, together with necessary assistance for sampling the exposures in the various laterals.

The washing of the walls is important due to the amount of mud, oil and dust which has collected on the wall rock and which makes it difficult to definitely define limits of scheelite mineralization.

SAMPLING

The analysis on the fourteen samples taken will be submitted at a later date.

GEOLOGY

Lateral No. 1: Only light and scattered scheelite was observed in the last 33.3 feet extension northward of the lateral. The face of the East drift off the lateral shows very little scheelite.

Lateral No. 2:

Main lateral - Considerable scheelite observed over a length of 8 feet and adjacent to the "A" East drift. From that point to the face of the lateral, the scheelite occurrences are light and scattered, with very little mineralization between the "B" East drift and the face of the lateral.

"A" - East drift: Very little scheelite in the face.

"B" - East drift: While considerable scheelite was noted in this short drift, there is also heavy ankerite mud and gouge. The entire thickness of the Wheeler Bed is not exposed and therefore additional mineralization might be found in the upper part of the bedding.

Lateral No. 3: No additional work has been done in this lateral since the last inspection and therefore no changes in mineralization were noted.

Lateral No. 4: Very little scheelite mineralization was observed in this drift which has been driven almost entirely in ankerite mud and appears to end in a soft, yellow gouge. The face had apparently encountered a fault and had caved to the extent that examination was impossible. A small pod of hard limestone, and ankerite, containing some scheelite was noted on the East wall and south of the face. In general, the faulting in this area has produced so much ankerite mud that complete examination is not possible.

Lateral No. 5: Since the last inspection on Sept. 10-11, the lateral has been advanced a distance of 151 feet in a northerly direction and only light and scattered scheelite mineralization was observed. Therefore, the further extension of this lateral does not appear justified. However, the exploration will probably be completed soon,as the remaining drive only amounted to 50 feet.

General notes:- The dust and mud adhering to the wall rock make it difficult to definitely define the limits of mineralization. The exploration in the various laterals have indicated that the occurrences of the ankerite mud may be much greater than previously known and may have tended to cut off mineralization in certain areas. There is also the possibility that the occurrences and thickness of the ankerite mud is increasing in an easterly direction.

Outside work:- The powder magazine was completed some time prior to October 1, and at the time of inspection was approximately one-

half filled with dynamite together with several spools of blasting fuse.

The building is constructed of cement blocks, roof covered with aluminum sheets. An iron door approximately 3 feet wide by 6.4 feet high has been set in the west end of the building. The building has been well constructed and should meet the requirements of the State Mine Inspector. The storage space should be sufficient for a very considerable development and production program.

Structures erected by the operator at his expense:-

1. The change house has been completed and necessary equipment installed and is now in use.

2. The cement foundation has been poured for the proposed blacksmith shop.

Equipment purchased and received in October:-

1 General purpose truck $6,040.00
The operator had driven the truck to Salt Lake City, Utah. Therefore, no further details were available and the vehicle could not be inspected.

STATEMENT OF WORK COMPLETED

Approval to proceed under phase "B":

	Lateral Footage allowed	Completed Lateral	Completed Drifting
Lateral No. 1	50	53.3'	23.0'
Lateral No. 2	105	133.0'	31.5'
Lateral No. 3	25		25.0'
Lateral No. 4	100	10.0'	
Lateral No. 5	320	151.0'	30.0'
	600		

Amendment No. 2:

	Lateral allowed	Total Lateral Completed	Allowed drifting off laterals	Drifting completed	Allowed raise	Raising completed
Lateral No. 1		240 feet		23.0 feet		
Lateral No. 2	130.0'	133.0 feet	35.0'	31.5		
Lateral No. 3			No change			
Lateral No. 4	66.5'	10.0	9.0'			
Lateral No. 5	200.0'	151/0	90.0'		3.5'	3.5'
	396.5'		134.0'		3.5'	

Maximum total phase "B" = 600 feet.

Advance since inspection on 9/11/53

Lateral	Lateral advance	Drift advance
No. 1	36.0'	
No. 2	58.0'	31.5'
No. 3	None	
No. 4	10.0'	
No. 5	151.0'	
	255.0'	31.5'

Total advance = 286.5 feet.

FINANCIAL REPORT

Contract allowance, drifting and timbering:

Stage 2, phase "A"	$25,500.00
Equipment	13,881.90
Buildings	1,109.10
Assaying	$ 309.00
	$40,800.00

Contract allowance, stage 2, phase "B"	$24,000.00
Timbering	540.00
Assaying	260.00
	$24,800.00

Total phases "A" and "B" $65,600.00

Expenditures:

	Drifting	Timbering	Assaying	Equipment	Buildings
May 1953	7,640.00	450.00	None	2,776.90	None
June "	10,620.00	300.00	95.00	None	448.73
July "	7,340.00	225.00	26.00	5,065.00	None
August "	6,160.00	None	41.00	None	175.60
Sept. "	3,860.00	None	32.00	None	477.19
Oct. "	7,460.00	None	3.00	6,040.00	None
	43,080.00	975.00	197.00	13,881.90	1,101.52

Expenditures,	stage 2, phases A and B	$59,235.42
"	prior to amended contract	75,476.00
	Total expenditures	$$34,711.42

Contract funds (phases "A" and "B":

	Drifting	Timbering	Assaying	Equipment	Buildings
Allowed	$48,000.00	$2,040.00	$569.00	$13,881.90	$1,109.10
Expended	43,080.00	975.00	197.00	13,881.90	1,101.52
Unexpended	$ 4,920.00	$1,065.00	$372.00	None	$ 7.58

Total unexpended funds as of November 1, 1953 = $6,364.58

Resume:

Personnel employed on November 4, 1953:

1 Mine foreman
2 Miners on exploration contract in Lateral No. 5
1 Miner on company account in Laterals A and B
3 Men on outside work (building construction)
1 Cook
8

Glenn G. Gentry
Mining Engineer

FILE COPY
SURNAME:

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

Rutledge
Chandler
Hodges
Brooker
Gilman
Wetherby

DEFENSE MINERALS EXPLORATION
ADMINISTRATION

F. A. Rutledge
5235 3538

14X3923.970, Working Fund, DMEA
November 25, 1953

H. C. Miller, DMEA Executive Officer, Region 3, San Francisco, California

Reurtt November 24, Mt. Wheeler Mines, Inc., Docket DMEA 2082, Contract Idm-4248. We approve proposed arrangements concerning payments.

W. S. Martin
ACTING Chairman, Operating Committee (2HB)

cc: Docket
FT, Region 3 - confirmation
Code 400
Adm. Read. File
Oper. Committee
Audits Divn., Bur. Mines
R. W. Geehan, USBM
T. P. Thayer, USGS

FARutledge/ls
11/25/53

11-25-53

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 25 1953

RECEIVED
Nov 24 1 17 PM '53
GENERAL SERVICES ADMIN.
PUBLIC BLDGS. SERVICE
BMD - COMMUNICATIONS

175 WA SFS /I-DOW/

SAN FRANCISCO CALIF 11-24-53 948A

W. S. MARTIN, ACTING CHAIRMAN

OPERATING COMMITTEE, DEFENSE MINERALS, EXPLORATION AD

INTERIOR BLDG, WA

REURTT NOVEMBER 23 REGARDING MT. WHEELER MINES, INC., DMEA 2082, CONTRACT IDX-E248. RECALCULATION OF MT. WHEELER ACCOUNT SHOWS IT IS IMPOSSIBLE TO RELEASE ABOUT $3,000 AND STILL WITHHOLD APPROXIMATELY $10,500. WE HAVE DECIDED IT BEST TO REIMBURSE WILLIAMS ENTIRELY FOR TRUCK, LEAVING BALANCE OF GOVERNMENT PARTICIPATION OF APPROXIMATELY $5,600 AS OF OCTOBER 31 TO TAKE CARE OF POWDER MAGAZINE AND NOVEMBER AND DECEMBER COSTS. THAT AMOUNT IS BELIEVED SUFFICIENT TO SAFEGUARD GOVERNMENT-S INTEREST PER ARTICLE 6 AND WILL NOT BE PAID UNTIL AFTER FINAL AUDIT. PLEASE REPLY BY RETURN WIRE IF THIS MEETS OR DOES NOT MEET WITH YOUR APPROVAL.

H. C. MILLER, EXECUTIVE OFFICER DMEA FIELD TEAM REGION III

23 DMEA 2082 IDX-E248 $3,000 $10,500 $5,600 31

948A

NOV 24 3 28 PM '53
BUREAU OF MINES
MAIL ROOM
WASHINGTON D C.

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

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

November 24, 1953

Mr. James L. Williams, President
Mt. Wheeler Mines, Inc.
P. O. Box 150
Salt Lake City 10, Utah

Re: Docket [illegible]A-20[illegible] (Tungsten)
Mt. Wheeler Mines, Inc.
White Pine County, Nevada
Contract I[illegible]-2[illegible] (Amended)
Amendment No. 3

Dear Mr. Williams:

We acknowledge your letter dated November 21, 1953, requesting an amendment to your contract to permit you to switch the footage allowing for drifting in the extension of Lateral No. 5 to drifting south in Lateral No. 2 inasmuch as no mineralization of importance was encountered by the work done in Lateral No. 5.

Accordingly, I have prepared Amendment No. 3, permitting the requested switch of footage. It was not possible for us to draw up this amendment to let you use "the remaining footage of 64 feet" (which includes the cited 45 feet), because if all requirements of Amendment No. 2 had been met, there would not be 19 feet of unused footage. I am limiting the footage of work in Lateral No. 2 South, therefore, to 45 feet.

Six copies of Amendment No. 3 are attached. You should sign all six copies, retain the copy marked "Operator's Copy," and return the original and other four copies to this office.

Sincerely yours,

H. C. MILLER

H. C. Miller
Executive Officer
DMEA Field Team, Region [illegible]

Attachment

Copy to: DMEA, Washington, D. C.
E. H. Bailey, USGS
A. C. Johnson, Reno

FILE COPY
SURNAME:

Martin
Mittendorf
Hollstrand
Chambers
H Johnson

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

DEFENSE MINERALS EXPLORATION
ADMINISTRATION

W. S. Martin

5285 3538

14X 3923.970, Working Fund, DMEA

November 23, 1953

H. C. Miller, DMEA Executive Officer, Region 3,
San Francisco 2, California

Confirming telcon with Administrator on November 20 regarding Mt. Wheeler Mines, Inc., Docket DMEA 2082, Contract Idm-E248. Our review indicates you are justified in removing suspension for items for powerhouse and truck totalling approximately $7142 on October Form MF-104. Letter of explanation follows. We suggest you withhold amount allowed by Article 8 of contract, approximately $10,500, to protect Government equity in the equipment of both the amended and original contracts. Provided the full amount of the project is expended, we estimate on basis your figures that about $3,000 withheld October voucher could be released.

W. S. Martin
Acting Chairman, Operating Committee

cc: DOCKET
FT, REGION 3 - CONFIRMATION
CODE 400
OPER. COMMITTEE
ADM. READING FILE
AUDITS DIVISION, BUR. MINES
R. W. GEEHAN, USBM
T. P. THAYER, USGS

WSMartin/ls
11/23/53

R.G. 11-23-53

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 24 1953

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

November 20, 1953

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract No. Idm-E248 (Amended)

Reference is to your letter dated November 9, 1953, requesting our opinion as to the necessity of the powder magazine and general purpose truck, built and purchased, respectively, under the subject contract.

Attached are two copies of a memorandum dated November 18, from G. H. Holmes, Jr., for A. C. Johnson, giving the conclusions of the Reno office on the two controversial items.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: E. H. Bailey, USGS (With copy of memo)
A. C. Johnson, Reno

RECEIVED
NOV 4 1953

November 16, 1953

Memorandum

To: H. C. Miller, Executive Officer, DMEA Field Team, Region III

From: Chief, Mining Division, Region III

Subject: Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract Idm-E248 (Amended)

In reply to your memorandum on the subject docket, the matter of the powder magazine and general purpose truck was discussed with Glenn G. Gentry, and the following statements comprise the opinions of the Mining Division as to the necessity of these items:

1. Powder magazine:- The Mt. Wheeler Mine was inspected on September 10 and 11, 1953. On these dates, the cement foundation had been poured and on Sept. 11 the cement floor was finished. The building construction was completed sometime prior to the next inspection on the dates of November 3 and 4, 1953, and was probably utilized for the storage of dynamite prior to October 1, as outlined by letter dated October 22, 1953 from James D. Williams to Mr. H. C. Miller.

The powder magazine is located in an area adjacent to the mine and alongside the mine road. It is therefore more accessible than the former magazine and more advantageous for use, especially in the winter months.

While the powder magazine is a necessary facility in order to reduce costs of storage and handling, and for safety, yet the value of the building to this phase of the exploration contract has been confined to a period of approximately two months.

2. General purpose truck:- In his letter of October 22, 1953, Mr. Williams reports the truck was delivered on October 19 and was to be in service at the mine on October 26. During the inspection of the property on November 3 and 4, 1953, Mr. Williams was not available and the truck was reported to have been driven to Salt Lake City for supplies, etc.

This office has no information relative to the use of the truck in hauling concentrates to market, but assume Mr. Williams means hauling the concentrates (now on hand from the mill run in September) to Bishop, California for roasting and cleaning on a magnetic separator.

A dump truck is desirable and necessary to transport supplies to the mine and to haul either ore or concentrates. Snow removal equipment is also necessary during the winter months. Therefore, while the truck can be considered as necessary for production and operation, its limited use during this exploration project does not justify the expense.

A. C. Johnson

Martin

C. O. Mittendorf, Administrator

Defense Minerals Exploration
Administration

14X3923, Working Fund,
Interior, DMEA

November 20, 1953

MR. JAMES D. WILLIAMS, PRESIDENT
MT. WHEELER MINES, INC.
218 VELT BUILDING
SALT LAKE CITY, UTAH

EXECUTIVE OFFICER REGION III AUTHORIZED TO REMOVE SUSPENSION OF TRUCK AND POWDER MAGAZINE ITEMS TOTALING APPROXIMATELY $7142 ON OCTOBER VOUCHER BUT REQUIRED UNDER ARTICLE 8 OF CONTRACT TO WITHHOLD FUNDS FROM FINAL VOUCHER OR VOUCHERS TO PROTECT GOVERNMENT EQUITY IN PROJECT EQUIPMENT.

C. O. Mittendorf (fw)

C. O. MITTENDORF, ADMINISTRATOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

cc: Docket
FT, Region 3
Confirmation to Mr. Williams
Code 400
R. W. Geehan, USBM
T. P. Thayer, USGS
Audits Division, Bur. Mines
Admin. Reading File
COMittendorf/fw

2082

R.C.B. 11-23-53

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 23 1953

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

November 19, 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract No. Idm-E248 (Amended)

Reference is to your letter dated November 9, 1953, requesting a fourth copy of the memorandum report by Roscoe M. Smith, dated October 23, 1953, on the subject mine. The requested report, together with map, is attached.

Attachment

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Copy to: E. H. Bailey, USGS

Defense Minerals Administration
RECEIVED
NOV 23 1953

Room 204 - 222 So. West Temple
Salt Lake City 1, Utah
October 23, 1953

Memorandum

To: Edgar H. Bailey

From: Ronald M. Smith

Subject: DMA 2062 (Tungsten)
Mt. Wheeler Mines, Inc.
White Pine County, Nevada
Contract Idm-S-2[illegible]-Amended

The Mt. Wheeler Tungsten Mine, Pole Canyon, White Pine County, Nevada was inspected October 17, 1953 by R. M. Smith for the purpose of mapping the geology of the work done under Phase 3 of the amended contract.

About half of the work proposed in Phase 3 has been completed with the following results:

No. 1 Interval. In the ore body which was cut at coordinate N. 25510 a drift was run easterly for 20 feet and a raise above the interval was driven about 15 feet vertically above the shale. Tungsten ore estimated to average 0.9 percent WO_3 occurs between 3 feet and 12 feet above the shale. A few specks of scheelite show in the back of the raise. Ore from the east drift is estimated to average 0.5 percent WO_3 and the face of the drift contains a few stringers containing low grade ore.

No. 2 Interval. Two ore bodies were cut in this interval, one at coordinate N. 25500 and another at N. 25520. A drift has been driven 15 feet easterly on the first of these ore bodies which is about 10 feet wide, five feet thick, and is estimated to average 1.0 percent WO_3 or better. The second ore zone is about 5 feet wide, 5 feet thick (from 2 feet to 7 feet above the shale), and is estimated to average 1 percent WO_3.

No. 3 Interval. In the ore body which was cut at coordinate N. 25490, a drift has been driven 30 feet east. Scheelite ore diminishing in grade toward the east may average 0.5 percent WO_3. A vertical raise has also been driven above the interval to a distance of 25 feet above the shale. Ore estimated to average about 1 percent WO_3 extends from 5 feet to 20 feet above the shale.

No. 4 lateral. The work on No. 4 lateral has been abandoned because of caving ground. A few quartz stringers containing a few specks of scheelite were observed in the face of the drift but no ore was seen. Exploration westerly for 8 feet along the inferred ore zone at coordinate N. 25425 revealed no ore. Here the favorable part of the Wheeler bed is dissolved by surface waters and the resulting cave is filled with mud.

No. 5 lateral. The lateral has been extended northerly to coordinate N. 25665. A few scheelite bearing quartz stringers have been revealed by this work. A drift to the east has been driven 30 feet along the ore body at coordinate N. 25500. This drift has been stoped to a vertical height of 10 feet above the shale. From 4 feet to 10 feet above the shale it contains ore estimated to average about 0.8 percent WO_3. Near the face of the drift the bed is faulted up 5 feet on the east side. A drift has been driven 8 feet east in the faulted segment on ore. A vertical raise has been driven above the lateral at coordinate N. 25515 a distance of 12 feet above the shale. Ore estimated to contain about 1 percent WO_3 was cut from 4 feet to 9 feet above the shale. A raise has also been driven about 5 feet above the back of the lateral at coordinate N. 25535 for the installation of a tugger. The raise is in waste.

FILE COPY
SURNAME:

200

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

NOV 9 1953

Mr. H. C. Miller
Executive Officer
Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket No. DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
White Pine County, Nevada
Contract Idm-E248

Dear Mr. Miller:

This will acknowledge your memorandum dated October 30, 1953, in which you transmitted three copies of a memorandum report on the above subject.

Four copies of all reports are required for distribution in this office, therefore, please submit one additional copy of this report.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

APPROVED:

J. H. Hedges
Member, Bureau of Mines

A. R. Kinkel, Jr.
Member, Geological Survey

REAdams/meb
11-5-53
cc to: Adm.Reading File
Mails & Files Br.
Oper.Comm.File

HHK
11-9-53

FILE COPY
SURNAME:

140

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

Rewritten by

Martin
Allen
Martin
Talbot
Selfridge
F. Johnson
Wetherwax

NOV 9 1953

Mr. H. C. Miller, Executive Officer
DMEA Region III Field Team
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket No. DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
White Pine County, Nevada
Contract No. Idm-E248 (Amended)

Dear Mr. Miller:

This will acknowledge receipt of your letter of October 26, 1953, enclosing a copy of Mr. James D. Williams' reply of October 22, 1953, to your letter to him of October 20, written at our request.

Please refer to paragraphs numbered "1" and "2" of Mr. Williams' reply and let us have your opinion as to the necessity of the powder magazine and the general-purpose truck. We note that the Operator speaks of using the truck to haul "concentrates" from the mill to the market. This would not seem to be a proper use of the truck on an exploration project contract, but if Mr. Williams meant the hauling of the ore to the mill and not to the market, such use would be proper.

Sincerely yours,

George C. Selfridge (GCS)

Chairman, Operating Committee

Approved:

Rewritten by W. S. Martin/ea/11/3/53
AEKane/ema/ 11-3-53

J. H. Hedges (JHH)
Member, Bureau of Mines

A. R. Kinkel, Jr. (ARK)
Member, Geological Survey

cc: Mails & Files
Adm. R. File
Op. Comm.
Mr. Hedges
Mr. Thayer
A. E. Kane
W. S. Martin
J. L. Hofflund
Chron.
Pending

HHK 11-9-53

400

FILE COPY
SURNAME:

Martin
Pinkel
Hodges
Sotkedge
Hepburn

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

NOV 5 1953

AIR MAIL

Mr. James B. Williams, President
Mt. Wheeler Mines, Inc.
P. O. Box 150
Salt Lake City 10, Utah

Re: Docket No. 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler mine
White Pine County, Nevada
Contract No. Idm-E248 (Amended)

Dear Mr. Williams:

This will acknowledge receipt of your letter, with attachments, of October 27, 1953, requesting an amendment to the subject contract.

We note that you base your above-mentioned request on your belief that the exploration completed to date has exposed a substantial tonnage of essentially 1% tungsten ore, thus demonstrating commercial scheelite mineralization. You also state that your same request conforms to your prior understanding with the Tungsten Branch.

The records here show that in April 1953 our Iron and Ferro-Alloys Division agreed to give appropriate consideration to the results of bulk sampling in estimating ore reserves for your project. You had expressed dissatisfaction with our previous sampling, which had indicated that the DMEA ore mined up to that time was of submarginal grade. In order to use a mutually acceptable method, we, therefore, decided to make an actual mill run. Accordingly, we stipulated in Amended Exploration Contract Idm-E248 that, "This drifting should be kept to the greatest extent feasible in the most productive zone of the Mt. Wheeler bed." This does not, of course, preclude us at the conclusion of the project from taking a sufficient number of channel samples to show what further tonnage and grade might be mined from the mine faces then exposed.

As a consequence of the foregoing, we will be in a position to review your request for further exploration assistance only when we have received from you and from our Field Team the respective final reports with adequate sampling data. Your application will, therefore, be held in abeyance until the necessary information is available.

Sincerely yours,

C. O. Mittendorf (fw)

Administrator

cc: DOCKET
ADM. READ. FILE
CODE 400
FT. REG. III
R. W. GEEHAN, USBM
T. P. THAYER, USGS
Oper Com

WSMartin/ls 11/3/53

R.C.G. 11-5-53

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 6 1953

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

November 2, 1953

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract Idm-E248 (Amended)
Amendment No. 2

Attached are the original and two copies of Amendment No. 2, dated October 28, 1953, made in connection with subject contract.

A justification sheet is attached to each copy of the amendment.

Proper distribution has been made of the remaining copies.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: A. C. Johnson, Reno (With copy of amendment)
Finance Officer, Region III (With copy of amendment)
E. H. Bailey, USGS
George Mavor

11-6

RECEIVED
DEC 30 1953
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

Docket 18

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

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

October 30, 1953

Memorandum

WSM

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
White Pine County, Nevada
Contract Idm-E248 (Amended)

Attached are three copies of a memorandum report by Roscoe M. Smith, of the Geological Survey, on the geology of the work done under Phase B at the Mt. Wheeler Mine under the subject contract.

H. C. Miller
Executive Officer
DMEA Field Team,

Attachment

Copy to: E. H. Bailey, USGS
A. C. Johnson, Reno (With copy of the report)

Reviewed by
DMEA OPERATING COMMITTEE

(date)

Room 208 - 222 So. West Temple
Salt Lake City 1, Utah
October 23, 1953

Memorandum

To: Edgar H. Bailey

From: Reese M. Smith

Subject: DMEA 2082 (Tungsten)
Mt. Wheeler Mines, Inc.
White Pine County, Nevada
Contract Idm-E-248-Amended

The Mt. Wheeler Tungsten Mine, Pole Canyon, White Pine County, Nevada was inspected October 17, 1953 by R. M. Smith for the purpose of mapping the geology of the work done under Phase B of the amended contract.

About half of the work proposed in Phase B has been completed with the following results:

No. 1 Lateral. In the ore body which was cut at coordinate N. 25510 a drift was run easterly for 20 feet and a raise above the lateral was driven about 15 feet vertically above the shale. Tungsten ore estimated to average 0.7 percent WO_3 occurs between 3 feet and 12 feet above the shale. A few specks of scheelite show in the back of the raise. Ore from the east drift is estimated to average 0.5 percent WO_3 and the face of the drift contains a few stringers containing low grade ore.

No. 2 Lateral. Two ore bodies were cut in this lateral, one at coordinate N. 25500 and another at N. 25530. A drift has been driven 15 feet easterly on the first of these ore bodies which is about 10 feet wide, five feet thick, and is estimated to average 1.0 percent WO_3 or better. The second ore zone is about 5 feet wide, 5 feet thick (from 2 feet to 7 feet above the shale), and is estimated to average 1 percent WO_3.

No. 3 Lateral. In the ore body which was cut at coordinate N. 25490, a drift has been driven 30 feet east. Scheelite ore diminishing in grade toward the east may average 0.5 percent WO_3. A vertical raise has also been driven above the lateral to a distance of 25 feet above the shale. Ore estimated to average about 1 percent WO_3 extends from 5 feet to 20 feet above the shale.

No. 4 Lateral. The work on No. 4 lateral has been abandoned because of caving ground. A few quartz stringers containing a few specks of scheelite were observed in the face of the drift but no ore was seen. Exploration westerly for 8 feet along the inferred ore zone at coordinate N. 25425 revealed no ore. Here the favorable part of the Wheeler bed is dissolved by surface waters and the resulting cave is filled with sand.

No. 5 Lateral. The lateral has been extended northerly to coordinate N. 25665. A few scheelite bearing quartz stringers have been revealed by this work. A drift to the east has been driven 30 feet along the ore body at coordinate N. 25500. This drift has been stoped to a vertical height of 10 feet above the shale. From 4 feet to 10 feet above the shale it contains ore estimated to average about 0.8 percent WO_3. Near the face of the drift the bed is faulted up 5 feet on the east side. A drift has been driven 8 feet east in the faulted segment on ore. A vertical raise has been driven above the lateral at coordinate N. 25515 a distance of 12 feet above the shale. Ore estimated to contain about 1 percent WO_3 was cut from 4 feet to 9 feet above the shale. A raise has also been driven about 5 feet above the back of the lateral at coordinate N. 25535 for the installation of a tugger. The raise is in waste.

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

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

October 28, 1953

Mr. James T. Williams, President
Mt. Wheeler Mines, Inc.
P. O. Box 150
Salt Lake City 10, Utah

Re: Docket DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract Ida-248 (Amended)
Amendment No. 2

Dear Mr. Williams:

Based on recent correspondence and supplemental information supplied by you over the phone, I have prepared Amendment No. 2 to your amended contract. I believe the amendment as prepared agrees with what we concluded over the phone with one exception. Your figures and mine did not agree by 10 feet. I finally found that 73-1/2 minus 48-1/2 feet is not 35 feet but 25 feet, so that in place of deducting 35 feet from the 70 feet of drifts allowed in Phase B, Lateral No. 5, only 25 feet were deducted, leaving 45 feet to go.

If you approve the amendment as written, kindly sign all six copies and return all but the copy marked "Operator's Copy" to this office. If you do not approve the amendment in its entirety, please return all copies to us unsigned with your reasons for not signing them.

Sincerely yours,

H. C. MILLER
H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: DMEA, Washington, D. C.
E. H. Bailey, USGS
A. C. Johnson, Reno

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

Department of the Interior
Defense Minerals Administration
RECEIVED
OCT 28 1953

Rec'd in DC 10/28

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Air Mail

Mr. James D. Williams, President
Mt. Wheeler Mines, Inc.
P. O. Box 150
Salt Lake City 10, Utah

Re: Docket DMA-2082-Tungsten
Mt. Wheeler Mines, Inc.
Goatwheeler Mine
White Pine County, Nevada
Contract Ida-8248 (Amended)

Dear Mr. Williams:

Your letter dated October 19, 1953, requesting another amendment to your contract is acknowledged. Mr. Bailey and I have given your request studied consideration, and to give you an opportunity to review our conclusions before you come to San Francisco later this week, I am putting them down in this fashion.

You request the following:

1. Extend Lateral #1 an additional 25-50 feet north and drive easterly 10 feet on a second ore zone, if found.

2. Extend Lateral #2 an additional 25 feet north and drive easterly 10 feet within the zone now exposed at the face.

3. Because of inability to drive through zone, abandon further driving of the #4 Lateral north (17.5 feet) and drifting west 16 feet. Resultant saving in footage of 33.5 feet.

4. In Lateral #5 drive the east drift at 110 feet an additional 10 feet making the total length of the drift 35 feet; drive a 3.5 foot raise at 157 feet to provide head room for a slusher station needed to extend this lateral, and reduce the east drift at 30 feet from 25 feet to 10 feet, a saving of 15 feet.

You state that the proposed new work will total 108.5 feet which will be offset in part by abandoning 48.5 feet of authorized work, or a net change of 60 feet in addition to the raise footage provided for by Amendment No. 1. The excess footage, you state, should be deducted from the work authorized in #5 Lateral.

In your October narrative report we note that you have already advanced 2 Lateral 107 feet, whereas the allowable footage is 105 feet; you have already driven the slusher raise in #5 Lateral, and have driven the additional 10 feet of east drift in #5 Lateral 110 north. This 15.5 feet of work is not allowed by the contract or amendments thereto.

The suggested saving of footage in the #4 Lateral which cannot be extended because of mud, 33-1/2 feet, plus the footage saved by reducing the drift at 30 feet in Lateral #5 from 25 to 10 feet, totals 48.5 feet. Subtracting 15.5 feet from 48.5 feet leaves 33 feet of footage.

Mr. Bailey and I are against taking any more footage from #5 Lateral north as that drifting was allowed for a very definite purpose which we feel is essential to determine if you are going to have enough ore to eventually pay back the Government's participation in the project. The extension of #5 Lateral north was not set up as a bank account or reserve on which to draw to develop showings of mineralization.

The 33 feet of footage remaining does not give much footage for proposed work in both #1 and #2 Laterals. We would consider, therefore, a suggestion that it be used in either #1 or #2 Lateral. In which lateral do you think that footage might be used to the best advantage?

Sincerely yours,

H. C. Miller
Executive Officer
RFC Field Team, Region III

Copy to: RFC, Washington, D. C.
E. H. Bailey, USGS
A. C. Johnson, Reno

MT. WHEELER MINES, INC.
P. O. BOX 150
SALT LAKE CITY 10, UTAH

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 29 1953

October 27, 1953

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
United States Department of the Interior
Washington 25, D.C.

WSM

Re: Docket DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
White Pine County, Nevada
Contract Idm-E 248 (Amended)
Request for Amendment

Dear Mr. Mittendorf:

We estimate that all exploration footage provided under Phases "A" and "B" of the above captioned contract will be completed during the latter part of November, 1953. In order that the exploration program may continue without interruption, thereby making the fullest utilization of the presently installed equipment and our experienced crew, we are submitting five copies of a requested amendment to Contract Idm-E 248 (previously amended May 11, 1953), to provide for additional exploration footage at the Mt. Wheeler Mine. We have forwarded copies of this application to Messrs. Miller and Bailey, DMEA Field Team, Region III, at San Francisco, Mr. A. C. Johnson, Chief, Mining Division, Region III, Reno, and Mr. Roscoe Smith, Geological Survey, Salt Lake City, for field study.

The exploration completed within the ore zones of the productive Wheeler limestone bedding has exposed a substantial tonnage of essentially 1% tungsten ore and it is upon this demonstrated commercial scheelite mineralization that we base the present request. You will undoubtedly recall that we requested the extension of the Pole Adit Easterly to the Sheffield fissure zone in our application for the May 11, 1953, amendment, but that it was deferred pending more complete proof that the ore zones do in fact continue Easterly. Since this condition has now been firmly established, we feel that our request for this amendment conforms to our prior understanding with the Tungsten Branch.

Thank you for your kind consideration in this matter.

Sincerely yours,

MT. WHEELER MINES, INC.
By
James D. Williams
President

JDW-K
Enc. (5)

I <u>Description of the Work</u> (See Map Attached)

A Pole Adit Drive Easterly

1. Extend the Pole Adit 1200 feet Easterly (approximately S 80° E to E), driving as far as possible within the Wheeler limestone bedding and then turning Southerly to follow just under the lime-shale contact as heretofore, to cut the Sheffield fissure and accompanying North trending shear zone.

2. Drive six short laterals Northerly approximately 200 feet apart and within the strongest N-S trending shear zones cut by the adit advance. Drive short raises where necessary to enter the ore zone. Lateral and raise footage not to exceed 600 feet.

B Easterly Drive at North Zone

1. Drive a drift Easterly 500 feet within the Wheeler bed ore zone to explore this important ore exposure.

2. Drive three short laterals North and South at appropriate intervals to determine the width of the ore zone. Drive three short raises to determine thickness of ore zone. Lateral and raise footage not to exceed 200 feet.

II Estimated Cost of the Project

Agreed Unit Costs

Time Schedule 12 months

STAGE III

1200	Feet of Pole Adit Easterly	@ $40/Ft.	$48,000.00	
600	Feet of Pole Adit Laterals	40/Ft.	24,000.00	
500	Feet of North zone drift	40/Ft.	20,000.00	
200	Feet of North zone laterals	40/Ft.	8,000.00	
240	Feet of Timbering as required	15/Ft.	3,600.00	
			$103,600.00	$103,600.00

Operating Equipment to be Purchased

1	315 Cu. Ft. Diesel Compressor, Joy Model WK-80 Skid Mounted	$ 8,514.00	
1	4' x 8" Welded Air Receiver	600.00	
		$ 9,114.00	9,114.00

Miscellaneous

Assaying	300.00
Total Estimated Cost of Project	$113,014.00

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

Department of the Interior
Defense Minerals Administration
RECEIVED
OCT 30 1953

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

October 26, 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA, Interior Building, Washington, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract Idm-E248 (Amended)

Reference is made to your subject letter, dated October 16, 1953, suggesting that I forewarn the operator on the probable disallowance of the cost of the powder magazine and general purpose truck as allowable costs under the contract.

Following your instructions, I wrote Mr. Williams to that effect on October 20, 1953. A copy of that letter was sent to DMEA in Washington.

Mr. Williams phoned me on October 22 in regard to my letter, at which time I told him to put his story in writing and send it to me. This was done, and herewith is a copy of the letter, dated October 22, which Mr. Williams sent me in reply to my letter of October 20 and subsequent instructions over the telephone.

Your further advice will be appreciated.

Copy retained 400

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

RECEIVED
NOV - 2 1953
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

Copy to: E. H. Bailey, USGS

October 22, 1953

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
White Pine County, Nevada
Contract Idm-E 248 (Amended)
Powder Magazine - Truck

Dear Mr. Miller:

In reply to your letter of October 20, and pursuant to our telephone conversation of this morning, we furnish you the following information regarding the above captioned subject matter.

1. Construction of Powder Magazine

This unit was not commenced immediately upon receipt of the Amended contract, dated May 11, 1953, and received May 24, 1953, from your office, because of heavy intermittent rain and snowfall. The site was graded just as soon as a bulldozer could then be secured. This was completed about the middle of June. By the end of June the building materials were delivered on the job. No work could be done on this building until the latter part of August because of manpower shortage; we did not deem it proper to use underground manpower for this facility. During the last week of August the foundations were poured, and after allowing the concrete to cure for approximately two weeks, the remaining structure was completed by about the middle of September and has been in use since then.

I wish to point out that we were under an informal agreement with Mr. Martin of the Tungsten Branch of DMEA, to mill the ore produced from the various exploration drifts within the ore zones in order to determine the average grade. In order to do this, bin facilities had to be constructed, solely at Company expense. In order to get the bin done in time to receive this ore the surface crew was used to this end, necessitating the deferment of the powder magazine. We were not able to increase the surface crew during this period because our housing facilities in camp were filled to capacity. We think this a most reasonable procedure on our part under the circumstances.

OK WSM

2. General Purpose Truck

Immediately upon receipt of the Amended contract, the signed order for the truck unit was given to our supplier, Foulger Equipment Company, 1361 South Second West Street, Salt Lake City, Utah. Quoted delivery was 30-45 days. Shortly thereafter the C.I.O. called a strike at the Ford plants which lasted about a month and a half. During this period of the strike we were informed

RECEIVED

almost weekly that it was to be settled. We suggested that perhaps a chassis might be secured from a dealer somewhere in the area and this was investigated but none were available. Finally the Ford strike was over and the chassis delivered to Marmon-Herrington at Indianapolis, Indiana. Before work could start on the four-wheel conversion, Borg-Warner, supplier of certain essential conversion units went out on strike for about two months. This, of course, again held up delivery. The unit was finally delivered on Monday, October 19, and is presently being fitted with the hydraulic hoist, dump bed and snowplow. We expect to have it in service at the mine on Monday, October 26, for clearing the road of snow. (Snowfall on October 19-20, 1953, was 14 inches at the mine.) We will also utilize this unit immediately to haul our concentrates to market, transfer supplies to the mine and haul mine water. The unit is vitally needed and will have been delivered in time to perform one of its major anticipated functions, i.e., snow removal.

not "concentrates" but does he mean "concentrates"?

In conclusion, we wish to point out that the right to build and purchase these two units and receive pro rata reimbursement from DMEA, is ours by contract. No limitations as to time were stipulated in that contract. We have acted in good faith at every stage of the proceedings and have expended our funds in reliance upon the contractual agreement that Government (DMEA) was committed to reimburse us 75% upon our presentation of the MF-104 monthly voucher properly documented. Delays were of such nature as to be reasonably anticipated by the average reasonable man and were certainly not of our making. We are certain that in view of the foregoing DMEA will recognize its obligation to reimburse us for its pro rata share of these allowable costs.

Sincerely yours,

MT. WHEELER MINES, INC.

By [signature]
President

JDW-K

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

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

October 20, 1953

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract Idm-E248 (Amended)
Amendment No. 1

Attached are the original and two copies of Amendment No. 1, dated October 15, 1953, made in connection with subject contract.

A justification sheet is attached to each copy of the amendment.

Proper distribution has been made of the remaining copies.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: A. C. Johnson, Reno (With copy of amendment)
Finance Officer, Region III (With copy of amendment)
E. H. Bailey, USGS
George Mavor

RECEIVED
NOV - 9 1953
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

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

460

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

October 20, 1953

WSM

Mr. James D. Williams, President
Mt. Wheeler Mines, Inc.
218 Felt Building
Salt Lake City, Utah

Re: Docket DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract Idm-E248 (Amended)

Dear Mr. Williams:

The inspection report by Mr. Glenn G. Gentry, Mining Engineer, reporting on his visit to your operations on September 10 and 11, 1953, states that you expect to complete all exploration work allowed by the contract by the end of October 1953. The report further states that:

(a) At the time of the inspection the powder magazine had not been completed, in fact only the foundation had been prepared; and

(b) The general purpose truck had not been delivered.

Since the August 1953, MF-104 indicates that 794 feet of drifting, i. e., approximately two-thirds of the 1200 feet authorized by the Amended Contract, had been completed on August 31, it is apparent that the exploration project will derive little or no benefit from either the powder magazine or the general purpose truck. Furthermore, since most of the work has been, or will be, performed without the use of either the building or the truck it does not appear that the costs of these two items are necessary, reasonable direct costs of performing the exploration work under the terms of the contract.

Accordingly, it is very probable that the allowable cost of these items will be disallowed.

Sincerely yours,

H. C. Miller

H. C. Miller, Executive Officer
DMEA Field Team, Region III

Copy to: DMEA, Washington, D. C.
E. H. Bailey, USGS
A. C. Johnson, Reno

FILE COPY
SURNAME:

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

Talbot
Chandler
Martin
Rubin
Hoffmann
Schmidt
Johnson

OCT 16 1953

Mr. R. C. Miller
Executive Officer
DMA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Subj.: Docket DMA-2082 (Tungsten)
Contract No. Ida-1248
Mt. Wheeler Mines, Inc.
White Pine County, Nevada

Dear Mr. Miller:

Reference is made to the Interim Inspection Report dated October 6, 1953, prepared by Mr. Glenn C. Gentry, Mining Engineer, reporting on his visit on September 10 and 11, 1953, to the subject exploration project.

This report indicates that the Operator expects to complete all exploration work allowed by the contract by the end of October, 1953. The report further states that:

(a) At the time of the inspection the powder magazine had not been completed, in fact only the foundation had been prepared; and

(b) The general purpose trunk had not been delivered.

Since the August, 1953, MP-104 indicates that 754 feet of drifting, i. e., approximately two-thirds of the 1200 feet authorized by the Amended Contract, had been completed on August 31, it is apparent that the exploration project will derive little or no benefit from either the powder magazine or the general purpose trunk. Furthermore, since most of the work has been, or will be, performed without the use of either the building or the trunk, it does not appear that the costs of these two items are necessary, reasonable direct costs of performing the exploration work under the terms of the contract.

R.C.M.
10-16-53

Accordingly it is suggested that you forewarn the Operator on the probable disallowance of these items as allowable costs under the contract. Also, it is suggested that you withhold from the final voucher, or vouchers, sufficient sums to cover these probable disallowances.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (2HB)

APPROVED:

J. H. Hedges

Member, Bureau of Mines (2HB)

T. P. Thayer

Member, Geological Survey (2HB)

EDTalbert/wb
October 13, 1953

Copy to: Docket
Admr. Reading File
Operating Committee
Region III
Mr. Geehan, Rm. 3513
Mrs. Miller, Rm. B-242, GSA
Mr. Mavor
Mr. Martin
Mr. Chambers

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 16 1953

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

October 15, 1953

Mr. James D. Williams, President
Mt. Wheeler Mines, Inc.
218 Felt Building
Salt Lake City, Utah

Re: Docket DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract Idm-E248 (Amended)
Amendment No. 1

Dear Mr. Williams:

In line with a recent recommendation by Mr. Glenn G. Gentry that you be permitted to determine the vertical thickness of mineralization in the Wheeler bed in Laterals No. 1 and No. 5 by raising, Amendment No. 1 to your amended contract has been prepared.

Six copies of Amendment No. 1 are attached. If you approve of the amendment as written, kindly sign all six copies. Upon execution of the amendment you are to retain the copy marked "Operator's Copy" for your files and to return the original and other four copies to this office promptly.

Sincerely yours,

H. C. Miller

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Enclosure

Copy to: DMEA, Washington, D. C.
E. H. Bailey, USGS
A. C. Johnson, Reno

FILE COPY
SURNAME: 38

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

Martin
Porter
Selfridge
Hodges
Thayer
Flemm

DEFENSE MINERALS EXPLORATION
ADMINISTRATION

W. S. Martin
3538

5285

14X3923.970 - Working Fund - DMEA
October 14, 1953

H. C. MILLER, DMEA EXECUTIVE OFFICER, REGION 3, SAN FRANCISCO, CALIFORNIA

Reurlet October 9. Please amend Contract Idm-7248, Docket DMEA 2082 - Tungsten, Mt. Wheeler Mines, Inc., to provide for raising as recommended, switching footage from Lateral No. 5. Word amendment to accord with contract which provided quote this drifting should be kept to the greatest extent feasible in the most productive zone of the Mt. Wheeler bed unquote.

George C. Selfridge

G. C. Selfridge (WB)
Chairman, Operating Committee

CC: Docket
FT, Reg. 3 - confirmation
Code 400
Oper. Comm.
Audits Divn., Bur. Mines
Adm. Read. File
R. W. Geehan, USBM
T. P. Thayer, USGS

WSMartin/ls
10/13/53

R.C.G.
10-14-53

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 12 1953

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

October 9, 1953

Air Mail

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract No. Idm-E248

Reference is to your letter dated September 21, 1953, requesting advice as to whether additional raising is planned in the No. 1 Lateral of the Mt. Wheeler Mine.

The matter was taken up with Mr. A. C. Johnson, who replied to my inquiry by memorandum dated October 6. A copy of Mr. Johnson's memorandum is attached.

You will note that Mr. Gentry not only recommends raising in Lateral No. 1 but also in Lateral No. 5. Mr. Johnson suggests two places where footage might be switched from drifting to raising. He does not give the length of the raises, nor does he mention anything about the cost of raising. I assume, however, that the $40 per foot allowed for drifting and crosscutting is enough to cover the cost of raising.

I presume an amendment to the contract will be needed if the raising is to be allowed. Your advice on just how the amendment should be worded will be appreciated and also your opinion on whether raising should be allowed in Lateral No. 5.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment
Copy to: E. W. Bailey, USGS
A. C. Johnson, Reno

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 12 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Date: Oct. 8, 1953

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA 2082

Contract Idm-E 248

Commodity Tungsten

Operator - Mt. Wheeler Mines, Inc.

Property - Mt. Wheeler Mine, White Pine County, Nevada

By Glenn G. Gentry, Mining Engr.

Dated October 6, 1953

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

INTERIM REPORT

Docket No.: DMEA-2082 (Tungsten) October 6, 1953

Name and address of operator: Mt. Wheeler Mines, Inc.
P. O. Box 150
Salt Lake City 10, Utah

Name and location of property: Mt. Wheeler Tungsten Mine,
White Pine County, Nevada

Contract No.: Idm-E248

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The Mt. Wheeler Tungsten mine was visited on Sept. 10 and 11, 1953 for the purpose of inspecting the work being performed under the exploration project. Mr. James D. Williams, president of the mining company, was available at the mine on Sept. 11 for discussions relative to the operation. Mr. Vern Jepson, mine foreman, accompanied the examining engineer for a brief period on Sept. 10 during the underground inspection.

On the afternoon of Sept. 11, accompanied by Mr. James D. Williams, the examining engineer inspected the Stopper Tungsten mill where tungsten ore, produced from the DMEA exploration project, Mt. Wheeler mine, was being milled.

The drifting allowed under Phase A, amounting to 600 feet, was completed during the latter part of July and under date of July 22, 1953, the applicant was granted approval to proceed under Phase B. This

exploration work has continued according to schedule and at the time of the inspection the applicant was nearly ready to start work on the 200-foot extension of Lateral No. 5. The applicant, therefore, expects to complete all exploration allowed under Phase B by the end of October.

According to the mine map, for the month of August 1953 and furnished by the operator, the following tungsten ore was produced from the DMEA exploration and delivered to the DMEA stockpile:

Lateral No. 1, North,	42 mine cars - grab sample	0.36% WO_3
Lateral No. 3, North,	64 mine cars - grab sample	0.82% WO_3
	32 mine cars - grab sample	0.73% WO_3

Tungsten ore shipped to the Stopper mill:

*"B" Lateral	54.0 tons of crude ore
No. 1 Lateral	82.0 " " " "
No. 3 Lateral	120.0 " " " "
No. 5 Lateral	145.0 " " " " (estimated)
Approximate total	401.0 (S. W. T.)

*Considered to be company ore.

Complete details of shipments, analysis, mill recovery, etc. are to be furnished by the applicant with his report on operations for September 1953.

Recommendations:

The examining engineer was unable to determine any increase in the amount of scheelite in the limited areas explored by the Easterly drifts off the various laterals. However, the walls are covered with dust and mud to the extent that complete and detailed examination is not possible without washing, and water for this purpose was not available.

It is recommended that upon completion of Phase B, that the operator be required to wash the walls in areas considered pertinent to the final examination.

SAMPLING

		%, WO_3
No. 1 Lateral:	BM-766 - Grab sample of muck pile in East drift. This ore expected to be delivered on the DMEA stockpile.	0.12
No. 2 Lateral:	BM-768 - Grab sample from 4 cars of ore from North Face of drift and delivered to DMEA stockpile.	0.08
No. 3 Lateral:	BM-764 - Grab sample from muck pile. Represents ore from fissure slab round and one round from face of West drift.	0.10
	BM-765 - width 4.3 feet - north wall of East drift. 18 feet east of center line of lateral.	0.18
No. 4 Lateral:	BM-763 - width 2.1 feet. East wall of lateral - 4 feet south of North Face. Mostly ankerite mud, with small amount of scheelite where sampled.	0.59 ll
No. 5 Lateral:	BM-761 - width 3.0 feet. Face of East drift, lower part of bedding.	0.13
	BM-762 - width 3.4 feet. Face of drift, upper part of bedding.	0.40 ll
DMEA Stockpile:	BM-767 - Grab sample near top and along west side.	0.05
Stopper Mill:	BM-769 - sample of mill tailings from last part of ore from Mt. Wheeler mine.	0.19 - ?

GEOLOGY

There has been no major changes in the geological formations, as observed by the examining engineer.

STATEMENT OF WORK COMPLETED

Approval to proceed under Phase "B":

	Total Footage Allowed	Total footage completed
Lateral No. 1	50	20
Lateral No. 2	105	91
Lateral No. 3	25	25
Lateral No. 4	100	40
Lateral No. 5	320	30
	600	206

Percent completed = 34.33
Percent to be completed = 65.67

The exploration work has been well done and is considered satisfactory.

Outside work:

New buildings:- The 12-foot by 12-foot, powder magazine has been partially completed, as follows: The ground has been leveled and the cement foundation has been poured. The cement wall is 8 inches thick, by 36 inches high, with a 6-inch concrete floor slab. The pumice blocks for the walls are on hand and the applicant expects to complete the building prior to October 1, 1953.

Structures erected by the operator at his expense:-

1 Change house, 16 feet by 24 feet, partially completed.
1 Ore bin, 200 ton capacity, divided, one-half of the bin now in use.

Equipment purchased and received in July:-

10 mine cars, 18-inch track gauge, side dump, iron body, size 3.2 feet wide by 4.3 feet long by 2.2 feet high, 27 cubic foot capacity. Manufactured by the

Ogden Iron Works Co., Ogden, Utah
Shop No. 101108 @ $506.50 each $5,065.00

Assuming the contract is completed about the first of November, then the mine cars will have been used for only a period of three months. The cost per month would, therefore, appear very high.

The general purpose truck will probably be delivered in the near future, and again assuming the contract is completed about the first of November, then the exploration contract will probably derive no benefit from this equipment and the entire cost, amounting to $6,040.00 will be chargeable to mine operation, development and production.

MILLING

The applicant rented the Robert Stopper concentrating mill, located approximately 10 miles south of the Mt. Wheeler mine, at a rental charge of $15.00 per hour. During the rental period, ending on or about Sept. 13, 1953, the applicant produced about 400 tons of tungsten ore from exploration under Phase B. This ore was hauled to the mill by truck and treated in the plant. The costs of haulage and treatment were for the account of the applicant. Robert Stopper, owner and operator of the Stopper mill, directed the milling:

Estimated	S. W. T. treated	400
"	Recovery	80% to 90%
"	Heads	0.6% WO_3
"	Tails	0.1% WO_3

Mill capacity = 1-1/4 tons crude ore, per hour.
Production = 25 lbs. of 50% WO_3 concentrates per hour.
Recovery = About 10 lbs. WO_3 per ton of ore.
Operation = 2 shifts (16 hours)

The WO_3 concentrates produced are reported as low grade, containing considerable iron sulphides and will require a flash roast and cleaning by magnetic separator in order to make a product that will be of acceptable grade.

The applicant is to render a detailed report concerning the milling of tungsten ores produced from the Phase "B" exploration.

Mr. Williams also reports that his company intends to construct a milling plant near the portal of the Pole Adit and that necessary financing for said plant has been arranged.

FINANCIAL REPORT

Contract allowance, drifting and timbering,	Stage 2, Phase "A"	$25,500.00
	Equipment	13,881.90
	Buildings	1,109.10
	Assaying	309.00
		$40,800.00
Contract allowance, drifting, Stage 2, Phase "B"		$24,000.00
timbering		540.00
assaying		260.00
		$24,800.00
	Total Phase "A" and "B"	$65,600.00

Expenditures:

	Drifting	Timbering	Assaying	Equipment	Buildings
May 1953	$ 7,640.00	$450.00	$None	$2,776.90	$ None
June "	10,620.00	300.00	95.00	None	448.73
July "	7,340.00	225.00	26.00	5,065.00	None
Aug. "	6,160.00	None	41.00	None	175.60
	$31,760.00	$975.00	$162.00	$7,841.90	$624.33

Contract funds: (Phase A and B)

	Drifting	Timbering	Assaying	Equipment	Buildings
Allowed	$48,000.00	$2,040.00	$569.00	$13,881.90	$1,109.10
Expended	31,760.00	975.00	162.00	7,841.90	624.33
Unexpended	$16,240.00	$1,065.00	$407.00	$ 6,040.00	$ 484.77

Grand Total:

Contract authorization	$141,076.00
Total expenditures	116,839.23
Unexpended	$ 24,236.77

Resume:

The exploration contract has been charged a total of $162.00 for assaying. The applicant has submitted no assay certificates covering the samples and/or the analysis.

Glenn G. Gentry
Mining Engineer

Docket

October 6, 1953

Memorandum

To: H. C. Miller, Executive Officer, DMEA Field Team Region III

From: Chief, Mining Division, Region III

Subject: DMEA- 2082, Tungsten, Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract No. Idm-E248

In reference to your memorandum of Sept. 30, Mr. Gentry in his inspection on Sept. 11 of the Mt. Wheeler Mine, suggested that additional raising in the East drift off of Lateral No. 5 would be justified. The examining engineer has also recommended that additional raising should be allowed by extending the raise in Lateral No. 1 and Lateral No. 5 to expose the vertical limits of the bedded scheelite mineralization.

This work is not allowed under the present contract and I presume it would have to be approved by your office. The footage for raising could be deducted from paragraph 5, item d of approval to proceed under phase "B", which states: "Drift a total of 70 feet on any ore encountered in extending the Lateral" or it could be deducted from the "northward extension of the No. 5 Lateral".

If this work meets with approval of your office, it will be necessary to advise the operator immediately as the contract will probably be completed the latter part of this month.

I concur with these recommendations as we should determine if the ore exposed in these raises will continue to the upper shale thus indicating that the entire 22-foot Wheeler bed is mineralized.

A. C. Johnson

Copy retained 400

FILE COPY
SURNAME:

400

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

Rutledge
Martin
Selfridge
Fe Johnson

SEP 21 1953

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 3, California

Re: Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E248

Dear Mr. Miller:

Reference is made to the subject docket and the Operator's report for the month of July 1953, which states that two 9-foot raises, one located at 63 feet in the No. 1 Lateral and the other at 27 feet in the No. 3 Lateral, are in good ore.

The raise in No. 1 Lateral is 16 feet above the lime-shale contract in the bottom of the drift and exposes a vertical bedded ore thickness of plus 12 feet with the face still showing very good ore. The face of the second raise is 16 feet above the lime-shale contact and exposes a vertical bedded ore thickness of plus 12 feet with the face still showing good ore. Mr. Williams expresses the opinion that in all probability the ore exposed in these raises will continue to the upper shale, thus showing that the entire 22' Wheeler bed has been mineralized with scheelite in this area.

It would be appreciated if you would advise us whether additional raising is planned at the above locations. We believe sufficient footage of the work under Stage B should be scheduled to fully test the ground in question and prove Mr. Williams' assumptions about the continuity of the ore.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Approved

J. H. Hedges (GCS)
Member, Bureau of Mines

A. R. Kinkel, Jr. (GCS)
Member, Geological Survey

FARutledge:foc 9-14-53
cc: Docket
Code 400 CC: Mary Miller, USGS
Oper. Comm.
Adm. Reading File
FT. Reg. 3
R. W. Geehan, USBM

R.C.L. 9-21-53

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

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

August 31, 1953

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract Idm-E248

Reference is to Mr. W. S. Martin's letter, dated August 13, 1953, stating that there is still a fundamental misunderstanding about the additional exploration at the Mt. Wheeler Mine allowed by our recent approval for the Operator to proceed under Phase B of his amended contract.

The delay in answering your letter was due to my desire to discuss the matter with Mr. J. H. Hedges in this office on August 25, at which time Mr. A. C. Johnson, of the Bureau of Mines, Reno and Mr. E. H. Bailey, of the Geological Survey, also would be present.

Apparently, the granting of the extension of Lateral 5 is the point of controversy and you request from us better justification as to why that work was allowed. As you know, the Operator was allowed to do 600 feet of drifting or crosscutting under Phase B of Stage II. Based upon Mr. Paul Bateman's study, we felt that only 345 feet of work were needed to adequately explore the known ore shoots. To do more than that amount of work on the ore shoots we felt would take the project out of the realm of exploration and put it under development. With the work that had already been done, plus the additional 345 feet, we felt that sufficient work will have been accomplished to make a fairly accurate estimation of the grade and extent of possible reserves.

Because in opening up this new mine the cost in relation to the tonnage found has been very excessive, it was believed that if significant amounts of new ore could be found by a little more work, this would be desirable.

The present adit appears to have been driven where it is for convenience of location rather than because the surface showings are the best in this area. This suggests other E-W fractures, lying to the north and parallel to those known to contain ore, might reasonably be expected to be mineralized at least as much as those exposed by the present workings.

If the property is ever to become a large enough mine to support a mill, or to contribute appreciably to the Nation's supply, new ore shoots must be found.

In consideration of those facts, it appeared worthwhile to apply the extra 200+ feet to further exploration for new ore bodies expected to lie along E-W fractures north of the present workings. The reasons for choosing No. 5 Lateral, rather than No. 1 or No. 3, are given on page 4 of Mr. Bateman's report.

We trust that this reply, plus what Mr. Hedges may be able to add when he returns to Washington, will show you clearly why we allowed the Operator to extend Lateral No. 5. If not, we will gladly make another effort.

In connection with your inquiry about a mill test, we had a phone call from Mr. Williams some two weeks or so ago, telling us that the mill at that time was about ready to go. We will probably have something to report on that score shortly.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Copy to: E. H. Bailey, USGS
A. C. Johnson, Reno

913

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 24 1953

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

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

August 19, 1953

Mr. James D. Williams, President
Mt. Wheeler Mines, Inc.
218 Felt Building
Salt Lake City, Utah

Re: Docket DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract Idm-E248 (Amended)

Dear Mr. Williams:

In transmitting your MF-104 and MF-104A forms covering the expenses incurred at the Mt. Wheeler Mine in July 1953, Mr. A. C. Johnson suggested that I ask you to indicate in future reports the location and amount of timbering charged to the Government.

This seems to be a reasonable request and I trust that you will be able to comply with Mr. Johnson's wishes.

Sincerely yours,

H. C. MILLER
H. C. Miller
Executive Officer
DMEA Field Team, Region III

Copy to: DMEA, Washington, D. C.
E. H. Bailey, USGS
A. C. Johnson, Reno

FILE COPY
SURNAME:
400

Rutledge
Martin
Graham
Langman
Gallagher
Mitchell

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

AUG 13 1953

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 3, California

Re: Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler mine
White Pine County, Nevada
Contract No. Idm-8248

Dear Mr. Miller:

This will acknowledge receipt of the following data on the results under the above referenced exploration project contract:

a. Memorandum report dated July 22, 1953, by R. M. Smith

b. Interim report dated July 28, 1953, by Glenn C. Gantry

In addition to the above, we also have had an opportunity to review a recent memorandum report by Paul C. Bateman.

A study of the above information shows that there is still a fundamental misunderstanding about the purpose of the additional exploration at the Mt. Wheeler mine allowed under the amended contract. Gantry, in the spirit of the amended contract, has outlined a program that is designed to determine whether the area that has been previously classified as an ore zone is actually ore, but Bateman in approving northward extension of Lateral 5 indicates that he is still looking for ore. We believe in view of the amount spent and the small tonnage indicated to date by assay results, that until we are able to plot some reliable ore body outlines on a map the Field Team should exercise extreme caution in approving such work as extension of Lateral 5. As you doubtless know, even though you have allowed the Operator to begin Phase B under your general authority you can also stop at any time any part of the work that is not in the interest of the Government.

The above referenced reports, moreover, give no indication that the Operator has made any attempt to comply with his engagement to mill at the earliest opportunity a representative tonnage of the "DMEA ore" in order to provide settlement sheets that would give us a more dependable grade than we now have for use in making ore reserve estimates.

Mr. Williams advised us by telephone on April 24, 1953, that upon completion of the present program and establishment of the existence of a sizeable ore body, he was coming back to Washington for "some real money." You will undoubtedly agree with us that at this time the available data could not substantiate the existence of enough minable "ore" to justify any such intention.

Sincerely yours,

W. S. Martin (S)
Acting Chairman, Operating Committee

APPROVED:

J. H. Hedges (S)
Member, Bureau of Mines

A. R. Kinkel, Jr. (S)
Member, Geological Survey

FARutledge:foc
8-7-53

cc: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. Reg. 3
R. W. Geehan, USBM
D. M. Lemmon, USGS

8-13-53

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 14 1953

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

August 10, 1953

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract Idm-E248 (Amended)

Reference is made to your air mail letter dated August 3, 1953, requesting information in reply to your wire of July 29 and a summary of the consideration which led us to approve work in Laterals Nos. 2 and 4 at the Mt. Wheeler Mine.

Apparently my memorandum to you dated July 30 had not come to your attention at the time you prepared your August 3 letter. To that memorandum were attached copies of a memorandum report by R. M. Smith, of the Geological Survey, based upon examinations made of the Mt. Wheeler mine by Smith and Gentry on July 10-12, and by Paul Bateman and R. M. Smith of the Survey on July 15 to determine whether the ore exposed during Phase A justified going on to Phase B.

Samples were taken during the examinations but the results were not available at the time the amendment was drawn. As getting out the amendment was a rush job so as not to necessitate recessing the work at the mine and because the estimates of the grade of the ore by Smith and Bateman were favorable, we did not wait for the actual assays.

As for Laterals Nos. 2 and 4, the examining geologists did not feel that the blocks in which they are to be run were sufficiently explored due to the possible characteristic of the mineralization. It was a choice of either extending the workings from Laterals Nos. 1, 3 and 5 or crosscutting the E-W fractures between those laterals. It seemed to all concerned that the program of exploration would best be attained by driving Laterals 2 and 4 instead of driving crosscuts from Laterals 1, 3 and 5.

Mr. Smith's memorandum to Mr. Bailey dated July 22, 1953, gives the best possible estimate of reserves, together with best estimates of the grade of the ore. We feel that the work approved to be carried out under Phase B is based upon sound reasoning. Considerable time and study by all concerned were given to the problem before the approval notice was prepared. In making the decision we had to weigh the recommendation of our engineer who suggested that the program more or less should carry out the exploratory work on the E-W cross fractures, against those of the geologists who favored the program set out in the approval notice. The final program as set out in that notice also agreed with Mr. Williams' thoughts as expressed by him over the phone when I talked to him after our minds had been mad up.

The geological study by Smith and Bateman revealed the desirability of extending the N-S lateral No. 5 northward in the Wheeler bed to explore virgin territory which their study indicated might encounter some heretofore unknown ore.

I assure you that approval granted to proceed into Phase B was not the result of snap judgement but rather the result of some very thorough study of the results of exploration to date and the geology which that exploration revealed.

If you have any further questions please do not hesitate to let us know what they are.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Copy to: E. H. Bailey, USGS

400

FILE COPY
SURNAME: pc

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

AUG 3 1953

Air Mail

Martin
Selfridge
Hedges
Kinkel
Hoy

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1022 Flood Building, 870 Market St.
San Francisco 3, California

Re: Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E-248

Dear Mr. Miller:

This will acknowledge receipt of "Approval to Proceed Under Phase B", under the subject contract, dated July 22, 1953.

On July 29 we telegraphed you as follows:

"Operator's June report, Docket DMEA 2082, Mt. Wheeler Mines, Inc., Contract Idm-E248, received today. Report shows 456.5 feet of the 600 feet specified under Phase A for drifts, crosscuts, and/or slusher drifts has been driven as crosscuts.

"Intent of amended contract as stated was to complete as large an amount of the work as possible in quote the most productive zone of the Mt. Wheeler bed unquote. Your attention is also called to contract proviso that Phase B is to be undertaken only if sampling repeat sampling and assaying repeat assaying results warrant in the opinion of the Government ~~and the Government~~ so indicates in writing.

"We suggest that your opinion, if favorable to the undertaking of Phase B, should be supported by preliminary ore reserve estimate based on results of Phase A."

In addition to the information requested in the above wire, please include a summary of the consideration which led you to approve work in Laterals Nos. 2 and 4.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

APPROVED:

J. E. Hedges
Member, Bureau of Mines

A. R. Kinkel, Jr.
Member, Geological Survey

WSMartin/ls 7/30/53
cc: DOCKET
FIELD TEAM, REG. III
OPER. COMMITTEE
CODE 400
ADM. READ. FILE
D. M. LEMMON, USGS
R. W. GEEHAN, USBM

MDS 8-3-53

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

July 30, 1953

Memorandum

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

From: Executive Officer, DMEA Field Team Region III

Subject: Docket DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract Idm-E248 (Amended)

Enclosed are four copies of a memorandum report on the Mt. Wheeler Tungsten deposit by R. M. Smith, of the Geological Survey, dated July 22, 1953. The report is based on examinations made by Glenn G. Gentry and R. M. Smith on July 10-12, 1953, and by Paul Bateman and R. M. Smith, of the Survey, on July 15, to determine whether the ore exposed during Phase A of the exploration project justified going on to Phase B.

As a result of the engineer's and geologists' recommendations, approval to proceed under Phase B along five specific courses was granted on July 22, 1953.

H. C. Miller
Executive Officer, DMEA Field Team
Region III

Copy to: E. H. Bailey

Attachment

Report of July 30 loaned to Mr Hedges for Fieldtrip
8-18-53

Memorandum report of a brief examination of the
Mt. Wheeler tungsten mine, White Pine County, Nevada, DMEA 2082, Idm-E248

by

Paul C. Bateman

In order to evaluate the desirability of approving Phase B of Stage 2 of the DMEA exploration program, I examined the Mt. Wheeler tungsten mine July 15, accompanied by Mr. Roscoe Smith. On July 16, Smith and I spent about 2 hours in consultation with Mr. James Williams, promoter of the property. As a result of the field examination and of the discussions with Mr. Williams, I recommend approval of Phase 2, but with modifications to permit extending lateral No. 5-200 feet ahead in the Wheeler bed to explore the ground farther north. These modifications were orally agreed to by Mr. Smith and Mr. Williams.

Geology

Because a diversity of opinion as to the geology of the deposit is expressed in the various reports supplied DMEA, I will briefly summarize my own impressions of the geological relationships. My views are essentially in agreement with those expressed by Mr. Roscoe Smith in the final report on Stage 1, dated March 25, 1953.

Scheelite concentrations of possible mineable size and grade are contained in east-trenching tube-like bodies within the Wheeler limestone, a member of the Cambrian Pioche shale. The Wheeler limestone, a unit about 20 feet thick, strikes about N. 80 W. and dips 5-10° south. It is exposed at the mine portal and at two places farther north, but over most of the mine area the surface trace of

the bed is concealed by thick talus that would be costly to strip away. Within the limestone, the base of the zone favorable to mineralization is about 5 feet above the lower contact, and the zone extends upward about 5 feet on the average. The ore bodies in this zone are adjacent to east-trending near-vertical quartz veins and silicified zones. The exposed ore ranges in width from a few inches up to a maximum observed width of 18 feet. The side boundaries of the ore bodies are irregular but fairly sharp; the rock in the favorable stratigraphic zone between the ore bodies contains only scattered crystals of scheelite. Probably the ore bodies vary both in size and scheelite content in their longer directions. There is no proof that any two ore showings are parts of the same ore body, but some continuity seems probable. Scheelite is commonly in coarse crystals associated with quartz, ankerite (?), and calcite, and in some places is concentrated in bands parallel with the bedding in the limestone.

Steep north-trending fractures and faults of small displacement, prominent throughout the mine, do not seem important in the localization of the ore, although along some narrow streaks of scheelite can be seen. The downthrown side of the faults with measureable displacement is to the east. Probably most of the north-trending fractures are later than the ore, but the age relationship was not established by observation.

Ore Reserves

The block of ground explored up to the start of Phase B of Stage 2 is about 800 feet long between the adit portal and lateral No. 5, and about 200 feet wide. Because of uncertainties as to the

continuity of the ore between the various showings, the volume of ore that is contained in the explored block can be calculated only in terms of order of magnitude. If it is arbitrarily assumed that the best ore showings on laterals A and B, 1, 3, and 5 are all parts of a single ore body, possibly offset by faults, that extends from lateral No. 5 to the adit portal, such a body would contain about 4,000 tons of ore (average dimensions: 5' high, 11' wide, 800' long). On the further assumption (possibly unduly generous) that as much additional ore is contained in other ore bodies, the total reserve within the block explored may be as much as 8,000 tons. Even if the showings are not continuous, but the ore encountered in the laterals is assumed to be representative of the amount that might be encountered in any intervening lateral, the reserve estimate would be about the same. Little of this ore could be classed as measured; most of it is indicated or inferred.

The car samples suggest an average grade of about 0.5 percent of WO_3, but it is possible that because of dilution this is lower than the grade of ore that could be mined. Examination under ultraviolet light suggests that an average grade of about 1.0 percent WO_3 is reasonable. Bureau of Mines samples in laterals A and B indicate a grade of about 2.0 percent WO_3; the results of samples taken from laterals 1, 3 and 5 are not yet available.

Thus it appears that the partly explored block contains a maximum of about 8,000 tons of ore containing about 8,000 units of WO_3. The cost of the exploration through Stage 2, Phase 1, about $75,000, seems high in comparison with the amount of ore and in

consideration of the fact that the ore is in bodies whose shape is not favorable to cheap mining. It is highly desirable to complete the exploration of the block of ground that has been the target as cheaply as possible, diverting any remaining funds to prospecting contiguous areas. Before exploration beyond Phase B is done, the operator should mine and mill enough ore to demonstrate that the ore found can be exploited profitably.

Recommended Exploration in Stage 2, Phase B

Because of the limited amount of ore that is inferred in the block of ground already explored, it is desirable that as much of the footage allowed in Phase B be diverted to exploring new ground. The proposed program, summarized in Table 1 and shown on maps accompanying Roscoe Smith's report of July 23, 1953, is designed to permit 345 feet of drifts and crosscuts in the block of ground already under exploration, an amount that seems adequate to indicate the extent of the ore reserve. Of the remaining 255 feet, 200 feet is to extend lateral No. 5 farther north, and the remaining 55 feet is reserved for drifting in any ore found in extending the lateral. Lateral No. 5 was selected in preference to lateral No. 3 because it is in better condition for such an operation, and to lateral No. 1 because being farther into the hill it has greater exploration value.

Table 1
Summary of Recommended program Stage 2, Phase B

Lateral No. 1

25 feet	1. Drift 25 feet on ore 50 feet north of raise.
25	2. Drift 25 feet on any ore found farther north in completing lateral No. 1 under Stage 1.

Lateral No. 2

30	1. Slab out north side of adit opposite existing lateral and raise 15 feet into Wheeler bed on prominent east-trending fractures.
15	2. Drift 15 feet from head of raise on any ore encountered.
75	3. Drive lateral north 75 feet in Wheeler bed from raise.

Lateral No. 3

25	1. Drift 25 feet on ore 20 feet north of raise.

Lateral No. 4

25	1. Drift 25 feet on ore 40 feet NE of adit.
75	2. Continue lateral north 75 feet in Wheeler bed.

Lateral No. 5

25	1. Drift 25 feet on ore 30 feet north of raise.
25	2. Drift 25 feet on ore 110 feet north of raise.
200	3. Extend lateral 200 feet north in Wheeler bed.
55	4. Drift a total of 55 feet on any ore encountered in extending the lateral.

600 feet

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG - 3 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Date: July 30, 1953

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA 2082

Contract Idm-E 248

Commodity Tungsten

Operator - Mt. Wheeler Mines, Inc.

Property - Mt. Wheeler Mine, White Pine County, Nevada

By Glenn G. Gentry, Mining Engineer

Dated July 28, 1953

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

INTERIM REPORT

Docket No.: DMEA-2082 (Tungsten) July 28, 1953

DEPARTMENT OF THE INTERIOR
Bureau of Mines Administration
RECEIVED
AUG 3 1953

Name and address of operator: Mt. Wheeler Mines, Inc.,
P. O. Box 150
Salt Lake City 10, Utah

Name and location of property: Mt. Wheeler Tungsten Mine
White Pine County, Nevada

Contract No.: Idm-E248 - Amended contract dated May 11, 1953.
Stage 2, phase "A"

SUMMARY AND CONCLUSIONS

The Mt. Wheeler Tungsten mine was inspected on July 10 and 11, 1953 by the Field Team for the purpose of evaluating the work performed under stage 2, Phase "A" of the amended contract dated May 11, 1953 and to determine whether or not additional exploration work under stage 2, Phase "B" should be recommended.

During a part of the inspection, the Field Team were accompanied by Mr. James D. Williams, President and/or Mr. Vern Jepson, Mine Foreman.

Exhibit "A", Stage 2, Phase "A", has allowed the following work and costs:

600 feet of drifts, crosscuts, and/or slusher drifts @ $40.00/ft	$24,000.00
100 feet of timbering @ $15.00/ft	1,500.00
	$25,500.00

Equipment to be purchased:

10	27cu. ft. side dump ore cars @ $506.50 each	$5,065.00
1	General purpose truck	6,040.00
3	Joy, Model AAF212, double drum slushers, complete (or 3 air slushers, Model S-211	2,776.90
		$13,881.90

New buildings, improvements, installations:

1	12- by 12-foot powder magazine	1,109.10
Assaying		309.00
	Grand Total	$40,800.00

The applicant had started exploration work on May 11, 1953, by crosscutting in an almost due north direction in laterals No's. 1, 3, and 5. The total advance of the three slusher crosscuts has amounted to 476 feet or 79.33% of the contract allowance. Mr. Williams has estimated that the full contract allowance of 600 feet will be completed on or about July 20, 1953 and on that date he will be ready to start work on Phase "B".

The slusher crosscuts have been advanced by two men in each crosscut, working on a contract basis of $9.50 per foot, which includes the drilling, blasting and mucking. The mining company are presently employing a total of 10 men in underground and surface operations.

The examining engineer considers that the exploration work has been done in a satisfactory manner and has followed good mining practice.

RECOMMENDATIONS

Principal occurrences of scheelite: Lateral No. 1 - Scheelite mineralization has been exposed across a width of 13 feet.

Lateral No. 3 - Scheelite mineralization has been exposed across a width of 12 feet.

Lateral No. 5 - Scheelite mineralization has been exposed across a width of 18 feet.

As a result of the examination of these occurrences of scheelite by mineralight and the sampling by both the examining engineer and the operator, the Field Team recommend that Phase "B" of Stage 2 is justified and that said additional exploration under Phase "B" should be started upon completion of Phase "A".

The Field Team concur with the operator in recommending that exploration under Phase "B" be conducted in the following locations:

No. 1 Lateral, North:

At a point approximately 55 feet north of the slusher ore pocket; drift 50 feet east to explore the ore zone exposed for a width of 13 feet in the lateral.	Total	50 feet

New Lateral, North:

This slusher crosscut is to be started, off the Pole Adit, at approximately 120 feet east of No. 1 Lateral, North and is to extend 100 feet in a northerly direction. From this crosscut, drift 50 feet east on the best ore exposure.	Total	150 feet

No. 3, Lateral, North:

At approximately 20 feet north of slusher raise, drift 50 feet east and 50 feet west to explore an ore exposure which is 12 feet in width in the crosscut.	Total	100 feet

No. 4 Lateral, North:

Extend this lateral for a distance of 100 feet in a northerly direction, and drift 50 feet east on the best ore exposure.	Total	150 feet

No. 5 Lateral, North:

At approximately 110 feet north of slusher raise, drift 50 feet east and 50 feet west to explore an ore exposure which is 18 feet in width in the crosscut. At approximately 30 feet north of slusher raise, drift 10 feet east and 10 feet west to explore scheelite occurrences in the crosscut.	Total	120 feet
	Total exploration work	570 feet

The Field Team further recommend that the work under Phase "B" should be sufficiently flexible, subject to agreement by Government and the operator, to allow for discontinuing part of the crosscuts if in barren zones and/or discontinuing a part of the east and west drifting should there appear no indication of adding to the ore reserves.

In order to substitute for any delineated footage, as outlined above, and to further explore for unknown occurrences of scheelite, it is recommended that No. 1 Lateral, North be extended not to exceed 100 feet in a northerly direction and that 50 feet of drifting to the east, be allowed following the best ore exposure.

GEOLOGY
By Glenn G. Gentry

Scheelite mineralization has been exposed in the various slusher crosscuts and has occurred principally at and adjacent to various sized quartz filled fissures which have a general east to west strike and at their intersection with NE to SW fissuring which has cut the Wheeler limestone beds.

The East to West broken area and the degree of scheelite penetration is entirely unknown and for this reason and to delineate the ex-

tent of ore deposition, the drifting on the east to west fissures is considered to be one of the most important phases of exploration under the program outlined under Phase "B".

SAMPLING

During the inspection of the mine, the following samples were taken by the examining engineer:

No. 5 Lateral, North:	%,WO_3	%,Pb	%,Zn	Oz.Au/T	Oz.Ag/T
BM-607 - Grab and chip sample of rock blasted from 6'x6'x4' raise at about center of ore zone 18' in width. Represents about 8-10 tons of broken ore in the muck pile.	1.12	*0.1	0.1	Tr.	Tr.
BM-608 - Width 3.2 feet. Across bedding lower part of East wall at about center of the above 6'x6'x4' raise. Represents part of material in BM-607, and lower bedding.	*0.02	0.1	0.1	Tr.	Tr.
BM-609 - Width 2.3 feet. Across bedding and directly above BM-608. (Note: Scheelite observed above and below BM-608 and BM-609). The bedding here is probably in excess of 6 feet. Some iron, lead and zinc sulfides were observed in the quartz exposures. Thickness of bedding only partially exposed.	1.14	0.1	0.1	Tr.	Tr.
BM-610 - Width 4 feet. General chip sample at bottom and south face of the 6'x6'x4' raise. The quartz is extremely hard and shows considerable sulfides.	2.82	*0.1	0.1	Tr.	Tr.
No. 1 Lateral, North:					
BM-611 - Width 3.5 feet. Across back of slusher crosscut. 59 feet north of center line of main ore chute. Taken at the north side of the ore zone.	3.61	*0.1	0.1	Tr.	Tr.

	%, WO_3	%, Pb	%, Zn	Oz.Au/T	Oz.Ag/T
BM-612 - Width 7.0 feet. Across back and west side of crosscut. 5 feet south of BM-611. Mostly quartz and sulfides. Probably low grade ore.	*0.02	0.1	0.1	Tr.	Tr.
No. 3 Lateral, North:					
BM-613 - Width 4.0 feet. Chip sample across back of crosscut and 26 feet north of slusher raise. Should be good ore.	0.36	0.1	0.1	Tr.	Tr.
BM-614 - Width 4.0 feet. Horizontal cut along bedding and 4.0 feet above floor of drift. Taken directly below BM-613. Sampled across a series of small East-West fractures filled with quartz. Sampled to check the East-West fracturing.	0.02	0.1	0.1	Tr.	Tr.

* Less than.

Due to lack of water, it was not possible to wash the walls of the slusher crosscuts.

STATEMENT OF WORK COMPLETED

No. 1 Lateral, North:

Advance . . . . . 101.0 feet
To be completed . . . . . 99.0 feet

Timbering: Installation of 5 sets of drift timbers in Pole Adit and at location to support the overhead No. 1 Lateral.

Necessary timber supports and muck chute in the raise to the Lateral level.

No. 3 Lateral, North:

Advance . . . . . 173.0 feet
To be completed . . . . . 27.0 feet

Timbering: Necessary timber supports and muck chute in the raise to the Lateral level.

No. 5 Lateral, North:

Advance . . . . . .(Completed on June 29, 1953) . 202.0 feet
To be completed . . . . . None
Timbering: Necessary timber supports and muck chute in the raise to the Lateral level.

To be completed	126 feet	
Completed		476.0 feet

The slusher crosscuts have an approximate average of 5 feet in width by 7 feet in height. Mucking has been done by means of an air operated, double drum, slusher for each lateral. The slushers are installed a few feet south of each ore pocket and this operation has been satisfactory. The slusher crosscuts have followed the limestone bedding and have required no timbering.

New buildings, improvements and installations:

1 12' x 12' powder magazine:

The only work done toward this building has amounted to leveling the ground by means of a bulldozer and the purchase of the corrugated sheets for the roof, cement blocks for sides, and the iron door. This building is to have a cement floor and a small cement wall above the floor.

Equipment:

All of the machinery allowed under the contract has been purchased and received and/or ordered from the manufacturer:

Received and installed 3 Joy, double drum, air slushers. Expected delivery on or about July 12, 1953 of 10 mine cars and on order from manufacturer one general purpose truck, delivery date unknown.

DMEA STOCKPILE

The operator estimates this stockpile contains approximately 500 tons of tungsten ore. This stockpile was examined by means of a mineralight on the night of July 11, 1953. Considerable barren limestone was observed in various places along the sides of the stockpile

and this limestone will no doubt dilute the grade of ore when milled. Due to the mixture of coarse and fine material in this stockpile, it appears that no completely accurate head sample can be obtained until the ore is milled and sampled by means of an automatic sampler.

FINANCIAL

Contract allowance, Stage 2, Phase "A"	$25,500.00
Equipment	13,881.90
Buildings	1,109.10
Assaying	309.00
	$40,800.00

Expenditures to June 30, 1953:

	Drifting	Timbering	Assaying	Equipment	Buildings
May 1953	$ 7,640.00	$450.00	None	$2,776.90	None
June "	10,620.00	300.00	$95.00	None	$448.73
	$18,260.00	$750.00	$95.00	$2,776.90	$448.73

Contract funds:

	Drifting	Timbering	Assaying	Equipment	Buildings
Allowed	$24,000.00	$1,500.00	$309.00	$13,881.90	$1,109.10
Expended	18,260.00	750.00	95.00	2,776.90	448.73
Unexpended	$ 5,740.00	$ 750.00	$214.00	$11,105.00	$ 660.37

GENERAL

Mr. James D. Williams, President of the Mt. Wheeler Mines, Inc., has advised the examining engineer that he expects to arrange for the use of the Robert Stopper Tungsten Mill on a rental basis and that tungsten ore produced from the Mt. Wheeler Mine will be milled in that plant.

The Field Team recommend that tungsten ore produced from the various drifts and/or crosscuts proposed under Phase "B" of Stage 2, be stockpiled in separate ore bins (these ore bins estimated to be ready for use by August 1, 1953) at the mine and that consideration be given for the milling of said ore in an adequate plant. The milling procedure and sampling and weighing to be observed by the Government engineers. Further consideration is also recommended for the milling of the present DMEA stockpile at the Mt. Wheeler Mine in an adequate milling plant.

Resume:

At some date after the examination by the Field Team on July 10 and 11, 1953, the Mt. Wheeler mine was re-examined by geologists of the U. S. Geological Survey and apparently a somewhat different program of exploration was recommended and approved as follows:

"APPROVAL TO PROCEED UNDER PHASE B

"In the opinion of the Government, the results of Phase A (see Exhibit "A" - Contract Idm-E248 Amended) warrant undertaking the following work under Phase B:

1. In Lateral No. 1, (a) drift 25 feet on ore 50 feet north of raise, and (b) drift 25 feet on any ore found farther north in Lateral No. 1 driven under Phase A. Total footage 50 feet.

2. In Lateral No. 2, start at top of existing raise in No. 2 Lateral south and drift north 105 feet in Wheeler bed. Total footage 105 feet.

3. In Lateral No. 3, drift 25 feet on ore 20 feet north of raise. Total footage 25 feet.

4. In Lateral No. 4, (a) drift 25 feet on ore 40 feet northeast of adit, and (b) continue lateral north 75 feet in the Wheeler bed. Total footage 100 feet.

5. In Lateral No. 5, (a) drift 25 feet on ore 30 feet north of raise; (b) drift 25 feet on ore 110 feet north of raise; (c) extend lateral 200 feet north in Wheeler bed, and (d) drift a total of 70 feet on any ore encountered in extending the lateral. Total footage 320 feet.

"Maximum allowable footage, Phase B, 600 feet.

"All drifts and/or crosscuts to be a minimum of 5 by 6-1/2 feet in cross section and timbered, not in excess of 36 feet where required.

"Approval to undertake the above cited work under Phase B of the contract at the agreed unit cost of $40 per foot for drifting and/or crosscutting, and $15 per foot for timbering is hereby granted.

"Dated July 22, 1953 THE UNITED STATES OF AMERICA

By /s/ H. C. Miller
H.C.Miller, Executive Officer
DMEA Field Team, Region III"

The examining engineer of the U. S. Bureau of Mines considers that the original exploration proposed and recommended in this report (pages 2, 3, and 4) offers the best means of exploration within the limits of the allowed footage and would secure a maximum amount of information relative to ore deposition within said limits.

From the underground evidence observed by the examining engineer, the extension of Lateral No. 5 in a northerly direction for a distance of 200 feet, is not justified at this time and at the expense of the more important exploration in an easterly and westerly direction along the mineralized fissures.

Glenn G. Gentry
Mining Engineer

Miller

Room 208 - 222 So. West Temple
Salt Lake City 1, Utah
July 22, 1953

Memorandum

To: E. H. Bailey

From: R. M. Smith

Subject: DMEA 2082 (Tungsten), Mt. Wheeler Mines, Inc., White Pine County, Nevada. Idm-E248

The Mt. Wheeler mine was inspected July 10-12 by Glenn G. Gentry, U. S. Bureau of Mines, and R. M. Smith, U. S. Geological Survey, to determine whether the showings of ore are sufficient to justify Phase B of the exploration program. At the request of the Washington office the mine was also inspected July 15 by Paul Bateman, U. S. Geological Survey, who was accompanied by R. M. Smith.

One ore showing of commercial width and grade has been revealed in each of the three crosscut-raises (slusher drifts) driven in Phase A. Narrow showings, one or more in each slusher drift, have also been revealed. These may be of less than commercial width, but they are inferred to be wider in other places along the strike. Thus two ore zones are indicated or inferred. A third ore zone (inferred in earlier estimates) was not revealed in the course of work in Phase A.

Ore reserves for the block explored in Phase A are summarized as follows:

Class	Tons	Percent WO_3
Measured	70	1.0
Indicated	2,100	.5
	800	.5
Inferred	500	.5
	3,470	.5

In calculating the reserves the scheelite-bearing zones were arbitrarily divided for convenience into four ore bodies:

(1) In the north zone the measured ore is 5 feet high, 7 feet wide and 46 feet long and contains 160 tons less 90 tons which was mined and stockpiled and averaged about 2.0 percent WO_3. This leaves 70 tons

in place which may average 2 percent WO_3.

(2) The north zone exclusive of the block of measured ore is estimated to be 5 feet high, 10 feet wide and 900 feet long. One half of this length is estimated to contain ore. Where revealed in laterals 1, 3 and 5 the zone is estimated to average 0.5 percent WO_3. Indicated reserves of 2,100 tons averaging 0.5 percent WO_3 are estimated for this ore body.

(3) Ore probably extends along the quartz stringers in the south zone between the portal and lateral No. 3. The stringers have a strike length of 520 feet; one half of this length is thought to contain ore bodies 5 feet high and 7 feet wide. Indicated ore reserves of 800 tons containing 0.5 percent WO_3 are estimated for this ore body.

(4) In the south zone narrow showings revealed in laterals 4 and 5 may extend 360 feet along the strike. One half of this length may contain ore bodies 5 feet high and 7 feet wide. Inferred reserves of 500 tons averaging 0.5 percent are estimated for this zone. One ton of ore in place is assumed to occupy 12 cubic feet.

The objectives of the exploratory work are (1), to delineate the size, shape, and grade of the ore bodies already revealed, and (2), to discover new ore bodies. To accomplish these objectives the operator has suggested the work outlined on fig. 2. As phase A is expected to be completed about July 20, he has requested tentative approval of locations for Phase B work in order to permit Phase B to continue without closing the mine.

At a field conference on July 11 Messrs. J. D. Williams, G. G. Gentry and R. M. Smith approved all of the locations shown in fig. 2 except the one at the north end of lateral 5. This addition was made and the others confirmed on July 16 at a conference attended by J. D. Williams, Paul Bateman and R. M. Smith.

The area of potential ore and of inferred reserves has not adequately been tested but the showings justify additional exploration. The work shown in fig. 2 is divided between the two objectives on a reasonable basis, and therefore I recommend that Phase B be approved to explore these locations.

RMS/rs
cc: A. C. Johnson

Copy

Docket 2082
pc

Memorandum report of a brief examination of the
Mt. Wheeler tungsten mine, White Pine County, Nevada, DMEA 2082, Idm-E248

by

Paul C. Bateman

In order to evaluate the desirability of approving Phase B of Stage 2 of the DMEA exploration program, I examined the Mt. Wheeler tungsten mine July 15, accompanied by Mr. Roscoe Smith. On July 16, Smith and I spent about 2 hours in consultation with Mr. James Williams, promoter of the property. As a result of the field examination and of the discussions with Mr. Williams, I recommend approval of Phase 2, but with modifications to permit extending lateral No. 5-200 feet ahead in the Wheeler bed to explore the ground farther north. These modifications were orally agreed to by Mr. Smith and Mr. Williams.

Geology

Because a diversity of opinion as to the geology of the deposit is expressed in the various reports supplied DMEA, I will briefly summarize my own impressions of the geological relationships. My views are essentially in agreement with those expressed by Mr. Roscoe Smith in the final report on Stage 1, dated March 25, 1953.

Scheelite concentrations of possible mineable size and grade are contained in east-trenching tube-like bodies within the Wheeler limestone, a member of the Cambrian Pioche shale. The Wheeler limestone, a unit about 20 feet thick, strikes about N. 80 W. and dips 5-10° south. It is exposed at the mine portal and at two places farther north, but over most of the mine area the surface trace of

the bed is concealed by thick talus that would be costly to strip away. Within the limestone, the base of the zone favorable to mineralization is about 5 feet above the lower contact, and the zone extends upward about 5 feet on the average. The ore bodies in this zone are adjacent to east-trending near-vertical quartz veins and silicified zones. The exposed ore ranges in width from a few inches up to a maximum observed width of 18 feet. The side boundaries of the ore bodies are irregular but fairly sharp; the rock in the favorable stratigraphic zone between the ore bodies contains only scattered crystals of scheelite. Probably the ore bodies vary both in size and scheelite content in their longer directions. There is no proof that any two ore showings are parts of the same ore body, but some continuity seems probable. Scheelite is commonly in coarse crystals associated with quartz, ankerite (?), and calcite, and in some places is concentrated in bands parallel with the bedding in the limestone.

Steep north-trending fractures and faults of small displacement, prominent throughout the mine, do not seem important in the localization of the ore, although along some narrow streaks of scheelite can be seen. The downthrown side of the faults with measureable displacement is to the east. Probably most of the north-trending fractures are later than the ore, but the age relationship was not established by observation.

Ore Reserves

The block of ground explored up to the start of Phase B of Stage 2 is about 800 feet long between the adit portal and lateral No. 5, and about 200 feet wide. Because of uncertainties as to the

continuity of the ore between the various showings, the volume of ore that is contained in the explored block can be calculated only in terms of order of magnitude. If it is arbitrarily assumed that the best ore showings on laterals A and B, 1, 3, and 5 are all parts of a single ore body, possibly offset by faults, that extends from lateral No. 5 to the adit portal, such a body would contain about 4,000 tons of ore (average dimensions: 5' high, 11' wide, 800' long). On the further assumption (possibly unduly generous) that as much additional ore is contained in other ore bodies, the total reserve within the block explored may be as much as 8,000 tons. Even if the showings are not continuous, but the ore encountered in the laterals is assumed to be representative of the amount that might be encountered in any intervening lateral, the reserve estimate would be about the same. Little of this ore could be classed as measured; most of it is indicated or inferred.

The car samples suggest an average grade of about 0.5 percent of WO_3, but it is possible that because of dilution this is lower than the grade of ore that could be mined. Examination under ultraviolet light suggests that an average grade of about 1.0 percent WO_3 is reasonable. Bureau of Mines samples in laterals A and B indicate a grade of about 2.0 percent WO_3; the results of samples taken from laterals 1, 3 and 5 are not yet available.

Thus it appears that the partly explored block contains a maximum of about 8,000 tons of ore containing about 8,000 units of WO_3. The cost of the exploration through Stage 2, Phase 1, about $75,000, seems high in comparison with the amount of ore and in

consideration of the fact that the ore is in bodies whose shape is not favorable to cheap mining. It is highly desirable to complete the exploration of the block of ground that has been the target as cheaply as possible, diverting any remaining funds to prospecting contiguous areas. Before exploration beyond Phase B is done, the operator should mine and mill enough ore to demonstrate that the ore found can be exploited profitably.

Recommended Exploration in Stage 2, Phase B

Because of the limited amount of ore that is inferred in the block of ground already explored, it is desirable that as much of the footage allowed in Phase B be diverted to exploring new ground. The proposed program, summarized in Table 1 and shown on maps accompanying Roscoe Smith's report of July 23, 1953, is designed to permit 345 feet of drifts and crosscuts in the block of ground already under exploration, an amount that seems adequate to indicate the extent of the ore reserve. Of the remaining 255 feet, 200 feet is to extend lateral No. 5 farther north, and the remaining 55 feet is reserved for drifting in any ore found in extending the lateral. Lateral No. 5 was selected in preference to lateral No. 3 because it is in better condition for such an operation, and to lateral No. 1 because being farther into the hill it has greater exploration value.

Table 1
Summary of Recommended program Stage 2, Phase B

Lateral No. 1

25 feet	1. Drift 25 feet on ore 50 feet north of raise.
25	2. Drift 25 feet on any ore found farther north in completing lateral No. 1 under Stage 1.

Lateral No. 2

30	1. Slab out north side of adit opposite existing lateral and raise 15 feet into Wheeler bed on prominent east-trending fractures.
15	2. Drift 15 feet from head of raise on any ore encountered.
75	3. Drive lateral north 75 feet in Wheeler bed from raise.

Lateral No. 3.

25	1. Drift 25 feet on ore 20 feet north of raise.

Lateral No. 4

25	1. Drift 25 feet on ore 40 feet NE of adit.
75	2. Continue lateral north 75 feet in Wheeler bed.

Lateral No. 5

25	1. Drift 25 feet on ore 30 feet north of raise.
25	2. Drift 25 feet on ore 110 feet north of raise.
200	3. Extend lateral 200 feet north in Wheeler bed.
55	4. Drift a total of 55 feet on any ore encountered in extending the lateral.

600 feet

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 27 1953
DOCKET COPY

1012 Flood Building
870 Market Street
San Francisco 3, Calif.

EXPLORATION PROJECT CONTRACT IDM-E248 (Amended)
MT. WHEELER MINES, INC.
DOCKET NO. DMEA-2082

APPROVAL TO PROCEED UNDER PHASE B

In the opinion of the Government, the results of Phase A (see Exhibit "A" - Contract Idm-E248 Amended) warrant undertaking the following work under Phase B:

1. In Lateral No. 1, (a) drift 25 feet on ore 50 feet north of raise, and (b) drift 25 feet on any ore found farther north in Lateral No. 1 driven under Phase A. Total footage 50 feet.

2. In Lateral No. 2, start at top of existing raise in No. 2 Lateral south and drift north 105 feet in Wheeler bed. Total footage 105 feet.

3. In Lateral No. 3, drift 25 feet on ore 20 feet north of raise. Total footage 25 feet.

4. In Lateral No. 4, (a) drift 25 feet on ore 40 feet northeast of adit, and (b) continue lateral north 75 feet in the Wheeler bed. Total footage 100 feet.

5. In Lateral No. 5, (a) drift 25 feet on ore 30 feet north of raise; (b) drift 25 feet on ore 110 feet north of raise; (c) extend lateral 200 feet north in Wheeler bed, and (d) drift a total of 70 feet on any ore encountered in extending the lateral. Total footage 320 feet.

Maximum allowable footage, Phase B, 600 feet.

All drifts and/or crosscuts to be a minimum of 5 by 6-1/2 feet in cross section and timbered, not in excess of 36 feet where required.

Approval to undertake the above cited work under Phase B of the contract at the agreed unit cost of $40 per foot for drifting and/or crosscutting, and $15 per foot for timbering is hereby granted.

Dated July 22, 1953

THE UNITED STATES OF AMERICA

By H.C.Miller
H.C.Miller, Executive Officer
DMEA Field Team, Region III

Copy to: DMEA, Washington (3)
A.C.Johnson, Reno
Finance Officer, Reg.III
E.H.Bailey, USGS
Geo. Mavor

FILE COPY
SURNAME: 913

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

Defense Minerals Exploration Administration

WSMartin/foc
5285 3538

Rutledge
Martin
Hedges
Selfridge
Whittenberg

14X3923.970 - Working Fund - DMEA
July 29, 1953

H. C. Miller, Executive Officer, DMEA Region 3, San Francisco, California

Operater's June report, Docket DMEA 2082, Mt. Wheeler Mines, Inc., Contract Idm-E248, received today. Report shows 456.5 feet of the 600 feet specified under Phase A for drifts, crosscuts, and/or slusher drifts has been driven as crosscuts.

Intent of amended contract as stated was to complete as large an amount of the work as possible in quote the most productive zone of the Mt. Wheeler bed unquote. Your attention is also called to contract proviso that Phase B is to be undertaken only if sampling repeat sampling and assaying repeat assaying results warrant in the opinion of the Government and the Government so indicates in writing.

We suggest that your opinion, if favorable to the undertaking of Phase B, should be supported by preliminary ore reserve estimate based on results of Phase A.

George C. Selfridge

G. C. Selfridge (2/2)
Chairman, Operating Committee

Copy to: FT. Reg. 3 - CONFIRMATION
Docket
Adm. Reading File
Operating Committee
Code 400
R. W. Geehan, USBM
D. M. Lemmon, USGS
Audits Divn., Bur. Mines

R.C.B.
7-29-53

400

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

420 Custom House
555 Battery Street
San Francisco 11, Calif.

June 14, 1954

Memorandum

To: C. O. Mittendorf, Administrator, DMEA, Interior Building
Washington 25, D. C.

WSM

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract No. Idm-M248 (Amended)

Reference is to your Day Letter to Mr. James D. Williams dated May 28, 1954, concerning your need for Owner's Consent to Lien on revised form to replace Owner's Consent to Lien dated May 18, 1953, attached to contract.

With a letter dated June 9, 1954, Mr. Williams sent this office five copies of the revised Owner's Consent to Lien dated May 19, 1954.

Three copies of the revised Lien are attached herewith; one copy is being retained for our Finance Office and the fifth copy is going to the field.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Roscoe Smith, USGS
A. C. Johnson, Reno (with attachment)
Finance Officer, Region III (with attachment)

MF-203
(Revised July 1, 1953)

OWNER'S CONSENT TO LIEN

Minerals Administration
MAY 18 1954

WHEREAS, the undersigned, as owner, co-owner, lessor, or seller has an interest in certain property in the State of Nevada, County of White Pine, described ~~as follows~~: 1/

in a Mining Lease and Option to Purchase Agreement, dated December 18, 1950, and recorded in Book 157, at Pages 29 to 34, Official Lease Records of White Pine County, Nevada

which is the subject of an ~~a proposed~~ exploration project contract, hereinafter called the "contract", between the United States of America, hereinafter called the "Government", and

2/ Mt. Wheeler Mines, Inc., a Corporation
218 Felt Building
Salt Lake City 1, Utah

hereinafter called the "Operator"; and

WHEREAS, under the provisions of said contract the Government is entitled to a percentage royalty on production (~~as set forth on the reverse side hereof~~) and to other rights and equities which do or may conflict with or be adverse to the rights of the undersigned:

NOW THEREFORE, the undersigned, in consideration of Amendment No. 4 to said contract and as an inducement to the Government to enter into same, undertakes and agrees as follows:

1. The Government's equity in and right to dismantle, sever, take possession of, and remove and dispose of facilities, buildings, fixtures, equipment, or other items as provided in the contract, or any amendment thereof, shall prevail over and be prior and superior to any conflicting or adverse rights of the undersigned, and the Government is authorized to enter upon the land for such purposes.

2. To secure the payment to the Government of the percentage royalty on production 3/ provided for under the terms of said exploration project contract, or any amendment thereof, there is hereby granted to the Government a lien upon the land above referred to and upon any production of minerals therefrom, until said royalty is fully paid or (ten years have elapsed from the date of the contract) *whichever occurs first.

3. The undersigned shall commit no act nor assert any claim that may contravene or conflict with the lien, claim, or rights of the Government under the provisions of said contract. This agreement shall be binding upon the heirs, executors, administrators, successors, and assigns of the undersigned.

4. Changes and added provisions *In paragraph 2, the words "fifteen years from the date of the Prior Contract (January 29, 1952) have elapsed" are substituted for the words "ten years have elapsed from the date of the contract."

Dated this 19th day of May, 1954.

R. E. Kaufman
Ludwig Kaufman [Seal]

Bryon S. Robison
Chlor E. Robison [Seal]

Shirley G. Robison
Marjorie M. Robison [Seal]

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Insert the name of the Operator as it will appear in the exploration project contract.

3/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

~~RELEVANT CONTRACT PROVISIONS~~

~~Repayment by Operator --a. Certification --If at any time the Government considers that~~ a discovery or development from which production may be made has resulted from the exploration work, the Government, at any time not later than six months after the Operator has rendered the final report and final account, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

b. Percentage royalty.--The Operator, or his successor in interest, shall pay to the Government a royalty on all minerals mined or produced from the land described in Article 2,--(1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification of discovery or development, or until the total net amount contributed by the Government, without interest, is fully repaid, whichever occurs first, unless the Government waives its right to a royalty; or (2) if the Government makes a certification of discovery or development, for a period of ten years (or other period fixed by the contract) from the date of the contract, or until the total net amount contributed by the Government, without interest, is fully repaid, whichever occurs first. Said royalty shall be a percentage of the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, as follows:

(a) One and one-half (1½) percent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(b) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such net amounts.

(For instance: the percentage royalty on a net amount of five dollars ($5.00) per ton, would be one and one-half (1½) percent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

c. Definitions.--As here used, "net smelter returns", "net concentrator returns", and "other net amounts realized from the sale or other disposition", mean gross revenue from sales; or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be gross income from mining operations for percentage depletion purposes in income tax determination.

d. Lien for Payment.--To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

e. Notice to Purchasers.--The Operator shall notify any purchaser of the production of the Government's royalty interest, and shall authorize and direct the purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets; but failure or refusal by the purchaser to comply shall not relieve the Operator of liability to pay any royalty falling due.

f. No Obligation to Produce.--This article is not to be construed as imposing any obli~~gation on the Operator or the Operator's successor in interest to engage in any mining or production operations~~.

Interior—Duplicating Section, Washington, D. C. 47318

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Date: June 8, 1953

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA 2082

Contract Idm-E 248

Commodity Tungsten

Operator - Mt. Wheeler Mines, Inc., P. O. Box 150, Salt Lake City 10, Utah

Property - Mt. Wheeler Tungsten Mine, White Pine County, Nevada

By Glenn G. Gentry, Mining Engineer

Dated June 4, 1953

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

George Mavor

INTERIM REPORT

Docket No.: DMEA-2082 (Tungsten) June 4, 1953

Name and address of operator: Mt. Wheeler Mines, Inc.,
P. O. Box 150
Salt Lake City 10, Utah.

Name and location of property: Mt. Wheeler Tungsten Mine
White Pine County, Nev.

Contract No.: Idm-E248

SUMMARY AND CONCLUSIONS

The Mt. Wheeler Tungsten mine was visited on May 24, 1953 for the purpose of making a preliminary inspection of the work performed since the completion of the original contract and the beginning of the new amended contract.

Mr. James D. Williams, president of the Mt. Wheeler Mines, Inc., was not at the property and the examining engineer was accompanied by Mr. Jepson, the mine foreman.

During the period between Jan. 29, 1953 when the original contract was completed and May 24, 1953 and while awaiting a decision for the requested amendment, the mining company have been engaged in various operations in preparation for active mining and further exploration. These activities include the following:

1. Completed inside finish of the guest house building.
2. Completed erection of new building (adjacent to the hoist house) which will house the store room, mine office, battery charging station.

3. Widening, grading and surfacing the mine road for a distance of approximately three miles.

4. Repair and enlargement of the source of domestic water supply.

5. Surface excavation of an area adjacent to the mine portal for ore bins and construction of concrete forms for this bin.

6. Excavation and leveling a site, about 75 feet north of the portal of the Pole adit, for the erection of a blacksmith shop and change room.

7. Construction of the foundation forms for the change room.

8. Installation of a concrete foundation, about 50 feet south of the present compressor building, for an additional air compressor. This new compressor, 315 c.f.m., manufactured by the Joy Company, has been delivered to the mine and erected on the foundation.

9. In the mine, work has been conducted in Lateral No. 1 South, and Laterals Nos. 3 and 5 North.

No. 1 Lateral, South:

Starting at approximately 50 feet south of the Pole adit, a new drift has been driven N. 72° E. for a distance of approximately 40 feet. From this drift, a raise has been made to the Wheeler beds and muck chute installed. From this raise, a slusher drift has been extended for a distance of 15 feet in a northerly direction. Two men are employed in this work, on a contract basis amounting to $9.50 per foot for drilling, blasting and mucking.

No. 3 Lateral, North:

An ore pocket has been installed and a slusher drift has been extended for a distance of 22.9 feet, measured from the center line of the muck chute. The slusher drift bearing is N. 2° E. Two men are employed in this work and on the same contract basis of $9.50 per foot.

No. 5 Lateral, North:

An ore pocket has been installed and a slusher drift has been extended for a distance of 35 feet, measured from the center line of the muck chute. The slusher drift bearing is N. 3° W. Two men are employed in this work and on the same contract basis of $9.50 per foot.

General:

Three turbin air, double drum slusher hoists have been secured and installations completed in Laterals Nos. 3 and 5, North. The slusher for No. 1 Lateral, South, is on hand and installation should be completed within a day or two.

Scheelite mineralization:

No. 1 Lateral, South: Light, scattered, scheelite observed in face of slusher drift.

No. 3 Lateral, North: This slusher drift is following a north-south fault. Light, scattered, scheelite observed across face of drift. Very little scheelite noted in the muck pile.

No. 5 Lateral, North: Light scattered, scheelite observed in the face of this slusher drift. At approximately 4 feet south of the face, the drift had encountered an east-west fissure, varying in width from 2 inches to 6 inches. This fissure appeared to be filled with scheelite and an estimate by mineralight indicated from 1% to 5% WO_3. A lamp estimate of the muck pile in the ore chute indicated about 0.5% WO_3. Sample BM-554A, was taken as a grab sample from two cars of ore which was being delivered to the DMEA stockpile. Sample BM-554A assayed 0.29% WO_3.

Drilling:

Slusher drifts: The contractors are using Joy, Jackleg drills and Swedish steel with tungsten carbide bits. Seventeen to 18 holes are drilled per round. Each round will pull from 4 feet to 4.5 feet. The heading is approximately 6 feet wide by 8 feet high. All supplies and equipment, together with tramming are furnished by the company. Each drill round blasted will produce from 25 to 28 cars of broken rock.

Resume:

By working in three headings, and if the rate of advance can be maintained at 12 feet per day, the 600 feet of drifting allowed under Stage "A" should be completed in 50 working days.

No work has been started for the construction of the powder magazine.

Since the amended contract is dated May 11, 1953, it is assumed that the advance from Laterals Nos. 1, 3 and 5 beginning on that date, will be charged to the exploration project, Phase "A".

Glenn G. Gentry
Mining Engineer

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
JUN 1 1953

1012 Flood Bldg.
870 Market St.
San Francisco 2, Calif.

May 28, 1953

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract Idm-E248 (Amended)

Reference is made to Mr. George C. Selfridge's letter of May 11, 1953, transmitting to this office the original and five copies of subject contract.

This amended contract has been executed on the part of the Operator and one copy retained by him. Distribution has been made of the Field Team's and Finance Officer's copies, and the original and two remaining copies are returned herewith.

We have inserted the State of incorporation in the opening paragraph of the amended contract, and also have attached to each copy of the contract executed Owner's Consent to Lien form.

S. Ricker for H. C. Miller
Executive Officer, DMEA Field Team
Region III

Cal
6/1

Attachment

Copy to: A. C. Johnson, Reno (With copy of contract)
Finance Officer, Region III (With copy of contract)
E. H. Bailey, USGS
George Mavor

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAY 18 1953

Office of
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

May 15, 1953

AIR MAIL

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract Idm-E248

Reference is made to your subject letter dated April 28, 1953, requesting me to have an engineer and an auditor arrange with Mr. Williams, President, Mt. Wheeler Mines, Inc., to appraise the Government's equity in equipment purchased under the captioned contract.

This was done and there are attached hereto the original and one copy of an Inventory Report made by Mr. Glenn G. Gentry, Mining Engineer, Bureau of Mines, and the original and one copy of a letter addressed to me by Mr. George Mavor, DMEA Auditor, which relates to his part of the engineer-auditor appraisal.

We trust that the information submitted herewith will meet your needs.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachments

Copy to: E. H. Bailey, USGS
A. C. Johnson, Reno
George Mavor

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
MAY 18 1953
DOCKET COPY

MAY 14 1953

Mr. H. C. Miller
Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Mt. Wheeler Mines, Inc.
Docket DMEA - 2082
Contract Idm-E248

Dear Mr. Miller:

Reference is made to letter dated April 28, 1953, from Mr. George C. Selfridge, Chairman, Operating Committee, and our verbal discussion pertaining to engineer-auditor team making an appraisal of the Government's equity in subject operator's purchased equipment, installations and materials and supplies.

The appraisal of property has been completed, and I am attaching hereto three (3) copies of inventory as of December 31, 1952, covering equipment, installations and supplies, which show the cost and the estimated salvage value. This statement was prepared jointly by J. D. Williams, Operator, Glen Gentry, Engineer, and George Mavor, Auditor.

Mr. Glenn Gentry, Engineer, left Salt Lake City, Utah, May 6, 1953, for the Mine site, in order to verify the underground installations such as track, air lines and water lines. He will also examine the other property listed in this inventory and submit a separate report to you on his findings.

The only items listed in the attached inventory which may require further analysis are accounted for as follows:

Track	
20-pound Rail - 12-1/2 Tons	$2,009.98
12 Double Throw Switches	862.86
Rail Splices, Ties, Spikes and Bolts	382.29
Total Track	$3,255.13

Pipe

Air Lines 3" - 1,179 feet	$ 829.81
Air Lines 2" - 504 feet	172.87
Water Lines 1" - 4,453 feet	741.21
Water Lines 1-1/2" - 210 feet	69.00
Fittings and Valves	147.10
Total Pipe	$ 1,959.99
Vent Tube 18" - 500 feet	$ 880.85

The rental equipment is made up of the following items:

		Rental	Purchase Option Value
Air Compressor,	9 mos at $470.00	$ 4,230.00	$ 9,119.00
Jumbo	2 mos at $385.00	770.00	2,310.00
Trammer	8 mos at $475.00	3,800.00	7,496.25
Rockershovel	8 mos at $295.00	2,360.00	2,957.00
Generator	9 mos at $172.27	1,550.46	1,895.00
		$12,710.46	$23,777.25
Less: Interest on Rockershovel		168.92	
Net Rental 12/31/52		$12,541.54	

As you know, all of the above rental has been applied on rental purchase agreements. It appears to me that the Government has no equity in this equipment covering the rentals paid as of December 31, 1952. The only way the Government could obtain an equity would be to participate in the total purchase price of the equipment, and I doubt if this would be good business in view of the possible low resale value. Mr. Williams is very emphatic that the Government has no equity, unless they participate in the total purchase price. The generator listed above was paid in full as of December 31, 1952; however, the Government participated only in 66.64 percent or $1,262.84 of the total purchase price of $1,895.00 not including interest. For your information, the total interest paid on all rental purchase agreements to December 31, 1952, amounted to $1,127.01.

The contract was completed January 29, 1953, and the operator submitted his MF-104 for the month of January 1953 in the amount of

$8,018.95. However, as of December 31, 1952, the operator only had $724.29 left to complete the total contract price of $75,476.00, which can be accounted for as follows:

MF - 104

	January 1953	Brought Forward	Total
Total Costs per MF-104	$ 8,018.95	$ 74,790.46	$ 82,809.41
Less: Disallowance	—	38.75	38.75
Adjusted Operator's MF-104	$ 8,018.95	$ 74,751.71	$ 82,770.66
Less: Overstatement of Contract	7,294.66	—	7,294.66
Total Accepted Costs	$ 724.29	$ 74,751.71	$ 75,476.00

In order to avoid proration of costs, it was decided to label the remaining unpaid costs of $724.29 as "Labor" for the month of January 1953. By following this procedure the inventory of equipment, installations and supplies could then be properly identified as of December 31, 1952, for valuation and appraisal purposes as set forth in the attached schedule.

It is understood that the operator will receive an amendment to the present contract covering certain exploration work to be reimbursed on a footage basis. This amendment would mean that the original contract would still be in effect, and it is doubtful if any settlement of property equity could be made at this time as the operator no doubt is entitled to use the equipment and installations on Mine site.

Sincerely yours,

George Mavor

George Mavor
Auditor

MAY 13 1953

DOCKET COPY

INVENTORY REPORT

Docket No.: DMEA-2082 (Tungsten) May 12, 1953

Name and address of operator: Mt. Wheeler Mines, Inc.,
P. O. Box 150
Salt Lake City 10, Utah.

Name and location of property: Mt. Wheeler Tungsten
White Pine County, Nev.

Contract No.: Ldm-E248

SUMMARY

The field team consisting of an auditor[1] from the San Francisco, California office of Defense Minerals Exploration Administration and an engineer[2] of the U. S. Bureau of Mines, Region III, examined the records of equipment purchases in the office of the Mt. Wheeler Mines, Inc., in room 409, Felt Building, Salt Lake City, Utah on May 4 and 5, 1953.

Mr. James D. Williams, President of Mt. Wheeler Mines, Inc., was present for detailed discussions relative to the equipment on hand which had been purchased with the assistance of Government funds and in which the Government retains a financial interest.

As a result of the examination of the office records and conferences with Mr. Williams, a list of equipment was prepared showing the total cost, condition, and estimated salvage value by both the Government and the applicant.

1/ Mavor, George W.
2/ Gentry, Glenn G.

On the five major items of equipment rented by the applicant and used for the execution of the contract Idm-E248, with the rental paid amounting to $12,710.46, the field team were unable to reach an agreement with Mr. Williams relative to the amount of the Government's equity.

Mr. Williams insists that Government has no equity in the equipment rental, which covered: 1 Air compressor, 1 trammer, 1 Joy jumbo, 1 rocker shovel, and 1 generator; and that he has a right to complete the purchase of this equipment with no obligation to the Government, because the Government refused to participate in the purchase of said equipment.

Therefore, the examining engineer considers that the amount of the Government's equity in the rental paid for these items of equipment, is a legal matter for the consideration and action by the Government attorneys.

Pursuant to a letter from Mr. George Selfridge, of the Washington, D. C. office of DMEA, dated April 28, 1953 and addressed to Mr. H. C. Miller, Executive Officer, DMEA, San Francisco, Calif., the examining engineer inspected the items of equipment, covered by the inventory, at the Mt. Wheeler Tungsten Mine on May 7, 1953.

The itemization of the equipment, purchased by the applicant and which has been substantiated by the auditor's records, is attached to this report.

A physical inventory of the equipment at the Mt. Wheeler Mine, on May 7, 1953, shows the following items accounted for:

Buildings:

1 Compressor building, 16 by 24 feet, cement floor, frame construction, covered with corrugated aluminum sheets.

1 Building for mine office, store room and battery charging station, size 18.3 feet wide by 32.3 feet long, lined with celetex, cement floor slab 5-inches thick, cement wall 18 inches high, frame construction, covered with corrugated aluminum sheets.

20-lb. Mine rail:

Track on dump, in shop and stockpiled	1,000	linear	feet
Track in Pole adit	2,200	"	"
Track in No. 1 Lateral, South	180	"	"
Track in No. 2 " "	112	"	"
Track in No. 3 " North	150	"	"
Track in No. 4 " "	80	"	"
Track in No. 5 " "	88	"	"
Track in No. 6 " "	70	"	"
Miscellaneous pieces	80	"	"
	3,960	"	"

3,960 linear feet = 1,320 yards @ 20 lbs. per yard = 26,400 lbs. = 13.2 tons.

Track switches:

On dump	4
In storage, on dump	2
No. 1 Lateral, South	1
No. 2 " "	1
No. 3 " , North	1
No. 4 " "	1
No. 5 " "	1
No. 6 " "	1
	12

Track ties:

Approximately 2,000 ties included in track installation.
No. 1 Lateral, South: 180 new ties in storage.

3-inch Black iron pipe (air line):

	Feet
From air compressor to portal of Pole adit	92.3
In storage on dump, not in use	51.0
In place in the Pole adit	1,013.0
	1,156.3

2-inch Black iron pipe:

New - stockpiled on dump, 22 pieces	462	feet

1-inch Black iron pipe:

Pole adit and laterals, approximately	1,200	feet
In storage, on dump	180	"
Installed in water line from spring to camp	2,100	"
	3,480	"

1-inch Galvanized pipe:

In storage on dump	210	"

1½-inch Galvanized pipe:

Installed in water line from spring to camp	210	"

Ventilation tubing, 18-inch diameter:

* Installed in Pole adit	830	"
Installed from fan to portal	50	"
Miscellaneous pieces not in use, estimated	200	"
	1,080	"

*Includes elbows and Y's

Purchased for the exploration contract: 500 feet.

Additional equipment:

	Cost
1(3-by 6-foot)air receiver	$ 40.00
Valves and fittings installed	101.26
1 fuel tank, 6- by 12-foot	89.17
1 Joy Axivane blower	518.63
2 3-inch Thor, drifter drills Model 182, No. 86521 and 86513	1,750.00
Slusher equipment with air tugger hoist, scraper and cable	558.00
Jack legs with mounted drills	526.58
1 (2BR Toledo threading device	86.00
7 foot column-bar and accessories	268.32

Miscellaneous tools purchased amounted to $ 702.64

These tools, consisting in large part of picks, shovels and wrenches were worn out and broken during the project.

Additional small equipment:

100 feet of 3/4-inch air hose	$	46.00
100 feet of 1/2-inch air hose		33.00
1 Pneumatic knock off block		40.00
2 Line oilers		35.10
1 2-inch ratchet reamer, No. 182		9.00
1 3-inch " " , No. 2 BR		12.00
1 4-inch pipe cutter		30.00
2 G1G6 transformers		36.58
1 Thor, bench grinder, 7-inch, Model 15685		
1 Bench vise, No. 434½		

Supplies on hand at end of exploration project: None

Glenn G. Gentry
Mining Engineer

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III
RECEIVED

1982 MAY 14 AM 9:25

SAN FRANCISCO, CALIFORNIA

Item	Materials	Labor, Cook Supervision	Bulldozing	Total	Condition	Est. Salvage Value as of Dec. 31, 1952. Gov.	Opr.	Gov.	Opr.	
Comp. Bldg.	$ 1,069.17	1,542.48	100.00	2,711.65	Good	40% mat.	40% mat.	427.67	427.67	
Blacksmith & change room	1,299.41		92.00	1,391.41	Good	30%	30%	389.82	389.82	
20# rail-splices-ties Spikes Bolts & switches Less cash disc of $16.07	3,255.13			3,255.13	Good	50%	30%	1,627.56	976.54	
2 & 3" air line - 1" water line Less cash disc. $2.76	1,959.99			1,959.99	Good	70%	30%	1,371.99	588.00	
Vent tube	880.85			880.85	Fair	35%	25%	308.30	220.21	
Air receiver 3 x 6	40.00			40.00	Good	70%	70%	28.00	28.00	Misc. supplies
Fittings & valves	101.26			101.26	Fair	25%	25%	25.32	25.32	Misc. supplies
Fuel tank	89.17			89.17	Fair	50%	50%	44.58	44.58	Purch. eqt.
Joy blower	518.63			518.63	Good	70%	70%	363.04	363.04	" "
2 - 3" drifters	1,750.00			1,750.00	Poor	25%	25%	437.50	437.50	" "
Misc. tools (mostly worn out) (and broken)	702.64			702.64	Fair	25%	25%	175.66	175.66	Misc. supplies
Slusher eqt. (scraper tugger)	558.00			558.00	Fair	40%	40%	223.20	223.20	Purch. eqt.
Jackleg & machine	526.58			526.58	Good	70%	50%	368.61	263.29	" "
Steel centrilizers (Worn out)	140.00			140.00	Poor	0%	0%	-0-	-0-	" "
Threading dies	86.00			86.00	Good	50%	50%	43.00	43.00	" "
7' bar & accessories	268.32			268.32	Good	50%	50%	134.16	134.16	" "
Timber (incl. 283.69 ties)	407.73			407.73	--	0%	0%	--	--	) All expended
Explosives	4,047.15			4,047.15	--	0%	0%	--	--	) during the
Steel and bits	2,301.10			2,301.10	--	0%	0%	--	--	) exploration.
Fuel and lube	2,060.36			2,060.36	--	0%	0%	--	--	)
Aerial Photo	250.00			250.00	--	25%	0%	62.50	--	
Eqt. rental										
Compressor	4,230.00			4,230.00	--		0%		--	) Straight rental
Jumbo	770.00			770.00	--		0%		--	) allowed by
Trammer	3,800.00			3,800.00	--		0%		--	) contract.
Rocker shovel	2,360.00			2,360.00	--		0%		--	) Purch. agree-
10 KW Gen.	1,550.46			1,550.46	--		0%		--	) ment solely to
	35,021.97	1,542.48	192.00	36,756.45				6,030.91	4,339.99	operator by point of interest.

No estimate of Gov'ts equity, made by Mayor and Gentry.

Initialled 6/5/53 Salt Lake City

JDW
GM
GG

MINING WORLD May 1953

Development work at the Mount Wheeler tungsten property of Combined Metals Reduction Company in Nevada has made progress over the past year and production is expected to start shortly. American Zinc, Lead and Smelting Company has an interest in the operation.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED

MAY 18 1953

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

May 13, 1953

Mr. James D. Williams, President
Mt. Wheeler Mines, Inc.
218 Felt Building
Salt Lake City, Utah

Re: Docket DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
Mt. Wheeler mine
White Pine County, Nevada
Contract Idm-E248

Dear Mr. Williams:

The original and five copies of an amended contract for the above referenced project referred to in Mr. C. O. Mittendorf's wire to you, dated May 8, 1953, reached this office today.

However, before I can send them to you for your signature, I will have to know the State of incorporation of your company.

Also executed Owner's Consent to Lien forms will be needed to replace the former landlord's subordination agreement. A set of seven copies of Owner's Consent to Lien forms are enclosed of which six executed copies should be sent to this office.

Upon receipt of the above information and forms the copies of the amended contract will be sent to you for your signature.

Sincerely yours,

H. C. MILLER

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Enclosure

Copy to: DMEA, Washington, D. C.
E. H. Bailey, USGS

FILE COPY
SURNAME:

UNITED STATES
DEPARTMENT OF THE INTERIOR

400

DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

AIR MAIL

MAY 11 1953

Martin
Rothe
Selfridge
Thomas
Chatterton

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building, 870 Market Street
San Francisco 2, California

Re: Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler mine
White Pine County, Nevada
Contract No. Idm-E248

Dear Mr. Miller:

We are enclosing the original and five copies of an Amended Contract for the above-referenced project, which have been signed by the Administrator for the Government.

The State of incorporation of the operator corporation shall be inserted in the opening paragraph of the amended contract at the time of execution.

Executed Owner's Consent to Lien forms will be needed to replace the former Landlord's Subordination Agreement and should be furnished to you by the Operator to be attached to the contract.

If the terms and conditions of this amended contract are satisfactory to you and the Operator, all six copies should be signed and the usual distribution made.

If any part of this amended contract does not have either your approval or that of the Operator and cannot be further amended within your delegated authority, the original and all copies of the subject amended contract are to be returned to this office, together with the proposed changes for consideration.

Please note that the following major changes have been made in the amended contract as originally outlined:

1. Stage IIB of the amended contract must not be started without the prior written approval of the Government. In this instance the approval shall be given only by this Administration, based on the Field Team's recommendations. The location of the 600 feet of exploratory workings under Stage IIB must also be approved in the same manner.

2. The exploration under Stage I of Mr. Williams' proposal at "A" Lateral has been omitted.

3. Stage IIA of the amended contract allows 600 feet of the exploration outlined by Williams under his Stage I from Laterals 1, 3, and 5, but with the qualification that the work be kept to the greatest extent feasible in the most productive zone of the Mt. Wheeler bed.

4. The following items of equipment and installations were allowed:

10 - ore cars	$5,065.00
1 - general purpose truck	6,040.00
1 - model AAF-212 slusher or 3 model S-211	2,776.90
1 - powder magazine	1,109.10

5. All other items of additional facilities and equipment have been omitted.

6. The agreed unit cost for the work under Stage II (A & B) is $40.00 per foot instead of the estimated $89.42 per foot. The $40.00 per foot cost does not include the above items of equipment and installations.

The above changes have decreased the estimated cost of Stage II from $116,698.82 to $65,600.00.

Sincerely yours,

5-11-53

George C. Selfridge (JHB)

Chairman, Operating Committee

APPROVED:

J. H. Hodges

Member, Bureau of Mines (JHB)

R. Kinkel, Jr.

Member, Geological Survey (JHB)

FARutledge:foc
5-8-53
cc: Docket
Code 400
FT, Reg. 3
Adm. Reading File
Oper. Comm.
R. W. Geehan, USBM
D. M. Lemmon, USGS

Enclosures

FILE COPY
SURNAME:

Martin
Cytlady
Jeff Brown

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

W. S. Martin - Ext. 5285

Interior Department

Defense Minerals Exploration
Administration
14X 2923.970 - Working
Fund - DMEA

STRAIGHT WIRE

MAY 8, 1953

James D. Williams, President
Mt. Wheeler Mines, Inc.
918 Felt Building
Salt Lake City, Utah

Mailing amended Mt. Wheeler Mines contract Idm-#248, Docket DMA-2082, to Miller, San Francisco, for transmission to you.

C. O. Mittendorf
C. O. Mittendorf
Administrator, DMEA

WSMartin/ls
5/8/53

Copy to: Field Team, Reg. 3
Docket
Adm. Read. File
Code 400
Audits Divn., Bur. of Mines
Oper. Committee
D. M. Lemmon, USGS
R. W. Geehan, USBM
Confirmation to Mr. Williams

J.H.
5-8-53

FILE COPY
SURNAME:

140

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

AEKane
Pontiff

May 7, 1953

W.S. in P.&P.

Memorandum

To: The Administrator
Through: W. S. Martin

From: Chief Counsel

Subject: Mt. Wheeler Mines, Inc., Docket No. DMA-2082 (Tungsten)

There is attached in satisfactory legal form, for execution, an Amended Contract covering the above-described project, subject to:

1. Insertion in the opening paragraph of the State of incorporation of the operator corporation; and

2. Attachment of a new Owner's Consent to Lien.

/s/AEKane
for J. L. Hofflund
Chief Counsel

Attachments
AEKane/ep/ema
cc: Mails & Files
J. L. Hofflund
A. E. Kane
Chron.

FILE COPY
SURNAME:

Martin

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

May 6, 1953

N.S. in R. & R.

MEMORANDUM

To: Docket No. DMA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-M-248

From: Iron and Ferro-Alloys Division

Mr. James D. Williams telephoned this Division on Tuesday, May 5, at 11:00 a.m. Our rough notes indicate that the following topics were discussed.

Mr. Williams said that he had received our letter of April 28 and accepted the arrangement proposed therein. He asked how soon he could start and was advised that the contract was in course of preparation and that we expected to send it to the Operating Committee May 6 or May 8 and would send him a telegram as soon as we were advised what action the Committee would take in the matter. That telegram is to be sent to Salt Lake City where Mr. Williams will be all through the coming week.

He asked why the equipment was being appraised and whether we realized that the equipment would suffer further depreciation during the coming months. He was advised that our draft contract proposed that he be charged for the supplies but that the equipment be treated in the same manner as the new equipment which is to be purchased for use of the project. He asked about equipment acquired by rental purchase agreement and was advised that such acquisitions would be governed by the applicable DMEA circulars as interpreted by the Contract Administration and Audit Division.

He asked if he could substitute three air slushers for the one electric slusher, complete with equipment, which is being allowed according to our above letter, and was told that the substitution could probably be arranged.

He asked whether the location of the new work under Stage IIA would be strictly prescribed by the contract and was told that the contract allowed the Operator a wide latitude in choosing such locations because it was our intention to give the Operator every opportunity to demonstrate to the greatest extent feasible that the project could produce ore.

Mr. Williams was told that while the contract made no mention of shipments by truck and railroad to the Bauer mill via the Utah Sampling Works, we relied upon him to make such shipments. He assured us that such shipments would be made, saying that it was as much in his interest as ours to do so.

Mr. Williams asked if he could request Mr. Miller to supervise the project more closely and was told that, as a result of all the discussion about amending the contract, we believe he would find that more engineers would visit his project at shorter intervals.

Finally he sent his thanks to Mr. Mittendorf for the consideration which has been given to the Operator during the recent contract negotiations.

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

WSMartin/ls

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

May 6, 1953

noted
EO m (fm)

MEMORANDUM

To: Docket No. DMA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E-248

From: Iron and Ferro-Alloys Division

Mr. James D. Williams telephoned this Division on Tuesday, May 5, at 11:00 a.m. Our rough notes indicate that the following topics were discussed.

Mr. Williams said that he had received our letter of April 28 and accepted the arrangement proposed therein. He asked how soon he could start and was advised that the contract was in course of preparation and that we expected to send it to the Operating Committee May 6 or May 8 and would send him a telegram as soon as we were advised what action the Committee would take in the matter. That telegram is to be sent to Salt Lake City where Mr. Williams will be all through the coming week.

He asked why the equipment was being appraised and whether we realized that the equipment would suffer further depreciation during the coming months. He was advised that our draft contract proposed that he be charged for the supplies but that the equipment be treated in the same manner as the new equipment which is to be purchased for use of the project. He asked about equipment acquired by rental purchase agreement and was advised that such acquisitions would be governed by the applicable DMEA circulars as interpreted by the Contract Administration and Audit Division.

He asked if he could substitute three air slushers for the one electric slusher, complete with equipment, which is being allowed according to our above letter, and was told that the substitution could probably be arranged.

He asked whether the location of the new work under Stage IIA would be strictly prescribed by the contract and was told that the contract allowed the Operator a wide latitude in choosing such locations because it was our intention to give the Operator every opportunity to demonstrate to the greatest extent feasible that the project could produce ore.

Mr. Williams was told that while the contract made no mention of shipments by truck and railroad to the Bauer mill via the Utah Sampling Works, we relied upon him to make such shipments. He assured us that such shipments would be made, saying that it was as much in his interest as ours to do so.

Mr. Williams asked if he could request Mr. Miller to supervise the project more closely and was told that, as a result of all the discussion about amending the contract, we believed he would find that more engineers would visit his project at shorter intervals.

Finally he sent his thanks to Mr. Mittendorf for the consideration which has been given to the Operator during the recent contract negotiations.

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

Chief Counsel, DMEA

April 28, 1953

Iron and Ferro-Alloys Division, DMEA

Review and preparation of amended contract
Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-1248

Transmitted herewith is the rough draft of a proposed amendment to the referenced contract for your use in preparing an amended contract on the new form.

The amended contract should be for a period of 24 months; termination date would be January 29, 1954.

The Defense Minerals Exploration Administration has determined that the equipment and installations from the present contract shall be for the use of the new work without charge. The inventory of supplies, however, shall be deducted from the first payments due the Operator on the Unit Cost basis.

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

Attachment

FARutledge/ls
4/28/53

CC: Docket
Code 400
Adm. Read. File

FILE COPY
SURNAME:

Rutledge
Martin

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

Chief Counsel, DMEA

April 28, 1953

Iron and Ferro-Alloys Division, DMEA

Review and preparation of amended contract
Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E248

Transmitted herewith is the rough draft of a proposed amendment to the referenced contract for your use in preparing an amended contract on the new form.

The amended contract should be for a period of 24 months; termination date would be January 29, 1954.

The Defense Minerals Exploration Administration has determined that the equipment and installations from the present contract shall be for the use of the new work without charge. The inventory of supplies, however, shall be deducted from the first payments due the Operator on the Unit Cost basis.

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

Attachment

FARutledge/ls
4/28/53

CC: Docket
Code 400
Adm. Read. File

AMENDMENT

DESCRIPTION OF THE WORK

The exploration work on this project is indicated on the map attached hereto and made a part hereof entitled "Mt. Wheeler Mines, Inc., Stage II".

Stage IIA

Time Schedule: 14 - 19 months

Construct a 12- by 12-foot powder magazine

Drive 600 feet of the drifts, crosscuts, and/or slusher drifts (timbered where required) of the exploration workings shown from Laterals 1, 3, and 5. The new work should be kept to the greatest extent feasible in the most productive zone of the Mt. Wheeler bed.

Stage IIB

Time Schedule: 20 - 24 months

Stage IIB is to be undertaken only after the completion of Stage IIA, if in the opinion of the Government, the sampling and assaying results of Stage IIA warrant it and the Government so indicates, in writing, in advance.

Drive 600 feet of drifts, crosscuts, and/or slusher drifts (timbered where required) at locations to be specified by the Washington office based upon the Field Team's recommendations.

Estimated Cost of Project

Unit Costs

Stage IIA

600	feet of drifts, crosscuts, and/or slusher drifts @ $40.00 per foot	$24,000.00
100	feet of timbering where necessary @ $15.00 per foot. 1/	1,500.00
		$25,500.00

Stage IIB

600	feet of drifts, crosscuts, and/or slusher drifts @ $40.00 per foot	$24,000.00
36	feet of timbering where necessary @ $15.00 per foot. 1/	540.00
		$24,540.00

1/ This agreed unit price includes holding the floor pillar between the slusher drifts and the back of the Pole Adit, or cementing the same if necessary.

The Government will contribute to the cost of drifting, crosscutting, and/or driving slusher drifts and timbering on the basis of these agreed, estimated unit costs in lieu of actual costs. The rest of the described work and those items of equipment described hereafter will be contributed to by the Government on the basis of the actual costs specified in Article 6(a) of the contract form, schedules of which are set forth below:

(1) Independent Contracts

Stages IIA and IIB

None

(2) Labor, Supervision, Consultants

Stages IIA and IIB

None

(3) Operating Materials and Supplies

Stages IIA and IIB

None

(4) Operating Equipment

To be rented

Stages IIA and IIB

None

To be purchased

Stage IIA

10	27 cu. ft. side dump ore cars @ $506.50 ea.	$5,065.50	
1	General purpose truck @ $6040.00 complete	6,040.00	
1	Joy Model AAF-212 double drum slusher complete	2,776.90	
			$13,881.90

Stage IIB

None

To be furnished by the Operator

Stage IIA and IIB

All other equipment necessary for the completion of the contract is to be furnished by the Operator without charge since its cost is included in the agreed unit cost for the proposed exploratory work or has already been purchased.

(5) Rehabilitation and Repairs

Stages IIA and IIB

None

(6) New Buildings, Improvements, Installations

Stage IIA

1	12- by 12-foot powder magazine	$1,109.10

Stage IIB

None

(7) Miscellaneous

Stage IIA

Analytical work	309.00

Stage IIB

Analytical work	260.00

(8) Contingencies

Stages IIA and IIB

None.

ESTIMATED COST, STAGE IIA	$40,800.00*
ESTIMATED COST, STAGE IIB	24,800.00*
TOTAL ESTIMATED COST FOR AMENDMENT	65,600.00*
GOVERNMENT PARTICIPATION AT 75 PERCENT	49,200.00*
TOTAL ESTIMATED COST OF PROJECT	141,076.00*
GOVERNMENT PARTICIPATION AT 75 PERCENT	105,807.00*

W. S. Martin, [redacted], 5284

FILE COPY
SURNAME:

Martin
Selfridge

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

Interior Department
Defense Minerals Exploration
Administration

14 X 3923.970 - Working
Fund - DMEA

NIGHT LETTER April 28, 1953

L. C. 4/28/53

James D. Williams
Mt. Wheeler Mine
Care of Western Union
Ely, Nevada

Our letter April 28 agrees to additional exploration substantially according to your telephone conversation with Martin on April 24. Extra copy our letter being sent you care of General Delivery, Ely.

C. O. Mittendorf (for)

C. O. Mittendorf
Administrator, DMEA

WSMartin/ls
4/28/53

cc: Docket
Field Team, Region 3
Confirmation to Williams
Adm. Read. File
Oper. Committee
D. M. Lemmon, USGS
R. W. Geehan, USBM
Audits Divn., U. S. Bur. Mines
Code 400

400

FILE COPY
SURNAME:

Rutledge
Martin
Chapman
Selfridge
Hedges
Williams

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

Air Mail

APR 28 1953

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Bldg., 870 Market St.
San Francisco 2, California

Re: Docket No. DMEA 2082 - Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E-248

Dear Mr. Miller:

Enclosed is a copy of our letter of today to Mr. Williams proposing an amendment to the above-described contract covering 1200 feet of additional exploration. The 1200 feet is to be divided into 600 feet under a Stage A and 600 feet under a Stage B. The location of the work under Stage B is to be specified by the Washington Office based upon the Field Team's recommendations.

Because the subject amendment will place the additional work on a unit cost basis, the Government must determine a fair value for its equity in the purchased equipment; the installations, which should include the pipe, track, and ventilation pipe; and any inventory of supplies.

It will be appreciated if you will have an engineer and an auditor arrange with Mr. Williams to appraise the Government's equity.

Enclosed are two copies of a memorandum of April 7, 1953, by D. M. Lemmon, U. S. Geological Survey, and two copies of a memorandum of April 17, 1953, by R. W. Geehan, U. S. Bureau of Mines, both concerning the requested amendment to the subject contract.

Sincerely yours,

George C. Selfridge (FB)
Chairman, Operating Committee

FARutledge/ls 4/27/53

Copy to: Docket
Field Team, Reg. 3
Code 400
Operating Committee
Adm. Read. File
D. M. Lemmon, USGS
R. W. Geehan, USBM

Enclosures

APPROVED:

J. H. Hedges
Member, Bureau of Mines (FB)

A. R. Kinkel, Jr.
Member, Geological Survey (FB)

J.N. 4/28/53

FILE COPY
SURNAME:

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

Rutledge
Martin
Chandler
Hedges
Jefferson

Air Mail

APR 28 1953

Mr. James D. Williams, President
Mt. Wheeler Mines, Inc.
P. O. Box 150
Salt Lake City 10, Utah

Re: Docket No. DMEA 2082, Tungsten
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine
White Pine County, Nevada
Contract No. Idm-E248

Dear Mr. Williams:

We have carefully considered your application for additional exploration assistance under the referenced contract and would agree to additional exploration as set forth below:

Unit costs

Stage A	600 feet of drifts @ $40.00 per feet	$24,000.00
	100 feet of timbering where necessary @ $15.00 per feet	1,500.00
		25,500.00
Stage B 1/	600 feet of drifts @ $40.00 per feet	24,000.00
	36 feet of timbering where necessary @ $15.00 per feet	540.00
		24,540.00

Equipment to be purchased

10 Mine cars	$5,065.00	
1 General purpose truck	6,040.00	
1 Double drum slusher	2,776.90	
		13,881.90

New installation

1 Powder magazine	1,109.10
Total Contract	$65,031.00
Government's share	48,773.25

1/ Stage B is to be undertaken only if, in the opinion of the Government, the results of the work under Stage A warrant the undertaking of work under Stage B and the Government so indicates, in writing, in advance. Location of the work under Stage B shall be specified by the Washington office based upon the Field Team's recommendation.

As the contract, when amended, will provide for Government contribution on a unit cost basis, the Government's equity in the purchased equipment, installations, and any inventory of supplies under the contract as now written will have to be determined. We are requesting Mr. Miller to have an engineer-auditor team decide with you the present value of the Government's equity.

Sincerely yours,

C. O. Mittenderf (for)

Administrator

S.H.
4/28/53

Copy to: Docket
Field Team, Region 3
Code 400
Adm. Read. File
Oper. Committee
D. M. Lemmon, USGS
R. W. Geehan, USBM

FARutledge/JLChambers/HCRubin/FARutledge/ls
4/27/53

Docket File

Re: Docket No. DMA 2082
Mt. Wheeler Mines

At 4:15 p.m., Friday, April 24, James D. Williams telephoned to return Mr. Martin's call of 11 a.m. Williams expostulated, threatened, and reasoned until 4:50 p.m.

Martin - How do you feel about the assays?

Williams - Not received results.

Martin - No. 1 - 0.08; No. 2 - 0.13, and No. 3 - 0.29, average of about .17 -- pretty discouraging results for check samples.

Williams - Field Team did a damn poor sampling job.

Martin - I understand you were going to have your own mill.

Williams - Combined Metals Reduction Co's mill is converting a part of its mill at Bauer, Utah; (1) gravity, and (2) float. If necessary, we will put in acid leach for upgrading.

I won't comment on sampling job. I know how to get samples and they don't. Anything the USBM & USGS says, we don't pay any attention. We are not interested in their opinions. We have a highly specialized staff. We know what we have and we are going ahead. We tolerate them only because they are a part of DMEA. If Mitt came out or Selfridge, I know they would do it as I do it. There is a layer of .17 and there is a layer of .24. I took my men from underground. Bur. Mines man did not do anything and just stood there and watched. My boys took the easy stuff to get at and never took up any out of the trench. Even so, did 920% better job than Gentry. We know that ore will go .85 or better just like we know that our high grade is 2.25 or better. We know what we have.

1.90

Martin - We plan to set the contract up in 3 stages: 2 of 450 feet and 1 of 300 feet. On the $15,000 we figured on depreciation rather than contribution. One year's operation would be $3000 and we divided that by 1200 feet and put the price at $42.50 per foot.

Williams - Why are you being so cautious? Martin - Because we can't get an assay to prove the ore is good.

Williams - You have 41 samples taken and it cost more than $500. Are you just being picky about it? He discoursed on his previous accomplishments.

Martin - How can we fix it and take out a certain tonnage and know what it is? We should be able to get some accurate samples. I can't refuse to believe the Bureau of Mines one way and then take results another way.

Williams - You are disregarding 41 samples for 1 sample.

Martin - How long before we can get something through the Mill?

Williams - By July we will be able probably to put something through a mill. Snyder said it would be able to go in 6 weeks. I can't make it firm because it is his plant.

Martin - How could we get 10 or 20 tons to the mill?

Williams - We are saving the ore for our own plant. We are putting in about $20,000 more money than the Government is. I have wasted a lot of time and effort, and we will have a lot to say about this another time unless we get what we want. You are all tied up with a lot of agencies. I brought in two big mines. I am not going to be hamstrung by the samples of the Bureau of Mines.

Martin - I have to defend this thing when we write the contract up and I require facts to back it up. I have to know how soon before we could get ore through a mill.

Williams - To do that you will have to give me the facilities. We haven't claimed th t we have one pound of ore. DMEA is the one who is in delicti. Not us. You know those birds who are working for the Government are kids and are only working for the Government because they' can't get good jobs in private industry.

[redacted] I've raised $100,000 in 30 minutes. Now the Government is howling about giving us this loan. Why not give us a deal like you gave U. S. Smelting? I am a reasonable man, a taypayer, and a sensible man. I won't have the USGS & USBM hamstring me. If we don't get this, we'll be heard from vociferously. I am totally unresponsive to the depreciation basis.

Stage the contract at 900 and 300 like I was offered.

Martin - We plotted it at 450, 450, and 300. With the first 450 feet we should have some tonnage through a mill that could be trusted.

Williams - I'll take 600 and 600. I'm not a bit afraid of results. But 600 needed to get through the sheer zone in 3 places. We must do all the work at one time to keep costs down. We must have a minimum of 300 feet to get through the sheer.

Martin - We need someway to show the ore runs more than .17 to know it is really ore to put us in the clear. Can you ship a small tonnage to a mill by truck?

Williams - Hell, I can select the truck. That won't prove anything, kid. This stuff is completely disseminated through the entire area. Will you go for this gentlemen's agreement? When 600 feet completed I will undertake to ship ore from various blocks and get assays. I can't move it where it is now.

This is speaking strictly off the record. Inside of 6 weeks, whether or not the mill is ready, we will be hauling ore to Delta, Utah. U. P. is going to put in a special rate of $1.30 a ton, giving us the privilege to go all the way to Murray, but we can stop in Bauer. This will give you what you want won't it?

Martin - The first 600 feet -- all the ore or a substantial part will go through that process before stage 2 is asked for?

Williams - All ore will be shipped through the Utah ore sampler from the first 200 feet or so.

I am putting 225 tons of bins at the mine and 200 tons of bins at the bottom of the canyon. All this is paid for by the company. We just paid over $3000 cash to bulldoze to make road rather than jeep trail. We are buying 315-foot compressor; now 3 machines and slusher per shift.

Can the contract be effective April 18?

Martin - That's a Legal question. But it would appear that it should be all right. With what you have given me I'll try to rewrite the contract and submit it to the Operating Committee boys to see how they feel about it. Then we will send you a wire on it and follow it with a letter.

Williams - Outside of about a lag of 6 weeks, every pound will go through the Utah sampler and to the Bauer plant. Then I am coming back for some real money. This is the biggest mine that this country has seen in a long time. Wire me the minute the contract is through. Send it to me: James D. Williams, Mt. Wheeler Mine, c/o Western Union, Ely, Nevada.

Docket
Pr 4539

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

April 17, 1953

Memorandum

To: Mr. W. S. Martin, Acting Chief, Iron and Ferro-Alloys Division, DMEA

From: Robert W. Geehan

Subject: Requested amendment - Wheeler Mines, Inc., White Pine County, Nevada, DMEA-2082

I have surnamed a letter to Mr. Williams and to Mr. H. C. Miller, DMEA Field Team, Region III regarding the subject deposit, however it is noted that the letter to Mr. Williams refers to 900 feet of drifts as Stage A and 300 feet of drifts as Stage B, whereas the actual work proposed by both field team of the applicant involves cross cutting and inclined workings that might be construed to be raises.

A study of the field team report reveals that they believe the ore follows east-west fissures. I would strongly recommend that the proposal be modified to provide at least one-half of the work to be done in a manner which will keep these workings in the ore if it is possible to do so regardless of the direction or inclination that the workings would be required to follow.

This work should be done before any further dead work is permitted, as the greatest unknown factor at this deposit is definitely the continuity or lack of continuity of the ore. The work proposed by the applicant does not follow known ore in most cases and might lead to another source of "hot spots" with no knowledge of continuity. The maps submitted by the field team also make it obvious that at least three samples should be taken where the east-west fissures crop out near the portal of the adit as three ore fissures have been tentatively extended through this location. If these samples cannot be taken without some expense for removal of overburden the contract should provide a small sum for this purpose.

The program I am suggesting might be construed as development work at most deposits but because of the great uncertainty regarding continuity of ore, I believe it is justifiable exploration at this deposit.

Robert W. Geehan

Robert W. Geehan

0

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 17 1953

PERCENT

0.08
0.13
0.29
3 0.50
0.17

NEMU238 WA SFS /I-BOM/

SAN FRANCISCO CALIF 4-16-53 1113A

G. C. SELFRIDGE, CHAIRMAN

OPERATING COMMITTEE, DMEA, INTERIOR BLDG WA

DOCKET DMEA 2082, MT. WHEELER MINES CONTRACT IDM E248 TUNGSTEN.

REURTT APRIL 15, FILLOWING ARE RESULTS OF CHECK SAMPLES FROM STOCKPILE.

WO3 ~~03343385~~ PERCENT, SAMPLENO. 1, 0.08, NO. 2, 0.13, NO. 3 0.29. MO PER-

CENT LESS THAN .01 IN ALL THREE SAMPLES.

S. RICKER FOR EXECUTIVE OFFICER, DMEA FIELD TEAM REGION III

DMEA 2082 IDM E248 15 WO3 1 0.08 2 0.13 3 0.29 .01 ALSO E248

EW 1120A

Copy retained 400

FILE COPY
SURNAME:

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

Martin
Selfridge
Mattenkopf

DEFENSE MINERALS EXPLORATION
ADMINISTRATION

W. S. Martin
5285 5538

April 15, 1953

H. C. Miller, DMEA Executive Officer, Reg. 3, 1012 Flood Bldg.,
870 Market St., San Francisco 2, California
Docket DMEA 2082X - Mt. Wheeler Mines, Inc. - Contract Idm-[illegible]

D.C. 4/15/53

In telephone conversation with us April 13 Williams indicated results of sampling requested our wire April 6 would be available shortly. We would appreciate any information available to you because Williams has wired counter offer to our offer wired May 9.

George C. Selfridge

G. C. Selfridge, Chairman
Operating Committee

Copy to: Docket
Confirmation to FT, Reg. 3
Code 400
Oper. Comm.
Adm. Read. File
D. M. Lemmon, USGS
R. W. Geehan, USBM
Audits Divn., Bur. of Mines

WSMartin/ls
4/15/53

RECEIVED
MAR 15 7 53 PM '53
CHIEF, FILES & SERVICE
MD-C STATIONS

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 16 1953

8229 WA SFS /I-BOM/

SAN FRANCISCO CALIF 4-15-53 322P

G. C. SELFRIDGE, CHAIRMAN,

OPERATING COMMITTEE, DEMA, INTERIOR BUILDING, WA

DOCKET ~~DEMA~~ DMEA 2082 MT. WHEELER MINES CONTRACT IDM E248 REURTT APRIL 15 RENO OFFICE ADVISE SAMPLING RESULTS AVAILABLE IN DAY OR TWO. YOU MAY WISH TO CONTACT H. C. MILLER NOW IN WASHINGTON

S. RICKER, FOR EXECUTIVE OFFICER, DMEA FIELD TEAM REGION III

DMEA 2082 E248 15

EW 325P

WSM

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CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

WESTERN UNION

W. P. MARSHALL, PRESIDENT

1201

(57)

SYMBOLS

DL=Day Letter

NL=Night Letter

LT=Int'l Letter Telegram

VLT=Int'l Victory Ltr.

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WP089 PD=ELY NEV 13 1059A=

C O MITTENDORF ADMINISTRATOR=

DEFENSE MINERALS EXPLORATION ADMIN

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 13 PM 5 00
APR 14 1953

RE OUR TELEPHONE CONVERSATION TODAY WE AGREE WITH UNIT PRICE OF $40 PER FOOT BUT STRONGLY URGE CONSIDERATION BE GIVEN OUR REQUEST FOR ADDITIONAL ITEMS FULLY DISCUSSED WITH YOU AND MR MARTIN AS FOLLOWS - (1) FOOTAGE BE INCREASED TO 1200 FEET BY ADDITION OF 300 FEET TO BEDDING DRIFT NORTH FROM NO 5 LATERAL TO EXPLORE WELL ESTABLISHED MIDDLE EAST-WEST SHEAR ZONE (2) ABSOLUTELY ESSENTIAL EQUIPMENT EQUIPMENT OF PURCHASES OF (A) TEN MINE CARS 27 CUBIC FOOT CAPACITY $5065.00 AS NO CARS ARE

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THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

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WESTERN UNION

W. P. MARSHALL, PRESIDENT

1201

SYMBOLS
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NL=Night Letter
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The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

AVAILABLE FOR PROJECT (B) ONE ALL PURPOSE TRUCK EQUIPPED WITH FOUR WHELL DRIVE $6040.00 CONVENTIONAL TRUCKING EQUIPMENT CANNOT BE USED TO TRANSPORT MEN MATERIALS SUPPLIES AND EQUIPMENT UP POLE CANYON WHERE PREVAILING GRADES ARE PLUS 15 PER CENT COUPLED WITH MUD AND SNOW CONDITIONS (C) SLUSHING EQUIPMENT FORBEDDING DRIFTS $2776.90 THIS IS A MUST IF ARE TO OPERATE WITHIN THE $40 PER FOOT PRICE (D) POWDER MAGAZINE $1109.17 THIS IS ALSO A MUST SINCE WE ARE UNDER ORDERS FROM

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WESTERN UNION

W. P. MARSHALL, PRESIDENT

1201

SYMBOLS

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STATE INDUSTRIAL COMMISSION TOPROVIDE THIS FACILITY THIS WOULD INCREASE CONTRACT AMOUNT TO $62,990.17 FOR 1200 FEET AND REPRESENTS THE VERY BEST WE CAN DO UNDER EXISITING CONDITIONS ADDITIONAL ESTIMATED EXPENDITURES OF APPROXIMATELY $53,000.00 WILL BE MADE AT OUR EXPENSE TO FACILITATE PROJECT AS DISCUSSED WITH YOU WE FEEL THIS IS A FAIR AND EQUITABLE COMPROMISE AND IS ENTIRELY JUSTIFIED BY ACCOMPLISHMENTS TO DATE APRIL 18 1953 PLEASE WIRE ME SALT LAKE OFFICE MANY THANKS FOR YOUR KINDNESS AND UNDERSTANDING=

DMEA 2082X JAMES D WILLIAMS=

ITS PATRONS CONCERNING ITS SERVICE

FILE COPY
SURNAME:

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

Martin
Chamberlin
Bostin
Kendall
Hedges
Fetheridge
Kilbourne

BW

Interior Department
Defense Minerals Exploration
Administration

14X3923.970 - Working Fund -
DMEA

NIGHT LETTER

APRIL 9, 1953

JAMES D. WILLIAMS, PRESIDENT
MT. WHEELER MINES, INC.
218 FELT BUILDING
SALT LAKE CITY, UTAH

J.C. 4/9/53

DMEA WOULD APPROVE AGREED UNIT PRICE OF $40.00 PER FOOT COVERING NOT MORE THAN 900 FEET OF THE ADDITIONAL FOOTAGE REQUESTED UNDER STAGE I OF APPLICATION TO AMEND CONTRACT IDM-[illegible], DOCKET DMA 208EX, UNIT PRICE TO INCLUDE ALL COSTS EXCEPT TIMBERING, FOR WHICH WE WOULD ALLOW $5.00 PER FOOT ADDITIONAL. BELIEVE DEVELOPMENT FROM LATERAL "A", 300 FEET OF UNSPECIFIED DRIFTS, AND STAGE II ARE NOT JUSTIFIED BY RESULTS OF PROJECT TO DATE. IF THESE TERMS ACCEPTABLE, REPLY BY TELEGRAM AND WE WILL PREPARE CONTRACT EFFECTIVE AS OF YOUR REPLY.

C. O. Mittendorf (fwi)

C. O. MITTENDORF
ADMINISTRATOR, DMEA

WSMartin/ls
4/8/53

cc: Docket
Admn. Read. File
Confirmation to James D. Williams
Code 400
Oper. Committee
Field Team, Reg.3
D. M. Lemmon, USGS
R. W. Geehan, USBM
Audits Div., U.S.Bur. Mines

FILE COPY
SURNAME:

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

Martin
Selfridge
Fitzsimmons

W.S.Martin
5284 3538

April 9, 1953

N. C. Miller, DMEA Executive Officer, Region 3, 1012 Flood Building
870 Market Street, San Francisco 2, California
Docket DMEA 208XX - Mt. Wheeler Mines, Inc. - Contract Idm-X248.

We have today wired Williams as follows: "DMEA would approve agreed unit price of $40.00 per foot covering not more than 900 feet of the additional footage requested under Stage I of application to amend Contract Idm-X248, Docket DMA 208XX, unit price to include all costs except timbering, for which we would allow $5.00 per foot additional. Believe development from Lateral "A", 300 feet of unspecified drifts, and Stage II are not justified by results of project to date. If these terms acceptable, reply by telegram and we will prepare contract effective as of your reply."

G. S. Selfridge, Chairman
Operating Committee

Coe
4/9

Copy to: Docket
Confirmation to FT, Reg. 3
Code 400
Admr. Read. File
Op. Committee
D. M. Lemmon, USGS
R. W. Geehan, USBM
Audits Division, U.S.Bur. Mines

WSMartin/ls
4/9/53

Docket

185 JA SFS 71-004

SAN FRANCISCO CALIF 4-9-53 512P

GEORGE T SHERIDAN CHAIRMAN

OPERATING COMMITTEE DMEA INTERIOR BLDG WA

RE DOCKET DMEA 2082X MT. WHEELER MINES INC. CONTRACT IDT-E248.

REWRITE CONCERNING PROPOSED AMENDED CONTRACT FOR MT. WHEELER MINES.

BAILEY AND I AGREE THAT THE TERMS SET OUT IN YOUR WIRE ARE ACCEPTABLE.

SUGGEST, HOWEVER, SOME PROVISION BE MADE FOR BULK SAMPLING BUT NOT ON

AS ELABORATE A SCALE AS PROPOSED OUT IN THE APPLICATION. PROBABLY STOCK-

PILING AND MILL TESTING WILL BE ALL THAT IS NEEDED.

W. C. MILLER EXECUTIVE OFFICER DMEA FIELD TEAMRJ REGION III.

2082X IDT-E248

TG 419P

DEPARTMENT OF THE INTERIOR
Defense Materials Administration
RECEIVED
APR 10 1953

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4/10/53

WSM

APR 10 9 38 AM '53
BUREAU OF MINES
MAIL ROOM
WASHINGTON, D.C.

Docket

IN REPLY REFER TO:

G-MD-DML

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

April 7, 1953

Memorandum

WSM

To: W. S. Martin, DMEA

From: D. M. Lemmon, USGS

Subject: Request for an amendment
Mt. Wheeler Mines, Inc.
Pole Canyon, Snake Range
White Pine County, Nevada

DMEA-2082
Tungsten

I have reviewed the applicant's request for an expanded project costing an additional $423,614, and the field report of March 25, 1953, recommending favorable consideration.

The results of the completed exploration (1,470 feet of adit, crosscuts and raises at a cost of $75,476) do not prove that a commercial ore body exists in the Mt. Wheeler mine. The scheelite exposed in the workings is restricted to 2 or 3 pipe-like shoots 5 by 7 feet in cross section. Workings have been extended 1,000 feet along the strike and 10 openings have been made in the scheelite zones. The assumption that ore pipes are continuous between these widely-spaced openings is not proved.

The sampling done by the operator consists of car samples. No statement is made of how many samples were taken or who made the assays. The values reported are substantially greater than those obtained by the Bureau of Mines from 41 channel and dump samples.

The Field Team estimates ore reserves, mostly inferred, to be about 16,000 tons containing 1.0 percent WO_3, distributed in 5 shoots with an aggregate length of 9,800 feet and extending from the outcrop 2,300 feet east to the Sheffield fissure.

It is stated that the distribution of scheelite is controlled by the intersection of east-trending quartz veinlets, the Wheeler limestone bed, and north-trending fractures. No proof is offered that the north-trending fractures contain any scheelite, and I suspect that they are post-scheelite. The Field report gives no suggestion that the scheelite spreads very far into the limestone from the quartz veins, and there appears to be no chance that the entire bed could be mined successfully.

Copy retained 400

Conclusions

The magnitude of the proposed project is much greater than is warranted by the results attained by previous work. If the block of ground developed contains ore, it appears to me that production from the first thousand feet of the mineralized blocks should pay for extensions of mine development eastward. There is no reason to believe that larger or richer scheelite deposits will be found farther east.

The exploration work done has not proved any ore although it has shown isolated mineral occurrences which might be connected. I suggest that these exposures be mined to determine their continuity and metal content. Much of the work proposed under stage one of the proposed project is aimed in this direction and is probably warranted to determine the quantity and quality of ore in the area opened under the preceding project.

The total amount of work needed can be reduced to about 900 feet of drift, crosscut and raise by elimination of the work at Lateral A and elimination of 300 feet of unspecified drift. No consideration should be given to the second stage proposals to crosscut north at Lateral 3 and to extend the workings east to the Sheffield fissure.

D. M. Lemmon

D. M. Lemmon

FILE COPY
SURNAME:

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

Rutledge
Martin
Selfridge

Interior Department
Defense Minerals Exploration
Administration

1AX3923.970 Working Fund, DMEA

NIGHT LETTER

APRIL 6, 1953

JAMES D. WILLIAMS, PRESIDENT
MT. WHEELER MINES, INC.
218 FELT BUILDING
SALT LAKE CITY, UTAH

FIELD TEAM REPORT ON APPLICATION FOR ADDITIONAL FUNDS UNDER DOCKET NO. DMA 2082X, CONTRACT NO. IDM-[illegible] RECEIVED. APPLICATION BEING HELD PENDING RECEIPT REPLY FOLLOWING TELETYPE SENT MILLER, SAN FRANCISCO, TODAY:

"BECAUSE OF LARGE DISCREPANCY BETWEEN GRADES OF DMEA ORE BY WILLIAMS' OAR SAMPLES AND BY FIELD TEAM SAMPLE, WE ARE HOLDING NEW APPLICATION IN ABEYANCE UNTIL FIELD TEAM TAKES NEW CHECK SAMPLE OF DMEA ORE. CHECK SAMPLE MUST BE OF SUFFICIENT SIZE FROM REDUCTION TO BE REPRESENTATIVE. PLEASE ASCERTAIN NAME OF ASSAYER OF MT. WHEELER SAMPLES."

(signed) FRANK E. JOHNSON (fw)

~~O. O. MIDKIFF~~
ACTING ADMINISTRATOR, DMEA

S.H.
4/6/53

FARutledge/ls
4/6/53

Copy to: Docket
Field Team, Reg. 3
Code 400
Admn. Read. File
Oper. Comm.
Audits Divn., Bur. of Mines
D. M. Lemmon, USGS
R. W. Geehan, USBM

SURNAME
Rutledge
Martin
Hedges
Bethell
Selfridge
Wightman

Defense Minerals Exploration
Administration

F. A. Rutledge
3285 3558

April 6, 1953

M. C. Miller, DMEA Executive Officer, Region 3, 1012 Flood Building
870 Market Street, San Francisco 2, California
Docket No. DMA 2082X - Mt. Wheeler Mines, Inc. - Contract No. DMA-1248

Because of large discrepancy between grade of DMEA ore by Williams' own samples and by Field Team sample, we are holding new application in abeyance until Field Team takes new check sample of DMEA ore. Check sample must be of sufficient size before reduction to be representative. Please ascertain name of assayer of Mt. Wheeler samples.

George C. Selfridge

G. C. Selfridge, Chairman
Operating Committee, DMEA

P.N.
4-6-53

Confirmation Copy - Field Team, Region 3

Copy to: Docket
Admn. Read. File
Code 400
Oper. Comm.
D. M. Lemmon, USGS
R. W. Geehan, USBM
Audits Division, Bur. of Mines

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 10 1953

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

April 6, 1953

Memorandum

To: A. C. Johnson, Bureau of Mines, Reno, Nevada

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-2082 (Tungsten)
Mt. Wheeler Mines, Inc.
Mt. Wheeler Mine, White Pine County, Nevada
Contract Idm-E248

The following teletype dated April 6, 1953, was received from Mr. George C. Selfridge, Chairman, Operating Committee, DMEA, today:

> "Because of large discrepancy between grade of DMEA ore by Williams' car samples and by field team sample, we are holding new application in abeyance until field team takes new check sample of DMEA ore. Check sample must be of sufficient size before reduction to be representative. Please ascertain name of assayer of Mt. Wheeler samples."

Apparently it is the assay of the stockpile ore that is in question. Gentry and Smith on page 2 of their March 25, 1953, report give, as a result of a trench sample, an assay value of 0.02 percent WO_3, whereas Mr. Williams' car samples give a weighted average of 0.9892 percent WO_3 for the stockpile.

It might be well at the time of checking this ore, that your engineer ascertain where the ore came from that went into the stockpile and the approximate tonnage from each of the different places.

As granting or denying the proposed loan is being held up pending receipt of the above information, you should send your engineer to the property at the earliest possible time, and when the sample is brought to Reno you should get Mr. Zadra to give the assaying of it No. 1 priority. Your engineer should be able to handle this assignment without the aid of Mr. Smith, of the Survey.

H. C. MILLER
H. C. Miller
Executive Officer
DMEA Field Team, Region III

Copy to: DMEA, Washington
E. H. Bailey, USGS

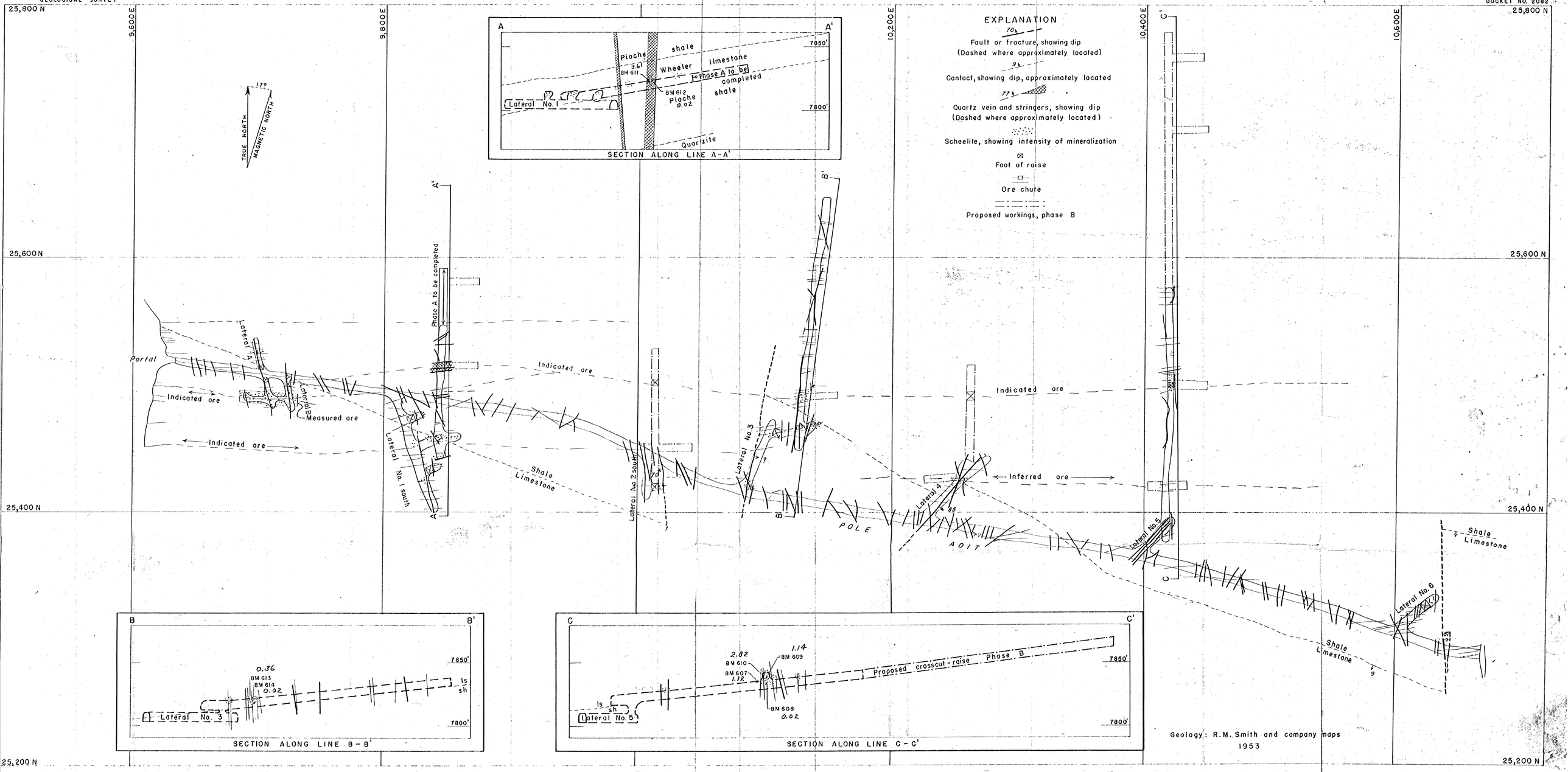


FIG. 2 GEOLOGIC SKETCH MAP AND SECTIONS OF MT. WHEELER TUNGSTEN PROSPECT - POLE ADIT, WHITE PINE COUNTY, NEVADA

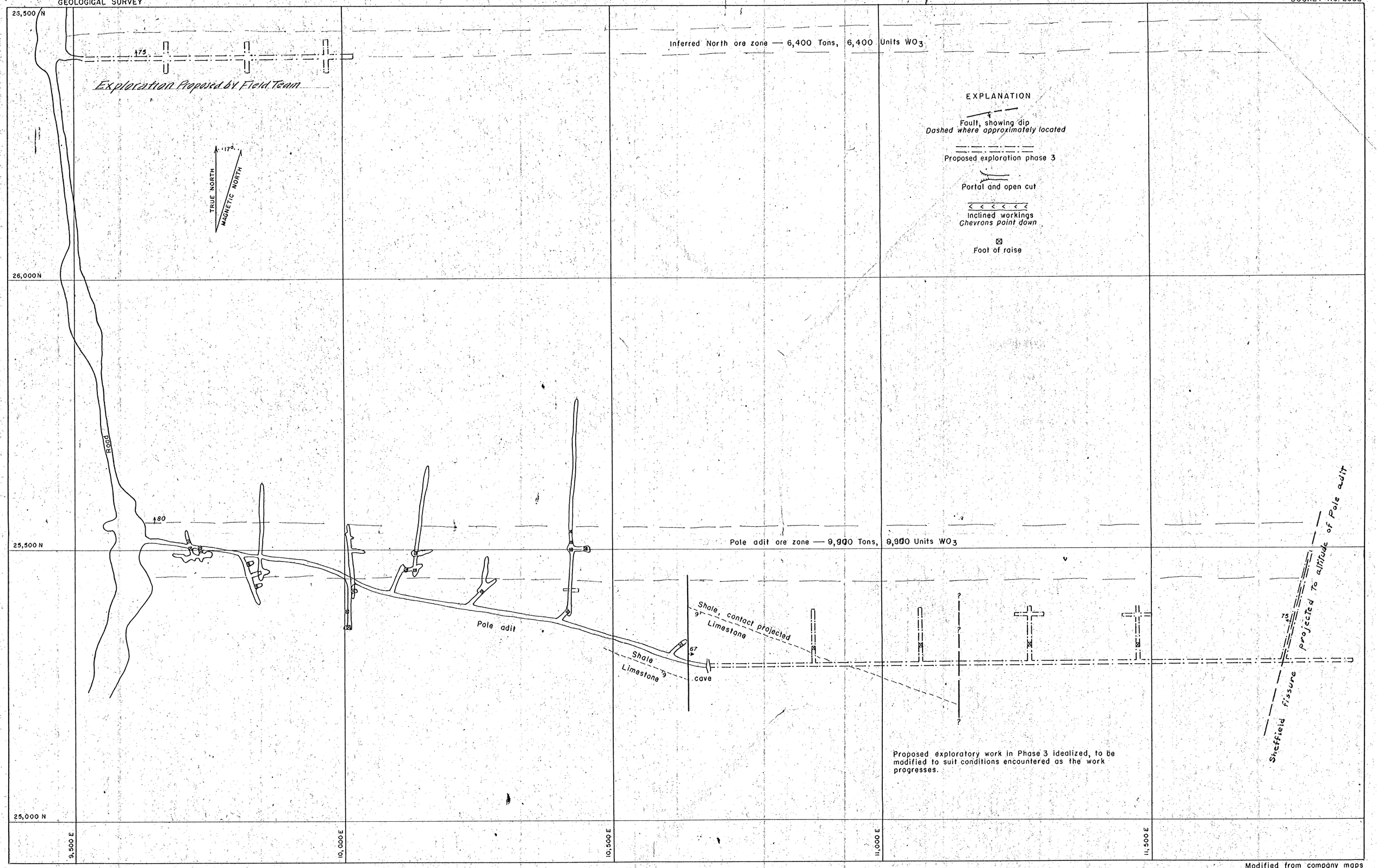
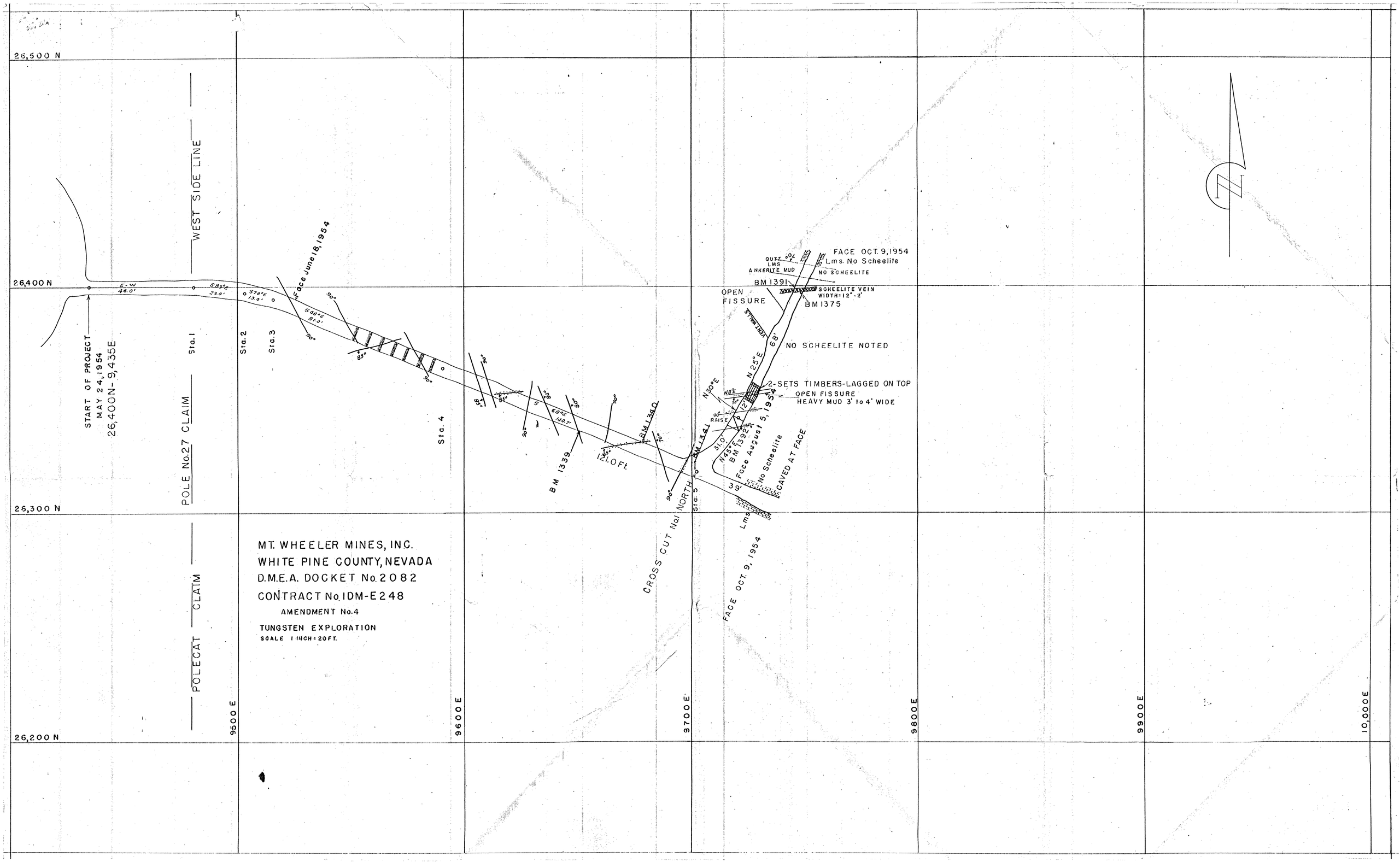


Figure 5

MAP SHOWING PROPOSED EXPLORATION, MT. WHEELER TUNGSTEN MINE
WHITE PINE COUNTY, NEVADA

0 100 200 300 FEET

Modified from company maps


26,500 N
26,400 N
26,300 N
26,200 N
9500 E
9600 E
9700 E
9800 E
9900 E
10,000 E
WEST SIDE LINE
POLE No.27 CLAIM
POLECAT CLAIM
START OF PROJECT
MAY 24, 1954
26,400N-9,435E
Sta. 1
Sta. 2
Sta. 3
Sta. 4
Face June 18, 1954
E-W
46.0'
S85°E
23.0'
S78°E
13.0'
S88°E
81.0'
90°
85°
BM 1339
21.0 Ft.
BM 1340
BM 1341
CROSS CUT NO. 1 NORTH
Sta. 5
FACE OCT. 9, 1954
Lms. No Scheelite
QUTZ
LMS
ANKERITE MUD
NO SCHEELITE
BM 1391
SCHEELITE VEIN
WIDTH=12"-2'
BM 1375
OPEN
FISSURE
VERT. WALLS
68'
NO SCHEELITE NOTED
N 25° E
2-SETS TIMBERS-LAGGED ON TOP
OPEN FISSURE
HEAVY MUD 3' to 4' WIDE
N30°E
18"
12"
RAISE
31.0'
N45°E
BM 1392
Face August 5, 1954
No Scheelite
CAVED AT FACE
39'
Lms.
FACE OCT. 9, 1954
MT. WHEELER MINES, INC.
WHITE PINE COUNTY, NEVADA
D.M.E.A. DOCKET No. 2082
CONTRACT No. IDM-E248
AMENDMENT No. 4
TUNGSTEN EXPLORATION
SCALE 1 INCH = 20 FT.
N

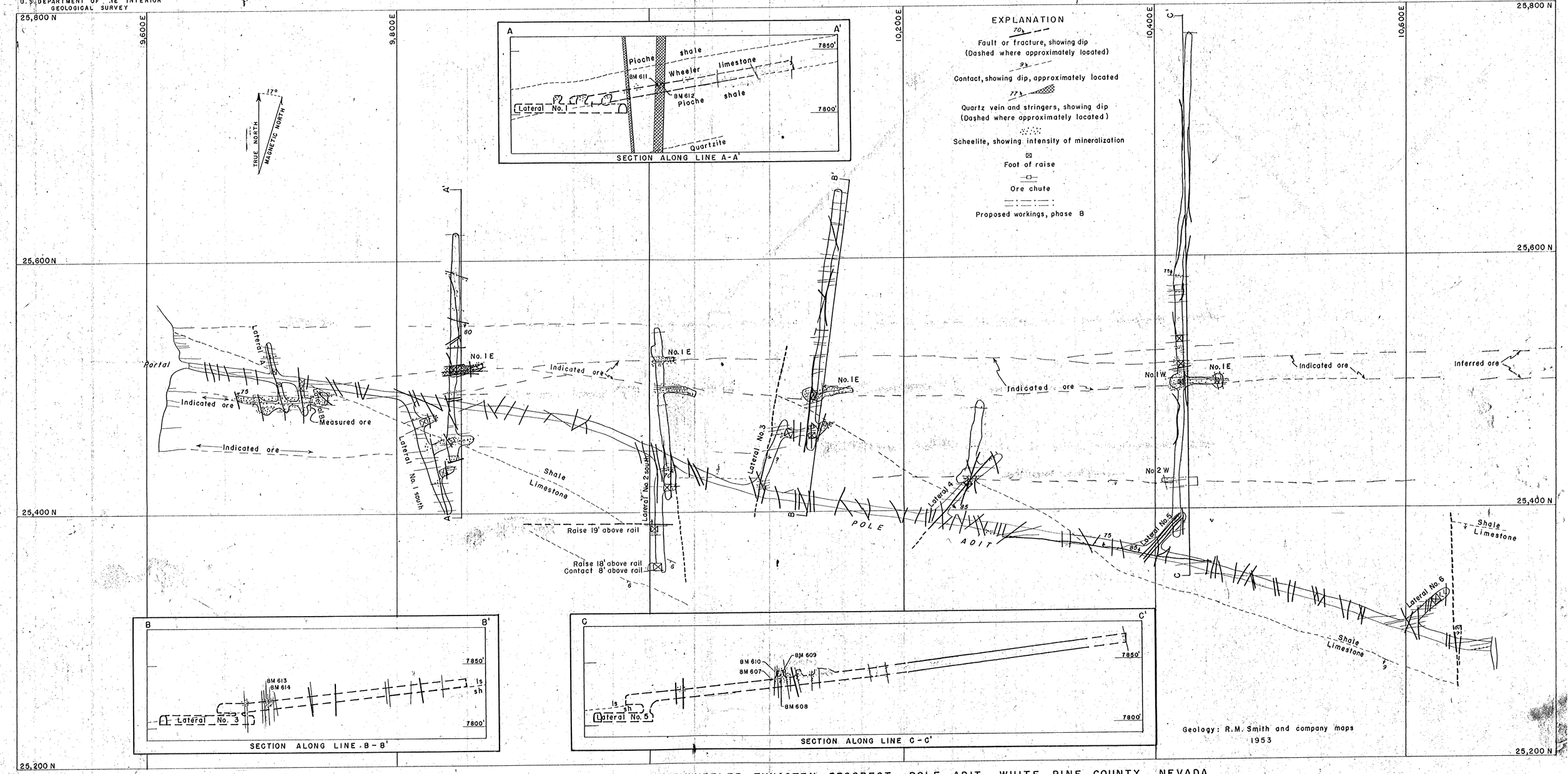
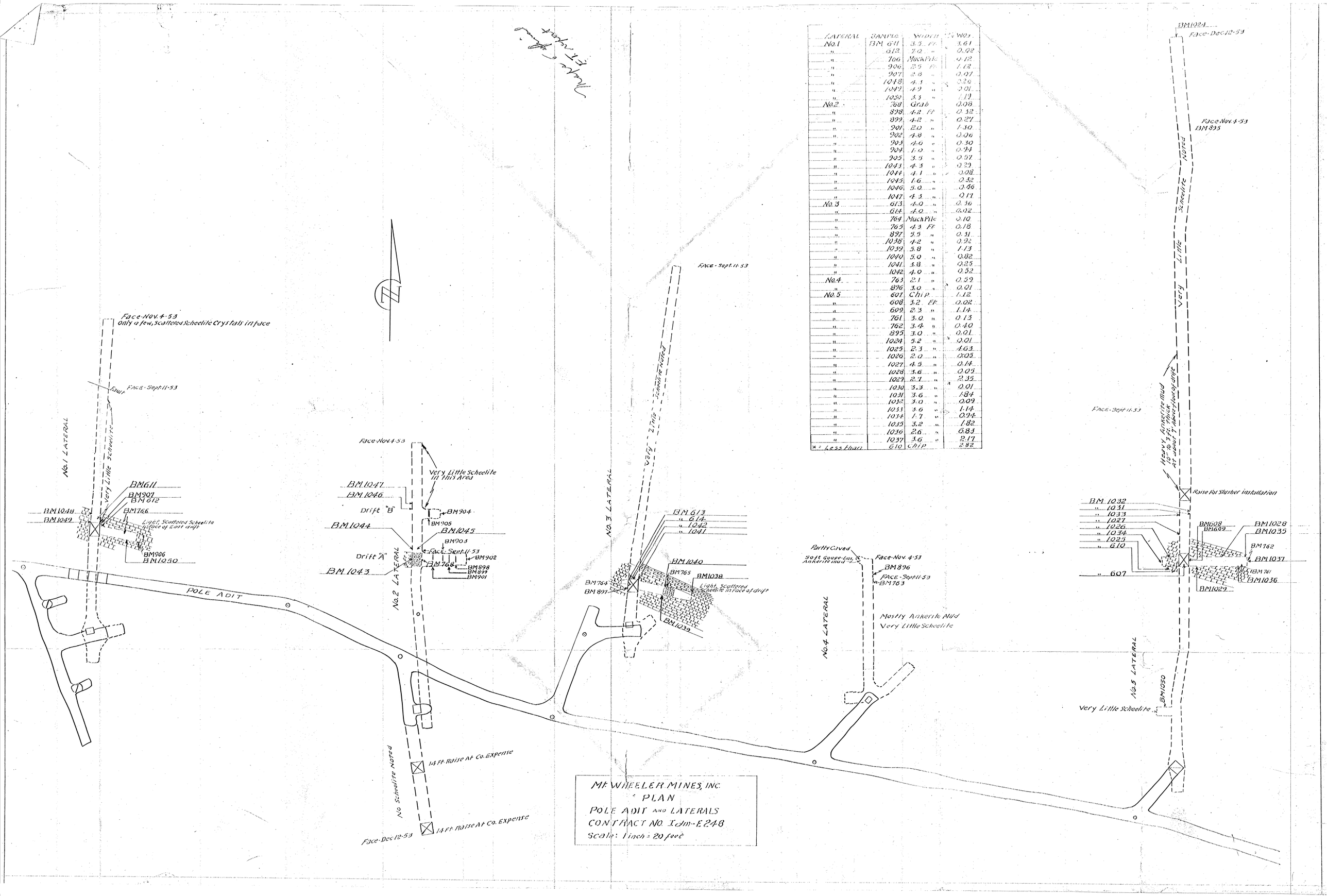


FIG. 2

GEOLOGIC SKETCH MAP AND SECTIONS OF MT. WHEELER TUNGSTEN PROSPECT - POLE ADIT, WHITE PINE COUNTY, NEVADA



LATERAL	SAMPLE	WIDTH	% WO3
No. 1	BM 611	3.5 Ft.	3.61
"	612	7.0 "	0.02
"	766	Muck Pile	0.12
"	906	2.5 Ft.	1.12
"	907	2.8 "	0.07
"	1048	4.3 "	0.26
"	1049	4.9 "	0.01
"	1050	3.3 "	1.19
No. 2	768	Grab	0.08
"	898	4.2 Ft.	0.32
"	899	4.2 "	0.27
"	901	2.0 "	1.30
"	902	4.8 "	0.06
"	903	4.6 "	0.30
"	904	1.0 "	0.94
"	905	3.5 "	0.57
"	1043	4.3 "	0.29
"	1044	4.1 "	0.08
"	1045	1.6 "	0.32
"	1046	5.0 "	0.46
"	1047	4.3 "	0.11
No. 3	613	4.0 "	0.36
"	614	4.0 "	0.02
"	764	Muck Pile	0.10
"	765	4.3 Ft.	0.18
"	897	5.5 "	0.51
"	1038	4.2 "	0.92
"	1039	5.8 "	1.13
"	1040	5.0 "	0.82
"	1041	3.8 "	0.25
"	1042	4.0 "	0.52
No. 4	763	2.1 "	0.59
"	896	3.0 "	0.01
No. 5	601	Chip	1.12
"	608	3.2 Ft.	0.02
"	609	2.3 "	1.14
"	761	3.0 "	0.13
"	762	3.4 "	0.40
"	895	3.0 "	0.01
"	1024	5.2 "	0.01
"	1025	2.3 "	4.63
"	1026	2.0 "	0.05
"	1027	4.5 "	0.14
"	1028	3.6 "	0.05
"	1029	2.1 "	2.35
"	1030	3.3 "	0.01
"	1031	3.6 "	1.84
"	1032	3.0 "	0.09
"	1033	3.6 "	1.14
"	1034	1.7 "	0.94
"	1035	3.2 "	1.82
"	1036	2.6 "	0.83
"	1037	3.6 "	2.17
* = Less than	610	Chip	2.82

MT. WHEELER MINES, INC.
PLAN
POLE ADIT AND LATERALS
CONTRACT NO. I dm-E 248
Scale: 1 inch = 20 feet