AFTON MINES LTD., B.C.
COPPER PROPERTY, KAMLOOPS AREA
JUNE 22, 1972

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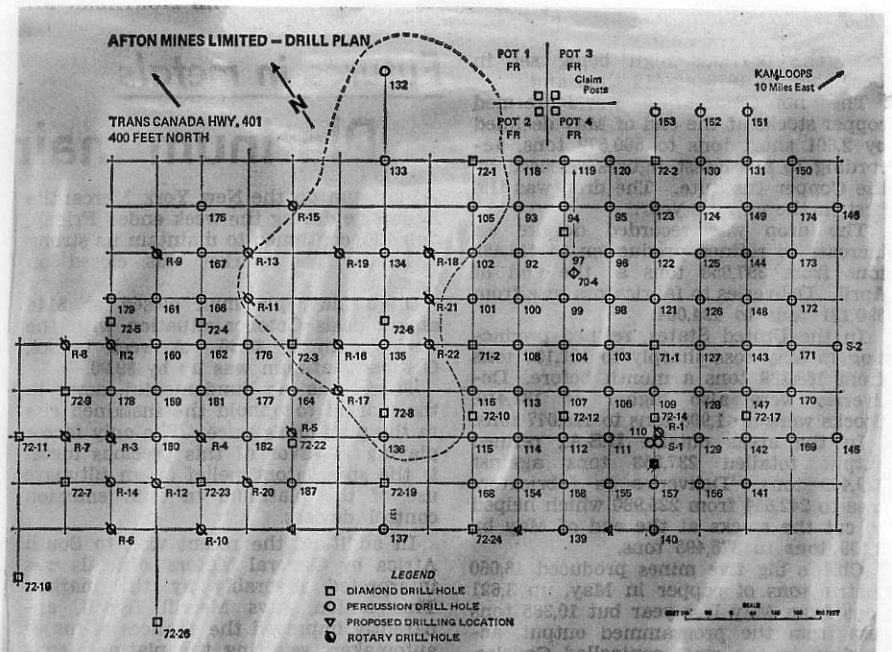
THE NORTHERN MINER

JULY 6, 1972



Drilling at Afton Mines extends zone, adds tons

VANCOUVER — Assay results from a further 11 diamond drill holes and seven rotary drill holes on the Afton Mines copper property, 10 miles west of Kamloops, B.C., are reported by Chester Millar, president.

These holes, he said, add to the reserves by confirming grade, adding to the depth of the zone and by extending the zone to the southwest.

The latest diamond drill holes for which assays are available are 72-13, which ran 0.61% copper from 12-410 ft., a 398-ft. section;

72-14, 315 ft. of 0.58% copper from 25-340 ft., and 30 ft. of 0.41% at 560-590 ft.;

72-15, 180 ft. of 0.55% at 50-230 ft., 50 ft. of 31% at 350-400, and 80 ft. of the same grade at 810-890 ft.;

72-16, incomplete;

72-17, 110 ft. of 0.59% at 180-290 ft., 40 ft. of 0.42% at 350-390 ft., and 110 ft. of 0.48% at 460-570 ft.;

72-18, the first 160 ft. ran 0.48%;

72-19, 120 ft. of 0.72% from 340-460 ft.;

72-20, 250 ft. of 0.48% at 60-310 ft.;

72-21, not available;

72-22, 80 ft. of 0.32% at 350-430 ft. and 450 ft. of 1.61% at 590-1,040 ft.;

and 72-23, 250 ft. of 0.61% at 200-450 ft.

Results reported on the latest rotary drill holes are:

R-14, 830 ft. of 1.62% at 270-1,100;

R-17, 140 ft. of 0.25% at 40-180 ft., 310 ft. of 0.71% at 250-560 ft., and 260 ft. of 1.40% at 650-910 ft.;

R-18, 430 ft. of 0.86% at 90-520 ft.;

R-19, 120 ft. of 0.51% at 40-160 ft.;

R-20, 140 ft. of 1.32% at 560-700 and 370 ft. of 0.47% at 830-1,200 ft.;

R-21, 690 ft. of 1.10% at 20-710 ft. with last 10 ft. of 0.41%;

R-22, 760 ft. of 1.26% at 40-800 ft.

Last month, Afton reported indicated reserves exceeding 40 million tons averaging 0.65% copper available for possible open pit mining (N.M., June 8, 1972).

Afton meeting now on Friday

VANCOUVER — The shareholders' meeting of Afton Mines, requisitioned by Teck Corp., was adjourned Tuesday until Friday, July 7, 1972. Michael Butler, solicitor for Teck, who was appointed chairman of the meeting, declared the meeting properly constituted. The reason for the adjournment was to allow lawyers for Afton, Teck and Canadian Exploration, subsidiary of Placer Development, to hold a meeting with Mr. Justice Richard Anderson to ask for clarification of an interlocutory injunction he granted to Teck against Canadian Exploration on June 23, 1972 (N.M., June 29, 1972).

Chester Millar, Afton president, did not attend the meeting. John Bruk, solicitor for Afton, who spoke at the meeting on behalf of Mr. Millar and two other Afton directors, Douglas Price and John Haramboure, said that the meeting was invalid. The purpose of the meeting, he said, was to give Teck representation on the board. Mr. Millar, Mr. Price and Mr. Haramboure have no objection to that purpose but they do not condone an invalid meeting, he said.

THE NORTHERN MINER

JUNE 29, 1972

Teck wins injunction in battle for Afton

VANCOUVER — Mr. Justice Richard Anderson has granted **Teck Corp.** an interlocutory injunction banning directors of **Afton Mines** from issuing further treasury shares to Canadian Exploration, (Canex) wholly-owned subsidiary of Placer Development.

The injunction also prevents Canex from performing any work on the Afton Kamloops area copper property until the settlement of a supreme court case set for Aug. 21. The case includes a petition by Teck for a permanent injunction invalidating the Canex agreement for financing of Afton. Under the agreement Canex assumes responsibility for prospecting, exploration and development of the Afton property, and upon placing it into production, receives a 30% interest in Afton.

Subsequent to the granting of the injunction, Teck said it has requisitioned a special meeting of Afton shareholders to be held in Vancouver July 4 to approve an increase in the board of directors from five to eleven.

Teck, which with its associate **Iso Mines**, announced it has purchased on the open market over 50% of the issued shares of Afton, charged the Afton-Canex deal in effect would prevent Teck from obtaining control of Afton.

Chester Millar, Afton president, told The Northern Miner that work is continuing on the property. Until June 23 when the court granted the injunction against Canex, Placer had been providing finances for the drilling. Now Afton will finance its own work. The company, Mr. Millar said, will be adequately financed through bank borrowing.

The Afton president said that Teck has requisitioned that an Afton shareholders' meetting be held on July 4 and it has mailed the pertinent literature to shareholders advising them of the meeting. Mr. Millar said he personally favored holding the meeting.

In handing down his judgment Judge Anderson said that prior to signing the Canex agreement the directors of Afton were aware that Teck was purchasing a substantial block of shares on the market and, in addition, Teck had been negotiating with the directors for the purchase of some of their shares.

'If Canex exercises its option', the judge continued, 'it will receive approximately 1,125,000 shares which will bring up the total issued shares to 3,749,000 divided as follows: Canex, 1,125,000, directors, 800,000, plaintiff, 1,312,011, and public, 412,009.

'Thus it will be seen that the directors will achieve effective control of Afton if Canex exercises its option because Canex or the plaintiff (Teck) will have to depend on the vote of the directors to exercise control.

'In any contest between Canex and the plaintiff the directors possess the casting vote'.

Judge Anderson said that he was of the opinion that the plaintiff has demonstrated only that he has raised grounds of substance or that he has an arguable case.

Because there is to be an early trial, as agreed to by all, he said, it would be prejudicial and unfair to make any findings of fact.

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THE NORTHERN MINER

JUNE 22, 1972

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Teck first-half earnings lower but high hopes held for Afton

Teck Corp. reports net earnings before extraordinary items for the six months ended March 31, 1972 of $563,042 or 8.3¢ a share compared with $1,138,934 and 21.2¢ respectively for the similar period last year.

In the most recent period, the company realized extraordinary gains of $955,413 for total earnings of $1,515,653 or 22.2¢ a share compared with gains of $2,018,189 which brought total net to $3,157,123 or 58.7¢ a share in the 1971 period.

President N. B. Keevil states that the company's strength, both in absolute terms and on a per-share basis, was at an all-time high at the end of the first half.

The market value of Teck's investments, including shares in associated companies, stood at $40,690,000 on March 31st. Including $2,300,000 in loans to Brameda and 800,000 pooled shares of that company at cost, which is similar to the market, the investment portfolio on March 31st was $43,790,000 or $6.42 per Teck share. After adding other current assets and deducting loans, the results were $39,579,000 or $5.31 per share.

Big acquisition

Dr. Keevil reports that the highlight of the fiscal year to date "has been the acquisition of a substantial share interest in **Afton Mines** (see other story).

The Afton deposit occurs 10 miles west of the town of Kamloops, close to the Trans Canada Highway, natural gas pipelines and power lines.

"The mineralization is unusual, in that the majority of the copper occurs as native copper, with lesser amounts of chalcocite, bornite and chalcopyrite. It would be premature to report preliminary tonnage and grade estimate at this stage, but indications are that the orebody will support an open pit operation in the range of 5,000 to 10,000 tons per day.

"It should be the highest grade open pit copper mine in Canada, and make an important contribution to Teck's future development.

More shares, less income

Turning back to the financials, Dr. Keevil says that lower current earnings are due to an increase in capitalization from 5,387,652 to 6,817,259 shares, lower net income from petroleum and mining operations and higher interest charges.

Teck has increased its equity in Brameda Resources to 47%. Engineering design and feasibility study work continued on Brameda's Sukunka Coal project, and these will be completed shortly.

Discussions are continuing on concentrate and metal sales from the Highmont project.

Seismic work is getting underway on Teck's Mackenzie Delta permits, farmed out to Pan Canadian Petroleums, who can earn a 50% interest in one block by beginning a 12,000 foot test this winter.

In the Severn Basin of southern England, Teck participated in one exploratory well which, although non-productive, encountered excellent reservoir rocks providing encouragement for further exploration. Also in the United Kingdom, Teck (1/6) and partners were awarded a 64,000 acre block in the Celtic Sea. Seismic surveys will be undertaken this summer to help define the indicated structure, continues Dr. Keevil.

In mining exploration, Teck and Highmont jointly acquired additional claims in the Highland Valley area east of Bethlehem's J-A zone, and an extensive percussion drilling program is planned this summer. Teck also assisted Torwest Resources in acquiring a large claim block in the Afton area, and has the right to increase its share position in Torwest by providing funds for exploration of this property.

Subsequent to the end of the period, Teck purchased additional shares of Iso Mines, and now holds a 40% interest in that company, concludes the report.

THE NORTHERN MINER

JUNE 15, 1972

Teck's injunction hearing postponed until today

Mr. Justice Richard Anderson in the Supreme Court of B.C. on Monday postponed until today (Thursday) further hearing concerning an interlocutory injunction Teck Corp. is seeking to stop directors of **Afton Mines** or **Canadian Exploration** from issuing treasury shares of Afton until a shareholders meeting could be called in 30 days.

THE NORTHERN MINER

JUNE 8, 1972

Teck, Placer in fray

Legal battle brewing for control of Afton

Lines have been quickly drawn for what could prove to be a bitter battle for control of Afton Mines, the company that has come up with an exciting copper discovery near Kamloops, B.C.

Chronologically, here is what has happened subsequent to the actual discovery made last December:

— Through its Canadian Exploration subsidiary, **Placer Development** moved quickly to get its foot in the Afton door by taking down 100,000 treasury shares at $3.50 per share, with the right of first refusal on any subsequent financing.

— About the same time, it was rumored that **Teck Corp.** had unsuccessfully made a bid to Afton at a somewhat higher price, believed to be about $4 a share.

— During the hectic market trading that followed, rumors were rife of a major company or companies (Teck's name was prominent) trying to buy control on the open market. This buying carried the stock to a peak of $15.50 last Wednesday. Later that same day, the Keevil organization announced from Vancouver that Teck Corp. as to 65% and **Iso Mines** as to 35% had in fact purchased just over 50% of Afton's issued shares. At the same time, Teck requested representation on the Afton board proportional to its shareholding.

— In a joint announcement the following day, Afton and Canex said they had entered a further agreement under the terms of which Canex assumes the responsibility for prospecting, exploration and development of the property and, upon electing to place it into production, receives a 30% share interest in Afton or about 1.3 million shares. This, together with some 800,000 shares presently held by four Afton directors, would put Placer in the driver's seat.

On the basis of work to date Afton estimates geological ore reserves exceeding 40 million tons grading 0.65% copper available for potential open pit mining.

Canex is immediately proceeding with geological studies, engineering and related work in order to carry out a feasibility study. Upon completion of the feasibility study, Canex must notify Afton whether or not it intends to place the property into production. Upon giving notice of its intention to proceed to production, Canex must arrange for the sale of the concentrate and all necessary funds to place the property into production, including working capital, on a project-financing basis. If Canex elects to go ahead, it shall provide all the necessary personnel and know-how for purposes of designing and constructing the concentrator plant and related facilities, and operating the mine and concentrator.

— Within half an hour of the Afton-Placer release, Teck said it had instructed its counsel "to take immediate legal proceedings to enjoin and set aside the purported agreement". Teck said its acquisition of Afton shares had been completed earlier in the week and that Afton management had been requested to refrain from action "until majority shareholders were properly represented on the Afton board. Teck expects to be able to offer better financing arrangements for Afton than any other third party," the company said.

— Teck's outcry got into the courts quickly. On Tuesday, Mr. Justice Douglas E. Andrews in the B.C. Supreme Court granted an adjournment until 10.30 this morning (Thursday) for a hearing concerning an injunction sought by Teck Corp. to stop directors of Afton and Canex from issuing or dealing with treasury shares of Afton until a shareholders' meeting could be called in 30 days.

— J. D. Little, executive vice-president of Placer and R. E. Hallbauer of Teck Corp. were added to the Afton board this week.

— Slater Walker of Canada Ltd., Canadian arm of the wealthy Slater Walker group of London, England, could enter the fray inasmuch as it was announced this week that this company has acquired more than 14% of the issued shares of Iso Mines. Slater has been on quite an acquisition spree in Canada and the U.S. in recent months.

THE NORTHERN MINER

JUNE 1, 1972

Teck gets Afton control

Teck Corp. and Iso Mines have purchased in excess of 50% of the isssued capital of Afton Mines, N. B. Keevil, executive vice-president of Teck announced Wednesday afternoon. These purchases were made on the open market as to 65% Teck and 35% by Iso.

THE NORTHERN MINER

MAY 25, 1972

Dimensions shape for Afton orebody richer to west

Drilling so far has indicated the orebody for a length of 1,700 ft. in the Lake Zone of the Kamloops area copper property of Afton Mines, Chester Millar tells The Northern Miner. Diamond and rotary drilling is being continued to confirm previous results of percussion drilling and to extend the orebody.

Arrangements are being made through bank loans for interim financing for the continued drilling. Earlier this year **Placer Development** purchased 300,000 Afton treasury shares for $350,000 and was granted the first right of refusal for 12 months to participate in future financing of Afton (**N.M.**, Mar. 30, 1972).

Much to the amazement of some of our readers it was erroneously reported in these columns last week that diamond drill hole 72-7 is in the extreme southwest corner of the property. The word 'property' should have read 'zone'. The Lake Zone is actually in the north-central part of the property and is cut off at the north by a steeply dipping fault (**N.M.**, Apr. 20, 1972). In a talk with Mr. Millar this paper gathers that the Lake Zone could be shaping up as an open pit and an underground proposition.

The orebody appears to be in two portions with a fault contact between them at a point approximately half way along the deposit, Mr. Millar said. The eastern half, east of a small lake on the zone, trends west, is about 700 ft. across north-south and grades on the average about 0.65% copper. It is fairly flat lying between depths of 500 to 700 ft., amenable to open pit.

West of the lake the orebody is about 500 ft. across north-south. It is richer with the higher grade sections running 1.50% to 1.75% copper. It strikes east-west and dips quite steeply to the south at 60 to 70° and has been indicated to depth of 1,500 ft. in rotary hole R-12, which has been stopped in ore at that depth.

Some difficulty has been encountered in current drilling on the extension of the orebody as a thin layer of tertiary, loosely cemented, from zero to 200 ft., is overlying the mineralized intrusive. One diamond drill hole and one rotary drill hole have had to be abandoned because of caving. Different procedures are being adopted to overcome the problem, which is expected to be eliminated as drilling progresses farther west from the high ground to the valley.

THE NORTHERN MINER

MAY 18, 1972

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Afton orebody extended to south by drilling

A stepout diamond drill hole proved extension of the orebody 100 ft. to the south on the Kamloops area copper property of Afton Mines. The hole, 72-7, drilled 100 ft. south of R-7 in the extreme southwest corner of the property, returned a 160-ft. section of 2.93% copper from 480-640 ft. Farther up the hole a 230-ft. section, from 250-480 ft., assayed 0.63%. The remainder of the hole completed at depth of 877 ft. was waste.

In reporting assay results on this and seven other holes, Chester Millar, president, said that three diamond drill holes are presently being drilled along with two fill-in holes and a stepout hole to the west. Two 4¾-in. rotary rigs are drilling the fill-in holes in and near the lake. A 7-in. rotary has been employed on a temporary basis. A percussion drill machine has been used in limited testing in a possible mill site location. Studies are continuing on metallurgical data and concentrate sales potential which will form part of the feasibility study on the property, Mr. Millar said.

Further assays were reported for diamond drill hole 72-6 (N.M., May 11, 1972) drilled 50 ft. north of percussion hole Q135, and completed at depth of 797 ft. It returned 558 ft. of 1.18% copper from 62-620 ft. and 50 ft. of 0.43% from 620-670 ft.

Diamond drill hole 72-8, 75 ft. north of percussion hole Q136, was completed at depth of 1,107 ft. and gave a 470-ft. section of 1.30% from 610-1,080 ft., and a 320-ft. section of 0.29% from 150-470 ft.

Good grade across some wide sections are shown in reported assays of some of the fill-in holes drilled by the rotary rigs. Best results of the latest five rotary drill holes reported were in R-12. It showed 860 ft. of 1.53% copper from depth of 520-1,380 ft. in this wide section was 140 ft. of 4.19% from 530-670 ft., and a 110-ft. section of 2.33% from 960-1,070. The hole also returned 40 ft. of 0.82% from 100-140 ft., and 10 ft. of 1.59% from 290-300 ft. This hole, located 100 ft. south of 180, was completed to depth of 1,500 ft. and assays on the bottom section are awaited.

Hole R-11, completed at depth of 470 ft., showed 50 ft. of 2.67% from 120-170 ft. R-13, drilled to 910 ft., gave a 260-ft. section of 0.22% from 650-910 ft. R-15 was waste throughout its 870 ft. R-16, drilled to 810 ft., showed 1.75% for 390 ft. from 50-440 ft. This included 180 ft. of 2.74% from 230-410. R-14 has yet to be drilled.

Holes R-13, 100 ft. north of R-11, and R-15, 200 ft. north of 72-3, are described as being in the footwall of the zone.

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THE NORTHERN MINER

MAY 11, 1972

Afton reports six more holes adding fifth large drill

Afton Mines this week reports assays from another half dozen holes put down on its impressive copper discovery, 10 miles west of Kamloops, B.C.

As reported last week diamond drill hole 72-4, the deepest boring to date, was in waste material for the first 100 ft. It then cut a 140-ft. section from 100-240 ft. that assayed 2.64% copper. It then intersected a barren dike with no significant values to 400 ft. However, from 400 ft. to 820 ft. averaged 0.50% copper, with additional assays awaited to the bottom of the mineralization which was at 1,150 ft. The hole itself was stopped at 1,320 ft. in waste.

Diamond drill hole No. 72-5 was in waste to 190 ft. but the next 100 ft. from 190-290 ft. averaged 2.10% copper. Then from 290-350 ft. was in waste material again while from 350 ft. to 610 ft. ran 0.33%. From 610-680 ft. was barren while from 680 to the bottom of the hole at 877 averaged 0.46%. This hole stopped in ore grade material with the last 7.0 ft. of core assaying 0.52%.

Diamond drill hole 72-6, which went down 50 ft. north of Q—135 which had encountered 275 ft. of 1.28%, cut a wide section from 62 ft. to 620 ft. averaging 1.18%, including 250 ft. from 220 that ran 1.63%.

Rotary hole R-9 was in waste to 120 ft., 1.40% from 120 ft. to 140 ft. and again in waste from 140 ft. to the bottom at 490 ft.

Rotray hole R-10 was in waste from 0-600 ft., 1.07% from 600-690 ft. and waste from 690 ft. to the bottom at 800 ft.

Rotray hole R-11 was in waste to 120 ft., 2.67% copper from 120-170 ft. and again in waste from 170-410 ft. with further assays awaited from deeper in the hole.

Two diamond drills and two rotary drills are currently at work. Additionally, a new type large flushing drill (7 ins. hole) is being put to work on the property. This should be able to probe to depths of below 1,000 ft. and will start on the site of R-1.

THE NORTHERN MINER

MAY 4, 1972

92 I

Afton may go to banks for production monies

VANCOUVER — Afton Mines has held discussions with banking interests which indicate the company would be able to borrow funds for both interim and production financing for its promising Kamloops area copper property, Chester Millar, president, reports.

The company also is continuing negotiations with **Placer Development** and other companies, but Mr. Millar would not elaborate on the form or direction of these negotiations. Placer has already placed $350,000 in the Afton treasury through the purchase of 100,000 treasury shares and has the right to participate in future Afton financing.

Meanwhile, the company has under study markets for Afton copper and has let two contracts to engineering firms towards portions of a feasibility study, Mr. Millar revealed.

The heavy drilling campaign is continuing with the use of two diamond drills and two rotary drilling rigs. A heavier drilling machine is being brought into the property from Calgary to spur the program aimed at proving and enlarging potential reported at 36 million tons.

The latest two rotary holes, R-7 and R-8, were stopped before the objective was reached due to excessive caving. R-7, 100 ft. west of R-3, which gave 2.49% copper over 650 ft., was terminated at 600 ft. It gave a 210-ft. section of 1.70% copper from 290 to 500 ft. The first 90 ft. of this hole was waste, the next 80 ft. from 90 to 170 ft. assayed 0.41% followed by waste from 170 to 290 ft. The last 100 ft. of the hole from 500 to the bottom at 600 ft. ran 0.57%.

R-8, 100 ft. west of R-2, was terminated at depth of 390 ft. The first 260 ft. was waste, followed by a 70-ft. section of 1.33% copper from 260 to 330 ft. and a 60 ft. section of 0.46% from 330 to 390 ft.

The first four rotary holes also returned low gold and silver values which could be important as by-product in a substantial copper operation (**N.M.**, Apr. 20, 1972). Assays for gold and silver are being run only intermittently, according to Mr. Millar. R-1 showed 0.017 oz. gold and 0.08 oz. silver per ton from 60-455 ft., R-2 returned 0.016 oz. gold and 0.07 oz. silver per ton from 80-570 ft., R-3 gave 0.037 oz. gold and 0.18 oz. silver per ton from 100-800 ft., and R-4 returned 0.010 oz. gold and 0.07 oz. silver per ton from 40-900 ft.

The first diamond drill hole in the new series, No. 72-4, could be the most significant hole yet drilled on the property, showing almost continuous mineralization to depth of 1,153 ft. (**N.M.**, Apr. 27, 1972). Complete assays on this hole were not available at presstime.

However, the company had some assays to report from the upper section of above hole. No mineral values were encountered from surface to 100 ft. but this was followed by a 140-ft. section which returned 2.64% copper. Visually copper values ceased for a short distance below 240 ft. then native copper mineralization continued to approximately 1,150 ft. The hole was stopped at 1,320 ft. and the rig moved to diamond drill hole site No. 72-6, a location 50 ft. north of percussion hole No. Q-135.

* * *

Injunction set aside

The B.C. Supreme Court Friday set aside the temporary injunction granted **Afton Mines** banning **Equatorial Resources** from drilling and disclosing drilling results on two fractional claims adjoining the Afton Kamloops area copper property. The two companies are contesting ownership of the fractional claims.

Mr. Justice Peter Seaton, in setting aside the injunction, said he was not deciding the ownership of the disputed claims. That decision would have to wait for trial, he said.

At Equatorial's request trading in its shares was suspended last week by the Vancouver Stock Exchange and prohibited by the B.C. Securities Commission. The shares were reinstated for trading on Tuesday, May 2.

VSE President Thomas Dohm warned shareholders of the two companies to ignore rumors 'which may be purposely circulated to drive down share prices in order to help those in present short positions to buy stock at a cheap price so they can cover their short position'.

Mr. Dohm said it had come to his attention that such forces have been at work. Anyone on the exchange dealing in short sales is supposed to report the position to the exchange, he pointed out.

'Some of them haven't', he said. 'If I find out who they are I'll take action. If they get caught with their pants down, that's their fault'.

207.33 = 93.10
60 × .46 = 27.60
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THE NORTHERN MINER

APRIL 27, 1972

AFTON

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Afton drill hole fractional claims under dispute

VANCOUVER — Afton Mines has pulled the deepest and what looks like the most significant hole yet at its Kamloops area copper property. This is diamond drill hole No. 72-4, first in the new series. Collared 50 ft. north of Q162, it went to a depth of just below 1,300 ft. and was in almost continuous copper mineralization to 1,153 ft.

"This hole is well up to expectations", Mining Engineer and President Chester F. Millar told The Northern Miner in telephone conversation from Kamloops at midweek. Only initial assays from the top of the hole were in at the time, but these were "quite good". It will likely be some days yet before the big section can be completely assayed.

Rotary drill hole R-6, 200 ft. south of R-3 in the extreme southwest corner of the property, returned 300 ft. of 1.47% copper, Mr. Millar reports. The 300-ft. section was from 590-890 ft. depth. The hole showed waste for the first 140 ft., returned 40 ft. of 0.65% copper from 140-180 ft., and waste from 180-590 ft. The last 10 ft. of the 300-ft. section ran 1.81% from 880-890 ft. The 100-ft. section from 750-850 ft. ran 2.2% copper.

The above intersection tends to suggest a steep southern dip to the ore zone, Mr. Millar says.

Four drills are presently at work. (two diamond drills and two rotary drills). Addition of a 3rd rotary drill is being considered. The diamond drills are being used on internal grids to fill in and check on the earlier percussion and rotary holes, while the rotary rigs are stepping out and extending the ore zone.

Mr. Millar also reported that the company has just acquired an option to purchase surface rights on the Afton and certain adjoining properties. The agreement, which covers extensive 'grazing lands', provides for the immediate payment of $100,000 and a further $150,000 payable over four years. In addition to the Afton property itself, the surface rights acquisition covers the Acheron-Celtic Mines, Equitorial Resources, Williams Creek, part of Golden Gate Explorations and a large part of the Comet-Krain properties, he said.

Injunction shakes market

In a move that shook the booming Vancouver mining market this week, the Supreme Court granted Afton Mines a temporary injunction banning **Equatorial Resources** from drilling and disclosing the results from drilling on two fractional claims adjoining Afton's Kamloops area property. The injunction was granted by Supreme Court Chambers Judge A. A. Mackoff.

The two companies are contesting ownership of the fractional claims. Afton president Millar declared in an affidavit that he had staked the two fractions referred to as POT 1 and POT 2 in 1964. He said he had transferred them to his company in 1968 and had maintained them in good standing.

Equatorial is reported drilling on the fractions about 500 ft. from Afton's Add claims and directly in line of the trend of the ore zones being drilled by Afton. W. M. Swanson, lawyer for Afton, said that Equatorial had completed one hole, removed the cores and could have assay results at any time. He contended that if the results of this 'feeler' hole without backing of many further holes in the immediate area are released to the public, the effect could be damaging.

Mr. Swanson declared it would make no difference whether the results were good or bad, mainly because the results of one core could only be inconclusive and not a realistic assessment of what is actually in the ground.

THE NORTHERN MINER

APRIL 13, 1972

Afton

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Afton Mines

Afton Mines, the company that started the Kamloops boom, continues to report some excellent drill results. Hole No. R-3, a rotary boring that went to 910 ft., returned a remarkable 650-ft. section from 260-910 ft. that averaged 2.49% copper, including a 270-ft. section that ran 4.24%. This hole stopped in ore with the last 10 ft. assaying 1.68%. (See map in last week's issue for hole locations.)

Hole R-4 cut 860 ft. from 40-900 ft. averaging 0.85% copper, including 140 ft. from 460-600 ft. running 2.34%. Again, the last 10 ft. ran 1.10%.

Hole No. R-6 is currently drilling 200 ft. south of R-3. R-5, a twin hole to Q-163 which was drilled to 300 ft. in waste, has been completed to depth of 800 ft.

One diamond drill rig is now working under a new 10,000-ft. contract. This is on hole No. 72-4 located midway between Q-162 and Q-166. A second diamond drill will be starting shortly.

A second rotary drill, too, may be added. These machines can probe to depths of 900 ft.

The Afton program is being financed by **Placer Development.**

THE NORTHERN MINER

APRIL 6, 1972

Afton reports more fine results big diamond drill program starts

The new 10,000-ft. diamond drilling contract is now under way on the Kamloops area copper property of Afton Mines, with one diamond drill in operation and a second to be added. In addition, the company is using a rotary and a percussion drill in its aggressive program to build up tonnage indications.

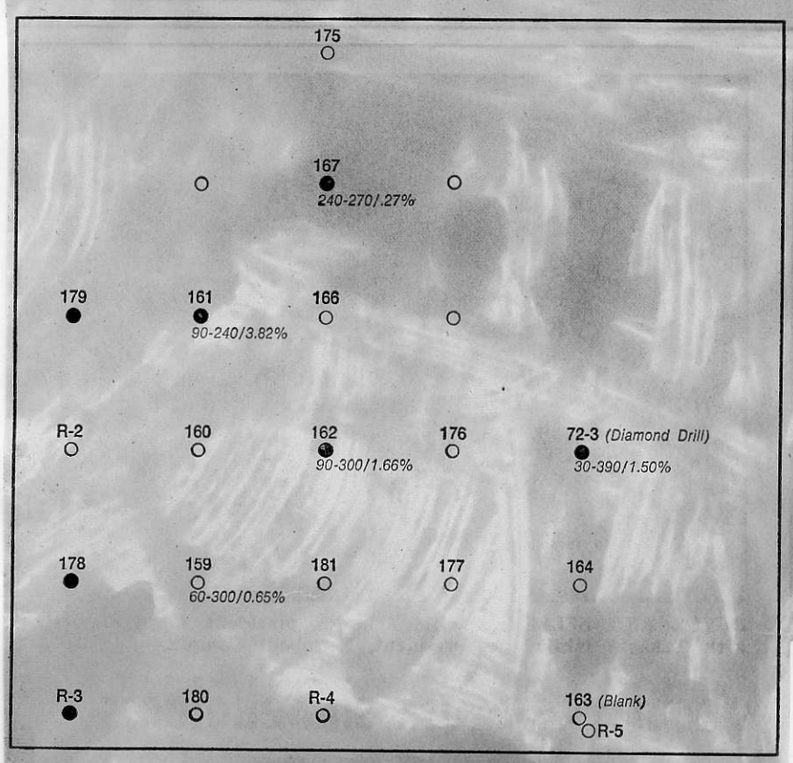
Chester F. Millar, president, says that percussion and rotary holes drilled on the western extension of the Lake zone are continuing to show better than average values (**N.M., Mar. 30, 1972**). Average of all the ore grade holes to date, he said, is approximately 0.6% copper.

Rotary Hole R-3, assays from which are expected about mid-week, indicates the better grade mineralization lies below 330 ft. depth and the percussion drilling in this area has been suspended to allow testing by equipment capable of greater depths.

The percussion holes on the north, east and south boundaries indicate that the copper mineralization either ceases or plunges below the 300-ft. depth. Some evidence of this latter possibility exists, Mr. Millar says, and will be checked by deeper drilling on these boundaries.

At least half a dozen holes in the latest series (see map inside) stopped in good grade copper ore at 300 ft. — the limit of the percussion drill. Hole 176, for instance, cut continuous mineralization from 70 to 300 ft. which averaged 2.66% copper for the entire 230 ft. This hole, like the others, will have to be deepened with either a rotary rig or diamond drill.

Most of the drilling to date, it should be pointed out, has been by a percussion machine, the cuttings from which may not prove quite as accurate as say from diamond drilling. The tendency with this type of drilling, which is very rapid, is to run somewhat higher. The big diamond drill program, now getting under way, should establish whether or not this is a factor.



The above map shows the location of the key westerly holes at Afton Mines which indicate a pronounced grade improvement. Subsequent to its preparation, additional assays have been received as follows: R-2, a rotary hole, returned 430 ft. from 140-570 of 1.22% copper; the others are percussion holes — No. 160, 180 ft. of 1.72% from 120-300 ft.; No. 164, 80 ft. of 0.86% from 210-290 ft.; No. 166, 255 ft. of 2.55% from 45-300 ft.; No. 176, 230 ft. of 2.66% from 70 to 300 ft.; No. 177, 210 ft. of 0.30% from 90 to 300 ft. and No. 178, 2.80% for 160 ft. from 140 to 300 ft. Hole 163 drew a blank to depth of 300 ft. but is now being redrilled with a rotary machine as R-5.

As reported last week, **Placer Development** has stepped into the Afton financing picture with a purchase of 100,000 treasury shares at $3.50 and first refusal for one year on any future financing.

The Afton drilling success has sparked very heavy staking in the area, numerous property deals, and massive new financing, coupled with very heavy trading on the Vancouver Stock Exchange.

The 13 holes reported below are all located to the west of the Lake and are over an east-west distance of 400 ft. and a north-south distance of 700 ft. The holes are on a 100-ft. grid.

Hole No.	Interval	Footage	Copper %
Q 159	70-300	230	0.65
Q 160	120-300	180	1.72
Q 161	90-240	150	3.82
Q 162	90-300	210	1.66
Q 163	waste to total depth of 300 ft.		
Q 164	210-290	80	0.86
Q 165	waste to total depth of 300 ft.		
Q 166	45-300	255	2.55
Q 167	240-270	30	0.27
Q 176	70-300	230	2.66
Q 177	90-300	210	0.30
Q 178	140-300	160	2.80
R 2	140-570	430	1.22

The Q holes were put down by a percussion drill which is limited to a depth of about 300 ft. The R holes are by rotary drilling which machine is capable of going to depths of about 900 ft.

THE NORTHERN MINER

MARCH 30, 1972

Placer provides Afton $350,000 for accelerated drill program

VANCOUVER — Placer Development through its wholly-owned subsidiary, Canadian Explorations, is providing Afton Mines the financing for an accelerated percussion, rotary and diamond drilling program on the Afton copper property, 10 miles west of Kamloops, B.C. In so doing Placer receives the first right of refusal for one year to participate in future financing of Afton.

Chester F. Millar, Afton president, reports that Canadian Explorations has agreed to buy 100,000 treasury shares of Afton at $3.50 a share to provide $350,000. Afton, he said, will continue to determine and manage the development program in co-operation with Placer representatives. The two firms will exchange all information and Placer will make available geologists, metallurgists and engineers on an advisory basis.

Placer purchased the shares, Mr. Millar said, for investment purposes and not for resale within six months of purchase. Placer has first right of refusal for 12 months to participate in future financing of Afton, but this right shall cease if Placer sells all or some of the shares purchased. The right shall cease one year from purchase date unless extended by mutual consent.

As long as Placer holds the first refusal right, Afton is to make available to Placer all terms and conditions of every bona fide offer to satisfy any financing requirements made by a third party. If, within 60 days of receiving a copy of such offer, Placer delivers a matching offer on identical or comparable terms, Placer shall have the right to finalize arrangement of such further financing.

Higher grade cut in latest holes

Current drilling by Afton Mines indicates the presence of a much higher grade ore zone on the western part of its copper property near Kamloops, B.C., The Northern Miner gathered from a mid-week conversation with Chester F. Millar, the company's president.

"We are getting some very rich assays here", Mr. Millar said.

With substantial new funds now being provided the company's treasury (see adjoining story), a new 10,000 ft. diamond drill contract has just been let that will keep two rigs busy. One percussion drill is currently being employed, with the possibility that a second will be added shortly. So news should come fast now, although there is already quite a backlog of assays to come.

Diamond drill hole No. R-3, just completed on the most westerly line yet, should prove to be by far the best hole to date. It was stopped at a depth of 910 ft., and shows a lengthy section of very good copper mineralization. But there were no assays to presstime. This is 200 ft. north of R-2, which ran 1.22% copper from 140-570 ft.

Both R-2 and R-3 are on the most westerly line of holes yet drilled. As a matter of fact there are four holes, each 100 ft. apart, completed on this particular line. The other two are percussion drill holes. One of the latter, P-178, returned 2.8% from 140 ft. to 300 ft., the limit of the machine. There are no assays from the other percussion hole, P-179, as yet but this, too, is described as a good one.

The above line of north-south holes is 400 ft. west of hole 72-3, the boring that caused much of the current excitement. As previously reported, that hole cut 360 ft. from 30 to 390 ft. that averaged 1.5% copper and which included 100 ft. that ran 2.24%.

Recent IP survey work shows the main IP anomaly extends considerably further to the west than the current row of holes.

Although much fill-in drilling has yet to be done, probing to date (195 percussion holes and 6 diamond drill holes) has picked up ore grade values over an east-west length of 1,500 ft. and north-south widths of up to 800 ft.

In other words, Afton is shaping as a tonnage situation.

AFTON MINES LIMITED (N.P.L.)

HEAD OFFICE:
Suite C — 1758 West 8th Ave.,
Vancouver 9, B.C.
738-3144 (Area Code 604)

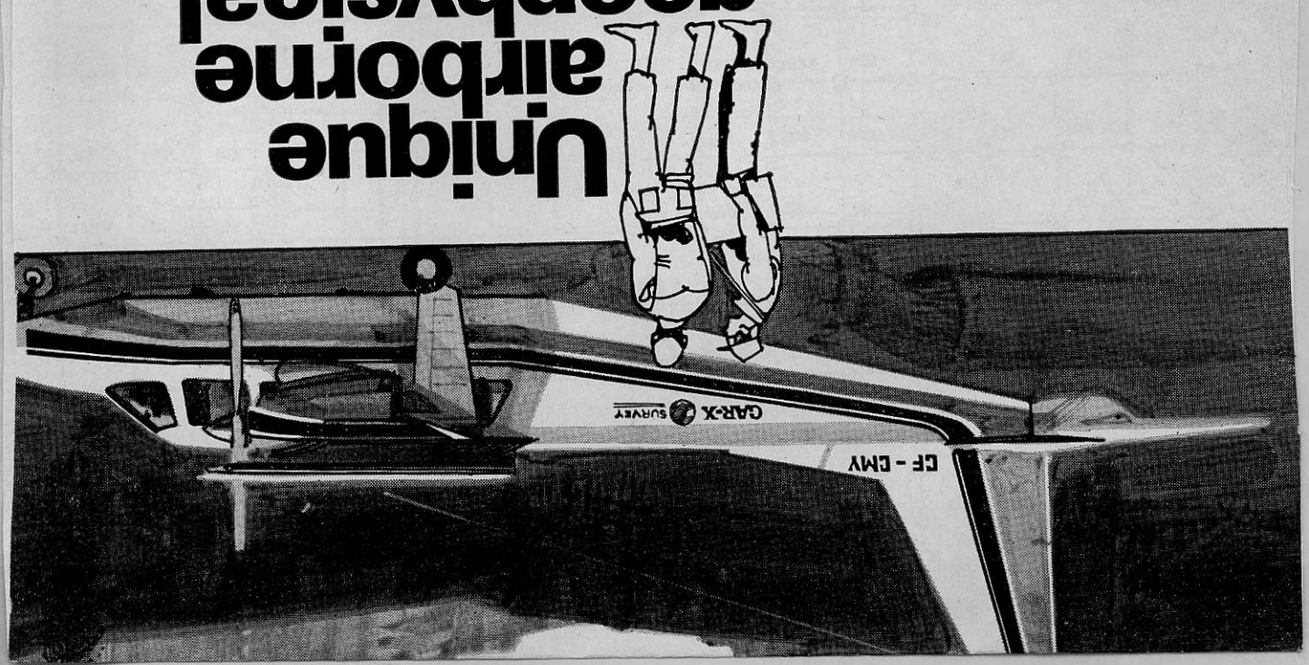
SHARES LISTED:
Vancouver Stock Exchange

CAPITALIZATION:
Authorized 5,000,000 shares
Issued 2,624,020 shares

Afton Mines Limited is developing a large tonnage copper property, 10 miles west of Kamloops, B.C. and 25 miles north of the major Porphyry Copper Mines in the Highland Valley of B.C. The Tables below show the holes drilled to March 21, 1972, their assay results and location. On March 22, 1972, Placer Development Limited through its wholly owned subsidiary, Canadian Exploration Limited, purchased 100,000 Treasury shares of Afton Mines Limited at $3.50 per share. The $350,000 provided is being used to continue the drilling program to develop the property to feasibility stage as quickly as possible. Placer Development received, in consideration of the share purchase, the right of first refusal for 12 months, on any subsequent financing of Afton Mines Limited.

AFTON MINES LIMITED – TABLE OF DRILL HOLES

DIAMOND DRILL HOLES			
HOLE NO.	INTERVAL	FOOTAGE	COPPER %
DD70-4	50 – 300	250 ft.	0.413%
DD71-1	60 – 500	440 ft.	0.570%
DD71-2	15 – 700	685 ft.	0.67 %
DD72-1	22 – 210	108.8 ft.	0.40 %
DD72-2	(Complete 900 ft. in fault zone minor mineralization)		
DD72-3	30 – 130	100 ft.	2.24%
PERCUSSION DRILL HOLES			
Q92	10 – 300	290 ft.	
Q93			
Q94			



"THE NORTHERN MINER"

MARCH 30, 1972

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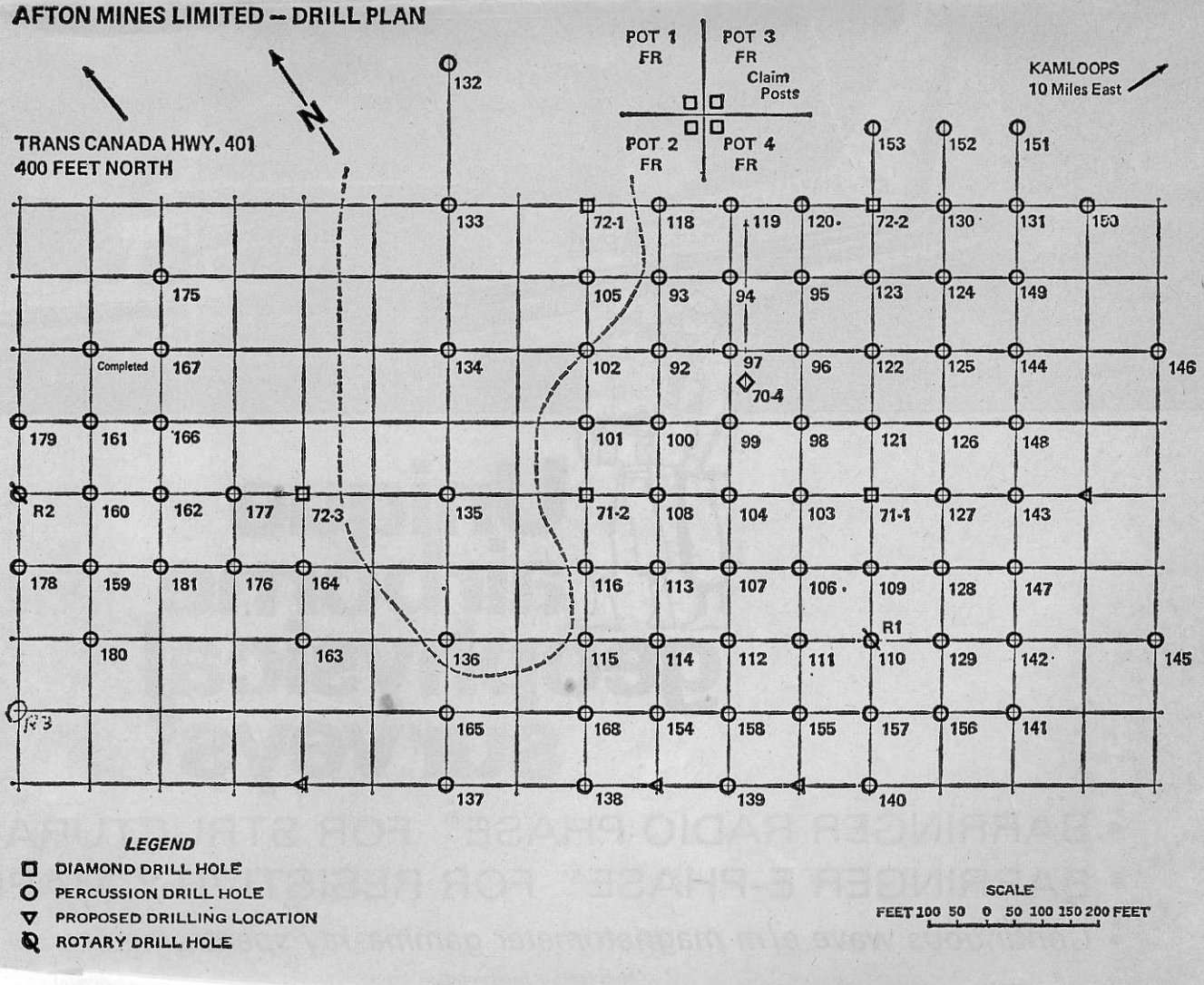
DD72-2	(Complete 900 ft. in fault zone minor mineralization)		
DD72-3	30 – 130	100 ft.	2.24%
PERCUSSION DRILL HOLES			
Q92	10 – 300	290 ft.	0.64%
Q93	80 – 160	80 ft.	0.63%
Q94	250 – 300	50 ft.	0.74%
Q95	10 – 300	290 ft.	0.17%
Q96	200 – 280	80 ft.	0.49%
Q97	20 – 300	280 ft.	0.66%
Q98	130 – 300	170 ft.	0.66%
Q99	50 – 300	250 ft.	0.67%
Q100	230 – 300	70 ft.	0.45%
Q101	190 – 300	110 ft.	0.74%
Q102	40 – 300	260 ft.	0.52%
Q103	150 – 300	150 ft.	0.72%
Q104	70 – 300	230 ft.	0.45%
Q105	40 – 300	260 ft.	0.87%
Q106	20 – 300	280 ft.	1.07%
Q107	100 – 300	200 ft.	0.56%
Q108	150 – 250	100 ft.	0.27%
Q109	35 – 300	265 ft.	0.43%
Q110	130 – 300	170 ft.	.99%
Q111	120 – 300	180 ft.	.57%
Q112	150 – 300	150 ft.	.58%
Q113	80 – 160	80 ft.	.72%
Q114	40 – 300	260 ft.	.40%
Q115	70 – 300	230 ft.	.21%
Q116	–		
Q117	–		
Q118	150 – 180	30 ft.	.23%
Q119	5 – 300	295 ft.	.36%
Q120	170 – 300	130 ft.	.49%
Q121	18 – 300	282 ft.	.39%
Q122	3 – 110	107 ft.	.69%
Q123	–		
Q124	30 – 120	90 ft.	.5 %
Q125	60 – 300	240 ft.	1.20%
Q126	140 – 300	160 ft.	.35%
Q127	140 – 300	160 ft.	.41%
Q128	180 – 300	120 ft.	.55%
Q129	160 – 300	140 ft.	1.15%
Q130	0 – 300	Waste	–
Q131	180 – 300	120 ft.	.928%
Q132	0 – 300	Waste	–
Q133	0 – 300	Waste	–
Q134	40 – 300	260 ft.	.57%
Q135	25 – 300	275 ft.	1.28%
Q136	–		
Q137	–		
Q144	80 – 300	220 ft.	.76%
Q147	80 – 300	220 ft.	.53%
Q148	270 – 300	30 ft.	.42%
Q159	60 – 300	240 ft.	.65%
Q161	90 – 240	150 ft.	3.82%

AFTON MINES LIMITED — DRILL PLAN



KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

MAR 27 1972

92 I.

J.H.S. W.M.K. C.M.H. R.D.S. B.C.B. I.D.B. M.D.R. J.H.F. E.C.J.

attach to previous docs & data

To MR. G. M. HOGG **From** MR. W. M. SIROLA

Subject Re: AFTON PROPERTY - KAMLOOPS AREA ORE RESERVE CALCULATIONS **Date** March 24, 1972.

In order to bring our information up to date, I have asked John Lund to recalculate the ore reserve on this property. It is of somewhat academic interest now, since Placer Development has first refusal as a result of purchasing 100,000 shares of Afton at $3.50 per share from the Afton treasury. The first refusal condition exists as long as Placer continues to hold the shares.

John's calculations indicate a reserve of 20,048,666 tons averaging 0.795% copper to a depth of 350 feet. Since limited diamond drilling indicates mineralization to a depth of 500 feet or more, it seems probable that the deposit now could be assumed to contain 30 million tons of mineable grade.

While we don't know a great deal about the recovery that might be attained from this deposit, we do know that satisfactory recoveries of native copper were made for years in the Upper Peninsula of Michigan. I am therefore somewhat perplexed at Kerr Addison's reticence to become more interested in this situation. ? It would be helpful, from our standpoint, if we more fully understood the seeming unwillingness to take a more active role in what, for the past month now, has seemed to us an attractive development.

Bill

W. M. Sirola

WMS/eh

I am not quite sure how to interpret Bill's comments re Kerr's "reticence". Placer has seen fit to put up $350,000 on shares for a first refusal on Afton - this was undoubtedly prompted by the west drilling results, which are a little different from the earlier drilling. We are in any event not in a position to enter this kind of involvement on a high-risk proposition. This also holds true of the Rolling Hills situation (Memo of March 24/72)

[illegible] March 27/72.

ORE RESERVE CALC.

AFTON MINES.

Mine 23/72

Proven and Probable.

	Sect'n	Tons	Grade	T x G.	
	1	1,033,333	0.60%	619,000	
	2	950,000	0.75	713,000	
	3	1,100,000	0.68	748,000	
	4	1,033,333	0.77	797,000	
	5	1,500,000	0.56	842,000	
	6	450,000	0.60	270,000	
	7	1,510,000	0.64	968,000	
*	8	1,305,000	0.75	980,000	Average of sect. 7 + 9
	9	1,100,000	0.92	1,010,000	Ave.
*	10	2,600,000	0.78	2,030,000	Ave. of Sect. 9 & 11
	11	4,100,000	0.75	3,080,000	
*	12	2,339,000	0.85	2,030,000	ave. of Sect. 11 + 13.
	13	576,000	1.58	914,000	
	14	550,000	1.77	974,000	
		20,048,666		15,975,000	

Tons proven & Probable = 20,048,666

Grade = $\frac{15,975,000}{20,048,666}$ = 0.795 % Cu.

Note. Probable reserve of ~ 4,000,000 tons included.

Overall Dimensions $\frac{1400 \times 500 \times 358}{12}$ = 20,000,000 tons.

Note Percussion holes were drilled to a depth of 300 ft. Most of these were stopped in Mineralization as shown in sections. Diamond drilling indicates that Mineralization extends to a depth of 500 ft. and greater. Possible ore could exceed 30% of the proven and probable for grand total of 30,000,000 tons.

Section 1.

		cuft x grade
2,700,000	× 0.53 =	1,430,000
1,500,000	× 0.69 =	1,035,000
1,500,000	× 0.25 =	385,000
2,700,000	× 0.76 =	2,060,000
2,300,000	× 0.42 =	966,000
1,700,000	× 0.93 =	1,580,000
12,400,000	cuft	7,456,000

Calc ore for sect. 1

Tonnage

$\frac{12,400,000}{12} = 1,033,333$

Grade.

$\frac{7,456,000}{12,400,000} = 0.6$

Sect. 2.

1,900,000	× 1.15 =	2,185,000
1,700,000	× 0.55 =	936,000
2,100,000	× 0.41 =	860,000
1,900,000	× 0.35 =	665,000
2,900,000	× 1.20 =	3,480,000
900,000	× 0.5 =	450,000
11,400,000		8,576,000

Tons.

$\frac{11,400,000}{12} = 950,000$

Grade.

$\frac{8,576,000}{11,400,000} = 0.75$

Scat 3.

2,200,000 X 0.99 =	2,180,000
3,200,000 X 0.43 =	1,375,000
4,400,000 X 0.57 =	2,500,000
2,300,000 X 0.39 =	897,000.
1,100,000 X 0.69 =	760,000
13,200,000	7,712,000

Tons.

$$\frac{13,200,000}{12} = 1,100,000$$

Grade

$$\frac{7,712,000}{13,200,000} = 0.68$$

Scat 4.

2,300,000 X 0.57 =	1,300,000
3,300,000 X 1.03 =	3,400,000
3,100,000 X 0.87 =	2,700,000
2,200,000 X 0.66 =	1,450,000.
1,500,000 X 0.49 =	736,000.
12,400,000	9,586,000

Tons.

$$\frac{12,400,000}{12} = 1,033,333.$$

Grade.

$$\frac{9,586,000}{12,400,000} = 0.77$$

Sect. 5.

400,000 x 0.7 = 280,000

2,100,000 x 0.58 = 1,220,000

2,500,000 x 0.56 = 1,400,000

2,800,000 x 0.45 = 1,260,000

3,100,000 x 0.67 = 2,080,000

3,300,000 x 0.66 = 2,180,000

1,000,000 x 0.74 = 740,000

3,400,000 x 0.36 = 1,225,000

18,600,000 — 10,385,000

Tons.

$\frac{18,600,000}{12} = 1,500,000$

Grade.

$\frac{10,385,000}{18,600,000} = 0.56$

Sect. 6.

1,200,000 x 0.45 = 540,000

3,400,000 x 0.64 = 2,175,000

800,000 x 0.63 = 505,000.

5,400,000 — 3,220,000

Tons. $\frac{5,400,000}{12} = 450,000.$

Grade.

$\frac{3,220,000}{5,400,000} = 0.595$

Sect. 7.

10,275,000 × 0.67 = 6,890,000

1,600,000 × 0.74 = 1,184,000

3,100,000 × 0.52 = 1,610,000

2,000,000 × 0.72 = 1,440,000

1,150,000 × 0.40 = 460,000

18,125,000 — 11,584,000

Tons.

$\frac{18,125,000}{12} = 1,510,000$

Grade.

$\frac{11,584,000}{18,125,000} = 0.64$

Sect. 9.

5,100,000 × 0.28 = 6,530,000

4,800,000 × 0.57 = 2,740,000

* 3,300,000 × 0.90 = 2,970,000

13,200,000 — 12,240,000

Tons. $\frac{13,200,000}{12} = 1,100,000$

Grade. $\frac{12,240,000}{13,200,000} = 0.928$

Sect. 11

16,400,000 × 1.50 = 20,460,000

assume. Sect. each side of same depth grade of 0.5

16,400,000 × 0.50 = 8,200,000

16,400,000 × 0.50 = 8,200,000

49,200000 36,800 000

Tons $\frac{49,200,000}{12} = 4,100,000$

Grade. $\frac{36,800,000}{49,200,000} = 0.75$

Sect. 13

2,600,000 × 1.66% = 4,320,000

* 1,800,000 × 2.5% = 4,500,000

\+ 2,520,000 × 0.86 = 2,160,000

6,920,006 10,980,000

Tons. $\frac{6,920,000}{12} = 578,000$

Grade $\frac{10,980,000}{6,920,000} = 1.58\%$

Sect. 14

12,900,000 × 0.65 = 1,880,000

1,600,000 × 3.82 = 6,100,000

* 2,100,000 × 1.77 = 3,720,000

6,600,000 11,700000

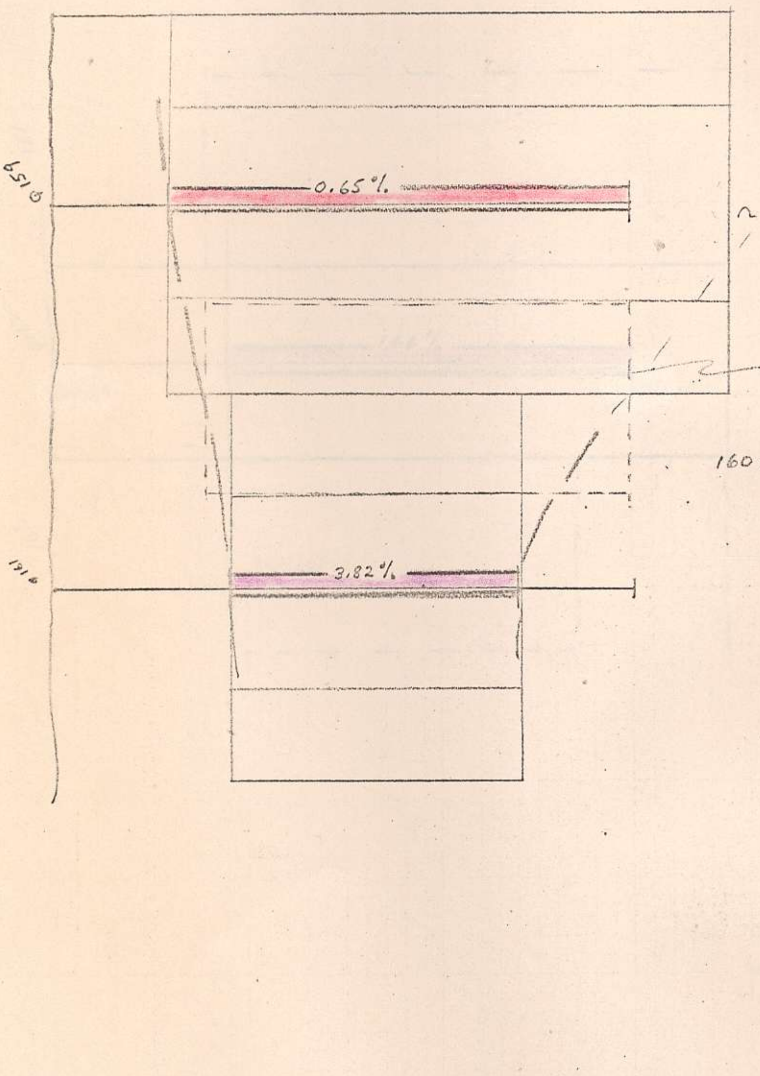
Tons = $\frac{6,600,000}{12} = 550,000$

Grade $\frac{11,700,000}{6,600,000} = 1.77\%$

Afton Mines Ltd.

1" = 100'

sect^n



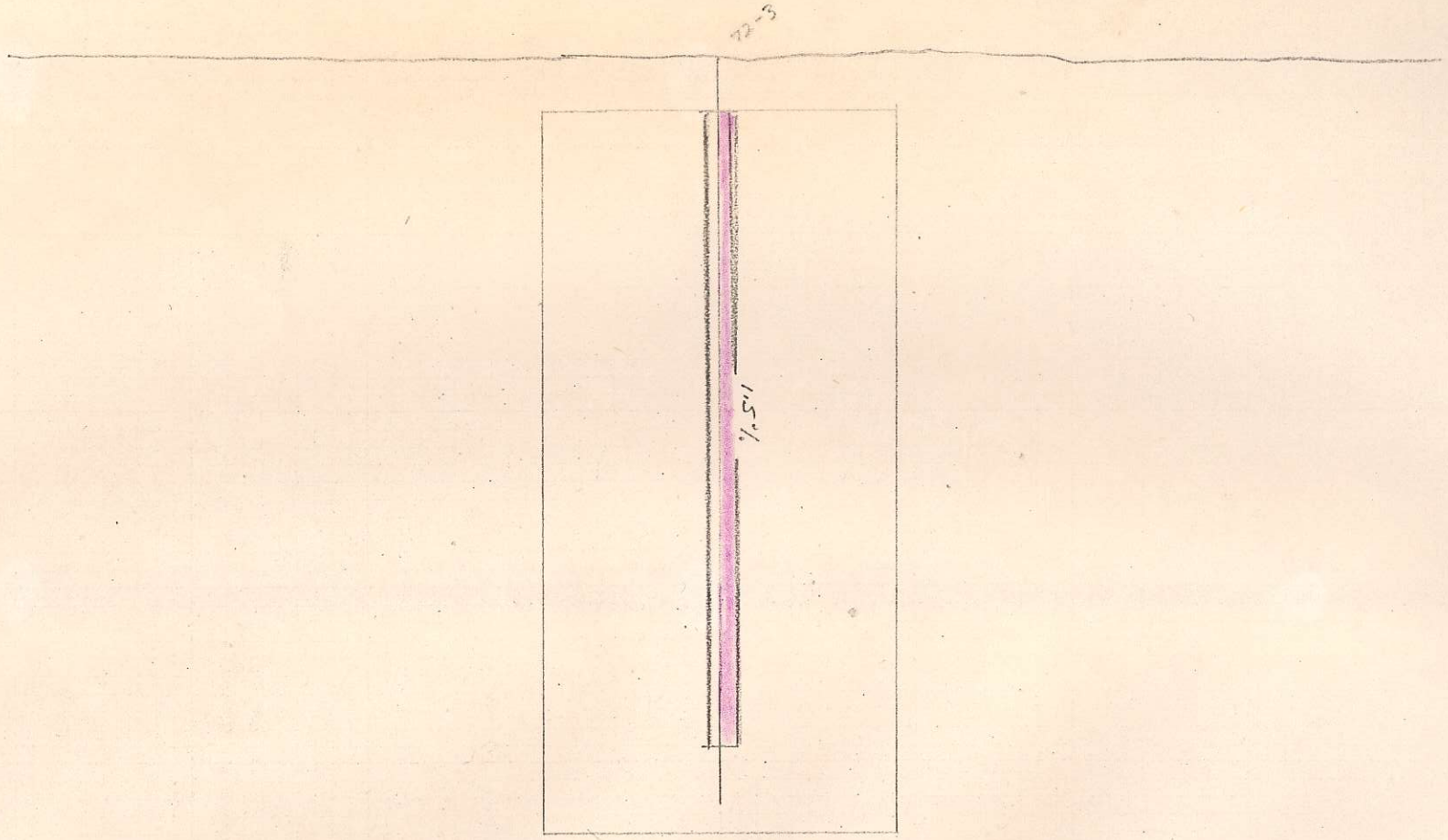
290 x 10^4 = 2,900,000

210 x 10^4 = 2,100,000

160 x 10^4 = 1,600,000

Sect. 14

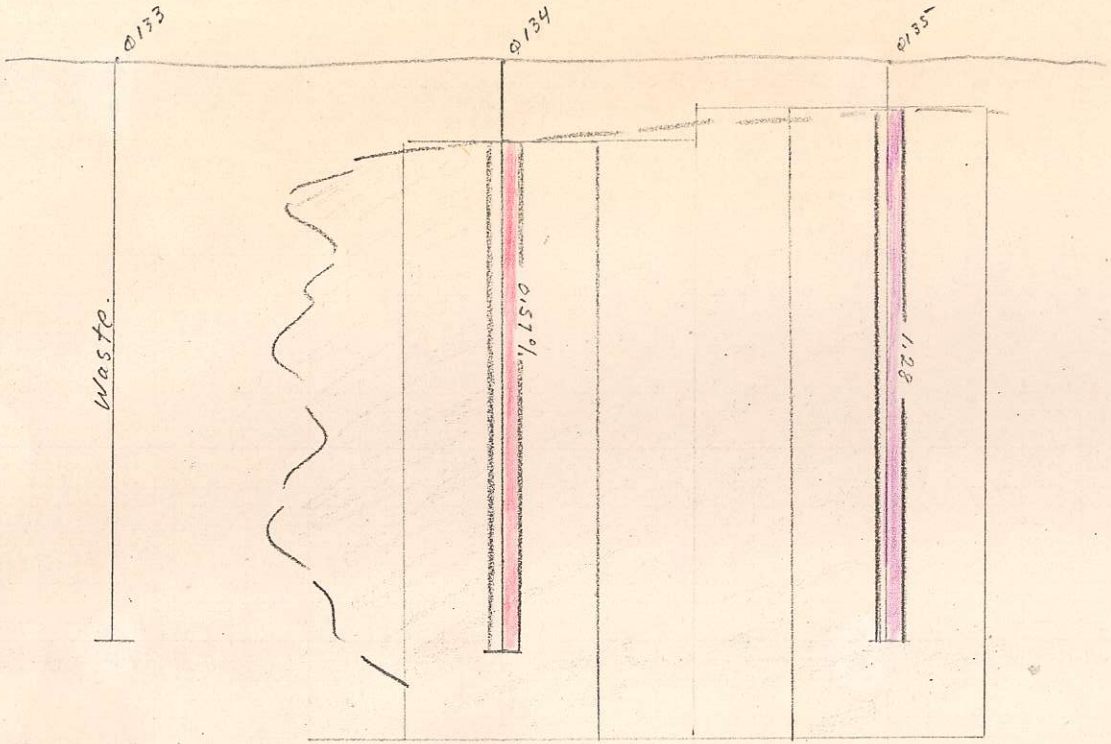
Sect. 11



Afton Mines Ltd.

1" = 100'

Sect. 9



320 x 10' = 3,200,000

330 x 10' = 3,300,000

340 x 10' = 3,400,000

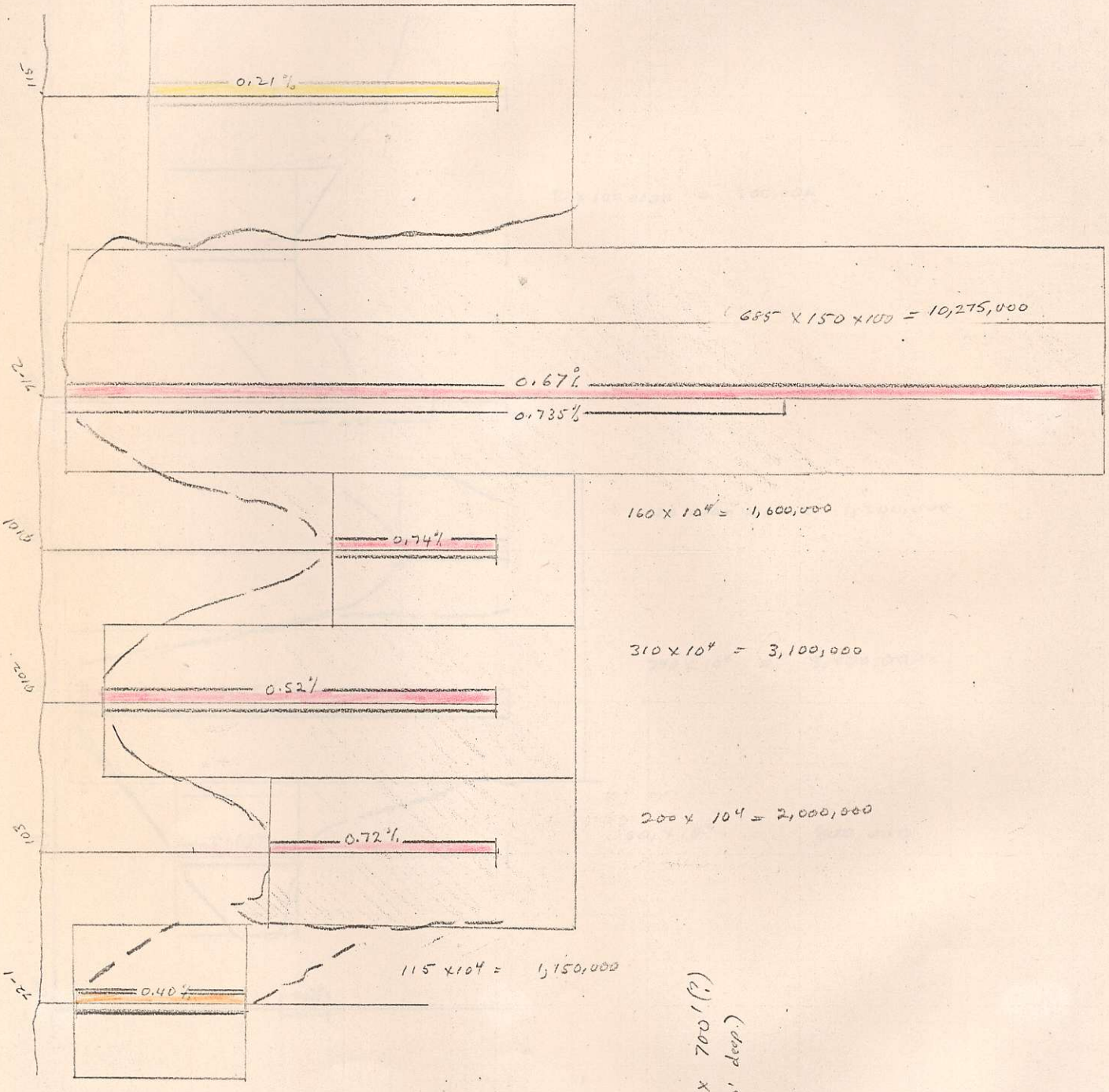
Area 350 x 400

Afton Mines Ltd.

1" = 100'

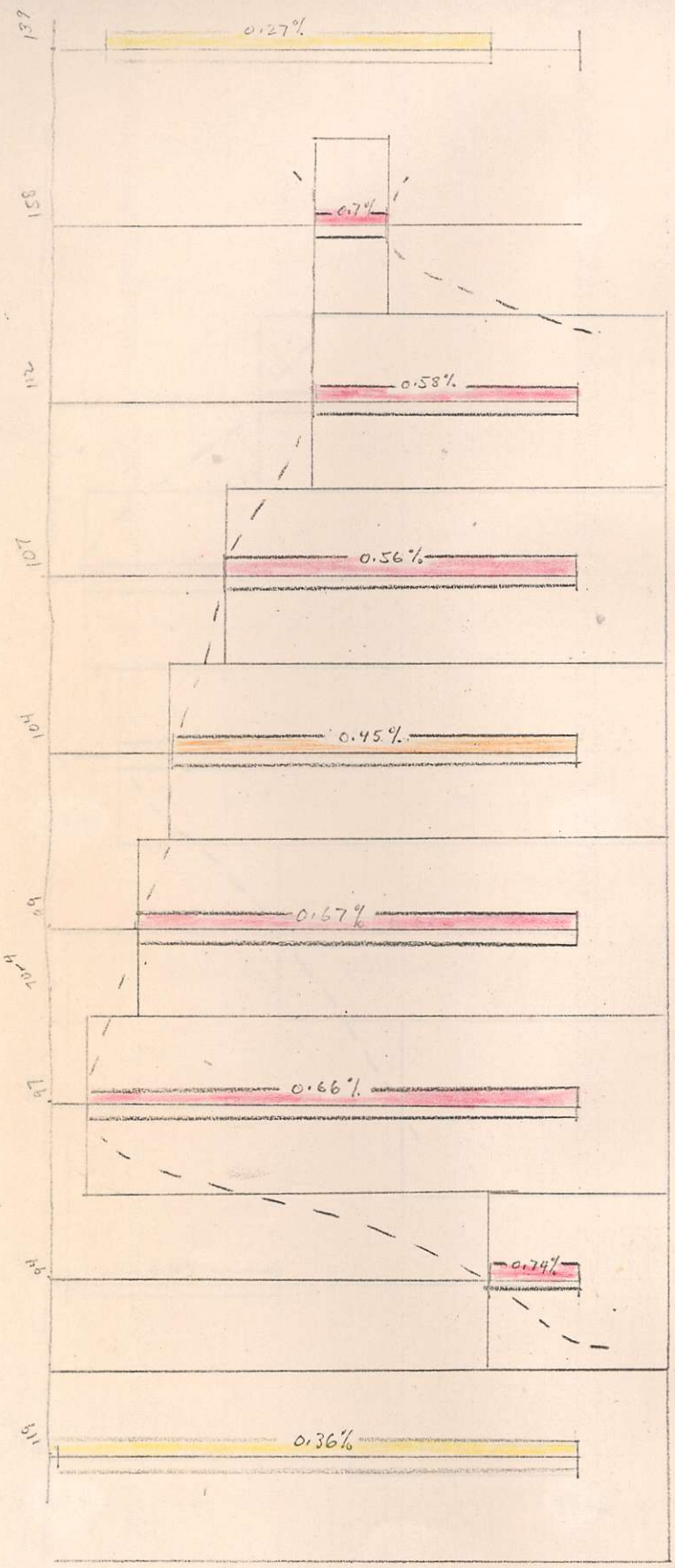
Afton Mines Ltd.

1" = 100'



Area — 450' X 700' (?)
(Ave. 500' deep.)

Scale: 7



40 × 100 × 100 = 400,000

210 × 10⁴ = 2,100,000

250 × 10⁴ = 2,500,000

280 × 10⁴ = 2,800,000

310 × 10⁴ = 3,100,000

330 × 10⁴ = 3,300,000

100 × 10⁴ = 1,000,000.

340 × 10⁴ = 3,400,000.

After Mines

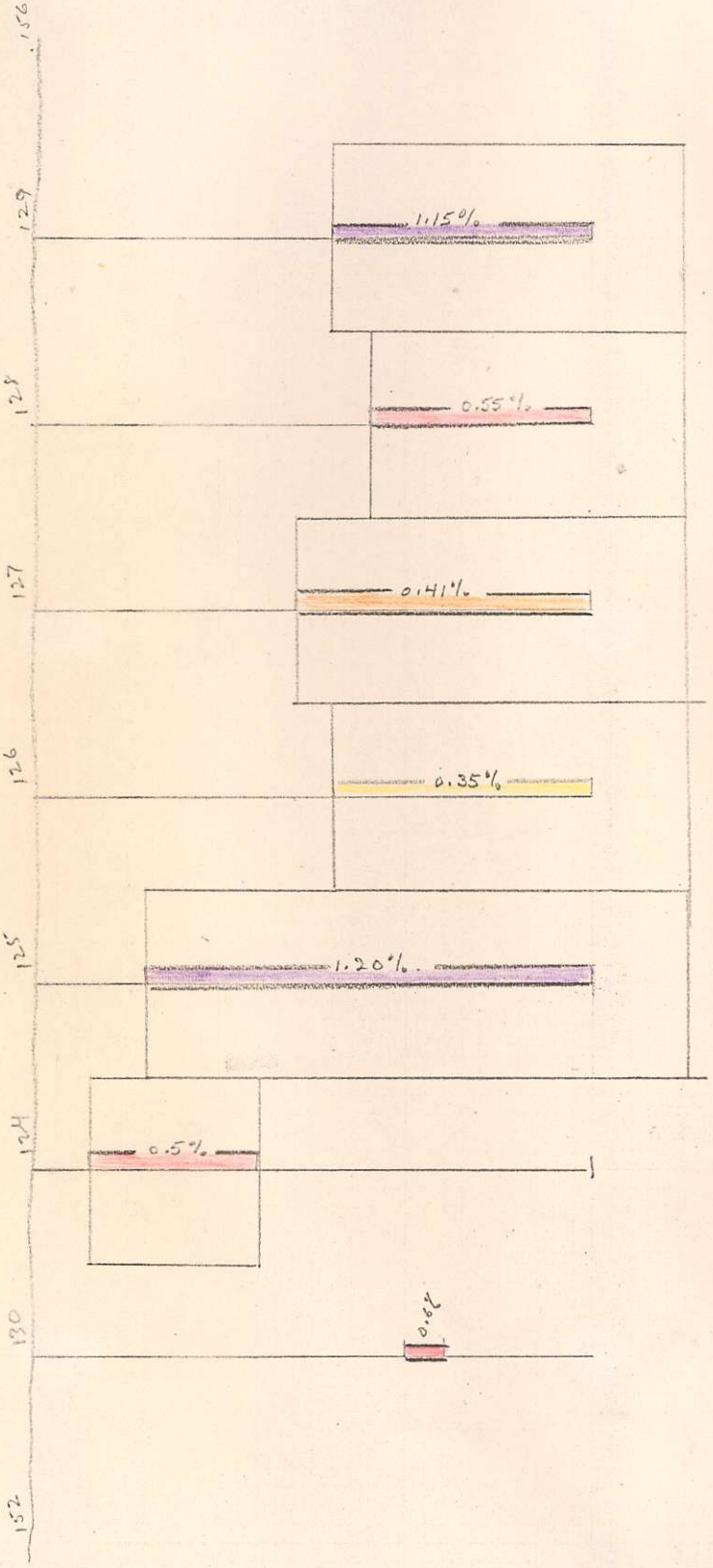
1" = 100'

Sect. 5

Hoffman Mines Ltd

1" = 100'

Sect. 2.



190 x 100 x 100 = 1,900,000

170 x 100 x 100 = 1,700,000

210 x 100 x 100 = 2,100,000

190 x 100 x 100 = 1,900,000

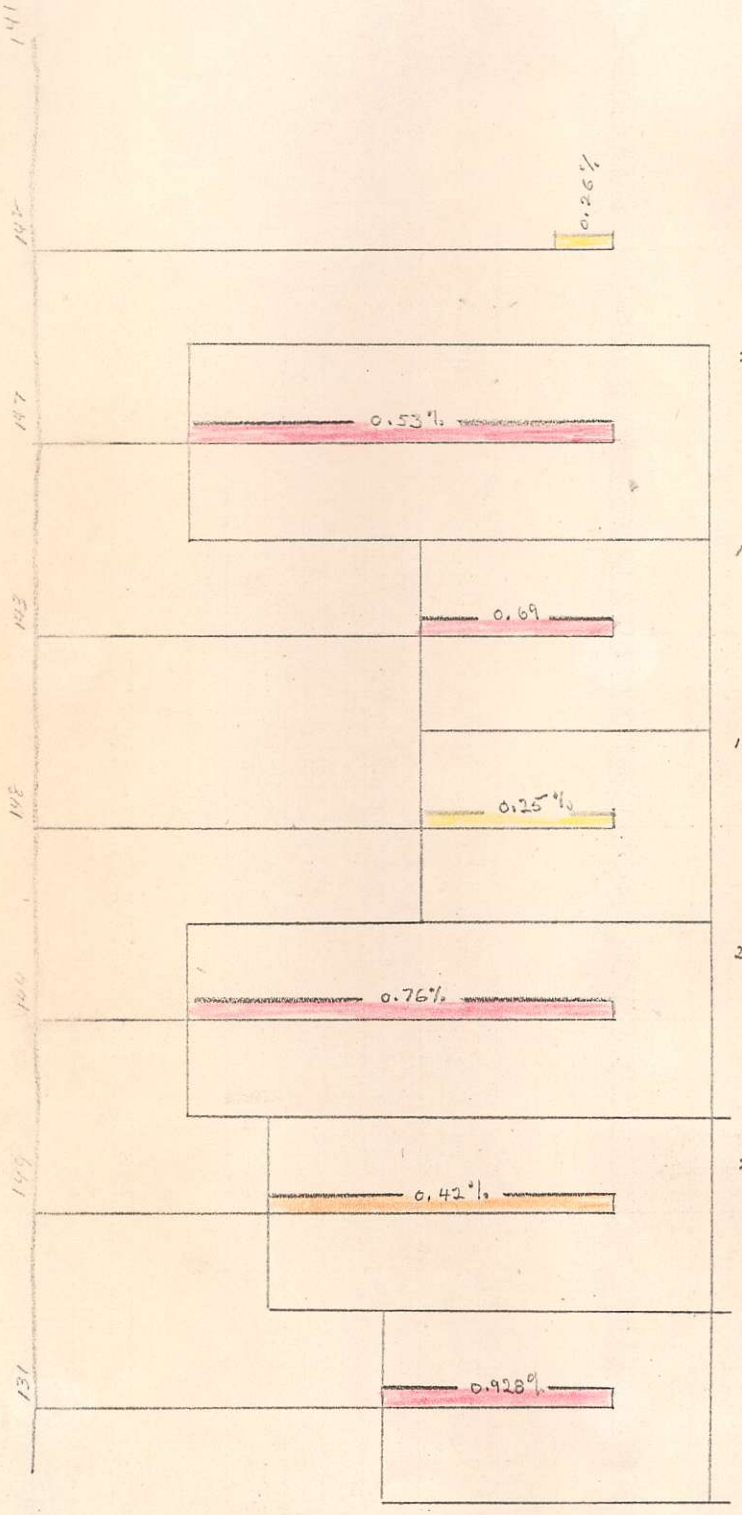
290 x 100 x 100 = 2,900,000

90 x 100 x 100 = 900,000

Aftm Mines

1" = 100'

N-S Sections.



Cu ft

270' x 100 x 100 = 2,700,000

150 x 100 x 100 = 1,500,000

150 x 100 x 100 = 1,500,000

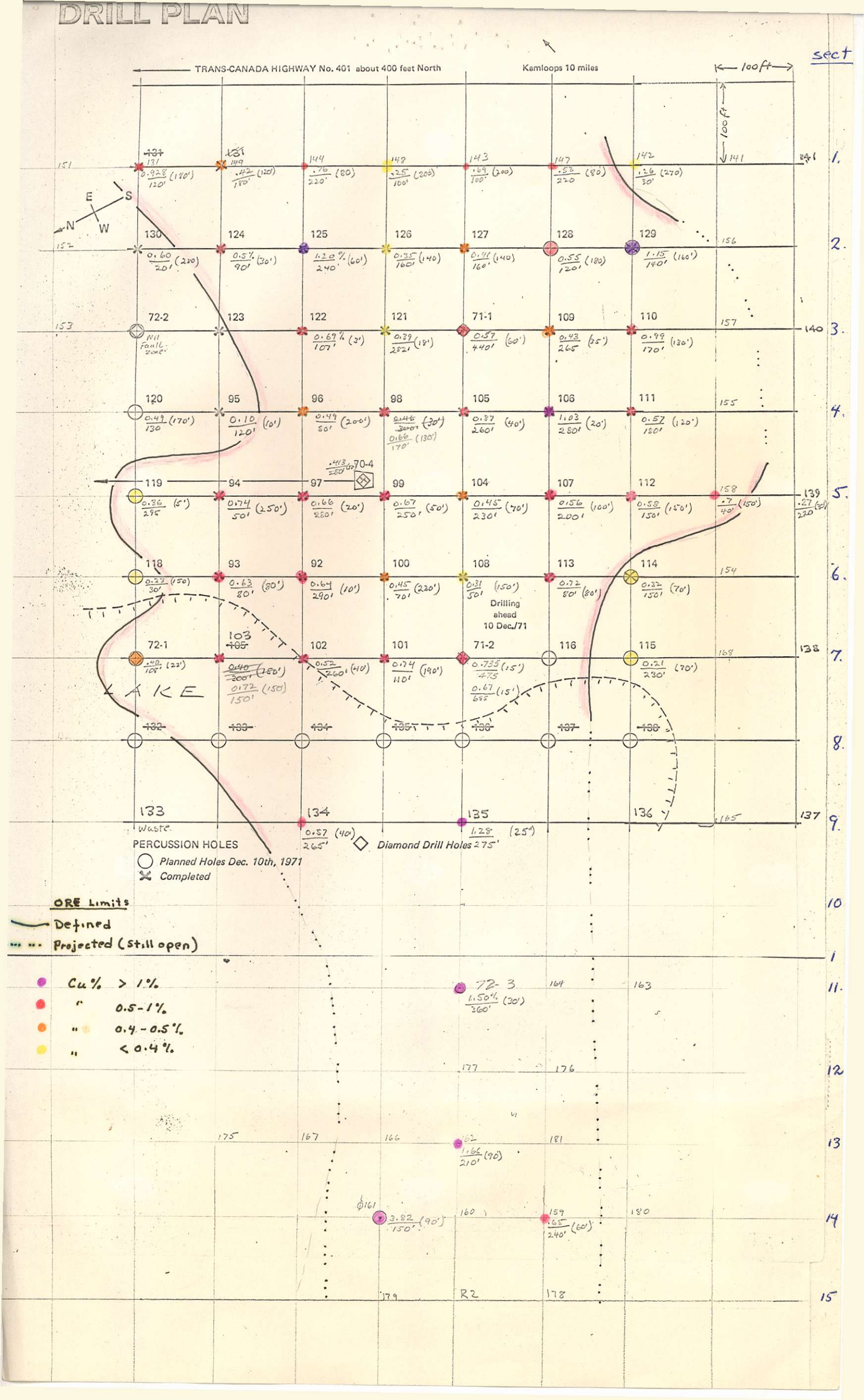
270 x 100 x 100 = 2,700,000

230 x 100 x 100 = 2,300,000

170 x 100 x 100 = 1,700,000

Sect. 1

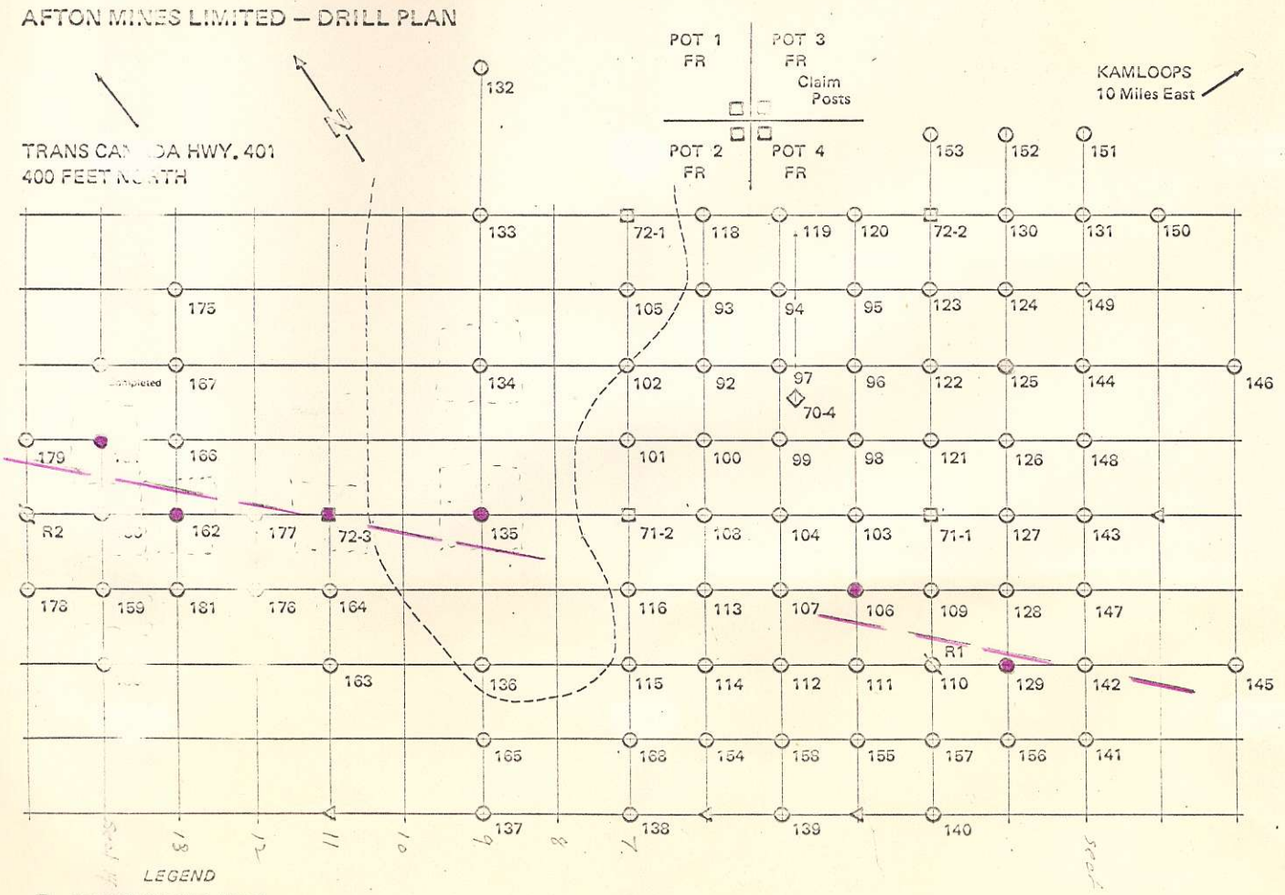
DRILL PLAN


TRANS-CANADA HIGHWAY No. 401 about 400 feet North
Kamloops 10 miles
100 ft
sect
N
E
S
W
LAKE
Drilling ahead 10 Dec./71
Waste
PERCUSSION HOLES
Planned Holes Dec. 10th, 1971
Completed
Diamond Drill Holes 275'
ORE Limits
Defined
Projected (still open)
Cu % > 1%
" 0.5-1%
" 0.4-0.5%
" < 0.4 %

AFTON MINES LIMITED – TABLE OF DRILL HOLES

HOLE NO.	INTERVAL	FOOTAGE	COPPER %
DIAMOND DRILL HOLES			
DD70-4	50 – 300	250 ft.	0.413%
DD71-1	60 – 500	440 ft.	0.570%
DD71-2	15 – 700	685 ft.	0.67 %
DD72-1	22 – 210	108.8 ft.	0.40 %
DD72-2	(Complete 900 ft. in fault zone minor mineralization)		
DD72-3	30 – 130	100 ft.	2.24%
PERCUSSION DRILL HOLES			
Q92	10 – 300	290 ft.	0.64%
Q93	80 – 160	80 ft.	0.63%
Q94	250 – 300	50 ft.	0.74%
Q95	10 – 300	290 ft.	0.17%
Q96	200 – 280	80 ft.	0.49%
Q97	20 – 300	280 ft.	0.66%
Q98	130 – 300	170 ft.	0.66%
Q99	50 – 300	250 ft.	0.67%
Q100	230 – 300	70 ft.	0.45%
Q101	190 – 300	110 ft.	0.74%
Q102	40 – 300	260 ft.	0.52%
Q103	150 – 300	150 ft.	0.72%
Q104	70 – 300	230 ft.	0.45%
Q105	40 – 300	260 ft.	0.67%
Q106	20 – 300	280 ft.	1.07%
Q107	100 – 300	200 ft.	0.56%
Q108	150 – 250	100 ft.	0.27%
Q109	35 – 300	265 ft.	0.43%
Q110	130 – 300	170 ft.	.99%
Q111	120 – 300	180 ft.	.57%
Q112	150 – 300	150 ft.	.58%
Q113	80 – 160	80 ft.	.72%
Q114	40 – 300	260 ft.	.40%
Q115	70 – 300	230 ft.	.21%
Q116	–		
Q117	–		
Q118	150 – 180	30 ft.	.23%
Q119	5 – 300	295 ft.	.36%
Q120	170 – 300	130 ft.	.49%
Q121	18 – 300	282 ft.	.39%
Q122	3 – 110	107 ft.	.69%
Q123	–		
Q124	30 – 120	90 ft.	.5 %
Q125	60 – 300	240 ft.	1.20%
Q126	140 – 300	160 ft.	.35%
Q127	140 – 300	160 ft.	.41%
Q128	180 – 300	120 ft.	.55%
Q129	160 – 300	140 ft.	1.15%
Q130	0 – 300	Waste	–
Q131	180 – 300	120 ft.	.928%
Q132	0 – 300	Waste	–
Q133	0 – 300	Waste	–
Q134	40 – 300	260 ft.	.57%
Q135	25 – 300	275 ft.	1.28%
Q136	–		
Q137	–		
Q144	80 – 300	220 ft.	.76%
Q147	80 – 300	220 ft.	.53%
Q148	270 – 300	30 ft.	.42%
Q159	60 – 300	240 ft.	.65%
Q161	90 – 240	150 ft.	3.82%

AFTON MINES LIMITED – DRILL PLAN



G.C.N.L # 56 (1812)
MAR: 21/12

THE NORTHERN MINER

MARCH 23, 1972

Scandia gets ground in Afton's area

Scandia Mining and Exploration has purchased outright approximately 1,850 acres in the Afton area, about 10 miles west of Kamloops, B.C. The group is located only a few miles south of Afton Mines' large porphyry copper discovery. It lies within favorable geology and is adjacent to Canadian Johns-Manville's larger property to the east.

A. J. Bergmann, consulting engineer, recommends line cutting and geochemical survey as soon as the snow is gone.

Scandia is presently forming an Australian subsidiary for mining and oil exploration and also as a holding company. Scandia is engaged in advanced negotiations with regards to a 52 square-mile copper-zinc-lead-antimony prospect there.

Scandia is also in the final negotiation stage with regards to an interesting copper situation in the western United States, B. O. Kvendbo, president, reports.

Noranda Exploration reports to Scandia that it will complete the required detail geophysical work on Scandia's Sturgeon Lake group in Northwestern Ontario during the breakup period. Drilling may follow if warranted.

Afton pulls excellent hole

Afton Mines has pulled another wide section of good copper mineralization at its Kamloops area, B.C., The Northern Miner learned at mid-week.

Drill hole 72-3 from 30-390 ft. or a 360 ft. intersection averaged 1.5% copper. Included in this section is 100 ft. averaging 2.24% copper from 30-130 ft., and a 260 ft. section from 130-390 ft. averaged 1.21% copper.

An IP survey has indicated that the western zone may extend much further to the west than indicated by drilling, reports Chester F. Miller, president. The company plans to start an extensive drilling program on this zone soon.

Additional financing is under negotiation and expected to be completed soon for a stepped up drilling program. It is heard that **Placer Development** may be coming into the picture but this could not be confirmed from Placer's office.

THE NORTHERN MINER

MARCH 16, 1972

Afton receives written offer but looks for bigger tonnage

VANCOUVER — Officials of Afton Mines have had preliminary discussions with major companies and received one written offer which would involve the sale of treasury shares at a price well in excess of the market price of Afton shares, Douglas L. Price, vice-president, reports.

Afton is drilling a copper property, 10 miles west of Kamloops, B.C., and has indicated substantial potential tonnage amenable to open pit mining.

The objectives of Afton, Mr. Price said, are that if the control of the property is sold to a major company then the percentage to be purchased by the major would be dependent upon the eventual size of the mill constructed. In this regard, he continued, it is important that the largest tonnage be established prior to firm negotiations. Negotiations for larger tonnages for the mill are progressing, he reported. With the interest shown by two major companies, he added, it is feasible for the company to put the property into production without losing majority stock control.

Mr. Price reported assay results from holes drilled to the west and to the east of the blocked out tonnage. Drilling to the west, diamond drill hole 72-3 returned 100 ft. from 30 to 130 ft., which ran 2.24% copper; percussion hole Q 161 gave 150 ft. from 90-240 ft. of 3.82% copper, and Q 159 cut 240 ft. from 60-300 ft. of 0.65%.

Drilling to the east, percussion hole Q 148 cut 30 ft. from 270-300 ft. of 0.42%; Q 147 intersected 220 ft. from 80-300 ft. of 0.53% including 50 ft. of 1.21% from 250-300 ft.; and Q 144 intersected 220 ft. of 0.76% from 80-300 ft., including 50 ft. of 1.82% from 250-300 ft. DD 72-2 drilled to the north of the blocked out tonnage was drilled in a fault zone and gave minor mineralization.

Mr. Price described as of particular significance percussion hole Q 161 as it was drilled 700 ft. west and 100 ft. north of DD 71-2, which is on the west boundary of the blocked out tonnage and intersected 685 ft. of 0.67% copper.

Drilling has confirmed the north and south boundaries of the zone, which is open to the west and to the east. A high speed rotary drill capable of reaching greater depth was scheduled to be on the property Mar. 7. It will be used to continue the 100-ft. grid holes in an effort to establish boundaries to the zone.

THE NORTHERN MINER

MARCH 9, 1972

Afton drilling big copper zone

Complete assay returns have been received for only two diamond drill holes on the Afton Mines property, about 10 miles west of Kamloops, B.C. Hole 71-1 intersected 0.57% copper from 60-500 ft. or 440 ft. Hole 71-2 cut 0.67% copper from 15-700 ft. or 685 ft. Drill holes 72-1 and 72-2 are completed but assays are not available, reports C. F. Millar, president.

About 70 percussion holes have now been drilled close to drill hole 70-4 which intersected 250 ft. of 0.413% copper. Most of these holes are at 100-ft. intervals and drilled to 300 ft. vertically. They cover an area 1,200 ft. east-west, and 800 ft. north-south. A composite assay of nine percussion holes gave 0.01 oz. gold, 0.06 ozs. silver and 0.66% copper.

The Lake or New zone located 3,000 ft. to the northwest of the Pothook zone where reserves grading 0.63% copper were located by earlier programs.

The company should continue the present drilling program to completely outline the ore potential of the zone in a westerly direction, recommends consultant S. Radvak.

As at Feb. 1, 1972, working capital was $200,000. Capitalization is 5,000,000 shares of no par value with 2,524,020 shares issued.

THE NORTHERN MINER

MARCH 2, 1972

Afton potential 36 million tons engineer figures

VANCOUVER — A potential of 36 million tons has been calculated for the Kamloops area property of Afton Mines. This calculation, according to C. F. Millar, president, is contained in a report on the company's property by S. Radvak Engineering Ltd.

The company has drilled 58 percussion and four diamond drill holes over an area 800 ft. north-south and 1,200 ft. east-west. In calculating this tonnage for the area the engineering firm takes a depth of 600 ft. with a conversion factor of 12 and a waste to ore ratio of one to three.

The report states that on an east-west section through two diamond drill holes and six percussion holes, the average grade is 0.58% copper. Through a north-south section, including two diamond drill holes and four percussion holes, the average grade is 0.75% copper. A composite sample for percussion holes Q-92 to Q-100 gave 0.01 oz. gold and 0.06 oz. silver per ton and 0.66% copper.

The engineering firm states that smelter and transportation costs will be less than 50% of "any other open pit operation in B.C. due to the higher grade concentrate possible of plus 50% copper and indicated recovery in excess of 85% of the contained copper." The most potential for the property, according to the engineering firm, is to the west of the presently drilled holes.

Mr. Millar reports that a hole 400 ft. west of diamond drill hole 71-2 and 200 ft. west of percussion hole Q-135 is drilling below 400 ft. in mineralization. A hole, sited a further 400 ft. to the west, is planned.

92 I
attach to Previous

THE NORTHERN MINER

FEBRUARY 10, 1972

Afton drilling suggests mine in the making

VANCOUVER — Afton Mines plans to start a preliminary feasibility study for its Kamloops area copper property following completion of drilling within the next month or two.

Meanwhile, some metallurgical testing of drill core is already under way.

"I'm convinced we are over the hump of whether we have a mine or not," Chester F. Millar, president, told The Northern Miner on his return from the property last week. Mr. Millar, a mining engineer, is supervising the work there.

On the basis of drilling to date, according to Mr. Millar, there is a potential of 32 million tons contained in an area 700 ft. by 700 ft. Assays on 34 percussion and two diamond drill holes within this area have a weighted average of 0.65% copper, he said. Drilling has extended the area to 1,000 ft. by 800 ft. but as yet there have been no assays on these outside holes.

Drilling to date indicates an open pit proposition with overburden averaging about 120 ft. The stripping ratio is very low at about a quarter-ton of waste to a ton of ore.

Mr. Millar said that the company has been approached by several major mining companies which have shown an interest in the property.

However, the company with over $200,000 in the treasury intends to complete the current drilling campaign to determine the full extent of the mineralized zone. A preliminary feasibility study will then be conducted and, on the basis of this report, the company plans to arrange senior financing.

The mineralized zone, called the Lake Zone, is in the north central part of the property. It centres around diamond drill hole 70-4 drilled in a previous program which cut 250 ft. of 0.413% native copper. To date 54 percussion and four diamond drill holes, including 70-4, have been drilled. The percussion holes, drilled on 100-ft. centres to a depth of 300 ft., Mr. Millar explained, basically are to rough out the ground to select targets for diamond drill holes which are being drilled on 400 ft. centres. The first two diamond drill holes completed in the current program at depth of 800 ft. indicate that the mineralized zone extends from depth of 40 ft. to 550 ft.

The first diamond drill hole in the current program, 71-1, returned a 450-ft. section, from 60-510 ft., which averaged 0.56% copper. The remaining 290 ft. of the hole, from 510-800 ft., ran only 0.05% copper. The second hole, 71-2, showed a length of 475 ft., from 15-490 ft., of 0.735% copper with a 170-ft. section from 320-490 ft. running 0.967%. Assays are yet to be received from the core from 490-800 ft.

The third diamond drill hole was completed at depth of 506 ft. core from this hole has been split and sent for assay, but, according to visual inspection, Mr. Millar said, it looks as if the hole went out of minerlization at around 200 ft. depth. The fourth diamond drill hole in the program was at depth of 620 ft. at the time of writing.

About eight other companies are working or have properties in the general area. Outside of Afton, only **Leemac Mines** is drilling at the moment. There is evidence of further staking in the area, Mr. Millar observed.

Active in Afton area

Two more mining companies, have moved into the Kamloops, B.C., area where Afton Mines is obtaining favorable drilling results as a follow up to its copper discovery reported last year.

Great Northern Petroleums and Mines reports it has acquired a 50% interest in a 58-claim copper-molybdenum prospect, four miles southwest of the Afton Kamloops property.

Equatorial Resources advises shareholders it has obtained an option to purchase over the next 11 months a 100% interest in a property adjoining to the north of the Afton ground. An initial $15,000 exploration program has been recommended for the property. The acquisition is subject to the approval of regulatory authorities.

92 I

FEB 10 1972

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

attach to previous

J.H.S. ✓
G.M.H. ✓
R.D.S.
B.C.B.
I.D.B.
M.D.R.
J.H.F.
E.C.I.

To Mr. G. M. Hogg **From** Mr. W. M. Sirola

Subject AFTON MINES - Kamloops Area, B. C. **Date** February 8, 1972.

Capital Cost Estimates.

Following our telephone discussion this morning I telephoned Peter Stym regarding the capital cost of a 4500 tpd plant postulated for Afton Mines in my memorandum of January 26, 1972.

Peter maintains that in the Kamloops environment the following favourable factors obtain:

1) No townsite to build.
2) No road construction for access.
3) No power lines to build.
4) Low pre-production stripping.
5) Low water cost.
6) Low tailings disposal cost.
7) Comparatively low labor cost. - Doubtful in B.C.
8) Low transportation cost to property.

I cannot help but concur with Peter that in the light of all these factors the $15 million estimate was adequate but certainly for the benefit of those who prefer a higher figure, we will show in any future calculations a plant cost of $4,000 per unit of capacity as an alternative to the $3,340 per ton that we used in the original calculation.

Bill

W. M. Sirola

WMS/eh

92 I.
attach to previous

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

FEB 10 1972 of Dec 71

Please!!! Do not update

To Mr. G. M. Hogg From Mr. W. M. Sirola

R.H.S. ✓
F.M.K.
G.M.H. ✓
R.D.S.
B.C.B.
I.D.B.
M.D.R.
J.H.F.
E.C.J.

Subject AFTON MINES - Kamloops Area, B. C.
Drill Core Examination.

Date February 8, 1972.

Having been relegated to the role of chief kitchen scullion over the past two weeks, I asked John Lund to go to Kamloops and look at what drill core Chester Millar had available. As you know, the current drilling has been largely confined to percussion holes and, consequently, the only core available was from diamond drill holes 71-1 and 71-2. These drill holes are near the east and west boundaries of the mineralized zone and approximately midway between the north and south limits of the zone.

Drill hole No. 71-1 was shown in the George Cross Newsletter to have an intercept of 380 ft. of 0.57% Cu at a depth of 60 ft. from the surface. DDH No. 71-2 had an intercept of 475 ft. of 0.735% Cu at a depth of 15 ft. below the surface.

The samples of rock which John Lund brought back from diamond drill holes 71-1 and 71-2 look like a dark green andesite which is well fractured, relatively soft and showing nearly vertical fractures spaced approximately one-quarter of an inch apart. The fractures are mineralized with native copper as thin films varying from 1 to 3 mm. across and about as thick as onionskin paper. In some of the core at Kamloops there were a few grains up to 2.5 mm. across and 1 mm. thick.

The drill core at Kamloops indicated that the native copper occurs in the altered andesite described above and also in a pink micro-monzonite. Both these rocks are relatively soft and generally well fractured. The evidence to date indicates that the bulk of the native copper should float readily and that only a small percentage would require some form of gravity concentration. We have not, however, enough evidence on which to base the percentage that is readily amenable to extraction by flotation.

Today's George Cross mentions that the third diamond drill hole (No. 72-1) has been drilled to 506 feet and the fourth hole (No. 72-2) is at 700 feet. The paper also mentions that some metallurgical studies have been initiated and that Mr. Millar plans to complete a preliminary feasibility study prior to serious negotiations with major companies.

The enclosure is a report on an examination of Afton Mines drill core, Kamloops, B. C., by J. C. Lund.

W. M. Sirola

WMS/eh
encl.

February 2, 1972.

REPORT ON AN EXAMINATION OF AFTON MINES DRILL CORE KAMLOOPS, B. C.

Purpose of this visit was to: (a) determine rock types encountered, (b) observe size of native copper particles and their mode of occurrence, (c) note extent of shearing, (d) check the nature of the rock (i.e., hard or soft), (e) estimate core recovery, (f) note fracturing, and (g) to examine the sampling method used on the percussion drill.

Core from DDH 71-1 and DDH 71-2 was examined in some detail, - hole DDH 72-2, as yet unsplit, was examined only briefly.

Property Location, Access and Physiography

Afton's claims are well situated about 10 miles west of Kamloops, B. C., in an area of gently rolling hills. The mineralized zone is within 1/4 mile of the Trans-Canada Highway. The west, north and south boundaries of the claim block are well established; the eastern boundary apparently overlaps in part claims held by Comet-Krain. This situation is to be clarified by having the common boundary surveyed.

Drilling

Drilling is done on 100' centres. A percussion drill is being used to delineate the mineral zone to a depth of 300' with diamond drilling at selected sites to establish depth and provide geological data. Core recovery is good.

Sampling Methods

Cuttings, brought up through a water swivel designed for this purpose, are collected in 5 gal. pails. Water is decanted by simply pouring off and chips are then transferred to plastic sample bags. Chester Millar, President of Afton, advises that tests were run on the decanted water and sludge collected from the water to determine loss in copper. Their findings

..... 2

apparently indicate an insignificant loss in copper, - they feel the assays are reliable. Samples are taken at 10 ft. intervals.

Assaying has been done by Bondar-Clegg in North Vancouver.

Rock Types

Drill hole 71-1 intersected an intermediate to basic, dark green rock, andesite to basalt in composition. Original composition of the rock is obscured by a strong development of epidote and chlorite. Sections of the core show injections of magnetite-hematite as veins, fracture fillings and in part as matrix in narrow breccia zones. Native copper is often closely associated with these iron minerals.

Cutting the above rock are at least two dykes (?) of pinkish brown siliceous rock that look like a micromonzonite. Contacts are not distinct but change in rock type is relatively sharp. This rock is in places brecciated and fragments subrounded with a more basic material as matrix.

Hairline veinlets and veins of carbonate, gypsum and quartz cut both rock types.

Rock types in drill hole 71-2 are more variable but are likely phases of microdiorite, micromonzonite, basalt and andesite. From 0 to 468' the rock is a mixture of alternating basic aphanitic material and pinkish micromonzonite. From 468' to 803' it is a microdiorite. Alteration obscures grain boundaries. Small clots of chlorite occur irregularly throughout the rock. It is significant that native copper occurs only sparingly in the microdiorite. The basic rock is slightly to moderately magnetic. Bornite, chalcopyrite, and chalcocite appear at 450' and persist as occasional clots, fracture fillings and disseminated grains to 803 ft. Change in mineralization coincides closely with change in rock type.

One core box from drill hole 72-1 was examined briefly; the rock is mainly micromonzonite, in part brecciated with finely distributed native copper in the matrix.

Mineralization

Native copper occurs as films, fracture fillings, and as discrete grains on fracture planes, in breccia matrix and as apparent disseminated grains adjacent to mineralized fractures. Grain size varies from less than 1 mm. to 3 mm. - films and fracture fillings can be up to 1" in size by less than 1 mm. thick. It occurs on fractures of differing attitudes but appears to be controlled mainly by a prominent set cutting core at from 0 - 20% to core axis.

Mineralization is on fractures and distribution of the copper is likely controlled by degree and extent of fracturing.

Faulting and Fracturing

There is a prominent fracture that is near parallel to 20^{o} to core axis. Movement on faults of this attitude are slickensided with movement indicated at $45^{o} \pm$ to core axis. There are many directions of fracturing and all may contain native copper.

Summary

1. Mineralization is in a fractured basic to intermediate altered rock and a pink micromonzonite. The micromonzonite and basic rock is in places brecciated with the cementing material dark in appearance. Native copper occurs on fractures and in breccia matrix.

2. In drill hole 71-2 native copper does not extend into the microdiorite that comes in at about 468 ft.

3. Rock is relatively soft and generally well fractured. No problems are foreseen in breaking and grinding.

4. Particle size is variable, - discrete grains are about 1 mm. in size, plates and films may reach 1" x 1 mm.

5. Steep angled faults with slickensides occur in hole 71-1, - fault gouge was not observed. Mineralization is cut off sharply at about 168-200' by a prominent fault marked by 50% or more loss of core.

6. Sampling methods are simple, - chips are collected in 5 gal. pails, the water decanted and chips transferred to plastic bags for shipment to assay office. Tests on decanted water reportedly show little loss. There may be room for improvement in sampling technique; however, diamond drill assays should provide a check on reliability of the percussion samples.

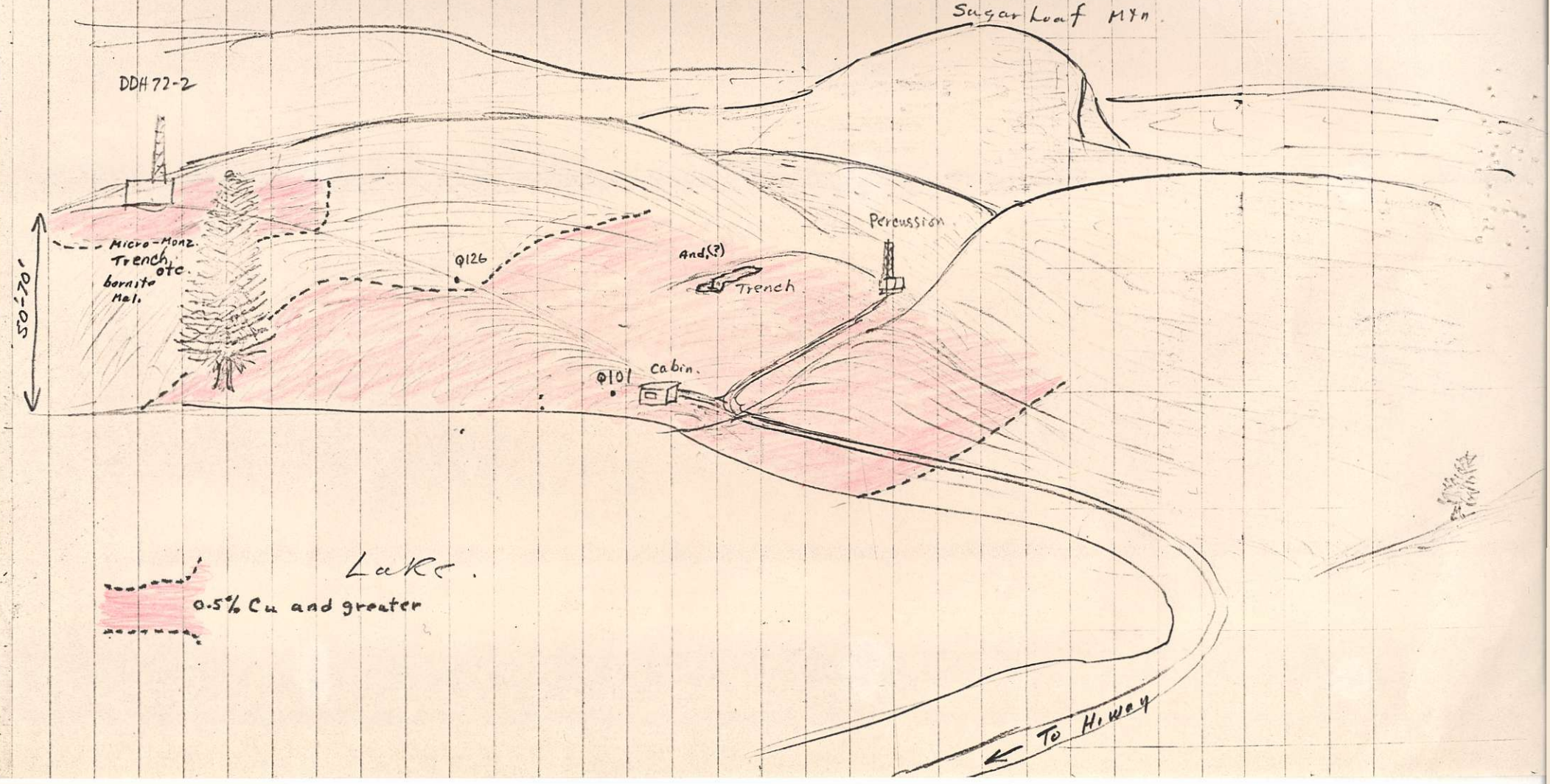
It would be to our advantage to get a copy of assay sheets showing the individual 10 ft. interval assays in order to get a better picture of the distribution of values.

John C. Lund, P.Eng.

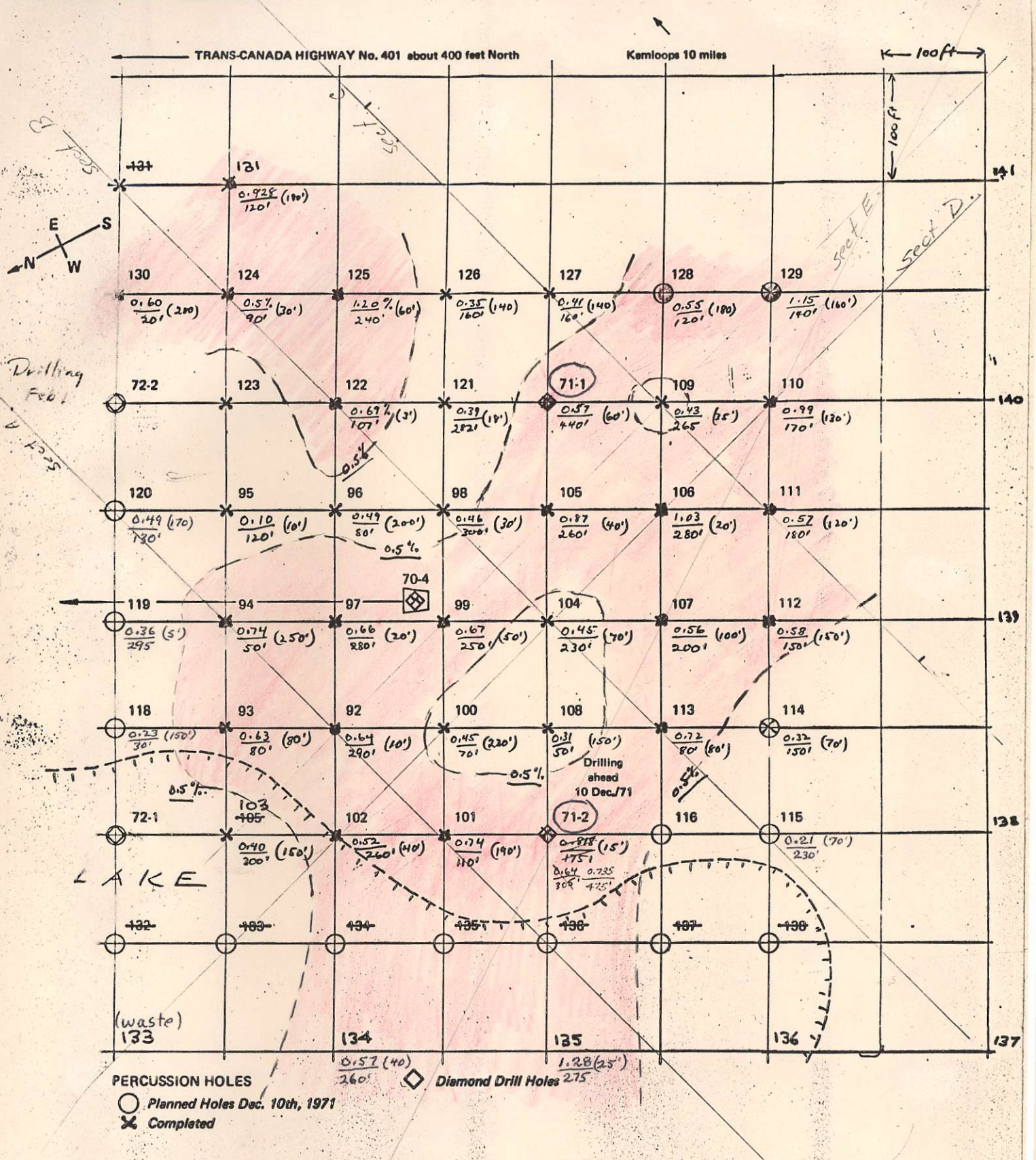
Looking · East.

Afton Mines.

Physiography of Area.

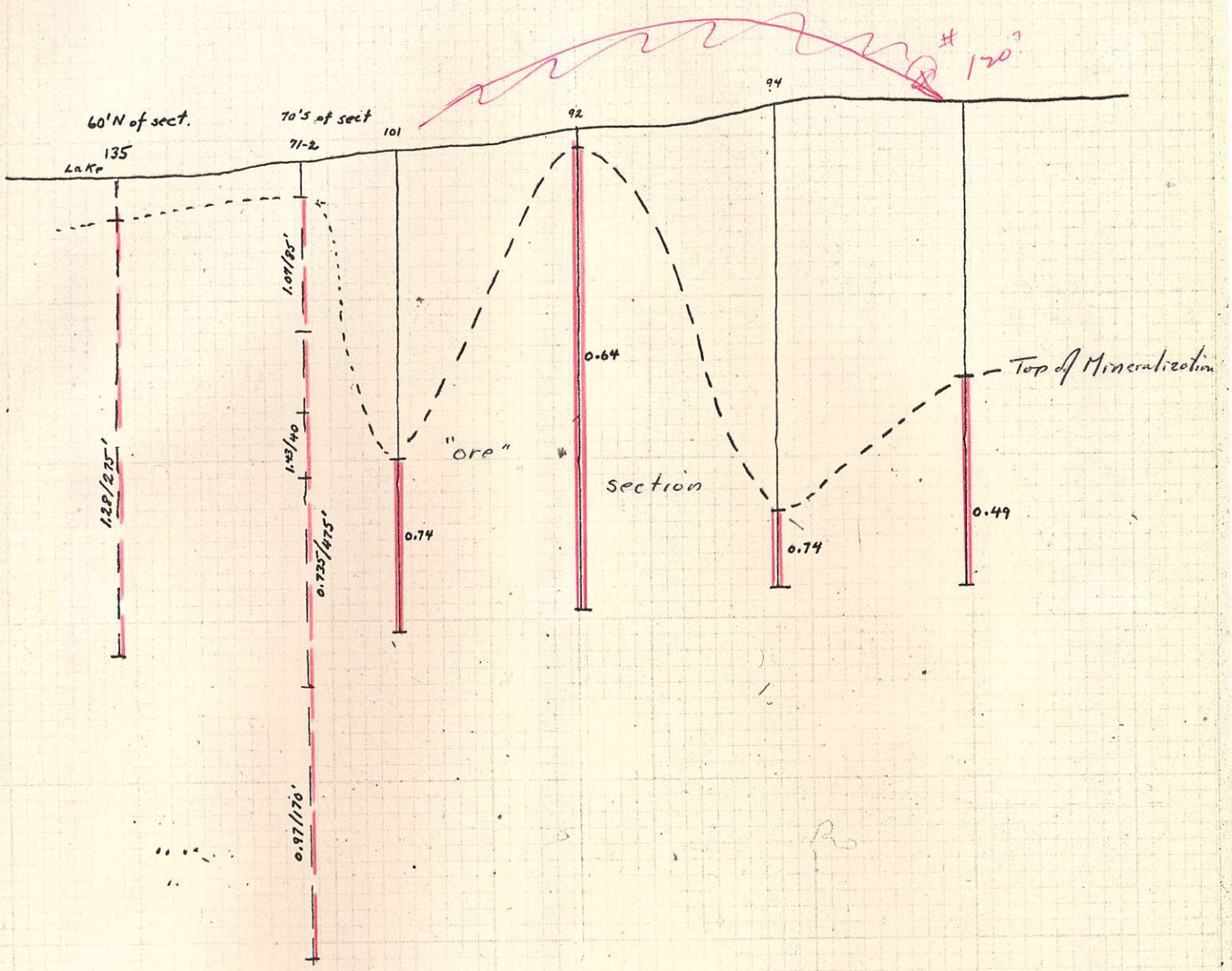


DRILL PLAN

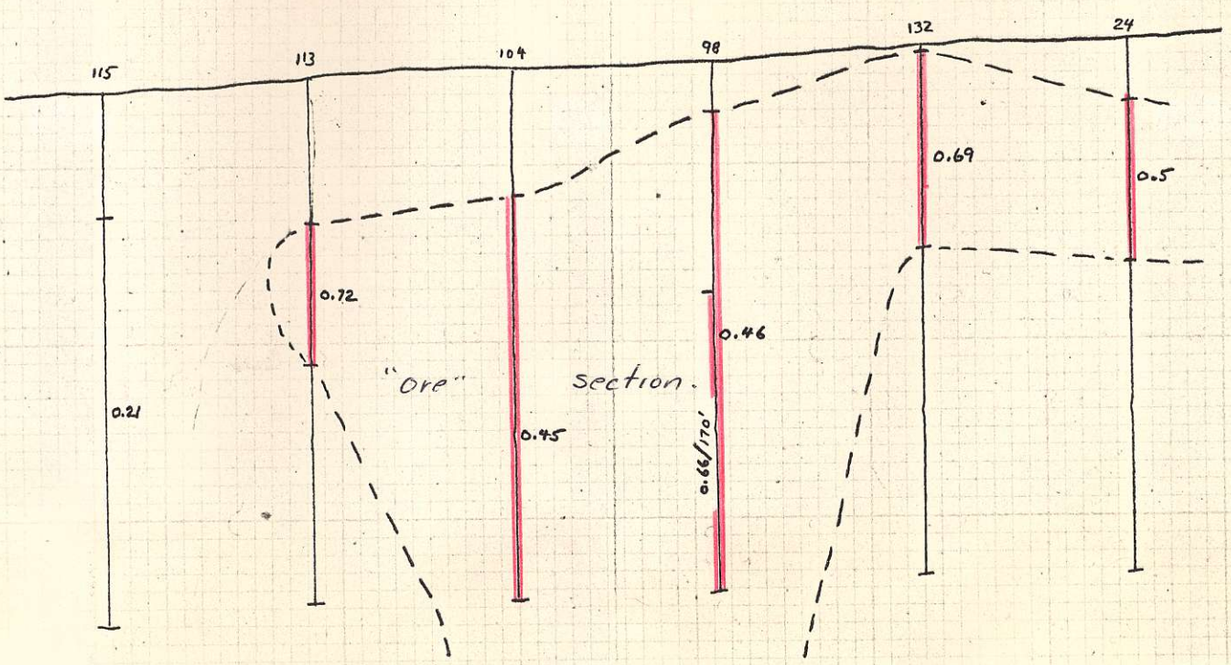

TRANS-CANADA HIGHWAY No. 401 about 400 feet North
Kamloops 10 miles
100 ft
100 ft
E
S
N
W
131
131
0.92% / 120' (180')
130
124
125
126
127
128
129
0.60 / 20' (200)
0.5% / 90' (30')
1.20% / 240' (60')
0.35 / 160' (140)
0.41 / 160' (140)
0.55 / 120' (180)
1.15 / 140' (160')
72-2
123
122
121
71-1
109
110
0.69% / 107' (3')
0.39 / 282' (19')
0.57 / 440' (60')
0.43 / 265 (35')
0.99 / 170' (130')
0.5%
120
95
96
98
105
106
111
0.49 (170) / 130'
0.10 / 120' (10')
0.49 / 80' (200')
0.46 / 200' (30')
0.87 / 260' (40')
1.03 / 280' (20')
0.57 / 180' (120')
0.5%
70-4
119
94
97
99
104
107
112
0.36 (5') / 295
0.74 / 50' (250')
0.66 / 280' (20')
0.67 / 250' (50')
0.45 / 230' (70')
0.56 / 200' (100')
0.58 / 150' (150')
118
93
92
100
108
113
114
0.23 (150') / 30'
0.63 / 80' (80')
0.64 / 290' (10')
0.45 / 70' (220')
0.31 / 50' (150')
0.72 / 80' (80')
0.32 / 150' (70')
0.5%
0.5%
Drilling ahead 10 Dec./71
72-1
103
105
102
101
71-2
116
115
0.40 / 200' (150')
0.52 / 260' (40')
0.74 / 110' (190')
0.64 / 309'
0.735 / 475'
0.21 (70') / 230'
LAKE
132
133
134
135
136
137
138
(waste)
133
134
135
136
0.57 (40) / 260'
1.28 (25') / 275
PERCUSSION HOLES
Planned Holes Dec. 10th, 1971
Completed
Diamond Drill Holes
Cu 0.5 + greater. contour
('180') means log) intersection

AFTON MINES.

Section A Looking NW.



Section B Looking NW.



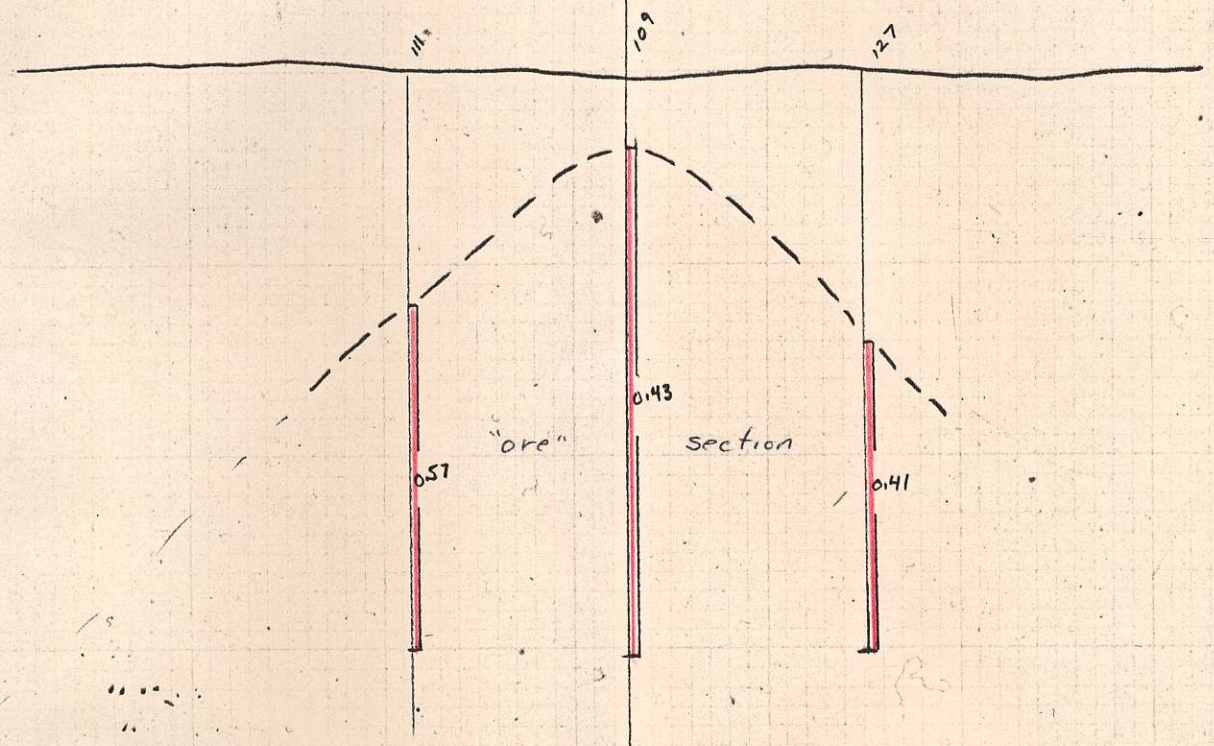
Sections

Afton Mines Property
Kamloops B.C.

Cu Assays shown.

1" = 100'

Section C.

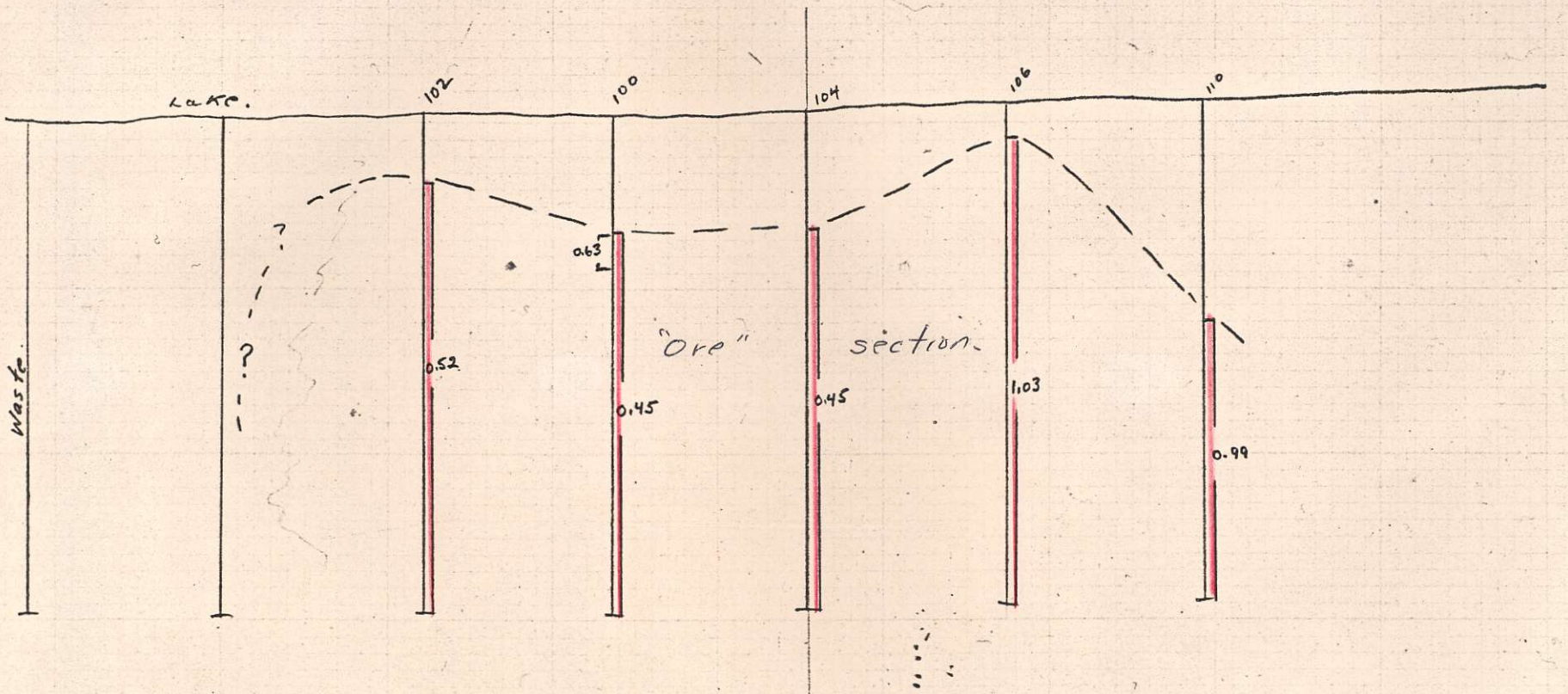


Afton Mines Ltd.
section C

Cu Assays shown. 1" = 100'

Surf.

Section D looking East-N-East.



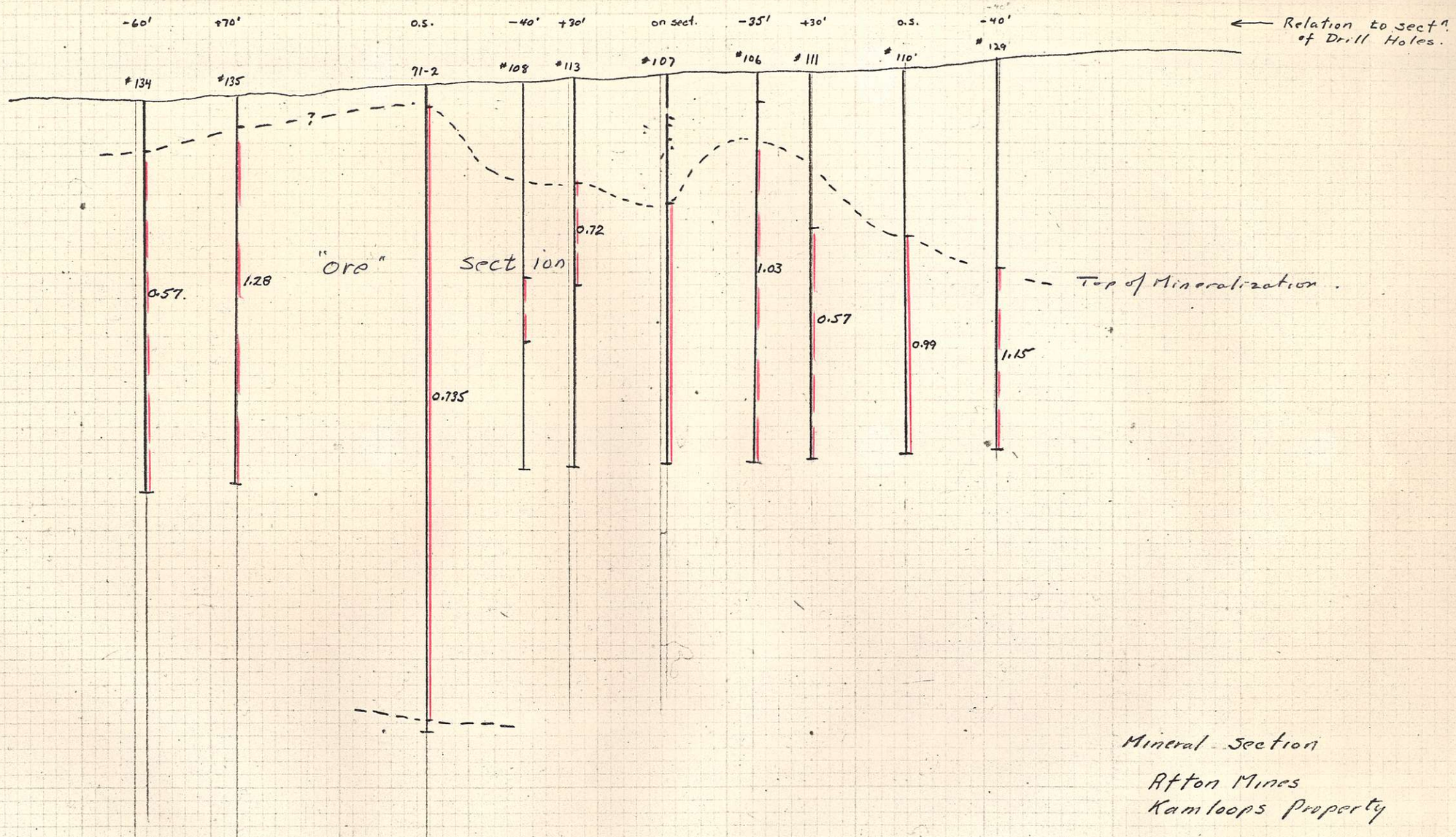
Afton Mines Ltd.

Section D.

Cu Assay shown.

1" = 100'

Section E Looking NE.



Mineral Section

Afton Mines
Kamloops Property

Note Relation of Drill hole location to sect.
+30' is 30' SW of sect.
-30' is 30' NE of sect.

1" = 100'
Feb. 8/72

JCL.

REFERENCE MEMORANDUM

DATE Jan. 31 19 72

THE ATTACHED PAPERS ARE REFERRED

TO Mr. J.N. Stovel

BY Paul

PLEASE REPLY DIRECT	☐	PLEASE HANDLE	☐
PLEASE SEE ME RE THIS	☐	YOUR COMMENTS	☐
FOR YOUR INFORMATION	☑	FOR APPROVAL	☐
PLEASE RETAIN	☐	PLEASE RETURN	☑

The attached information concerns the Alston property west of Kamloops. Leisla, in company with a number of other visitors, is expected to visit the property today.

Paul.

HONEY PRINTING SERVICE 1444

AFTON COPTER

PMK and GMH

I think estimated capital costs are too low and revenues based on 50 cent copper may be too high. A look of pencil work must be done if we are to become interested?

Operating capital will probably be in the order of 1.5 Million.

Jan 28/72.

92 I

Memorandum

Please attach to previous of Dec 71

To: P. M. Kavanagh From: G. M. Hogg

Re: Afton Copper, Kamloops Area, B.C.

Bill Sinclair reports that Afton Copper have just completed another favourable hole. The picture at present suggests that a 4500 TPD operation is possible at an estimated 15 million development cost. This would be paid back in six years operation with an estimated four years additional mine life remaining. In the four years operation after retirement of debt a profit of $5,000,000 is estimated.

Do not update

G. M. H.

KERR ADDISON MINES LIMITED

MEMO

VANCOUVER OFFICE

DATE Jan. 27/72

TO: Glen Hogg

FROM: Wm 5

SUBJECT: Afton Mines.

Afton is not a mine
as yet but Bems watching
because Diamond Drilling
might enhance Percussion
Results and Deposit is still
open at ends & Depth.

WA.

Wm.

KERR ADDISON MINES LIMITED

JAN 31 1972

(FOR INTER-OFFICE USE ONLY)

To G.M. Hogg *From* W.M. Sirola

Subject AFTON MINES, Kamloops Area, B.C. - 92-I *Date* January 26, 1972.

J.U.S. ✓
P.M.K.
G.M.H. ✓
R.D.S.
E.C.B.
I.D.B.
M.D.R.
J.H.F.
E.C.J.

We have discussed the cost aspects of this property with Peter Stym in order to determine what kind of ore reserve would be required to justify a serious interest on our part.

The Afton Mines property, which is located 10 miles west of Kamloops, has been subjected to considerable exploration in the past by such organizations as Kennco Explorations, Quintana Explorations, etcetera. The Quintana effort was completed a few months ago and consisted of 17 percussion holes spaced at $\frac{1}{4}$ mile intervals around the perimeter of the property. Apparently the results of this effort were unrewarding and Quintana dropped the option. Afton Mines then decided to pursue the drilling of the lake zone in which Afton had encountered 250' of 0.413% native copper. Since that time approximately 40 percussion holes have been put down on a 100' grid, and most of the holes have been drilled to a depth of 300'. The present ore reserve as a result of this drilling is 600' by 400' by 300' divided by 12, or equal to 6 million tons with an average grade of 0.64% copper which is entirely in the form of native copper.

We really have no way of knowing what the total reserve will be at the end of the present work program, but since the zone is open at both ends and at depth, it may be reasonable to think in terms of a length of 1,000', a width of 400' and a depth of 500'. These dimensions would provide a reserve of 16.6 million tons, and for the moment we will assume that the grade remains the same.

Since the property is in a very favourable environment, reasonable production costs should be realized on a deposit of this magnitude despite the fact that it is hardly an ideal open pit in dimension. Metallurgy remains unclear in the sense that some of the native copper is ideal for flotation (according to John Britton) but some of it is too coarse and would have to be recovered by some gravity method. In any case, it seems reasonable to assume an 80% recovery. With these basic aspects in mind, we can then assemble a framework within which to compute the cost of an operation in that area.

Assumptions:

Total tonnage - 16.6 million tons
Average grade - 0.64% copper
Recovery - 80%
Waste to ore ratio - 1:1
Plant capacity - 4,500 t.p.d.
or 1.62 million t.p.y.
Capital Cost - $15 million including four months working operating capital
Interest at 8% - $5.74 million
Life of operation - 10 years
Preproduction period - 3.5 years

Cont'd ..2

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To G.M. Hogg *From* W.M. Sirola

Subject Afton Mines - PAGE TWO *Date* January 26, 1972.

Operating Costs:

Mining and related services	$ .70
Milling and related services	1.10
Administration and plant services	.45
Total operating costs	$ 2.25
Marketing, transportation, smelting and refining	.45
Total cost	$ 2.70
Gross value of contained copper at 50¢ per pound is equal to 10 X 50 =	$ 5.00
Total operating costs	2.70
Operating profit	$ 2.30

Operating profit per year 4,500 tons X 350 X 230 = $3.62 million or $36.2 million for the life of the deposit.

Without going into all of the calculations in this memorandum, the pay back period for the loan plus the interest would be six years and the net profit for the remaining four years would reduce from $3.68 million per year to $2.208 million per year because taxes would consume 40% of the net profit. The ultimate profit based on the last four years of operation would then be $2.208 million X 4, or $8.832 million.

To put the above picture into perspective, $15 million invested at 8% compound interest for a period of 10 years would return $15 million X 2.16, or $32.4 million, for a net profit of $17.4 million which would be taxable at a 40% rate. Taxes would therefore reduce the profit by $6.96 million, leaving a profit of $10.5 million. In other words, the Afton operation on the statistics we have provided would not be as good as investing the money in a safe venture at 8% compound interest. It may of course be argued that the money invested was borrowed in the first place and therefore Kerr Addison's equity would be negligible, but it must be borne in mind that if the operation went sour the borrowed money would have to be repaid. Viewed in this light, borrowed money would be treated no differently than Kerr Addison's money.

For this situation to become a good mining operation one of several things would have to occur:

(a) The grade would have to improve in the contemplated diamond drilling which is to take place on 400' centers;

Cont'd ..3

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To G.M. Hogg *From* W.M. Sirola

Subject Afton Mines - PAGE THREE *Date* January 26, 1972.

(b) The recovery would have to improve from 80 to 90%;
(c) The price of copper would have to increase above the 50¢ level used in the calculations; and
(d) Some combination of the above factors would have to occur.

I have deliberately omitted the possibility of finding 50 to 100 million tons of ore which would, of course, greatly enhance the Afton picture because I do not consider it a likely possibility, and for the same reason I have not attempted to recalculate costs on a basis of a considerably larger plant.

In the light of the above assessment, it becomes fairly obvious that in the low grade type of operation that one may reasonably expect in this province, the goal should be to find a deposit which is large enough that if the capital cost can be returned in a reasonable period, such as six years, then the operation should have another ten to twenty years of life thereafter. 50 million tons averaging 0.5% copper with a core of 20 million tons or so of 0.60% copper would just about fill the bill at current copper prices.

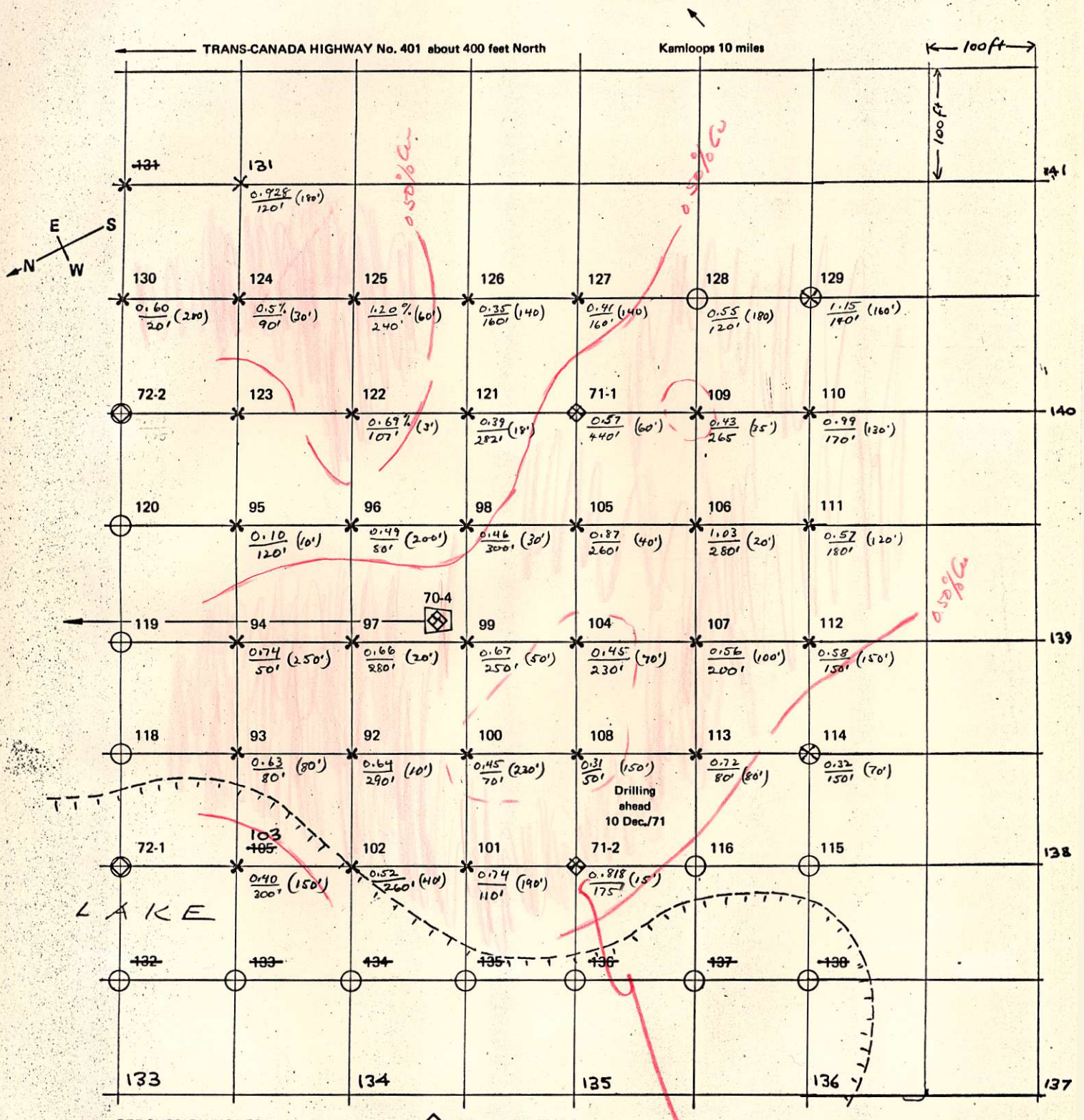
Bill

WMS/jm W.M. Sirola.

Enclosures:

(1) Afton Mines - Drill Plan
(2) I.P. Survey - Scale 1" = 800'
(3) Geochemical Survey
(4) Geologic & Electromagnetic Surveys
(5) Afton Mines Limited - Progress Report December 1971

DRILL PLAN



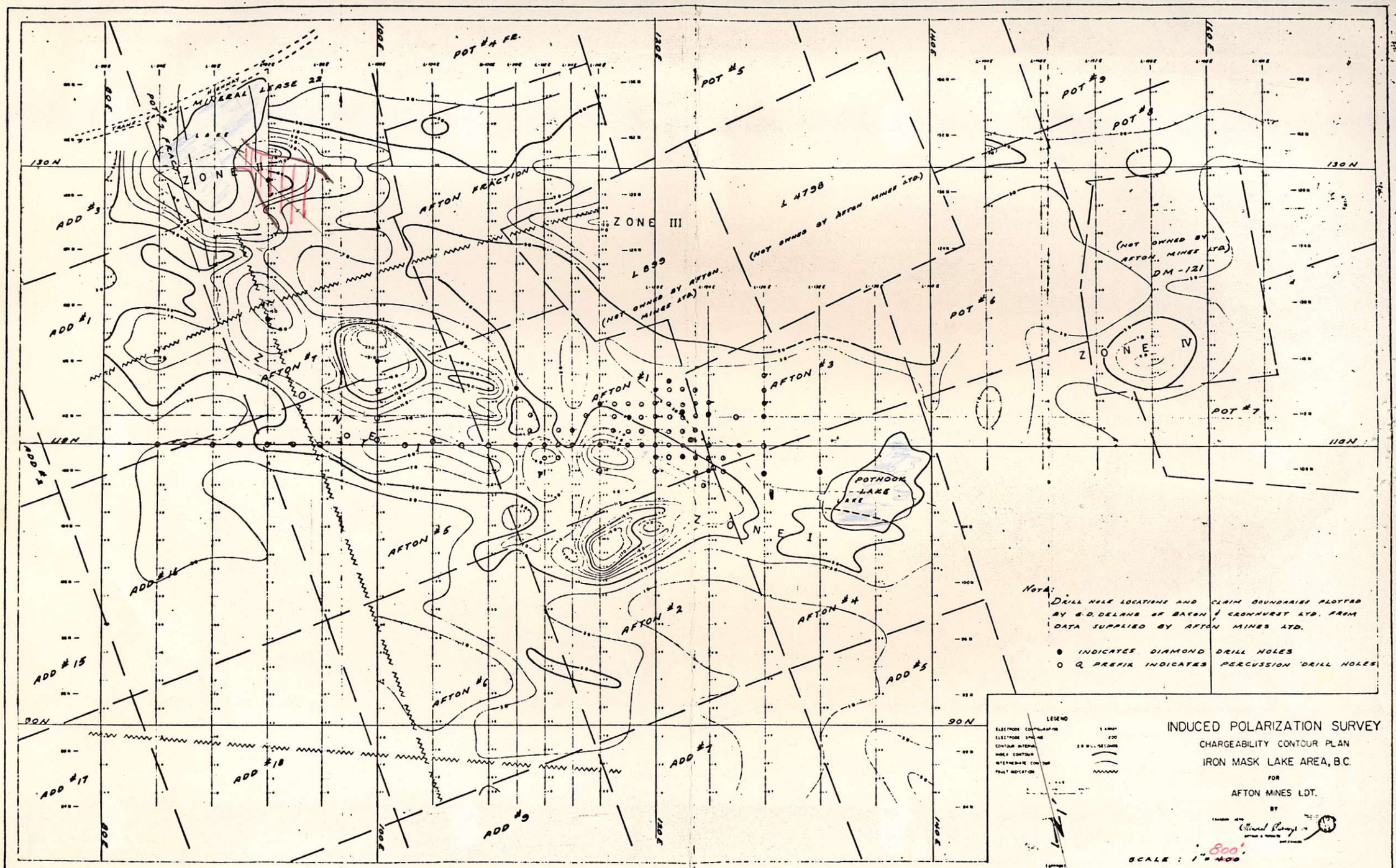
PERCUSSION HOLES

○ *Planned Holes Dec. 10th, 1971*

✕ *Completed*

◇ *Diamond Drill Holes*

YCNL Jan. 28/72
reports for this 71-2 hole
15 – 490' – 0.735 Cu
475



NOTE:

DRILL HOLE LOCATIONS AND CLAIM BOUNDARIES PLOTTED BY G.O. DELANE OF BACON & CRONHURST LTD. FROM DATA SUPPLIED BY AFTON MINES LTD.

● INDICATES DIAMOND DRILL HOLES

○ Q PREFIX INDICATES PERCUSSION DRILL HOLES

LEGEND

ELECTRODE CONFIGURATION — 1 ARRAY

ELECTRODE SPACING — 200

CONTOUR INTERVAL — 20 MILLISECONDS

INDEX CONTOUR

INTERMEDIATE CONTOUR

FAULT INDICATION

INDUCED POLARIZATION SURVEY

CHARGEABILITY CONTOUR PLAN

IRON MASK LAKE AREA, B.C.

FOR

AFTON MINES LDT.

BY

SCALE : 1" = 400' 800'

PLATE 4

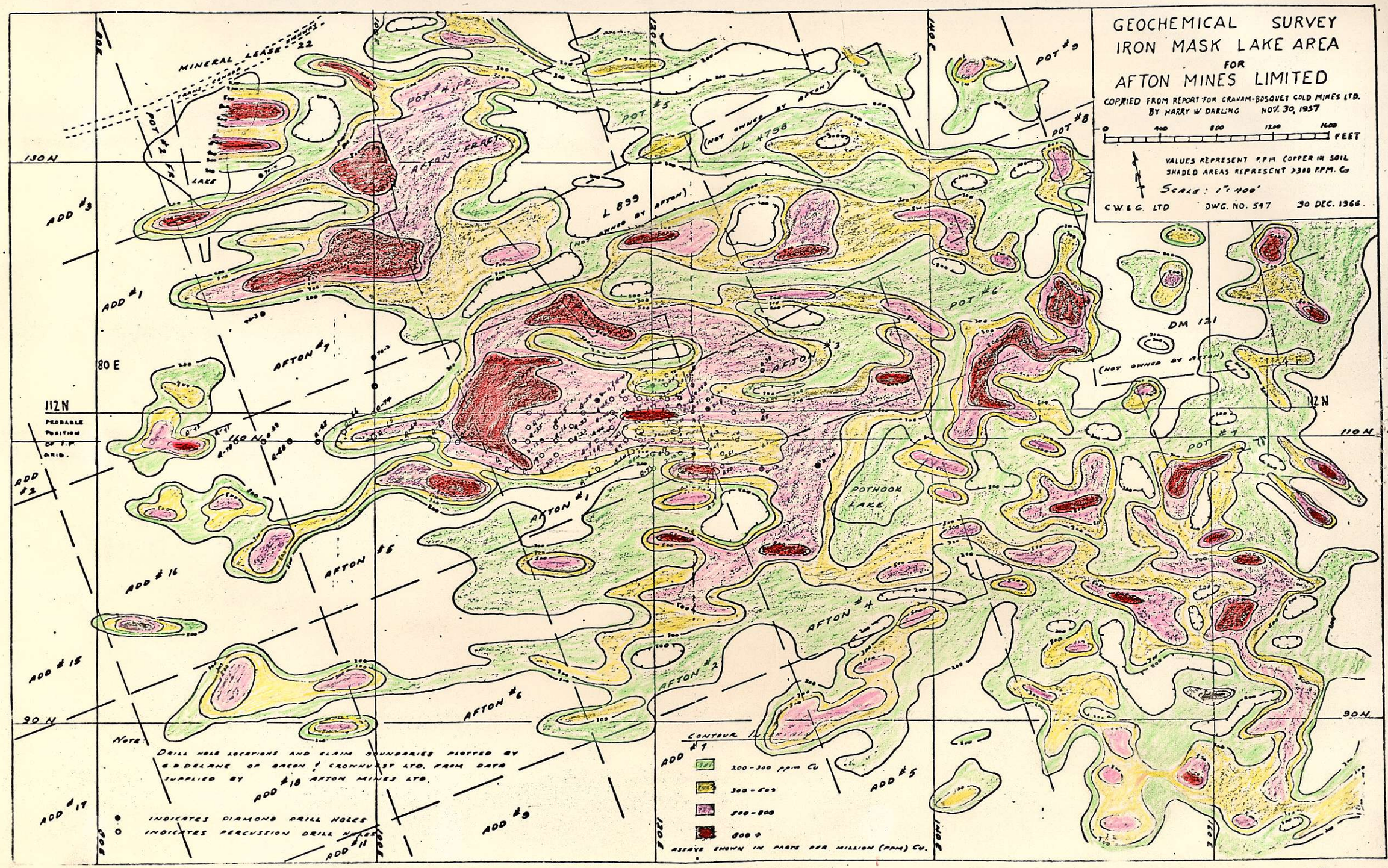

GEOCHEMICAL SURVEY
IRON MASK LAKE AREA
FOR
AFTON MINES LIMITED
COPIED FROM REPORT FOR GRAHAM-BOSQUET GOLD MINES LTD.
BY HARRY W DARLING NOV. 30, 1937
0 400 800 1200 1600 FEET
VALUES REPRESENT PPM COPPER IN SOIL
SHADED AREAS REPRESENT >300 PPM. Cu
SCALE : 1" = 400'
C W & G. LTD DWG. NO. 547 30 DEC. 1966.
MINERAL LEASE 22
POT #4 FR.
POT #5
POT #8
POT #9
POT #6
POT #7
AFTON FRACT.
(NOT OWNED BY AFTON)
L 4796
L 899
DM 121
AFTON #3
AFTON #7
AFTON #1
AFTON #5
AFTON #4
AFTON #2
POTHOOK LAKE
ADD #1
ADD #2
ADD #3
ADD #4
ADD #5
ADD #6
ADD #9
ADD #10
ADD #11
ADD #15
ADD #16
ADD #17
130 N
112 N
110 N
90 N
80 E
120 E
100 E
112 N PROBABLE POSITION OF T.P. GRID.
CONTOUR INTERVALS
200 - 300 ppm Cu
300 - 500
500 - 800
800 +
ASSAYS SHOWN IN PARTS PER MILLION (PPM) Cu.
NOTE: DRILL HOLE LOCATIONS AND CLAIM BOUNDARIES PLOTTED BY G.B DELANE OF BACON & CROWNWEST LTD. FROM DATA SUPPLIED BY AFTON MINES LTD.
INDICATES DIAMOND DRILL HOLES
INDICATES PERCUSSION DRILL HOLES

Plate 2

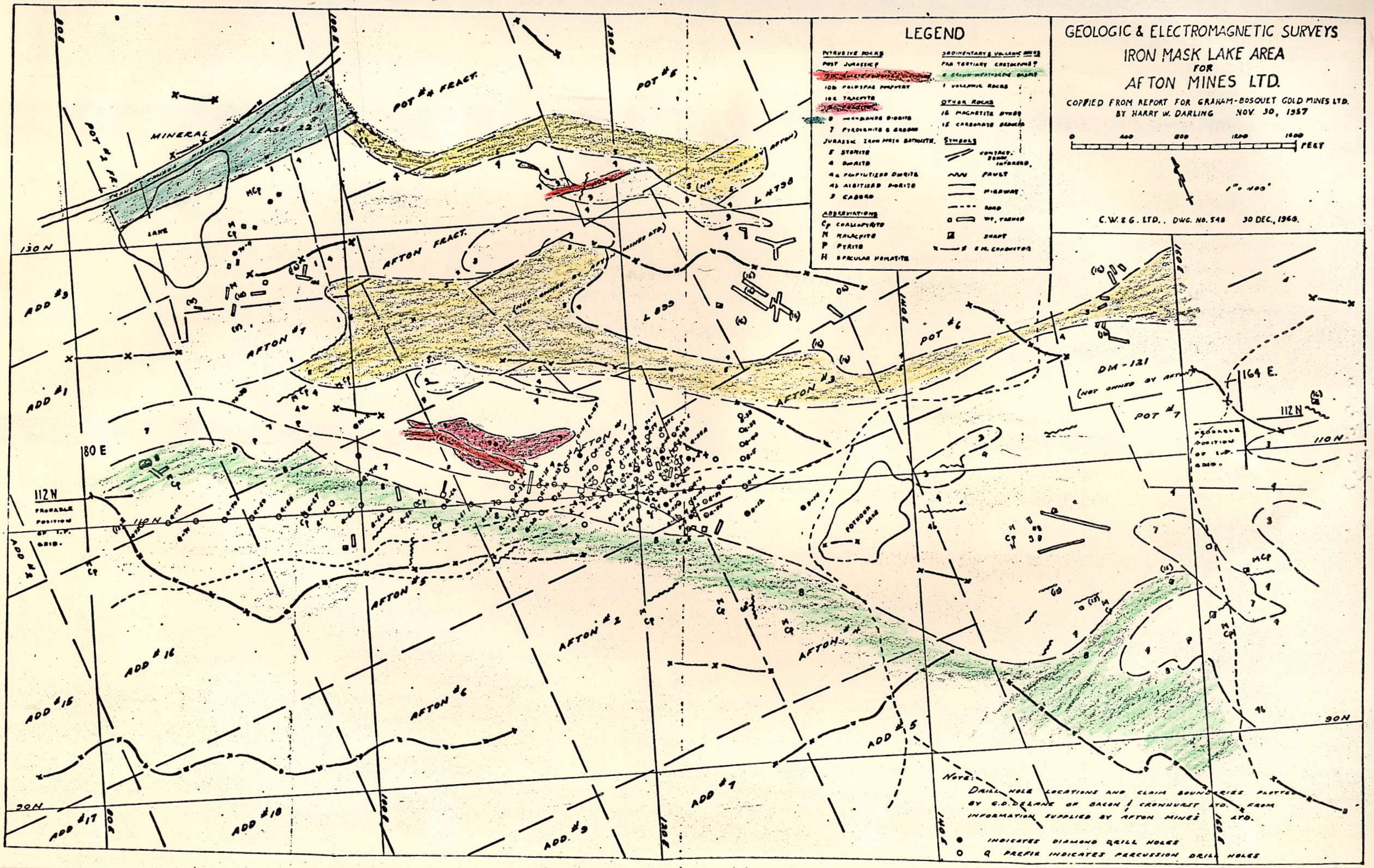

GEOLOGIC & ELECTROMAGNETIC SURVEYS
IRON MASK LAKE AREA
FOR
AFTON MINES LTD.
COPIED FROM REPORT FOR GRAHAM-BOSQUET GOLD MINES LTD.
BY HARRY W. DARLING NOV. 30, 1957
0 400 800 1200 1600 FEET
C.W. & G. LTD., DWG. NO. 548 30 DEC., 1960.
LEGEND
INTRUSIVE ROCKS
POST JURASSIC?
10b FELDSPAR PORPHYRY
10c TRACHYTE
7 PYROXENITE & GABBRO
JURASSIC IRON MASK BATHOLITH.
5 SYENITE
4 DIORITE
4a PROPYLITIZED DIORITE
4b ALBITIZED DIORITE
3 GABBRO
SEDIMENTARY & VOLCANIC ROCKS
PRE TERTIARY CRETACEOUS?
1 VOLCANIC ROCKS
OTHER ROCKS
16 MAGNETITE DYKES
15 CARBONATE BRECCIA
SYMBOLS
CONTACT, SEEN, INFERRED.
FAULT
HIGHWAY
ROAD
SHAFT
E.M. CONDUCTOR
ABBREVIATIONS
Cp CHALCOPYRITE
M MALACHITE
P PYRITE
H SPECULAR HEMATITE
MINERAL LEASE 22
TRANS CANADA HIGHWAY
LAKE
POT #4 FRACT.
POT #6
POT #2 FR.
AFTON FRACT.
AFTON #7
AFTON #3
AFTON #1
AFTON #5
AFTON #2
AFTON #4
AFTON #6
L 4738
L 899
DM-121
(NOT OWNED BY AFTON)
POT #7
ADD #3
ADD #1
ADD #2
ADD #16
ADD #15
ADD #17
ADD #18
ADD. #9
ADD #1
ADD #5
130 N
112 N
110 N
90 N
80 E
164 E.
PROBABLE POSITION OF I.P. GRID.
POTHOOK LAKE
Note:
DRILL HOLE LOCATIONS AND CLAIM BOUNDARIES PLOTTED BY G.D. DELANE OF BACON & CROWNHURST LTD. FROM INFORMATION SUPPLIED BY AFTON MINES LTD.
● INDICATES DIAMOND DRILL HOLES
○ Q PREFIX INDICATES PERCUSSION DRILL HOLES

PLATE 3

AFTON
MINES LIMITED

PROGRESS REPORT
DECEMBER 1971

CORPORATE DATA

HEAD OFFICE:
Suite C - 1758 West 8th Avenue
Vancouver 9, B.C.
Telephone: 738-3144 (Area Code 604)

REGISTERED OFFICE:
Suite 801 - 900 West Hastings Street
Vancouver 1, B.C.

OFFICERS AND DIRECTORS:
Chester F. Millar, West Vancouver, B.C., *President and Director*
Douglas L. Price, Burnaby, B.C., *Director*
John Haramboure, Vancouver, B.C., *Director*
Fredrick W. Maycock, Vancouver, B.C., *Secretary*

SOLICITORS:
Brian Reynolds and George Goulet
Lawrence and Shaw,
801 - 900 West Hastings Street
Vancouver 1, B.C.

REGISTRAR AND TRANSFER AGENT:
Canada Trust - Huron and Erie
901 West Pender Street
Vancouver 1, B.C.

AUDITORS:
Thorne, Gunn, Helliwell and Christenson
1177 West Hastings Street
Vancouver 1, B.C.

SHARES LISTED:
Vancouver Stock Exchange

CAPITALIZATION:

Authorized	5,000,000 shares
Issued	2,524,020 shares

WORKING CAPITAL:
$250,000 at December 1, 1971

UNDERWRITERS:
Carlisle, Douglas & Co. Ltd.
890 West Pender Street
Vancouver 1, B.C.

West Coast Securities Ltd.
845 West Pender Street
Vancouver 1, B.C.

CONSULTANTS:
Bacon and Crowhurst Ltd.
1720 - 1055 West Hastings Street
Vancouver 1, B.C.
Telephone: 688-5485 (Area Code 604)

BANK:
Bank of Nova Scotia
Dunsmuir & Howe Streets
Vancouver 1, B.C.

PROPERTY INFORMATION

"Primary Native Copper" has been identified from material from a series of holes drilled on your company's 53 claim property, located 10 miles west of Kamloops, B.C. Impressive amounts of native copper are visible in the NQ core from the 71-1 vertical diamond drill hole which has been completed at 800 feet. No assays have as yet been received from this hole. The core is being logged and split in Kamloops with the split samples currently being shipped to Vancouver for assaying. Some results will likely be available about December 22, 1971.

Native copper requires a different procedure in assaying to that normally followed in assaying for sulphide coppers, chalcopyrite, bornite or calcocite. The hole 71-1 was completed at 800 feet then the machine was moved 400 feet to the west and drill hole No. 71-2 was started as a vertical hole and has an objective of 800 feet. No. 72-1 is planned to be 400 feet north of 71-2 and 72-2 is planned for 400 feet east of 72-1, or 400 feet north of 71-1 to complete the 400 foot grid for the diamond drill holes.

The current series of diamond drill holes were undertaken as a result of the encouraging assays obtained in a series of 17 percussion holes drilled by the company in a program which was started in September 1971, following return of 100% interest in the property to Afton Mines from Quintana Minerals Corp., which company had held a working option on the ground from April 1, 1971.

Quintana carried out a program of drilling on the property apparently to test the induced polarization lows on the fringes of the property and did not drill in the interior of the ground or near the Lake Zone where the recent drilling has obtained the encouraging results. The 17 percussion holes drilled by Quintana were mostly to 300 feet deep and spaced at one-quarter mile intervals around the perimeter of the property. The best Quintana

hole assayed 150 feet of approximately 0.1% native copper well off of the I.P. anomalies.

The series of percussion holes started after Quintana returned the ground was located close to diamond drill hole 70-4 which intersected 250 feet of 0.413% native copper. All of the percussion drill holes put down by Afton this fall were on 100 foot intervals, to a depth of 300 feet and vertical. They cover an area 600 feet east west by 600 feet north south. As the diamond drilling is continuing, the percussion program is being advanced on the 100 foot grid. The most recent 16 percussion holes, which brings the total to 33 drilled by Afton since September, have been along the south and east and have extended the area of native copper but no assays have yet been received on the most recent 16 holes.

The Lake Zone now being drilled is also sometimes called the New Zone, and is located 3,000 feet to the northwest of the Pothook zone, also on the property, and the zone which has received the majority of the previous exploration on the property. Ore reserves on the Pothook zone have been variously quoted between 500,000 and 2,000,000 tons with the most widely accepted estimate being some 600,000 tons grading 0.63% copper. In a 1965 report Chapman, Wood and Griswold, consulting engineers gave the Pothook zone a potential of between 50,000,000 and 150,000,000 tons which, with a tener of 0.6% copper sufficiently near the surface, could support an economically feasible open pit mining operation.

The geology of the New Zone has been the subject of considerable study in recent weeks with the result that it has been established that the native copper is in an altered intrusive breccia and is not directly associated with the volcanic formations. There are no sulphides with this native copper no pyrite, no chalcopyrite and no bornite.

The Lake Zone is along the north fringe of a large Induced Polarization (I.P.) high which may have been caused by the native copper. If the I.P. is caused by the native copper, the property potential would be quite large. Testing of the theory is currently underway by the drilling. All of the I.P. survey work to date has suggested that there is a good potential for the mineralization to go to considerable depth. The I.P. readings have not indicated a termination to depth.

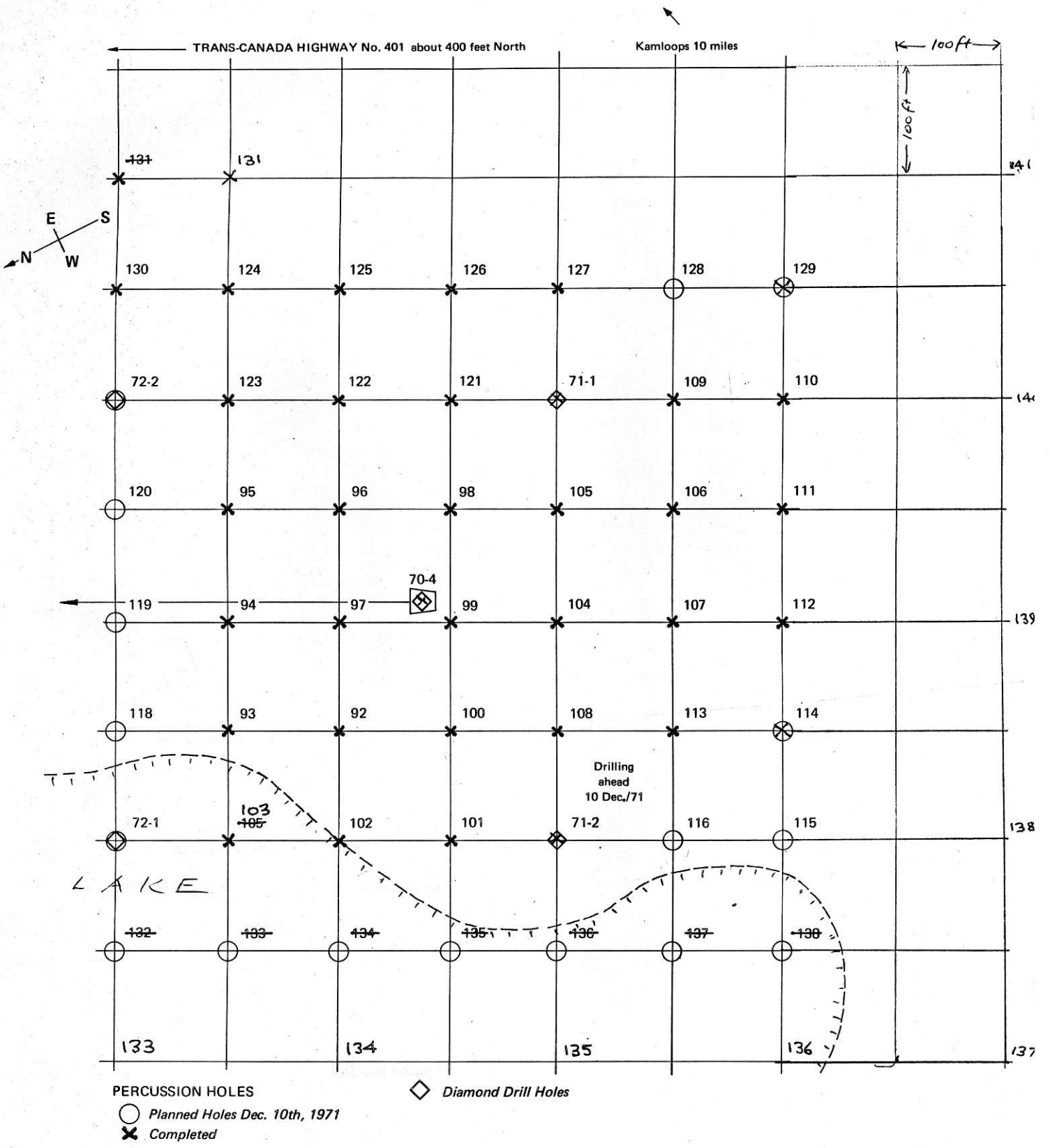
Some metallurgical work done on native copper recovery from samples for the property in 1965 or 1966 by Britton Research Ltd. indicated that recoveries of 85% to 90% could be expected by the use of tables and jigs in association with conventional flotation systems. The work indicates that a premium copper concentrate will be obtained from this native copper. The indication is that the concentrates could be in the plus 85% copper area. (With chalcopyrite mineralization, copper content of concentrates varies from 25% to 35%) Concentrates from native copper will have a shipping costs advantage and a smelting-refining advantage of a non-sulphur product.

Through West Coast Securities Ltd. and Carlisle, Douglas & Co. Ltd., Afton recently sold a total of 600,000 shares to net $220,000 which is available to continue the present work. Following the financing there are 2,524,020 shares issued of the 5,000,000 shares authorized. With the funds on hand before the financing the company at December 1, 1971, had approximately $270,000 in the bank. These funds are considered ample for the next six months program, at least, and no further financing will be undertaken until the presently planned work is completed, by which time an agreement for senior financing is likely to have been arranged.

TABLE OF DRILL HOLES

HOLE NO.	INTERVAL	FOOTAGE	COPPER %
DD70-4	0 – 250	250 ft.	0.413%
DD71-1	(Completed to 800 feet)		
DD71-2	(Drilled at plus 200 feet December 10, 1971)		
DD72-1	(Planned)		
DD72-2	(Planned)		
Q92	10 – 300	290 ft.	0.64 %
Q93	80 – 160	80 ft.	0.63
Q94	250 – 300	50 ft.	0.74
Q95	10 – 30	20 ft.	0.10
Q96	200 – 280	80 ft.	0.49
Q97	20 – 300	280 ft.	0.66
Q98	130 – 300	170 ft.	0.66
Q99	50 – 300	250 ft.	0.67
Q100	230 – 300	70 ft.	0.45
Q101	190 – 300	110 ft.	0.74
Q102	40 – 300	260 ft.	0.52
Q103	150 – 300	150 ft.	0.72
Q104	70 – 300	230 ft.	0.45
Q105	40 – 300	260 ft.	0.87
Q106	20 – 300	280 ft.	1.07
Q107	100 – 300	200 ft.	0.56
Q108	150 – 250	100 ft.	0.27
Q109			
Q110			
Q111			
Q112			
Q113			
Q114			
Q115			
Q116			
Q117			
Q118			
Q119			
Q120			
Q121			
Q122			
Q123			
Q124			
Q125			
Q126			
Q127			
Q128			
Q129			
Q130			
Q131			
Q132			
Q133			
Q134			
Q135			
Q136			
Q137			
Q138			

DRILL PLAN



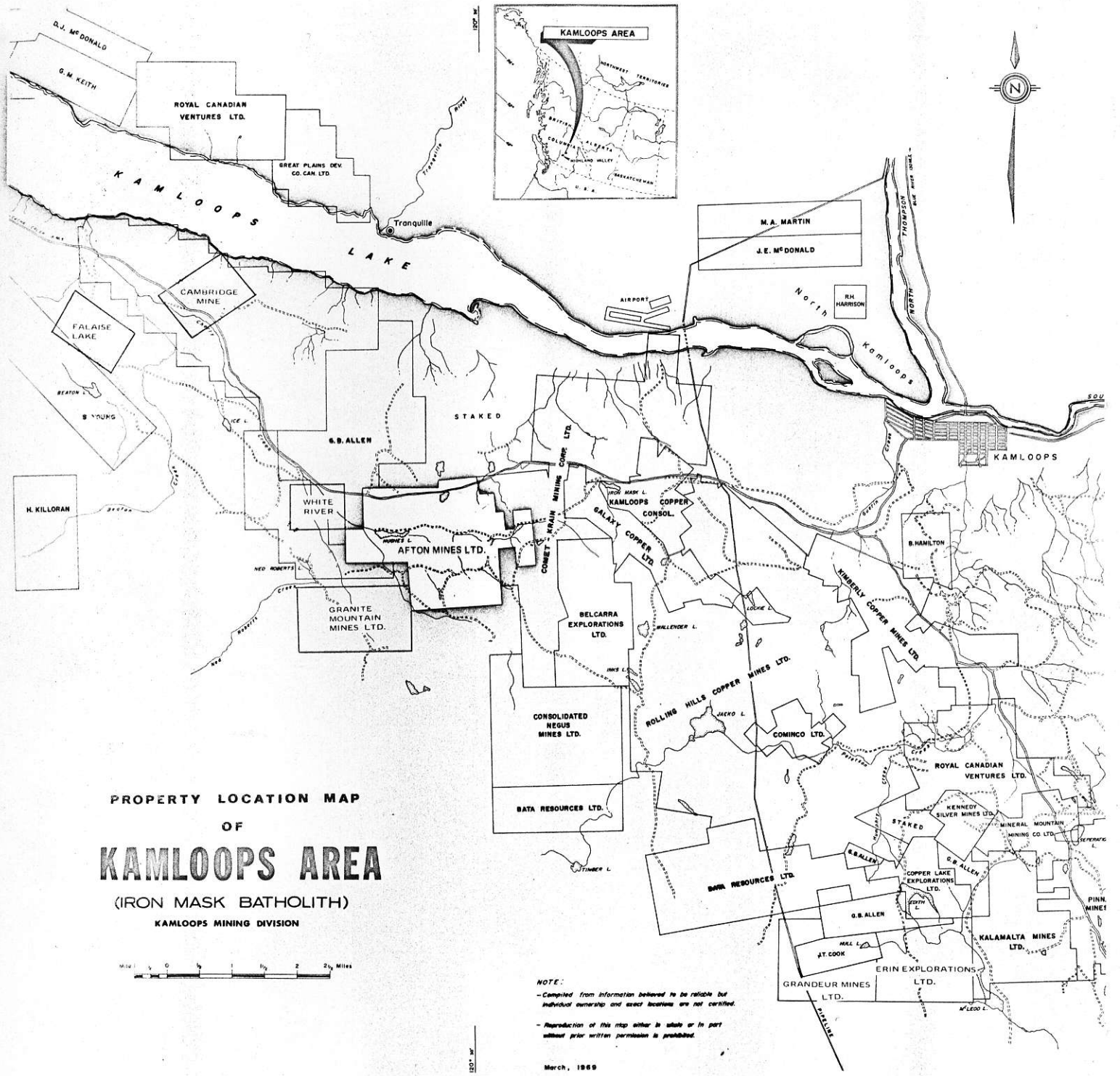
PERCUSSION HOLES

◯ *Planned Holes Dec. 10th, 1971*

✕ *Completed*

◇ *Diamond Drill Holes*

PROPERTY MAP



PROPERTY LOCATION MAP

OF

KAMLOOPS AREA

(IRON MASK BATHOLITH)

KAMLOOPS MINING DIVISION

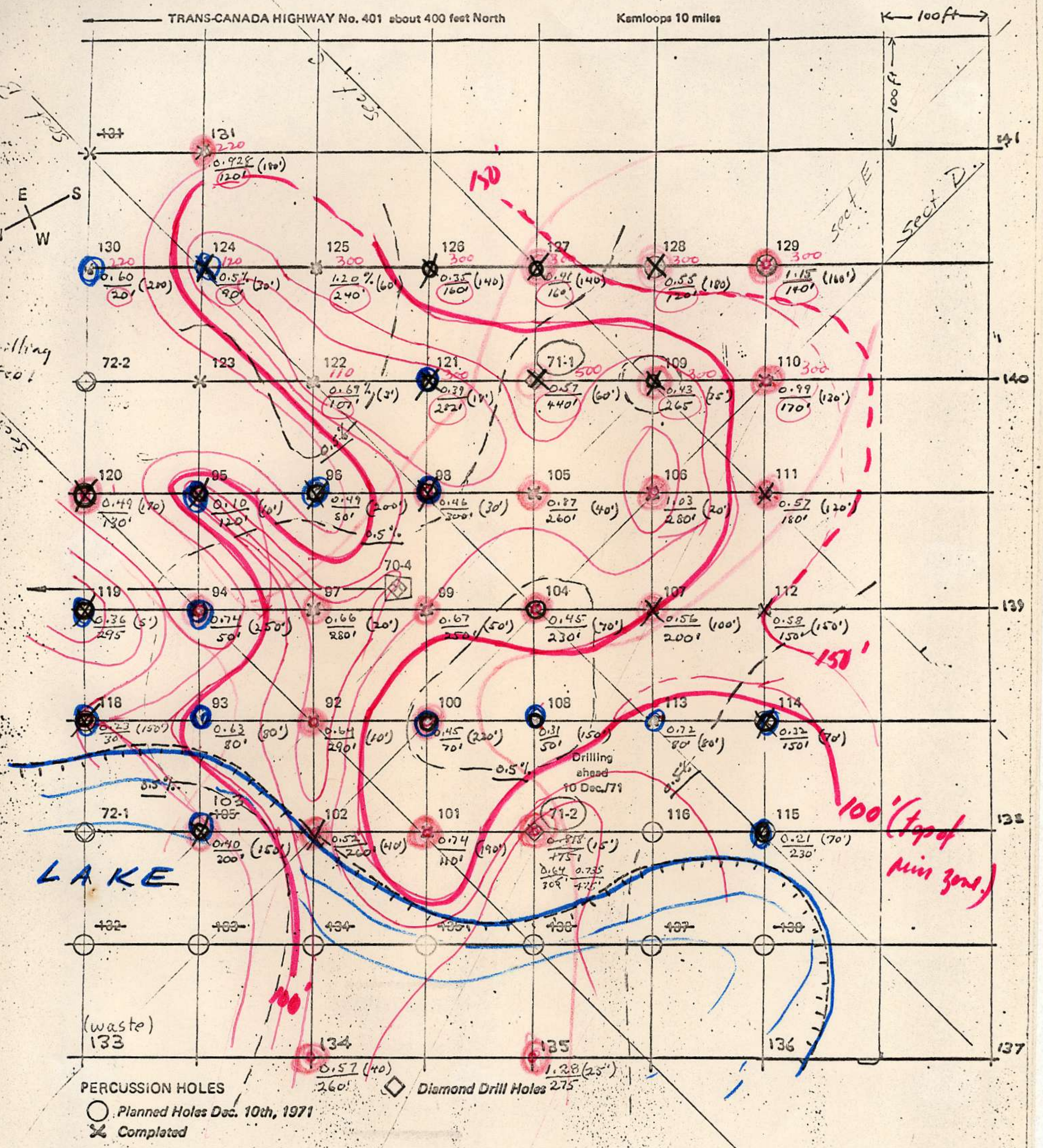
Miles ½ 0 ½ 1 1½ 2 2½ Miles

NOTE:

- Compiled from information believed to be reliable but individual ownership and exact locations are not certified.
- Reproduction of this map either in whole or in part without prior written permission is prohibited.

March, 1969

DRILL PLAN



— — — Cu 0.5 + greater contour

(180) means log of intersection

92I

THE NORTHERN MINER

JANUARY 27, 1972

Afton reports on four holes

VANCOUVER — Chester F. Millar, president, Afton Mines, reports partial results from the second diamond drill hole and assay results from a further three percussion holes drilled on the company's copper prospect near Kamloops, B.C.

Diamond drill hole 71-2 gave 305 ft. from 15 to 320 ft. of 0.64% copper. The hole was drilled to 800 ft. and assays below 320 ft. are awaited.

Percussion hole Q114 ran 0.40% copper from 40 to 300 ft., Q129 returned 140 ft. between 163-300, of 1.15%, and Q130 showed 20 ft. from 280-300 of 0.60%.

The third diamond drill hole in the current series, 72-1, drilled 400 ft. north of 71-2, was stopped at 506 ft. No assays on this hole have been received. The copper values in the hole, Mr. Millar reported, were cut off below 200 ft. by a fault contact with volcanics. The rig has been moved to hole 72-2.

The percussion hole spacing has been moved out to 200 ft. centres to accelerate coverage of the property. About 200 ft. west of diamond drill hole 7-21, percussion hole Q133 has been completed and to the south of this hole at 200 ft. intervals four other percussion holes have been completed. Assays are not yet available on these. The percussion drill has now been moved 200 ft. east to drill Q138 and it is planned to drill a further three percussion holes at 200 ft. spacings to the east.

92I

attach to previous.

THE NORTHERN MINER

JANUARY 20, 1972

Further assays by Afton Mines

VANCOUVER — Afton Mines reports assay results from a further five percussion drill holes on its copper prospect, 10 miles west of Kamloops, B.C.

The most significant holes, according to D. L. Price, vice-president, is Q 131 which indicates a 100-ft. extension east to the zone. The hole returned a 120-ft. core from 180 to 300 ft. which ran 0.928% copper.

Q 130, apparently outside the zone, returned only slight mineralization.

Two of the holes showed better than average grades of copper for the zone. One of these is Q 125, a fill-in hole, which gave 240 ft., 60-300 ft., 1.2% copper. Included in the 240-ft. section is a 60-ft. core, 220-280, of 2.12% copper. Q 129 on the southeast corner of the grid returned 70 ft., 160-230, of 0.61% and a further 30-ft. section, 260-290, of 2.02%.

Q 114 on the southwest corner of the grid showed a 10-ft. core, 70-80, of 0.97% and a 70-ft. section, 150-220, which ran 0.55%.

92 I

THE NORTHERN MINER

JANUARY 13, 1972

Latest section at Afton returns better grade

The first section of the second diamond drill hole, 71-2, on the Lake zone of Afton Mines property near Kamloops, B.C., averaged 1.07% copper from interval 15 - 100 ft., according to D. L. Price, vice-president. A further 250 ft. of core, from 100-350 ft., has been shipped to Vancouver for assay. The hole was put down 400 ft. west of 71-1, which ran 0.57% copper from 60 - 500 ft.

Mr. Price reported results from a further five percussion holes that were drilled on the east side of the zone. Q-122 returned 0.69% copper from 3-110 ft.; Q-124, 0.50% from 30-120 ft.; Q-126, 0.35% from 140-300 ft.; Q-127, 0.41% from 140-300 ft., and Q-128, 0.55% from 180-300 ft.

Drilling is continuing in an effort to establish boundaries to the mineralization. The zone is open to extension in all directions.

12 T.

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

J.H.S. ✓
P.M.K. ✓
G.M.H.
R.D.S.
B.C.B.
I.D.B.
M.D.R.
J.H.F.

E.C.J.

To P. M. Kavanagh **From** G. M. Hogg

Subject Afton Mines Ltd., Copper Property, Kamloops Area, B.C. **Date** December 30, 1971

W. Sirola advises that presently available figures on the Afton prospect in the Kamloops area indicate a tonnage of 15 million at a grade of 0.6% Cu to a depth of 500 feet. The mineralized zone is northwesterly trending, and in a granitized volcanic rock - probably a roof pendant. Mineralization is disseminated native copper.

The zone has been tested over a length of 400 feet to date, and could have a maximum length of 1,000 feet. The average width is 250 feet, precluding an open pit situation below 300 feet or so.

Assuming a length of 1,000 feet and a width of 300 feet, the potential tonnage of the prospect being tested is 25,000 cu. ft./vertical ft. (12 cu. ft./ton). To a depth of 300 feet this would allow a tonnage of 7,500,000. At 0.6% Cu grade it does not appear particularly attractive.

W. Sirola also notes that another area on the southeast side of the property is underlain by volcanic rocks. However, there is no indication of mineralization known in this vicinity.

GMH:lfr

G. M. Hogg