GEOLOGICAL REPORT

GEOLOGICAL SURVEY OF A PORTION OF THE GM MINERAL CLAIM GROUP

CARIBOO MINING DIVISION

GRANITE MOUNTAIN AREA

MCLEESE LAKE, B.C.

52° 122° N.E.

BY

C. M. ARMSTRONG P.ENG. (ONT)

FOR

P. W. BUTLER
KEEVIL MINING GROUP LIMITED

BETWEEN

JUNE 12th AND NOVEMBER 3rd, 1967

1596

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I INTRODUCTION

The geological work described in this report represents one phase of a continuing program of exploration of the GM mineral claims on the Granite Mountain quartz diorite pluton by the Keevil Mining Group Limited.

Initial work on the GM group comprised a reconnaissance geological and geochemical survey which was conducted by K. C. Rose, P.Eng., between July 3rd and August 25th, 1964. Reconnaissance-type geological mapping at a scale of 1" = ½mi. was carried out employing air photographs of the same scale. All claim location lines were traversed, and major outcrop areas were examined. Soil sampling at paced 200-foot intervals along east-west claim location lines suggested a 12,000-foot (plus) long, moderately strong, northwesterly trending, lens-shaped copper anomaly varying in width from 200 feet at the extremities to 1500 feet (or more, depending on interpretation) centrally.

Recommended follow-up work involved a detailed, grid soil sampling program over most of the above anomalous area, and was conducted by R. Addison, P. Eng., between September 23rd and October 12th, 1965. Commencing at the southeast corner of the property a 13,800-foot baseline was cut at a bearing of N 50° W, approximately coincident with the axis of the copper soil anomaly. At 800-foot intervals initially, and 400-foot intervals latterly, crosslines were paced for 1000 feet and 2000 feet, respectively, on either side, and normal to, the baseline. Soil sampling was carried out at 200-foot intervals on the base line, and at 100-foot intervals on the crosslines, for a total of approximately 16 line miles. Instead of confirming the regional geochemical interpretation, this survey defined a number of somewhat smaller anomalous zones with a similar northwesterly trend.

Between January 25th and February 14th, 1967, an induced polarization survey was conducted by S. H. Ward, P.Eng., over approximately 6 miles of recut and stationed line at 400-foot intervals, coincident with the northern portion of the geochemical survey. A Heinrich Mark II IP sender and receiver unit was employed, dipole spacing was 400 feet, frequencies were 3.0 and 0.05 cycles per second, and 2 or 4 electrode separations were used. Two separate, broad, low-intensity, northwesterly trending anomalous areas were indicated which, it was felt, might be due to porphyry-type sulphide mineralization in the underlying quartz diorite. Since both anomalies were not delimited along strike, additional IP work was recommended for the following field season.

The geological survey described herein was carried out as time permitted between June 12th and November 3rd, 1967, coincident with linecutting, geochemical and induced polarization surveys, and diamond drilling. All of this work was under the supervision of the writer. Between November 3rd and November 29th, 1967, the final stages of diamond drilling, including closing up for the winter months, were supervised by T. O. H. Patrick of Toronto.

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ILLUSTRATIONS

II CONCLUSIONS AND RECOMMENDATIONS

Copper content of the mineralized zone extending from 34N to 56N and from 0E to 4E is visually anomalous when compared to the great majority of exposed quartz diorite on the GM claim group.

Although it is not anticipated that the overall copper grade will exceed 0.2 %, the substantial aerial extent of mineralization warrants further investigation. Were it not for the very steep dip of the mineralized footwall shear, dry percussion drilling probably would provide a reliable indication of grade; however, in order to crosscut the entire zone, I recommend that two diamond drill holes be drilled across the structure. Since core recovery can be expected to be very good in this material, "A" core probably would provide a good sample, but "B" core would be preferrable.

The first hole should be collared 20 feet west of the baseline on line 44N, and drilled to the east at an angle of -45° to a depth of 650 feet.

The second hole should be collared 75 feet west of the baseline on line 52N, and drilled to the east at an angle of -45° to a depth of 650 feet.

Acid tests or tropari compass tests should be taken to determine the deviation of the holes.

All things considered, it is my opinion that geological mapping of the entire GM property is not warranted at this time. Mapping the 40-claim group in one field season at a scale of 1" = 100' would involve an expenditure in the order of $30,000, while mapping at a scale of 1" = 400' would cost approximately one half that amount, and combinations of the two scales would lie somewhere between the two costs.

Additional careful prospecting, particularly of anomalous geochem and IP areas coincident with exposed quartz diorite, would indicate whether potentially significant (with respect to grade and/or tonnage) copper mineralization exists. Significant zones thus found may warrant diamond drilling. Sizeable anomalous areas coincident with shallow soil cover should be trenched to expose the underlying rock, while anomalies in areas of deep overburden, unless possessing unique characteristics deemed to be favourable, should be viewed with skepticism.

III LOCATION, ACCESS, AND DESCRIPTION

The 40 GM mineral claims form a northwesterly trending group centered approximately 7 miles NNE of McLeese Lake, B. C., and lying immediately north of the Granite Mountain triangulation station (*elevation 4597 feet, $52^{\circ}30'$ N. Lat., and $122^{\circ}14'$ W. Long.).

Access to the northern contiguous group of 17 claims over which geochemical and IP surveys were conducted was provided by 4-wheel drive vehicle. From McLeese Lake the Likely Road is followed for 2 miles; a branch road to the

* Quesnel, B. C. Sheet 93B. First Status Edition - Apr. 15th, 1966. National Topographic System. Dept. of Lands, Forests, & Water Resources. B.C.

north is followed to Ross Sawmill Ltd. (2 miles) and to the Paxton Ranch (1 mile), from which point a jeep trail leads for an additional 7 miles through the Gibraltar and Duval properties to the northern portion of the GM claim group (12 road miles total).

Access to the southern portion of the property was by one of two routes. The one most commonly used branched from the above route at Ross Sawmill Ltd. (4 miles from McLeese Lake), following a jeep trail behind the sawmill through the Gibraltar and Gunn properties, meeting the old Granite Mountain forestry access road at 8½ miles, departing from the same at 8 3/4 miles, and reaching the beginning of the base line (ON) at 10½ miles. The older alternative route, the Granite Mountain forestry access road, branches north from the Likely Road at approximately 6 miles from McLeese Lake, meeting the above route at 10 miles, and continuing either to the summit of Granite Mountain at 11½ miles or branching east on the Gunn road to the beginning of the baseline (ON) at 12 miles.

The northern portion of the property occupies an outcropless, horseshoe-shaped depression some 600 to 700 feet lower in elevation than the summit of Granite Mountain, flanked by low hills with moderate outcrop exposure (approximately 20%). A small lake (800' NS by 1200' EW) is drained by a narrow stream flowing westerly for 3 miles to Cuisson Creek. Forest cover is generally moderate, with stands of douglas fir and lodgepole pine (18" diameter, or less) in the lowest areas, and fairly heavy secondary jackpine growth (4" average) on the hills and slopes.

The southern portion of the property is more variable both in relief and in forest cover. Outcrop exposure is moderate, being in the order of 15% overall. The western slopes tend to be either open and grassy or densely wooded with near-commercial stands of lodgepole pine. Old burn areas, characteristic of the eastern flanks, support either dense growths of secondary jackpine or severe windfalls and "snowfalls" which drastically hamper movement. Small, grassy meadows are fairly common in restricted depressions. In normal summer seasons these areas are predominantly wet and swampy, but in the particularly dry 1967 summer all dried up, such that the only adequate source of water for diamond drilling was the shallow, 250-foot diameter pond 2000 feet north of the Granite Mountain triangulation station.

IV SURVEY GRID

The existing base line, 13,800 feet long (138N), was extended at a bearing of N 50° W to 18,000 feet (180N) with marked pickets at 100-foot stations (as on all lines), and picket lines were turned off at 400-foot intervals. A Wild Compass Theodolite, effective because of the very low magnetic relief in the area, was employed periodically to ensure a good measure of accuracy in this work. Magnetic declination was taken to be 25°10' E. The existing base line was brushed out and rechained and picketed from 138N to 120N, no effort being made to straighten out irregularities in the line. Picket line 124N was transited to station 30E, at which point a tie line was established at bearing N 50° W, parallel to the base line. The tie line was transitted to the northern claim boundary at 164N with picket lines again turned off at 400-foot intervals, and also to the eastern property boundary at 70N. In

the latter case, pre-existing picket lines were tied into the survey, and beyond these, picket lines were turned off at 400-foot intervals. Line 120N was brushed out, rechained and picketed, and extended to the property boundary, following which the 400'-interval lines from 128N to 180N were cut.

Picket lines, cut to the property boundaries, were run by line-of-sight picketing with periodic compass checks. Two-man crews generally were employed, one man cutting line ahead with a light chainsaw, and the other blazing the line, and cutting, sharpening, marking, flagging, and setting pickets. Chaining usually was done by the crews once or twice a day. Minimum line width was 2 feet, and in the order of 4000 feet was cut per crew per day. No commercial timber was cut.

Following completion of the northern portion of the claim group, line cutting for geophysical and geological surveys was continued on the southern portion. The base line was brushed out, blazed, repicketed, and surveyed to 138N. A consistent chainage error was determined in the original base line, such that the new 120N was 600 feet short of the original 120N (an error of between 4 and 5 feet per hundred). With age, fully intact 100-foot nylon chains can shrink more than 2 feet, making accuracy very difficult. Metallic-cloth tapes were found to be significantly more accurate than the nylon, although less convenient to drag through the underbrush. Picket lines were turned off at 400-foot intervals and cut to the claim boundaries. Old line 96N, new line 101N, was brushed out, blazed, repicketed, and extended to the east and west boundaries.

A total of 40 miles of line were cut, blazed, and stationed between June 29th and August 14th, 1967. Total cost was $126 per line mile.

To aid in the preparation of a reasonably accurate base plan, in addition to the base line, a number of picket lines were surveyed with the Wild Compass Theodolite and 100-foot metallic-cloth tape (checked for accuracy against a steel chain). The survey commenced with the base line (0 to 138N) and continued with picket lines 48N (0 to 30E), 64N (0 to 22E), 76N (0 to 11E), and 88N (0 to 18W). Survey notes may be found in the Appendix. Angles measured with the compass theodolite were reproduceable to less than 15 minutes. Where errors in picket line chaining by the linecutting crews were found, the pickets were moved to the correct horizontal chainage. By and large the original chaining was quite good, a reflection no doubt, of the frequent length-standardizing of the oft-mutilated nylon chains.

V GENERAL GEOLOGY

Information concerning the regional geology of the area is obtained from the 1957 geological reconnaissance survey by H. W. Tipper, and appearing on Map 12-1959, Geology, Quesnel, Cariboo District, British Columbia, Sheet 93B, Scale 1" = 4 miles, published by the Geological Survey of Canada. Since the writer made no attempt to investigate areas beyond the confines of the Granite Mountain quartz diorite, no significant contributions can be made to the regional picture.

Within a 10-mile radius of the topographically high Granite Mountain, exposed rocks, in chronological sequence, are:

Paleozoic: Permian and older Cache Creek Group comprised principally of chert, argillite, limestone, and greenstone, with minor graywacke and conglomerate. These rocks are generally tightly folded, contorted, sheared, and metamorphosed. Some skarn is evident along the southeast contact of the following quartz diorite.

Mesozoic: Coarse grained, gneissic, plutonic quartz diorite of uncertain age. As a possible source of metalliferous copper or copper-molybdenite deposits, this intrusive and bordering intruded rocks of the Cache Creek Group, above, represent prime targets of exploration in the area. Aerially, the intrusive is 2 to 6 miles in width and approximately 15 miles in length; the axis of the batholithic structure is roughly oriented in a north-south direction.

Cenozoic: Along the Fraser River Eocene and/or Oligocene conglomerate, sandstone, graywacke, shale, lignite, and minor breccia, tuff, and basalt are conformably overlain or interbedded with basalt and andesite with related tuff and breccia, and minor conglomerate, sandstone, and shale.

Relatively undeformed Miocene and Pliocene (?) plateau-type lavas, basalt and andesite with associated tuff and breccia, and minor conglomerate, sandstone, and shale, overlie the above sequence with angular discordance. These volcanics are observed to onlap the west side of the Granite Mountain quartz diorite south of Cuisson Lake.

Pleistocene and Recent till, gravel, sand, clay, and silt account for more than 90% of exposed material in the area. Depths of 25 to 50 feet are common throughout, and on the west flanks of Granite Mountain depths in excess of 100 feet have been recorded.

VI GEOLOGICAL SURVEY

Having held ground and conducted intermittent surveys in the Granite Mountain area since 1962, the Keevil Mining Group Limited was anxious to ascertain the economic potential of the current 39 GM claims (one additional claim was added during the 1967 season, bringing the total to 40 claims). As reported previously, anomalous copper geochem and induced polarization conditions were found by earlier surveys, but very little work was directed to determining their origin. Delineation of the anomalous zones likewise was incomplete in both instances.

For the 1967 summer field season it was decided: to extend the geochemical survey over the northern claims; to extend the IP survey over the same area, and possibly over the uncovered southern portion as well (subsequently carried

out); to examine and map the anomalous areas; and finally to diamond drill meritorious anomalies.

Between the period June 12th and September 6th, 1967, when diamond drilling commenced, the writer's time was allotted approximately as follows: geological mapping 20%; prospecting 50%; supervision of linecutting, surveying, geochemistry, induced polarization; and diamond drilling preparation (roads, core storage, sludge drying, etc.) 25%; and other related tasks 5%.

The large proportion of time devoted to prospecting resulted from a concerted effort to locate zones of significant surficial copper or molybdenum mineralization which might warrant diamond drilling. The northern claim group was thoroughly prospected without locating any outcrops containing copper mineralization in quantities sufficient to account for the consistently anomalous soil samples in this low and generally damp area (swampy in most seasons). Notes concerning the geology and mineralogy were taken during all prospecting, but, for reasons of time, no effort was made to map the exposures. Most of the grid on the southern portion of the claim group also was prospected, and here a number of visually anomalous copper and copper-molybdenum occurrences were found.

Two plans accompany this report: the first a survey and geology plan of the GM property on a scale of 1" = 400', and the second a more detailed geology plan on a scale of 1" = 100' covering an area containing visually anomalous copper and molybdenum mineralization.

VII DETAILED GEOLOGICAL MAPPING

Prospecting in a conspicuous, northerly trending ravine, presumably the surface manifestation of a substantial fault, led to the discovery of a 400-foot wide zone of sparse chalcopyrite mineralization, and several strong, but generally narrow, quartz veins carrying variable quantities of molybdenite. On line 56N this zone extends from the base line to 4E. Since the mineralization appeared to be continuous to the south, it was decided to map as much of the area as possible at a scale of 1" = 100'.

As an aid to mapping, the 400-foot area between picket lines was flagged at 50-foot intervals by two helpers. An area substantially larger than that mapped during the summer was flagged, in the event that additional mapping be carried out at a later date. Outcrop exposure is in the order of 25% in this area.

The mapping defined a fairly strong footwall shear approximately 40 feet in width, and apparently continuous over a strike length of 2200 feet, at which point it terminates at another northerly trending linear. No obvious extensions of the shear were found beyond the delimiting faults (?). Dip of the structure varies from 65° SW to vertical, with the steeper dip prevailing. Although the shear is weathered and "loose" at surface, and generally iron-stained, sparsely disseminated chalcopyrite may be observed in most.

The quartz diorite in the footwall of the shear is weakly foliated or gneissic (strike N 50° W; dip 15° to 30° SW), and well jointed, even sheeted (strike

N 80° W, dip 65° S). Some vertical north-south jointing also is found. In spite of the well fractured nature of the rock, metallic mineralization, mostly pyrite, occurs only in trace quantities.

For 300 to 350 feet in the hangingwall of the shear zone the quartz diorite is quite variable structurally, but "always" contains at least traces of chalcopyrite or secondary malachite (visually much more than that in most of the quartz diorite on the claim group). Copper content gradually decreases to the southwest. Weathering of the chalcopyrite in the area appears to be relatively minor. Pyrite content is equal to, or slightly greater than, the chalcopyrite content. Foliation, sheeting, and jointing, similar in attitude to that of the footwall rocks occur in various combinations and intensities; discontinuous shears also are found. Quartz veins carrying easily visible molybdenite and its yellow oxidation product ferrimolybdite vary in width from less than 1 inch to more than 3 feet. Some of the larger veins appear to be continuous along strike (N 65° W) for 800 feet, or more. Dips vary from 45° to 75°, with the flatter attitudes prevailing. Smears of molybdenite occasionally are observed along slip surfaces in weak shears, but most molybdenite is associated with quartz, be it narrow ($\frac{1}{4}$" or less) silicification (?) stringers or vein quartz.

Megascopically the quartz diorite displays mineralogical and textural features characteristic of a metamorphic terrain. Weak gneissosity or foliation results from the parallel alignment of chloritized mafic minerals and from the elongation of quartz grains. A typical mineral composition in the map area would be: quartz 50%; epidotized plagioclase feldspar 35%; chloritized mafics 10%; sulphides (pyrite, chalcopyrite, and molybdenite) less than 5%; and generally minor sericite and carbonate alteration and introduced epidote.

VIII DETAILS OF EXPENDITURES FOR ASSESSMENT PURPOSES

1. Geological Mapping

Details of Costs

Services:	Geological engineer. C. M. Armstrong. 21 days	$ 675.00	
	Helpers. B. Blackall. 46 hrs. @ $2.00	92.00	
	L. Paquette. 70 hrs. @ $2.00	140.00	
	Total Service		$ 907.00
Field Expenses:	Board and lodging	319.15	
	Vehicle and servicing	259.85	
	Supplies	15.28	
	Total Field Expense		594.28
	TOTAL		$1501.28

Record of Personnel

C. M. Armstrong Geological engineer. Responsible for

supervision of exploration of GM claims for Keevil Mining Group Ltd. between June 12th and November 3rd, 1967.
4088 West 16th Avenue,
Vancouver 8, B.C.

B. Blackall — Helper.
P. O. Box 917,
Williams Lake, B. C.

L. Paquette — Helper.
Box 121,
McLeese Lake, B. C.

2. Surveying

Details of Costs

Services:	Surveyor.	B. Blackall. 100 hrs. @ $2.00	$ 200.00	
	Helpers.	G. Mitchell. 26 hrs. @ $2.00	52.00	
		L. Paquette. 40 hrs. @ $2.00	80.00	
			Total Service	$ 332.00
Field Expense:		Board and lodging	170.15	
		Vehicle and servicing	119.65	
			Total Field Expense	289.80
			TOTAL	$ 621.80

Record of Personnel

B. Blackall — Surveyor.
P. O. Box 917,
Williams Lake, B. C.

G. Mitchell — Helper.
P. O. Box 254,
Williams Lake, B. C.

L. Paquette — Helper.
Box 121,
McLeese Lake, B. C.

TOTAL COST attributable to geologic mapping program $ 2123.08

IX AFFIDAVIT OF QUALIFICATIONS

I, C. M. Armstrong, of Vancouver, British Columbia, do hereby certify that:

1. I am a geological engineer, residing at 4088 West 16th Avenue, Vancouver 8, British Columbia.

2. I am a registered Professional Engineer in the Province of Ontario.

3. I received the degree of B.Sc. in Geological Engineering from Queen's University, Kingston, Ontario, in May 1960, and have practised my profession since that time. Currently I am working towards an M.A.Sc. degree in Mineral Engineering at the University of British Columbia.

4. I have no interest, direct or indirect, nor do I expect to receive any such interest, in the property or securities of Keevil Mining Group Limited.

5. I conducted or supervised all work described in this report.

Dated at Vancouver this
29th day of March, 1968

C. M. Armstrong, P.Eng (Ont)

APPENDIX

[illegible] BASE LINE CALCULATIONS

Survey with a [illegible] Degree Theodolite.
Commencing at 13[illegible] N – 0.
Reference azimuth (ML): 104°50' (not corrected for declin – 25°10'E).

Stn.	Angle E or W	Cosine Angle	N. Dist. (S) (100 x Cos Ang)	Sine Angle	E. Dist. (E or W) (100 x Sin Ang)	Coordinates North West South East
[illegible]						14419.668 N 226.727 W
[illegible]	1°20' W	0.99973	99.973 ✓	0.02327	2.327 W ✓	14319.695 N 224.400 W
[illegible] 136 N	0°45' W	0.99991	99.991 ✓	0.01309	1.309 W ✓	14219.704 N 223.091 W
135 [illegible]	3°10' W	0.99847	99.847 ✓	0.05524	5.524 W ✓	14119.857 N 217.567 W
[illegible]	2°35' W	0.99898	99.898 ✓	0.04507	4.507 W ✓	14019.959 N 213.060 W
[illegible]	4°10' W	0.99736	99.736 ✓	0.07266	7.266 W ✓	13920.223 N 205.794 W
[illegible]	2°30' E	0.99905	99.905 ✓	0.04362	4.362 E ✓	13820.318 N 210.156 W
[illegible]	2°05' E	0.99934	99.934 ✓	0.03635	3.635 E ✓	13720.384 N 213.791 W
[illegible]	[illegible] W	0.99979	99.979 ✓	0.02036	2.036 W ✓	13620.405 N 211.755 W
[illegible]	1°55 E ~~2°55 E~~	0.99944 ~~0.99872~~	99.944 ~~99.872~~	0.03345 ~~0.05088~~	3.345 E ~~5.088 E~~ ✓	13520.461 N 215.100 W
[illegible]	2°20' E ✓	.99917	99.917 ✓	0.04071	4.071 E ✓	13420.544 N 219.171 W
[illegible]	4°00' W ✓	.99756	99.756 ✓	.06976	6.976 W ✓	13320.788 N 212.195 W
[illegible]	3°00' W	.99863	99.863 ✓	0.05234	5.234 W ✓	13220.925 N 206.961 W
[illegible]	0°40' E ✓	0.99993	99.993 ✓	0.01164	1.164 E ✓	13120.932 N 208.125 W
[illegible]	0°10' E ✓	1.00000	100.000 ✓	0.00291	0.291 E ✓	13020.932 N 208.416 W
173 N	0°55' W ✓	.99987	99.987 ✓	.01600	1.600 W ✓	12920.945 N 206.816 W
[illegible]	1°30' W ✓	0.99966	99.966 ✓	0.02618	2.618 W ✓	12820.979 N 204.198 W
[illegible]	0°05' E ✓	1.00000	100.000 ✓	0.00145	0.145 E ✓	12720.979 N 204.343 W
[illegible] (circled)	1°05' W ~~[illegible]~~	0.99982 ~~0.99977~~	130.976 ~~130.[illegible]~~ Dist. 131.00	0.01891 ~~[illegible]~~	2.477 W ~~[illegible] W~~	12590.003 N 201.866 W
6' missing 111	~~2°[illegible]' W~~ ✓	.99885 ✓	99.885 ✓	0.04798	4.798 W ✓	11890.706 N 176.573 W
[illegible]	~~[illegible] W~~ ✓	0.99979 ~~.99970~~	99.979 ~~99.970~~	.02036	2.036 W ✓	11790.727 N 174.537 W
[illegible]	~~[illegible] W~~	.99839 ✓	99.839 ✓	0.05669	5.669 W ✓	11690.888 N 168.868 W
[illegible]	~~[illegible]~~ ✓	.99969	99.969 ✓	.02472	2.472 W ✓	11590.919 N 166.396 W
[illegible]	0°05' W ✓	1.00000	100.000 ✓	.00145	0.145 W ✓	11490.919 N 166.251 W
[illegible]	1°55' W ✓	0.99949 ~~.99944~~	99.949 ~~[illegible]~~	.03199	3.199 W ✓	11390.970 N 163.052 W
[illegible]	1°05' W ✓	.99982	99.982 ✓	0.01891	1.891 W ✓	11290.988 N 161.161 W
[illegible]	0°40' W ~~[illegible] W~~	0.99993 ~~0.99976~~	99.993 ~~[illegible]~~	0.01164 ~~0.00[illegible]~~	1.164 W ~~[illegible] W~~	11190.995 N 159.997 W
[illegible]	1°10' E ✓	0.99979 ~~.99970~~	99.979 ~~99.970~~	.02036	2.036 E ✓	11091.016 N 162.033 W
[illegible]	1°00' W ✓	0.99985 ✓	99.985 ✓	0.01745	1.745 W ✓	10991.031 N 160.288 W
[illegible]	0°50' E ✓	0.99989 ✓	99.989 ✓	.01454	1.454 E ✓	10891.042 N 161.742 W
[illegible]	2°55' W ✓	.99870	99.870 ✓	0.05088	5.088 W ✓	10791.172 N 156.654 W
[illegible]	1°00' W ✓	.99985	99.985 ✓	0.01745	1.745 W ✓	10691.187 N 154.909 W
[illegible]	3°50' W ✓	0.99776	99.776 ✓	0.06685	6.685 W ✓	10591.411 N 148.224 W
[illegible]	0°20' E ✓	.99998	99.998 ✓	0.00582	0.582 E ✓	10491.413 N 148.806 W
[illegible]	0°45' W ✓	.99991	99.991 ✓	.01309	1.309 ~~E~~ W	10391.422 N 147.497 W
[illegible]	4°45' W ✓	0.99657	99.657 ✓	0.08281	8.281 W ✓	10291.765 N 139.216 W

GRANITE MOUNTAIN — BASE LINE CALCULATIONS

Survey with Wild Compass Theodolite.
Coordinates wrt 138 N – 0.
Reference azimuth (BL): 104°50' (not corrected for decl'n – 25°10'E).

Sta.	Angle W or E	Cosine Angle	BL Dist.(S) (100·Cos Ang)	Sine Angle	PL Dist.(W or E) (100·Sin Ang)	Coordinates North West South East
FS 102 N	3°20'W	0.99831	99.831	0.05814	5.814 W	10191.934 N 138.402 W
101 N	Midway					N
FS 100 N	1°03'W	0.99963	199.966 Dist. 200.00	0.01832	3.664 W	9991.968 N 129.238 W
99 N	2°50'W	0.99876	299.625 Dist. 300.00	0.04953	14.829 W	9892.306 N 118.573 W
FS 98 N	5°43'W	0.99497	99.497	0.10017	10.019 W	9792.809 N 108.554 W
97 N	0°45'E	0.99991	99.991	0.01309	1.309 E	9692.818 N 109.863 W
FS 96 N	5°30'W	0.99540	99.540	0.09585	9.585 W	9593.279 N 100.278 W
95 N	1°05'W	0.99982	99.982	0.01891	1.891 W	9493.296 N 98.387 W
FS 94 N	0°10'W	1.00000	100.000	0.00291	0.291 W	9393.296 N 98.096 W
93 N	2°30'W	0.99905	99.905	0.04362	4.362 W	9293.391 N 93.734 W
FS 92 N	3°25'W	0.99822	99.822	0.05960	5.960 W	9193.569 N 87.774 W
91 N	2°10'W	0.99929	99.929	0.03781	3.781 W	9093.640 N 83.993 W
FS 90 N	2°40'W	0.99892	99.892	0.04653	4.653 W	8993.748 N 79.340 W
89 N	0°25'E	0.99997	99.997	0.00727	0.727 E	8893.751 N 80.067 W
FS 88 N	0°45'W	0.99991	99.991	0.01309	1.309 W	8793.760 N 78.758 W
87 N	3°20'E	0.99831	99.831	0.05814	5.814 E	8693.929 N 84.572 W
FS 86 N	2°25'W	0.99911	99.911	0.04217	4.217 W	8594.013 N 80.355 W
85 N	3°10'W	0.99847	99.847	0.05524	5.524 W	8494.171 N 74.831 W
FS 84 N	0°15'W	0.99999	99.999	0.00436	0.436 W	8394.172 N 74.395 W
83 N	0°20'W	0.99998	99.998	0.00582	0.582 W	8294.174 N 73.813 W
FS 82 N	1°05'W	0.99982	99.982	0.01891	1.891 W	8194.192 N 71.922 W
81 N	1°25'W	0.99969	99.969	0.02472	2.472 W	8094.223 N 69.450 W
FS 80 N	1°45'E	0.99953	99.953	0.03054	3.054 E	7994.270 N 72.504 W
79 N	1°45'E	0.99953	99.953	0.03054	3.054 E	7894.317 N 75.558 W
FS 78 N	3°45'W	0.99796	99.796	0.06540	6.540 W	7794.531 N 69.018 W
77 N	3°10'E	0.99847	99.847	0.05524	5.524 E	7694.684 N 74.542 W
FS 76 N	1°30'E	0.99966	99.966	0.02618	2.618 E	7594.718 N 77.160 W
75 N	5°15'W	0.99580	99.580	0.09150	9.150 W	7495.139 N 68.010 W
FS 74 N	2°05'E	0.99934	99.934	0.03635	3.635 E	7395.204 N 71.645 W
73 N	1°20'W	0.99973	99.973	0.02327	2.327 W	7295.231 N 69.318 W
FS 72 N	4°20'E	0.99714	99.714	0.07556	7.556 E	7195.517 N 76.874 W
71 N	2°35'W	0.99898	99.898	0.04507	4.507 W	7095.619 N 72.367 W
FS 70 N	0°30'W	0.99996	99.996	0.00873	0.873 W	6995.623 N 71.494 W
69 N	2°10'W	0.99929	99.929	0.03781	3.781 W	6895.694 N 67.713 W
FS 68 N	0°30'W	0.99996	99.996	0.00873	0.873 W	6795.698 N 66.840 W

	2°00'W	0.99939	99.939	0.03490	3.490 W		
67N	2°40'W	0.99929	99.929	0.03781	3.781 W	6695.159 N	63.350
FS 66N	0°20'E ✓	0.99998 ✓	99.998 ✓	0.00582 ✓	0.582 E ✓	6595.761 N	63.932
65N	0°30'W ✓	0.99996 ✓	99.996 ✓	0.00873 ✓	0.873 W ✓	6495.765 N	63.059
FS 64N	0°45'W ✓	0.99991 ✓	99.991 ✓	0.01309 ✓	1.309 W ✓	6395.774 N	61.750
63N	0°45'W ✓	0.99991 ✓	99.991 ✓	0.01309 ✓	1.309 W ✓	6295.783 N	60.441
FS 62N	4°45'W ✓	0.99657 ✓	99.657 ✓	0.08281 ✓	8.281 W ✓	6196.126 N	52.160
61N	2°40'W ✓	0.99892 ✓	99.892 ✓	0.04653 ✓	4.653 W ✓	6096.234 N	47.507
	0°35'W	0.99987	99.987	0.01020	1.600 W		
FS 60N	0°55'W	0.99984	99.984	0.01602	1.602 W	5996.247 N	45.907
59N	0°40'W ✓	0.99993 ✓	99.993 ✓	0.01164 ✓	1.164 W ✓	5896.254 N	44.743
FS 58N	1°15'W ✓	0.99976 ✓	99.976 ✓	0.02181 ✓	2.181 W ✓	5796.278 N	42.562
57N	0°0' ✓	1.00000 ✓	100.000 ✓	0.0000 ✓	0.000 ✓	5696.278 N	42.562
FS 56N	0°20'W ✓	0.99998 ✓	99.998 ✓	0.00582 ✓	0.582 W ✓	5596.280 N	41.980
55N	2°20'W ✓	0.99917 ✓	99.917 ✓	0.04071 ✓	4.071 W ✓	5496.363 N	37.909
	0°35'W	0.99995	99.995	0.01018	1.018 W		38.991
FS 54N	0°50'W	0.99954	99.954	0.01454	1.454 W	5396.368 N	
53N	1°40'W ✓	0.99956 ✓	99.956 ✓	0.02916 ✓	2.909 W ✓	5296.410 N	33.983
FS 52N	2°10'W ✓	0.99929 ✓	99.929 ✓	0.03781 ✓	3.781 W ✓	5196.481 N	30.202
51N	1°10'W ✓	0.99979 ✓	99.977 ✓	0.02036 ✓	2.036 W ✓	5096.502 N	28.166
FS 50N	0°45'E ✓	0.99999 ✓	99.999 ✓	0.00436 ✓	0.436 E ✓	4996.503 N	28.602
49N	3°05'W ✓	0.99786 ✓	99.786 ✓	0.06540 ✓	6.540 W ✓	4896.717 N	22.062
FS 48N	3°35'W ✓	0.99804 ✓	99.804 ✓	0.06250 ✓	6.250 W ✓	4796.913 N	15.812
47N	1°20'E ✓	0.99973 ✓	99.973 ✓	0.02327 ✓	2.327 E ✓	4696.940 N	18.139
	3°50'W	0.99949	99.949	0.03199	3.199 W		
FS 46N	4°55'W	0.99744	99.744	0.04345	3.345 W	4596.991 N	14.940
45N	1°05'E ✓	0.99982 ✓	99.982 ✓	0.01891 ✓	1.891 E ✓	4497.009 N	16.831
FS 44N	0°15'W ✓	0.99999 ✓	99.999 ✓	0.00436 ✓	0.436 W ✓	4397.010 N	16.395
43N	0°15'W ✓	0.99999 ✓	99.999 ✓	0.00436 ✓	0.436 W ✓	4297.011 N	15.959
FS 42N	5°55'W ✓	0.99467 ✓	99.467 ✓	0.10308 ✓	10.308 W ✓	4197.544 N	5.651
41N	0°40'E ✓	0.99993 ✓	99.993 ✓	0.01164 ✓	1.164 E ✓	4097.551 N	6.815
FS 40N	1°10'E ✓	0.99979 ✓	99.979 ✓	0.02036 ✓	2.036 E ✓	3997.572 N	8.851
39N	2°40'E ✓	0.99893 ✓	99.892 ✓	0.04653 ✓	4.653 E ✓	3897.680 N	13.504
FS 38N	0°25'E ✓	0.99997 ✓	99.997 ✓	0.00727 ✓	0.727 E ✓	3797.683 N	14.231
37N	1°15'E ✓	0.99976 ✓	99.976 ✓	0.02181 ✓	2.181 E ✓	3697.707 N	16.412
FS 36N	0°15'E ✓	0.99999 ✓	99.999 ✓	0.00436 ✓	0.436 E ✓	3597.708 N	16.848
35N	1°15'E ✓	0.99976 ✓	99.976 ✓	0.02181 ✓	2.181 E ✓	3497.732 N	13.029
FS 34N	0°30'E ✓	0.99996 ✓	99.996 ✓	0.00873 ✓	0.873 E ✓	3397.736 N	12.902
33N	2°05'W ✓	0.99939 ✓	99.939 ✓	0.03490 ✓	3.490 W ✓	3297.797 N	16.412

12 5 N	1°25'W	0.99969	99.969	0.02472	2.472 W	12499.034 N	199.
FS 124 N	0°35'E	0.99995	99.995	0.01018	1.018 E	12390.039 N	260.
123 N	4°55'W	0.99632	99.632	0.08571	8.571 W	12290.407 N	131.841
FS 122 N	2°10'W	0.99929	99.929	0.03781	3.781 W	12490.478 N	138.060
121 N	1°45'W	0.99953	99.953	0.03054	3.054 W	12090.525 N	185.906
FS 120 N	2°05'W	0.99934	99.934	0.03635	3.635 W	11990.541 N	181.371

FS 32 N	0°25'W	0.99997 ✓	99.997 ✓	0.00727 ✓	0.727 W ✓	3197.860 N	15.685
31 N	1°15'E	0.99970 ✓	99.976 ✓	0.02181 ✓	2.181 E ✓	3097.824 N	17.866
FS 30 N	0°50'E	0.99989 ✓	99.989 ✓	0.01454 ✓	1.454 E ✓	2997.835 N	19.320
29 N	0°30'E ✓	0.99996 ✓	99.996 ✓	0.00873 ✓	0.873 E ✓	2897.839 N	20.193
FS 28 N	0°50'E ✓	0.99989 ✓	99.989 ✓	0.01454 ✓	1.454 E ✓	2797.850 N	21.647
27 N	2°45'E ✓	0.99885 ✓	99.885 ✓	0.04793 ✓	4.793 E ✓	2697.965 N	26.445
FS 26 N	0°40'W ✓	0.99993 ✓	99.993 ✓	0.01164 ✓	1.164 W ✓	2597.972 N	25.281
25 N	1°20'W	0.99973	99.973	0.02327	2.327 W	2497.999 N	22.954
FS 24 N	0°10'W ✓	1.00000	− 100.000 ✓	0.00291	− 0.291 W ✓	2397.999 N	23.245
FS 23 N	2°50'E ✓	0.99876 ✓	199.752 ✓ Dist. 200.00	0.04943 ✓	9.886 E ✓	2298.247 N	32.840
22 N	1°30'E ✓	0.99966 ✓	99.966 ✓	0.02618 ✓	2.618 E ✓	2198.281 N	35.458
FS 21 N	0°35'W ✓	0.99996 ✓	99.996 ✓	0.00973 ✓	0.973 W ✓	2098.285 N	34.585
20 N	1°00'W ✓	0.99985 ✓	99.985 ✓	0.01745 ✓	1.745 W ✓	1998.300 N	32.840
FS 19 N	5°16'W ✓	0.99594 ✓	99.594 ✓	0.09605 ✓	9.605 W ✓	1898.706 N	23.235
18 N	4°45'W ✓	0.99657 ✓	99.657 ✓	0.08281 ✓	8.281 W ✓	1799.049 N	15.554
FS 17 N	0°40'W ✓	0.99993 ✓	99.993 ✓ Dist. 100.00	0.01164 ✓	1.164 W ✓	1699.056 N	14.390
FS 16 N	2°16'W ✓	0.99792 ✓	− 99.792 ✓	0.04653 ✓	− 4.653 W ✓	1599.144 N	9.737
15 N	2°45'W ✓	0.99894 ✓	199.788 + Dist. 200.00	0.04653 ✓	9.306 W	1499.372 N	5.084
FS 14 N	2°05'E ✓	0.99934 ✓	99.934 ✓	0.03635 ✓	3.635 E ✓	1399.353 N	8.719
13 N	1°00'E ✓	0.99985 ✓	99.985 ✓	0.01745 ✓	1.745 E ✓	1299.353 N	10.464
FS 12 N	2°55'E ✓	0.99810 ✓	99.810 ✓	0.05088 ✓	5.088 E ✓	1199.463 N	15.552
11 N	0°40'E ✓	0.99993 ✓	99.993 ✓	0.01164 ✓	1.164 E ✓	1099.496 N	16.716
FS 10 N	1°15'W ✓	0.99976 ✓	99.976 ✓	0.02191 ✓	2.181 W ✓	999.514 N	14.536
9 N	1°20'W ✓	0.99973 ✓	99.973 ✓	0.02327 ✓	2.327 W ✓	899.541 N	12.209
FS 8 N	0°05'E ✓	1.00000 ✓	100.000 ✓	0.00145 ✓	0.145 E ✓	799.541 N	12.353
7 N	1°20'E	0.99973	99.973	0.02327	2.327 E	699.568 N	10.026
FS 6 N	1°00'W ✓	0.99985 ✓	99.985 ✓	0.01745 ✓	1.745 W ✓	599.583 N	11.771
5 N	0°40'W ✓	0.99993 ✓	99.993 ✓	0.01164 ✓	1.164 W ✓	499.590 N	11.771
FS 4 N	5°00'W ✓	0.99619 ✓	99.619 ✓	0.08716 ✓	8.716 W ✓	399.971 N	3.055
3 N	0°10'W ✓	1.00000 ✓	100.000 ✓	0.00291 ✓	0.291 W ✓	299.971 N	2.764
FS 2 N	1°16'W ✓	0.99979	99.979	0.02036 ✓	2.036 W ✓	199.992 N	0.728
1 N	0°15'E ✓	0.99997 ✓	99.999 ✓	0.00436 ✓	0.436 E ✓	99.993 N ✓	1.164 W ✓
FS 0	0°40'W	0.99993	99.993	0.01164	1.164 W	0.000 N ✓	0.000 W ✓

Granite Mountain — Picket Line Calculations

Reference Azimuth (PL): 14°56' (not corrected for declination — 25°10'E)

Station	Angle N or S	Cosine Angle	Measured Distance (M)	PL Distance (W or E) M·Cos Angle	Sine Angle	BL Dist. (N or S) M·Sine Angle	Co-ordinates North	Co-ordinates East West
2N-0							4748.500	15.000 W
2E	0°00'	1.00000	200.00	200.000 E	0.00000	0.000	4748.000	185.000 E
3E	0°25' N	0.99997	100.00	99.997 E	0.00727	7.270 N	4755.270	284.997 E
4E	1°15' N	0.99976	100.00	99.976 E	0.02191	2.131 N	4757.451	384.973 E
5E	0°50' N	0.99960	100.00	99.960 E	0.01454	1.454 N	4758.905	484.933 E
6E	0°10' N	1.00000	100.00	100.000 E	0.00291	0.291 N	4759.196	584.933 E
7E	0°55' N	0.99987	100.00	99.987 E	0.01600	1.600 N	4760.796	684.940 E
8E	1°15' N	0.99976	100.00	99.976 E	0.02191	2.161 N	4762.977	784.916 E
9E	0°55' N	0.99987	100.00	99.987 E	0.01600	1.600 N	4764.577	884.903 E
10E	0°15' N	0.99997	100.00	99.997 E	0.00436	0.435 N	4765.012	984.779 E
11E	1°10' N	0.99978	100.00	99.975 E	0.02018	2.019 N	4767.031	1084.774 E
12E	0°55' N	0.99987	100.00	99.987 E	0.01600	1.600 N	4768.631	1184.761 E
13E	0°15' N	0.99997	100.00	99.997 E	0.00436	0.436 N	4769.067	1284.757 E
14E	1°00' N	0.99985	200.00	199.970 E	0.01745	3.491 N	4772.558	1484.693 E
15E	1°35' N	0.99962	100.00	99.962 E	0.02763	2.763 N	4775.321	1584.640 E
16E	0°25' N	0.99997	100.00	99.997 E	0.00727	0.727 N	4776.048	1684.638 E
17E	1°40' N	0.99958	100.00	99.958 E	0.02906	2.908 N	4778.956	1784.618 E
18E	1°35' N	0.99962	200.00	199.970 E	0.02763	5.526 N	4784.482	1984.588 E
19E	1°35' N	0.99962	200.00	199.822 E	0.04217	8.434 N	4791.987	2084.440
1E	2°25' N	0.99911	200.00	199.715 E	0.04362	13.086 N	4805.073	2284.155
11E	2°30' N	0.99905	200.00	199.752 E	0.04363	9.666 N	4814.959	2383.907
12E	2°55' N	0.99876	200.00	199.784 E	0.04653	9.306 N	4824.265	2583.691
13E	2°40' N	0.99892	200.00	99.991	0.03781	3.781 N	4831.046	2683.620
14E	2°05' N	0.99939	100.00	99.831	0.03634	5.814 N	4836.860	2783.451
1	3°20' N	0.99831	100.00					

Granite Mountain — Picket Line Calculations

Reference Azimuth (PL): 14°50' (not corrected for declination - 25°19'E)

Station	Angle N or S	Cosine Angle	Measured Distance (M)	PL Distance (N or E) M·Cos Angle	Sine Angle	BL Distance (N or S) M·Sine Angle	Co-ordinates North	Co-ordinates East / West
4N-0							6231.000	61.000W
1E	0°40'N	0.99993	100.00	99.993 E	0.01164	1.16N	6232.164	38.993E
2E	1°15'S	0.99976	100.00	99.976 E	0.02181	2.181S	6229.983	138.969E
3E	0°00'	1.00000	200.00	200.000 E	0.00000	0.000	6229.983	338.969E
4E	0°05'N	1.00000	200.00	200.000 E	0.00145	0.290N	6230.273	538.969E
5E	0°24'N	0.99997	100.00	99.997 E	0.00727	0.727N	6231.000	638.966E
6E	0°25'N	0.99997	100.00	99.997 E	0.00727	0.727N	6231.727	738.963E
7E	0°40'S	0.99995	200.00	199.996 E	0.01163	2.326S	6229.399	938.949 E
8E	1°30'S	0.99949	100.00	99.949 E	0.03199	3.199S	6226.200	1038.898 E
9E	0°00'	1.00000	100.00	100.000 E	0.00000	0.000	6226.200	1138.898 E
10E	1°15'S	0.99976	100.00	99.976 E	0.02181	2.181S	6224.019	1238.874 E
11E	0°55'S	0.99987	100.00	99.987 E	0.01600	1.600S	6222.419	1338.861 E
12E	0°30'S	0.99996	100.00	99.996 E	0.00873	0.873S	6221.546	1438.848 E
13E	0°45'S	0.99991	100.00	99.991 E	0.01309	1.309S	6220.447	1538.839 E
14E	1°04'S	0.99982	100.00	99.982 E	0.01871	1.891S	6218.556	1638.821 E
15E	0°55'S	0.99987	100.00	99.987 E	0.01600	1.600S	6216.956	1738.808 E
16E	0°00'	1.00000	100.00	100.000 E	0.00000	0.000	6216.956	1838.808 E
17E	1°10'S	0.99979	100.00	99.979 E	0.02036	2.036S	6214.920	1938.867 E
18E	1°05'N	0.99982	100.00	99.982 E	0.01891	1.891N	6216.811	2038.849 E
19E	1°00'N	0.99985	100.00	99.985 E	0.01745	1.745N	6218.556	2138.834 E
6N-0							7518.000	76.000W
1E	0°55'S	0.99995	100.00	99.995 E	0.01018	1.018S	7516.982	23.995E
2E	0°55'S	0.99987	100.00	99.987 E	0.01600	1.600S	7515.382	123.982E
3E	0°30'S	0.99996	100.00	99.996 E	0.00873	0.873S	7514.509	223.978E
4E	1°30'S	0.99949	200.00	199.932 E	0.03199	5.236S	7509.273	423.910E
5E	1°35'S	0.99947	200.00	199.936 E	0.03344	6.944S	7502.329	623.846 E
6E	1°45'S	0.99939	200.00	199.878 E	0.03054	6.108S	7496.221	823.724 E
7E	2°25'S	0.99911	200.00	199.822 E	0.04217	8.434S	7487.787	1023.546 E

Granite Mountain — Picket Line Calculations

[illegible]eference Azimuth (PL): 1[illegible]°50' (not corrected for declination — 25°10' E)

[illegible]tation	Angle N or S	Cosine Angle	Measured Distance (M)	PL Distance (W or E) M·Cosine Angle	Sine Angle	BL Distance (N or S) M·Sine Angle	Co-ordinates North	East [illegible]
[illegible]W-0							8705.000	77.000 W
3W	0°00'	1.00000	300.00	300.000 W	0.00000	0.000	8705.000	377.000 W
4W	0°00'	1.00000	100.00	100.000 W	0.00000	0.000	8705.000	477.000 W
5W	0°25' S	0.99997	100.00	99.997 W	0.00727	0.727 S	8704.273	576.997 W
[illegible]W	0°05' N	1.00000	100.00	100.000 W	0.00145	0.145 N	8704.418	[illegible] W
[illegible]W	0°30' N	0.99996	200.00	199.992 W	0.00875	1.746 N	8706.164	[illegible]9 W
[illegible]W	0°05' N	1.00000	00.00	100.000 W	0.00145	0.145 N	8706.309	976.[illegible]9 W
[illegible]W	0°35' N	0.99995	300.00	299.985 W	0.01018	3.054 N	[illegible]	12[illegible].974 W
[illegible]W	0°[illegible]' S	1.[illegible]	[illegible]	200.000 W	[illegible]	0.590 S	87[illegible].423	147[illegible].974 W
[illegible]W	0°20' N	[illegible]	[illegible]	99.993 W	[illegible]	0.582 N	871[illegible].005	157[illegible].972 W
[illegible]W	0°[illegible]' [illegible]	1.00000	[illegible]	100.000 W	0.00145	0.145 N	8710.150	[illegible].972 W
[illegible]W	0°45' S	[illegible]	200.00	199.982 W	0.01309	2.618 S	8707.532	[illegible] W

[illegible]-LINES: W (269 m E line — the first [illegible] line which crosses 88W at 8W+28 ft)

[illegible]-5W+25ft

Checking ground of our chainages indicated that all measurements were 99 feet instead of 100, applicable to stations 1N to 126N, inclusive.

$\tan \phi = \frac{2.02}{12590} = 0.01605 \quad \therefore \phi = 0°55'$

Using 99' intervals: assume same 10' length difference

126N ≡ 12590 − 126 = 12464

$\tan \phi = \frac{X}{12464} \quad \therefore X = 12464 \times 0.01605 = 200$

Thus: use same PL offsets: 2' in 12590 ≡ −0.0159' per 100

BL offsets: 136' in 12600 ≡ −1.08' per 100

Reduce by ½' at 31½N (1650-1681)
1' at 831 (1682-1713)
1½' at 43-79 (1714-1745)
2' at 1261 (1746-1776)

Check: 126N: PL offset = −0.0159 × 126 = −2' or 126 × factor 1.587 = 200.

BL offset = −1.079 × 126 = −136' or 126 × factor 0.9892 = 12464

Station	Corrected	Coordinates	Station	Corrected	Coordinates	Station	Corrected	Coordinates
0	0	0	✓32N	3165N	15W	67N	6628N	62W
1N	99N	1W	33	3264N	16W	✓68	6727	66W
2N	198N	1W	34	3363N	19W	69	6826	67W
3N	297N	3W	35	3462N	19W	70 U	6925N	70W
4N	396N	3W	✓36	3561N	16W	71	7023	71W
5N	495N	12W	37	3660N	16W	✓72	7122	75W
6N	594N	13W	38	3759N	14W	73	7221	68W
7N	692N	15W	39	3855N	13W	74	7320	71W
8N	791N	12W	✓40N	3957N	9W	75	7419	67W
9N	890N	12W	41	4056N	6W	✓76	7518	76W
10N	989N	15W	42	4155N	5W	77	7617	74W
11N	1088N	17W	43	4254N	15W	78	7716	63W
12N	1187N	16W	✓44	4353N	16W	79	7815	74W
13N	1286N	10W	45	4451N	16W	✓80N	7914N	71W
14N	1385N	9W	46	4550N	14W	81	8013	68W
15N	1484N	5W	47	4648N	17W	82	8112	72W
16N	1583N	9W	✓48	4748N	15W	83	8211	72W
17N	1682N	14W	49	4847N	21W	✓84	8309	73W
18N	1781N	15W	50N	4946N	28W	85	8408	73W
19N	1880N	23W	51	5045N	27W	86	8507	79W
20N	1978N	32W	✓52	5144N	29W	87	8606	83W
21N	2077N	34W	53	5243N	33W	✓88	8705	77W
22N	2176N	35W	54	5342N	36W	89	8804	79W
23N	2275N	32W	55	5441N	37W	90N	8903N	78W
24N	2374N	23W	✓56	5540N	41W	91	9002	81W
25N	2473N	22W	57	5639N	42W	✓92	9101	86W
26N	2572N	25W	58	5737N	42W	93	9200	92W
27N	2671N	26W	59	5836N	44W	94	9299	97W
28N	2770N	21W	✓60N	5935N	45W	95	9398	97W
29N	2869N	20W	61	6037N	47W	✓96	9497	99W
30N	2968N	19W	62	6133N	51W	97	9595	108W
			63	6232N	59W	98	9694	107W
			✓64	6331N	61W	99	9793	117W
			65	6430N	62W			

101 N	9991 N	
✓ 102	10090 N	132 W
103	10169 N	138 W
✓ 104	10283 N.	146 W
✓ 105	10381 N	147 W
106	10435	147 W
107	10584	152 W
✓ 108	10683	153 W
✓ 109	10782	160 W
110 N	10881 N	159 W
111	10980	160 W
✓ 112	11079	159 W
113	11178	159 W
✓ 114	11277	161 W
115	11376	164 W
✓ 116	11475	164 W
117	11574	167 W
✓ 118	11673	173 W
119	11772	175 W
✓ 120 N	11871 N	179 W
121	11970	183 W
✓ 122	12068	186 W
123	12167	190 W
✓ 124	12266	198 W
125	12365	197 W
✓ 126	12464 N	200 W
✓ 120 N	12495 N	201 W
121	12595	202 W
122	12695	202 W
123	12795	205 W
✓ 124	12895	206 W
125	12995	205 W
126	13095	205 W
127	13195	210 W
✓ 128	13295	217 W
129	13394	213 W
130 N	13494 N	210 W
131	13594	212 W
✓ 132	13694	208 W
133	13794	204 W
134	13894	211 W
135	13994	216 W
✓ 136	14094	221 W
137	14194	222 W
✓ 138 N	14294 N	225 W
139	Add 100	Add 0.
etc	successively	
	14400	
	✓ 14494	

202 ≡ 200 (mod 2)
Subtract 2 from each of cole's (W).

12590 ≡ 12464 (mod 126)
Subtract 126 from each of cole's. (N).

Film as text

GRANITE MOUNTAIN

GEOLOGY PLANS

LEGEND

Colour*		Rock Type
	735 canary yellow	Massive quartz diorite
	744 scarlet red	Sheared quartz diorite
		Copper mineralization
	745 carmine red	Quartz-molybdenum±copper veins
	737 orange	Aplite
	738 grass green	Basic dykes

Symbols	Description
75°	Sheeting
60°	Shearing or veining
20°	Foliation
85°	Jointing
	Prominent linears - faulting
	Flat, grassy, damp or swampy areas
	Abrupt change of slope
10°	Slope

To accompany geological report by C. M. Armstrong, P.Eng (Ont) on GM mineral claim group, McLeese Lake, Cariboo Mining Division, dated March 29th, 1968.

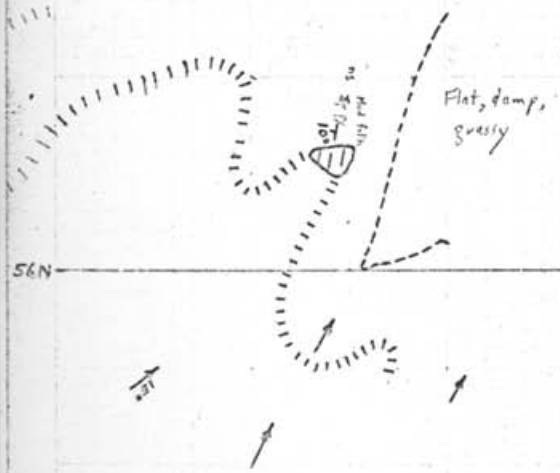
Jul. 16/68

* Eagle Verithin

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 1596 MAP

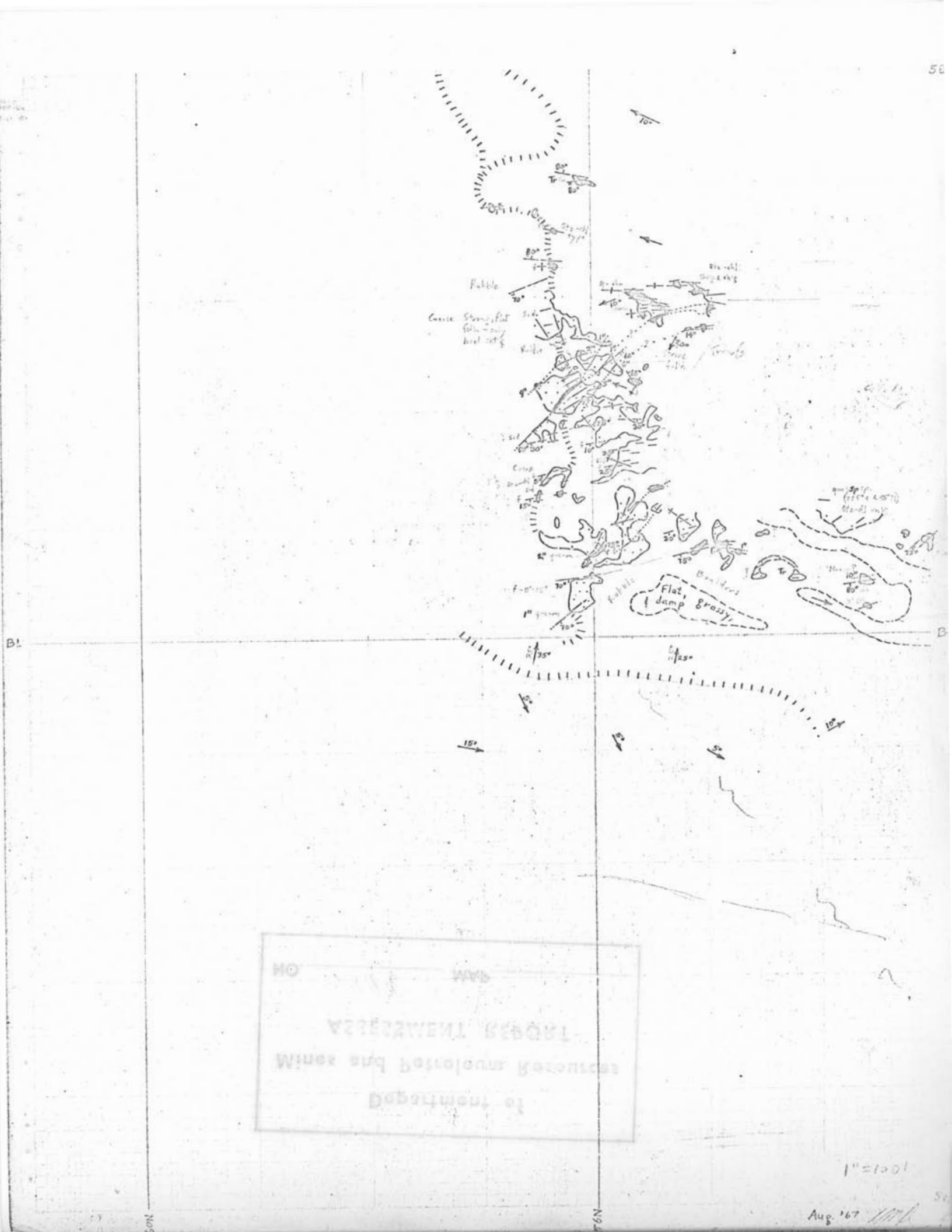
60N

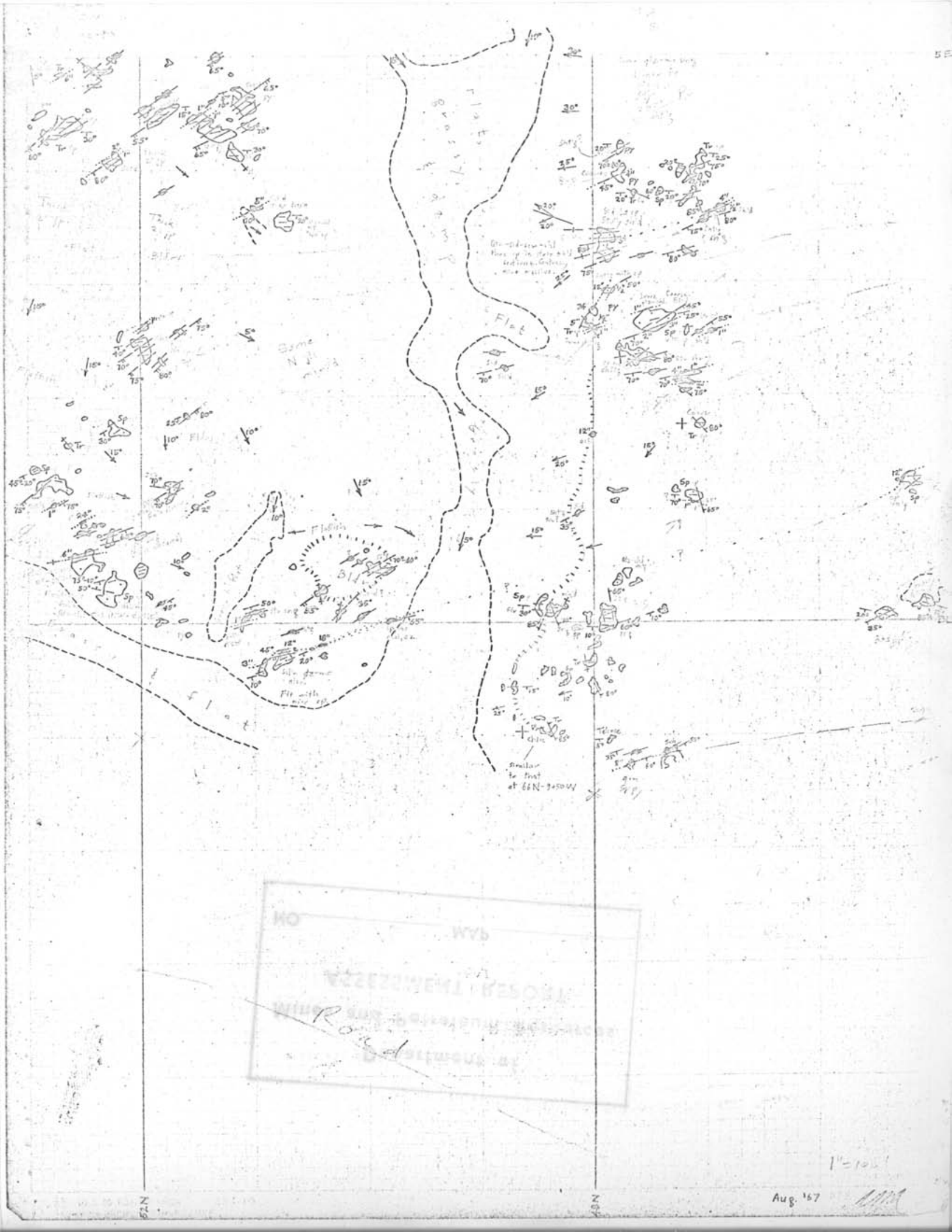


56N

Aug. 17

1" = 100'


Pebble
Coarse Stone, flat
Pebble
Flat, damp, grassy
Boulders
Pebble
1"=100'
Aug. '67



Aug. '67

S-1: 44 + 02½ N
0 + 14½ W
-4.5°
3.5' casing sticky.

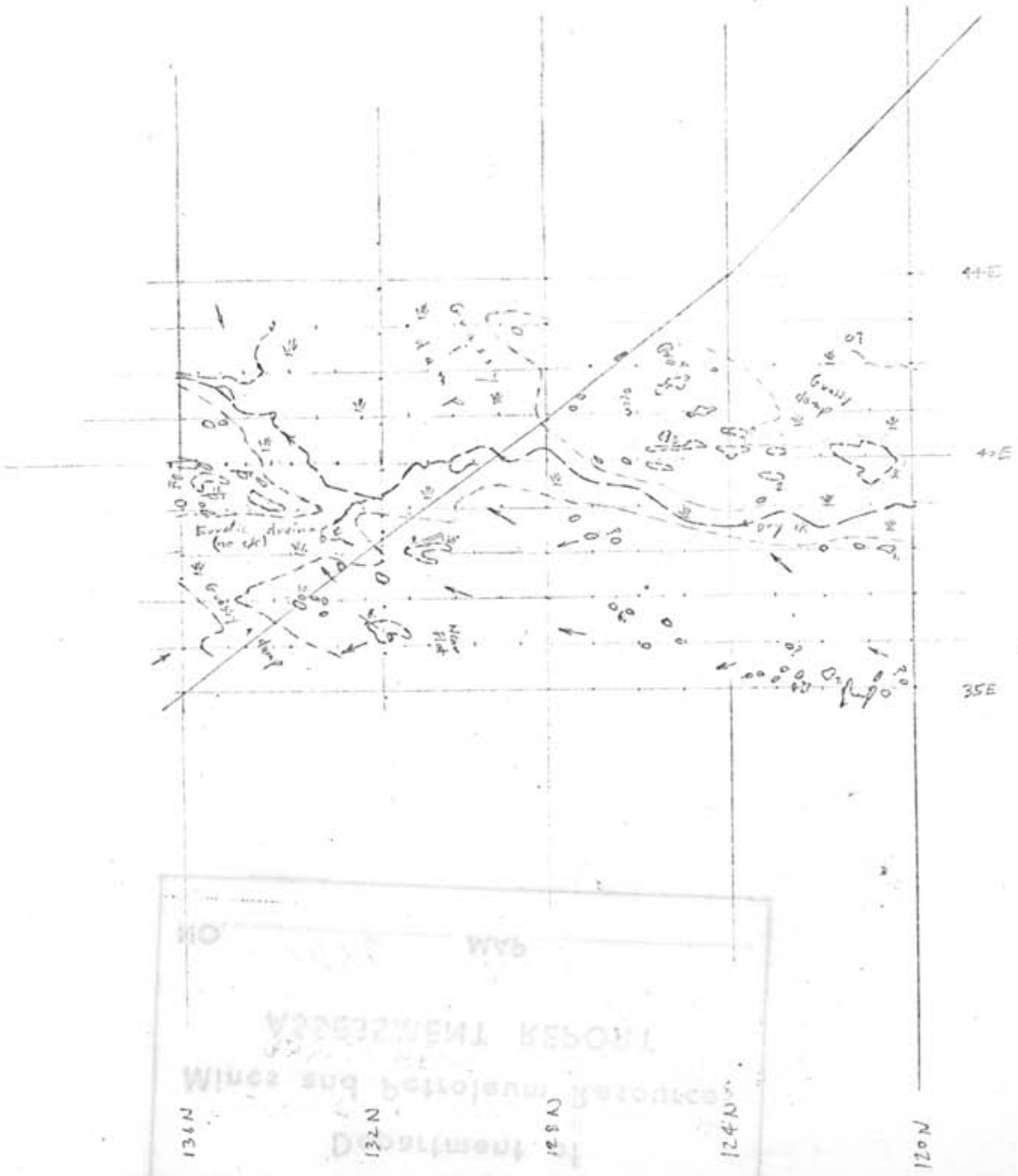
1" = 100'

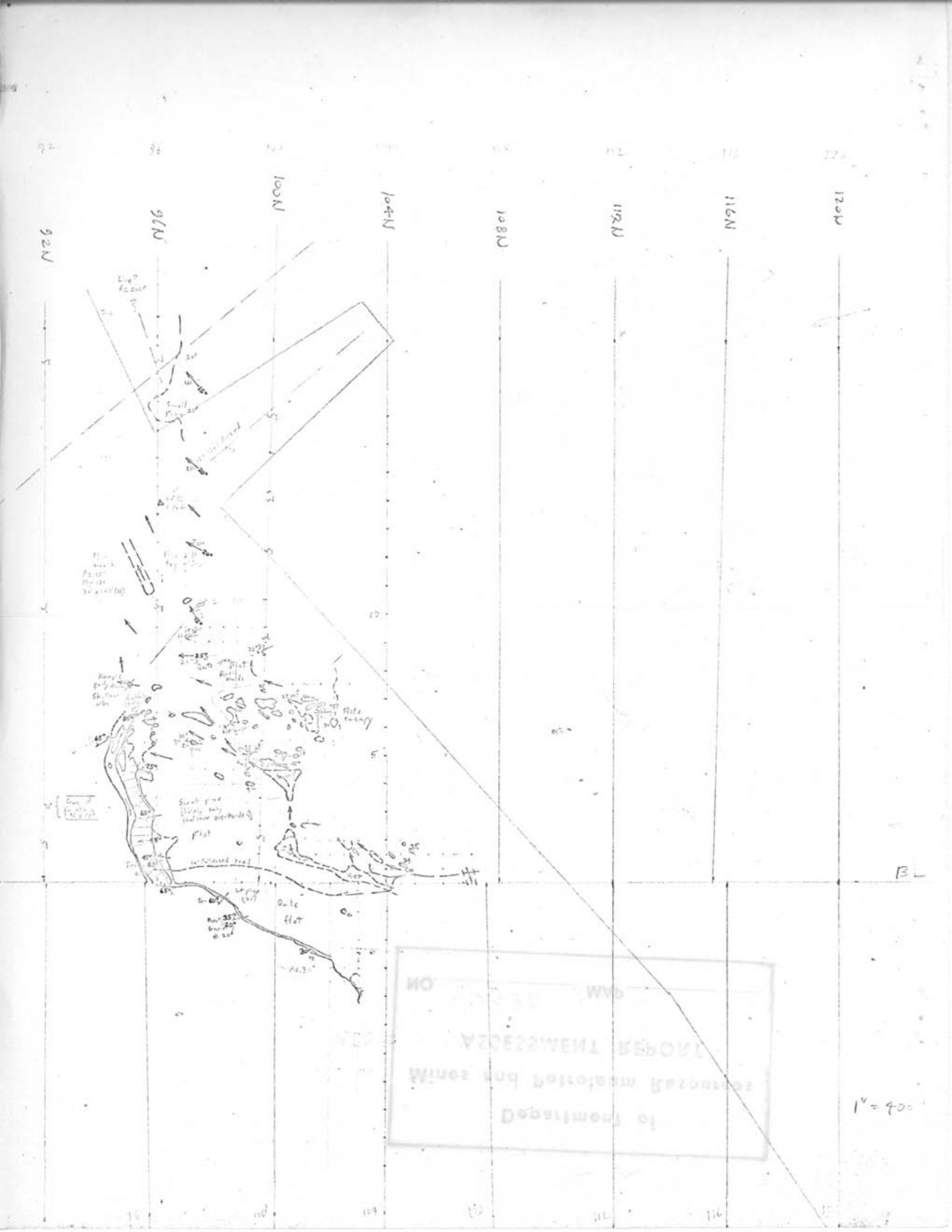
Aug - Sep '67

S-9 11+58.5W

72N: 105°/21 = 130°/31'

248.5': 8.5' @ 130°
10.0' @ 40°




92N
96N
100N
104N
108N
112N
116N
120N
B'
1" = 40'

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1596 MAP #1

To accompany geological report by C. H. Armstrong, P.Eng. (ONt) on the GM mineral claim group, McLeese Lake, Cariboo Mining Division, dated March 29th, 1965.

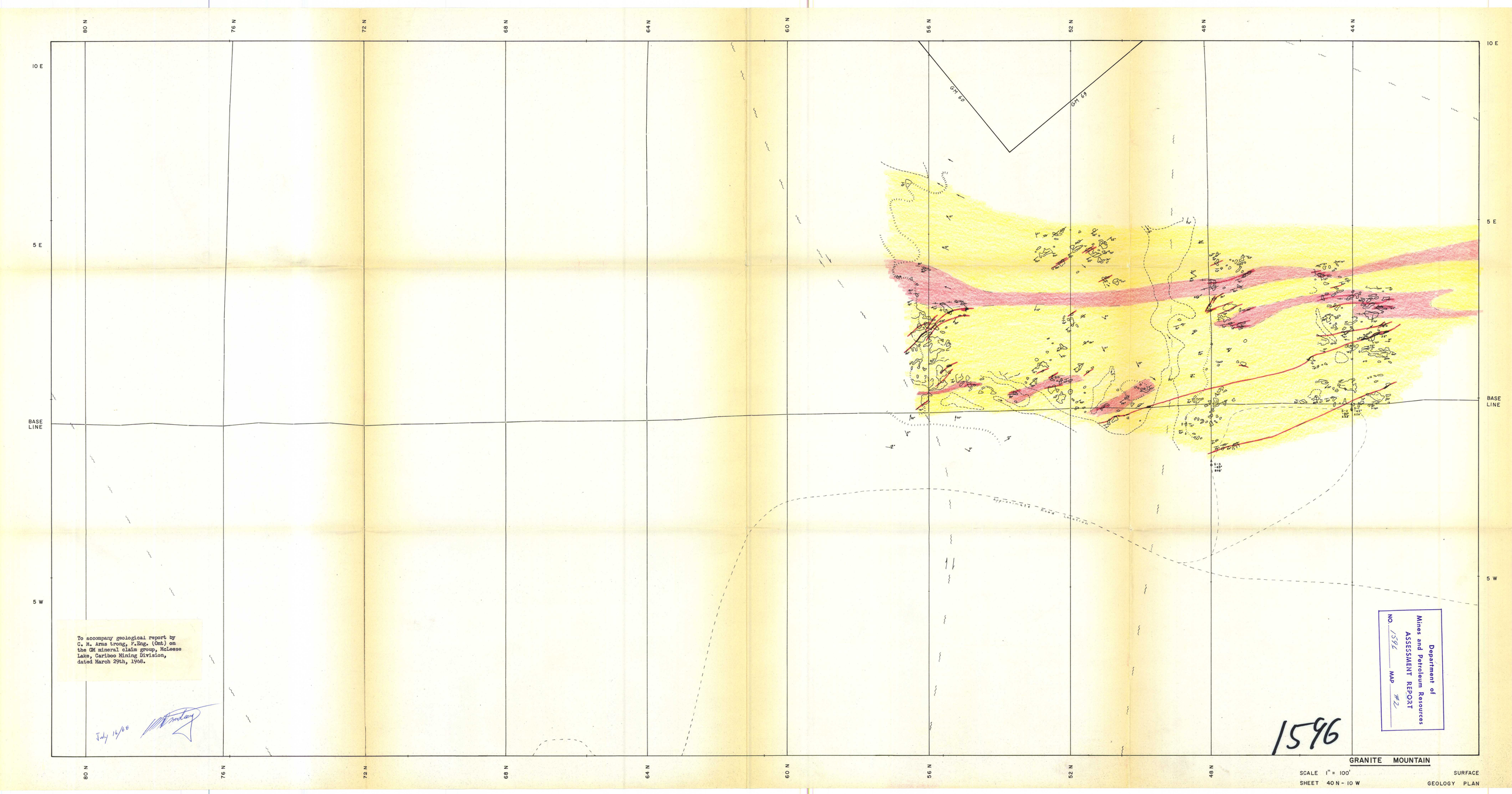
July 16/65

C. H. Armstrong

1596

GRANITE MOUNTAIN

SCALE 1" = 400' SURFACE GEOLOGY PLAN


80 N
76 N
72 N
68 N
64 N
60 N
56 N
52 N
48 N
44 N
10 E
5 E
BASE LINE
5 W
GM 69
GM 69
To accompany geological report by C. M. Arms trong, P.Eng. (Ont) on the GM mineral claim group, McLeese Lake, Cariboo Mining Division, dated March 29th, 1968.
July 14/68
Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1596 MAP #2
1596
GRANITE MOUNTAIN
SCALE 1" = 100'
SHEET 40 N - 10 W
SURFACE GEOLOGY PLAN