Lars E. Ahe, Ph. D., P. Eng.

CONSULTING GEOLOGICAL ENGINEER

YUKON 7-2962

4219 LIONS AVENUE
NORTH VANCOUVER, B.C.

December 10, 1961.

Statement of expenses incurred in work on UR property, 1961.

Supplies and equipment	$ 440.00
Line cutting (wages only)	300.00
Transportation	190.00
Miscellaneous	150.00
Labour 6 mo. 450.00	2700.00
Geologic work, etc. 60 da. @ $35	2100.00
Assaying (paid for)	15.00
Maps, reports, etc.	15.00
Total	$ 5990.00

Certified correct;

Dr. A. E. Ahe.

C O N T E N T S

	Page
INTRODUCTION	1
GENERAL CONDITIONS	2
Location and Access	2
Topography and Overburden	2
Timber, Water	3
Power and Facilities	3
Climate	3
Costs	4
History	4
Property	5
GEOLOGY AND MINERALIZATION IN THE DISTRICT	5
Geology	5
Mineralization	6
GEOLOGY AND MINERALIZATION ON THE UR PROPERTY	7
Rock Formations	7
Structure	9
Summary of Structure	11
Mineralization	12
CONCLUSIONS	13

M A P S

(See back cover)

Figure 1. Mayo Sheet 68C map 890A.

Figure 2. UR Property - Claims and General Geology.

Figure 3. Geologic Map of UR Property.

Report On

THE UR SILVER-LEAD PROPERTY

Mayo Mining District
Yukon Territory.

A.E. Ahö, Ph.D.
Consulting Geological Engr.

Report written for own files
as owner of property - Nov./61.

SUMMARY

The UR property contains the same rock types as Keno and Galena Hills and is underlain by about the same thickness of 2500 feet of Central Quartzite, the formation from which most of the present total of nearly $150 million worth of silver-lead-zinc and cadmium have been produced in this district.

Whereas the productive south limb of the east-west McQuesten anticline at Keno Hill swings southeast along a major fold, the corresponding north limb on the UR property swings northwest along this fold, forming a similar synclinal crumple at the fold intersection. The favourable quartzites here are cut by one or more northeast vein faults similar to the ore-bearing vein-faults on the south limb. Scarcely prospected, this north limb has been thought to be barren or low in silver, but very limited trenching on one inferred vein-fault in 1960 showed abundant vein siderite and traces of galena which assayed over 200 oz/ton silver.

Since this virgin area appears to contain all the favourable characteristics of the productive area short of actual known occurrence of ore, and since high silver values are now known to occur beyond this area, considerable serious exploration of this property is well justified. The potential reward might well turn out to be comparable to the best United Keno Hill deposits which lie just across the valley.

About $75,000 should be tentatively allotted toward the first season's work, to be spent in stages on geophysics, trenching, and whatever work appears justified as results are obtained.

* * * *

INTRODUCTION

The Mayo Mining District has produced about $150 million worth of high grade silver-lead-zinc-cadmium ore from Keno and Galena Hills, mostly from Galena Hill, since 1947.

The writer has studied the district from time to time for several years. It now appears that the fracturing which localized the mineralization is probably related to a N 70°E-trending anticline up McQuesten valley; and since the known mineable deposits occur in vein-faults on the south limb of this anticline, similar mineralized vein-faults recognized in 1960 on the Shanghai and UR properties on the north limb of the anticline may well prove to contain similar ore deposits.

GENERAL CONDITIONS:

Location and Access

The UR silver-lead property is situated at lat. 63°58'N and long. 135°34'W on the north side of McQuesten valley across from the operations of United Keno Hill Mines, about 35 miles NNW of Mayo in the Mayo Mining District of Yukon. It lies 4½ miles NW of Elsa directly across McQuesten valley and can be reached best by hiking about 5 miles from the Silver King or across from the Hanson Lake road. For foot travel McQuesten River presents difficulties only in high water and only a small stretch of muskeg has to be crossed on the north side of the river. A very low-cost road could be built from the Hanson Lake road to McQuesten River, then a small ferry, ford, or bridge and an additional mile and a quarter of fairly easy road construction would be involved. This would place the property about 290 miles by all-weather road from Whitehorse, capital of Yukon and rail head for concentrates to outside smelters.

Topography and Overburden

The UR property angles up the moderate south-facing slope from the flat McQuesten valley bottom at 2100 feet elevation to about 3000 feet elevation where the slope levels off into several miles of undulating upland. The main slope, which averages about 15 degrees, is broken by a N 25°E-trending lineament or topographic break which marks the location of a vein-fault along which the UR property was first staked. The known showings to date occur in this lineament at about 100 to 200 feet above the level of the valley bottom.

Bedrock is explosed extensively on a burned part of the slope west of this break and in many places along the sides of it. Overburden consisting of glacial silt with scattered cobbles and perhaps some boulder clay masks this area to shallow depths. This cover of silt appears to be fairly common on this side of McQuesten valley. Depth of till, outwash and silt in the valley bottom is entirely unknown. Up the valley of Poli Creek to the

east, however, the depth of glacial drift locally exceeds 100 feet and farther north little or no bedrock is exposed over an extensive area of the lower uplands. Up to 30-40 feet of silt were seen up the valley of Hex Creek still farther to the east.

Timber, Water

The hillside on the west side of the property has been burned off but the slopes for a mile and a half around Poli Creek are cloaked with timber up to 18 inches diameter in places, suitable for exploration purposes and for a limited supply for mining. Cut mine-timber can be obtained presently from Proctor's sawmill some 10 miles away and about 4 miles west of Elsa.

Two small streams cross the lower and upper ends of the topographic break and one stream follows the middle, so water is conveniently available for exploration purposes in this location. Poli Creek just to the east would supply adequate good water year-around for a main camp, and nearby unfed lakes would provide adequate tailings disposal. McQuesten river nearby is a major uncontaminated supply.

Power and Facilities

Limited power would be available from the Northern Canada Power Commission transmission line on the Mayo-Elsa road which services United Keno Hill Mines, Mayo, and Keno. United Keno Hill have special power rates of 2-5/8¢ per KWH with a flat rate which in 1959 reduced their average cost to 1.41¢/KWH. A cost of 2.5¢ per KWH can be expected.

Mayo has twice-weekly plane service to Whitehorse and outside points, now has year-round telephone and road connections with the "outside", plus a number of other facilities.

Elsa has a supermarket and post office but few other public facilities since it is otherwise entirely a company establishment.

Climate

Climate, typical of Central Yukon, is cool in summer and cold in winter with moderate precipitation, but presents no unusual difficulty to year-around mining. Due to its southern exposure the UR property and adjoining slopes experience an earlier breakup and less frost than the United Keno Hill operations.

Parts of the south-facing slope are thawed; other parts have permafrost to undetermined depth, but probably less than 200 feet.

Costs

Being relatively remote and about 1850 miles from smelters, this district faces higher than average costs of operation. A paper given at the Annual Western Meeting of the Canadian Institute of Mining and Metallurgy in October 1960 by the United Keno Hill staff details their present operations. Costs are cited as follows:

Mining	$21.85/ton
Milling	4.84/ton/ore treated
Trucking Elsa to Whitehorse ..	18.57/ton/concentrate (10¢/ton/mile)

Transportation costs to smelters total about $45/ton of concentrates. Cutoff grade is thus of the order of $47.50/ton. A paper given at the same CIM meeting by R. Macrae outlines the general cost picture for mining in Yukon. However, these costs are offset by the rich silver content of the ores which give a silver-lead concentrate values at over $400/ton. Zinc concentrates, containing less silver, are barely profitable under certain conditions. For the last decade or more United Keno Hill have been producing nearly $10 million a year with profits up to $2 million a year (see Canadian Mines Handbook 1961, and Financial Post Survey of Mines 1960).

History

From the first mining in 1913 to 1942 the district produced about $25 million in silver-lead ore and concentrates. Since 1947, mostly under United Keno Hill, the district has produced over $100 million in silver, lead, zinc and cadmium with net profits ranging from $500,000 to $2 million annually. Further exploration is proving up more and more ore in the district and it can be expected that production will continue for many years to come since much of the district is yet to be expored in detail.

From a study of aerial photographs in 1960 the writer, Aaro E. Aho, noted several northeast lineaments which could be vein-faults on the north side of McQuesten valley. In June and July C.D. Poli and he prospected and checked several of these lineaments. On August 8th, Aho staked eight claims on the most prominent lineament or topographic break. Several trenches were dug on this break, some vein matter was found and at the end of September the main section of quartzites to the east was mapped roughly.

Although 16 claims, Crown 1-8 and Anker 1-8 were staked during the boom in December 1950 to cover the quartzites to the east of the main lineament, no previous discoveries have ever been made within miles of this locality. No mineralization is visible here without digging, so this general area on the north side of McQuesten river has been thought to be either barren or low in silver.

To date the property has been visited only by G.A. Dirom and R.L. Russell of American Smelting and Refining in September 1960.

In March 1961 Aho and Poli staked an additional 40 claims to cover the remainder of the favourable quartzite section and commenced sinking prospect pits on the main lineament.

Property (see Figure 2)

The claims UR 1-48 inclusive, record Nos. 80519-80526 and 80644-80683, are owned outright by Aaro E. Aho of 4219 Lions Avenue, North Vancouver, B.C., and Cecil D. Poli of Mayo, Yukon, each holding undivided half interest. Work has been recorded to keep them in good standing until October 1, 1963.

GEOLOGY AND MINERALIZATION IN THE DISTRICT (see Figure 1)

Geology

The Mayo district is underlain by metamorphosed sedimentary rocks of the lower greenschist facies which have been divided into three formations on Keno and Galena Hills - the Lower Schist, Central Quartzite, and Upper Schist.

The Lower Schist consists mainly of graphitic schist and thin-bedded quartzite with several hundred feet of sericite-chlorite schist in its upper portion.

The Central Quartzite formation consists of several members of blue-grey to grey and white quartzite beds varying from a few inches to several feet in thickness, with minor interbeds of graphitic or sericitic schist. Between these quartzite members, which may vary from 100 to 800 feet or more in thickness, are members composed of thin-bedded quartzite and graphitic schist. On Galena Hill R.W. Boyle (G.S.C. paper 57-1) subdivided the Central Quartzite as follows:

Base of Upper Schist	--	Green sericite schist.	100'
Silver King Member	--	Grey quartzites, beds up to 15' thick, white cherty quartzites near top.	350' (appears to thin NE)
		Thin-bedded quartzites and graphitic schist.	550'

Hector-Calumet Member	-- Massive grey quartzite beds 5-25' thick, two or more beds pale grey to white cherty quartzite near centre of sequence.	800'
	Grey to black thin-bedded quartzites and graphitic schist.	350'
Mackeno Member	-- Massive pale grey to black quartzite beds 5-10' thick, some interbedded graphitic schist.	300'
Top of Lower Schist	-- Green sericite schist.	350'

The white cherty quartzite beds, referred to by the writer as the Elsa-Calumet member, can be traced for at least 10 miles across Galena Hill until covered by overburden in McQuesten valley. Thus, they may be expected to exist across the valley on the UR property, only 4½ miles across McQuesten valley from Elsa.

The Upper Schist is composed chiefly of thin-bedded quartzite, sericite-chlorite schist, and graphitic schist, with minor limestone in places.

Sill-like lenses of dioritic or gabbroic greenstone intrude the Lower Schist in abundance, and the Central Quartzite and Upper Schist to a lesser degree. These sills themselves have been metamorphosed in varying degrees ranging from massive greenstone to intensely sheared and altered chlorite schist.

Altered but unmetamorphosed sill-like aplitic or quartz-feldspar porphyry occurs in a few places on Keno and Galena Hills.

The above formations are all conformable, strike about N 70°E and dip 20-30°S on the south limb of a west-plunging N 70°E anticline, the McQuesten anticline, which intersects a larger southeast-plunging anticlinal fold, the Mayo Lake anticline, east of Keno Hill.

Mineralization

The productive mines of the district occur mainly in northeast-trending southeast-dipping tensional vein-fault systems in competent quartzites or greenstones of the south-dipping Central Quartzite formation, overlain and underlain mainly by schists, on the south limb of the McQuesten anticline. The ore tends to be localized in the more massive members of this formation, particularly where vein-faults intersect or branch, where they

pass upward into less competent schist or thin-bedded quartzites and often near N-NW cross-faults. To some degree the amount of ore also appears to be related to the strength of vein-fault, expressed in width and amount of fault displacement.

The pattern of veins and faults in the district may be caused by tensional fracturing related to rise of the N 70°E-trending McQuesten anticline. (For similar fracture patterns see "Relation of Ore Deposition to Doming" by E.H. Wisser, Geol.Soc. America Memoir 77, 1960). An interesting feature is a southeast concavity or curvature in some of the vein-faults on the south limb of the anticline and an apparent reversed curvature on the north limb, probably related to stress distribution and strike of formations.

GEOLOGY AND MINERALIZATION ON THE UR PROPERTY (Fig.2 and 3)

The UR property covers one or more northeast trending vein-fault systems which cut the Central Quartzite formation on the north limb of the McQuesten anticline.

Rock Formations

Rock formations exposed in the vicinity of the UR property include the Lower Schist, Central Quartzite and Upper Schist formations, almost identical to those on the productive south limb of the McQuesten anticline as described below.

The top of the Lower Schist formation exposed near UR Nos.41 and 43 claims consists mainly of sericite-chlorite schist with numerous lenses of slightly schistose greenstone up to 50 feet or more thick. Graphitic schist and thin quartzite members from several feet to several tens of feet thick exposed in a small canyon on Hex Creek may also belong to the upper part of this formation.

The Central Quartzite formation, exposed intermittently over a distance of two miles, consists mainly of blue-grey and grey quartzite with lesser amounts of almost black quartzite, brownish quartzite and sandy quartzite. Beds vary from a few inches to several feet in thickness. Near the middle of the section, on UR Nos.38 and 40 claims, several feet of light grey to white cherty quartzite is exposed but outcrops are not extensive enough to show total thickness. The lack of any other distinctive exposed markers that have been recognized so far make it very difficult to subdivide this part of the Central Quartzite formation yet or to correlate members within it, especially since outcrops are not abundant. The thickness of this Central Quartzite, as worked out

in cross-section, appears to be of the order of 2500 feet, similar to that on Galena Hill five miles away across the valley. Except on UR Nos.4, 6, 8, and 32 claims, no schist exposures were seen in this section although other schist interbeds undoubtedly exist in the Central Quartzite.

The following incompletely exposed section of Central Quartzite was mapped on the UR property:

UR Nos.1-8	-- Massive grey quartzite beds up to several feet thick. Thickness of members varies from few feet to tens of feet or more. Interbedded with grey quartz sericite-graphite schist, graphitic schist and probably considerable blue-grey quartzite. Contains sheared greenstone (chlorite schist) in several lenses up to at least several feet thick. Also contains prominent lens of altered quartz feldspar porphyry.	500'+ (?)
Slope E to Creek	-- Unexposed except for two small outcrops of massive grey quartzite. May be underlain in large part by above section.	500' (?)
Slope between Poli and Hex creeks.	- Slabby to massive blue-grey to black quartzite, beds few inches to several feet thick. 100', perhaps more, of massive slightly schistose greenstone. 200' (?) massive grey quartzite, some cherty white quartzite up to a few feet thick, also blue-grey and brownish grey quartzite. Blue-grey and grey quartzite. 300-400' blue-grey to black quartzite, some grey quartzite, minor sandy crumbly quartzite, minor schistose greenstone. 500-600' incompletely exposed brownish grey to blue-grey quartzite, grey quartzite and minor (?) quartz mica schist and graphitic schist. Underlain or perhaps intercalated by graphitic quartz mica chlorite schist and quartz chlorite schist of Lower Schist formation.	1200'

The massive, slightly schistose greenstone occurs at the point of the spur which forms the edge of the upland between the two creeks, and similar greenstone is exposed 11,000 feet due north on the otherwise drift-covered uplands, presumably also within the Central Quartzite.

The Upper Schist formation is exposed along the northwest side of UR Nos.1-8 claims, being in faulted contact with the Central Quartzite along the break referred to under "Topography and Overburden." Along the burned ridge to the west this formation consists of a monotonous section of brown-weathering quartz-mica schist with some beds of blue-grey quartzite up to a few feet thick in its lower part, exposed near the base of the slope, and some graphitic and sericite-chlorite schists to the west, farther up in the section. Three miles west of the UR claims, and perhaps 2000 to 3000 feet higher stratigraphically, three or more slightly limy grey quartzite members, 200 to 400 feet thick, separated by 200 to 400 feet of schists, occur on the Shanghai property. These quartzites, carrying schist interbeds, are apparently much higher in the stratigraphic section than the Central Quartzite described on the UR claims and do not resemble it.

Along the baseline of UR Nos.4-8 claims numerous outcrops of altered porphyry similar to that on Galena Hill indicate a moderate-sized body of this rock on the southwest side of the break. This porphyry appears to lie at about the same stratigraphic horizon, near the top of the Central Quartzite, as it does on Galena Hill.

Fresh fine-grained dioritic to andesitic dike rock was seen in several localities within the Central Quartzite between Poli and Hex Creeks and in the Lower Schist formation . The presence of this rock type is the only difference in geology that exists between this area and Keno and Galena Hills, otherwise the same rock formations of similar thickness exist on the UR property. On UR No.45 claim a N 80°E dike of this rock, up to 100 feet or more wide, extends for a half mile or more in the Upper Schist and may also extend across the Central Quartzite as suggested by two small outcrops along strike.

Structure

The three formations, and to some degree the greenstones, have been strongly sheared with pervasive bedding-plane movement, resulting in development of bedding-plane schistosity, flat isoclinal east-west drag folds overturned to the north, and east-west wrinkle lineation parallel to the axes of the drag folds. This structural fabric is also characteristic of the productive south limb of the district and was formed under considerable depth of cover with accompanying low grade regional metamorphism of the lower green schist facies.

After much of the cover was eroded away, perhaps around Laramide time, gentle folding resulted in arching of the N 70°E McQuesten anticline along this former east-west structural grain, and rise of the major southeast-plunging Mayo Lake anticline east of Keno Hill. The formations on the south limb of the McQuesten anticline at Keno Hill swing from N 70°E to SE into the Mayo Lake anticline and similarly the same formations on the north limb at the UR property swing from E-W to NW, forming a moderately gentle WNW-plunging syncline at the major fold intersection (Figure 2). Dips are gentle, averaging about 15 degrees and rarely steeper than 30 degrees except at minor crumples, fold axes, or at dragged zones near vein-faults.

This north limb of the McQuesten anticline is cut by the same pattern of longitudinal and northeast vein-faults and W to NW cross-faults that characterize Keno and Galena Hills. The Shanghai property on the north limb shows similar northeast breaks with the same type of left hand offset and cross-faults, and with silver-lead mineralization in an associated longitudinal break. On the UR property and to the west, three N 25°E lineaments were noted on air photos and upon checking two were definitely found to be fault or vein-fault zones.

The westernmost lineament, occupied by a small creek west of the UR claims, occurs entirely in the Upper Schist and brief examination showed no definite evidence for either presence or absence of faulting.

The next lineament, about 2400 feet to the southeast on UR Nos.11, 12, and 14 claims, is a branching topographic break or swale extending through the Upper Schist southwest into the quartzite beds previously mentioned at the base of the slope, presumably near the base of this formation. Some disturbed attitudes and an outcrop of quartzite breccia in the lowest part of this break confirm the presence of strong faulting.

The main lineament, 1800 feet farther southeast along the baseline of UR Nos.1-8 claims, consists of a swale or break in slope 50 to 100 feet wide, up to 15 feet deep, about 5700 feet long, slightly concave to the northwest and striking N 25°E oblique to the hillside. The northwest side consists of moderately-to-gently-dipping Upper Schist formation, while the southeast side consists of gently- to moderately-dipping Central Quartzite formation, dragged into steeply dipping attitudes next to the lineament, indicating a major fault zone with the southeast side moved up. This conclusion is corroborated by presence of quartzite breccia on the southeast side near chainage 26 + 50 and in a trench near chainage 20 + 50 on the baseline of UR Nos.3 and 4 claims, and of 2½ feet of gouge striking about N 30°W about 50 feet within the Central Quartzite formation near chainage 26 + 00. Moreover presence of manganiferous siderite with traces of galena in trenches on the southwest side near chainages 20 + 65 and 27 + 00 shows that this is a major mineralized

vein-fault zone. Irregularities in the lineament and presence of the gouge zone in the quartzites of the southeast wall of this break suggest that it is not a simple fault but probably a ramifying zone with branches extending into the Central Quartzite formation. Test pits in 1961 showed a major zone of gouge along this structure.

Since this N 25°E vein-fault zone cuts across the WNW-plunging synclinal fold in the Central Quartzites, it should extend entirely into these quartzites both to the northeast and southwest. Quartzite outcrops up Poli Creek on UR No.32 claim probably lie on the northwest side of the NE projection of this vein-fault zone. Perhaps the quartzites near the base of the slope to the west lie along the Upper Schist-Central Quartzite contact on the northwest side of the vein-fault zone. Such localities "where vein-faults pass upward from quartzite into overlying schist" are recognized as favoured loci for ore deposition on Keno and Galena Hills.

The apparent WNW synclinal crumple (very gentle) may have its axis at about chainage 42+00 on the southeast side and perhaps at chainage 25+00 on the northwest side which, if substantiated by subsequent work, would indicate a typical left lateral offset of about 1700 feet (see Figure 2), even stronger than vein-faults on the productive south limb. The stratigraphic displacement or dip slip may be of similar or greater magnitude and slickensides indeed suggest largely dip slip or normal displacement.

East of this vein-fault zone the Central Quartzite section is not exposed extensively enough to determine yet how many other vein-faults might exist in this direction, but if their pattern remains the same as to the west and on Galena Hill, there should be at least one or two in this section as well. Fractured, rusty quartzite float and reported altered (carbonatized) greenstone suggest that at least one break may extend up the slope between Poli and Hex creeks.

Cross-faulting has also been recognized along the main vein-fault zone, but relationships are not yet certain.

Summary of Structure

The structure on the UR property apparently consists of (a) a gentle, crumpled WNW-plunging syncline, caused by intersection of the McQuesten and Mayo Lake anticlines, cut by (b) several northeast-striking vein-fault zones. A major vein-fault zone on UR Nos.1-8 claims has apparently moved the southeast side up and perhaps to the northeast so that the underlying Central Quartzite is brought into faulted contact with the Upper Schist around the axis of this syncline. This vein-fault zone may thus extend into the Central Quartzite both to the northeast and southwest which,

with its probable branching nature, should favour the deposition of ore. Other vein-fault zones probably exist in the incompletely exposed section of favourable Central Quartzite to the east.

Not only rock formations but vein-fault structures on the UR property are very similar to those of Keno and Galena Hills, perhaps even to details of apparent displacement.

Mineralization (see Figure 3)

Previous cursory prospecting has apparently been discouraged by the obvious abundance of barren Upper Schist in a section mapped as Central Quartzite (G.S.C. map 890A) and by low silver values reported around Shanghai Creek several miles to the west. (Actually 250-ounce float is also reported west of Shanghai Creek and values on the Shakghai property itself range from 40 ounces to 130 ounces of silver).

Except for rust along fractures and rare pyrite in a few localities, no mineralization has ever been found on the surface anywhere near the UR property. However, the presence of quartzite breccia and a few dark manganese-stained fractures on the southeast side of the main lineament prompted Poli and Aho to dig a trench near this wall a hundred feet southeast of chainage 27+00 on the baseline.

This trench (No.1) hit frost at about 4 feet, was deepened by thawing down to 7½ feet, passed through schistose greenstone rubble with pieces of whitish gouge, and was finally stopped by flows of water as abundant manganiferous siderite float was found in its lower (SW) end. Minor fragments of anglesite and galena panned from this trench assayed 217 oz/ton silver, suggesting that pure unleached galena may contain up to 250 or 300 ounces. This silver content is comparable to that of the better ore on Keno and Galena Hills. Manganiferous rust scraped from the nearby manganese-stained quartziteoutcrop assayed 0.34 oz/ton silver; a fine hairline stringer of galena was also found in this outcrop. Fine placer scheelite (?) also seen in the pannings from the trench may originate around the altered porphyry exposed farther up the lineament. Deepened into a 20-foot shaft, this pit passed through the siderite float and hit a barren fault zone which dips about 60°NW.

A second trench (No.2), dug about 125 feet to the southwest along a small branch swale within schistose greenstone, sericite-chlorite schist and graphitic schist of the Central Quartzite formation, showed minor manganiferous siderite float and then 2½ feet of whitish gouge at a depth of 7 feet, indicating a steeply-dipping branch fault as previously mentioned. No sulfides or anglesite could be panned from this trench.

A third trench (No.3) at chainage 20 + 65 on the baseline went through two feet of abundant weathered manganiferous siderite float and fragments of grey quartz-sericite graphite schist between 2 feet and 4 feet depth, then through glacial silt to a depth of 7 feet where altered and brecciated schist-quartzite bedrock veined with quartz was exposed. Galena was panned from the layer of siderite float but none was found on bedrock. An assay of the siderite itself gave only a trace of silver.

A fourth trench (No.4), some 20 to 30 feet south of No.3, also encountered some weathered manganiferous siderite float, and then boulders 2-3 feet across of quartzite breccia resting on quartzite at a depth of 8 feet.

Pits about a 100 feet NE of trenches 3 and 4 encountered large widths of gouge.

A test shaft 20 feet deep, sunk along the lineament about 60 feet NW of chainage 44 + 50 encountered a 10-inch vein of manganese oxides dipping moderately to steeply northwest in a fault zone.

Another test shaft 25 feet deep between trenches 2 and 3 encountered quartzite.

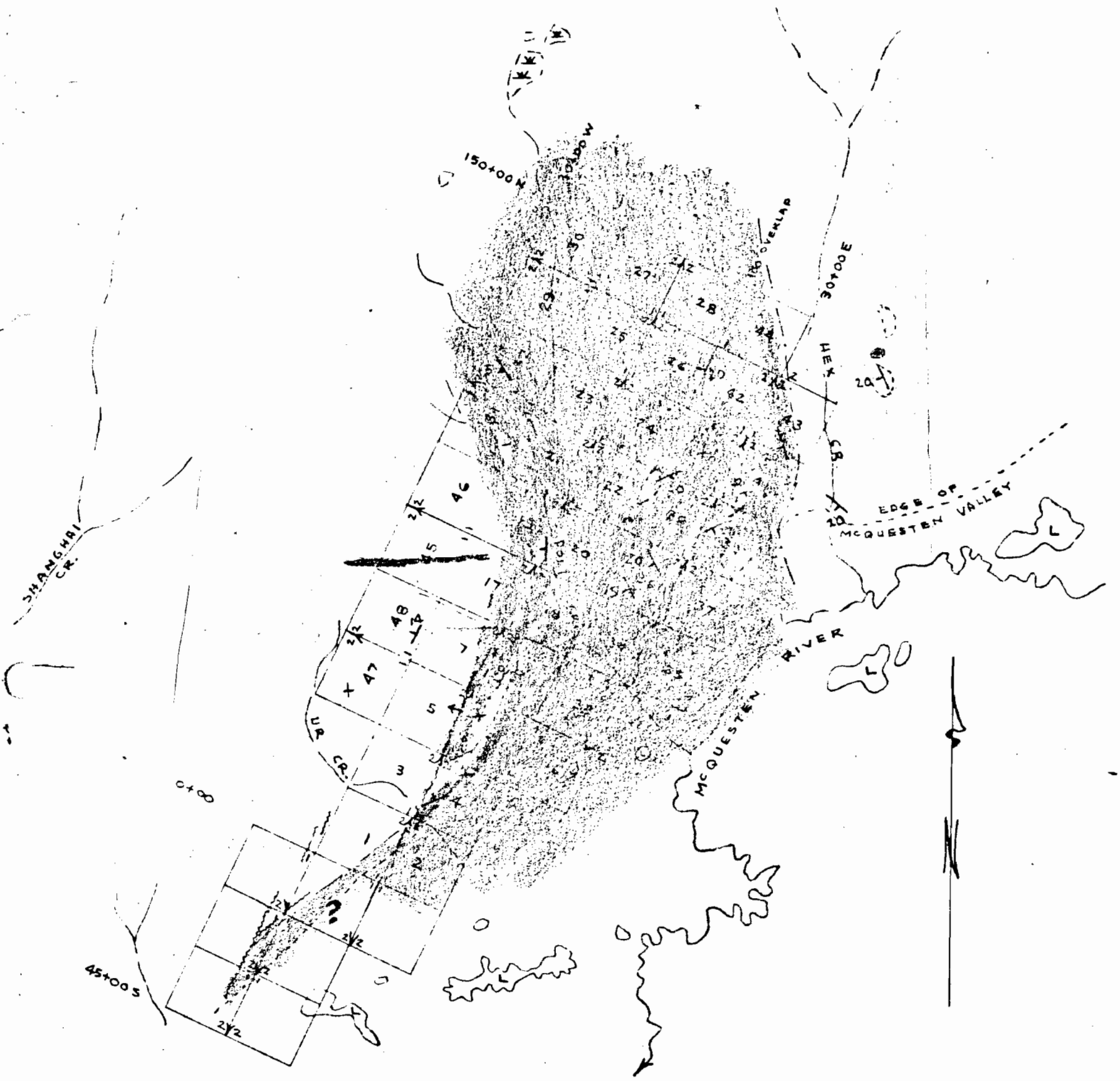
Short of actual discovery of ore, the siderite mineralization and silver content in the traces of galena found so far completes the picture of similarity to Keno and Galena Hills in all apparently significant respects. Considering the amount of vein material that was uncovered by this limited work when little or no surface mineralization was evident, it seems probable that much more mineralization could be found by bulldozer trenching or ground sluices in the most likely places on this and other possible vein-faults, aided by geophysics, geologic mapping and perhaps geochemistry.

CONCLUSIONS

Since this entirely virgin area appears to contain all the characteristically favourable rock types, structures, vein-faults, signs of mineralization with high silver content and a sizeable area of favourable ground in this productive district, further serious exploration on the UR property is well justified. The potential reward might well turn out to be comparable to the best United Keno Hill deposits which lie just across the valley.

It is proposed that about $75,000 be tentatively allotted toward the first season's exploration work, to be spent in stages on electromagnetic or other geophysical surveys, followed by bulldozer trenching and whatever other work appears justified as results are obtained.

Dr. A.E. Aho,
Consulting Geological Engr.



PLAN OF
UR GROUP OF CLAIMS
MAYO MINING DISTRICT
YUKON
1 IN = 3000'
A.E. AHO MARCH 27, 1961

Figure 2.

GEOLOGIC PLAN OF UR SILVER-LEAD PROPERTY

MAYO MINING DISTRICT
YUKON

A.E. AHO — NOV. 15, 1961

SCALE: 1 IN. = 500 FT.

LEGEND

- EXTENSIVE OVERBURDEN (SILT UNDERLAIN BY TILL) ON SLOPES AS WELL AS IN VALLEY APPROX. BOUNDRY DEEPER AREAS SHOWN THUS: . . . . .
- INTERMEDIATE DIKE ROCK (D) – ANDESITIC TO DIORITIC
- ALTERED QUARTZ-FELDSPAR PORPHYRY (P)
- GREENSTONE – MOSTLY SCHISTOSE (MINOR BODIES); FAIRLY MASSIVE ONLY ON UR 38, N. OF AREA & IN LOWER SCHIST. (GS)
- UPPER SCHIST FORMATION – BROWN & GREY QUARTZ-MICA SCHIST (BR.SCH.) OR PHYLLITE; BEDS OF BLUE-GREY QUARTZITE (BGQ) TOWARD BASE.
- CENTRAL QUARTZITE – BLUE-GREY QUARTZITE (BGQ) GREY QUARTZITE (GQ), WHITE QUARTZITE (WQ), BROWN QUARTZITE (BRQ) AND SOME INTERBEDDED GREY TO GRAPHITIC SCHIST.
- LOWER SCHIST – CHLORITE SCHIST UNDERLAIN BY GREY PHYLLITE OR SCHIST & GRAPHITIC SCHIST; CONTAINS MINOR BEDS OF DARK QUARTZITE.
- TRACED / INFERRED — FAULT ZONE – NE ONES ARE CHIEFLY VEIN-FAULT ZONES
- INCLINED / FLAT — ATTITUDE OF BEDDING-PLANE FOLIATION OR BEDDING (NOT DIFFERENTIATED)
- TREND OF WRINKE LINEATION (PARALELL TO AXES OF DRAG FOLDS OVERTURNED TO N.
- FOLD OR DRAG FOLD (OVERTURNED)
- BEDROCK EXPOSURE

inches 0 1 2 / centimetres 0 1 2 3 4 5
This reference scale bar has been added to the original image. It will scale at the same rate as the original and can be used as a reference for the original size.
YUKON GEOLOGICAL SURVEY

017412 FIGURE 3