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REPORT ON THE
1974 DIAMOND DRILLING PROGRAM
BIG MISSOURI PROPERTY
STEWART, B.C.

by

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MAPS ACCOMPANYING REPORT

BIG MISSOURI

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INTRODUCTION

The diamond-drill program on Big Missouri Ridge was initiated to explore the 180 ft. open-cut on the Province claim. The cut, as sampled by others, gave an average assay grading .44% Pb., 6.0% Zn., 0.8% Cu., 4.56 oz. Ag., and 0.02 oz. Au./ton. Moreover, adjacent test pits and small cuts in bedrock indicated that the mineralization extended at least 150 ft. east on surface. Short diamond-drill holes were put in to test the thickness and continuity of the deposit.

In addition to the above work, reconnaissance geological traverses were conducted on the Glacier, Martha Ellen, Leckie Fr., and Big Missouri claims. Mineralized talus on the last-named claim was chip-sampled.

Initial preparation for the drilling program commenced on June 19th., 1974, at which time a D-7 cat was employed to plow snow through to the staging area at Joker Flats. On June 25th., the drill equipment was helicopter-

lifted to the drill area; on June 27th., both machines were operating, and had collared holes 1 and 2.

Eleven holes, totaling 822 feet, were drilled as of July 30th., 1974. Generally, the holes were put into a depth of 50 ft., or 100 ft., and inclined at -45° .

A grid was established to cover the drill site area and the northeast extension of the mineralized zone. The drill holes were tied in with known workings, and rock underlying the grid was mapped with an emphasis on structure. Because of the large amount of snow on Missouri Ridge, mapping work could not be undertaken until the middle of July..

DIAMOND DRILLING (Sections 1 to 4)

Holes BM-74-1 to 74-5 were drilled to test the 180 ft. cut along its total length. It was assumed that the cut subparallelled the strike of the mineralization.

The above drilling revealed that favourable lead-zinc mineralization did not occur directly beneath the mineralized cut, thereby excluding the presence of a steeply-dipping tabular body; moreover, none of the holes intersected, lead-zinc mineralization that would suggest a flat-lying body exposed in the first 25 ft. of surface rock.

The sulphide mineralization encountered in the holes consisted primarily of pyrite hosted in a cataclasite rock, essentially a silicified, altered, volcanic epiclastic. Short sections of sphalerite and galena were intersected at an average depth of 30 feet in the holes, but these intersections were suggestive of lenticular bodies of limited lateral dimensions, dipping at low angles into the sidehill.

Holes stepped out to the east and northeast were drilled in a continued search for flat-lying near surface mineralization, and to test the continuity to depth of mineralization exposed in a number of small cuts. Holes BM-74-6, 7, 8, and 9, with an average depth of 55 ft., failed to intersect noteworthy mineralization other than pyrite.

Two additional holes, BM-74-10 and 11, were drilled into the sidehill immediately below the northernmost and best mineralized section of the 180 ft. cut. Both these holes intersected copious pyrite with minor galena and sphalerite, but the tenor of the mineralization in the core did not compare with that exposed in the trench.

In 1920, four diamond-drill holes, totaling 900 ft., were put in to test the ground between the 180 ft. cut and the main shaft. A report on these holes (Bancroft, 1920) relates that they intersected and bottomed in considerable

pyrite, with only small amounts of low-grade lead-zinc mineralization being encountered in the holes.

Some of the more notable lead-zinc intersections discovered in the 1974 drilling program are as follows:

TABLE I

<u>Diamond-Drill Hole</u>	<u>Interval</u>	<u>Ft.</u>	<u>% Cu</u>	<u>% Pb</u>	<u>% Zn</u>
BM-74-1	35½-37	1½	1.11	4.33	6.78
BM-74-2	15 -30	15	N/A	2.9	7.23
BM-74-3	40 -60	20	0.37	2.45	4.69
BM-74-4	35 -40	5	0.03	1.05	2.45

The intersections listed in Table I contain encouraging values in lead and zinc over considerable widths, as seen in holes 74-2 and 3. However, other holes along strike and down dip to the east, (BM-74-4) indicate that grades drop off, and that the mineralization pinches out. The three holes drilled to test the best mineralization exposed in the north end of the 180 ft. cut, penetrated only low-grade lead-zinc mineralization.

It is of importance, that in virtually all diamond drill holes, no mineralization of worthwhile tenor was seen in the first 25 feet from surface. The absence of lead-zinc mineralization in the first 25 ft. effectively counters the

hypothesis put forward that a substantial tonnage of flat-lying ore-grade material occurs on surface.

GEOLOGICAL MAPPING

Detailed geological mapping carried out on the mineralized portion of the Province claim indicated that the mineralization has been localized in a north-northwest trending silicious zone. Joints and quartz-filled fractures, striking north-northwest and dipping 45°E, are of great abundance in the zone; moreover, quartz-filled crossfractures seen in a number of outcrops have combined with north-trending veins to form a massive quartz stockwork. Lead-zinc mineralization, apparent in surface and in diamond drill holes, is frequently associated with quartz veining. An examination of mineralized drill core has disclosed that galena and sphalerite occur as blebs and disseminations peripheral to relatively barren quartz veins, or are "strata-bound" in widths of one to five feet between groups of small quartz veins.

RECONNAISSANCE

The Glacier-Martha Ellen claim area was examined during the second week in July, 1974. A thorough inspection of this ground only revealed a number of test pits put in to

explore small quartz veins.

The rock underlying the claims consists of sediments and unaltered volcanics, with minor quartz-veining and limonite stain at various locales. No economic sulphides were visible in the quartz.

BIG MISSOURI CLAIM

The mineralized zone on the Big Missouri claim is evidenced by a series of prominent limonite-stained bluffs. The zone occurs at the break-in-slope on the east side of the Salmon River valley, and is accessible from the Tide Lake road by hiking up a well-defined fault-draw which transects the claim in a southeast direction.

The claim is situated opposite the Texas Creek granodiorite, a tongue of which extends into the claim area. The remaining rocks underlying the claim are made up of typical altered cataclasite with minor schistose units to the east.

The mineralized zone trends northeast, and in addition to pervasive silicification, contains a stockwork of narrow quartz veins. The zone hosts pyrite throughout, and the oxidation of this latter sulphide accounts for the limonite-stain which is so evident in this locale.

The mineralized zone extends 500 feet in a north-south direction and at least 500 feet east-west. The visible vertical section encompasses approximately 200 feet, and the deposit could be deeper, if mineralized outcrops further down-slope constitute part of the mineralized mass.

The literature, relative to the Big Missouri claim, refers to the presence of low-grade gold-lead-zinc mineralization occurring in the extensive field of mass-wasted boulders at the base of the bluff. R.C. Nowland (1915) states that chip samples from 500 boulders in the mass-wasted pile gave the following average assay:

\$1.40 Au \$0.35 Ag 0.13% Pb 0.6% Zn 0.18% Cu 7.20% Fe

He further mentions that a pre-1915 average obtained by Hyder ran:

\$2.00 Au \$2.25 Ag 0.13% Pb 0.6% Zn Tr Cu 8.2% Fe

A total of 87 chip samples were cut from the Big Missouri bluff-zone and boulders in order to check the validity of the above-mentioned assays. The samples taken by the writer gave extremely low values in base metals, and selected samples assayed for gold and silver were not encouraging.

Gold values, in the order of 0.08 ounces/ton, occurred only in the case of a few samples which also carried approximately 1% lead and zinc. Generally, the Big Missouri zone is barren with respect to base and noble metals.

J.A. Bancroft, in his 1920 report, states that a systematic sampling of the mineralized boulders averaged 80 cents per ton in gold, which further indicates that the Hyder and Nowland results are spurious.

CONCLUSIONS

It is apparent from the surface geology, in conjunction with a study of drill hole sections, that the lead-zinc mineralization within the Province zone consists of lenses and disseminations of sphalerite and galena having limited dimensions. There is no flat-lying orebody on surface.

The mineralized zone on Big Missouri, although of considerable dimensions, does not contain base metals, or gold and silver in quantities comparable to that reported in the literature.

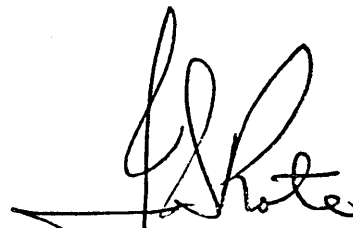
The Glacier, Martha Ellen and Leckie Fr. claims do not have showings of sufficient merit to encourage one to explore the ground.

RECOMMENDATIONS

The tonnage and grade of the mineralization drilled on the Province claim is such that the writer cannot recommend additional work at this time.

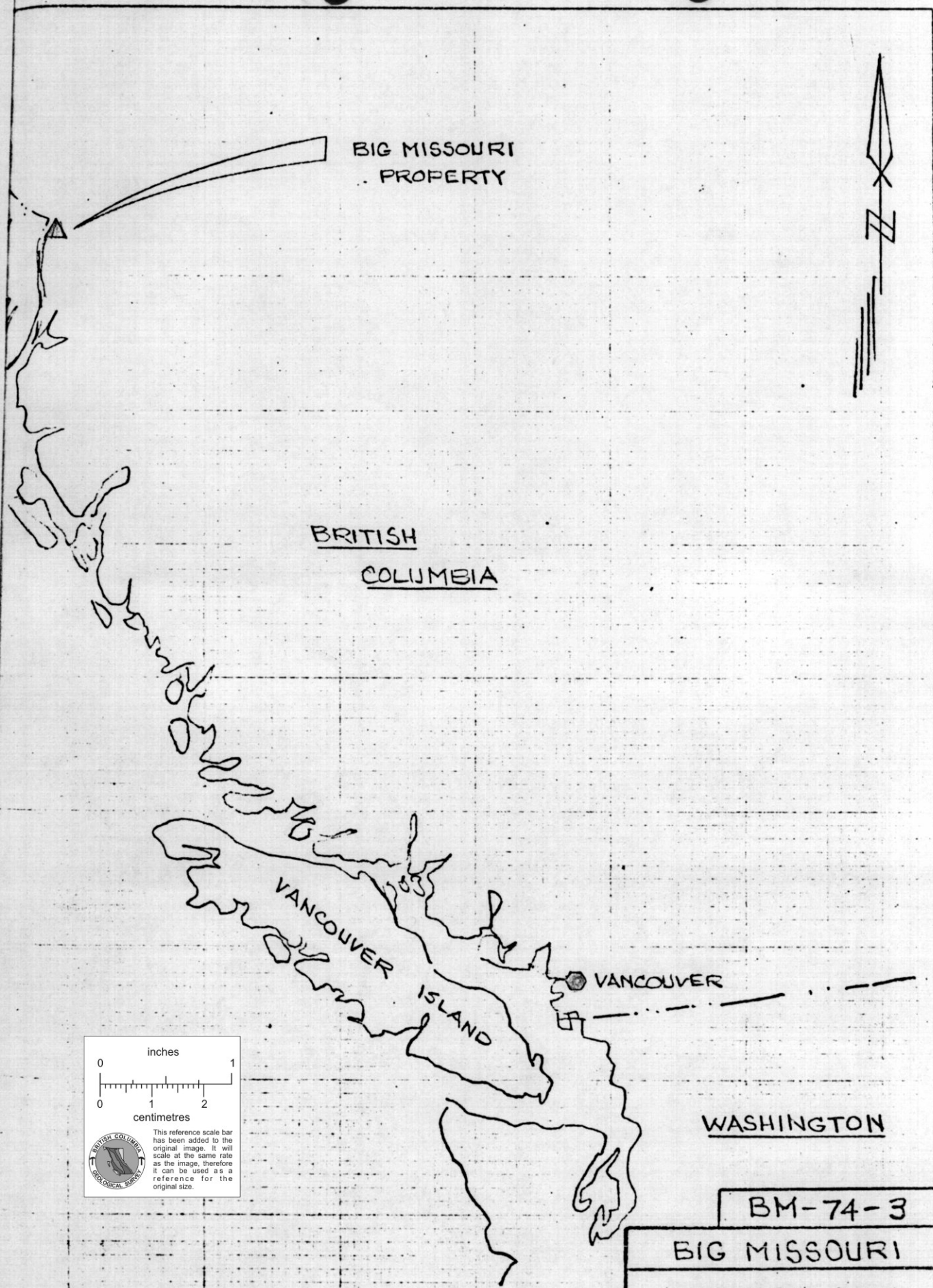
In a like manner, the results of the Big Missouri sampling program do not justify additional work on the claim.

In regard to the property as a whole, it would be worthwhile to maintain the ground in good standing and acquire additional claims (as is being done) in that gold properties in general will continue to be attractive. Moreover, work by El Paso disclosed a strong geochem anomaly on the Winer claim, and some of their sampling to the south gave assays of 0.26 oz. and 0.60 oz./ton.



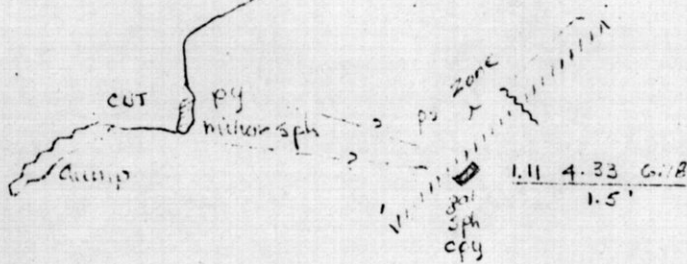
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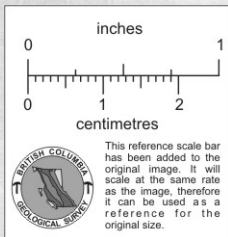


BM-74-3
BIG MISSOURI
LOCATION MAP
I.S.K Aug /74

3500'



118'



REF.

Cu Ph Zn
Fr

BM-00-4

BIG MISSOURI

EDH EM-74-1

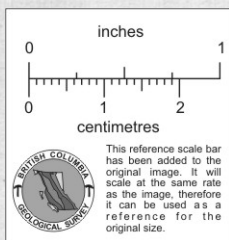
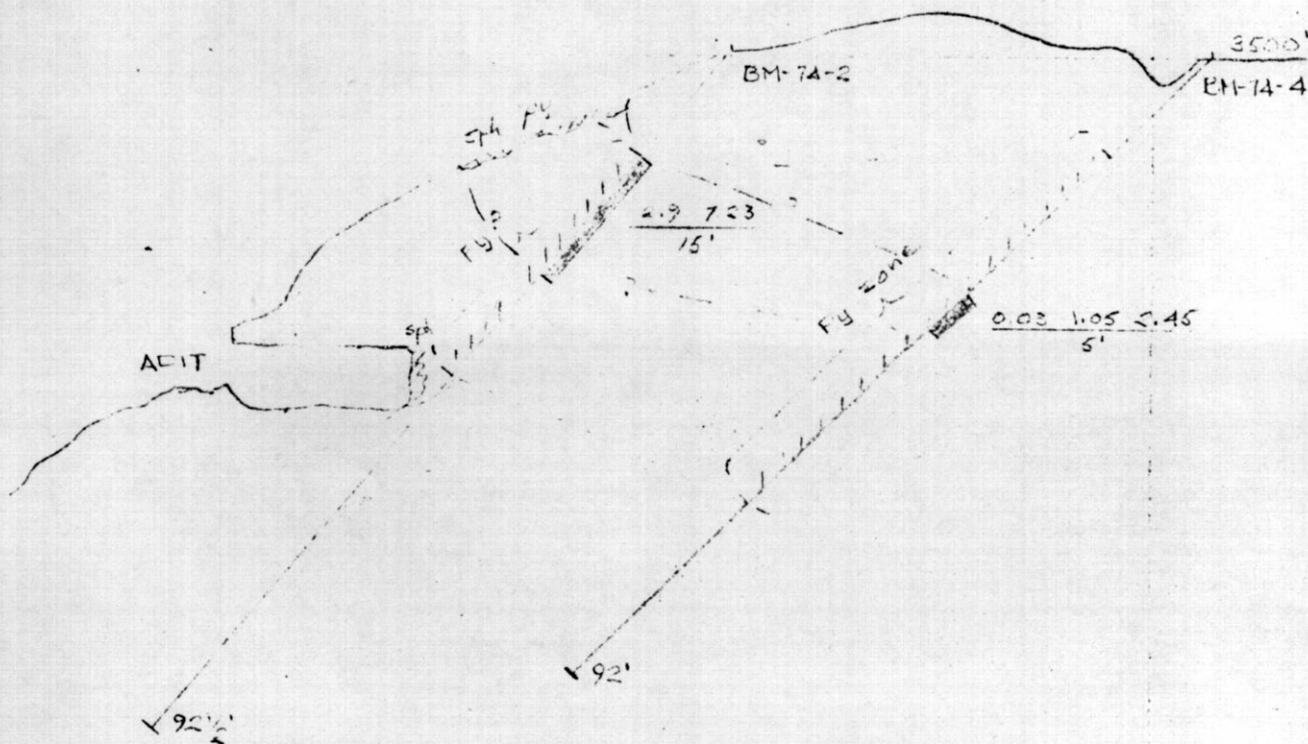
Looking North

Drawn I.S.R.

Scale 1" = 20'

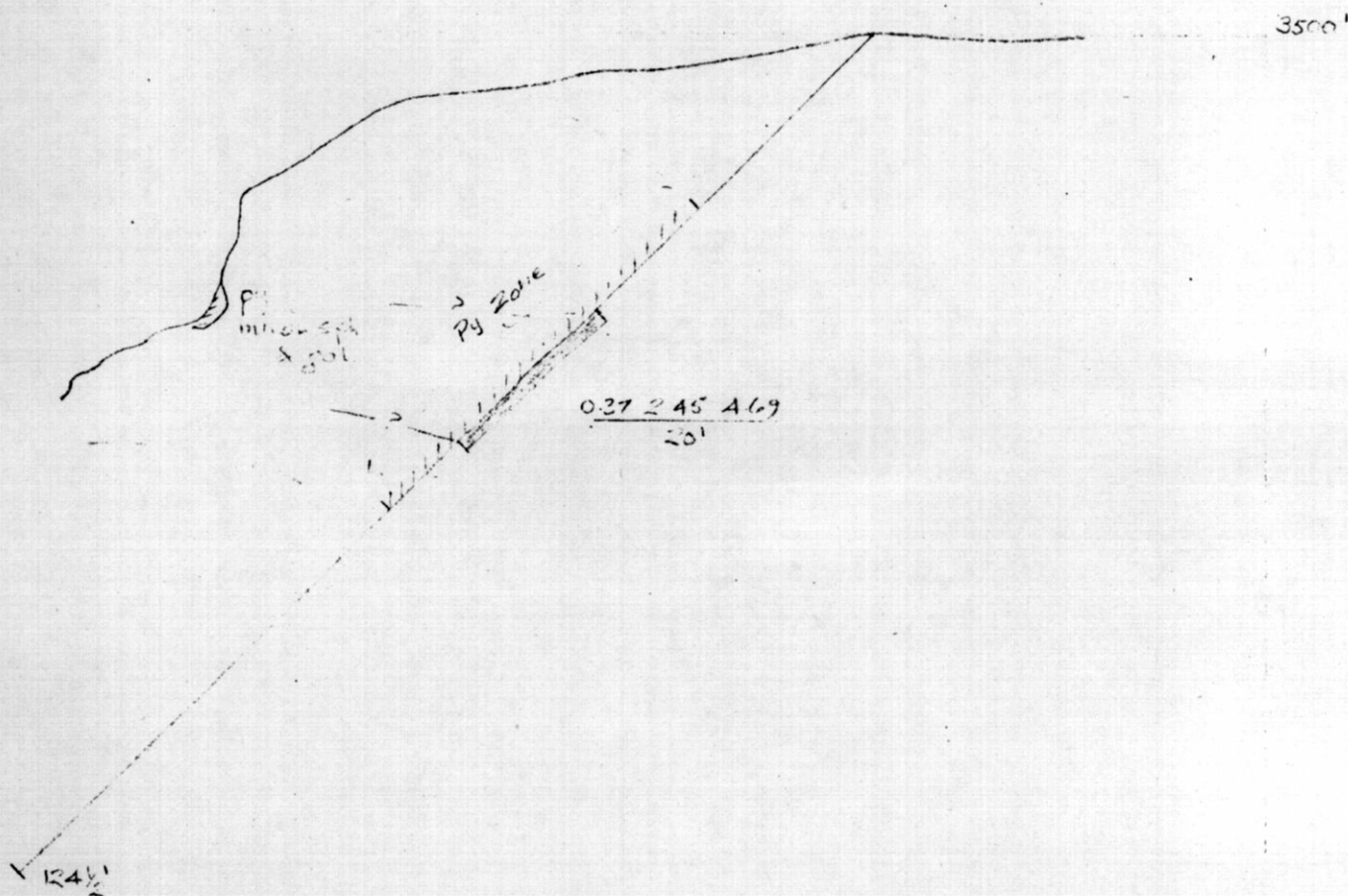
Date Aug/74

Section 2745

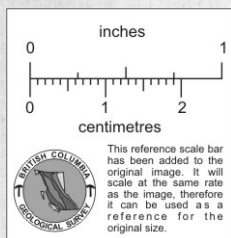


Section 2205

BM-00-5
EIG MISSOURI
DCH ¹⁶ BM-74-2x4
Looking North
Drawn I. S. N
Scale 1"=50'
Date Aug/74



REF.



Section 1675

BM-00-6

BIG MISSOURI

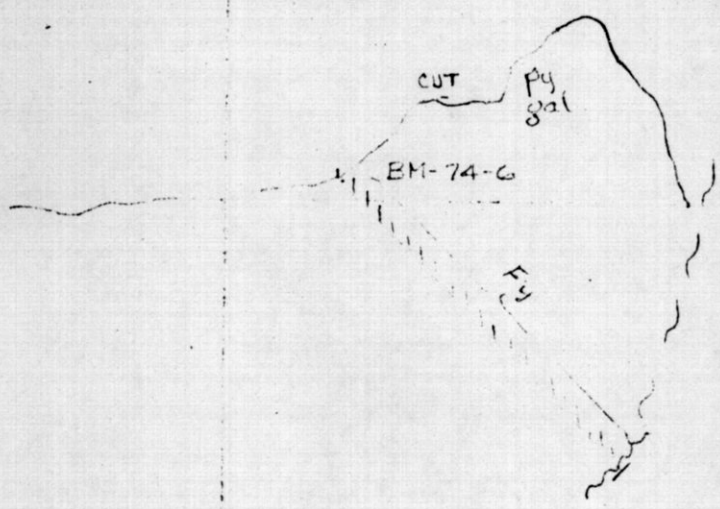
LDH EM-74-3

Looking North

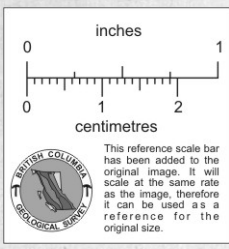
Drawn I.S.R.

Scale 1" = 20'

Date Aug/74

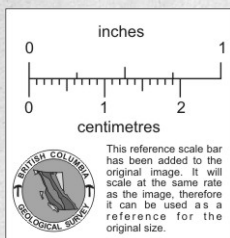


REF



Section 1965

EM-00-7	
BIG MISSOURI	
DLH EM-74-G Looking North	
Drawn	I. S. R.
Scale	1" = 20'
Date	Aug/74



REF

EM-74-7

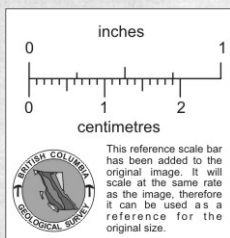
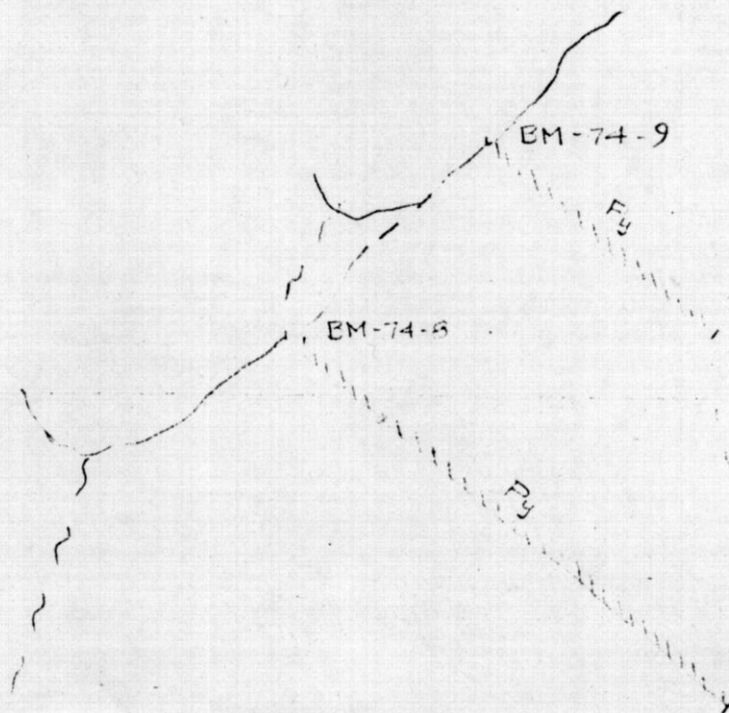
x 91.01
8.1

3500'

157'

Section 1105

EM-00-8	
BIG MISSOURI	
DDH EM-74-7	
Looking North	
Drawn	I. S. R.
Scale	1" = 20'
Date	Aug. /74



Sections 170 & 225

BM-00-9

BIG MISSOURI

DDH's BM-74-8 & 9

Looking North

Drawn I. S. R.

Scale 1" = 20'

Date Aug / 74