

PRELIMINARY NOTES ON

A PROPOSAL ON THE

ALASKAMIN PROSPECT

LEAD, ZINC, AND SILVER DEPOSITS

NEAR BOWSER CREEK, McGRATH, ALASKA

for

The Alaskamin Company
525 Failing Building
Portland, Oregon

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Stanford, California

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INTRODUCTION

The Bowser Creek area is approximately 23 miles south of Farewell, a Federal Aviation Agency station that maintains a 5,000-foot gravel runway. McGrath, about 62 air miles northwest of Farewell, is the nearest source of gasoline and supplies. No roads or trails lead to the area. The deposits can best be reached by helicopter. Small, properly equipped aircraft can land on gravel bars along the Post River; the deposits can then be reached by walking westward about 3 miles up Bowser Creek.

Bowser Creek basin is in rugged terrain, with relief of about 3,000 feet. The valley floor is mantled by surficial deposits. Talus covers the lower part of the surrounding slopes. There is virtually no vegetative cover in the basin; the nearest trees are along the Post River.

LOCATION AND ACCESS

Bowser Creek, a tributary of the Post River which flows northerly into the south fork of Kuskokwim River, is located approximately 25 miles south of Farewell, Alaska. Latitude $62^{\circ} 15'$ and longitude $153^{\circ} 40'$ pass through the south central part of the property.

Access to the area is by means of regular scheduled flights via Seattle to Anchorage. At Anchorage, helicopter or small fixed wing aircraft are available for charter to the area. As there are no roads leading to the property, the best source of supplies is McGrath, 85 air miles northwest of Bowser Creek.

Most of the ground in the vicinity of the showings can be travelled by foot since the slopes, although steep, are not generally precipitous and are devoid of

vegetation. Elevations range from 2000 feet at Post River Valley to over 6500 feet, (peak north of Bowser Creek). Talus covers the lower portions of the slopes as well as the valley of Bowser Creek. An air strip suitable for small fixed wing aircraft has been constructed at Alaskamin's base camp on a gravel bar immediately north of the mouth of Bowser Creek. The distance from the camp to the headwaters of Bowser Creek (Areas 3, 5 and 7) west of camp is approximately 2-1/2 to 3 miles. A road from Farewell to the property, along the valley of the Post River, could be constructed economically within a relatively short time period. Farewell possesses a 5000-foot gravel runway maintained by the Federal Aviation Agency.

HISTORY

The Bowser Creek prospect is a new mineral occurrence discovered by U.S.G.S. Geologists during a heavy metals investigation of the southern Alaska Range in the summer of 1967. The only previous work in the general area dates back to 1902 when Brooks (1911) traversed the south fork of the Kuskokwim River. Since the discovery of the silver-lead-zinc occurrences, considerable preliminary exploration work has been carried out by both Alaskamin and St. Eugene Mining Company. Further work is being completed by both companies, and additional ground has been staked recently.

GEOLOGY

The Bowser Creek area is underlain by a folded sequence of limestone, siltstone and shale, and argillite cut by small intrusive bodies that locally have developed narrow contact aureoles. Mineral deposits are spatially related to the igneous rocks and occur both in limestone and in the igneous rocks themselves.

BEDDED ROCKS

Limestone, and siltstone with interbedded shale and limestone are the predominant rocks in the Bowser Creek area. Dark-gray argillite appears to underlie the limestone in a northern tributary to Bowser Creek. Thus the apparent strat-

igraphic succession, from oldest to youngest, is argillite, limestone, and the predominately siltstone unit.

INTRUSIVE ROCKS

The sedimentary rocks of the Bowser Creek area are cut by two igneous breccia bodies, each about 1 mile across, and a small granodiorite porphyry body about 800 feet across.

The southernmost igneous body forms a prominent chimney-like mass on the Southwest side of Bowser Creek. It is a light-gray breccia that consists of angular to subangular rock fragments in a light-gray aphanitic matrix. The rock fragments range from microscopic particles, which form part of the matrix itself, to blocks a foot or more across. Silicated limestone, quartz-feldspar rock, and cognate inclusions make up a large part of these fragments, but many fragments are so extensively altered to quartz, epidote, leucoxene, sericite, chlorite, calcite, and opaque minerals that their original nature cannot be determined. Many fragments show corrosion of their borders. The matrix is a micro to cryptocrystalline paste of plagioclase, quartz, and subordinate potassium feldspar and contains abundant fragments of quartz and plagioclase.

The northernmost intrusive, also a breccia, underlies the basin at the headwaters of Bowser Creek. Its contacts with the enclosing rocks are largely concealed by surficial deposits. This intrusive was examined only along Bowser Creek, where it is a light-greenish-gray intrusive breccia similar in composition to the southern intrusive body.

A small body of granodiorite porphyry occurs on the north side of Bowser Creek. The contact of the porphyry with the enclosing limestone is covered, but the dimensions of the igneous body are approximately delineated by granodiorite porphyry rubble.

Light-gray to white felsite dikes, from 1 to 50 feet thick, occur throughout the Bowser Creek basin. They vary in texture from an aphanitic equigranular aggregate of quartz, plagioclase, and potassium feldspar to porphyritic dikes with phenocrysts of plagioclase (partially altered to sericite, calcite or epidote) and rounded quartz crystals embedded in a very fine grained crystalline ground mass of feldspar and quartz. The felsite dikes intrude the bedded rocks, and along the upper reaches of Bowser Creek they cut igneous breccia.

Fine-grained dark-greenish-gray porphyritic mafic dike rocks locally are present. In thin section, altered phenocrysts of plagioclase and hornblende occur in a felted ground mass of altered plagioclase and feric alteration products.

STRUCTURE

The sedimentary strata have been deformed into folds which trend north-north-east and plunge to the south-southwest and north-northeast. The folds are locally overturned; axial planes are vertical or dip steeply to the east-southeast. Subsidiary asymmetric and disharmonic folds with wave lengths of a few inches to tens of feet were noted on the limbs of the larger folds. Faults, mapped from aerial photographs, are of two generations. The north trending fault exposed south of Bowser Creek apparently accompanied the main period of folding. Cross faults of small apparent displacement border the southern intrusive breccia.

MINERAL DEPOSITS

The mineral deposits are of two main types: (1) galena-sphalerite or sphalerite-pyrrhotite deposits in limestone and (2) narrow pyrrhotite-sphalerite fracture fillings in igneous breccia. The deposits in limestone are in two areas, one southwest and the second northeast of Bowser Creek. The deposits in igneous breccia are near the headwaters of Bowser Creek. All deposits are closely associated with intrusive igneous bodies.

CLIMATE

Location: 62° North latitude

153° 30' West longitude

Average temperature - January -- 0° -- Low -- 50°F

Average temperature - August -- 60° -- High -- 85°F

Open ground: (Average 4' snow fall -- 12" ppt.)

Snow at mine: October to May

Snow at mill: October to April

Some permafrost.

VEGETATION

White spruce (average 6" diameter), a lot in valley. Elevation of 3000' to match the elevation of Timber Line. Mixed Brush, Alder Moss. Low Bush Cranberry, Prolific Wild Flower.

TERRAIN

Mountainous, above wide Post River Valley. A broad (1/2 to 1 mile wide) divided stream (30' x 5' deep @ 6 m.p.h.). Maximum flow in May, June--about 2' above normal $60 \frac{(6)(5280)}{60} = 30,000$ cubic feet per minute.

Elevation: High point = 6380'

Low point = 2000'

Top: recent glaciation, many cirques

PROPERTY

534 - Mineral location claims. Assessment work done to September 1, 1969. Conflicts on 3 claims on south end of property. Trade and manufacturing site, 80 acres, can go to patent for \$350 per acre.

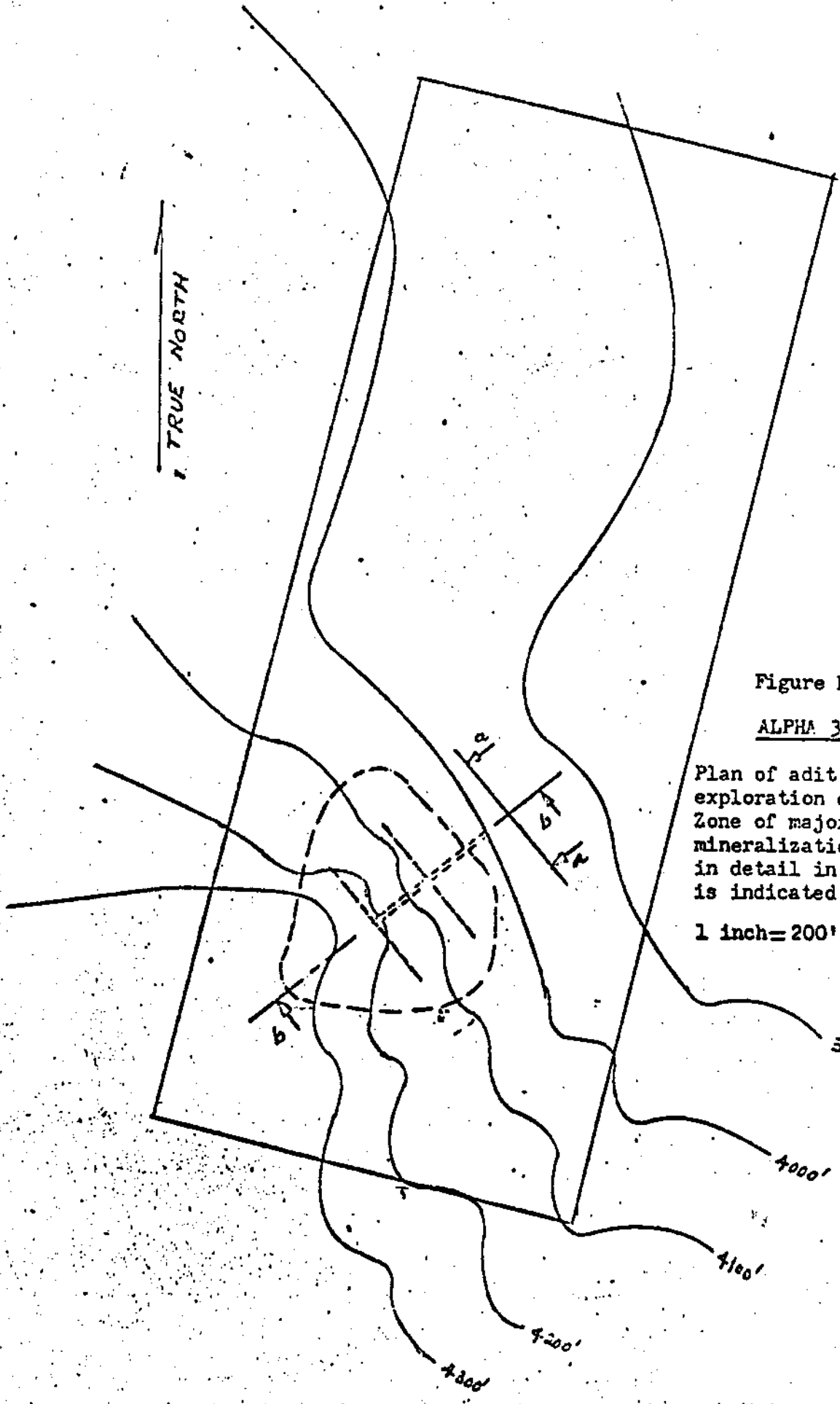


Figure M-3

ALPHA 31 CLAIM

Plan of adit and exploration drill holes. Zone of major mineralization, shown in detail in Figure M-2, is indicated in outline.

1 inch = 200'

TABLE M-1

Assays reported in U.S.G.S. Circular 559 for samples indicated in Figure M-1.

Quantitative analysis by gravimetric fire assay or atomic absorption.

Sample No.	Ag (oz. per ton)	Sample type ¹
3	2.4	8-1 Includes 3 ft of limestone
4	6.1	5-1 Continuation of sample 3
5	3.9	Selected.
6	2.4	5-1
7	0.4	5-1 Continuation of sample 6
8	0.9	8-1 Continuation of sample 7.
9	0.2	30-1 Includes 5 ft of limestone
10	52.2	20-1
11	309.8	Selected.
13	1.9	12-1 Includes 2 ft of dike
14	56.3	Selected.
18	20.5	20-1
22	2.4	5-1

¹ Unless noted, samples are chip samples. First number is length in feet and second number is interval between chips in feet.

Semiquantitative spectrographic analyses.

Sample No.	Ag (parts per million)	Sample type
1	20	From brown horizon 12 in. below surface
2	70	From 2-in. horizon below sample 1.
11	>1000	Galena from shear zone in silicated limestone. Mainly pyrite and galena.
12	>1000	
14	>1000	
15	700	
16	150	Mainly pyrite and galena. Sphalerite with minor galena and pyrrhotite. Oxidized skarn. Skarn with galena and sphalerite. Felsite dike cutting silicated limestone.
17	30	
19	70	
20	200	
21	0.7	

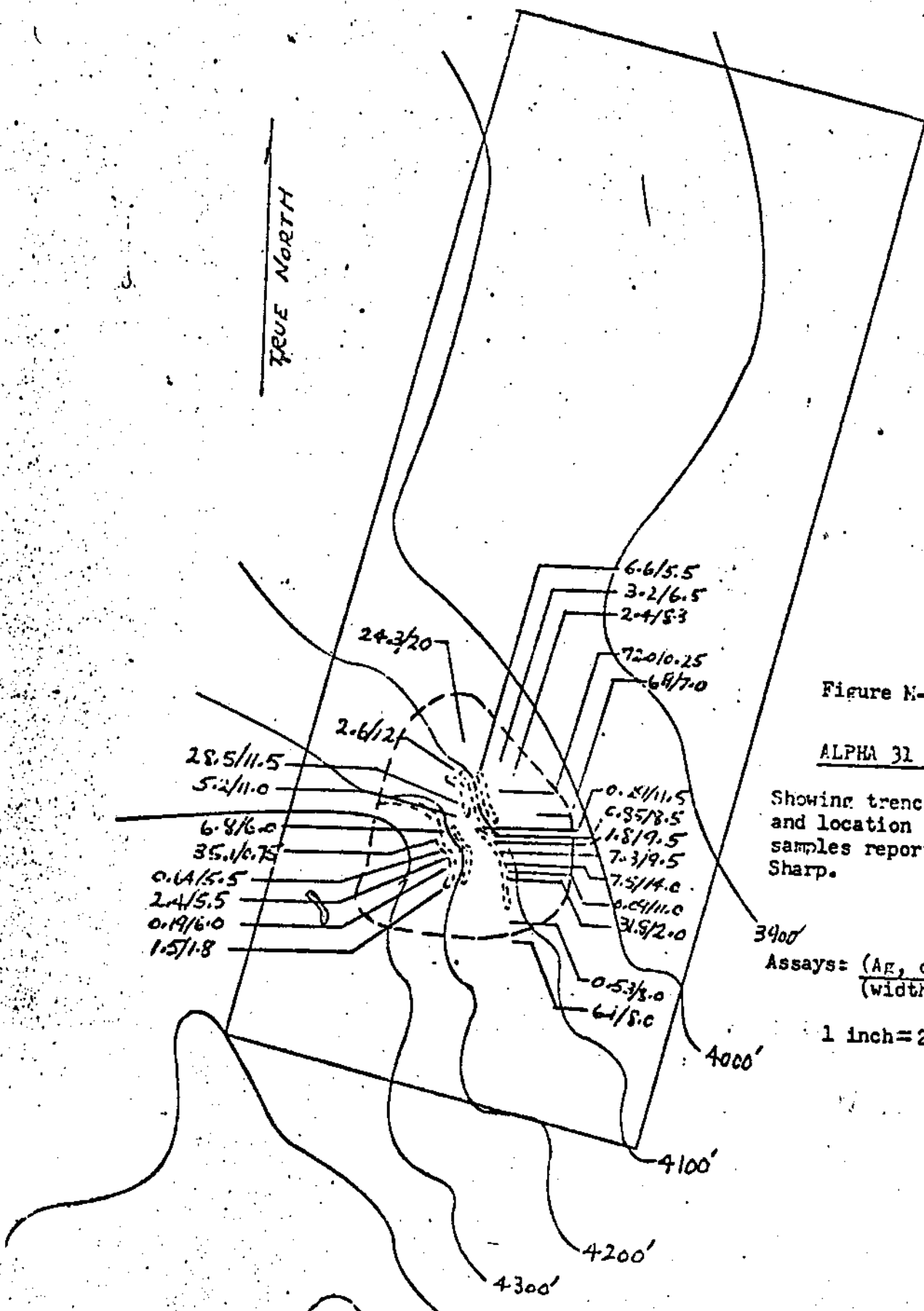


Figure M-2

ALPHA 31 CLAIM

Showing trenching pattern,
and location of surface
samples reported by W. M.
Sharp.

Assays = $\frac{\text{Ag, oz./ton}}{\text{width, feet}}$

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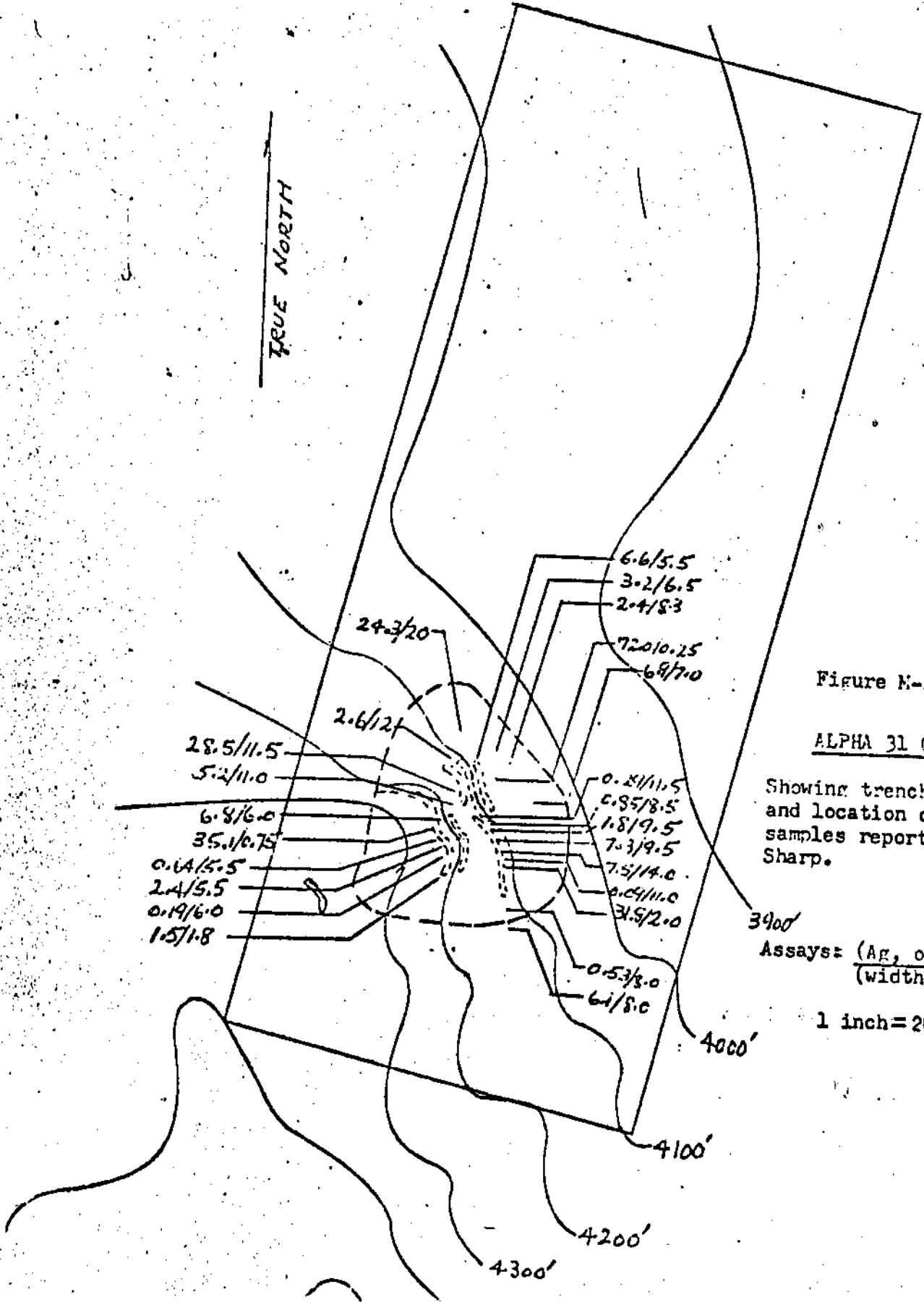


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