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GEOLOGY & GEOCHEM. REPORT  
ON KEELE PEAK AREA

August, 1966

By: Carson & Staniford

105-0-13

REPORT ON THE KSELE PEAK AREA  
Yukon Territory

August, 1966



## GEOLOGY OF THE KEELE PEAK AREA

### INTRODUCTION:

The Keele Peak area is located approximately one hundred and fifty miles northeast of Ross River, Yukon. It is about twenty miles north of the abandoned Canol Road and about twenty miles west of the Northwest Territories boundary. The Keele Peak area is of interest because of a large transported gossan which is approximately one thousand feet long and five hundred feet wide. Because economic mineralization is often associated with such gossans, a geo-chemical survey was taken during July of 1966. The results of that survey and a summary of the geology of that area are the subject of this report.

At present the area is only accessible by air, but with relatively little work the abandoned section of the Canol Road could be made serviceable. Repair of this road is supposed to be undertaken by the government in the near future. The area between the Canol Road and the property would offer no unusual problems to road building.

The topography of the Keele area is one of "U" shaped glaciated valleys and low broad ridges. Just west of the area Keele Peak rises to about 9,000 feet and has a very rugged relief with several glaciers on its flanks. The two gossans in the area are at the 5,000 foot level in a broad glaciated valley. Vegetation in the area consists of willow and dwarf alder. No timber is available in the immediate area. A large stream flowing from a glacier on Keele Peak runs through the gossans, but it carries a great deal of sediment.

The region around Keele Peak is characterized by low grade metamorphic and sedimentary rocks which have been intruded by several plutonic bodies of batholithic dimensions. Keele Peak is an example of such an intrusion.

### ROCK UNITS:

The area of the gossans is underlain by a thick section of blue-gray slates and shales. For the most part these rocks are thin bedded, but locally they become up to several inches in thickness. To

the west intruding these rocks is a plutonic batholith which seems to be predominantly granodiorite in composition. The slates and shales in proximity to the intrusion contain pyrite and arsenopyrite. Weathering of these pyrotized rocks produces a bright red iron stained halo around the intrusion. The valleys in the area contain deep glacial till, but rock exposures on the ridges are relatively good.

STRUCTURAL GEOLOGY:

The rock units in the Keele Peak area trend northwest and dip to the southwest. There is some local folding in the area, but the units are generally homoclinal. No evidence of faulting was seen in the area.

ECONOMIC GEOLOGY:

Geo-chemical results indicate possible copper, lead, and zinc mineralization in the area. The geo-chem survey was of only a reconnaissance nature, but there seemed to be a correlation between high values and the transported gossan. No mineralization, other than the pyrites, was seen in the area. The gossans are being deposited by springs on the surface of deep glacial till. The gossans are found on both sides of the creek which runs through the area; therefore it seems that the source of the limonite would be at depth as opposed to from the flanks of the valley. There does not seem to be a great deal of graphitic material in the rocks of the area; therefore it seems likely that electro-magnetic and magnetic surveys would work well in the area for defining any possible ore bodies.

Respectfully submitted,

*Jay W. Staniford*

Jay W. Staniford

**ANALYTICAL WORK SHEET  
GEOCHEMICAL**

Report Number 12-46-66  
 From B. Carlsen  
 Tested For Cu - Pb - Zn  
 Date 25 July 66

Weight of Sample 0.500g  
 Extraction Hot HCl - HNO<sub>3</sub>  
 Volume Used 10 ml  
 Analyst O'Donnell + Robitaille

| SAMPLE NUMBER |       | Cu                    | PPM | Pb | PPM | Zn | PPM | PPM | PPM | PPM    |
|---------------|-------|-----------------------|-----|----|-----|----|-----|-----|-----|--------|
| OURS          | YOURS |                       |     |    |     |    |     |     |     |        |
| 1             | A1    | 14                    |     |    | 4   |    | 18  |     |     |        |
| 2             | A2    | 48                    |     |    | 14  |    | 118 |     |     |        |
| 3             | A3    | 44                    |     |    | 4   |    | 143 |     |     |        |
| 4             | A4    | 24                    |     |    | 8   |    | 79  |     |     |        |
| 5             | A5    | 94                    |     |    | 24  |    | 850 |     |     |        |
| 6             | A6    | 56                    |     |    | 12  |    | 143 |     |     |        |
| 7             | A7    | 34                    |     |    | 24  |    | 118 |     |     |        |
| 8             | A8    | 62                    |     |    | 36  |    | 193 |     |     |        |
| 9             | A9    | 44                    |     |    | 24  |    | 182 |     |     |        |
| 10            | A10   | 84                    |     |    | 16  |    | 260 |     |     |        |
| 11            | B1    | 220                   |     |    | 12  |    | 44  |     |     |        |
| 12            | B2    | 48                    |     |    | 16  |    | 190 |     |     |        |
| 13            | B3    | 210                   |     |    | 16  |    | 163 |     |     |        |
| 14            | B4    | 40                    |     |    | 20  |    | 128 |     |     |        |
| 15            | B5    | 200                   |     |    | 24  |    | 62  |     |     |        |
| 16            | B6    | 194                   |     |    | 16  |    | 116 |     |     |        |
| 17            | B7    | 94                    |     |    | 20  |    | 106 |     |     |        |
| 18            | B9    | 2                     |     |    | 24  |    | 36  |     |     |        |
| 19            | B10   | 28                    |     |    | 16  |    | 62  |     |     |        |
| 20            | B11   | 10                    |     |    | 4   |    | 46  |     |     |        |
| 21            | B12   | 16                    |     |    | 20  |    | 49  |     |     |        |
| 22            | B13   | 6                     |     |    | 8   |    | 112 |     |     |        |
| 23            | C1    | <del>232</del><br>232 |     |    | 40  |    | 252 |     |     | 0.250g |
| 24            | C2    | 52                    |     |    | 124 |    | 55  |     |     |        |
| 25            | C-3   | 58                    |     |    | 40  |    | 103 |     |     |        |
| 26            | C4    | 48                    |     |    | 28  |    | 136 |     |     |        |
| 27            | S1    | 16                    |     |    | 12  |    | 32  |     |     |        |
| 28            | S2    | 20                    |     |    | 4   |    | 32  |     |     |        |
| 29            | S3    | 22                    |     |    | 8   |    | 62  |     |     |        |





**ANALYTICAL WORK SHEET  
GEOCHEMICAL**

Report Number R-46-66  
 From B. Carson  
 Tested For Cu, Pb, Zn  
 Date 25 July 66

Weight of Sample 0.500g  
 Extraction Hot HCl - HNO<sub>3</sub>  
 Volume Used 10 ml  
 Analyst O'Donnell + Robitaille

| SAMPLE NUMBER |       | Cu   | PPM | Pb  | PPM | Zn | PPM | PPM | PPM | PPM    |
|---------------|-------|------|-----|-----|-----|----|-----|-----|-----|--------|
| OURS          | YOURS |      |     |     |     |    |     |     |     |        |
| 1             | A1    | 7    | 14  | 1   | 4   | 15 | 18  |     |     |        |
| 2             | A2    | 24   | 48  | 3.5 | 14  | 75 | 118 |     |     |        |
| 3             | A3    | 22   | 44  | 1   | 4   | 84 | 143 |     |     |        |
| 4             | A4    | 12   | 24  | 2   | 8   | 55 | 79  |     |     |        |
| 5             | A5    | 47   | 94  | 6   | 24  | 59 | 850 |     |     |        |
| 6             | A6    | 28   | 56  | 3   | 12  | 84 | 143 |     |     |        |
| 7             | A7    | 17   | 34  | 6   | 24  | 75 | 118 |     |     |        |
| 8             | A7    | 31   | 62  | 9   | 36  | 98 | 193 |     |     |        |
| 9             | A9    | 22   | 44  | 6   | 24  | 95 | 182 |     |     |        |
| 10            | A10   | 42   | 84  | 4   | 16  | 21 | 260 |     |     |        |
| 11            | B1    | 11   | 220 | 3   | 12  | 33 | 44  |     |     |        |
| 12            | B2    | 24   | 48  | 4   | 16  | 16 | 190 |     |     |        |
| 13            | B3    | 10.5 | 210 | 4   | 16  | 90 | 163 |     |     |        |
| 14            | B4    | 20   | 40  | 5   | 20  | 79 | 128 |     |     |        |
| 15            | B5    | 10   | 200 | 6   | 24  | 45 | 62  |     |     |        |
| 16            | B6    | 97   | 194 | 4   | 16  | 74 | 116 |     |     |        |
| 17            | A7    | 47   | 94  | 5   | 20  | 69 | 106 |     |     |        |
| 17            | B9    | 1    | 2   | 6   | 24  | 28 | 36  |     |     |        |
| 19            | B10   | 14   | 28  | 4   | 16  | 45 | 62  |     |     |        |
| 20            | B N   | 5    | 10  | 1   | 4   | 34 | 46  |     |     |        |
| 21            | B12   | 3    | 6   | 5   | 20  | 36 | 49  |     |     |        |
| 22            | B13   | 3    | 6   | 2   | 8   | 72 | 112 |     |     |        |
| 23            | C1    | 58   | 232 | 5   | 20  | 78 | 252 |     |     | 0.250g |
| 24            | C2    | 26   | 52  | 31  | 124 | 40 | 55  |     |     |        |
| 25            | C-3   | 29   | 58  | 10  | 40  | 98 | 193 |     |     |        |
| 26            | C4    | 24   | 48  | 7   | 28  | 82 | 136 |     |     |        |
| 27            | S1    | 8    | 16  | 3   | 12  | 25 | 32  |     |     |        |
| 28            | S2    | 10   | 20  | 1   | 4   | 25 | 32  |     |     |        |
| 29            | S3    | 11   | 22  | 2   | 8   | 45 | 62  |     |     |        |



# KEELE PEAK AREA

Location of Geo-Chem Sampling

Drawn by: J. Stanford

Scale: 1" =  $\frac{2}{10}$  miles = 1056'

- States and shales.
- Iron stained shale containing some pyrotite.
- Granodiorite
- clacial Till.

