

JULIENNE LAKE  
BULK SAMPLING PROJECT X  
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INTRODUCTION

In the period between November 17th and December 10, 1960, 38.5 tons of crude iron ore was shipped from the Julienne Lake Deposit.

This shipment of ore from the Julienne property was as nearly as possible a representative sample to be used in concentrating tests at Lakefield Research and to produce concentrates for metallurgical tests in a small scale electric smelting demonstration required for further study of the suitability of this process for use in the production of metallic iron in Labrador.

A crew of six men was employed on the project. Living accommodations were provided at Wabush Lake by the Wabush Iron Company. Transport to and from the Julienne property was by helicopter.

LOCATION OF THE SAMPLE

Five areas designated as pits 1 to 5 were chosen from which to obtain (as shown on the enclosed map) the sample. Location, weight and number of bags from each pit is shown in Table No. 1. Results of analysis of composite samples, from each pit, are shown in Table No. 2.

JULIAN IRON CORPORATION

Julian Lake Ore Body  
Bulk Sample Data

TABLE I

<u>Test Pit No.</u>	<u>Location</u>		<u>No. of Bags</u>	<u>Estimated Weight</u>		<u>Avg. Wt. Per Bag</u>
				<u>Pounds</u>	<u>Tons</u>	
1	135125N	116700E	146	15165	7.50	103
2	135900N	116400E	166	16040	8.02	96
3	136375N	116175E	166	17175	8.50	103
4	136615N	116025E	166	16655	8.30	100
5	136660N	115600E	<u>148</u>	<u>12180</u>	<u>6.09</u>	<u>82</u>
TOTAL			792	77215	38.41	96

NOTE:

One bag of "composite sample" was made up for each pit for analysis (see Table 2).

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*Continuation of Julian Lake*

## JULIAN IRON CORPORATION

Julian Lake Ore Body  
Bulk Sample - Composite Analysis

TABLE 2

Test Pit No.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>Weighted Average</u>
Sample Wt. (lbs)	15165	16040	17175	16655	12180	77215
Lab Reference	107621	107622	107623	107624	107625	
<u>Analysis %</u>						
Iron - Fe	34.56	27.54	45.02	42.86	31.61	36.75
Silica - SiO <sub>2</sub>	50.07	58.97	35.09	36.47	53.33	46.16
Manganese - Mn	0.02	0.08	0.16	0.14	0.02	0.09
Sulphur - S		Trace Only				
Phosphorus - P	0.003	0.008	0.016	0.012	0.005	0.009
Titania - TiO <sub>2</sub>	0.30	0.15	0.15	0.30	0.15	0.21

The pits were chosen so as to give a representative cross-section of the ore body. They are located in an almost continuous belt of outcrop which crosses the strike of the ore body in a NW direction. This outcrop belt not only provides an excellent location for a representative sample, but is extremely helpful in geological correlations, as all sub-members of the iron formation are exposed here.

#### METHOD OF OBTAINING THE SAMPLE

The pits were located from the baseline cut in 1959, which was used for detailed geologic mapping.

A lightweight Copco Cobra drill was used for drilling blast holes, and electric caps were used for setting off the charges.

Due to an almost continual fall of snow each day, the drilling, blasting and bagging was carried out at the same time, that is, ore to fill 40 to 50 bags would be blasted then bagged; this kept the sample relatively free of snow and dirt.

A representative portion of each section blasted was kept as the bagging was done, as a sample of each pit. The number of bags taken from each pit and their weight is shown in Table No. 1 "Composite Sample".

Each bag was securely fastened with wire. A tag with the pit no. on it was placed inside each bag and a duplicate tag was placed on the outside.

#### MAKEUP OF THE SAMPLE

The sample was taken to give a weighted average from the geological

sub-members of the iron formation. However, it should be remembered that these sub-members are classed into only two varieties of iron formation, which make up nearly all the deposit. These are quartz-specular hematite and quartz-granular hematite. Sub-members within these varieties represent recognizable variations in quantity and size of minerals.

Following is a description of the pits and the sub-member in which they are located:

Pit No. 1

Is 15' x 3' x 2' deep, the 15.0" length is across the strike of continuous outcrop.

This pit is located in sub-member "C" which is a friable, coarse grained, strongly foliated quartz-specular hematite with a sparkly black and rich appearance. The ore when blasted looked quite similar to the silicate "F" member. Irregular milky white quartzose material is seen within the foliation planes, as was considerable minute folding. Almost all of the bulk sample obtained here was in the form of fines.

Pit No. 2

23'.0" x 4'.0" x 2'.0" deep across the strike of continuous outcrop ledges.

The pit is located in sub-member "B" which is predominately quartz-granular hematite. Here, the material was quite fragmental and hard.

Pit No. 3

12'.0" x 4'.0" x 3'.0" deep.



Pit No. 3 is located in the central portion of sub-member "D" which is a massive hard quartz-granular hematite rock. The material obtained here was the same as Pit 2 in form.

Pit No. 4

23'.0" x 3'.0" x 3'.0" deep. This pit was blasted across a ledge which ran at right angles to the strike. Pit No. 4 was also located in the "D" sub-member; however, in this particular portion of "D" there is a slight increase in specular hematite content, where it nears the contact, with the "E" sub-member.

It should be noted that both Pit 3 and 4 are from the same sub-member; however, as a difference exists within the sub-member and also due to its wider occurrence in relation to the other sub-members, it was felt that two pits in this sub-member was necessary.

Pit No. 5

10 to 12 feet across strike over an area of 80 square feet, depth approximately 2-3 feet.

This pit was blasted across a ledge protruding from the side of a hill.

The pit was located in the "F" member which is a cream colored "silicate" variety of the quartz-specular hematite member. The material here was in the form of slabby fragments due to breakage along shear planes.

TRANSPORTING THE SAMPLE

The sample was flown out from the Julienne property to the Wabush air-

strip by a Sikorsky S-55 helicopter using a net; it was loaded aboard a box-car at the Wabush siding for transport to Seven Islands. Transportation from Seven Islands to Lakefield Ontario was by trailer truck.

It was necessary for the helicopter to hover about 2-3 feet from the ground as the net was being hooked up and then take off on almost a flat flight pattern. Large areas had to be cleared at each pit for this type of takeoff.

It was at first planned to take 1500 lbs. (14 to 15 bags) straight from the pit to the airstrip. However, the helicopter was only able to take 800 to 900 lbs. out of the pit areas. To save time and total flying hours, it was decided to fly 800 lb. loads to a small island just north of the Julienne Camp, and stockpile it there. These short trips between the islands and pits took approximately two minutes each. The bags were then flown from the islands where the helicopter could take a longer run with a 1500 lb. load. However, conditions had to be near perfect as to wind and temperature before a full 1500 lbs. could be taken in one load. Thus, 12-1300 lb. loads were often flown to the airstrip.

Photographs of the operation are available in Javelin files.