TR4-57-59

SAVAGE RIVER IRON

by T. D. Hughes.

No. 3 BORE

Results are now to hand of assays of core of No. 3 Bore and a summary of these shows some interesting results compared with the past two bores put down north of the Savage River.

The location of this hole, south of the river was in traverse B.8 at 44′ W. The angle of the hole commenced at 45° and varied only a few degrees from this figure at various depths. The direction of the hole was 270° Mag., i.e. the traverse direction.

A geophysical survey showed that the iron here was split into three main lenses, the centre of which was the widest. In the bore these three concentrations appeared but at the depths indicated the eastern was the widest and best grade and the centre the narrowest. Thus from 0 to 355 feet (a true width of 300 feet) the iron percentage was 52·8%; from 525′-588′ (50 feet) it was 41% and from 785′-918′ (110 feet) it was 40%. Overall for a width of 650 feet the iron percentage averaged almost 40%. All iron percentages quoted are HCL soluble iron. Thus the magnetite deposits revealed in this bore are, for the same grade, about twice the width of those shown in the first two bores.

Impurities

The amounts of the various impurities included are interesting. First of all the sulphur content is much higher than in the previous bores and averages between 4% and 5% with some sections up to 9%. The sulphur does not increase in depth however and indeed in the last 20 feet of ore dropped considerably (1·7%). Phosphorus is also high in some sections, up to as much as 1%. Again this impurity decreases in the lower sections of the bore. On the other hand, the titanium content which was high in the first two bores has dropped considerably. In No. 1 Bore it averaged 1.59% TiO_2 and in No. 2, 1.78% TiO_2. In the first 300 feet of this bore the amount is only 0.32% TiO_2 and this increases in other sections of the core to about 1%. The percentage of manganese is very low. It is expected that most of the phosphorus and sulphur (as well as the silica and alumina) will be removed in the non-magnetic gangue. Ore-dressing work will now be commenced to determine this.

The core was divided into five-foot sections (except where large changes in grade occurred) for the estimation of HCL soluble iron, and into twenty-foot sections for the estimation of impurities.

In the lower grade sections only TiO_2 and sulphur were estimated.

Later assays should be made for gold, copper and tin in the more pyritic sections of the core. Condensed results of this hole may be tabulated as follows.

Core recovery amounted to about 74%.

Footage	*True Width*	*HCL Sol. Iron*	*SiO_2*	*Al_2O_3*	*TiO_2*	*Mn*	*P_2O_5*	*S*
0′–355′	300′	52.8	6.2	0.93	0.32	0.13	0.24	3.6
355′–525′	140′	15.8	ND	ND	0.68	ND	ND	5.6
525′–588′	50′	41.0	11.6	2.9	1.1	0.15	0.58	4.6
588′–645′	45′	15.5	ND	ND	1.0	ND	ND	1.6
645′–785′	115′			Country Rock				
785′–918′	110′	40	8.9*	1.4*	0.95	0.05*	0.05*	4.5

*Incomplete

NEXT PHASE

The following holes are recommended for the 1959-60 season:—

No. 4.

From 450'W on Traverse C.

Angle 45°. Direction as for No. 3 (parallel to B8 Traverse), (270° magnetic).

Depth 750'. From 850'W on Traverse B.

No. 5.

Angle 45°. Direction as No. 3 (270° magnetic).

Depth 1150' ±.

No. 6.

This hole may be in either of two positions.

1. On A Traverse at 1300' west parallel to the remaining bores. The geophysical survey shows that magnetite zones become very wide and diluted on this traverse although iron outcrops on the surface. The hole will thus be comparatively deep, 1300'.
2. A hole on traverse 500 S to intersect a large new lens of magnetite. No ground geophysical work has been done here but surface indications show a good strong lens of magnetite at least 1500 feet in length and 100 feet wide and an adit intersects 70 feet of high grade ore. This bore would be shorter (500-700'). A continuation of a branch track for another 500 feet would be necessary for this but there are no steep grades.