

MINES BRANCH DRILLING PROGRAMME

BEETSON'S IRON ORE PROSPECT

RUM JUNGLE AREA, 1970

by

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INTRODUCTION

GENERAL GEOLOGY

PRESENT INVESTIGATION

DRILLING RESULTS

REFERENCES

APPENDIX : Drill Logs and Assay Results

PLATE 1 : Locality Map

PLATE 2 : Generalised Geological Map
Beetson's Iron Ore Prospect

PLATE 3 : East-West Section showing Holes
Drilled by Mines Branch, 1970.

NORTHERN TERRITORY
GEOLOGICAL SURVEY

GS 70/2

MINES BRANCH DRILLING PROGRAMME

BEETSON'S IRON ORE PROSPECT RUM JUNGLE AREA, 1970

INTRODUCTION

Beetson's iron ore prospect is situated in the Rum Jungle area, about one mile west of the North Australian railway line, five miles south of Darwin River siding.

It is held under lease by Nevsam Mining Co Pty Ltd, and has been examined on several occasions over the past ten years by geologists of N T Administration and by mining companies under option agreements with the lease holder, e.g. Dunn (1962), and Pritchard (1968).

Patchy hematite and limonite outcrops occur intermittently over a length of about half a mile on a northerly trending strike ridge, surrounded by areas of boulder and scree ore, particularly on the eastern flank of the ridge.

Two shafts have been sunk on the outcrop to depths of about 25 and 30 feet respectively, and numerous costeans have been put down within the rubble-covered areas in an attempt to assess the size and grade of the deposit.

GENERAL GEOLOGY

The lode appears to consist of irregularly alternating bands of dense hematite, cavernous hematite and goethite, and some low-grade ferruginous material. Some assays of up to 65.9% Fe have been recorded from one of these shafts, but the majority of assays of both lode and rubble material are in the range of 40 to 60% Fe.

PRESENT INVESTIGATION

The present investigation consisted of eight holes drilled by Mines and Water Resources Branch, N T Administration, to an average depth of 100 feet on an east-west line crossing the deposit roughly at right angles to the strike. Cores were taken wherever the consistency of the rocks permitted it, but much of the material yielded only cuttings, and for some intervals no recovery at all could be made.

The aim of the investigation was to determine the type and distribution of ferruginous material in the vicinity of the outcropping ironstone occurrence, rather than to attempt to outline the size and grade of the ironstone in detail. Particularly, it was desired to test the possibility that the ferruginous zone might dip to the west at a low angle and might thus be accessibly for open cut operations over a considerably greater width than the true width of the lode.

DRILLING RESULTS

The results of the drilling programme showed that ironstone and iron-impregnated sedimentary rocks are fairly widely distributed, but very erratic in grade. Of the 102 samples of cores and cuttings submitted for assay, 42 contained more than 30% Fe, but only 4 of these contained more than 50% Fe. The highest value was 55.6 Fe with 0/007% S and 0.06% P. It appears unlikely therefore, that significant quantities of direct shipping ore could be obtained from the deposit, even allowing for some up-grading of the material by simple mechanical processes such as washing and screening. Any proposals for further testing and development must also take into account the position of the prospect within the catchment area of the Darwin River Dam, which would require stringent precautions against pollution of the water supply.

REFERENCES

- Dunn, P G 1962 - Iron ore occurrences under investigation by Nevsam Mining Co Pty Ltd, October 1961. Bur. Miner. Resour. Aust. Rec. 1962/29.
- Pritchard, P W 1968 - Beetson's Iron Prospect. I.C.I.A.N.Z. Ltd. Unpublished Report.

APPENDIX

Drill Logs and Assay Results

1 E

Cuttings

		<u>Sample</u>	<u>Fe%</u>	<u>S%</u>	<u>P%</u>
0' - 5'	Sandy ironstone	70/DN/0016	39.7	0.005	0.10
5' - 10'	Ironstone	17	45.8	0.008	0.20
10' - 15'	Ironstone	18	41.5	0.008	0.19
15' - 20'	Ironstone	19	46.4	0.012	0.18
20' - 25'	Ironstone and shale	20	26.3	-	-
25' - 30'	Ironstone	21	40.2	0.014	0.17
30' - 35'	Ferruginous shale, vein quartz and ironstone	22	5.0	-	-
35' - 40'	Sandstone, vein quartz, some ironstone	23	20.7	-	-
40' - 50'	Sandstone, vein quartz, some ironstone	24	17.7	-	-
50' - 57'	Shale, vein quartz, some ironstone	25	14.7	-	-
(17.37 m)					

Core

40' - 50'	Very weathered shale)			
50' - 100'	Shale and sericite schist with minor irregular zones of low-grade iron impregnation. ? originally pyritic.)			
)			NOT ASSAYED
(30.48 m))			

2 E

Cuttings

		<u>Sample</u>	<u>Fe%</u>	<u>S%</u>	<u>P%</u>
0' - 5'	Sandy ironstone	70/DN/0026	34.8	0.005	0.13
5' - 10'	Sandy ironstone	27	27.2	-	-
10' - 20'	Sandstone, vein quartz, minor ironstone	28	2.3	-	-
20' - 30'	Sandstone, shale, minor ironstone	29	3.7	-	-
30' - 40'	Sandstone, vein quartz, some ironstone	30	3.1	-	-
40' - 50'	Sandstone, shale, minor ironstone	31	2.8	-	-
50' - 60'	Sandstone, shale, minor ironstone	32	2.3	-	-
60' - 68'	Sandstone, shale, minor ironstone	33	2.8	-	-

(20.73 m)

Core

68' - 100' Shale and quartz-sericite schist

NOT ASSAYED

(30.48 m)

1 WCuttings

		<u>Sample</u>	<u>Fe%</u>	<u>S%</u>	<u>P%</u>
0' - 5'	Ironstone, shale, quartz	70/DN/0034	35.4	0.007	0.05
5' - 10'	Ironstone, minor quartz	35	55.6	0.007	0.06
10' - 14'	Ironstone, minor shale, quartz	36	52.6	0.013	0.05
34' - 40'	Ironstone, shale, minor quartz	41	42.8	0.007	0.09
40' - 45'	Ironstone, ferruginous shale	42	37.7	0.012	0.14
45' - 50'	Ironstone, ferruginous shale	43	39.6	0.007	0.12
50' - 55'	Ironstone, ferruginous shale	44	42.8	0.005	0.18
55' - 60'	Sandstone, shale, ironstone	45	28.8	-	-
60' - 65'	Shale, vein quartz, ironstone	46	38.6	-0.005	0.20
65' - 70'	Shale, vein quartz, ironstone	47	33.0	-0.005	0.17
70' - 75'	Shale, vein quartz, ironstone	48	40.5	-0.005	0.16
75' - 80'	Shale, sandstone, ironstone	49	34.9	-0.005	0.17
80' - 85'	Shale, minor quartz, ironstone	50	41.9	-0.005	0.19
85' - 90'	Shale, minor quartz, ironstone	51	34.9	0.012	0.17
90' - 95'	Shale, minor quartz, ironstone	52	40.0	-0.005	0.07
95' - 100'	Micaceous sandstone, minor ironstone	53	21.9	-	-
100' - 106' (32.31 m)	Micaceous sandstone, vein quartz, minor ironstone	54	17.2	-	-

Core

6' - 11'	Ironstone	70/DN/0037	46.1	-0.005	0.05
11' - 16'	Ironstone	38	50.7	-0.005	0.05
32' - 36'	Ironstone	39	54.9	0.005	0.06
57' - 57'6" (17.56 m)	Iron-impregnated sediments	40	14.9	-	-

2 W

Cuttings

		<u>Sample</u>	<u>Fe%</u>	<u>S%</u>	<u>P%</u>
0' - 5'	Ironstone, sand	70/DN/0055	35.4	-0.005	0.18
5' - 10'	Ironstone, sand, quartz	56	26.5	-	-
10' - 15'	Quartz, minor ironstone	57	12.6	-	-
15' - 20'	Sand, quartz, minor ironstone	58	4.2	-	-
20' - 25'	Sand, quartz, minor ironstone	59	14.4	-	-
25' - 30'	Sand, quartz, minor ironstone	60	6.5	-	-
30' - 35'	Quartz, shale, ironstone	61	26.1	-	-
35' - 40'	Quartz, shale, ironstone	62	21.4	-	-
40' - 45'	Quartz, shale, ironstone	63	27.0	-	-
45' - 50'	Ironstone, shale, quartz	64	41.4	0.007	0.08
50' - 55'	Ironstone, shale, minor quartz	65	46.5	-0.005	0.16
55' - 60'	Ironstone, shale, minor quartz	66	41.4	-0.005	0.04
60' - 65'	Ironstone, shale, minor quartz	67	46.5	-0.005	0.18
65' - 70'	Ironstone, shale, minor quartz	68	43.3	-0.005	0.20
70' - 75'	Ironstone, shale, minor quartz	69	37.7	-0.005	0.20
75' - 80'	Ironstone, shale, minor sandstone, quartz	70	47.5	-0.005	0.05
80' - 85'	Ironstone, shale, minor sandstone, quartz	71	43.7	-0.005	0.18
85' - 90'	Ironstone, shale, minor sandstone, quartz	72	41.4	-0.005	0.21
90' - 95'	Ironstone, sandstone, minor quartz	73	35.8	-0.005	0.18
95' - 100'	Ironstone, sandstone, minor quartz	74	45.6	-0.005	0.18

(30.48 m)

3 W

Cuttings

		<u>Sample</u>	<u>Fe%</u>	<u>S%</u>	<u>P%</u>
0' - 10'	Sand, minor ironstone	70/DN/0098	10.2	-	-
10' - 20'	Sand, very minor ironstone	99	2.1	-	-
20' - 30'	Sand, sandstone, minor ironstone	100	8.3	-	-
30' - 40'	Sand, sandstone, minor ironstone	101	10.7	-	-
40' - 50'	Sandstone, quartz, minor ironstone	102	23.7	-	-
50' - 60'	Sandstone, quartz, minor ironstone	103	8.3	-	-
60' - 70'	Sandstone, quartz, minor ironstone	104	7.4	-	-
70' - 80'	Sandstone, quartz, minor ironstone	105	19.1	-	-
80' - 90'	Sandstone, quartz, minor ironstone	106	9.3	-	-
90' - 100'	Sandstone, quartz, minor ironstone	107	20.5	-	-
(30.48 m)					

Core

6 ft - position in hole not known	Iron-impregnated sediments	70/DN/0097	40.0	0.009	0.05
(1.83 m)					

4 W

Cuttings

		<u>Sample</u>	<u>Fe%</u>	<u>S%</u>	<u>P%</u>
0' - 10'	Sand or sandstone, shale, minor quartz, ironstone	70/DN/0108	15.2	-	-
10' - 20'	Sandstone, shale, minor ironstone	109	17.2	-	-
20' - 30'	Sandstone, quartz, minor ironstone	110	10.7	-	-
30' - 40'	Sandstone ? feldspathic, minor ironstone	111	9.3	-	-
40' - 50'	Sandstone ? feldspathic, minor ironstone	112	16.8	-	-
50' - 60'	Sandstone, minor ironstone	113	8.4	-	-
60' - 70'	Sandstone, shale, minor ironstone	114	23.7	-	-
70' - 80'	Sandstone, minor ironstone	115	20.0	-	-
80' - 90'	Sandstone, minor ironstone	116	16.3	-	-
90' - 100'	Sandstone, minor ironstone.	117	16.3	-	-
(30.48 m)					

Core

28' - 34'	Slate and sandstone	NOT ASSAYED
(10.36 m)		

6 W

Cuttings

		<u>Sample</u>	<u>Fe%</u>	<u>S%</u>	<u>P%</u>
0' - 10'	Sand or sandstone, minor shale, ironstone	70/DN/0118	15.4	-	-
10' - 20'	Sandstone, shale, minor ironstone	119	25.1	-	-
20' - 30'	Sandstone, shale, minor ironstone	120	15.4	-	-
30' - 40'	Sandstone, shale	121	9.3	-	-
40' - 50'	Sandstone, shale	122	9.3	-	-
50' - 60'	Sandstone, quartz, very minor shale and ironstone	123	5.0	-	-
60' - 70'	Sandstone, quartz, minor shale and ironstone	124	14.0	-	-
70' - 80'	Sandstone, quartz, shale and ironstone	125	20.0	-	-
80' - 90'	Sandstone, quartz, shale and ironstone	126	10.7	-	-
90' - 100'	Sandstone, quartz, minor shale and ironstone	127	11.6	-	-

(30.48 m)

00 E - W

Cuttings

		<u>Sample</u>	<u>Fe%</u>	<u>S%</u>	<u>P%</u>
0' - 5'	Sandy ironstone, shale	70/DN/0089	26.5	-	-
5' - 10'	Ironstone, shale, minor quartz	90	38.1	0.016	0.22
10' - 15'	Ironstone, shale, minor quartz	91	20.3	-	-
15' - 20'	Ironstone, shale, very minor quartz	92	38.6	0.009	0.21
20' - 25'	Sandy ironstone	93	37.7	-0.005	0.20
25' - 30'	Ironstone, sandstone, shale	94	34.4	0.005	0.14
80' - 90'	Sandstone, ironstone, shale, minor quartz	95	19.5	-	-
90' - 100'	Sandstone, shale, ironstone, minor quartz	96	7.0	-	-

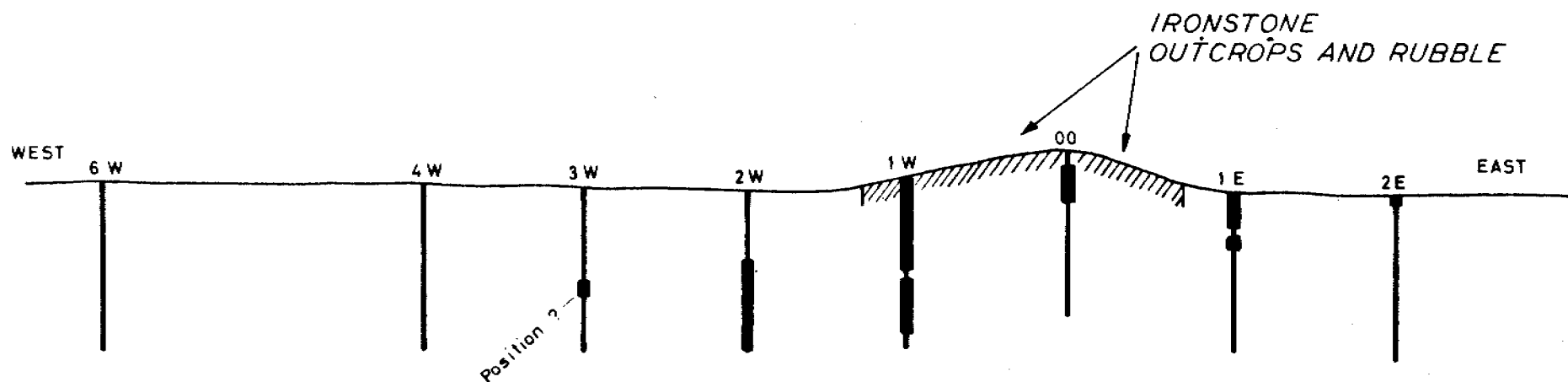
(30.48 m)

Core

10' - 16'	Ferruginous breccia and iron-impregnated sediments	70/DN/0085	42.8	0.025	0.21
29' - 30'	Iron-impregnated sediments	86	30.7	0.012	0.15
39' - 41'	Ferruginous and maganiferous breccia	87	27.0	-	-
45' - 48'	Ferruginous and maganiferous breccia	88	7.0	-	-
48' - 54'	Weathered shale)				
)				
78' - 80'	Weathered shale)				

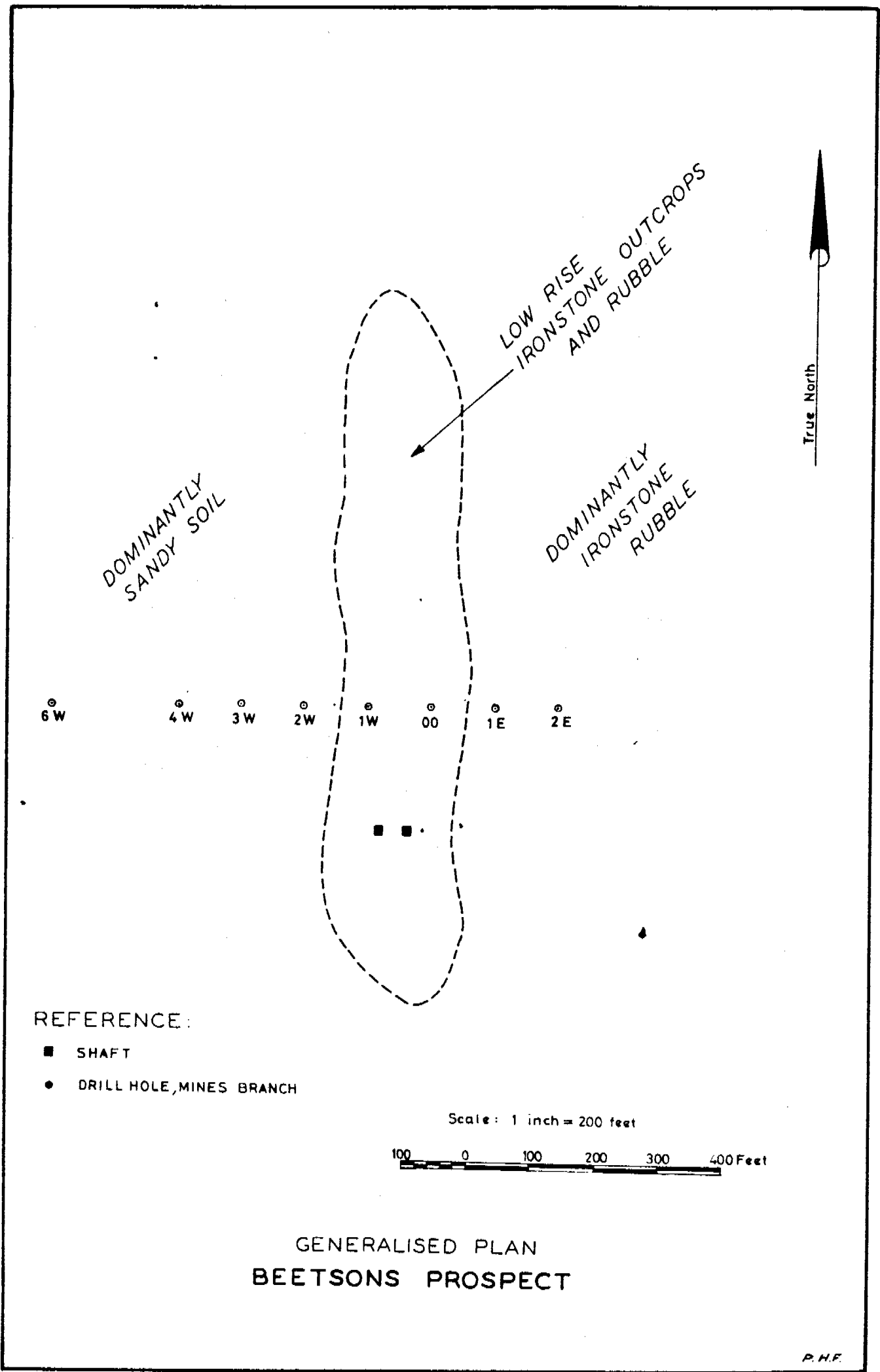
NOT ASSAYED

(24.38 m)



REFERENCE
 INTERVAL ASSAYING
 MORE THAN 30% Fe.

EAST - WEST SECTION
 BEETSONS PROSPECT
 SHOWING MINES BRANCH DRILL HOLES



DOMINANTLY SANDY SOIL

LOW RISE OUTCROPS IRONSTONE AND RUBBLE

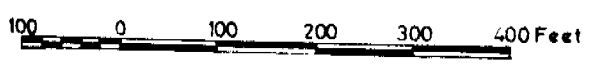
DOMINANTLY IRONSTONE RUBBLE

6W 4W 3W 2W 1W 00 1E 2E

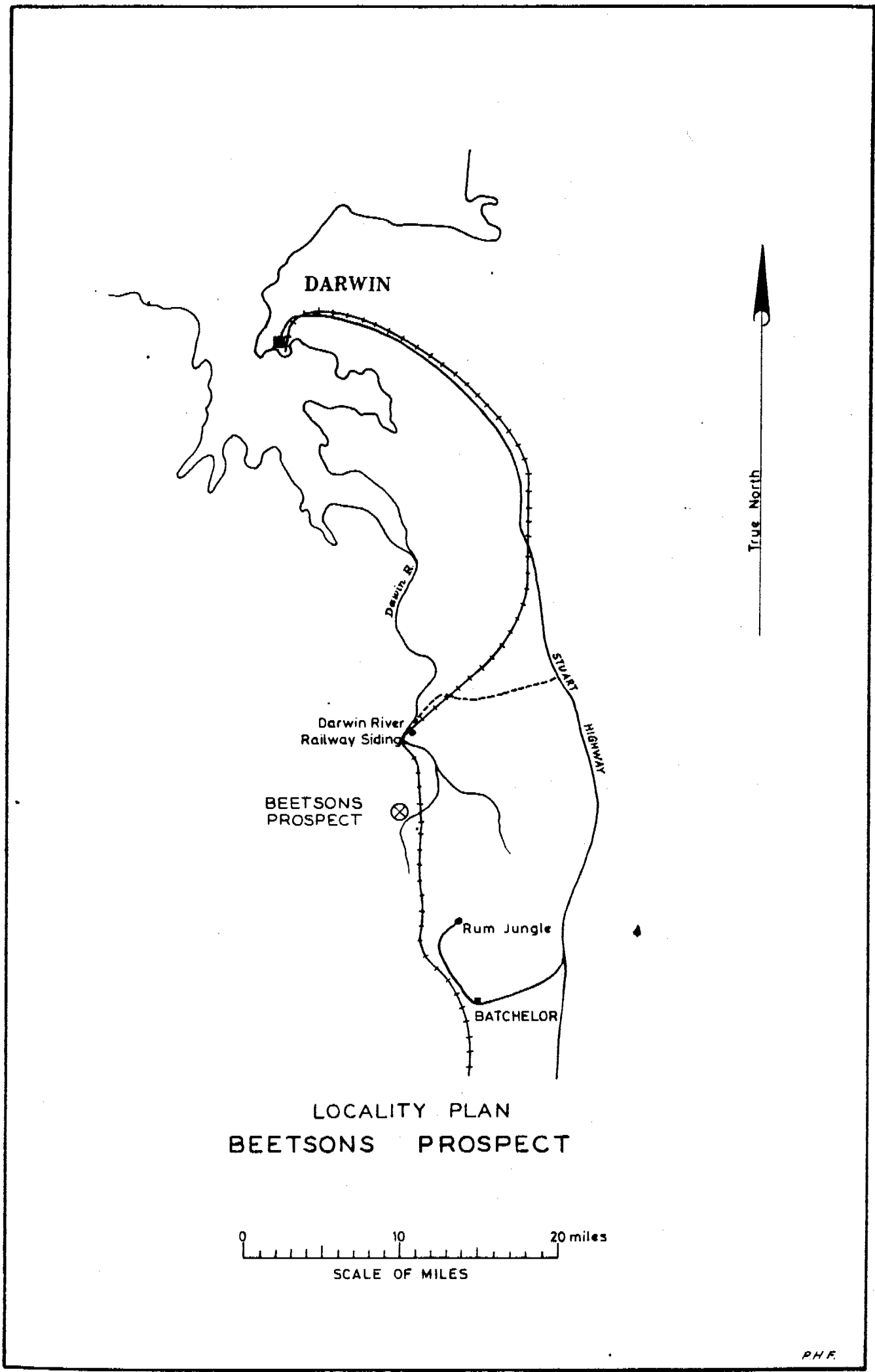
REFERENCE:

- SHAFT
- DRILL HOLE, MINES BRANCH

Scale: 1 inch = 200 feet



GENERALISED PLAN
BEETSONS PROSPECT



LOCALITY PLAN
BEETSONS PROSPECT

