

**SAVAGE RIVER NORTHERN AREA**

**EL 4/1961**

**INDUSTRIAL & MINING INVESTIGATIONS**

**PROPRIETARY LIMITED**

71-759

**EDYVEAN, MD  
RIDGEWAY, JE**

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Industrial &amp; Mining Investigations 10/10/71

P.O. Box 36,

Savage River,

Tas 7321

The Director of Mines,  
Dept. of Mines  
Lawry St.  
Hobart.

D of M	S & A	CC & M	D.S.M.E.
RECEIVED		Registrar	
23 APR 1971			
ANSWERED		E & IL	
DEPT. OF MINES			
REF. NO.		3574/71	

20/4/71

Dear Sir,

Please find enclosed a set of sections and calculations showing reserves of the Northern area, Savage River, stream to river level — plus a copy of Mr Ridgway's calculations and statements of reserves — as requested per Mr. Tucker.

In compiling the figures I would like to point out the following facts.

1. Mr Ridgway calculated his reserves by multiplying surface areas between traverses by whatever depth he required. I have calculated Savage figures using the sections enclosed and employing the prismatic formula

$$V = \frac{L}{6} (A_1 + 4A_2 + A_3).$$

In this formula

$V$  = VOLUME  
 $A_1$  = 1ST SECTION AREA  
 $A_2$  = 2ND SECTION AREA  
 $A_3$  = 3RD SECTION AREA  
 $L$  = DISTANCE FROM  $A_1$  TO  $A_3$ .

2 Mr Ridgway calculated a tonnage to a depth of 600 feet which constitutes an average depth to River level. Using the formula to a vertical depth of 600 feet on each section a tonnage figure of within  $\frac{1}{2}\%$  of Mr. Ridgways figure is obtained.

3 Mr Ridgway used information from bore #1, omitting bore #36. I calculated two sets of figures, one using bore #1 information, the other, bore #36.

4 Bore holes 396 + 47 were not used in the calculations to average River level as the same cross sections are indicated by bores 19 + 14 respectively. (See Figs 17+18)

Yours faithfully,  
 M. Colyvan

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Savage River - Northern Area

A

Estimated Tonnage to Savage River Level

1. Southern Tunnels

SECTION	AREA (sq. ft)	INTERVAL (ft)	BORE	TONNAGE
H1A	$A_1 = 31,000$	440	#1A, #A2	$4,312,000 = S_1$
H1	$A_2 = 110,000$			
C28D	$A_3 = 117,000 = A_1$			
C28A	$72,000 = A_2$	470	#18	$3,634,666 = S_2$
C31	$A_1 = 59,000 = A_3$	530	#19, #396	$2,411,500 = S_3$
C33	$A_2 = 37,000$			
C35	$A_3 = 66,000 = A_1$			
D2	$A_1,000 = A_2$	850	#20	$4,004,900 = S_4$
D7	$52,700 = A_3$			

Tonnage of Southern Tunnels = 14,363,066

$\approx 14,363,000$

2. Central Tunnels

D16	165,000	550	#25	6,050,000
D18A				
D22				

Tonnage of Central Lens = 6,050,000

### 3. Northern Lens

a) using #1.

SECTION	AREA (sq. ft)	INTERVAL	BORE	TONNAGE
D30	$A_1 = 305,000$		#26	
E	$A_2 = 157,500$	920'	#1	$21,121,666 = N_1$
E2A	$A_3 = 442,500 = A_1$		#37	
ES	$354,500 = A_2$	920'	#2	$31,709,333 = N_2$
F1A	$191,500 = A_3$		#27	

Tonnage of Northern Lens = 52,831,333

b) using #36

SECTION E:  $A_2 = 336,000$  sq. ft.

→  $N_1 = 30,965,666$  TONS

Tonnage of Northern Lens = 62,675,000

TOTAL TONNAGE OF NORTHERN DEPOSIT:

using Bore #1

73,244,000 TONS

using Bore #36

83,088,000 TONS

B When Area - Average Area - Ore Calculations

formula  $V = \frac{L}{6} (A_1 + 4A_2 + A_3)$

When Area

S<sub>1</sub>  $A_1 = 31,000$   
 $4A_2 = 110,000$   
 $A_3 = 117,000$   


---

 $\Sigma A = 588,000$

$L = 440'$   $\therefore V = 43,120,000$  cu. ft.

TONS = 4,312,000

S<sub>2</sub>  $A_1 = 117,000$   
 $4A_2 = 288,000$   
 $A_3 = 59,000$   


---

 $\Sigma A = 464,000$

$L = 470'$   $\therefore V = 36,346,666$  cu. ft.

TONS = 3,634,666

S<sub>3</sub>  $A_1 = 59,000$   
 $4A_2 = 148,000$   
 $A_3 = 66,000$   


---

 $\Sigma A = 273,000$

$L = 530'$   $\therefore V = 24,115,000$  cu. ft.

TONS = 2,411,500

S<sub>4</sub>  $A_1 = 66,000$   
 $4A_2 = 164,000$   
 $A_3 = 52,700$   


---

 $\Sigma A = 282,700$

$L = 450'$   $\therefore V = 40,049,000$  cu. ft.

TONS = 4,004,900

Total tonnage = 14,363,066.

0.05

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Calculations contd.2. Central Lens

$$A_1 = \text{ZERO}$$

$$AA_2 = 660,000$$

$$A_3 = \text{ZERO}$$

$$L = 550' \quad \therefore V = 60,500,000 \text{ cu. ft.}$$

$$\text{TONS} = \boxed{6,050,000}$$

3. Northern Lens

$$A_1 = 305,000$$

$$N_1 \quad AA_2 = 630,000$$

$$\text{using \#1} \quad A_3 = 442,500$$

$$\Sigma A = 1,377,500$$

$$L = 920' \quad \therefore V = 211,216,666 \text{ cu. ft.}$$

$$\text{TONS} = \boxed{21,121,666}$$

$$A_1 = 442,500$$

$$N_2 \quad AA_2 = 1,434,000$$

$$\text{using \#1} \quad A_3 = 191,500$$

$$\Sigma A = 2,068,000$$

$$L = 920' \quad \therefore V = 317,093,333 \text{ cu. ft.}$$

$$\text{TONS} = \boxed{31,709,333}$$

$$A_1 = 305,000$$

$$N_1 \quad AA_2 = 1,344,000$$

$$\text{using \#36} \quad A_3 = 442,500$$

$$\Sigma A = 2,091,500$$

$$L = 920' \quad \therefore V = 309,656,666 \text{ cu. ft.}$$

$$\text{TONS} = \boxed{30,965,666}$$

$$\text{Total tonnage using \#1} = 52,831,000$$

$$\text{Total tonnage using \#36} = 62,675,000$$

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J. RIDGWAY'S CALCULATIONS

SAVAGE RIVER

71-759

NORTHERN AREAEstimated tonnage to vertical depth of 600 feet. (± RIVER LEVEL)(1) SOUTHERN LENS

<u>SECTION</u>	<u>WIDTH (feet)</u>	<u>INTERVAL (feet)</u>	<u>Area (square ft.)</u>
H1A	180	150	47,000
H1	450	290	113,000
C28D	330	250	67,000
C28A	210	220	47,000
C31	220	270	54,000
C33	180	260	56,000
C35	250	250	50,000
D2	150	600	90,000
D7	150		
			<u>524,000</u>

(2) CENTRAL LENS

D16	0	200	33,000
D18	330	350	57,000
D22	0		
			<u>90,000</u>

(3) NORTHERN LENS

<u>SECTION</u>	<u>WIDTH (feet)</u>	<u>INTERVAL (feet)</u>	<u>Area (square ft.)</u>
D24.50	0	250	25,000
D26A	200	350	108,000
D30	420	270	125,000
D34A	430	300	103,000
DDH. No. 1	260	350	101,000
E2A	320	250	72,000
E5	260	270	62,000
E7	200	400	78,000
DDH. 27	195		
			674,000

Total Area                    1,288,000 sq. feet  
 Depth                            600 feet  
 Cubic feet                      = 772,000,000  
 At 10 cubic feet per ton    = 77,000,000 tons  
 Average assay value based on drillhole samples = 32% Fe  
 Tons of Iron Oxide            = 36,000,000  
 Tons of Metallic Iron        = 25,000,000

*J. E. Ridgway*  
 J. E. Ridgway,  
 Consulting Geologist

20th February, 1970.

DEPTH 1800 <sup>ft</sup> → 150,000,000 TONS.

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SAVAGE RIVERTONNAGE IN SOUTHERN LENSFrom H1A to D7Tonnage above Savage River

(1) Southern Lens - average depth 300 feet.

<u>Section</u>	<u>Width of Lode feet</u>	<u>Interval feet</u>	<u>Area sq. ft.</u>
H1A	180		
		150	47,000
H1	450		
		290	113,000
C28D	330		
		250	67,000
C28A	210		
		220	47,000
C31	220		
		270	54,000
C33	180		
		260	56,000
C35	250		
		250	50,000
D2	150		
		600	90,000
D7	150		
			<u>524,000</u>

Volume = 524,000 x 300  
 Cubic feet = 157,200,000 cubic feet  
 = 15.7 million tons ore

(2) Tonnage to a depth of 400 feet below Savage:

= 524,000 x 400  
 = 209,600,000 cubic feet  
 = 20.96 million tons ore

Total ore available in Southern Lens to a depth of 400 feet below the Savage River = 36.6 million tons.

*J. E. Ridgway*  
 J. E. RIDGWAY

CONSULTING GEOLOGIST

10.10.69

REPORT ON SAVAGE RIVER LODGE NORTH OF THE RIVER.

Estimated probable and possible tonnage above and below an underlay extending from the Savage River to a point 875 ft. below the river at the northern end of the south lens and 2,000 feet below the river at DDH. 26 at the north of the northern lens.

The accompanying section shows the depth to which drilling has proved the lode. At the most southerly end of the portion under review ore has been proved to 950 feet below the river and at the northern end in DDH. No. 36 it has been proved to a depth of 1,300 feet below the outcrop or 380 feet below the river level.

Tonnage Above Underlay(1) Southern Lens

<u>Section</u>	<u>Width of Lode feet</u>	<u>Interval feet</u>	<u>Area sq. ft.</u>
H1A	180	150	47,000
H1	450	290	113,000 <del>74,000</del>
C28D	330	250	67,000
C28A	210	220	47,000
C31	220	270	54,000
C33	180	260	56,000
C35	250	250	50,000
D2	150	600	90,000
D7	150		

485,000

577,000

Volume = 485,000 x 700  
 cubic feet = 339,500,000 cu. feet 366,000,000 cu. ft.  
 = 34M. tons ore 36.6 M TONS.

(2) Central lens

<u>Section</u>	<u>Width of Lode feet</u>	<u>Interval feet</u>	<u>Area sq. ft.</u>
D16	0	200	33,000
D18A	330	350	57,000
D22	0		
			<u>90,000</u>

Volume = 90,000 x 1,800  
 = 162,000,000 cu. feet  
 = 16 M. tons ore.

(contd. page 2)

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(3) Northern Lens

<u>Section</u>	<u>Width of Lode feet</u>	<u>Interval feet</u>	<u>Area sq. ft.</u>
D24.50	0	250	25,000
D26A	200	350	108,000
D30	420	270	125,000
D34A	430	300	103,000
DDH. No. 1	260	350	101,000
E2A	320	250	72,000
E5	260	270	62,000
E7	200	400	78,000
DDH. 27	195		
			<u>674,000</u>

Volume = 674,000 x 2,400  
 = 1,620,000,000 cu. feet  
 = 162 M. tons ore.

Total probable and possible tonnage available above underlay  
 = 212 M. tons ore.

Possible ore below underlay to 2,000' below river level

(1A) Southern Lens

Volume <sup>557,000</sup> 485,000 x 1,470 ft. = 770,280,000 cu. feet  
 = 71 M. tons ore.  
 77 M

(2A) Central Lens

Volume 90,000 x 870 ft. = 78,300,000 cu. feet  
 = 7.8 M. tons ore

(3A) Northern Lens

Volume 674,000 x 350 ft. = 235,900,000 cu. feet  
 = 23.5 M. tons ore

Possible tonnage below underlay to a depth of 2,000 feet below the river level

71.77  
 7.8  
 23.5  
102.3 M. tons  
 108.3 M

Total possible and probable ore available from underlay

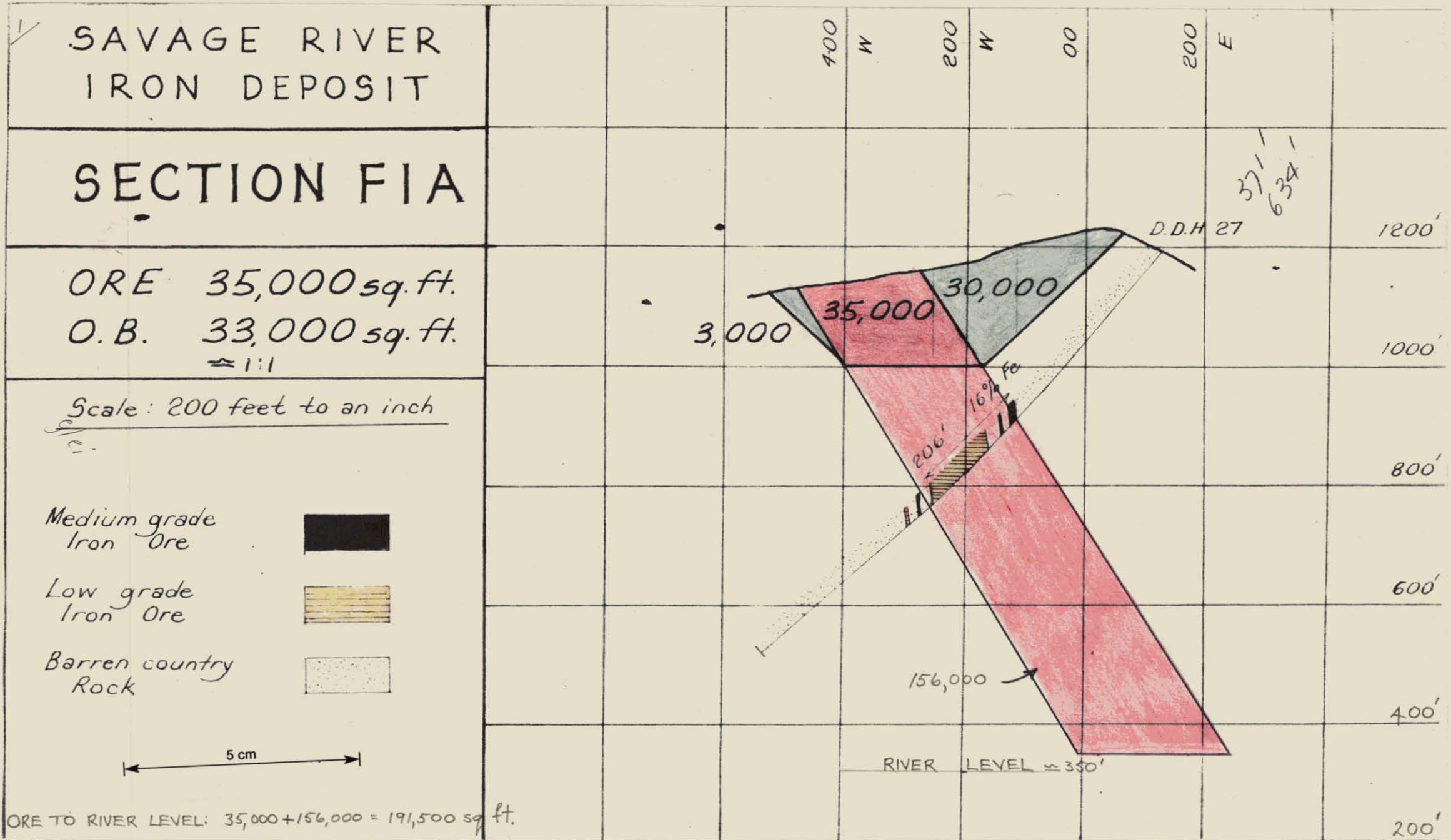
= 214.6 212 Million  
 102 Million  
 108.3 314 Million tons of ore  
 312.9 M

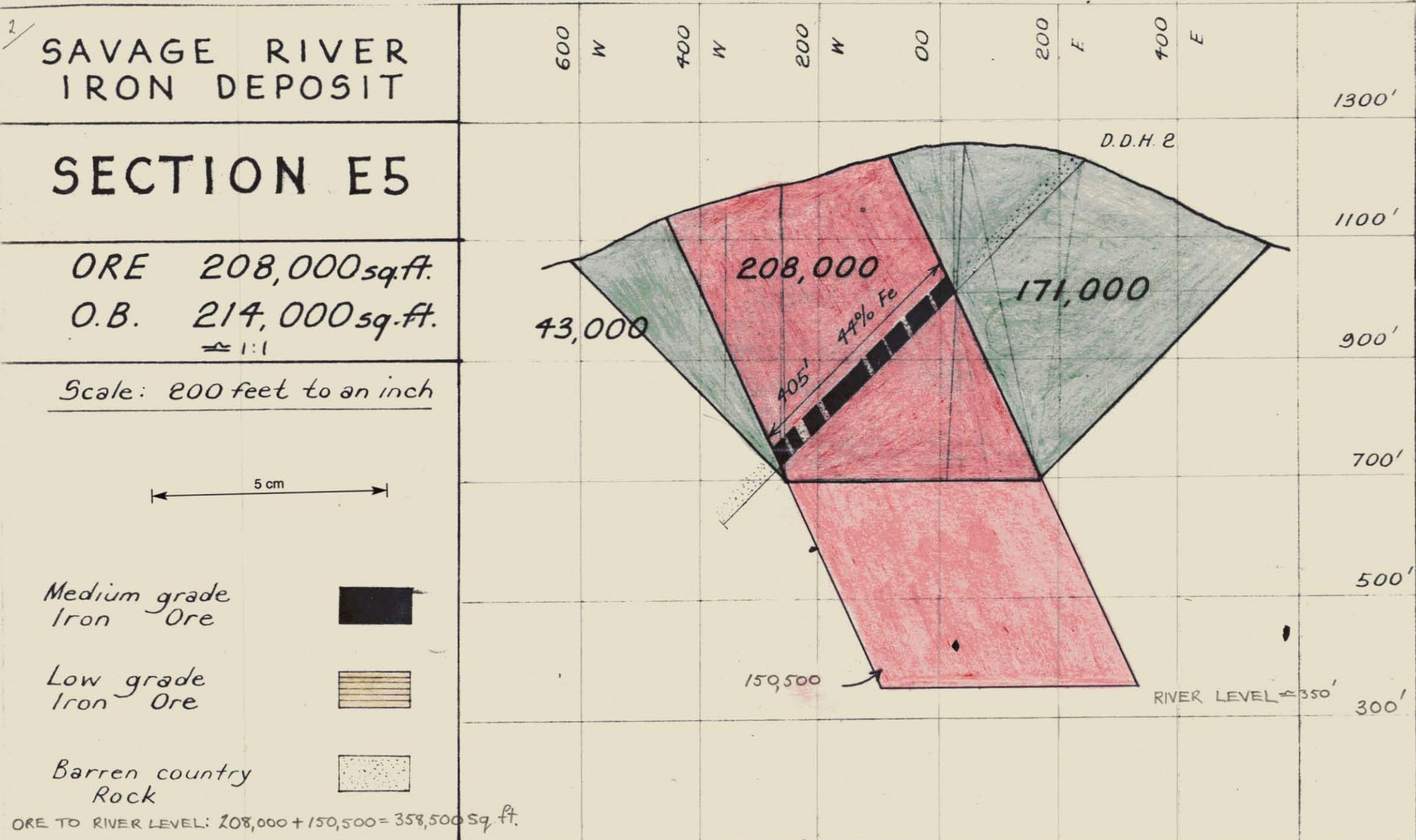
Based on average value in drillholes to date 32% Fe this would yield a possible 147 million tons of magnetite.

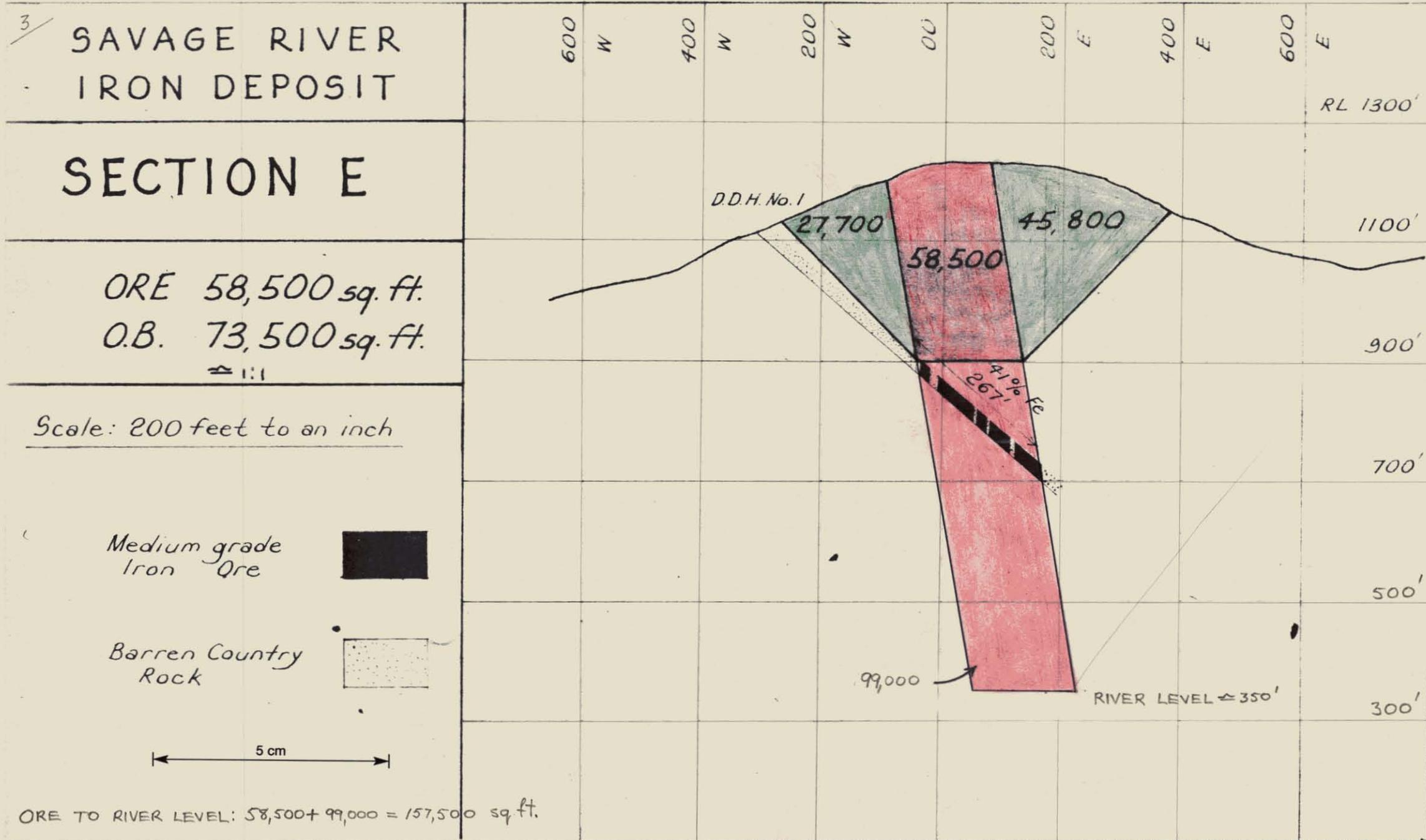
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(Signed) J. E. RIDGWAY  
 Consulting Geologist.

BRISBANE  
 4th May, 1967.







A SAVAGE RIVER  
IRON DEPOSIT

200 W 00 200 E 400 E

SECTION D30

Scale: 200 feet to an inch

ORE 210,000 sq ft.

O.B. 190,000 sq. ft.

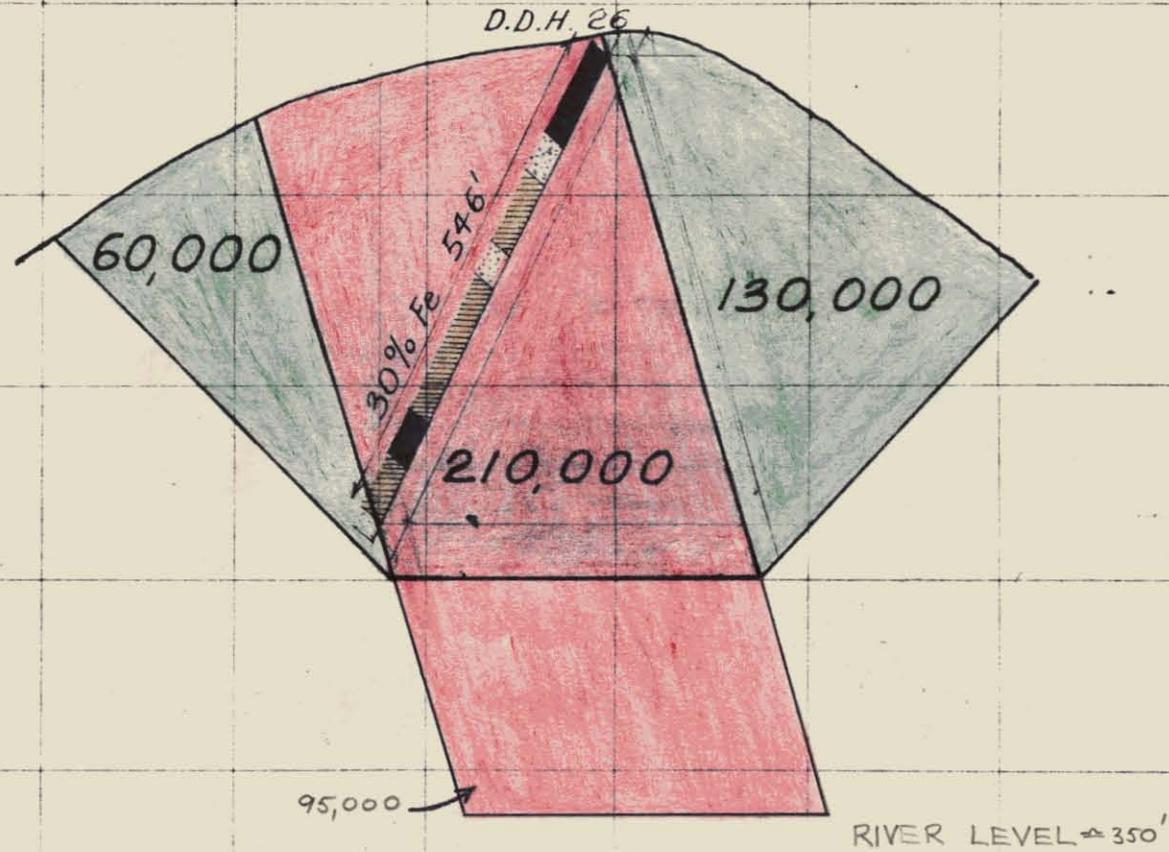
Medium grade  
Iron Ore



Low grade  
Iron Ore



Barren country  
Rock



ORE TO RIVER LEVEL: 210,000 + 95,000 = 305,000 sq. ft.

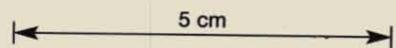
5 SAVAGE RIVER  
IRON DEPOSIT

SECTION D18A

ORE 92,000 sq. ft.

O.B. 72,000 sq. ft.  
1:1

Scale: 200 feet to an inch



Medium grade  
Iron Ore



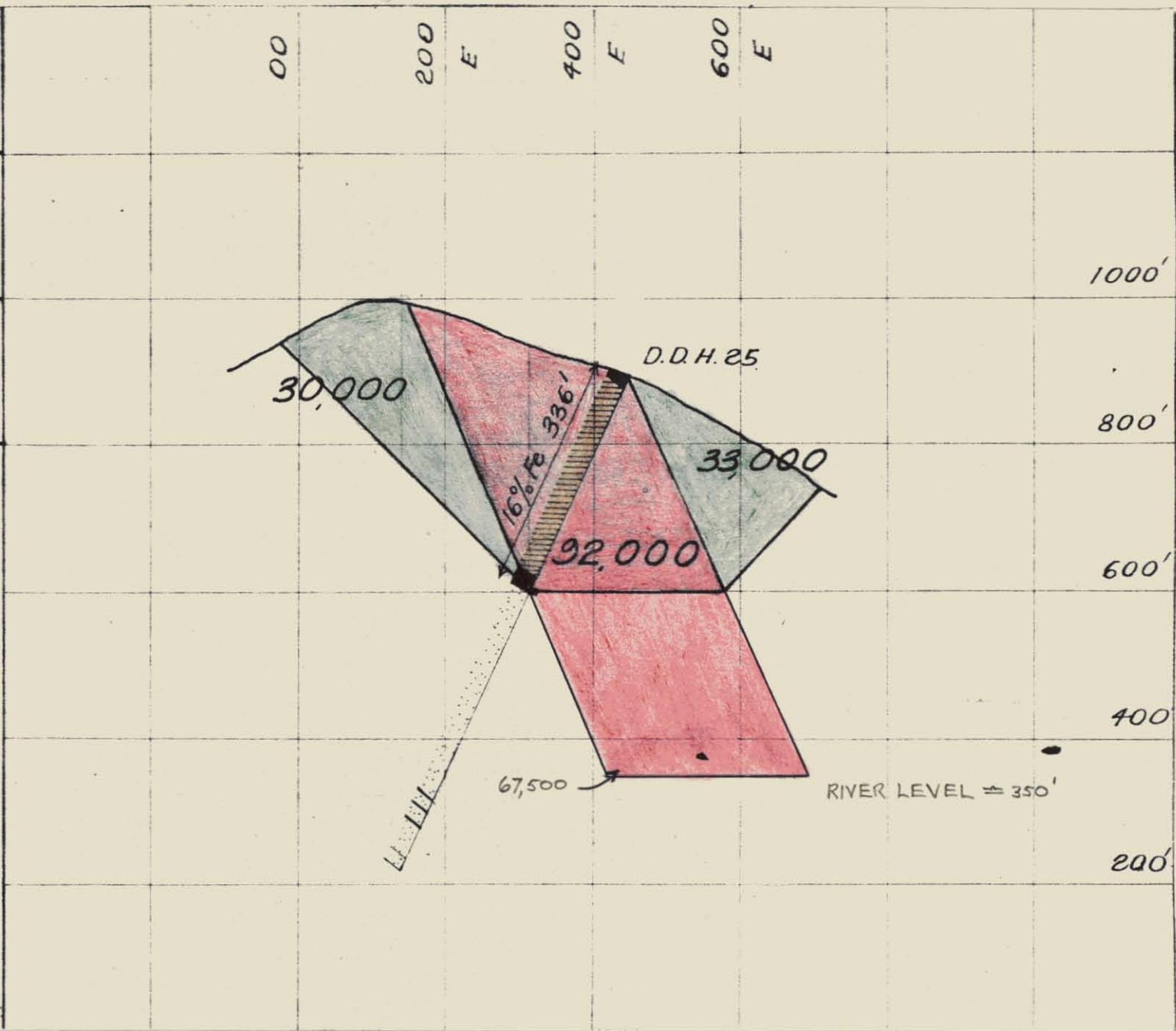
Low grade  
Iron Ore



Barren country  
Rock



ORE TO RIVER LEVEL:  $92,000 + 67,500 = 159,500$  sq. ft.



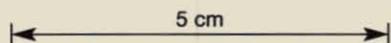
# SAVAGE RIVER IRON DEPOSIT

## SECTION D7

ORE 28,700 sq. ft

O.B. 28,400 sq. ft.  
≈ 1:1

Scale: 200 feet to an inch



Medium grade  
Iron Ore



Low grade  
Iron Ore

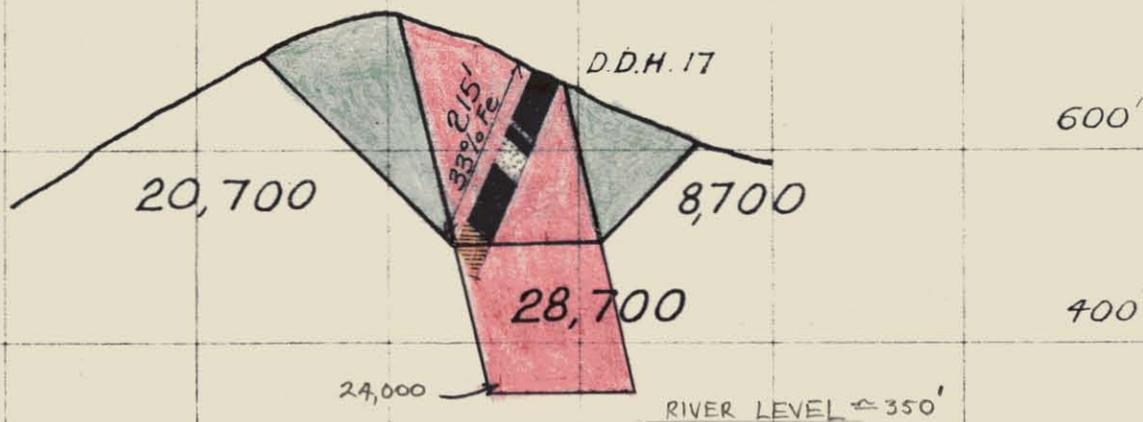


Barren country  
Rock



ORE TO RIVER LEVEL = 28,700 + 24,000 = 52,700 sq. ft.

400 W 200 W 00 200 E 400 E



800'

600'

400'

200'

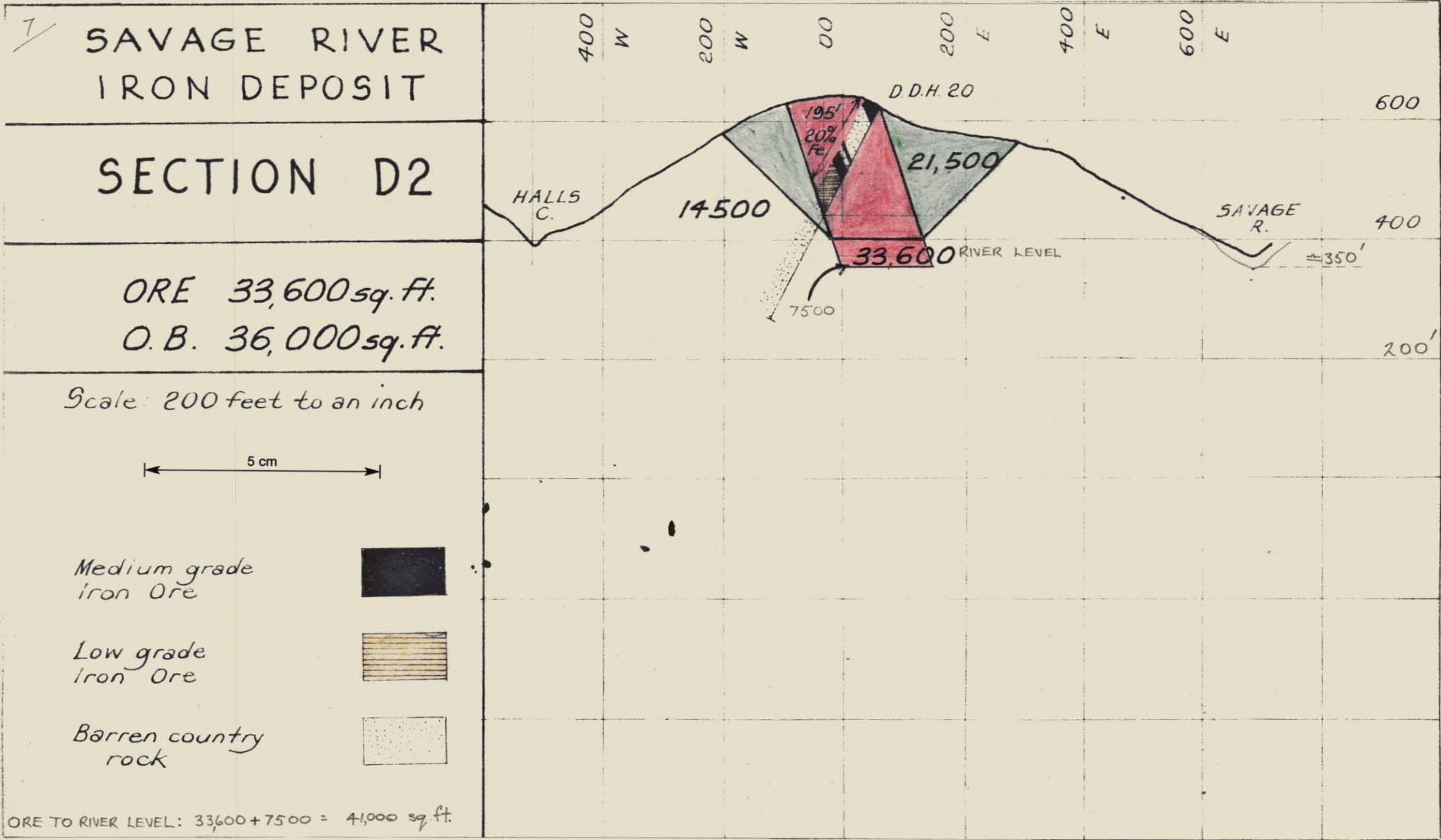
RIVER LEVEL ≈ 350'

FIG. 7.

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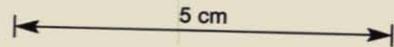
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8 SAVAGE RIVER  
IRON DEPOSIT

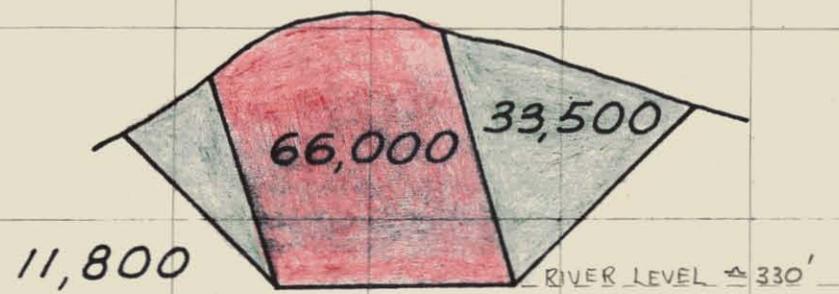
SECTION C35

Scale: 200 feet to an inch



ORE 66,000  
O.B. 45,300

200W 00 200E



600'

400'

200'

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SAVAGE RIVER  
IRON DEPOSIT

SECTION C33

5 cm

ORE 37,000 sq. ft.

O.B. 34,000 sq. ft.

Scale: 200 feet to an inch

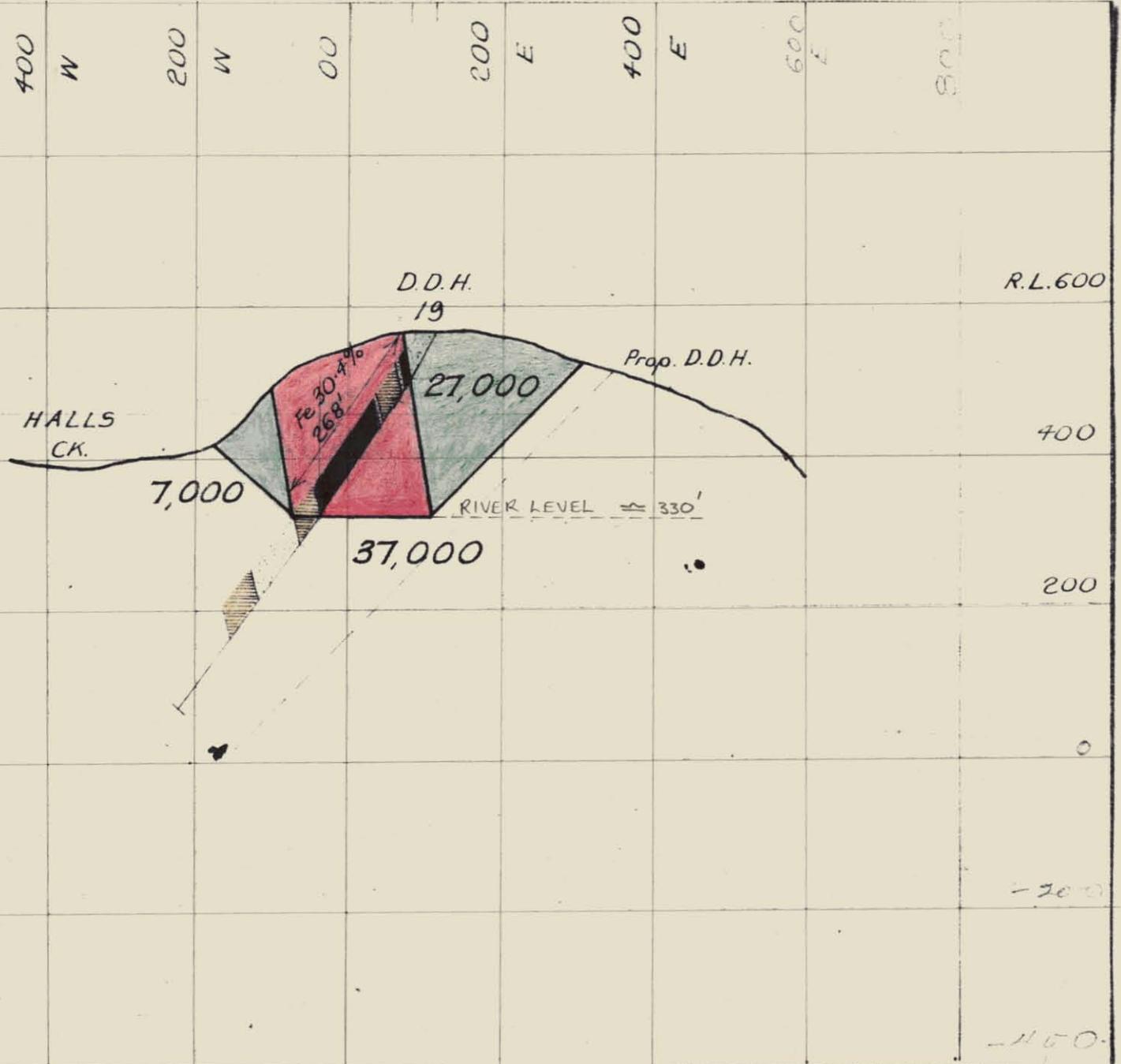
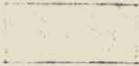
Medium grade  
Iron Ore



Low grade  
Iron Ore



Barren Country  
Rock



1450

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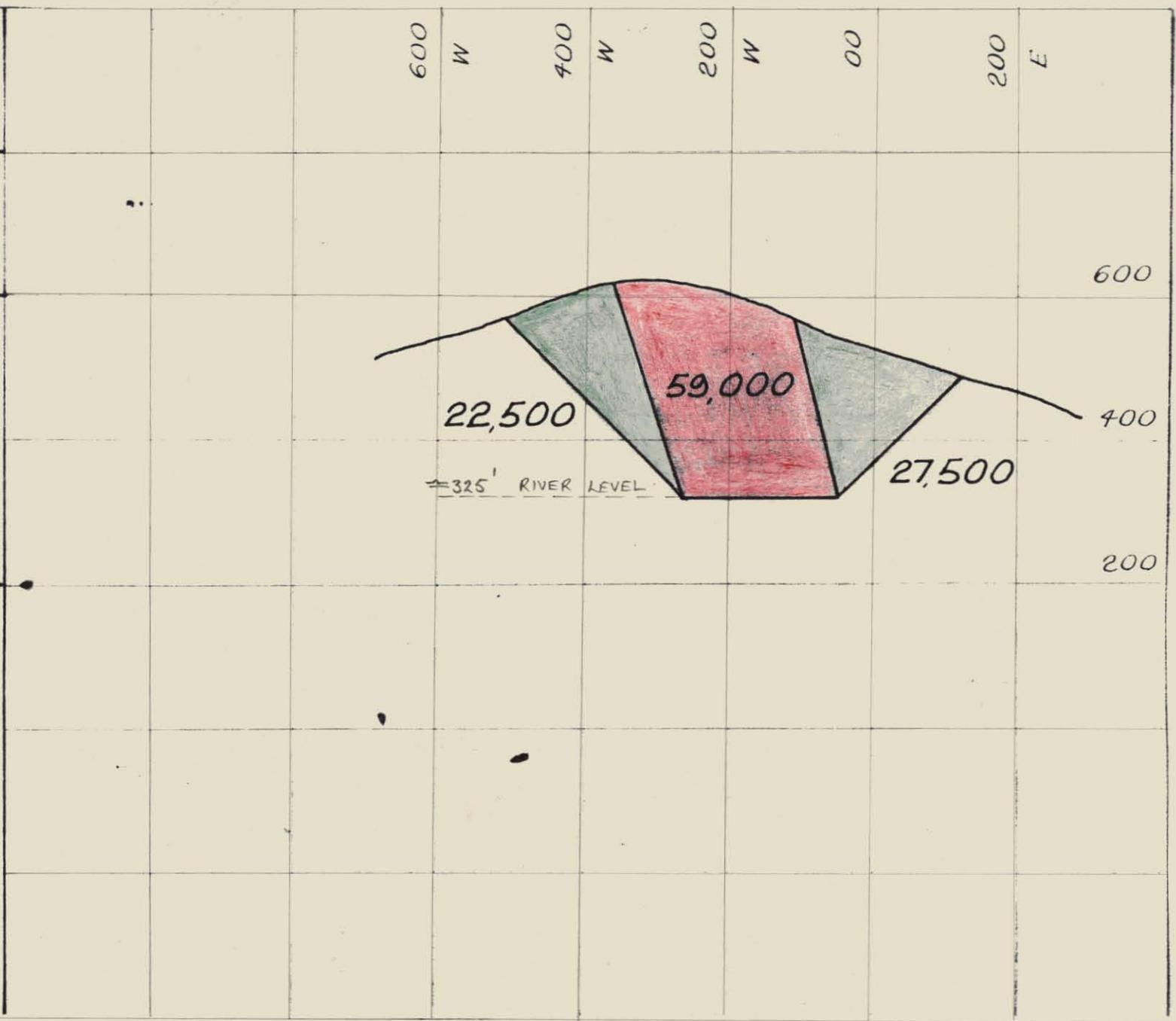
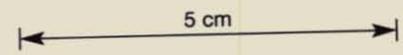
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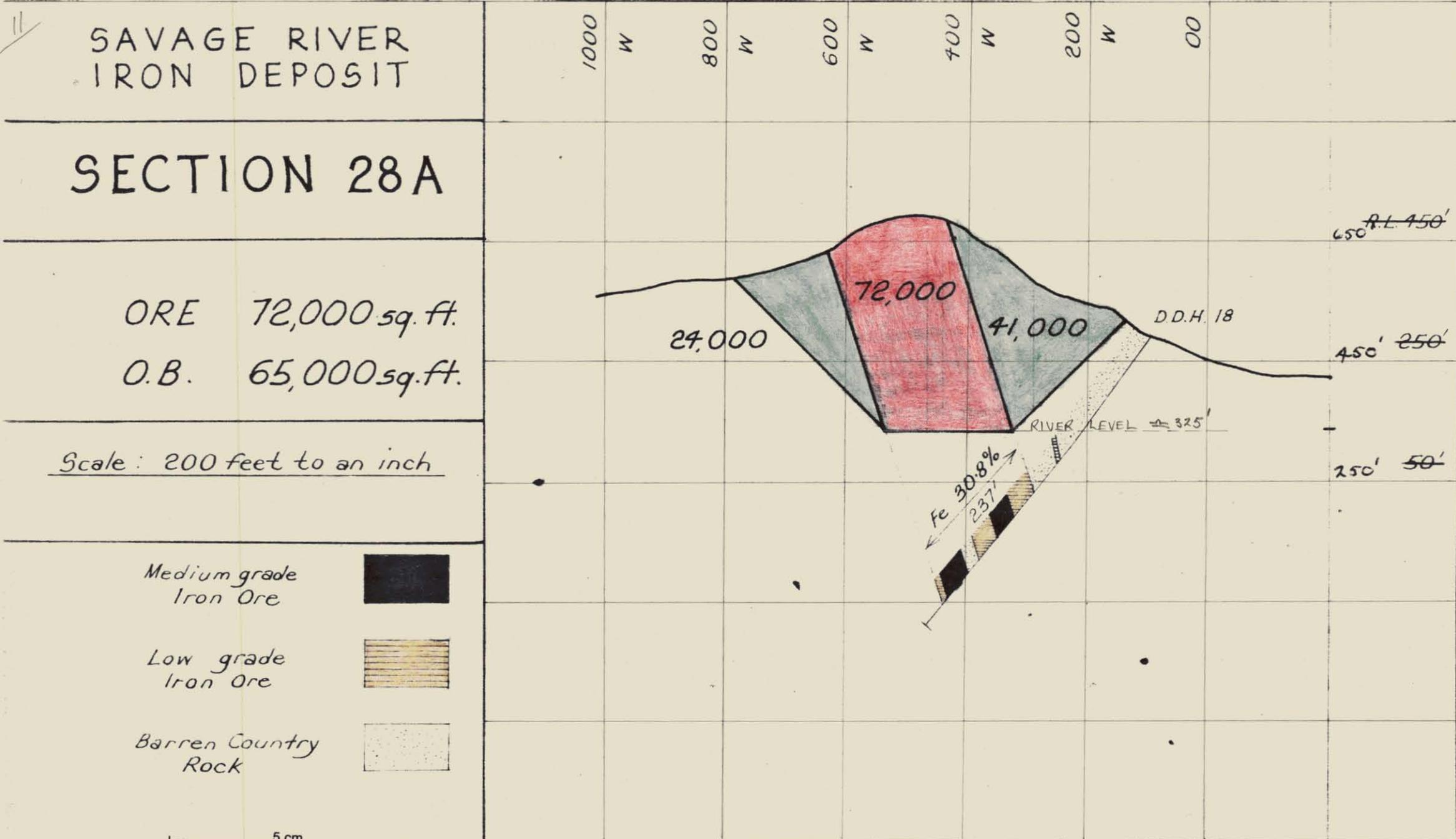
10/ SAVAGE RIVER  
IRON DEPOSIT

SECTION C31

ORE 59,000 sq. ft.  
O.B. 50,000 sq. ft.

Scale: 200 feet to an inch

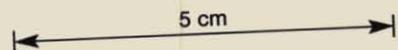




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SAVAGE RIVER  
IRON DEPOSIT

SECTION C28 D

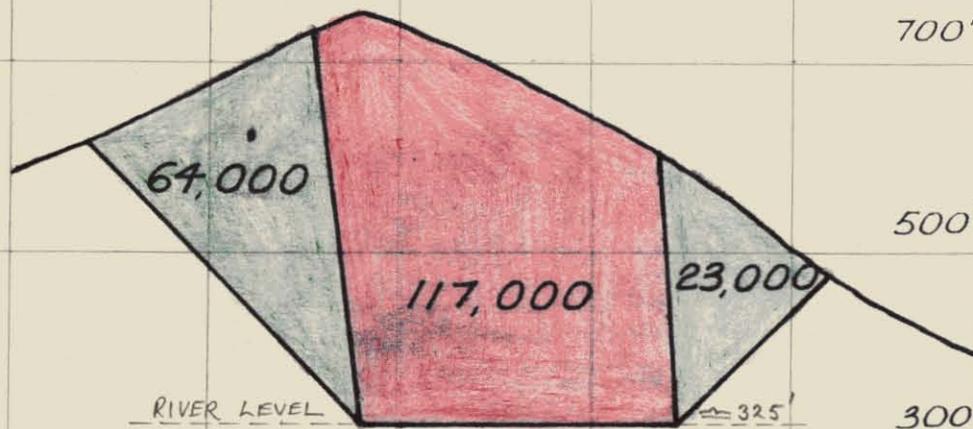


ORE 117,000 sq. ft.

O.B. 87,000 sq. ft.

Scale: 200 feet to an inch

1000 W 800 W 600 W 400 W 200 W



13

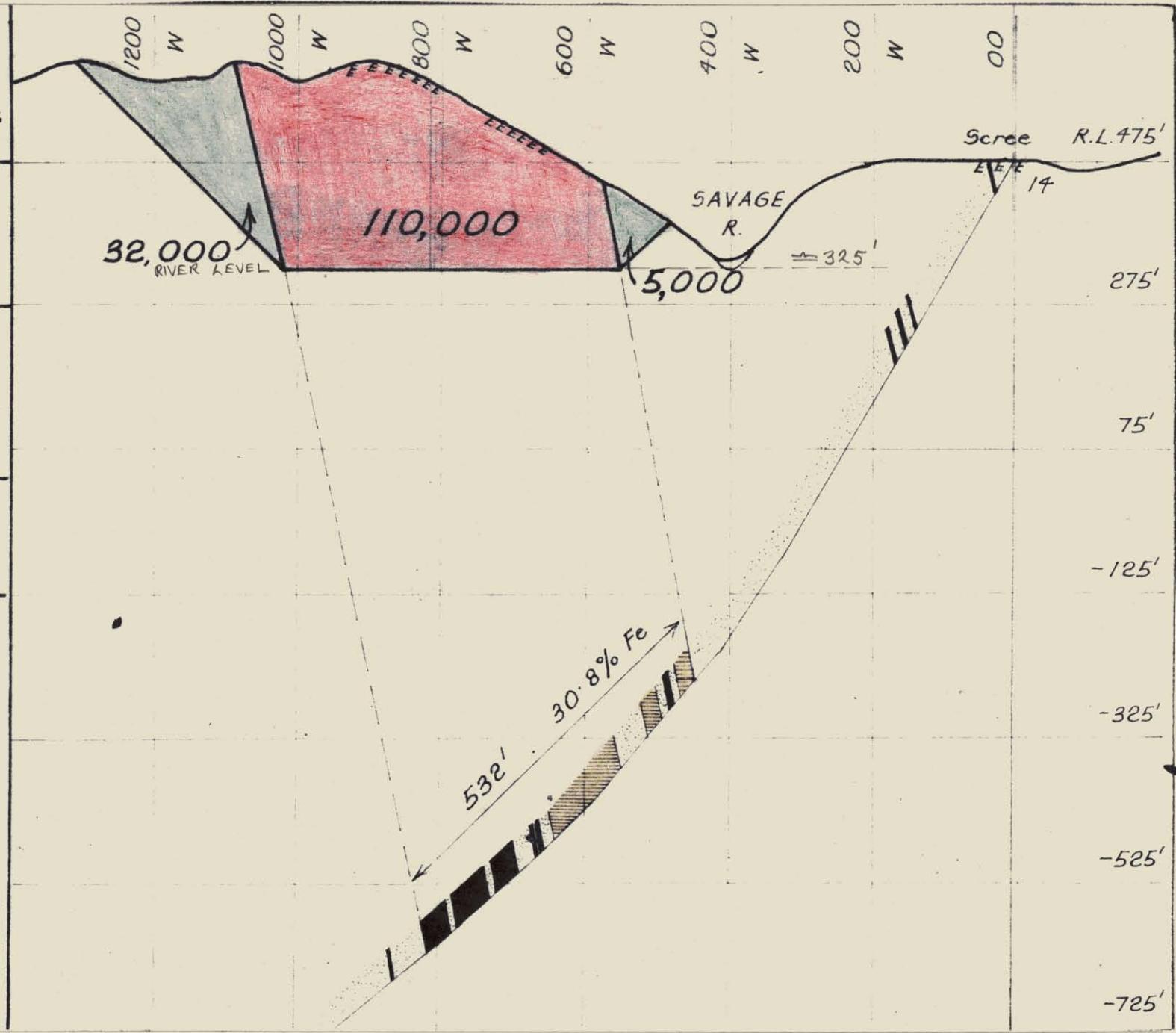
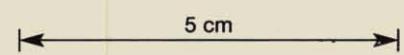
# SAVAGE RIVER IRON DEPOSIT

## SECTION HI

ORE 110,000 sq. ft.  
 O.B. 37,000 sq. ft.

Scale: 200 feet to an inch

- Medium grade Iron Ore 
- Low grade Iron Ore 
- Barren Country Rock 
- Iron Ore Outcrop and Scree 



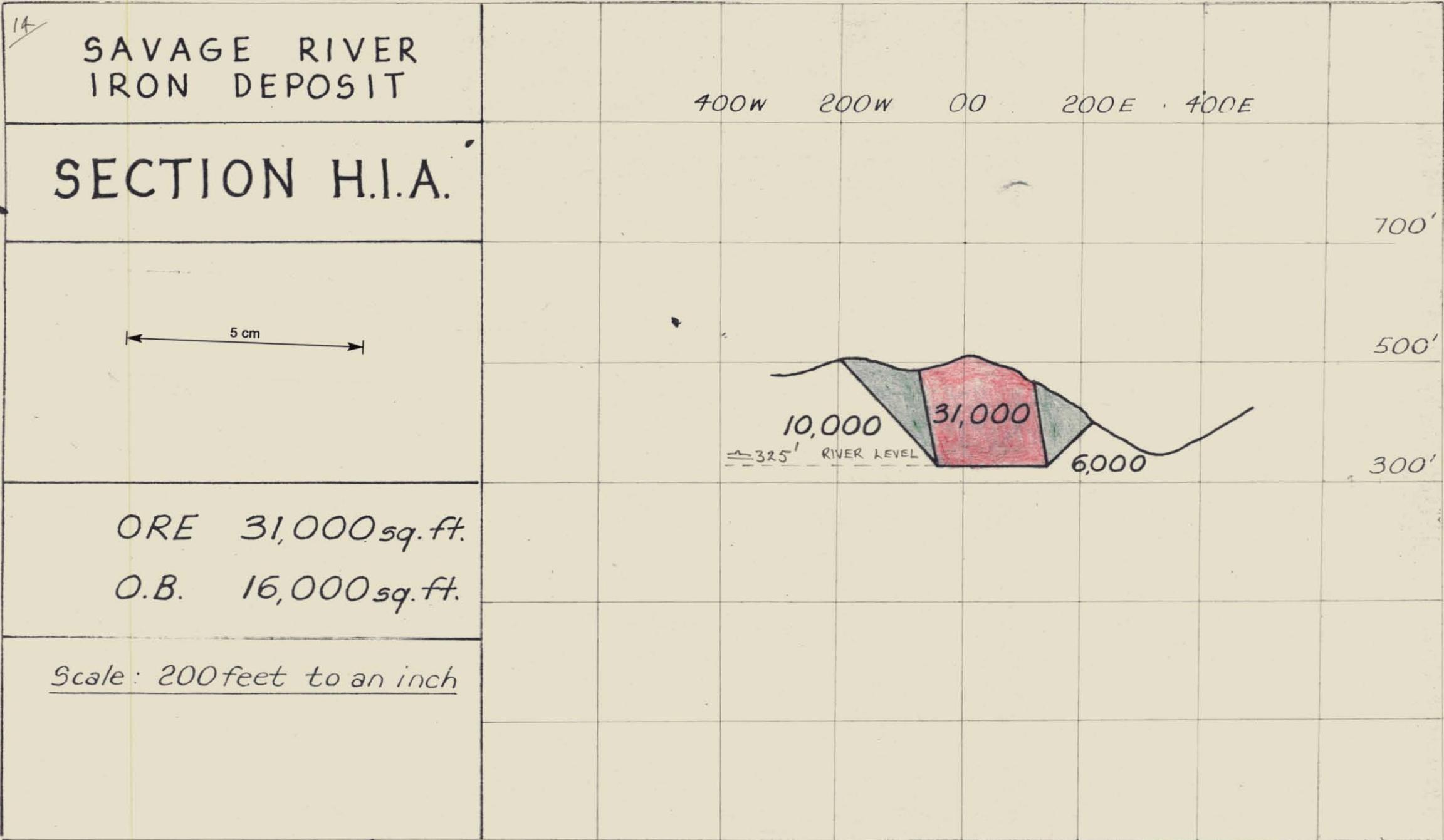


FIG. 15

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SAYAGE RIVER  
IRON DEPOSIT.

SECTION THROUGH  
BORE 36

ORE: 336,000 sq. ft.

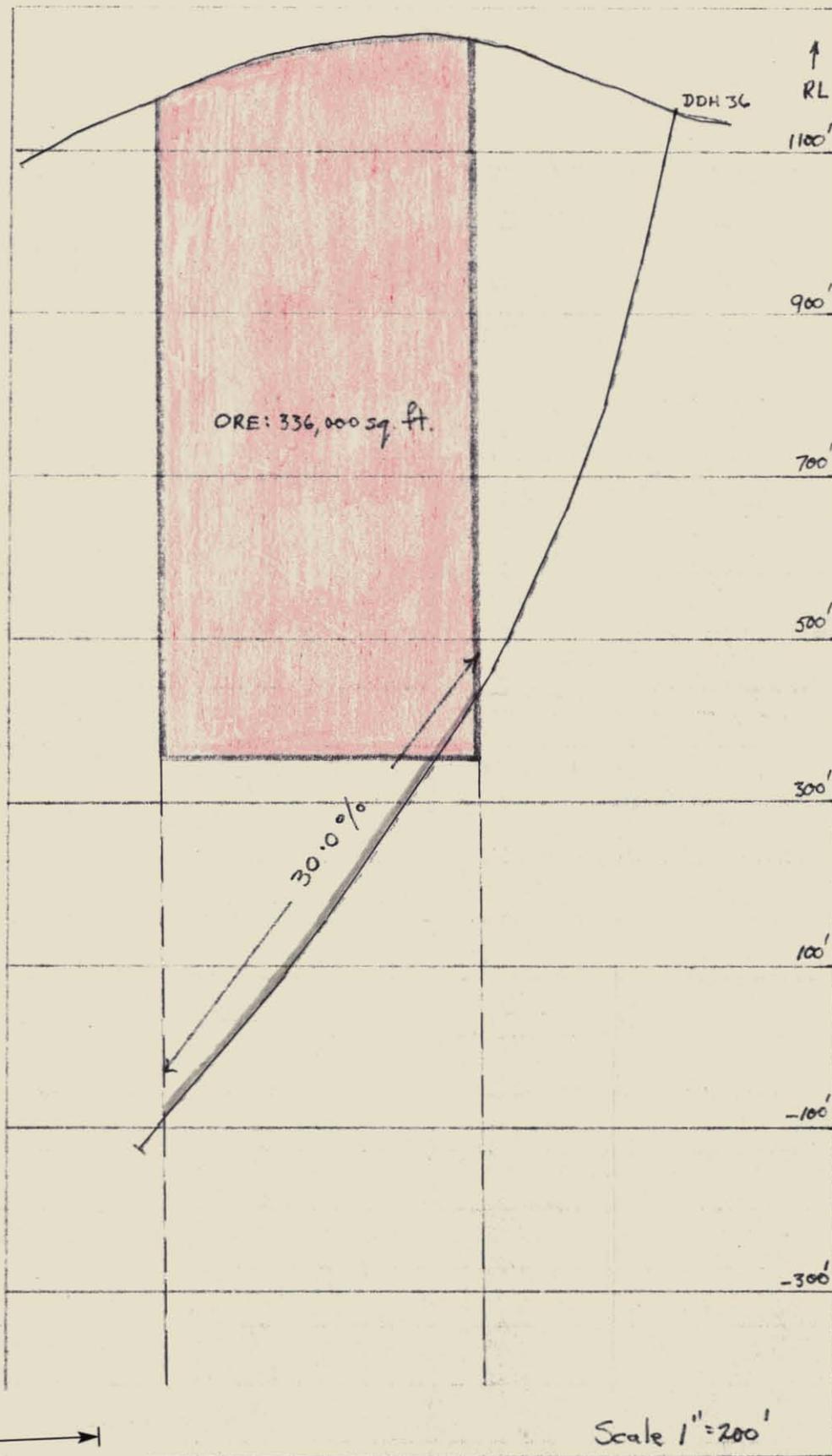
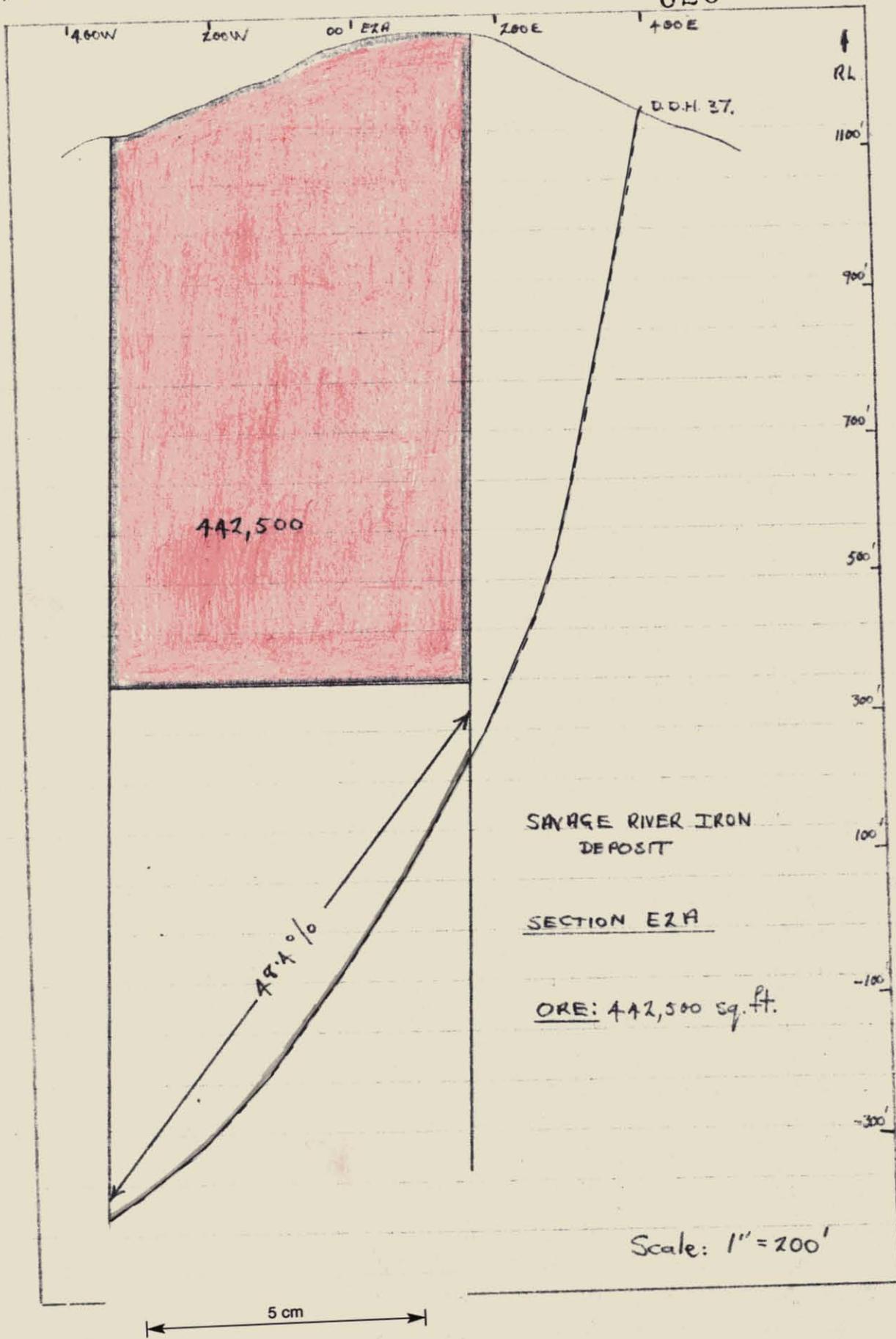


FIG. 16

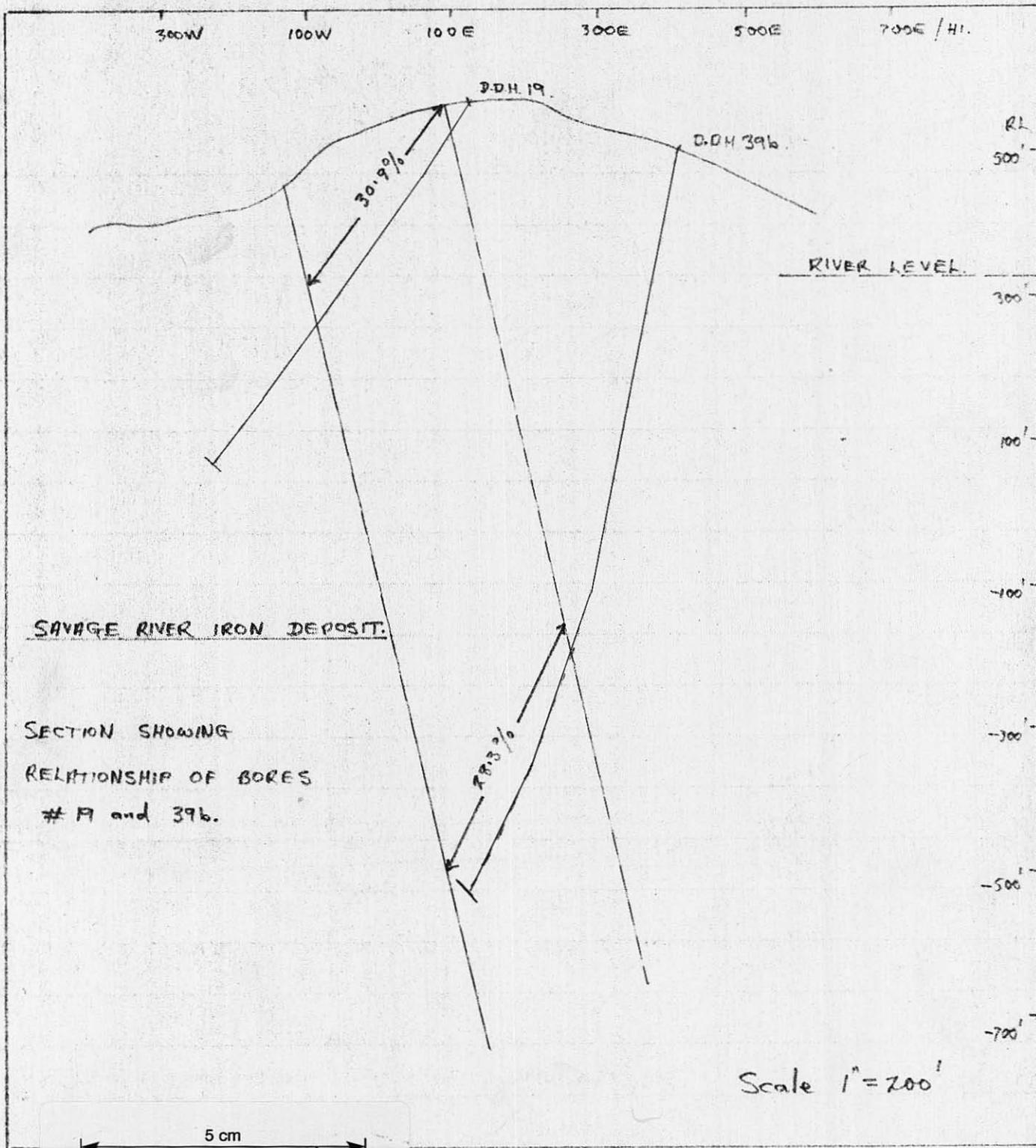
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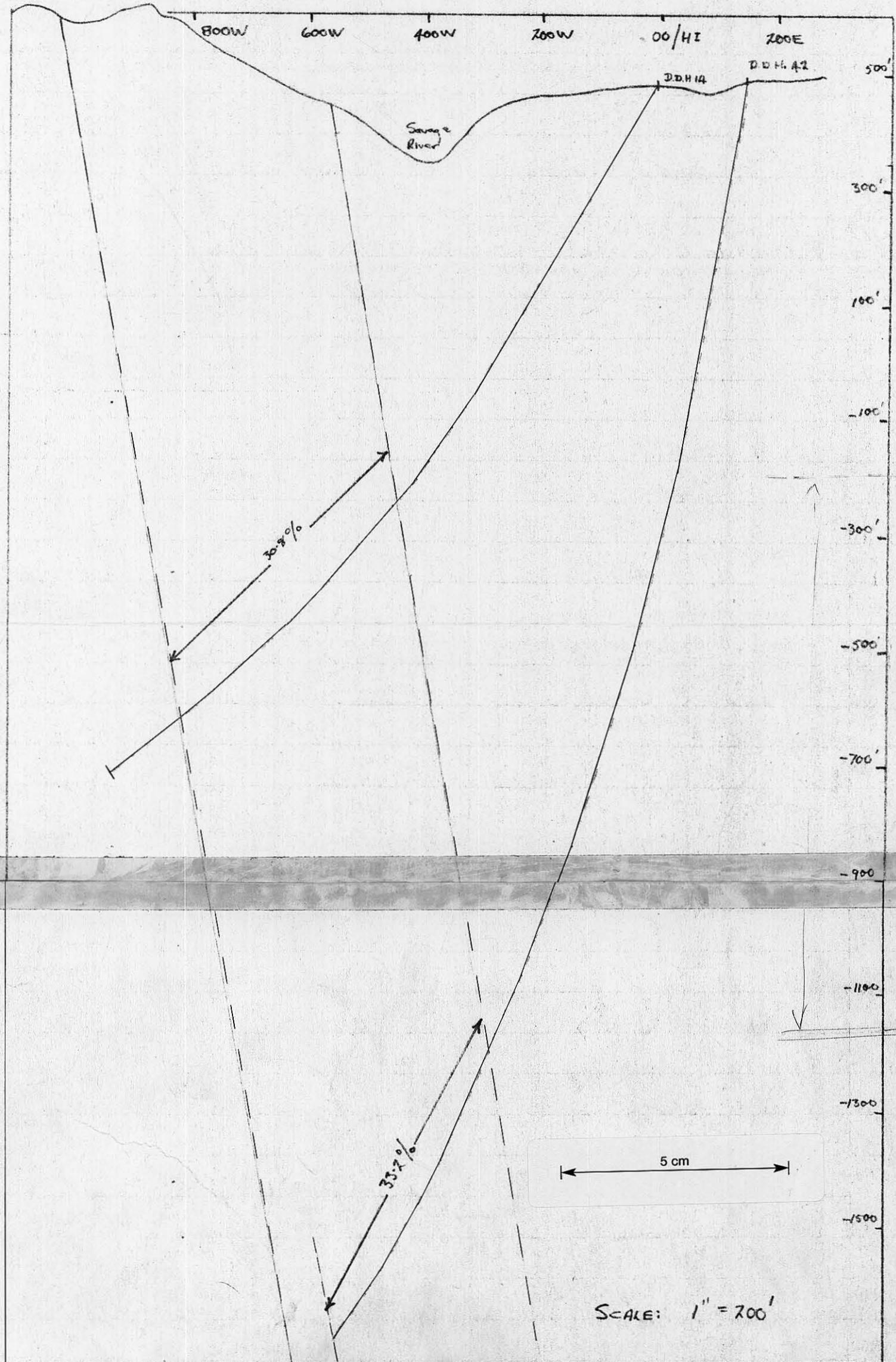
023 FIG. 18.

SAVAGE RIVER IRON DEPOSIT.

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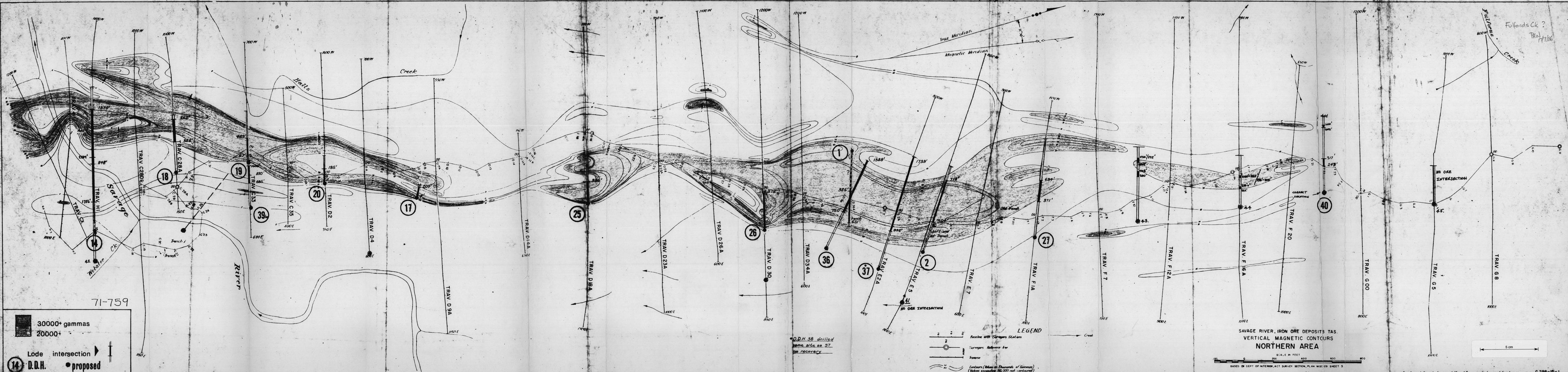
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SECTION SHOWING RELATIONSHIP OF BOXES #14 AND 42.



5 cm

SCALE: 1" = 200'



30000+ gammas  
 20000+  
 Lode intersection  
 D.D.H. proposed

**LEGEND**  
 Baseline with Survey Stations  
 Surveyors Reference Iron  
 Traverse  
 Contours (Values in Thousands of Gammas)  
 (Values exceeding 40,000 not contoured)

SAVAGE RIVER, IRON ORE DEPOSITS TAS.  
 VERTICAL MAGNETIC CONTOURS  
 NORTHERN AREA  
 SCALE IN FEET  
 BASED ON DEPT. OF INTERIOR, ACT SURVEY SECTION, PLAN MISC 129 SHEET 3

5 cm

71-759

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Folford's Ck ?  
TRAV F186

CORRECT LOCATION

NO ORE INTERSECTION

NO ORE INTERSECTION

NO ORE INTERSECTION

D.D.H. 38 drilled same site as 37 no recovery