

9

NATIONAL COAL BOARD

WEST MIDLANDS DIVISION

NO.1 (NORTH STAFFS) AREA

CHATTERLEY WHITFIELD COLLIERY

8690' HORIZON - DIRT DISPOSAL SCHEME

APPLICATION FOR DIVISIONAL SANCTION.

NATIONAL COAL BOARD  
RECEIVED  
10 FEB 1950  
MANAGER'S OFFICE  
CHATTERLEY WHITFIELD

cw/18/12



# MEMORANDUM

FROM Are Planning Branch, Fenton.

TO See Distribution.

Subject Chatterley Whitfield Colliery.  
8690' Horizon - Proposed Dirt Disposal Scheme.

Our Ref. AL/BD.

Your Ref. \_\_\_\_\_

Date 12th February, 1960.

Please find enclosed one copy of the Application for Divisional Sanction relating to the above scheme.

Eight copies have been forwarded to Mr. H. J. Widdowson, Area General Manager.

*A. Leeming*  
(A. Leeming).

Distribution: Messrs. F. Dilkes, P. Smallman, G. Haslett.

Encls.

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BOARD  
RECEIVED  
13 FEB 1960  
MANAGER'S OFFICE  
CHATTERLEY WHITFIELD COLLIERY



NATIONAL COAL BOARD

West-Midlands Division

No.1 (North Staffs.) Area

CHATTERLEY-WHITFIELD COLLIERY

PROPOSED UNDERGROUND DIRT DISPOSAL SCHEME  
AT THE 869OFT. HORIZON

I have pleasure in submitting for the Divisional Board's consideration the accompanying scheme which outlines the work and expenditure necessary for the provision of facilities to prepare and dispose of dirt underground.

The proposals cater for the drivages and equipment and include crushing plant to deal with 80 tons of raw dirt per hour, a prepared dirt bunker of 400 tons capacity and a mine car tippler station in the No.2 South Moss Return Gate. The total estimated cost is £88,566, of which £45,855 is Revenue and £42,711 Capital, including an allowance for contingencies.

The estimated cost of the scheme and the running costs expected to be obtained are considered reasonable considering the possible benefits and savings.

*J. Middleton*

.....  
Area General Manager

72, Leek Road,  
Stoke-on-Trent.

11th February, 1960.



West Midlands Division  
No.1 (North Staffs.) Area  
CHATTERLEY-WHITFIELD COLLIERY

PROPOSED UNDERGROUND DIRT DISPOSAL SCHEME  
AT THE 8690FT. HORIZON

NATIONAL COAL BOARD

THE SUBMISSION OF CAPITAL PROJECTS FOR APPROVAL

INDEX

<u>TEXT</u>	<u>PARAGRAPH</u>
Preface	1 - 6
Reserves	7 - 8
Present Position	9
Alternatives	10
Technical Proposals	11
Subsidence	12
Manpower	13
Estimated New Expenditure and Investment	14
Profitability	15

APPENDICES

- IV Schedule of New Expenditure.
- V Direct Progress Schedule.
- VII Phasing of Expenditure.
- IX Total Investment.
- P Annual Cost Estimate of Operating the Scheme.

PLANS

1. Colliery Location Plan.
2. Dirt Disposal Scheme Site Plan.
3. Colliery Take and Contours in Moss Seam.
4. Proposed 8690' Horizon Dirt Transport Arrangements.

Area Planning Branch,  
Glebe House,  
Fenton.

11th February, 1960:



NATIONAL COAL BOARD

West-Midlands Division

No.1 (North Staffs.) Area

CHATTERLEY-WHITFIELD COLLIERY

PROPOSED UNDERGROUND DIRT DISPOSAL SCHEME  
AT THE 8690FT. HORIZON

PREFACE:

1).. LOCATION (Ref: Plan No.1): Chatterley-Whitfield Colliery lies in the Northern part of the No.1 (North Staffs.) Area adjacent to the Tunstall to Congleton road and the Biddulph Valley Railway.

2).. OBJECTIVES OF SCHEME: To provide facilities for crushing dirt underground and preparing it for pneumatically stowing, particularly at the 8690ft. Horizon which is the Hesketh Pit Bottom Level.

The average weekly output of free dirt at the present time from this level is 3,600 tons. This figure is expected to increase to 4,000 tons when the proposed drivage at the 8300ft. level is advancing at 20 yards per week.

3).. REASONS FOR PROMOTING SCHEME:

(a) To be able to solid stow all workings in seams of 3'0" and over in the part of Chatterley-Whitfield 'take' lying under the town of Tunstall, to minimise surface damage.

(b) To relieve the Hesketh Shaft of having to wind approximately 4,000 tons of free dirt per week.

(c) To relieve the overburdened surface dirt disposal plant and reduce the area of land required for future dirt disposal.

4).. RELATIONSHIP WITH THE NATIONAL PLAN: The proposals fit into the major scheme envisaged for Chatterley-Whitfield and the estimated capital expenditure was included in the 1961/65 figures of the 1959 rapid survey of the National Plan. Allowance has also been made in the Area's Estimates of Capital Expenditure for the year 1961.

5).. MAIN TECHNICAL FEATURES OF SCHEME:

(a) The installation of a dirt crushing plant to deal with 80 tons of raw dirt per hour together with the necessary mining work to accommodate the plant. (Plan No.2.)

(b) The installation of ancillary plant to feed the crusher with raw dirt from 30 cwt. mine cars and the transport of the prepared dirt.

(c) The construction of an inclined bunker to hold approximately 400 tons of prepared dirt. (Plan No.2.)

(d) The making and equipping of a tippler station for the prepared dirt on No.2 South Moss Return Level. (Plan No.3.)



6).. COST OF THE SCHEME: The estimated cost of the scheme is £88,566. Of this figure, £45,855 is Revenue expenditure, which is mainly for the drivages, and £42,711 Capital for plant.

The principal gains claimed for the scheme are :-

- (a) A saving on the cost of dirt winding and disposal.
- (b) Reduction in surface subsidence.
- (c) Reduction in road maintenance costs where solid stowed.

7).. RESERVES: The 'Take' is bounded on the North side by a barrier against Victoria Colliery and on the South by a barrier against Norton and Sneyd Colliery workings. To the East, the seams outcrop, and to the West the boundary is a pillar for the protection of the Harecastle Railway tunnel in part and a barrier against old workings.

Most of the take has been proved by workings from Chatterley-Whitfield. The structure of the western part not proved from Chatterley-Whitfield has been projected from the workings of disused collieries in the upper seams.

In the estimate of the reserves everything above 10,000 ft. A.D. has been excluded, as also have all seams less than 2ft. thick.

There are 18 workable seams extending from and including the Moss seam to the Brights seam.

At the present time the deepest coal transport horizon is at 8690ft.A.D., that is the Hesketh Pit Bottom level, but coal is being worked via dips in the seams below this level.

8).. ESTIMATED RESERVES AT 1ST JANUARY, 1958:

000's TONS

Relative to Datum 10,000' B.O.D.	Coal Survey Code No:						TOTALS
	800	700	600	500	400	300	
10,000' to 8690' A.D.	5676	16187	908	-	-	-	22771
8690' to 8300' A.D.	-	6673	8431	-	-	-	15104
8300' to 7900' A.D.	-	5398	12570	2148	-	-	20116
7900' to 6500' A.D.	-	456	10175	31551	11089	1009	54280
<b>TOTAL TO DEPTH OF 4000'</b>	<b>5676</b>	<b>28714</b>	<b>32084</b>	<b>33699</b>	<b>11089</b>	<b>1009</b>	<b>112271</b>

The 8300' and 7900' levels are proposed future coal transport levels.

9).. PRESENT POSITION: Results in recent years at Chatterley-Whitfield Colliery are shown in the following table :-

Year	Saleable Output tons	Productivity		Average Manpower	Profit per ton (before interest)	
		Face cwts	Overall cwts		s.	d.
1954	659,520	88.1	25.5	2,189	4.	2.6
1955	663,819	88.8	25.8	2,154	6.	4.2
1956	666,980	91.9	26.1	2,136	8.	3.3
1957	740,587	84.7	25.3	2,484	1.	2.7
1958	688,195	77.8	23.9	2,530		10.1
1959	686,528	87.4	27.0	2,409	5.	3.5 *

\* provisional figure.



10).. ALTERNATIVES: It is considered that there is no reasonable alternative to the proposed scheme, other than to allow the existing position to continue.

11).. TECHNICAL PROPOSALS: The technical proposals and expenditure involved in the scheme are set out in Appendix IV and may be summarised as follows :-

£4,600 (£4,226 Revenue £374 Capital) Section 17/31a/M, provides for the Drivage and General Equipment items, including lighting, signals, telephones, etc.

£31,922 (Revenue) Section 17/32a/M, provides for the driving and supporting of an inclined dirt bunker (1 in 0.49 rise); a dirt crushing plant house; extension of an existing inclined (1 in 3.38 rise) roadway from the crushing plant house to the top of the bunker; and associated junctions (tippler and loading stations, etc).

£9,570 (Capital) Section 19/31a/M, Underground equipment - subsidiary transport, provides for the equipping and installation of the feeders, ramming equipment, etc.

£42,474 (£9,707 Revenue, £32,767 Capital) Section 20/31a/M, provides for equipping and installation at :-

- (a) the dirt preparation station, including a No.4 Mansfield Hammer Crusher, conveyors, a 30 cwt. mine car tippler, motors, switchgear, etc.
- (b) the proposed tippler station on No.2 South Moss Top Level including a 30 cwt. mine car tippler, and associated electrics.
- (c) on No.2 South Moss Top Level including a conveyor, stowing machine and stowing pipes.

It is considered that the design and the expenditure involved is the minimum required to conform to the standards required.

12).. SUBSIDENCE: The surface, covering that part of the take coloured red (reference Plan No.3), is comprised of the heavily built up and industrial area of the town of Tunstall. It is essential that surface damage caused through subsidence should be kept to a minimum, and it is considered desirable that all seams over 3ft. in thickness worked under this area should be solidly stowed.

13).. MANPOWER: It is essential that, under normal circumstances, the dirt preparation plant and face stowing plant will be working for two shifts per day, (approximately 10 hours per day at 80 tons per hour), five days per week. Five men per shift (10 men per day) should operate the dirt preparation plant, and two men per shift (4 men per day) should operate that part of the face stowing plant which comes within this application. Estimated total manpower, 7 men per shift, (14 men per day), plus 1 man 1 shift per day general maintenance. It is expected that the manpower required will be recruited from Board labour now in post.

14).. ESTIMATED NEW EXPENDITURE AND INVESTMENT: Appendices VII and IX show new capital expenditure at £42,711, all of which is required for equipment and installation. Interest on capital during construction amounts to £1,068, the work being planned for completion by the second quarter of 1961.

Revenue expenditure in connection with the scheme amounts to £45,855 for provision of the necessary drivages, bunker, etc.

15).. PROFITABILITY: The operating costs of the scheme are given in Appendix P, and take the form of an estimate of the annual cost of operating the dirt disposal scheme.

The total annual cost involved of £18,848 represents a cost of 1/11.6d per ton on the amount of dirt scheduled to be handled by the plant.



All the labour required to operate the plant can be made available from the existing labour force at the colliery, and no overall increase in expenditure on wages for the colliery as a whole is anticipated. Therefore, the cost to the colliery can be estimated by excluding wages and wages charges from the total costs involved, the net cost per ton of dirt prepared being 1/1.1d.

It is considered that the economies that will result from preparing stowing dirt underground, as an alternative to winding and disposal of dirt on the surface, will outweigh any additional costs of acquiring and maintaining the proposed dirt disposal scheme.

Indirect benefits from the scheme will relate to the cost of surface damage, and despite the fact that future mining operations in this district at Chatterley will be under the heavily built-up area of Tunstall, it is anticipated that the present cost rate per ton (1959 - 1.7d) will be maintained.

The above benefits more than outweigh the operating cost to the colliery, estimated at only 3.6d per ton at the present level of output.

A sum of £30,000 has been included in the Area Capital Expenditure Estimates for the year 1961.

AREA PLANNING BRANCH:  
11th February, 1960:



NATIONAL COAL BOARD

THE SUBMISSION OF CAPITAL PROJECTS FOR APPROVAL

SCHEDULE OF NEW EXPENDITURE

(Including Capital and Major Revenue Expenditure)

Effective Date of Estimate January 1960

APPENDIX IV TO P.631/R (1957)  
WEST MIDLANDS DIVISION  
NO.1 (NORTH STAFFS.) AREA  
CHATTERLEY WHITEFIELD COLLIERY  
8690' HORIZON DIRT DISPOSAL SCHEME

Section	Sub Section	Branch	Description	Basis of Estimate	No. of Items required, Length of roadway or Shaft etc., (with Plan Ref)	Size or Capacity	Estimated Cost (before Contingencies)	Allowance for Contingencies		Fees		Total Estimated Expenditure	Allocation of Total Expenditure		Depreciation	
								%	Amount	%	Amount		Revenue	Capital	%	Estimated Annual Charge
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
17	31a 32a	M M	<u>Mine Drivage and Equipment - 0690' Horizon</u> Drivage and General Equipment Drivages, dirt bunker, etc.	(T. & T.E.)			4,464	3	136	-	-	4,600	4,226	374	12½	47
			T.E.	11yds	16'3" x 12'	985	10	99	-	-	-	1,084	1,084	-	-	-
			T.E.	49yds	14'10" x 10'	4,160	10	416	-	-	-	4,576	4,576	-	-	-
			T.E.	10½ yds	10'4" x 9'6"	675	10	67	-	-	-	742	742	-	-	-
			T.E.	27yds	10' : 16'3"	3,070	10	307	-	-	-	3,377	3,377	-	-	-
			T.E.	3yds	17' : 16'3"	325	10	33	-	-	-	358	358	-	-	-
			T.E.	15yds	16'3" : 12'10"	1,450	10	145	-	-	-	1,595	1,595	-	-	-
			T.E.	40yds	12'10" : 12'10"	2,460	10	246	-	-	-	2,706	2,706	-	-	-
			T.E.	Junctions R.S.J.	5	6,510	10	651	-	-	-	7,161	7,161	-	-	-
			T.E.	R.S.J. Constructions	4	3,055	10	306	-	-	-	4,241	4,241	-	-	-
			T.E.	Bunker 44 yds	9' sq.int.	4,230	10	423	-	-	-	4,653	4,653	-	-	-
			T.E.	Bunker top formation	1	135	10	13	-	-	-	148	148	-	-	-
			T.E.	Concreting, etc.		1,165	10	116	-	-	-	1,281	1,281	-	-	-
			TOTAL SECTION 17				33,434	9.1	3,038	-	-	36,522	36,140	374	12½	47
19	31a	M	<u>Underground Equipment (Subsidiary Transport)</u> Feeders, raming equipment, etc.	T.E.			8,700	10	870	-	-	9,570	-	9,570	12½	1,196
			TOTAL SECTION 19				8,700	10	870	-	-	9,570	-	9,570	12½	1,196
20	31a	M	<u>Underground Equipment (Face - Stowing)</u> <u>Dirt Preparation Station</u> Crusher, bar screen, plate feeder, picking belt, etc. Bunker Chute, level indicator, pumps, etc. Prepared Dirt Conveyor & Motor	(T. & T.E.) T.E. (T. & T.E.)			10,905		640	-	-	11,545	-	11,545	12½	1,443
			Mine Car Tippler with Motor	(T. & T.E.)			1,550	10	155	-	-	1,705	-	1,705	12½	212
			Electrics	(T. & T.E.)			4,510	2½	120	-	-	4,630	-	4,630	12½	580
			Electrics	(T. & T.E.)			2,155	10	58	-	-	2,213	-	2,213	12½	277
			Electrics	T			8,064	2½	201	-	-	8,265	4,141	4,124	12½	516
			<u>No.2 South Moss Return Level</u> Belt Conveyor, pump, etc. Tippler with motor Electrics Stowing machine Stowing pipes	T.E. T.E. T.E. T.E. T.E.			5,215	10	521	-	-	5,736	-	5,736	12½	717
				T.E.			2,155	10	215	-	-	2,370	-	2,370	12½	296
				T.E.			4,770	10	477	-	-	5,247	3,157	2,090	12½	261
				T.E.			1,905	10	191	-	-	2,096	-	2,096	12½	262
				T.E.	240 yds		2,190	10	219	-	-	2,409	2,409	-	-	-
			TOTAL SECTION 20				43,419	6.5	2,805	-	-	46,224	9,707	36,517	12½	4,564
			Less Plant Pool Equipment included									3,750		3,750		
												42,474	9,707	32,767		4,564
			TOTALS ALL SECTIONS									92,316	45,855	46,461	12½	5,807
			Less Plant Pool Equipment included									3,750		3,750		
			TOTAL EXPENDITURE TO BE APPROVED									88,566	45,855	42,711		5,807



APPENDIX V DIRECT PROGRESS SCHEDULE

Section	Sub Section	Branch	DESCRIPTION	1960	1961
17	32a	M	01 - Tippler Station		
	32a	M	02 - Crushing Plant House		
	32a	M	03 - Crusher Station		
	32a	M	04 - Rise Road to Bunker Top		
	32a	M	05 - Bunker Top		
	32a	M	06 - Dirt Bunker		
	32a	M	07 - Loading Station		
17	31a	M	08 - Drivage and General Equipment		
			8690' Horizon Dirt Preparation Station Drivages		
19	31a	M	09 - Underground Equipment (Subsidiary Transport)		
20	31a	M	10 - Underground Equipment (Face - Stowing)		

APPENDIX VII

PHASING OF EXPENDITURE

(Including Estimate of Interest on Capital Expenditure payable during construction).

Financial Year (a)	Estimated Expenditure during the year		Cumulative Expenditure on Capital Account up to end of previous year (d)	Interest on (c) at 2½% (e)	Interest on (d) at 5% per annum (f)	Total Interest for the year (g)
	On Revenue Account (b)	On Capital (c)				
1960	£ 24,896	£ -	£ -	£ -	£ -	£ -
1961	20,959	42,711	-	1,068	-	1,068
Total new Expenditure per Appendix IV	45,855	42,711	Total Interest on Capital During Construction			1,068

Construction Period

APPENDIX V & VII  
 NATIONAL COAL BOARD  
 WEST MIDLANDS DIVISION  
 NO. 1 (NORTH STAFFS.) AREA  
 CHATFIELD WHITEFIELD COLLIERY  
 8690' HORIZON DIRT DISPOSAL SCHEME



APPENDIX IX TO F.631/R(1957)

West Midlands Division  
No.1 (North Staffs.) Area  
Chatterley Whitfield Colliery  
8690' Horizon Dirt Disposal Scheme

NATIONAL COAL BOARD

THE SUBMISSION OF CAPITAL PROJECTS FOR APPROVAL

TOTAL INVESTMENT

	£.
1. New Capital Expenditure (As per Appendix IV)	42,711
2. Interest on Capital during Construction (As per Appendix VII)	1,068
3.to 7 Not Applicable in this context	-
	<hr/>
8. Net Capital Investment for this scheme	<u>43,779</u>
	<hr/>
9. Major Revenue Expenditure for this scheme	<u>45,855</u>



Appendix P

West Midlands Division  
No.1 (North Staffs.) Area  
Chatterley Whitfield Colliery  
8690' Horizon-Dirt Disposal Scheme

NATIONAL COAL BOARD

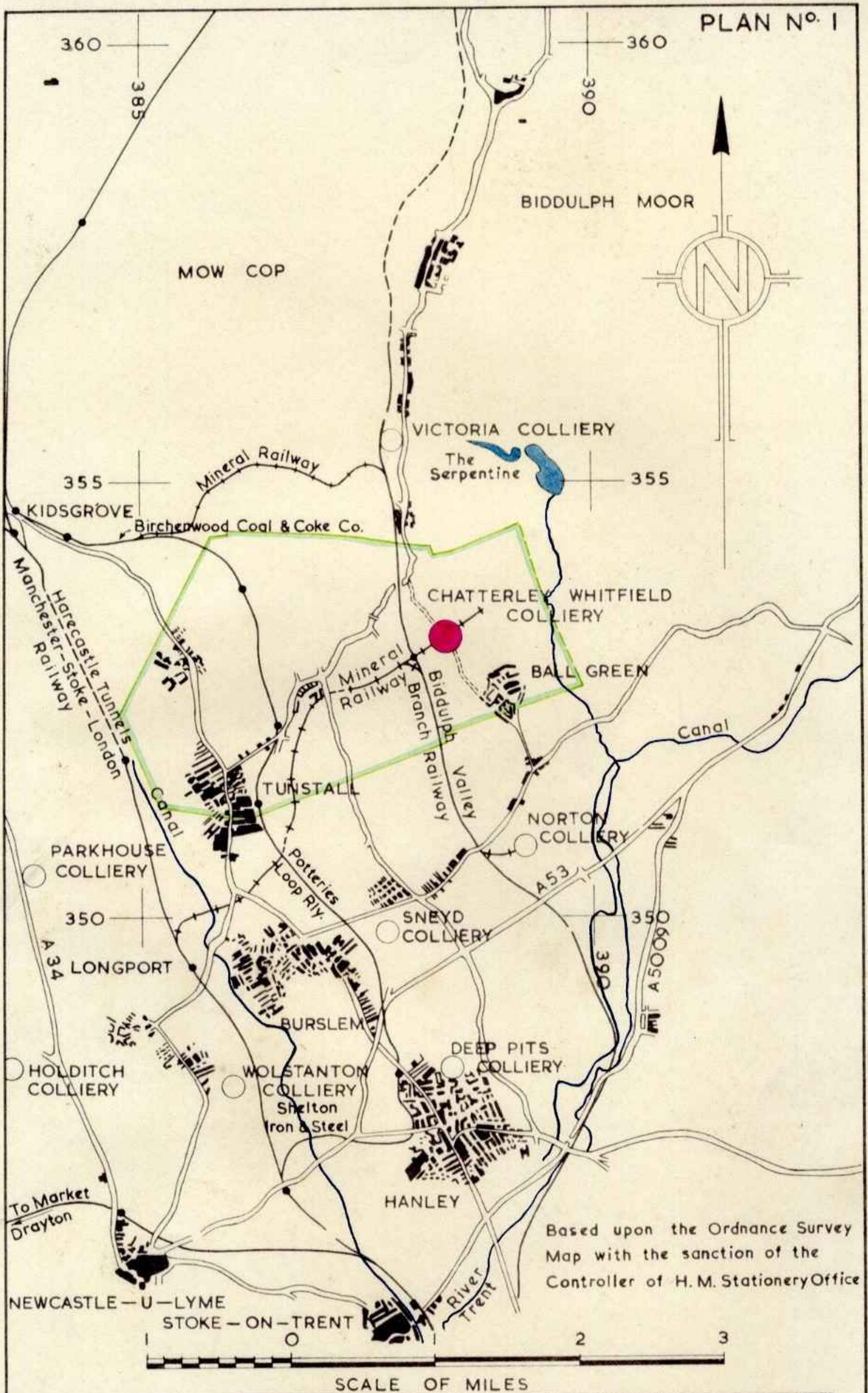
THE SUBMISSION OF CAPITAL PROJECTS FOR APPROVAL

ESTIMATE OF THE ANNUAL COST OF OPERATING THE PLANT AND ASSOCIATED EQUIPMENT

	<u>Annual Cost</u> <u>£</u>
Wages (inc. Workman's Coal, National Insurance, Holiday Pay, etc.)	8,400
General Stores	500
Power Supply	1,920
Depreciation	5,807
	<hr/>
Total Operating Costs	16,627
Interest on Capital at 5%	2,189
Amortisation of Capitalised Interest at 3%	32
	<hr/>
Total Costs	<u>18,848</u>

	<u>s.</u>	<u>d.</u>
COST PER TON OF PREPARED STOWING DIRT (based upon scheduled output of 800 tons per day)	1.	11.6
COST TO THE COLLIERY PER TON OF DIRT (based upon above costs, less wages, etc.)	1.	1.1
COST TO THE COLLIERY PER TON OF SALEABLE OUTPUT (based upon an estimated output of 700,000 tons per annum)		3.6





NATIONAL COAL BOARD  
WEST MIDLANDS DIVISION No. 1 NORTH STAFFS: AREA

**CHATTERLEY WHITFIELD COLLIERY  
LOCATION PLAN**

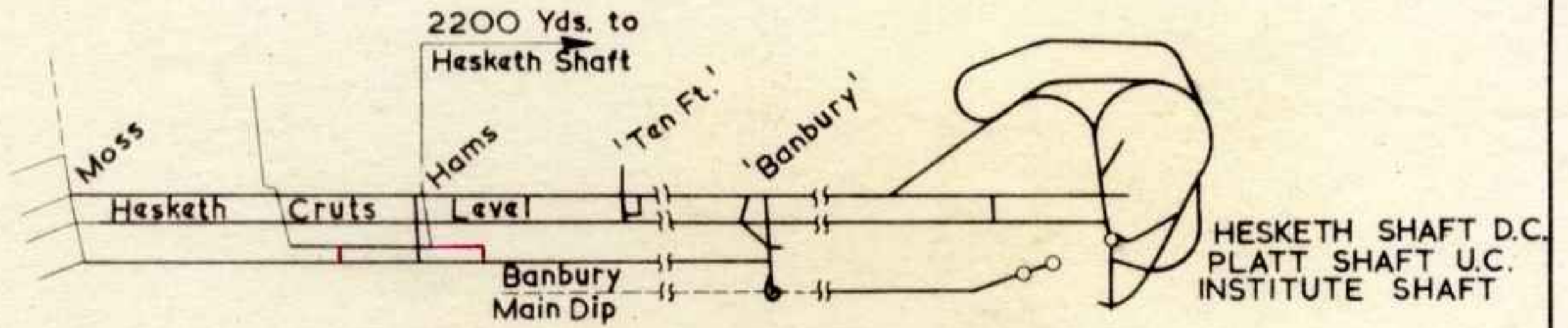
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TRACED BY  
CHECKED BY  
PASSED BY

A.A.L.  
A.L.  
A.A.L.  
G.E.H.

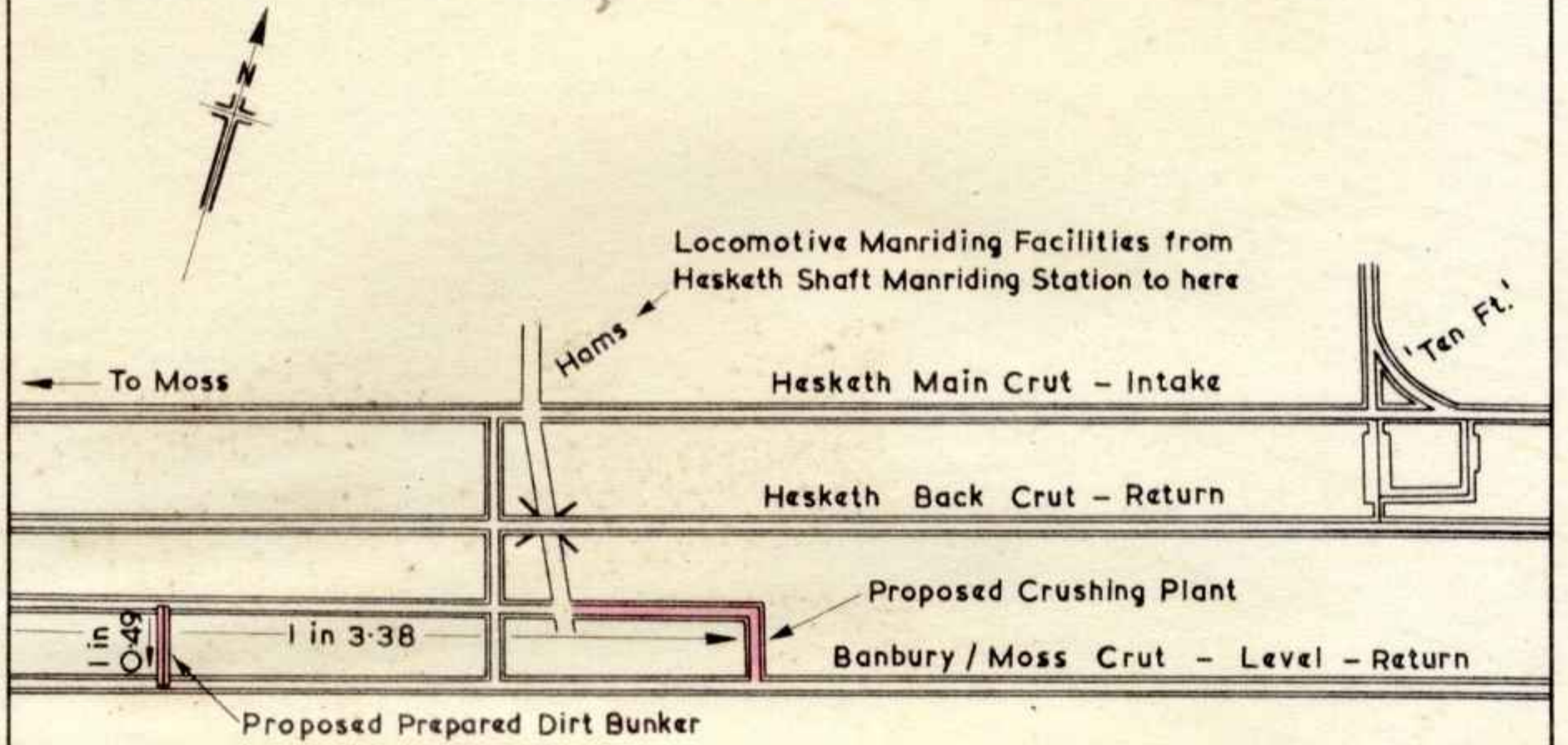
SCALE  
1-63360  
DATE  
NOV. 1958

AREA PLANNING OFF  
DRAWING No.  
1192/51

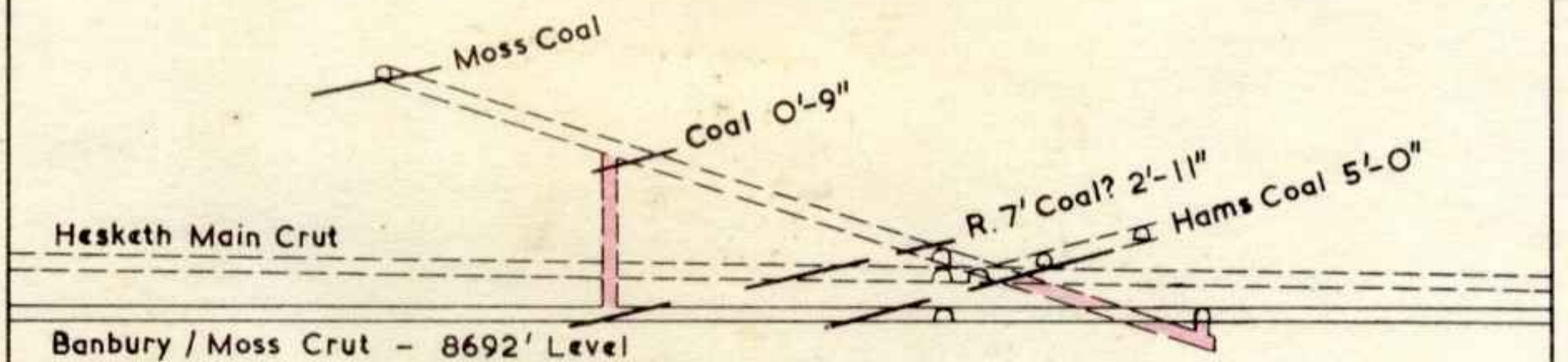




PLAN  
Scale : 6 Inches to 1 Mile



PLAN  
Scale : 1/2500



ELEVATION  
Scale : 1/2500

Existing Roadways - Uncoloured  
Proposed Roadways - Coloured Red

<b>NATIONAL COAL BOARD</b> WEST MIDLANDS DIVISION No.1 NORTH STAFFS: AREA			
<b>CHATTERLEY WHITFIELD COLLIERY</b>			
8690' Horizon - Proposed Dirt Preparation Plant Location Plan			
DRAWN BY TRACED BY CHECKED BY PASSED BY	A.A.L. A.L. A.A.L.	SCALE AS SHEWN	AREA PLANNING OFF <b>DRAWING No.</b> 1429/50
		DATE JANUARY 1960	



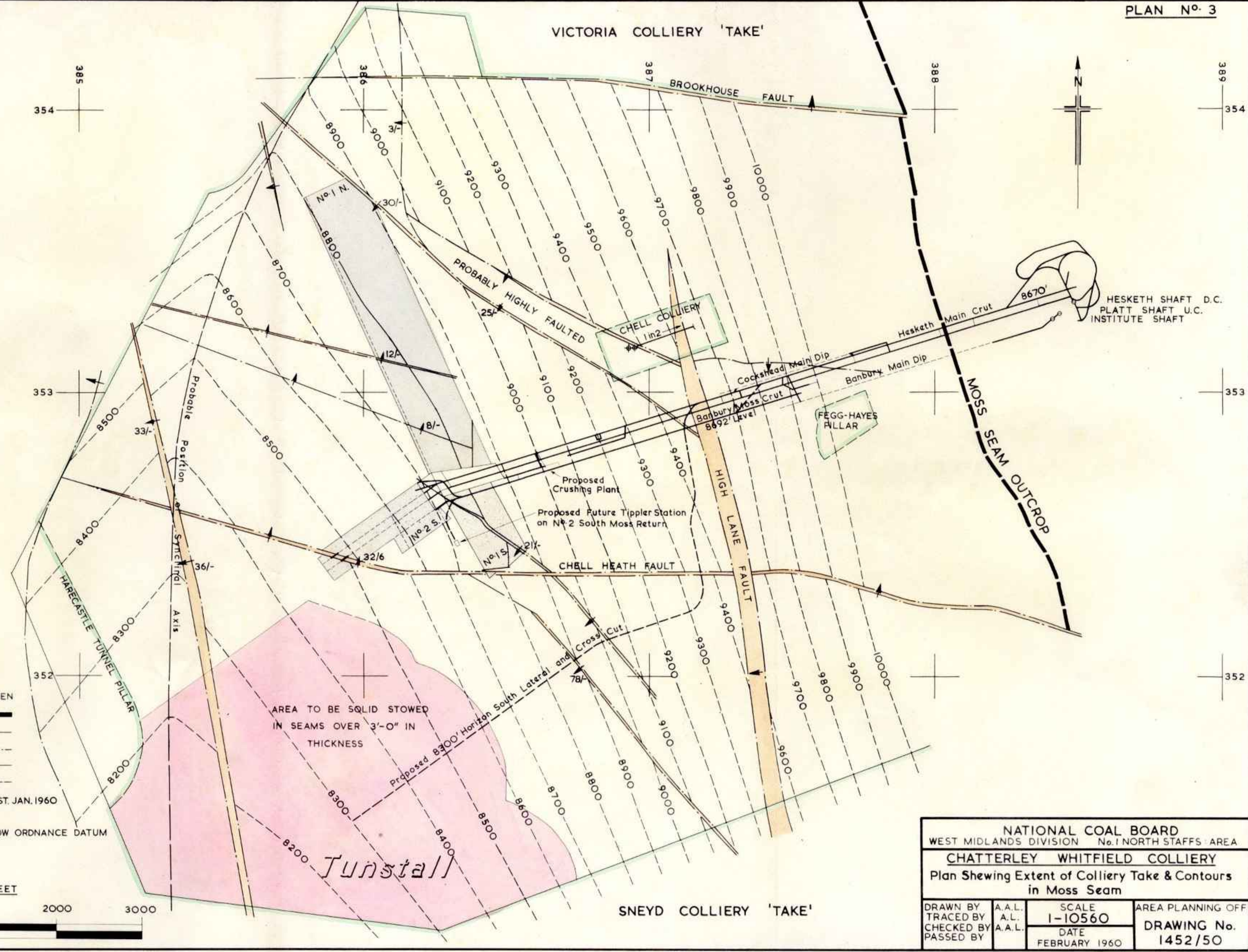
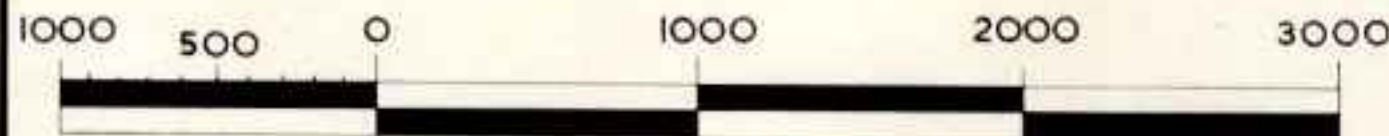
79'	Moss	
10'	Yard	
11'	Ragman	
	Hams	
50'	Surface	10580
	Bellringer	10502
	Ten Feet	10319
	Bowling Alley	10245
	Holly Lane	10175
	Hardmine	10080
	Flatts	9785
	Banbury	9643
	Cockshead	9469
	Whitehurst	9349
	Bullhurst	9136
	Winpeny	9080
	Bricklin	9020
	Diamond	8891
	Silver	8795
	Brights	8670
	Sump	8638

MOSS SEAM SECTION	
	Shale
	Bass 1'-6"
	COAL 1'-6"
	Dirt 1"
	COAL 3'-0"
	Fireclay

REFERENCE

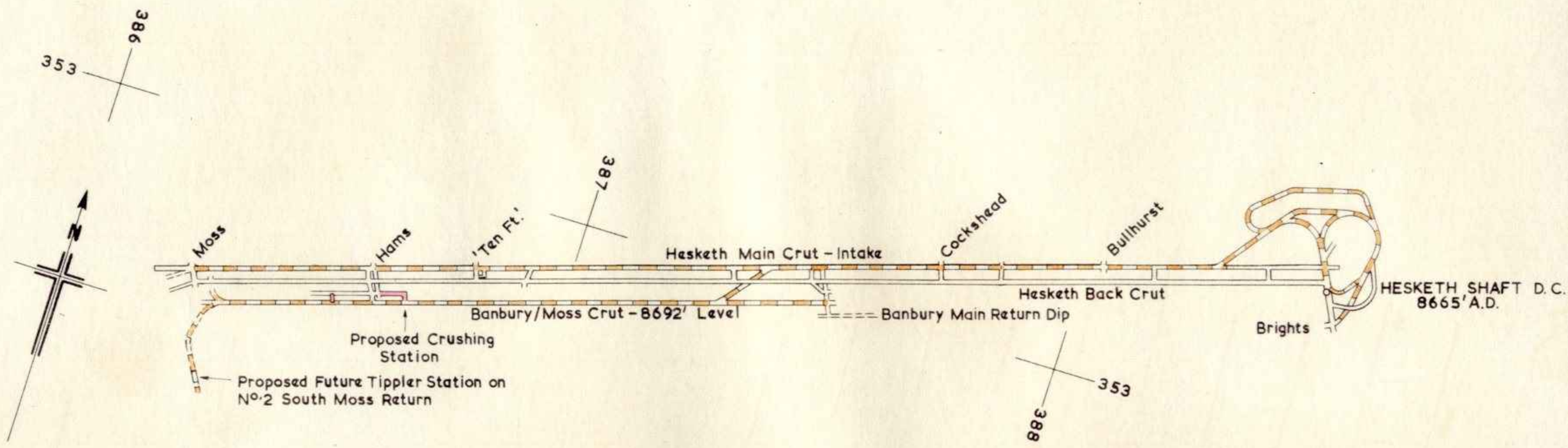
- PROPOSED TAKE EDGED GREEN
- PROJECTED SEAM OUTCROP
- PROVED FAULTS
- PROJECTED FAULTS
- PROVED CONTOURS
- PROJECTED CONTOURS
- MOSS SEAM WORKINGS SHOWN AS AT 1 ST. JAN. 1960
- DATUM FOR LEVELS 10,000 FT. BELOW ORDANCE DATUM

SCALE OF FEET



NATIONAL COAL BOARD		
WEST MIDLANDS DIVISION No. 1 NORTH STAFFS AREA		
CHATTERLEY WHITFIELD COLLIERY		
Plan Shewing Extent of Colliery Take & Contours in Moss Seam		
DRAWN BY	A.A.L.	SCALE
TRACED BY	A.A.L.	1-10560
CHECKED BY	A.A.L.	DATE
PASSED BY		FEBRUARY 1960
AREA PLANNING OFF		DRAWING No.
		1452/50





All run-of-mine dirt gathered to Hesketh Main Crut from districts - E.R.H.'s., etc.  
 Denotes proposed dirt transport system - Locomotive Haulage

<b>NATIONAL COAL BOARD</b> WEST MIDLANDS DIVISION No. 1 NORTH STAFFS: AREA			
<b>CHATTERLEY WHITFIELD COLLIERY</b> Proposed Dirt Transport System 8690' Horizon			
DRAWN BY TRACED BY CHECKED BY PASSED BY	A.A.L. A.L. A.A.L.	SCALE 1-10560	AREA PLANNING OFF <b>DRAWING No.</b> 1449/50
		DATE FEBRUARY 1960	

PLAN No. 4