

Phase I Environmental and Mining Report

Land at Nine mile Point Industrial Estate, Caerphilly, NP11 7HZ.

For

Hazrem Ltd



Contact Details:

Enzygo Ltd.
The Granary
Woodend Lane
Cromhall
Gloucestershire
GL12 8AA

tel: 01454 269237
fax: 01454 269760
email: steve.rhodes@enzygo.com
www: enzygo.com

Phase I Environmental and Mining Report

Project:	Land at Nine Mile Point Industrial Estate, Caerphilly, NP11 7HZ
For:	Hazrem Ltd
Ref:	CRM.414.002 GE R 0001
Status:	Final
Date:	April 2015
Author:	Richard Hamilton – Associate Director
Reviewer:	Steve Rhodes - Technical Director

Disclaimer:

This report has been produced by Enzygo Limited within the terms of the contract with the client and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

Enzygo Limited Registered in England No. 6525159

Registered Office Stag House The Chipping Wotton-Under-Edge Gloucestershire GL12 7AD

TABLE OF CONTENTS

1.0 INTRODUCTION	1
<i>Background</i>	1
<i>Proposed Development</i>	1
<i>Objectives</i>	1
<i>Risk Classification</i>	1
2.0 SITE SETTING	2
<i>Current Site Description</i>	2
<i>Surrounding Area</i>	2
3.0 SITE HISTORY	4
4.0 ENVIRONMENTAL SETTING	6
<i>Ground Conditions</i>	6
<i>Groundwater</i>	6
<i>Coal Mining</i>	7
<i>Non Coal Mining and Cavities</i>	8
<i>Ground Workings</i>	9
<i>Hydrology</i>	9
<i>Radon Risk Potential</i>	9
<i>Natural Hazards Finding</i>	9
<i>Sensitive Land Uses</i>	10
<i>Industrial Land Uses</i>	10
5.0 CONSULTATIONS	11
<i>Regulatory Database</i>	11
<i>Landfill Sites and Waste Treatment Sites</i>	11
6.0 PRELIMINARY CONCEPTUAL MODEL	12

7.0 DISCUSSIONS AND RECOMMENDATIONS	13
<i>Geotechnical Discussion and Recommendations</i>	13
<i>Environmental Discussion and Recommendations</i>	14
<i>Recommendations</i>	14
Appendix A – Drawings.....	1
Appendix B – Desk Study Information	2
Appendix C – Coal Mining Information	3
Appendix D – Coal Mining Mine Abandonment Plans	4

1.0 INTRODUCTION

Background

- 1.1 Enzygo Limited has been commissioned by Hazrem Ltd to prepare a Phase I Environmental and Mining Report for a proposed SRF (solid Recovered fuel)/ RDF (refuse derived fuel) production facility, at Nine Mile Point Industrial Estate, Caerphilly, NP11 7HZ.

Proposed Development

- 1.2 An initial existing site Layout plan has been provided. This has been incorporated into the site location plan included in the Drawing section of this report.

Objectives

- 1.3 The objectives of the study are to:
- Review historical plans, geology, hydrogeology, site sensitivity, and mining records in order to complete a Desk Study. A Groundsure report has been provided, a copy of which is included in Appendix A;
 - Review the coal mining report and mine abandonment plans for the site. Copies of which are given in Appendix B;
 - Review available BGS logs for the site and the surrounding area. Copies of which are given in Appendix C;
 - Assess the implications of any potential geotechnical risks and development constraints associated with the site in relation to the future use of the site; and
 - Provide a factual and interpretative report relating to the desk study.
 - Provide preliminary geotechnical recommendations and initial assessment of ground engineering considerations.

Risk Classification

- 1.4 Where adverse risks from ground instability are identified these are discussed within the report.

2.0 SITE SETTING

Site Description

Item	Description
Site Address	Land at Nine Mile Point Industrial Estate, Caerphilly, NP11 7HZ
National Grid Reference	Centre of the site ST 1922691293.

Current Site Description

- 2.1 The following site description has been compiled from the current maps and aerial photographs.
- 2.2 The site is currently undeveloped and has a number of trees and vegetation within and around it.
- 2.3 The western edge containing trees is raised upon a bank, the rest of the site is relatively flat with small undulations.
- 2.4 There site is bordered by an industrial unit to the east and roads to the south and west.
- 2.5 Across the road to the west there are a number of industrial units and a car park.
- 2.6 To the north and south of the site across the adjacent road is an area of woodland.
- 2.7 The Sirhowy Rivers runs parallel to the southern boundary of the site beyond the woodland.
- 2.8 A area of gravel located on the site is understood to be former soakaway.
- 2.9 To the north of the site there is coal shaft. Base on the walkover this may be marked by a change in vegetation.

Surrounding Area

- 2.10 Land uses surrounding the site are summarised as follows:

Direction	Land Use
South	Road, Woodland and River.
East	Industrial units and a car park.
West	Road and industrial units.
North	Road and woodland.

- 2.11 The geotechnical risks for the site are associated with the disused mine shaft located within the northern section of the site and the adjacent mine shaft located to the north east of the site and the potential Made Ground across the site associated with the spoil from the mine. .

3.0 SITE HISTORY

3.1 A review of historical Ordnance Survey maps and information pertinent to the site and within a 250m radius is summarised below:

Potentially Contaminative Historical Land Use		
Map Edition	Site	Surrounding Area
1879-1901	North part of the site is shown as woodland. A Tramway is shown dissects the site from the east to the west. The southern part of the site and to the south of the tramway is open fields with four drains draining south into a further drain which drains south into the River Sirhowy located on the southern boundary of the site. A footpath is shown on the northern boundary of the site and trending west east across the site.	Unreferenced Road 50m N. Glan-yr-Afon Farm 20m S. Open fields surround the site. Railway shown 120m S.
1916-1920	The site comprises Nine Mile Point Colliery shown to the north of the site. A mine shaft is shown in the northern part of the site. Railway siding are shown to the south of the colliery buildings and central part of the site and spoil heaps to the south.	Old tramway shown 90m NE of the site connecting to two quarries the closest is 240m NE. The main Nine Mile Point Colliery buildings are shown 0m N and E. With two additional mine buildings within the site. These are thought to be associated with the mine shafts and the railway collection and delivery areas. Two further shafts are showing 10m E and 80m E. A water reservoir is shown 100m NW associated with the mine. Tanks are shown 50m NW.
1938-1948	No significant changes	Spoils heaps are shown to the south west of the site supplied by an aerial ropeway from the mine.
1960-1965	An additional building associated with the railway siding is shown in the central western part of the site. A drain is shown in the north western part of the site flowing to the east. Numerous spoil heaps and Made Ground are shown to the south of the site and in-between the main railway siding and building to the north and the river to the south. Pylons are shown coming into the site from the west. Google records indicate that the colliery closes in 1964.	The tanks are not shown. Further spoil heaps are shown on the former open filed and Glan-yr Afon farm 0m S of the site and are connected to the mine by aerial conveyors. The entire area to the south of the mine buildings up to in excess of 250m is shown as spoils heaps.
1974	No mine or shafts are shown. The entire site has been re-graded and is shown as level site with a road embankment to the N and the stepped embankment to the south with track running west to east. The River Sirhowy has been diverted to be 50m S of the site. A track is shown to dissect the site from the NW to the E.	The areas has been re graded to form a plateau between the road to the north and the newly diverted river coarse to the south.
1982	The track is not shown.	The eastern and southern boundaries of the site are shown by roads. The previous track is no longer shown. The undeveloped parcel of land to the east of the site which was also re-graded as part of the redevelopment works is now occupied

		by three factories.
1988	Site is shown as part of the Nine Mile Point Industrial Estate	The eastern road is shown as Green Meadow road and the southern road shown as Heol Tir Ton. A new Industrial building with associated car parking to the north is shown 50m E of the site. An electrical substation is shown 50m SE of the site. Further industrial units are shown 100m E.
1993	No changes.	The industrial unit to the east has enlarged and now extends up to 0m E of the site. The Industrial unit to the west has also enlarged to the south and west.
2002	A small area of land on the western boundary of the site has been cornered off opposite the access road to the adjacent industrial estate on the western boundary of the site. Google images indicate the re graded land for the site has been subject to the drainage system which drains the site into a drain running down the eastern boundary of the site. Google images of the 2010 also show clearly differing vegetation growth indicating the possible position of a mine shaft cap underneath.	No significant changes
2010-2014	The small area of land shown on the western boundary of the site is not shown.	No changes

- 3.2 There is a low risk associated with the colliery 500m south of the site and any associated workings underneath the site. There is a moderate risk given the presence of a shaft on the site and a shaft close to the site. The colliery is shown as accessing the coal from shafts and not from the surface. It is therefore likely that the depth of the workings will be in excess of 30m at the site.
- 3.3 There is a low risk associated with the previous drains and tramway across the site given the considerable regarding of the site during the life time of the mine and the age of these features.
- 3.4 There is a low risk associated with the potential for Made Ground associated with spoil across the site being used as part of the re-grading exercise during the 1970's.
- 3.5 There is moderate risk associated with the backfill and/or treatment of the shafts which will require further clarification.
- 3.6 No other significant risks are identified.

4.0 ENVIRONMENTAL SETTING

Ground Conditions

- 4.1 The British Geological Survey (BGS) indicates that the site is underlain by the following geological sequence:

Geological Unit	Type	Description	Aquifer Classification
Drift.	Glaciofluvial Deposits. (northern section)	Sand and Gravel.	Secondary (A).
	Alluvium (southern section).	Clay, Silt, Sand and Gravel	Secondary (A).
Solid.	Birchdir Member.	Sandstone with mudstone and coal bands at depth.	Secondary (A).

- 4.2 Made Ground has not been recorded in the Groundsure information, however re-grading has been encountered across the site associated with the closure of the mine post 1964. It is therefore likely that substantial Made Ground is present across the site and this is likely to be associated with the spoil heaps from the mine.
- 4.3 There are no records of landslip within 500m of the site.
- 4.4 Records of background soil chemistry do not show any elevated concentrations, however this does not take into account the presence of Made Ground on the site.
- 4.5 BGS boreholes records for the site and the surrounding area indicate the presence of coal seams at depths ranging from 150m to 410m. Based on these records the coal seams range in thickness from 1m to 2m thick.
- 4.6 A fault line is shown to dissect the site from the north east to the south west. The displacement is unknown however it has been recorded in the shaft records for the mine.

Groundwater

- 4.7 The recorded permeability of the drift geology is very low to very high reflecting the variable nature of the materials with the low permeability reflecting the cohesive Alluvium and the high permeability reflecting the Glaciofluvial deposits. The recorded permeability of the solid geology depends on the classification as a sandstone, siltstone or mudstone and varies

accordingly from high to moderate and has fracture flow type. The permeability of the solid materials underneath the site are dominated by the sandstone and is generally high.

- 4.8 The Ground Sure Report shows the site to be outside of any Source Protection Zones.
- 4.9 There are no groundwater abstraction licenses within 500m of the site.
- 4.10 BGS records show the site to have a low risk to groundwater flooding based on geological conditions. Historically this is likely to be associated with the Alluvium and the previous water-coarse to the south of the site, however the site has been subject to substantial land raising associated with the regarding of the site post mine closure.

Coal Mining

- 4.11 The ground sure report has identified coal working associated with the site. A coal mining report was obtained and is given in Appendix C. The Coal Mining report indicates that the site is underlain by 5 coal seams at shallow depths ranging from 150m to 410m depth and last worked in 1962 to 240m depth and last worked in 1962, which links to the collieries closure in 1964. The Coal Authority has concluded that any ground movements from these coal workings should have stopped.
- 4.12 The Coal Mining report indicates that there are two coal mine entries/shafts within 20m of the site.
- 4.13 The first shaft is located within the site (Ref 319191-0010) and was originally filled with washery shale in 1965 and covered with a reinforced cap in 1970.
- 4.14 The second shaft is located 10m east of the site (319191-002) was conveyed to Islwyn Borough council in 1971.
- 4.15 Further records obtained from the Coal Authority (Shaft Plan and data sheets) indicates that both the shafts were backfilled with shale and both have a reinforced concrete cap constructed in 1970. A copy of the Shaft Plan and Data sheets are included in Appendix C.
- 4.16 further records obtained from the Coal Authority and as part of the mine abandonment plan assessment obtained shaft borehole records of the site, indicating that the shafts identified are up to 6.4m diameter and are referenced as west and east shaft. A further shaft was also sunk further to the east of the site to access coal at deeper depths including the Rock Vein. The shaft records also indicates a superficial material thickness of 11 yards (10.9m).
- 4.17 The mining abandonment plans also show the extent and depth of the working associated with each seam located in the shaft records. Copies of the mine abandonment plans are

given in Appendix D. Based on these the workings are shown at depths in excess of 150m depth and associated the Black Vein, Meadow Vein, Rock Vein, Big Vein, and Lower Black Vein all of which are below 150m depth. Historical information indicates that the colliery is shown as disused in 1964, which is why the coal mining report has reported as last workings date of 1962.

- 4.18 Further information was also collected from the BGS and includes two boreholes logs associated with the shaft records recorded by the Coal Authority. The records for the Coal Authority are clearer and have therefore been used instead. Copies of these shaft records/ logs are given in Appendix D. These logs confirm the presence of coal, with the Lower Black, Black and Meadow veins shown below 150m depth and being the main seams. A higher seam is also shown at depths of approximately 90m bgl however given the thickness less than one yard it is considered that this was not worked. This information ties up with the depth recorded in the Coal Mining report of approximately 150m bgl indicating that the lower seams have been worked.
- 4.19 Given the depth of the worked coal seams (in excess of 150m deep) and the thickness of the seams up to 2m thick, the recorded thickness of the superficial materials (11m) any collapse or Ground surface movements of these deeper workings should not affect the surface and any movement should have ceased.
- 4.20 The remaining risk is associated with the presence of the coal shaft within the site. It has been confirmed that these has been backfilled with shale and a reinforced cap constructed above the site. The position of this shaft will need to be confirmed on site to allow a no built zone to be established around the shaft.
- 4.21 Based on the thickness of the superficial materials (11m) and the diameter of the shaft (6.5m) and a 45 degree repose angle from the superficial/ bedrock interface as recommended in Ciria Special publication 32 (Construction over abandoned mine workings) it is recommended that a 14.25m no construction zone is given from the centre of the shaft.
- 4.22 There has no recorded subsidence in the area.
- 4.23 There is no record of a mine gas emission requiring action by the Coal Authority.

Non Coal Mining and Cavities

- 4.24 There are no recorded non coal mining activities within 1000m of the site.
- 4.25 There are no recorded cavities within 1000m of the site.

Ground Workings

- 4.26 There are no active ground workings within 250m of the site.
- 4.27 The following historic ground workings are identified within 250m of the site:

Details	Distance	Notes
Colliery, refuse heaps, reservoir and old shafts	On site to 235m E	All are associated with the colliery and the regarding of the site and are of low risk to the site. A site investigation is required to confirm the thickness of the regarded Made Ground (former spoil heaps).
Disused quarry	240m E	Dismissed in the historical section based on distance to the site.

- 4.28 No new risks are identified from the ground workings.

Hydrology

- 4.29 There are no water courses on the site.
- 4.30 A Primary River called the River Sirhowy is located 73m south of the site. This was redirected in the 1970's from its former course within the south of the site. A river quality of this river has been recorded 1410m east downstream of the site with a general biological quality grade B (Good) in 2008 and a general chemical quality grade B (Good) in 2008.
- 4.31 Environment Agency records show that the site is not located within a flood zone.

Radon Risk Potential

- 4.32 The Groundsure GeoInsight Report indicates that the site is outside a Radon Affected Area therefore no protective measures are necessary.

Natural Hazards Finding

- 4.33 BGS information presented within the Groundsure Geosight report identifies the following Ground conditions:

Hazard	Risk Designation (Groundsure)
Coal Mining	dismissed in the coal mining section.
Collapsible Ground	Negligible to very low
Compressible Ground	Negligible to moderate to high.

Ground Dissolution	Null.
Landslide	Very Low.
Running Sand	Very Low to Low.
Swelling / Shrinking Clay	Negligible to Very low.

4.34 The moderate risk of compressible ground is associated with the cohesive nature of the Alluvium.

4.35 There are no further geotechnical ground risks which have not been described in the Coal Mining Section.

Sensitive Land Uses

4.36 The site comprises undeveloped land and is considered to be of low sensitivity.

4.37 English heritage identifies no historical features on the site.

Industrial Land Uses

4.38 Industrial land uses within 250m of the site are limited to a Electric Substation which is not considered a significant risk to the site and light industrial uses associated with the surrounding Nine Mile Point Industrial estate.

4.39 The Groundsure EnviroInsight Report indicates that there are no open or closed fuel stations within 500m of the site.

4.40 No high pressure oil/gas pipelines within 500m of the site.

4.41 No new risks are identified from the register of industrial land uses.

5.0 CONSULTATIONS

Regulatory Database

- 5.1 The following information has been obtained from a commercially available environmental database.

Environmental Permits, Incidents and Registers	0 -250m	250-500m	Details
Site determined as contaminated land	0	0	Not applicable
Authorised industrial processes	0	0	Not applicable.
Registered radioactive substances	0	0	Not applicable.
Enforcements, prohibitions or prosecutions	0	0	Not applicable.
Pollution Incidents	2	0	207m E and 208m E Category 2 Significant risk to water and impact). Given distance no risk to the site.
Consents issued under the Planning (Hazardous Substances) Act 1990	0	0	Not Applicable.
Control of Major Accident Hazard (COMAH)/ Notification of Installations Handling Hazardous Substances (NIHHS) sites	0	0	Not Applicable.
Records of Licensed Discharge Consents	0	1	326m W Sewage discharge into Sirhowy River. There is a closer discharge however has expired 152m SE. No risk to the site.

- 5.2 No significant risks are identified from the regulatory data base.

Landfill Sites and Waste Treatment Sites

- 5.3 There are no operational or historic landfill sites within 500m of the site.
- 5.4 There are no operational and non-operational waste treatment, transfer or disposal sites within 500m site.
- 5.5 No significant risks are identified from waste activities.

6.0 PRELIMINARY CONCEPTUAL MODEL

Source	Location	Exposure Pathway	Potential Receptor	Probability of Exposure	Details
Human Health					
Asbestos, metals and hydrocarbons.	Potential Made Ground on site from regarding exercise and colliery spoil.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	Normal construction PPE will address risk under CDM.
			Site users.	Low	Made Ground on site likely to be inert.
Hydrocarbon and metals.	Migration from off-site sources.	Ingestion dermal and inhalation.	Construction Workers.	Low	Made ground surrounds site associated with regarding exercise.
			Site users.		
Ground Gas.	Historic Landfills.	Inhalation & Explosive.	Construction Workers.	Dismissed.	No source identified.
			Site users.		
	Made Ground.	Inhalation & Explosive.	Construction Workers.	Dismissed.	No confined access likely.
			Site users.	Negligible.	Unlikely to be significant highly putrescible matter.
	Mine gas	Inhalation & Explosive.	Construction Workers.	Dismissed.	No confined access likely.
			Site users.	Negligible.	Given the shaft has been backfilled and treated it is unlikely there will be a risk associated with mine gas.
Groundwater					
Hydrocarbon and metals.	Potential spillage on site.	Vertical Migration.	Groundwater.	Negligible.	Significant source unlikely. No evidence of spillages.
Surface Water					
Hydrocarbon and metals.	Potential spillage on site.	Horizontal Migration.	River Network.	Negligible	Significant source unlikely. No evidence of spillages.
Environmental Receptors					
On site contaminants	Ingestion dermal and inhalation.		Ecology.	Dismissed.	No sensitive ecology designation.
	Direct.		Archaeology.	Dismissed.	None present.
	Direct.		Geology.	Dismissed.	None present.
	Phytotoxic.		Woodland.	Dismissed.	None present.
	Phytotoxic.		Crops.	Dismissed.	None present.
	Ingestion dermal and inhalation.		Livestock.	Dismissed.	None present.
Building Services					
On site contaminants	Direct.		Historic Buildings.	Dismissed.	No receptors
	Direct.		Proposed Buildings.	Dismissed.	No source identified.
	Permeate into pipework.		Water Pipes.	Dismissed.	No source identified.

6.1 There is a low risk of Made Ground on the site associated with the regarding exercise

6.2 There is a negligible risk of Mine gas given that the mine shaft has been infilled with shale and a reinforced cap.

7.0 DISCUSSIONS AND RECOMMENDATIONS

Geotechnical Discussion

- 7.1 Based on the Coal Mining Report five coal seams have been encountered below the site at depths greater than 150m. This is supported by the BGS records, the shaft records and the mine abandonment plans/logs given in the appendices. The site is underlain by superficial materials up to 10.90m thick which is underlain by in excess of 90m of competent rock above even the shallowest coal seam. Given this there is considered to be no significant risk associated with collapse of mine working
- 7.2 Based on the historical information, the coal mining report, the shaft data report, historical plans and mine abandonment plans there is one shaft located on site and one 10m from the north eastern site boundary, both of which have been backfilled and capped with a reinforced cap in 1970. Given these have been treated the risk of collapsed mine shaft is dismissed, however it is recommended that a no construction zone is established around the shaft on the site.
- 7.3 Given the proposed usage of the site as SRF/RDF production plant with industrial load bearing structures and based on the thickness of the superficial materials and the shaft diameter it is recommended that these load bearing structures are sited 15m away from the centre of the shaft location.
- 7.4 In order to determine the position of the shaft accurately on site it is recommended that a site investigation is undertaken to determine the extent off the reinforced concrete cap and therefore the centre of the shaft. This exact extent of the reinforced cap position should be surveyed in so it can be placed on the site layout.
- 7.5 Given the depth of the working in excess of 150m and the evidence supplied by the Coal Authority and based on the coal mining report, shaft data sheets and mine abandonment plans no further deep rotary boreholes will be required to prove the depth of these workings.
- 7.6 Given the site has been subject to re-grading it is recommended that a site investigation is undertaken to determine the thickness and strength of the Made Ground in order to design appropriate foundations.

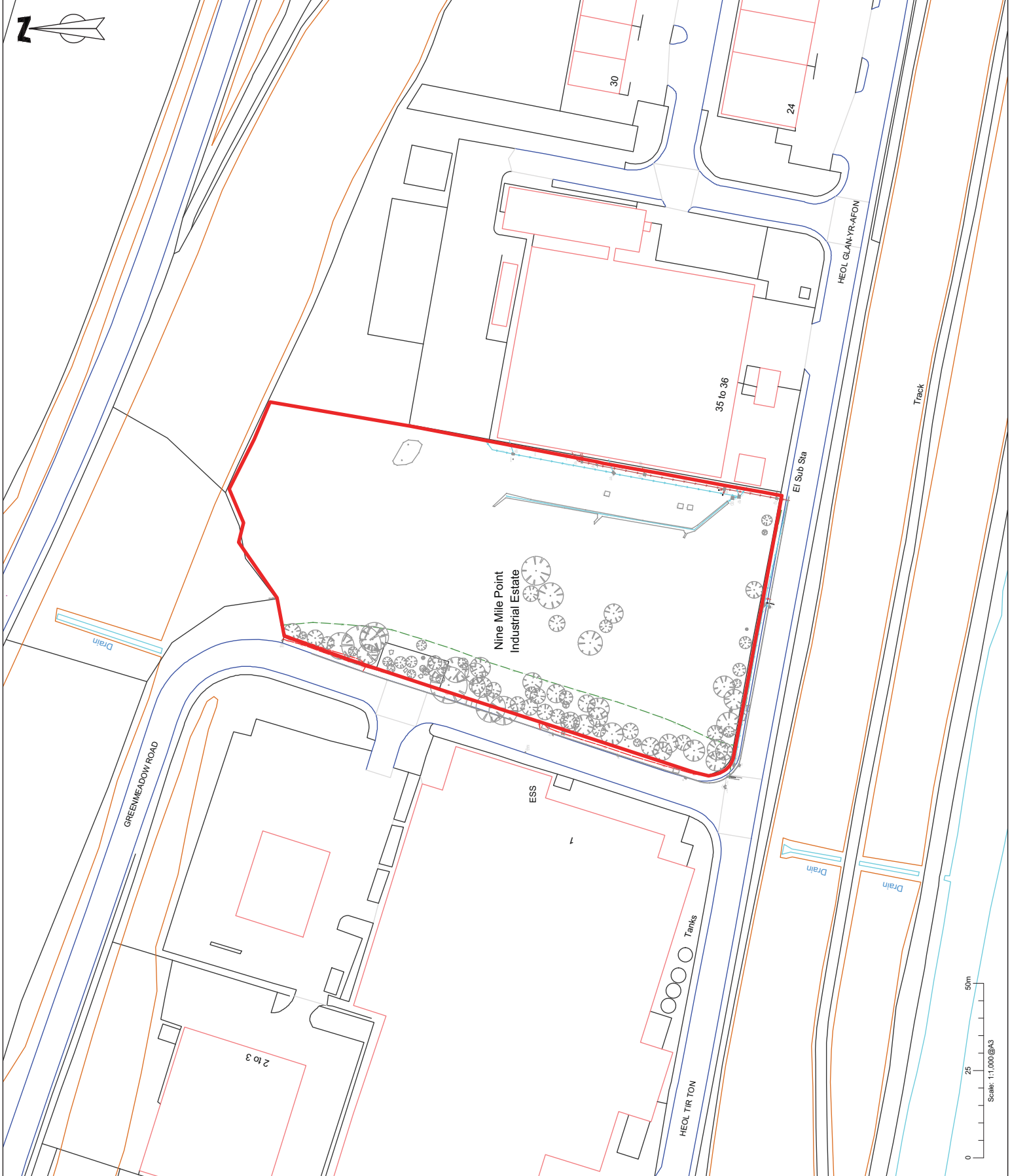
Environmental Discussion and Recommendations

- 7.7 It is considered that there is a negligible to low risk associated with land quality issues at the site. Given the proposed industrial usage of the site no remediation is expected.
- 7.8 If unforeseen contamination is encountered during construction works such as localised an Environmental consultant will be available on a 'call out' basis to undertake an assessment of risk. If 'unforeseen contamination' is encountered the discovery strategy will be to remove or cover the source using clean capping soils as it is likely to be very limited in extent and the Local Planning Authority advised.

Recommendations

- 7.9 It is recommended that an intrusive ground investigation is undertaken to determine the position of the mine shaft.
- 7.10 The intrusive investigation will also confirm the thickness of the superficial materials and depth to rock head.
- 7.11 Based on the desk study and the depth of the workings there is considered to be no risk of these workings affecting the proposed development.
- 7.12 It is considered that given the low/negligible risk from potential contamination. Appropriate environmental sampling should be undertaken to determine the soil quality.
- 7.13 The preliminary scope of the ground investigation proposed is given below:
- Carry out a trial pitting investigation and if required undertake deep boreholes to confirm the thickness of the Made Ground and superficial materials.
 - Survey in the mine shaft position.
 - Preparation of a geo-technical report based on the findings of the ground investigation providing geotechnical properties to assist with the development of the site. Provision of a 'discovery strategy' to address any localised contamination than may be encountered during site development works.

APPENDIX A – DRAWINGS



Key



Site Boundary



STEP Business Centre, Wortley Rd, Sheffield, S36 2UH

CLIENT:		Hazrem Environmental Ltd	
SCALE:	1:1,000@A3	PROJECT REF:	CRM.414.002
DRAWN:	MG	CHECKED:	BK
DATE:	Mar 2015	PROJECT:	Nine Point Mile
TITLE:		Site Boundary Plan	
FIGURE NO:		CRM.414.002.D.001	

APPENDIX B – DESK STUDY INFORMATION

APPENDIX C – COAL MINING INFORMATION

Issued by:

The Coal Authority, Property Search Services, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, NG18 4RG

Website: www.groundstability.com Phone: 0345 762 6848 DX 716176 MANSFIELD 5

ENZYGO LTD

THE GRANARY

WOODEND

WOTTON-UNDER-EDGE

GLOUCESTERSHIRE

GL12 8AA

Our reference:

51000838643001

Your reference:

CRM.414.002 RP02

Date of your enquiry:

13 April 2015

Date we received your enquiry:

13 April 2015

Date of issue:

13 April 2015

This report is for the property described in the address below and the attached plan.

Shaft Plan and Data Sheets

5 NINE MILE POINT INDUSTRIAL ESTATE, CWMFELINFACH, NP11 7HZ

I refer to the enquiry dated 13 April 2015, received 13 April 2015, in connection with the above.

As requested I enclose the mine entry data sheet(s) held for the mine entry/entries referred to.

Mine Entry Data

Shaft/adit:	Shaft
Reference:	319191-001
Source:	1/2500 O.S Sheet 1920 Ed and ST1991 N.G Ed. Ab plans SWR568 SWR637 SWR6 39 SWR636 SWR638 SWR612 SWR919 SWR921 SWR1417 SWR3038 SWR3039 SWR3040 SW R3041 SWA3056 SWA3065 SWA3066 SWA3068 SWA3075 SWA3076.
Colliery name:	Unknown
Entry name:	Nine Mile Point - West Shaft
Date abandoned:	Unknown
Depth of superficial deposits (m):	Unknown
Depth of shaft (m):	359.0
Diameter of shaft (m):	6.5
Probable adit azimuth:	Not Applicable
Treatment details:	was originally filled with washery shale in 1965. Further works were undertaken in 1970 when a reinforced concrete cap was installed by Hayward Civil Engineering Ltd.
Conveyance:	8-SEP-1971 to Islwyn Borough Council
Easting:	319243
Northing:	191359
Other information:	None

Mine Entry Data (continued)

Shaft/adit:	Shaft
Reference:	319191-002
Source:	1/2500 O.S Sheet 1920 Spec Ed ST1991 N.G Ed. Ab plans SWR568 SWR637 SWR6 39 SWR636 SWR638 SWR612 SWR919 SWR921 SWR1417 SWR3038 SWR3039 SWR3040 SW R3041 SWA3056 SWA3065 SWA3066 SWA3068 SWA3075 SWA3076.
Colliery name:	Unknown
Entry name:	Nine Mile Point - East Shaft
Date abandoned:	Unknown
Depth of superficial deposits (m):	Unknown
Depth of shaft (m):	350.9
Diameter of shaft (m):	7.6
Probable adit azimuth:	Not Applicable
Treatment details:	was originally filled with washery shale in 1965. Further works were undertaken in 1970 when a reinforced concrete cap was installed by Hayward Civil Engineering Ltd
Conveyance:	8-SEP-1971 to Islwyn Borough Council
Easting:	319298
Northing:	191341
Other information:	None

Issued by:	The Coal Authority, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG
Tax Point Date:	13 April 2015
Issued to:	ENZYGO LTD THE GRANARY WOODEND WOTTON-UNDER-EDGE GLOUCESTERSHIRE GL12 8AA
Property Search for:	5 NINE MILE POINT INDUSTRIAL ESTATE, CWMFELINFACH, NP11 7HZ
Reference Number:	51000838643001
Date of Issue:	13 April 2015
Cost:	£35.00
VAT @ 20%:	£7.00
Total Received:	£42.00
VAT Registration	598 5850 68

Location map

Approximate position of enquiry



Reproduced by permission of Ordnance Survey on behalf of HMSO.
© Crown copyright and database right 2015. All rights reserved.
Ordnance Survey Licence number: 100020315

This plan shows the approximate location of the disused mine entry / entries referred to in the attached mining report. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan.

Property owners have the benefit of statutory protection (under the Coal Mining Subsidence Act 1991). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A DTI leaflet setting out the rights and obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by telephoning 0345 762 6848.

If you wish to discuss the relevance of any of the information contained in the attached report you should seek the advice of a qualified mining engineer or surveyor. If you or your advisor wish to examine the source plans from which the information has been taken these are available at our Mansfield office, free of charge by prior appointment, telephone 01623 637235. Should you or your advisor wish to carry out any physical investigations that may enter, disturb or interfere with any disused mine entry the prior permission of the owner must be sought. For coal mine entries the owner will normally be the Coal Authority.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries).

Our emergency telephone number at all times is 01623 646333.

Key

Disused Adit or Mineshaft



Issued by:

The Coal Authority, Property Search Services, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, NG18 4RG
 Website: www.groundstability.com Phone: 0345 762 6848 DX 716176 MANSFIELD 5

**ENZYGO LTD
 THE GRANARY
 WOODEND
 WOTTON-UNDER-EDGE
 GLOUCESTERSHIRE
 GL12 8AA**

Our reference: **51000808805001**
 Your reference: **CRM.414.002 RP01**
 Date of your enquiry: **24 March 2015**
 Date we received your enquiry: **24 March 2015**
 Date of issue: **24 March 2015**

This report is for the property described in the address below and the attached plan.

Non-Residential Coal Authority Mining Report

5 NINE MILE POINT INDUSTRIAL ESTATE, CWMFELINFACH, NP11 7HZ

This report is based on and limited to the records held by, the Coal Authority, and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Coal mining	See comments below
Brine Compensation District	No

Information from the Coal Authority

Underground coal mining

Past

The property is in the likely zone of influence from workings in 5 seams of coal at 150m to 410m depth, and last worked in 1962.

Any ground movement from these coal workings should have stopped by now.

Present

The property is not in the likely zone of influence of any present underground coal workings.

Future

The property is not in an area for which the Coal Authority is determining whether to grant a licence to remove coal using underground methods.

The property is not in an area for which a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area that is likely to be affected at the surface from any planned future workings.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

Mine entries

Within, or within 20 metres of, the boundary of the property there are 2 mine entries, the approximate positions of which are shown on the attached plan.

Our records disclose the following information:

319191-001. was originally filled with washery shale in 1965. Further works were undertaken in 1970 when a reinforced concrete cap was installed by Hayward Civil Engineering Ltd..

Mine entry 319191-001 was conveyed to Islwyn Borough Council in 1971.

319191-002. was originally filled with washery shale in 1965. Further works were undertaken in 1970 when a reinforced concrete cap was installed by Hayward Civil Engineering Ltd.

Mine entry 319191-002 was conveyed to Islwyn Borough Council in 1971.

For an additional fee, the Coal Authority will provide a supplementary Mine Entry Interpretive Report. The report will provide a separate assessment for the mine entry (entries) referred to in this report. It will give details based on information in the Coal Authority's possession, together with an opinion on the likelihood of mining subsidence damage arising from ground movement as a consequence of the existence of the mine entry/entries. It will also give details of the remedies available for subsidence damage where the mine entry was sunk in connection with coal mining. Please note that it may not be possible to produce a report if the main building to the property cannot be identified from Coal Authority plans (ie. for development sites and new build).

For further advice on how to order this additional information visit www.groundstability.com or telephone 0345 7626 848.

Coal mining geology

The Authority is not aware of any evidence of damage arising due to geological faults or other lines of weakness that have been affected by coal mining.

Opencast coal mining

Past

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

Present

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

Future

The property is not within 800 metres of the boundary of an opencast site for which the Coal Authority is determining whether to grant a licence to remove coal by opencast methods.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres, since 31st October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

Withdrawal of support

The property is not in an area for which a notice of entitlement to withdraw support has been published.

The property is not in an area for which a notice has been given under section 41 of the Coal Industry Act 1994, revoking the entitlement to withdraw support.

Working facilities orders

The property is not in an area for which an Order has been made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

Payments to owners of former copyhold land

The property is not in an area for which a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Comments on Coal Authority information

The attached plan shows the approximate location of the disused mine entry/entries referred to in this report. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan.

Property owners have the benefit of statutory protection (under the Coal Mining Subsidence act 1991*). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A leaflet setting out the rights and the obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by telephoning 0345 762 6848 or online at www.coal.decc.gov.uk/en/coal/cms/services/claims.

If you wish to discuss the relevance of any of the information contained in this report you should seek the advice of a qualified mining engineer or surveyor. If you or your adviser wish to examine the source plans from which the information has been taken these are normally available at our Mansfield office, free of charge, by prior appointment, telephone 01623 637235. Should you or your adviser wish to carry out any physical investigations that may enter, disturb or interfere with any disused mine entry the prior permission of the owner must be sought. For coal mine entries the owner will normally be the Coal Authority.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries). Our emergency telephone number at all times is 01623 646333.

*Note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be

aware that the investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Additional Remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

The Coal Authority owns the copyright in this report. The information we have used to write this report is protected by our database right. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

Issued by:	The Coal Authority, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG
Tax Point Date:	24 March 2015
Issued to:	ENZYGO LTD THE GRANARY WOODEND WOTTON-UNDER-EDGE GLOUCESTERSHIRE GL12 8AA
Property Search for:	5 NINE MILE POINT INDUSTRIAL ESTATE, CWMFELINFACH, NP11 7HZ
Reference Number:	51000808805001
Date of Issue:	24 March 2015
Cost:	£59.00
VAT @ 20%:	£11.80
Total Received:	£70.80
VAT Registration	598 5850 68

Location map



Approximate position of property



Enquiry boundary

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2015. All rights reserved. Ordnance Survey Licence number: 100020315

Key

Approximate position of enquiry boundary shown

Disused Adit or Mineshaft



NINE MILE POINT COLLIERIES

PIT SECTIONS

WEST PIT

EAST PIT

BEDS	DEPTH	
Yd	Ft	Yd
1/2	5	
2		
3		
4	2	
4	2	
4	2	
2	5	
8	27	
2	3	
1	6	
1	40	
1	28	
7		
6	6	
2	16	
4	26	
7	10	
1		
4		
7		
3	26	
3	26	
2	9	
4	29	
1		

BEDS	DEPTH	
Yd	Ft	Yd
11		
2		
3		
4	17	
4	20	
9	15	
1	33	
5	2	
2	1	
4		
1	10	
2	50	
4	15	
2	26	
1	59	
8	2	
1	6	
1	9	
1	2	
1	2	
3	6	
1	2	
5	1	
2	1	
7	6	
1	10	
1	2	
1	3	

SURFACE GROUND

HARD BLUE PENNANT ROCK
COARSE CONGLOMERATE
HARD BLUE JOINTY ROCK

ROCK BEDS
HARD BLUE JOINTY ROCK

ROCK BEDS
HARD BLUE JOINTY ROCK

ROCK (ROTTEN IN PLACES)

HARD BLUE ROCK IN BEDS

HARD BLUE ROCK IN BEDS

THIN BEDS OF ROCK

HARD BLUE JOINTY ROCK

HARD BLUE JOINTY ROCK

ROCK AND CONGLOMERATE
HARD BLUE JOINTY ROCK

THIN BEDS OF ROCK

ROCK AND CONGLOMERATE
HARD BLUE JOINTY ROCK

SURFACE GROUND

HARD BLUE PENNANT ROCK
COARSE CONGLOMERATE
HARD BLUE JOINTY ROCK

HARD BLUE PENNANT ROCK (6 JOINTS)

HARD BLUE PENNANT ROCK

THIN ROCK BEDS

ROCK AND CONGLOMERATE MIXED

ROCK

ROCK

CLIFT

ROCK WITH SAND JOINTS

ROCK WITH SAND JOINTS

ROCK WITH SAND JOINTS

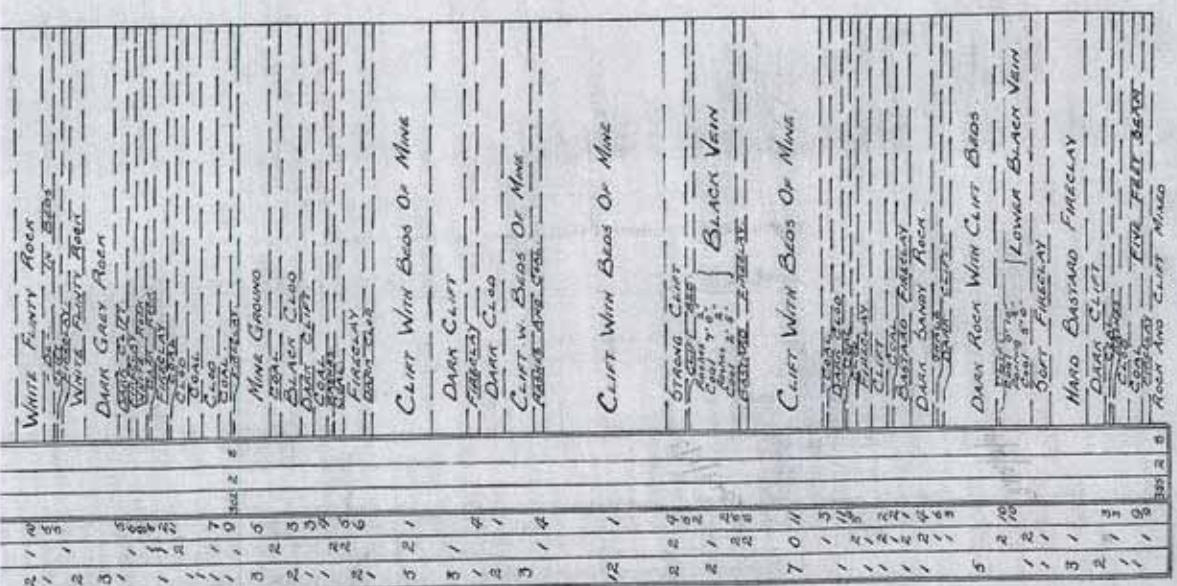
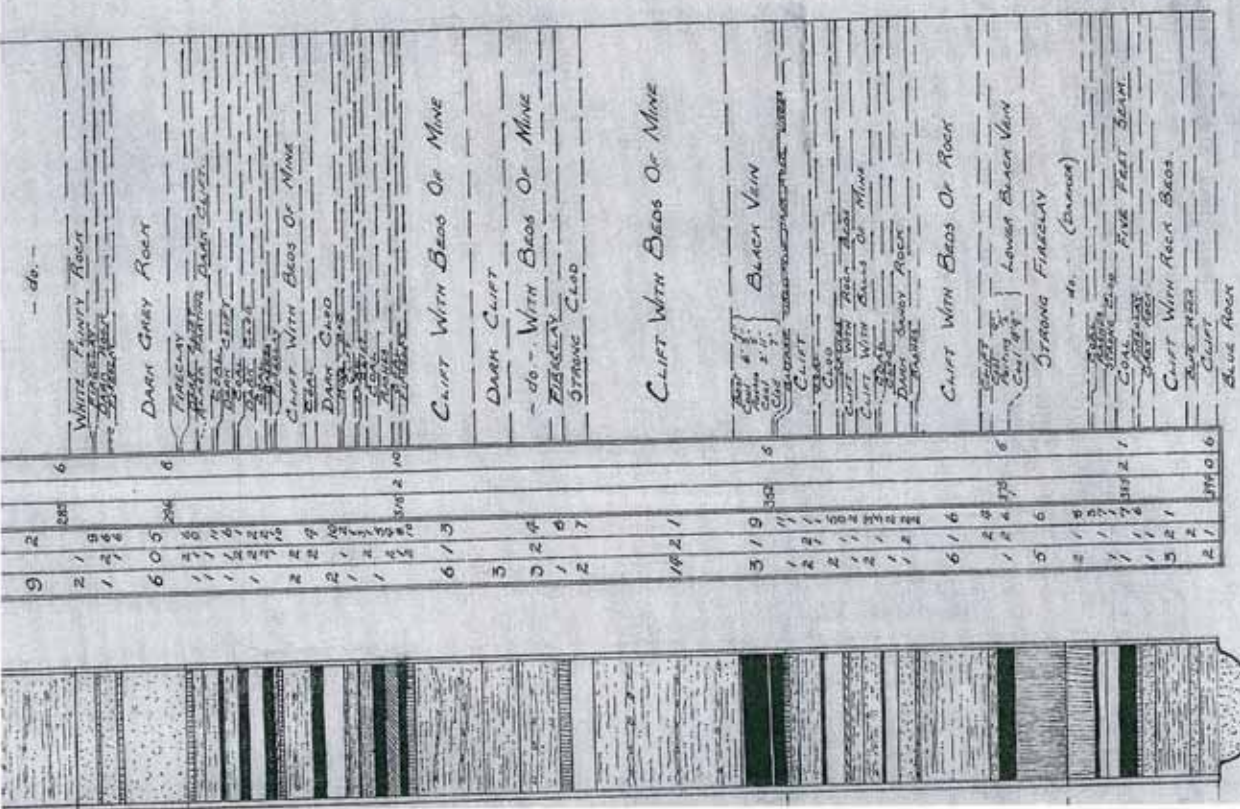
ROCK WITH COARSE CONGLOMERATE

ROCK

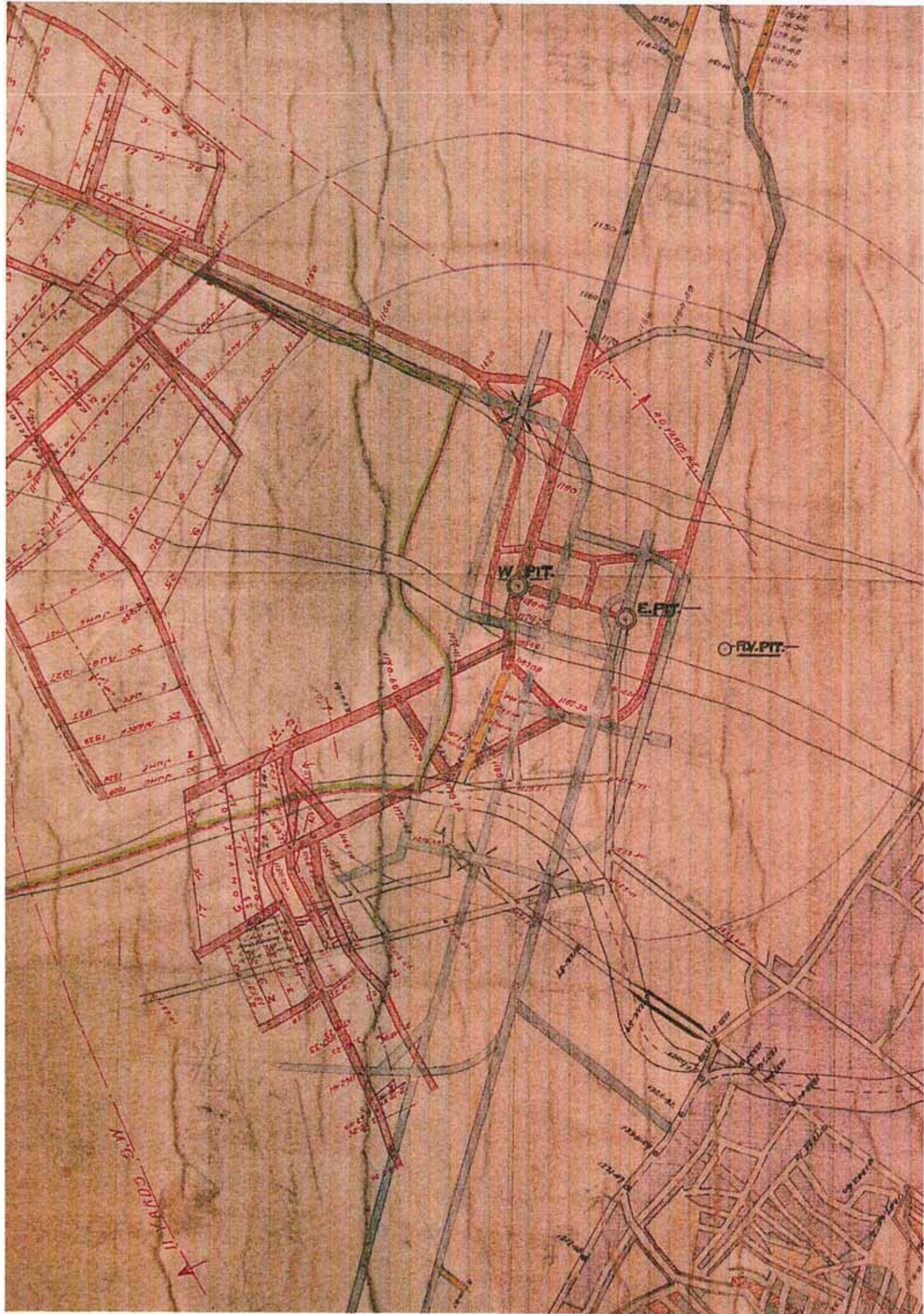
HARD ROCK

VERY HARD ROCK AND CONGLOMERATE

HARD ROCK WITH SAND JOINTS

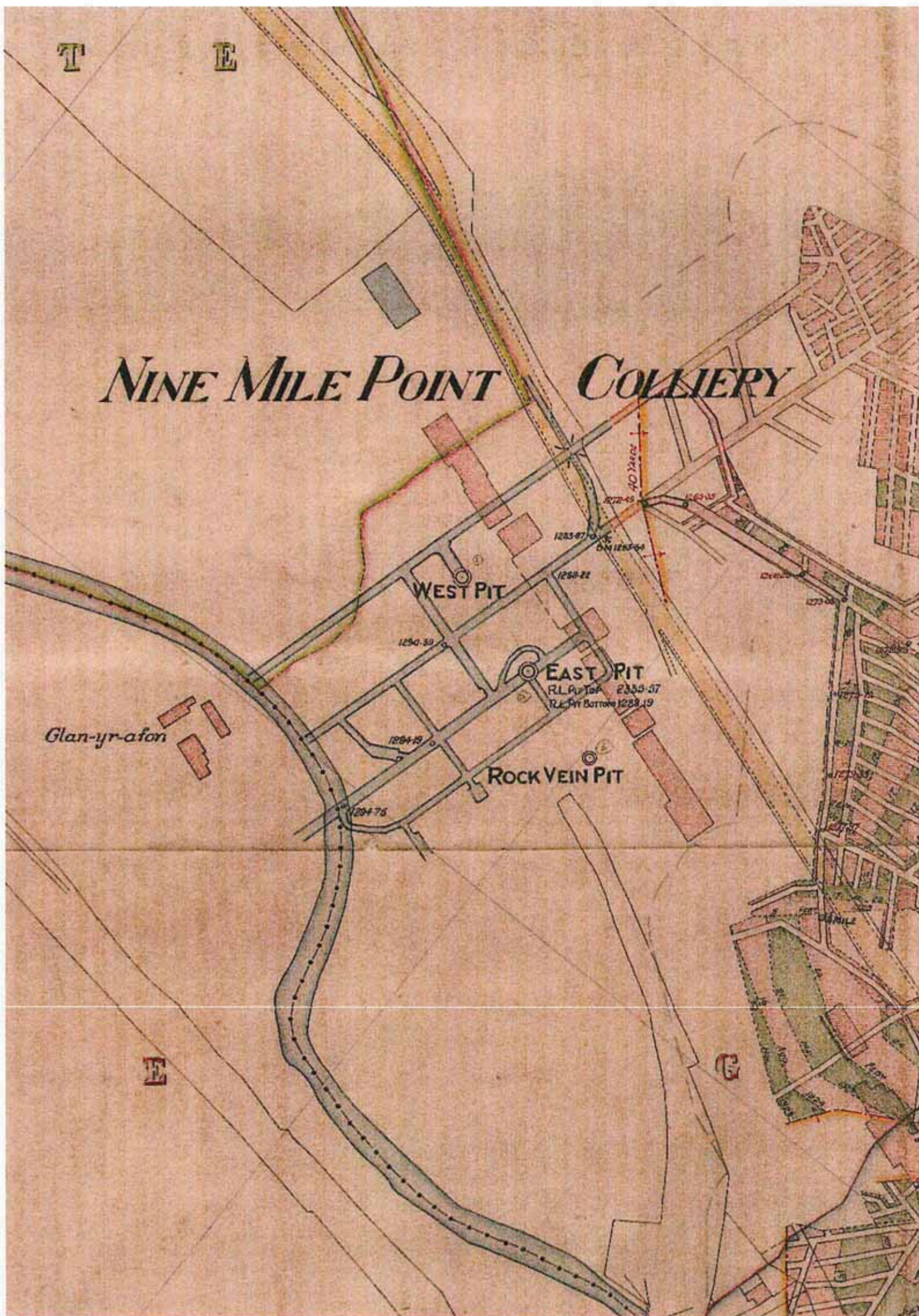


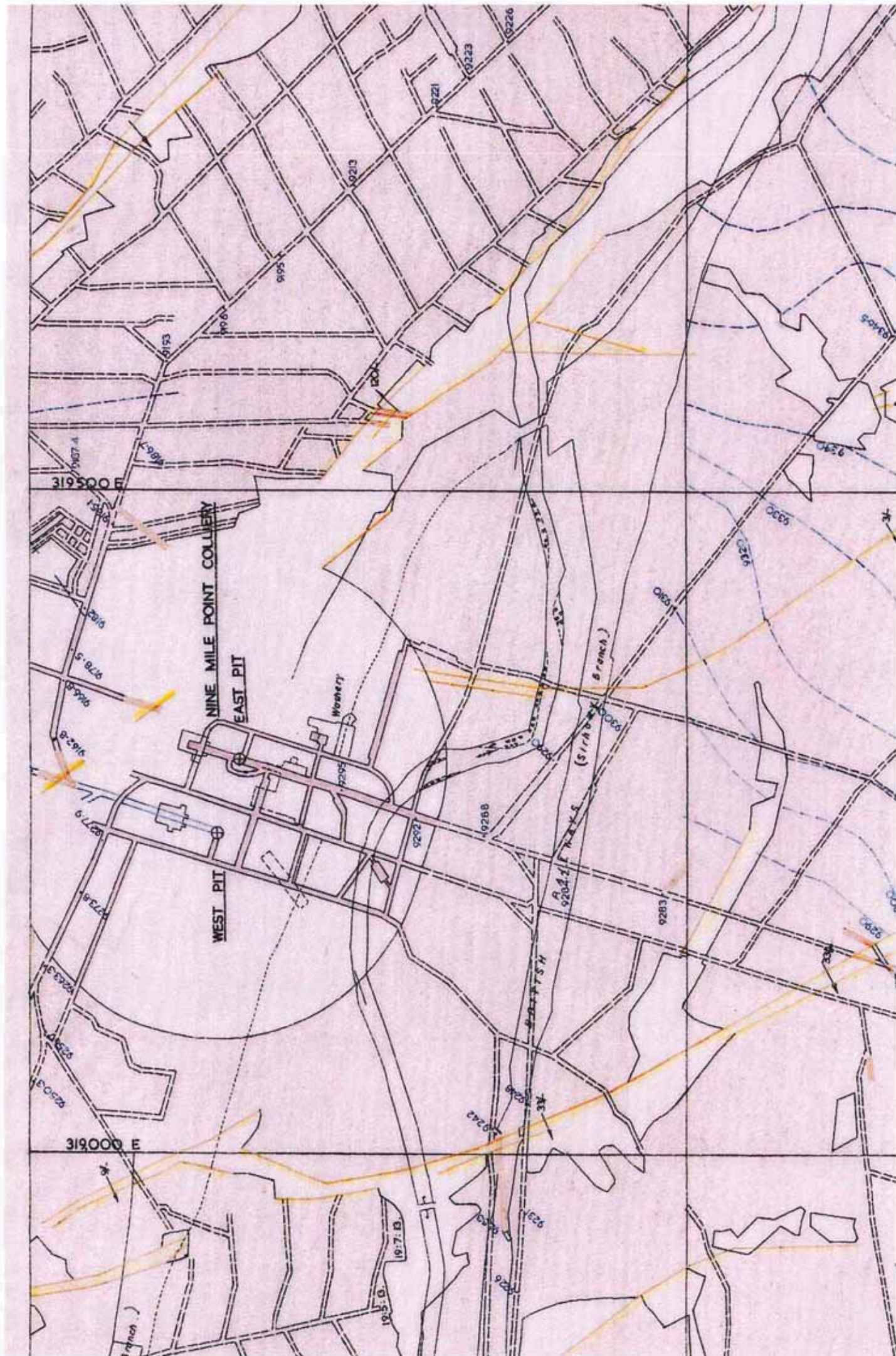
APPENDIX D – COAL MINING MINE ABANDONMENT PLANS



T E

NINE MILE POINT COLLIERY





WATERLOGGED
TO 9720'

Water in the area is kept to 9720'
By pumping

NINE MILE POINT COLLIERY

WEST PIT
WATER LODGE AND
PUMPHOUSE
ROCK VEIN PIT

CA PUMP 4000 GALLS
9720' 9720' 9720'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

1201'

12

NINE MILE POINT COLLIERY

WEST PIT
U.C.

EAST PIT
D.C.

Washery

BRITISH RAILWAYS
(Siphony Branch)

10th Dec 1957
30th Sept 1957
91643
BH Down to L.B.V.
30' to vert. 39' Coal 6'-0"

(M8)

319

5

SCALE:- 1/2500

**DATUM FOR LEVELS—
10000 FEET BELOW ORDNANCE DATUM**

SECTION OF SEAM

BEDDED CLIFT ROOF

COAL

3'-9"

CLOD Varies 6" to

1'-8"

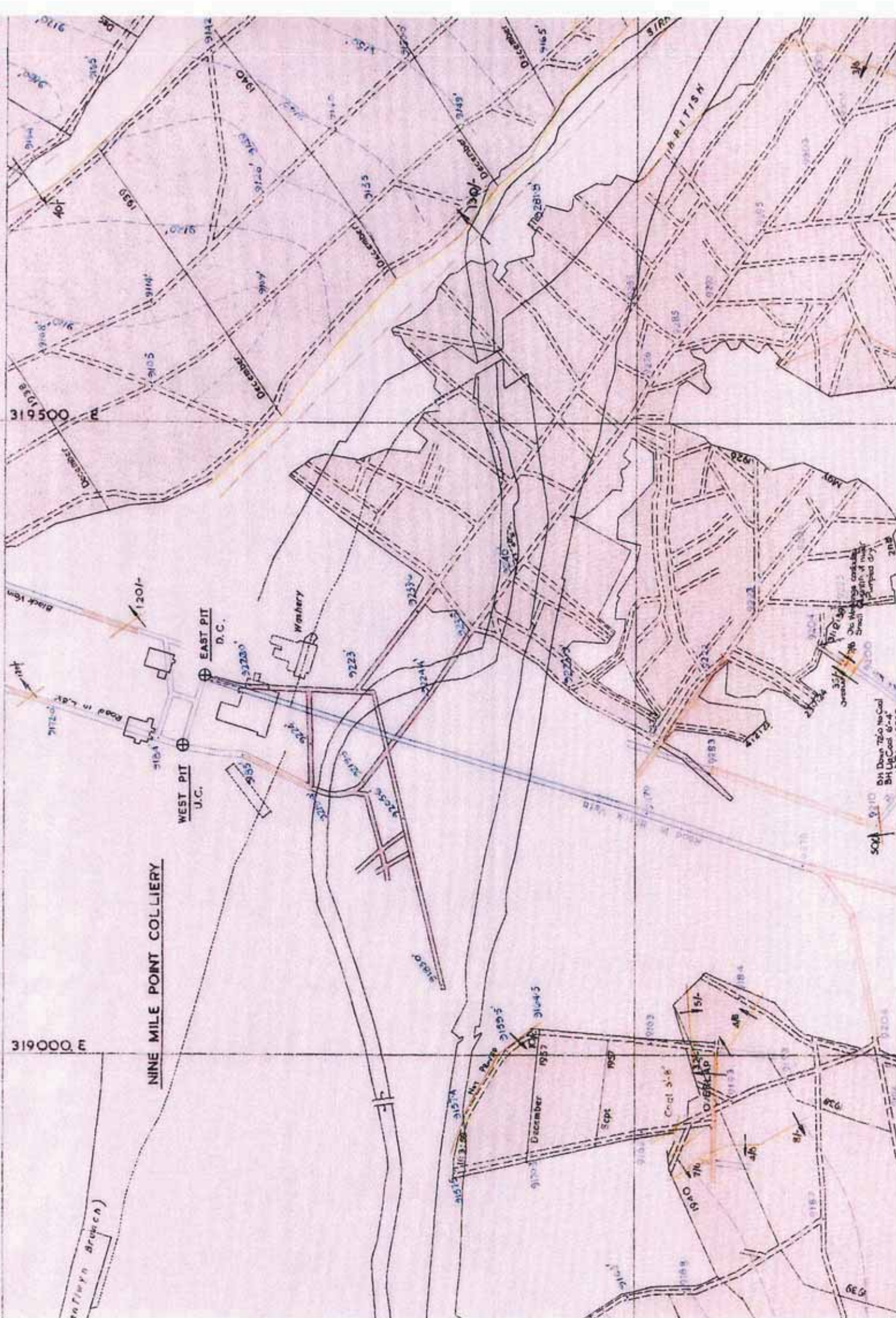
COAL


1'-6"

FIRECLAY FLOOR



NINE MILE POINT COLLIERY





Enzygo specialise in a wide range of technical services:

Property and Sites
Waste Planning
Waste Technologies and Renewables
Waste Technologies
Landscape Architecture
Environmental Co-ordination
Hydrology and Flood Risk
Waste Contract Procurement
Minerals Planning
Noise and Vibration
Permitting and Regulation
Environmental Planning
Ecology Services
Contaminated Land and Geotechnical

BRISTOL OFFICE

The Granary
Woodend Lane
Cromhall
Bristol GL12 8AA
Tel: 01454 269237
Fax: 01454 269760

kevin.parr@enzygo.com

SHEFFIELD OFFICE

STEP Business Centre
Wortley Road
Deepcar
Sheffield S36 2UH
Tel: 0114 2903677
Fax: 0114 2903688

matt.travis@enzygo.com

MONMOUTH OFFICE, WALES

Singleton Court Business Park
Wonastow Road
Monmouth
Monmouthshire NP25 5JA
Tel: 01600 714611
Fax: 01600 716744

chris.formaggia@enzygo.com

Please visit our website for more information.

enzygo.com