THE EFFECTS OF LAND OWNERSHIP ON THE DEVELOPMENT OF MINERAL RESOURCES IN ENGLAND AND WALES 1760-1960

by

HUGH GREVILLE AUBREY LINDSEY

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H G A Lindsey

Abstract

The thesis studies the various changes in the patterns of land ownership over a span of two hundred years, with special reference to mineral ownership in England and Wales. In order to sensibly appraise past developments and make recommendations for the future it has been necessary to review events which have taken place before and after the period under consideration.

In Part One the rights and responsibilities of mineral owners are explained and the use of selected cases illustrate the uniqueness of this aspect of the law of property. The similarities to other ownerships of real property are explained as well as the peculiarities and exceptions arising from ancient and local customs. To counter these restrictions it has been sometimes necessary to take legislative measures which have slowly emerged, but not always to the benefit of the mineral owner or developer. Throughout the latter part of the period many Commissions and Committees have reported on various aspects of mineral ownership, such as working rights, safety, planning and development. These are reviewed and compared with subsequent legislation. The State Control of some mineral resources is analysed against the background of individual rights and interests. Mineral resources are a national asset but cannot be developed in vacuo and the effects of external factors at home and overseas are given consideration.

Part Two contains three contrasting case studies which are examined in depth with reference to rights of ownership and support. These critical appraisals include alternative courses of action which might have been pursued.

Finally Part Three gives an overall analysis of the sequence of events and concludes by making some recommendations for future developments, which the author considers necessary if indigenous mineral resources are to play a viable part in the national economy.

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Part Three - Overall Analysis

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Table of Abbreviations

A.C.	The Law Reports, Appeals to House of Lords
All E.R.	All England Law Reports
App. Cas.	The Law Reports, Appeals to House of Lords 1875-1900
B. and Ad.	Barnewall and Adolphus Reports
Ch.	Chancery
Ch. App.	Chancery Appeal
CREST	Crown Estates Office
H.C.	House of Commons
H.L.	House of Lords
K.B.	Kings Bench
L.J. Ch.	Law Journal Reports, Chancery
L.J. Exch.	Law Journal Reports, Exchequer
L.J.K.B.	Law Journal Reports, Kings Bench
L.J.P.C.	Law Journal Reports, Privy Council
L.J.Q.B.	Law Journal Reports, Queens Bench
L.J.R.	Law Journal Reports
L.R.H.L.	Law Reports, House of Lords
L.R.P.C.	Law Reports, Privy Council
L.T.	Law Times Reports
M. & W.	Meeson and Welsby's Exchequer Reports
Q.B.	Queens Bench Reports
Q.B.D.	The Law Reports, Queens Bench Division
Railw. Cas.	Reports of Cases, Railway and Canal Commission

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INTRODUCTION

The thesis studies the effects of land ownership on the development of mineral resources in England and Wales over a two hundred years span - 1760 to 1960. This period has been selected to cover a time-span commencing with what is generally accepted as the start of the First Industrial Revolution. The study has been confined to England and Wales deliberately as these two parts of the United Kingdom are subject to the same legislation.

In Part One land ownership is shown to have been subjected to many changes since the Roman occupation, but this thesis gives only a brief historical review of the well established facts from the time of the Roman Empire to the commencement of the period under analysis i.e. 1760. Land by general definition includes the surface, subsoil and strata subjacent to the centre of the earth, and hence includes all minerals contained therein. The thesis explains how minerals can become a separate interest from other land by agreement, statute or prescription. It illustrates how this has happened throughout the centuries and then interrelates the respective rights of surface owners, mineral owners and the interests of third parties.

With the growth of civilisation increasing demand has been made of mineral resources to meet the basic needs of industry and commerce; with modern technologies different uses have been found for most economic minerals. This demand has made it necessary to control by statute the abstraction of certain minerals and similarly to facilitate the abstraction of others which might have remained unworked due to some ancient right, custom or privilege.

The rights to work minerals are complex and vary with types of mineral. Certain ancient privileges are attached to some minerals and a distinction is made from the normal range of minerals. Furthermore the workings of minerals may take place onshore and offshore and the rights of the various interests affected will be reviewed.

Mineral development cannot take place in vacuo. It must harmonise with and respond to the legal, social and economic constraints imposed by international and national factors.

This part of the study concludes with a consideration of external factors which include environmental, financial, safety, socio/economic constraints imposed nationally and internationally.

In Part Two a study is made of three quite different cases, to illustrate certain aspects of land ownership and show how changes in legislation, technical knowledge and standards of living were interrelated in determining the outcome of each case. They have been selected to illustrate various facets of the thesis and to highlight certain aspects. Each case is set in a different locality, in a different period in the two hundred years under review and covers mineral interests ranging from small to regional in scale.

Critical appraisals are given at the end of each case study.

In Part Three conclusions are drawn after making an overall analysis of the general review and case studies. These conclusions will consider in retrospect the interaction of the demands of socio/economic forces and legislation enacted throughout the period under review. Finally some recommendations are made of possible future developments.

NOTE 1 Throughout the text references are made to statutes, cases and certain texts. These are cross referenced by numeric suffixes with a reference table at the end of each chapter. Similarly appendices are used to illustrate in detail some of the text of the thesis which are cross referenced in a similar manner.

NOTE 2 Throughout the text reference is made to legislation including that introduced after 1960. This has been done to ensure completeness and to avoid drawing conclusions and making recommendations which have become obvious or obsolete by recent legislation.

PART ONE

GENERAL REVIEW

CHAPTER I

HISTORICAL DEVELOPMENT OF LAND OWNERSHIP UP TO 1760

The Roman Empire existed from about 31 BC to 476 AD and during that period their conquests included England and Wales, which made this country the subject to Roman law. It was part of the Roman code of law that all land vested in the State and one presumes that this was the case during the period of occupation. From the fall of the Roman Empire there is evidence of self appointed Potentates laying claim to vast tracts of land on a basis of 'might has the right', being referred to by historians as the Dark Ages.

It was not until the Norman Conquest by William I that any semblance of codified law of property was recorded. In return for certain favours followers of the monarch were granted parcels of land to be held of him as overlord. In return the landlords pledged support to the Crown by way of men for combat and sums of money to finance defence. This support known as services was in return for tenures. This procedure introduced by William I clearly established the maxim NULLE TERRE SANS SEIGNUR (no land without a lord).

To prevent the granting of lands to a lesser baron held in tenure by one baron (known as subinfeudation) the Statute of QUIA EMPTORES 1290[1] was enacted in the realm of Edward I.

At common law the ancient method of conveying an estate in land was by feoffment with livery of seisin. This required the feoffer (grantor) to enter the land to be conveyed with the feoffee (grantee). The feoffer by public address declared the transfer of title to the feoffee completing the transaction by presenting the feoffee with a twig or grass sod cut from the land to symbolise such delivery of seisin. Such an act was recorded in writing and became known as a charter of feoffment. The recording of such transactions became a statutory requirement under the Statute of Frauds 1677[2], as did the granting of estates in land for a term of years.

Until the mid 17th century there were 3 types of Free Tenure namely chivalry, socage and spiritual, but chivalry was abolished by the Tenures Abolition Act 1660[3] converting these into tenures of socage.

There also existed 2 types of Unfree Tenure known as Villein Tenure and Customary freeholds, which were granted by the barons to their tenants. Any disputes arising from such holdings had to be heard by the Court of the Manor and not in the King's Court as for Free Tenures. The customary freeholds became known as copyhold interests, subsequently abolished by the Law of Property Act 1922[4], although they may still affect mineral rights today.

A similar interest to copyhold tenure was created by various private Inclosure Acts of the 18th century, whereby large tracts of manorial commons were subjected to these awards. This policy was encouraged by Parliament to improve the efficiency of agriculture and husbandry. The effect of many awards was to allot the surface to the tenants of the former commons, whilst the Lord of the Manor retained the remainder i.e. any mineral bearing lands, thus creating what is termed an instrument of severance. Each award should be carefully examined in determining the rights of the respective parties[5].

It therefore follows from this brief review that all land is held of the Crown, except such lands as is retained by the Crown for its own occupation and enjoyment. Certain statutes have been passed to protect their interests and the special case of Crown minerals will be also considered later[6].

A unique feature of the period under review was the emergence of an interest in land granted for a term of years, now known as a leasehold interest. This interest is not classed as real property but as personalty. In early times any dispossessed leaseholder could only recover his title if dispossessed by the lessor. Later the law was relaxed to allow a claim for repossession of the land to be brought against third party interests in the Courts of Equity. Nevertheless leasehold interests are still classified as personalty and not realty.

In any well ordered society one would have expected the rights of ownership, albeit tenures, to be the subject of some formal registration. In the period under review, that is up to 1760, nothing was done until the Middlesex Registry Act 1708[7] was enacted, which provided for voluntary registration of deeds, conveyances and wills. The Registrar did not have to prove the root of title before registration, although the position was to change considerably, as will be shown later[8].

References

1 18 Edw. 3, c. 1 & 2
2 29 Car. 2, c. 3
3 12 Car. 2, c. 24
4 12 & 13 Geo. 5, c. 16
5 see Chapter IV B
6 see Chapter IV A
7 7 Anne, c. 20
8 see Chapter III C

CHAPTER II

DEVELOPMENT OF LAND OWNERSHIP FROM 1760 TO 1960

A Legislation Before 1925

The interests of land outlined in the previous chapter remained unchanged until the start of the 19th century, when public concern over the accelerated rate in which wastes were being enclosed demanded changes in the law. The Inclosure (Consolidation) Act 1801[1] and Inclosure Act 1845[2] were replaced by the Inclosure Act 1852[3], this latter Act demanding a more rigid procedure through Parliament before awards could be granted. This procedure was consolidated in the Commons Act 1876[4], and remained in force until overtaken by Commons Registration Act 1965[5].

A manorial practice of creating customary freeholds (copyhold interests) was also subjected to legal changes, whereby under the provisions of the Copyhold Acts 1841[6], 1843[7] and 1844[8] it was possible to have such copyhold interests enfranchised on a voluntary basis. The Copyhold Acts 1852[9], 1858[10] and 1887[11] were consolidated into the Copyhold Act 1894[12] which provided a programme of compulsory enfranchisement. Finally the Law of Property Act 1922[13] provided for all copyhold interests to become fee simple interests i. e. freehold tenure. The enfranchisement of copyholds did not abolish all incidents of such former interests. An important exception is the respective rights of the former lord of the manor and the copyholder. It is therefore necessary to investigate carefully each enfranchisement to see if such incidents have been abolished by agreement and if not, what are the respective rights of the parties.

The remaining interests in land continued unchanged, namely tenures of socage, unfree tenure and leasehold interests until the Law of Property Act 1922[13], by which unfree tenures became free tenures, hence 'tenures of socage'. This became known as Estates of Freehold, a term used today, although originally it could refer to any one of four estates, viz:

i	Estate in fee simple	)
ii	Estate in fee tail	) TENURES OF SOCAGE
iii	Estate for life	)
iv	Estate pur autre vie	)

Under the provisions of the Real Property Act 1845[14] it became a statutory requirement to prepare a deed for the transfer in title of a legal estate, and likewise for the granting of a lease of such an estate. Formal procedures of transferring a legal estate in land were laid down in the Conveyancing Act 1881[15].

The Law of Property Act 1925[16] was one of a series of enactments bringing about a great simplification of land law. This Act converted all forms of socage of tenure into one, that is estate in fee simple, today referred to as a freehold interest. The leasehold interest in land remains as the only other estate which can be created and is now recognised in the Courts as a legal estate in land.

Returning to the question of registration introduced in the last chapter, the first attempt to provide a system of establishing a title in land was made by the Land Registry Act 1862[17] which claimed in the preamble:

> "to give certainty to the title to real estate and to facilitate the proof thereof and also to render the dealing with land more simple and economical."

Although these ideals were sound it failed to have any real effect. The Land Transfer Act 1875[18] was the first real step forward in the field of registration, but due to the non-compulsory element of the Act it also failed to make much impact. Compulsory registration was however introduced by the Land Transfer Act 1897[19] commencing in London in 1899 and in the rest of the country in 1902. The compulsory element only applied when a transfer of title was to take place. The provisions of this Act were incorporated in the Land Registration Act 1925[20], the period of wholesale reforms in land law.

Before leaving the subject of registration for the time being it is of interest to note the establishment of a land registry in Yorkshire in 1884 under the provisions of the Yorkshire Registries Act[21], which despite changes brought about in other parts of the country is still in existence.

B Legislation From 1925

The commencement of this period saw an intense programme of reform in land law and whilst it is not the intention to consider all reforms in detail it is perhaps useful to emunerate these Acts, viz:

1 Law of Property Act 1925[16]
2 Settled Land Act 1925[22]
3 Administration of Estates Act 1925[23]
4 Land Charges Act 1925[24]
5 Land Registration Act 1925[20]

The principal aims of these reforms were to simplify land law and make it less costly to transact land, to abolish antiquated forms of tenure, to simplify rules for intestate succession, to abolish the distinction hitherto made between real property and chattels real and finally to reduce the number of legal estates in land to two, namely a fee simple absolute in possession and a term of years absolute, today referred to as freehold and leasehold estates respectively.

The legal estate of fee simple absolute in possession means that the possessor of such a title has ownership of the land in its full sense meaning full unfettered enjoyment of the surface of the land, down to the centre of the earth and up to the sky above (USQUE AD INFEROS ET USQUE AD COELUM). Such rights are capable of transfer either by deed or will. Furthermore such rights may be enjoyed provided they do not interfere with the rights of neighbours or place their property at risk, as in the case of Rylands v. Fletcher 1868[25].

The legal estate of a term of years absolute is created by a lease out of a fee simple absolute in possession, and therefore the lessor can grant the lessee the same right of ownership for a limited period, at the expiration of which, the estate reverts to the actual owner.

Settlements and Trusts for Sale were affected by the 1925 legislation. Before considering the changes introduced it would be prudent to review the position before 1925.

Land has always been considered a sound form of investment. As lands were allotted to private persons throughout the centuries either for favours rendered, by sale or enfranchisement, it became the policy of many families to provide for their immediate and future heirs by ensuring lands in their possession remained in the family. This assured a source of income for posterity. This course of action is known as a settlement which is a legal instrument by which the land is placed in trust of a member of the family for that members lifetime. Settlements are classified as Strict Settlements or Trusts for Sale.

Strict Settlements retained the land within the family in a strict order of succession usually father to eldest son who upon the death of the father became the holder of the fee tail interest. The rest of the family at any time was provided for by monies raised in the management of the estate, known as rent charges. The holder of the fee tail interest could not sell the lands in his trust, which sometimes placed that person in financial difficulties especially with the introduction of Estate Duty.

The Settled Land Act 1925[22] and the Law of Property Act 1925[16] amended the laws of settlement. As all fee tail interests became fee simple interests, the holder of such interests under settlement can sell or lease lands in his possession, provided any monies received are paid proportionately to the other beneficiaries. Upon the death of a person holding such a limited title, the executors or administrators become the trustees and vest the legal estate in the next person eligible.

Trusts for Sale are restrictive settlements in that monies received from the lands forming the settlement have to be apportioned in a strict way but the trustees are expected to sell the legal estate in such land as soon as possible. It is however permitted to retain and manage such lands in trust, until such time as considered appropriate for sale. Trusts for Sale are therefore usually offered on a voluntary basis, although there are circumstances whereby Statutory Sales are required. Briefly these are the death of a co-owner and the death of a person intestate[23].

There are many other aspects of the Law of Property which could be referred to but these are outside the theme of this study. Having clarified the main principles of land ownership up to 1925 it is appropriate to return to the subject of land registration.

The Land Registration Act 1925[20] laid down the procedure and administrative framework for compulsory registration of title with real meaning, as each first registration was to be verified by a Land Registrar. The Land Registration Rules 1925[26] were made to facilitate this procedure. The compulsory aspect was gradually applied to various regions throughout England and Wales by Orders in Council.

The system of registration introduced in Middlesex in 1708[27] remained in force until the Land Registration Act 1936[28] required its records to become part of the Central Land Registry, but the Yorkshire land registry has continued in its own right.

Progress has remained painfully slow and more recent legislation namely the Land Registration Act 1966[29] requiring compulsory registration and the Land Registration and Land Charges Act 1971[30] have only just begun to accelerate the process.

In parallel with the registration of title has been the registration of incumbrances and land charges. The provision of such registration was laid down in the Land Charges Act 1925[24], although the Yorkshire Deeds Register and Local Land Charges Registers are also used for this purpose, depending on the type of incumbrance and its geographic location.

The effects of such legislative measures on mineral ownership is vitally important when studying the effects on land ownership in general. The question of registration of mineral ownership will be considered later[31].

References

1 41 Geo. 3, c. 109
2 8 & 9 Vict., c. 118
3 15 & 16 Vict., c. 79
4 39 & 40 Vict., c. 56
5 1965 Eliz. 2, c. 64
6 4 & 5 Vict., c. 35
7 6 & 7 Vict., c. 23
8 7 & 8 Vict., c. 55
9 15 & 16 Vict., c. 51
10 21 & 22 Vict., c. 94
11 50 & 51 Vict., c. 73
12 57 & 58 Vict., c. 46
13 12 & 13 Geo. 5, c. 16
14 8 & 9 Vict., c. 106
15 44 & 45 Vict., c. 41
16 15 & 16 Geo. 5, c. 20
17 25 & 26 Vict., c. 53
18 38 & 39 Vict., c. 87
19 60 & 61 Vict., c. 65
20 15 & 16 Geo. 5, c. 21
21 47 & 48 Vict., c. 54
22 15 & 16 Geo. 5, c. 18
23 15 & 16 Geo. 5, c. 23
24 15 & 16 Geo. 5, c. 22
25 Rylands v. Fletcher (1868) L.R. 3 H. L. 330
26 SI 1925 No. 1093/L28
27 7 Anne, c. 20
28 26 Geo. 5 & 1 Edw. 8, c. 26
29 1966 Eliz. 2, c. 39
30 1971 Eliz. 2, c. 54
31 see Chapter III C

NORMAL RIGHTS OF MINERAL OWNERSHIP

The rights of mineral ownership have evolved in parallel with the general law of property over the centuries with the same uncertainty of origins, hence the importance of the brief historic review of principal changes brought about by legislation given in the previous chapters.

Before considering those legal aspects affecting mineral ownership and rights to mineral resources, it would be prudent to clarify what is meant in this study by the terms 'mineral ownership' and 'mineral resources'.

Mineral ownership is taken to mean the ownership of the title in the legal estates of mineral bearing lands and to include the rights granted by leases and licences.

A Definition of Mineral and Minerals Resources

Mineral resources are taken to include all the principal minerals in England and Wales which have been worked or are being worked. This data is best presented in tabular and graphic form (see Appendix 1 and 2)

The amounts abstracted depend on many factors such as the advancement of mans knowledge in the various arts and sciences on which are founded our modern culture and standard of life and therefore as a consequence minerals have served multifarious needs. It is these aspects which will be studied, rather than a series of minerals investigated from a geologists standpoint.

With the advancement of knowledge has come the rapid development of standards of living in this country and to a lesser extent the raising of standards overseas especially in the third world countries.

The last two centuries have seen a fluctuation in importance of some minerals because of these variable factors. Although the theme of this study is the effects of land ownership on the development of mineral resources in England and Wales, one cannot ignore external factors which have influenced supply and demand. Reference will be made to such factors if they can be seen to have affected indigenous resources.

The word 'mineral' can have many meanings and care should always be taken to qualify its definition by reference to the context in which it is used. Some statutes have given clear definitions, others have led to litigation. The Railways Clauses Consolidation Act 1845[1] s. 77 defines a mineral as 'mines of coal, ironstone, slate and other minerals'. It is the last three words which have been the source of litigation in deciding 'when is a mineral not a mineral?' The grey areas are those substances lying on or near the surface where an instrument of severance has reserved or excepted minerals. This severance may have been by mutual consent or it may have been compulsory as provided for in some enactments which gave certain surface developers statutory powers of acquisition, such as the railway companies enjoyed under the provisions of the Land Clauses Consolidation Act 1845[2] and the Railways Clauses Consolidation Act 1845[1].

Much case law is available on this complex issue such as Great Western Railway Co v. Bennett 1867[3]; Hext v. Gill 1872[4]; Glasgow Corporation v. Farie 1888[5]; Midland Railway Co v. Robinson 1889[6]. All these cases illustrate the difficulties the judiciary have had in defining the word 'minerals'.

Some Acts containing definitions of the word 'minerals' are listed below:

a) Waterworks Clauses Act 1847[7] s. 18

'mines of coal, ironstone, slate and other minerals'
(NB: Identical to s. 77 of the Railways Clauses Consolidation Act 1845)

b) The Public Health Act 1874 (Support of Sewers) Amendment Act 1883[8] s. 3

incorporates the same definition as ss. 18 of the Waterworks Clauses Act 1847[7]

c) The Mines (Working Facilities and Support) Act 1923[9] Part I s. 14

'includes all minerals and substances in or under land obtainable by underground or by surface working'

d) Petroleum Production Act 1934[10]

'including mineral oil or related hydrocarbons and natural gas'

e) Atomic Energy Act 1946[11] s. 18

'includes substances obtained or obtainable from soil by underground or surface working'

f) War Damage (Public Utility Undertakings) Act 1949[12] s. 34

'includes stone, clay, sand, gravel, and other natural deposits, brine, petroleum and any other mineral oil or relative hydrocarbon and natural gas'

g) Mines and Quarries Act 1954[13] s. 182

'includes stone, slate, clay, gravel, sand and other natural deposits except peat'

h) Opencast Coal Act 1958[14] s. 51

'includes stone, slate, clay, gravel, sand and similar deposits'

f) Town and Country Planning Act 1962 s. 221

'includes all minerals and substances in or under land of a kind ordinarily worked for removal by underground or surface working, except that it does not include peat cut for purposes other than sale'

These definitions illustrate a wide range, some of which are concise and others ambiguous. The difficulty of interpretation which has given rise to litigation is the qualifying phrase 'and other minerals' as this leaves it open to interpretation and hence possible litigation. In the absence of a precise definition recourse is usually made to its meaning in the vernacular of the mining world, the commercial world, and among landowners. Thus if a precise definition is not given in an Act of Parliament it may be construed in its widest sense within the general context of that particular piece of legislation, as evidenced in case law.

In the context of this thesis 'minerals' will be taken to mean 'any substance taken out of the earth by surface or underground abstraction processes, which has an economic value in its own right'. Any departure from this meaning will be qualified.

A further classification used is by method of abstraction, although certain minerals are abstracted by more than one method, namely slate has been quarried and it has been mined. This distinction however is important when considering the environmental impact of mineral extraction. The methods of abstracting the principal minerals together with outputs are indicated in Appendix 1 and 2.

B Classification of Mineral Ownership

Unlike mineral resources in many overseas communities the ownership of the major part of mineral bearing land in this country is held in private ownership. There have been however some important changes in the past fifty years which have transferred the title in vast reserves of minerals from the private sector to the public sector. Nevertheless the major part of mineral resources in this country is still vested in private ownership.

1) Case of Mines 1568

During the realm of Elizabeth I (1558-1603) this important test case was heard by the Court of the Exchequer. It was decided that all minerals beneath the surface of the land were normally vested in the person who owned the surface, with the exception of Mines Royal[18].

A precis of the case is given below:

Elizabeth I v. Earl of Northumberland 1568[17]

In March 1568, two agents of the Society of Mines Royal[19], namely Thomas Thurland and Daniel Howsetter, acting on behalf of the Queen went to procure lands in Newlands in Cumberland for the purpose of searching for copper ore believed to contain gold or silver. These lands belonged to the Earl of Northumberland. In their searches they found and abstracted 600,000 lbs of such ore before being stopped by the Earl in October 1568, who challenged the right of the Queen to authorise such work.

The case was heard by the Court of the Exchequer in November 1568, presided over by twelve judges, both parties to the dispute were represented by the most eminent members of the legal profession. At first the twelve judges agreed that mines of gold or silver were unquestionably Mines Royal, but a difference of opinion arose on the question of other metallic ores containing such gold or silver, i.e. copper ore, tin ore. Initially 9 of the 12 judges maintained that if gold or silver was found in any quantity such mines were to be classed as Mines Royal[18]. The 3 dissenting judges strongly argued the converse viewpoint and said that such other ores should only be classified as Mines Royal if the value of the extracted gold or silver exceeded that of the other ores. All judges agreed that a mine of metallic ore in which no gold or silver was traceable should not be termed a Mines Royal. The minority group were so persuasive that eventually all judges agreed that the matter depended on the intrinsic value of the base metals compared with that of gold or silver. If a mine be called a copper mine in which gold may be

found, the copper is the greater and the gold the less, for everything is less than the thing which contains it. This viewpoint conformed with those put forward by mining and mineral experts of that period, namely Georgius Agricola and Christopher Euceluis. The final judgement was therefore based on what might seem a rather ambiguous premise, in that a mine of copper is one in which any gold or silver present in such base ores is of less value when processed than the remaining processed metals. If the converse applies then by definition it is a mine of gold or silver and not copper.

To resolve the obvious problems created by this definition the Court found in favour of the Earl of Northumberland, stating that mines of copper in his lands were not Mines Royal, but added the proviso that should any gold or silver be found when extracting the metals in commercial quantities, then revenues would have to be paid to the Crown for the privilege of working such minerals.

Abstracts from Plowden's report No. 1816 of this important case are given in Appendix 3.

The Case of Mines [17] therefore established the important principle with regard to minerals, that prima facie the subject is entitled to all substances lying below the surface of the land in his ownership down to the centre of the earth. This accords with the legal maxim CUJUS EST SOLUM EJUS EST USQUE AD COELUM ET AD INFEROS (except mines of gold or silver). Since the judgement of 1568 there have been other important exceptions, details of which will be given subsequently.

As with land ownership in general the ownership of mineral bearing lands could be of two basic types namely 'free tenures' and 'unfree tenures'. The four basic classes of 'free tenure' were fee simple, estate tail, estate for life and estate pur autre vie. The 'unfree tenure' consisting of villein tenure and customary freehold. This classification was amended by the Law of Property Act 1925[20] and from 1st January 1926 there remained only two legal estates of fee simple absolute in possession and term of years absolute. Today these are commonly called freehold and leasehold interests respectively.

ii) Freehold Interests in Land

Land in its true sense means surface, subsoil and all subjacent strata down to the centre of the earth, with rights of air and any natural water conducive to the proper enjoyment of that estate. From this it can be seen that the owner has the right to gain access to and abstract any minerals in his land, using air and natural water as of right in such activities.

The proper enjoyment of ownership of land also includes a right of support from subjacent and adjacent lands, but this common law principle applies to land in its natural state, that is unburdened by man-made structures. This right cannot be applied to land burdened by buildings and structures, (non-natural state), unless it has been acquired by agreement, statute or prescription.

Prescriptive rights are acquired by long uninterrupted usage which in common law is taken as 20 years. Similarly adverse ownership can be claimed under the provisions of the Limitation Act 1939(21).

With the development of mineral extraction in this country it became the practice for the landowners either to sell or lease the minerals. The landowners were assigning more and more parcels of their surface estates to their former tenants, severing the surface from the subjacent minerals. Such transactions are known as 'instruments of severance', and are vitally important in tracing the respective rights of surface owner and mineral owner.

Severence is normally associated with the subdivision of land into horizontal layers, as practiced in the assignment of seams of coal. There are exceptions however whereby individual minerals have been severed from the land. The Duke of Westminister for example has the mineral rights in any lead found in the Halkin mountains of Wales, which is Crown property.

The Royal Commission on Mining Subsidence 1927(22) highlighted the anomalies and inequalities that exist in this complex aspect of land ownership.

iii) Leasehold Interests in Land

These are the other legal estates which can be created out of mineral ownership by the granting of a lease which gives the lessee a legal interest in all or part of the mineral estates for a limited period. The lessor cannot grant any rights he himself does not enjoy. It therefore follows that a lessor can only grant rights to withdraw support if he possesses that right.

Many mining leases provide for the payment of compensation to owners of surface properties damaged by mining activities provided they were in existence at the date of the lease. Properties constructed subsequent to the commencement of the lease will not receive protection therefore unless such has been acquired by agreement, statute or prescription.

Nearly all mineral leases allow the lessee to sub-lease subject to obtaining the lessors prior consent, but in so doing the lessee becomes the sub-lessor. In the sub-lease the term of years must not exceed that contained in the head lease and the sub-lessor cannot grant any rights greater than he has been granted. As with a freehold interest a leasehold interest can be assigned subject to the lease containing this provision. The respective rights of the original lessor, lessee and subsequent lessors and lessees are subject to rules of privity of contract and privity of estate.

As minerals are a wasting asset the granting of a lease will be in consideration of rents and royalties which should reflect the estimated value of the minerals. Such rents and royalties vary in style and amount, depending on the mineral being worked. They may be in the form of a sliding scale, fractional parts of the product, or flat tonnage rates. A selection of mineral rents and royalties is shown in Appendix 4.

Mineral leases follow a fairly standard format, the principal variations depending on whether the mineral is worked on the surface or by underground methods. The former destroys the surface albeit temporary in some cases, whereby the latter causes less damage but usually affects a much wider area. The rights of

surface owners must therefore be carefully considered and safeguarded when preparing leases. The rights of the respective parties to a lease are termed liberties.

Some liberties must be expressed and others implied. An important expressed liberty is that of working by 'outstroke', which means the rights of the lessee to convey 'foreign' minerals through the lands of the demise, this is termed a wayleave. This applies to surface works, shafts and underground workings and frequently the lessee is obliged to pay a rent for this privilege.

iv) Mineral Licences

Licences are frequently used in the granting of rights to abstract minerals, but these are not instruments granting a legal estate in property. A licensee therefore has a right granted to him by the licensor to execute some specific act which would otherwise constitute some infringement of the legal rights of the licensor. A licence therefore is not a means of creating an interest in land and cannot be assigned. A licence to abstract minerals is termed a profit a prendre.

It therefore follows that for the period of this study 1760-1960, the majority of mineral resources (other than Mines Royal[18]) has been held in private ownership. The owners of such minerals whether severed or unsevered have been generally free to dispose of such interests subject only to the legal constraints existing at that period. During the 20th century however certain minerals have been placed in public ownership, e.g. coal and mines of coal by virtue of the Coal Act 1938[23], but these exceptions will be discussed later.

The vast bulk of minerals was therefore to be found in the ownership of the large landowners, even where severance had taken place. The reason for this was that the minerals were usually retained by the original landowner and the surface sold in smaller parcels to his tenants. Usually when minerals have been proved in commercial quantities the mineral owner has granted leases to the mineral developer in preference to assigning his freehold interest.

Examples of types of mineral interests can be found in the coal holdings register, which was compiled under the provisions of the Coal (Registration of Ownership) Act 1937[24]. An examination of these records show that 95% of coal owners granted leases in preference to assignment. The register was required for the assessment of valuations under the terms of the Coal Act 1938[23].

C Land Registration

It is appropriate here to return to the question of land registration, and consider the effects it had on lands containing minerals in an unsevered state or in a severed state.

The Land Registration Act 1925[25] gives the following definition of land:

> '"Land" includes land of any tenure, and mines and minerals, whether or not severed from the surface, buildings or parts of buildings (whether the division is horizontal, vertical or made in any other way) and other corporeal hereditaments, also a manor, an advowson and a rent and other incorporeal hereditaments, and an easement, right, privilege or benefit in, over or derived from land, but not an undivided share in land, and "hereditament" means real property which, on an intestacy occurring before the commencement of this Act, might have devolved on an heir; .....'

From this definition it can be seen that mines and minerals form part of land and it is important to distinguish between mines and minerals which have been severed from those which are unsevered.

Despite repeated efforts to enforce it, compulsory registration is still not completed. Registration of title is only required when transfers of property take place, so that it will be a considerable time before all interests are registered. One result of this untidy situation is that any prospective purchaser may find the parcel of land in which he is interested has never been registered. The root of title must be proven therefore by a protracted search. The procedure of conveyancing in the past has been either that of unregistered conveyancing or registered conveyancing. Lands and property situate in a compulsory area will probably have been registered (depending on the date of

last transfer of title), but lands and property lying outside a compulsory area will have only been registered voluntarily. This distinction does not detract in any way from the title, but usually means a more protracted negotiation. It also highlights one of the problems of registration with regard to mineral bearing lands, which will be explained subsequently.

Sales and grants of leases of minerals are subjected to the same statutory controls imposed by the Law of Property Act 1925[20], Settled Land Act 1925[26], Landlord and Tenant Act 1927[27], Agriculture Holdings Act 1948[28] et alia as any other disposition of interests in land.

The Land Register consists of three parts namely the Property Register, the Proprietorship Register and the Charges Register, which are more or less self explanatory titles. The procedure of registration was formally established by the Land Registration Act 1925[25] and the Land Charges Act 1925[29], as recently amended by the Land Registration and Land Charges Act 1971[30]. The interests to be registered are:

1 Freehold interests
2 Leasehold interests
3 Land charges

In the case of leasehold interests a further explanation is necessary as not all leasehold interests are registerable even in compulsory areas. The following cases must be registered however where they occur in a compulsory area.

a) Every grant of a lease with a term of years of 40 years or more

b) Every assignment of a lease with a life of 40 years or more still unexpired

c) Every grant of a lease of lesser term than 40 years if the lease is granted out of a freeholding or superior leaseholding already registered. This applies whether the land is in a compulsory area or elsewhere

Leases with a term between 21 years and 40 years may be registered at the option of the lessee. Leases of a term of 21 years or less are not to be registered. This is of interest in the mining context as many mining leases fall into this category, for example Cornish Setts commonly prescribe a term of 21 years, as do most Crown leases.

It should be noted that registration of freeholdings and leaseholdings requires a double registration in each case (the vendor and the purchaser, the lessor and lessee respectively), to effect the registration of title.

Third Party interests under the Act of 1925[25] are classified as overriding interests or minor interests and the most important of these are the overriding interests. There is no requirement to register these interests because they have an overriding effect. It is therefore incumbent on any purchaser to determine what these are, if any. Section 70 of the Act of 1925[25] lists these and one of importance to mineral ownership is that of rights of way. Also certain mineral interests are classified as overriding interests such as gold, silver, lead and tin.

An exception to the ruling of overriding interests is any third party right to mines and minerals. Rule 196 of the Land Registration Rules 1925[31] requires the Registrar to annotate the register with references to any lands which are subjected to severance of mines and minerals. In other words no person can claim a title to mines and minerals unless there is evidence to that effect in the Register. This would seem to create a paradoxical situation when considering Section 120 (1) of the Land Registration Act 1925[25], which states that any mines and minerals which are severed do not have to be registered in an area declared a compulsory area by Order in Council, unless the proprietor wishes to do so.

Rule 196 is important when considering severed mineral interests, as the Registrar pursues the following guidelines when investigating such claims:

1 Mineral rights created before 1 January 1898 out of land which was first registered under the Land Transfer Act 1875[32] are deemed to be 'overriding interests'.

2 After 1 January 1898 only mineral rights created before first registration under the Land Transfer Act 1897[33], are to be deemed 'overriding interests'.

3 After 1 January 1926 no claim to mineral rights can be considered as an 'overriding interest'. The Registrar will not accept a claim as valid if there is no annotation to that effect in the register.

From the above summary of the rule it would seem that a title in severed mines and minerals will be judged an 'overriding interest', either by the date of its creation or by an entry in the register proving the severance.

Despite the detailed searches made by the Land Registrar in first registering an interest, anomalies and errors have occurred, and any aggrieved party has a right to rectification of entry. Under the provisions of Section 82 (1) of the Land Registration Act 1925[25] there are eight cases which are eligible for rectification, but it must be remembered that 'overriding interests' do not have to be registered and, if established, such interests carry a prerogative right over any registered interest.

Compensation for loss incurred by rectification, or conversely non-rectification is provided for by Section 83 of the same Act and is of special importance to mines and minerals. It states that no indemnity shall be payable on account of any anomaly or error with regard to mines or minerals unless a note is entered in the Register that such mines and minerals form part of the whole interest under dispute. Conversely a note by the Registrar that the mines and minerals are severed from the lands registered clearly excepts them from any such claim to title. The situation is open to dispute where severance has taken place before the date of first registration, thus making it an overriding interest, which does not require registration.

The funding of compensation for valid claims was originally intended to be met by the registration fees but the monies accruing were transferred to the Treasury to assist in redeeming the National Debt.

Under the Land Registration Act 1936 a fixed sum of £100,000 was provided by the Treasury for funding such compensation, but this was abolished recently under the provisions of Section 1 of the Land Registration and Land Charges Act 1971[30]. Any such claims from then on are to be met by the Land Registrar from a Parliamentary grant known as the Land Registry Vote.

To summarise this rather complex situation with respect to mines and minerals it would seem that:

a) Unless expressly severed, mines and minerals will be in the land registered in toto.

b) Eventually all interests in land will be registered by compulsion.

c) Severed mines and minerals need not be registered even in compulsory areas (Section 120 (1) of Land Registration Act 1925[25]). It is therefore a voluntary matter at the present time.

d) To ensure that interests in severed mines and minerals are protected the Registrar should be requested to annotate affected lands which have been registered with a note to that effect.

e) Severed mines and minerals are only classified as overriding interests in certain cases depending on the date of severance and the date of registration of remaining lands.

f) When severed mines and minerals have been registered the sale or grant by lease of such an interest is identical to land in toto. It becomes an independant registerable interest.

g) The owner of land in toto when registered can sell or grant a lease of all mines and minerals in his estate or any part thereof. Conversely he may retain the mines and minerals and sell or grant a lease of surface lands in toto or in part.

h) Rectification can be made in the register in matters referring to mines and minerals, but the applicant will only be able to claim compensation for such mines and minerals if they have not been severed.

i) In the event of an instrument of severance being drawn up for registered land, two new registerable interests are created, namely the transferors and transferees.

References

1 8 & 9 Vict., c. 20

2 8 & 9 Vict., c. 18

3 Great Western Railway Co v. Bennett (1867 L.R. 2 H.L. 27; 36 L.J.Q.B. 133

4 Hext v. Gill (1872) 7 Ch. App. 699; 41 L.J. Ch. 761

5 Glasgow Corporation v. Farie (1888) 13 App. Cas. 657; 58 L.J.P.C. 33

6 Midland Railway Co v. Robinson (1889) 15 A.C. 19; 59 L.J. Ch. 442

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8 46 & 47 Vict., c. 37

9 13 & 14 Geo. 5, c. 20

10 24 & 25 Geo. 5, c. 36

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13 2 & 3 Eliz. 2, c. 70

14 6 & 7 Eliz. 2, c. 69

15 10 & 11 Eliz. 2, c. 38

16 'World Survey of Mineral Rights Legislation for Land Areas' by R S Collins. Ph.D, DIC, B.Sc. FGS, FRGS (Trans IMM, Vol 80, 1971, No. 770)

17 Elizabeth I v. Earl of Northumberland (1568) Plowden's Report No. 1816, pp. 310-336A

18 Gold and Silver are deemed Mines Royal

19 Formed in 1561 by an Indenture signed by Elizabeth I, John Steynbergh and Thomas Thurland - see 'Joint Stock Companies' by W R Scott, Vol 2, p. 383

20 15 & 16 Geo. 5, c. 20

21 2 & 3 Geo. 6, c. 21

22 1927 Cmd. 2899

23 1 & 2 Geo. 6, c. 52

24 1 Edw. 8 & 1 Geo. 6, c. 56

25 15 & 16 Geo. 6, c. 56

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CHAPTER IV

EXCEPTIONS TO NORMAL RIGHTS OF MINERAL OWNERSHIP

Following the decision of the Case of Mines 1568[1] whereby it was ruled that only mines of gold or silver can be claimed as Mines Royal in England and Wales, it became evident that subject to the Crown actually owning the lands all other minerals were deemed to be in private ownership subject to certain local customs.

A Crown Minerals and Mines Royal

The provisions of the Royal Mines Act 1688[2] stated that no mine of copper, tin, iron or lead shall be adjudged a Royal Mine, although gold or silver may be extracted from these metals when processing. This was further confirmed by the provisions of the Royal Mines Act 1693[3] which stated that only gold and silver can be classed as Royal Mines, but His Majesty and his heirs and successors may claim a share in other ores worked in England and Wales, with the exception of tin-ore in Devon and Cornwall. The rates of payment for such ores brought to bank were specified in Section 2 as:

a) Copper ore £16 per ton, washed and made clean
b) Tin ore £2 per ton, washed and made clean
c) Iron ore £2 per ton, washed and made clean
d) Lead ore £9 per ton, washed and made clean

The payment for lead ore was increased to £25 per ton by the provisions of the Crown Pre-Emptions of Lead Ore Act 1815[4].

These pre-emptive rights of the Crown were recently abolished by the repeal of the above statutes by the Statute Law (Repeals) Act 1969[5].

Under the Petroleum (Production) Act 1918[6] all property in petroleum was vested in the Crown, and such interests were placed under the administration of the Board of Trade. This Act was found ambiguous in its application and was repealed by the Petroleum (Production) Act 1934[7], in which Section 1 (i) states:

"The property in petroleum existing in its natural condition in strata in Great Britain is hereby vested in His Majesty, and His Majesty shall have the exclusive right of searching and boring for and getting such petroleum."

The Board of Trade was responsible for issuing prospecting and abstraction licences and in the early years all such licences were for land based resources.

Under the Atomic Energy Act 1946[8] certain prescribed substances may by order as provided for in Section 7 be made the subject of exclusive working rights, together with any ancillary rights necessary

ADDENDUM

Under the provisions of the Atomic Energy Authority Act 1954 (44), the majority of relevant functions performed by the Minister of Supply are now the responsibility of the UK Atomic Energy Authority. The remaining functions are vested in the Secretary of State for Energy.

B Manorial Rights

These rights derive from two basic sources, namely copyhold interests and inclosure awards. These interests in land have already been referred to and it is only intended here to explain the special significance such interests may have on rights of mineral ownership.

i) Former Copyhold Lands

By a series of statutes, copyhold interests gradually became enfranchised, the final stage being completed by the Law of Property Act 1922[9]. The former copyholder became a freeholder of the lands in the generally accepted sense.

Although the mines and minerals were in the possession of the former copyholder, the lord of the manor retained his manorial rights to work such mines and minerals, subject to first obtaining the consent of the former copyholder. Furthermore the lord of the manor usually paid half of any royalites received to the former copyholder. Following the enactment of the Mines (Working Facilities and Support) Act 1923[10] this fractional part was re-

duced to one third. Occasionally when enfranchisement took place, either voluntarily or compulsorily, the lord of the manor retained the mines and minerals with a right to work them unfettered by any rights of the former copyholder, which in effect placed the two parties in the normal common law position of two separate owners of severed interests. These agreements very much depended on the customs of the manor.

In Durham it is common to find agreements in which the lord of the manor had the right to work the mines and minerals without consent provided he does not let down the surface of the former copyholder. This allowed for a partial extraction of the mineral, but any greater extraction required negotiation between parties. In Northumberland the former copyholder would allow total extraction to take place subject to the payment of proper compensation. In parts of Yorkshire, Lancashire and Wales agreements can be found giving the exclusive rights of working to the former copyholder.

It is clear that in the search of title to mineral rights any reference to former copyhold minerals must be carefully examined as the rights could vary by manorial custom, although these could be varied by agreement or by Court Order.

A unique situation arose when 'coal' and 'mines of coal' became vested in the State by virtue of the Coal Act 1938[11], the Coal Commission taking over all vested interests from 1 July 1942. Section 5 (6) of that Act classified former copyhold interests as retained interests, which therefore required all enfranchisement agreements to be honoured. The Coal Commission acquired the same rights as enjoyed previously by the lord of the manor. These rights subsequently became vested in the National Coal Board by virtue of the Coal Industry Nationalisation Act 1946[12]. The certainty of tracing all such manorial agreements has never been absolute and to expedite the working of such coal, recent changes were made under the provisions of the Coal Industry Act 1975[13]. The former copyholders must now claim their title to such rights, instead of the previous practice of the mineral owner having to obtain the consent of the former copyholder before working the coal.

This change in procedure only applies to interests vested in the National Coal Board and all other mineral owners have still to follow the procedure of obtaining the former copyholders consent, unless there is documentary evidence to the contrary.

ii) Inclosed Lands

These are former manorial lands (commons) granted by the lord of the manor (allotter) to the tenants of the manor (allottees), but unlike the former copyholders, the allottees have no claim to title in the mines and minerals. The lord of the manor usually retained a full title in the minerals with the rights to work them and lower the surface of the allottees provided he did not unduly interfere with the commoners surface rights. As the law of mines and minerals developed so did the number of disputes involving the interpretation of these Inclosure Awards. Many cases have been referred to the Courts on this vexed question of the rights to work and lower the surface of inclosed lands. Although the law has become clearer on these issues it is the responsibility of both parties to examine closely such Awards so as to determine their respective rights. Should either party not be satisfied with these rights and cannot reach agreement with the other party, then they may apply for a variance of these terms under the provisions of the Mines (Working Facilities & Support) Act 1966[14], as amended by the Act of 1974[15].

The Inclosure Awards[16] varied with manorial custom as did enfranchisement agreements for copyhold tenants and all mineral owners/operators must exercise care in undermining such inclosed lands. Some Awards were unique in making the allottees collectively responsible for the cost of any remedial works occasioned by the working of minerals under the inclosed lands by the lord of the manor or his successors in title. Part of such an award is shown in Appendix 5.

It can thus be seen from the above instances that manorial customs have created anomalies in the normal rules concerning ownership of minerals and by their very nature and date will obviously deviate from contemporary thinking. Nevertheless they are part of the legal framework within which mineral resources must be extracted.

C Special Local Customs

This section describes the special rights or privileges enjoyed by certain mineral workers and which do not follow the normal laws of ownership. These rights are very ancient and little is known of their true origin although a strong resemblance can be found in customs of the lead miners of Derbyshire with those traceable to the medieval period in Central Europe.

i) Devon and Cornwall

The origin of the rights of tin miners are obscure but are certainly pre-Norman and possibly Roman. Recorded history has established a strong system of self administration by the time King John granted the miners of Devon and Cornwall free status in a Charter dated 1201[17], by which they were freed of villeinage thus attracting many villeins to become free miners. The Charter acknowledged the established ancient customs and liberties of miners, smelters and merchants of tin, and prohibited the sale of uncoined tin and the transport of any tin outside Devon and Cornwall without the licence of the Lord Warden.

Edward I granted a revised Charter in 1305[18] which gave the tinners immunities from the jurisdiction of all Royal and Manorial Courts except in cases of 'murder, manslaughter or mayhem'. Therefore all matters affecting the life of the tin miner, both at home and at work, were referred to the Stannary Court.

In 1338 Edward III changed the hitherto Earldom of Cornwall into a Duchy, in the name of HRH, the Prince of Wales[19].

These Charters conferred the rights of tinners to mine for tin and to dig turves for smelting tin in the commons and wastrels. In Devon the tinners could exercise this right over inclosed lands, but the tinners of Cornwall had to seek the landlords permission in such cases. The smelted tin could be sold by the tinners to whomsoever they wished, but in return for such privileges they had first to pay a levy to the Sovereign known as coinage, which had to be paid initially twice yearly at Midsummer and Michaelmas, but in later years coinage became due four times a year. Every Stannary had a Coinage town.

During the ensuing centuries changes were made by various monarchs, one notable change being introduced by Henry VII in 1508 by a Charter which laid down the revised constitution of the Stannary Convocation of Cornwall[20].

The activities of the Stannary Courts decreased throughout the 17th and 18th centuries until the Courts were finally abolished by the Stannaries Court Act 1836[21]. From then on all disputes were referred to the Vice-Wardens Court or the County Court. The Vice-Wardens Court became less important and was abolished in 1896 by the Stannaries Court (Abolition) Act[22], after which disputes were referred to magistrates or County Courts.

Meanwhile the collection of coinage by officers of the Crown was discontinued in 1838 by the Coinage Abolition Act[23]. The Crown was compensated for loss of such revenue by an annuity in perpetuity equal to the average annual sum received in the previous ten years.

A tinners right to claim an area of land in which he had discovered tin-ore was known as tin-bounding, which involved physically marking each of four corners by mounds of turf or stone in the shape of a quadrilateral, this was termed 'pitching the bounds'.

Although at first the tinners were able to exercise these rights quite freely, as time went on many freeholders commenced bounding their own lands. This required a declaration to be made on oath before the Stewards Court. Further protection was given to freeholders of land by the Convocation Act 1752[24] which required tinners to give 3 months notice of their intention to bound certain lands owned by the freeholder.

The landed gentry were themselves becoming tin-bounders not only of their own lands but of others and were known as adventurers. It was the practice for the adventurer to engage miners on tribute to work the tin-ore and on contract (tutwork) to develop the mine.

Where the tin-ore was worked in a freeholders land by an adventurer he had to pay toll tin to the freeholder for that privilege. This was usually a cash payment being a share of the proceeds from the sale of washed black tin to the smelters, but occasionally the freeholder required payment in kind, which he then sold to the smelters.

The tin miners engaged on tribute work were required to give to the adventurer a fractional part of the ore produced by them. The amount varied depending on the stage of preparation, but usually specified 1/13th part of white tin (smelted) or 1/9th part of black tin (unsmelted).

Traditionally tolls and dues in tin mining were paid in kind, whereas in copper mining it was the practice to pay in cash.

By the end of the 19th century tin bounding was almost obsolete and all working rights were the subject of leases (setts). The term of such leases was by custom 21 years and rents were in the traditional fractional parts. This is still the custom at the few mines now operating.

ii) Derbyshire

By ancient custom dating back to at least Roman times lead miners have enjoyed certain privileges and freedoms similar to those of the Cornish miner. Any subject of the Crown is entitled to enter, search and work lead ores regardless of ownership in certain lands.

The freedoms may be exercised over lands in the Hundred of High Peak, in the County of Derby called the Kings Field, and in certain other parts of the same Hundred; and in a district within the Soke and Wapentake of Wirksworth or Low Peak, in the same County, called the Kings Field.

By definition it can be seen that such mines and veins of lead are contained in Crown lands (the Kings Field) which interests are held in trust by the Duchy of Lancaster.

Similar freedoms are exercisable in the Manors of Ashford, Hartington, Peak Forest, Tideswell, Crich, Stoney Middleton and Eyam, Youlgrave and Litton, in the County of Derby; all these lands however are in private ownership. Certain freeholds in Manor of Crich are excepted.

Barmote Courts were established to administer these customary laws and practices. These consisted of Great Barmote Courts and Small Barmote Courts, all under the control of a Steward (a Royal Appointment), assisted by Barmasters and Deputy Barmasters.

The Great Barmote Court is held once or twice a year depending upon the locality. The Small Barmote Courts are held at the discretion of the Steward.

The administration of the Courts in the High Peak area was made the subject of formal legislation by the enactment of High Peak Mining Customs and Mineral Courts Act 1851[25]; and the remaining areas affected by such rights by the enactment of the Derbyshire Mining Customs and Mineral Courts Act 1852[26].

Upon first discovering lead ore the miner must give notice to the Barmaster, and must also deliver one dish of lead ore extracted from the vein, known as the 'freeing dish'. Thereafter the Barmaster must set out two meers, one either side of the point of discovery (founder). The actual owner of the minerals is entitled to a third meer co-extensive with one of the flanking meers, which he may work himself or negotiate with the miner for its sale. Further meers may be set out by the Barmaster as and when required with a maximum of fifty meers for any one miner. A meer varies in length depending on the Manor involved but ranges from 28 yards to 32 yards. When lead has been worked the miner must give the Barmaster 3 days notice of his wish to have the ore measured.

Miners are at liberty to enter surface lands for the purpose of constructing mine works subject to agreement with the Barmaster; and similarly may dispose of his interest anytime subject to notifying the Barmaster.

The Barmote Courts within the Soke and Wapentake of Wirksworth are still active, with bi-annual sittings in Moot Hall, Wirksworth.

iii) Hundreds of St Briavels

By ancient rights dating back to Roman times and regulated now by Statute any person born and abiding within the Hundred of St Briavels of the age of 21 years or more and who has worked for one year and one day in a coal mine or iron mine within the said district are 'free miners' provided they have registered as such under the requirements of the Dean Forest (Mines) Act 1838[27].

The Hundred of St Briavels contains the Forest of Dean (the boundaries of which were defined in the Forest of Dean Acts 1640[28] and 1668[29]), all of which are situated in the County of Gloucester,

Part of the surface lands within the Hundreds are in Crown ownership and part in private ownership, but nearly the entire woodlands of the Forest of Dean are in Crown ownership. Almost without exception the minerals contained in the Hundreds vest in the Crown subject to the ancient rights of the 'free miners'.

The Crown interests in the Hundreds of St Briavels are now administered by the Forestry Commission (formerly the Commissioners of Woods and Forests[30]). The First Commissioner being the regal representative, known as the Gaveller.

Under the provisions of Dean Forest (Mines) Act 1838[27]; the Dean Forest (Amendment) Act 1861[31]; the Dean Forest (Mines) Act 1871[32] and three Awards made in 1841 by the Commissioners, 'free miners' can apply to the Gaveller or his deputy, for the grant of a lease known as a gale. In return the free miner has to pay galeage (dead rent) as well as royalties, such charges being itemised in the gale. Galeage has to be paid on 31st December each year and royalties on 30th June and 31st December each year.

Similar rights are available to any male person who satisfies the birthright and age qualification who may wish to apply for a gale of a stone quarry provided such a quarry is situated in the Forest of Dean.

The Gaveller who issues the gales keeps a record of all free miners (galees) and is empowered to grant gales for coal and iron in the Hundreds and stone in the Forest. The rights of allottees in certain inclosed lands and any restriction imposed on quarry gales by the Quarry Award 1841 must be observed.

The Awards made in 1841 by the Commissioners were in effect the formal recognition of all existing gales and had to be described and delineated by the Gaveller, and thereafter a proper record had to be kept of all subsequent gales granted.

A private owner of inclosed lands within the Hundreds, but excluding Forest lands, is entitled to one half of galeage and royalties paid by the galee.

Before any gale is granted by the Gaveller fourteen days notice must be given in a local newspaper of the application.

Although all coal and mines of coal were vested in the Coal Commission by virtue of the Coal Act 1938[11] the rights of the free miners were protected by Section 43 of that Act. The Forestry Commission were compensated for loss of revenue, but were required to continue the administrative duties of the Gaveller. From 1st January 1947 the National Coal Board acquired the interests of the Coal Commission and the Forestry Commission continues to administer the coal interests in the Hundred of St Briavels. The rights of the free miners were protected by the provisions of Section 63 (2) of the Coal Industry Nationalisation Act 1946[12] which excluded the vesting of such interests in the National Coal Board.

iv The Isle of Man

All minerals in the Isle of Man with the exception of clay and sand vest in the Crown under the provisions of the Act of Settlement of the Isle of Man[33].

Therefore all owners of customary tenements may work or lease any clay and sand contained therein. The Crown however reserves a right of access to other minerals which may be contained in those lands, subject to the payment of compensation for any damage done thereby.

D Foreshore and Offshore Minerals

From time immemorial the major part of the minerals lying on or under the foreshores of this country has vested in the Crown. The Crown Lands Act 1829[34] made the Commissioner of Woods and Forests responsible for the administration of Crown lands and for the collection of revenues accruing from such interests. No direct reference was made to offshore minerals, but it is on the basis of this Act that the rights of the Crown in subsequent disputes was established. The Act authorised the Commissioners to grant mineral leases up to a maximum term of 31 years.

The foreshores are defined as that tract of land around the coastlines and estuaries of Great Britain that lies between mean high water mark (HWM) and mean low water mark (LWM), as defined by the Ordnance Survey.

The minor exceptions to Crown ownership of the foreshores are lands vested in the Duchy of Cornwall, that is the entire Cornish Peninsula; lands vested in the Church Commissioners in the County of Durham by virtue of the Durham County Palatine Act 1858[35], which provides for 50% of all rents and royalites to be paid to the Crown and the other half to the Church Commissioners; lands vested in the Duchy of Lancaster; lands vested in assignees of Crown interests and any person proving adverse possession.

The position of Crown ownership in Cornwall was not clearly established until the matter was referred in 1856 to Sir John Patterson, a judge of the Queens Bench Division, who acting as arbitrator made an Award on 25 February 1858. Full details of this Award are given in the Case Study described in Chapter X.

Briefly the Award stated:

1 All minerals which lie beyond Low Water Mark around the main coastline of Cornwall, excluding any such minerals which lie beneath any estuaries or navigable rivers, shall vest in the Crown.

2 All minerals which lie under the foreshores delineated by HWM and LWM vest in the Duchy of Cornwall, including those within coastline estuaries and tidal rivers.

3 The Crown is to have access to its offshore minerals through the lands of the Duchy and other land owners.

This Award was closely followed by the Cornwall Submarine Mines Act 1858[36] which made the provisions of the Award statutory. Anomolies over demarcation of HWM and LWM gave rise to further disputes between the Crown and the Duchy and the matter was again referred to arbitration in 1866. The arbitrator was Sir John Coleridge, a Judge of the Queens Bench Division who gave his award in 1869. This was virtually a recital of the provisions of the Act of 1858 except it made the LWM at Spring Tide the demarcation line to be used in fixing the limits of the Crown interests offshore.

Meanwhile the Crown Lands Act 1866[37] made the Board of Trade responsible for the management of any Crown lands forming the foreshores of Great Britain and sea-beds lying beyond LWM up to a point 3 miles therefrom, termed territorial waters.

The extent of Crown rights to offshore minerals remained obscure until the 20th century, but offshore working developed in the late 19th century mainly in the coalfields of Durham and Northumberland. A lease was granted by the Crown in 1880 to the Earl of Lonsdale extending the limit from 3 miles to 10 miles, the question of zonal limit was therefore still not clear.

The Crown Lands Act 1873[38] in the meantime had allowed the Board of Trade to grant leases of up to 63 years duration.

The first major change in the ownership of offshore minerals affecting the Crown was made by the Petroleum (Production) Act 1918[6], subsequently repealed by the Act of 1934[7]. These Acts vested all property in petroleum in the Crown, whose authority was delegated to the Board of Trade.

Section 1 (i) of the Act of 1934[7] clearly states the right to petroleum in strata in Great Britain be vested in the Crown, which includes by inference the foreshore and offshore up to the limits of territorial waters.

After the discovery of oil offshore in Venezuela in 1935, the United States passed legislation through the Senate in 1937, vesting in them all rights to offshore deposits along their coastal states. Great Britain proved an extension of the same oil field off the coastline of Trinidad and entered into an International Treaty with the USA in 1942. In 1945 the USA introduced the concept of the continental shelf, claiming Sovereignty in all minerals found on and under the sea-bed of the shelf abounding that nation. This concept was accepted as International Law in 1953.

An International Law Commission set up under the auspices of the United Nations, consisting of 22 member nations including Great Britain defined the continental shelf as that zone lying beyond the territorial water limit of 3 miles up to a point at which the depth of water does not exceed 200 metres. This depth limit can be increased if exploitation of natural resources is feasible. All coastal states enjoy full sovereign rights within the zone formed by their coastlines and the depth limit.

In the North Sea there are areas of water between countries where the depth limit is not reached and to clearly define national rights a median has been drawn between the various countries bordering the North Sea.

Although the Petroleum (Production) Act 1934[7] could be interpreted to include land based licences and territorial waters, it was felt desirable to provide for licences in waters lying inside the continental shelf zone. The Continental Shelf Act 1964[39] was enacted therefore to provide a means of controlling all mineral development within the zone of the shelf vested in Great Britain. Section 1(i) of the Act states:

> "Any rights exercisable by the United Kingdom outside territorial waters with respect to the sea-bed and subsoil and their natural resources except so far as they are exercisable in relation to coal, are hereby vested in Her Majesty."

The exception of coal was in conformity with the exclusive rights vested in the National Coal Board by virtue of the Coal Industry Nationalisation Act 1946[12], Section 1 (i).

The National Coal Board (Additional Powers) Act 1966[40], Section 1 (i) grants the National Coal Board the following rights:

> "to search and bore for and get petroleum in the sea-bed and subsoil of the territorial waters of the United Kingdom adjacent to Great Britain and of any area for the time being designated under Section 1 (7) of the Act of 1964."

The licensing administration is governed by the Petroleum (Production) Regulations 1966[41], which covers the statutory requirements laid down in the Petroleum (Production) Act 1934[7] and the Continental Shelf Act 1964[39].

The Act of 1934[7] only provided legislation for a particular substance, that is petroleum. Furthermore the Act of 1964[39], only provided legislation for natural resources beyond the 3 miles limit. The Mineral Workings (Offshore) Installations Act 1971[42] has now clearly vested in the Crown all natural resources lying beyond Low Water Mark and terminating with the seaward limit of the Continental Shelf.

A confirmation of these rights is given in the Mineral Exploitation and Investment Grants Act 1972[43], Section 1 (i) of which states that contributions will be made in respect of expenditure incurred on searching for, or in discovering and testing mineral deposits in Great Britain or in the sea-bed and subsoil of the territorial waters of the United Kingdom adjacent to Great Britain or in that of any area for the time being designated under Section 1 (7) of the Continental Shelf Act 1964[39].

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20 'Stannary Law' by R R Pennington, p. 20

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44 2 & 3 Eliz. 2, c. 32

ADDENDUM

MINING CODE

In this chapter the term 'Mining Code' is used SENSU LATA and not SENSU STRICTA as is usual in Acts of Parliament.

Parts of certain statutes are known to the mining profession as the 'Mining Code', but this term does not appear in any statutes of the United Kingdom or subsidiary legislation derived therefrom.

surface; what constituted a mineral was not always clear and was the source of litigation on more than one occasion.

Each Canal Act must be carefully examined to determine the exact rights of the respective parties and what mining code provisions may have been incorporated.

There have been many cases before the courts concerning the various rights and liabilities of the respective parties concerning workings approaching canals. Examples of some of these cases are summarised below.

a) Dudley Canal Navigation Co v. Grazebrook 1830(1)

The mineral owner had served a notice of approach as required by the Mining Code provisions of that private Act. The canal company ignored the notice. The mineral owner proceeded to work the mines in a proper and customary manner and in so doing damaged the canal.

The court held the mineral owner to be within his rights to work as he had not received a counter notice (a notice to treat) from the canal company, but he was held to be liable for the damage caused to the canal.

b) Stourbridge Canal v. Wheeley 1831[2]

Certain important principles of law highlighted in this ruling were:

a) Canals having been made by virtue of a statutory enactment enjoy rights no more and no less than those specified in that Act.

b) Any ambiguity in definition should be given to the benefit of the public (including the mineral owner) in preference to the canal company.

c) Unless minerals are excepted they pass with the surface to the canal company.

d) If retention of support (subjacent and adjacent) is essential for the proper functioning of the canal the courts should grant in favour of the canal company, otherwise the Act would be seen to be aborted.

c) Cromford Canal Co v. Cutts 1848[3]

The respective rights of the parties upon the serving of a counter notice by the canal company were in dispute.

The judgement held that it was a dual responsibility of canal owner and mineral owner to ensure the canal was not damaged by mining and similarly to ensure the mines were not endangered by the canal. The two parties should mutually agree to leave adequate support in return for adequate consideration. It was further ruled that the compensation payable for minerals subjacent to the canal was a mandatory payment, but compensation for those lying adjacent was a discretionary one.

d) Birmingham Canal Navigation Co v. Dudley 1862[4]

The private Act prescribed a distance of 20 yd for tunnels and 12 yd for canals for notices of approach. The mineral owner had claimed compensation for minerals sterilised by counter notice on the above prescription, but the canal company were only prepared

to pay monies based on the 12 yd distance.

The court held that compensation must be paid on the basis of 20 yd and 12 yd respectively as specified in the Act.

e) London North Western Railway Co v. Evans 1893[5]

The canal in question had been constructed under the provisions of a private Act in 1754, the canal company acquiring such lands necessary subject to compensating the affected land owners. In assessing compensation no reference was made to minerals.

Subsequently the minerals were worked and caused damage to the canal. The canal company sought an injunction to restrain further working and compensation for the unauthorised working.

The Appeal Court held in favour of the canal company on the premise that nothing in the private Act indicated the exception of minerals, thus the minerals were acquired with the land. The actions of the mineral owner had been contrary to the intention of the private Act, that is the provision of a means of transport by waterways.

f) Ilkeston Collieries Ltd v. Grand Union Canal Co 1946[6]

The right of support provided by minerals inside and outside the area of protection were challenged in this case.

The court ruled that the private Act clearly provided a Mining Code provision in substitution for any common law rights for those minerals lying inside the area of protection. No such substitution was applicable for those minerals lying outside the area of protection.

General Comment

The liability of mineral owners/operators when approaching canals has not changed throughout the centuries. The provisions of the private Acts with regard to the Mining Code must be the basis of determining the rights of the parties involved. There has been one exception to this general provision, this being an agreement made between the National

Coal Board and British Waterways in 1959. The procedure with regard to underground coal workings approaching all canals and inland waterways was standardised throughout the country by this agreement.

The Canal Acts made the first major impact on the common law rights of support in a statutory sense, although the various items referred to in the selected cases illustrate the general uncertainty which has existed over the years.

B Railway Acts

With the advent of railways in the early 19th century transport by inland waterways began to decline in favour for the more flexible railway system which rapidly expanded in the period 1840-1880 (see Appendix 6). The result was a transfer of freight from waterways to railways, although the major canal networks remained competitive well into the 20th century.

i) Railway Acts before 1924

The railway companies were granted statutory powers for the construction of their works. Some of the earlier railways were constructed under the provisions of Private Acts, but the major network was developed by provisions contained in the Railways Clauses Consolidation Act 1845[8] and the Land Clauses Consolidation Act 1845[9]. The former Act was the one instrumental in the actual construction of railways and the latter was an enabling Act covering such matters as statutory powers of acquisition and assessment of compensation for acquired lands. It was hoped at that point in time to reduce the litigation and anomalies which were already in evidence in the case of canals. The Railways Clauses Consolidation Act 1845[8] although no longer applicable to railways is incorporated in some other enactments and is therefore still applicable.

The Railways Clauses Consolidation Act 1845[8] contained specific provisions with reference to mining operations near railways. These provisions became known as the Mining Code. This Code was modelled on some of the more erudite canal Acts and incorporated certain points clarified by litigation arising from these Acts. Disputes followed however and some of the points arising therefrom are now quoted:

a) Elliot v. London North Eastern Railway Co 1863

The plaintiffs claimed rights to withdraw support from railway lands, but the railway company contested such claims on the grounds of presumptive rights.

The Court held that the railway company was in no superior a position to any other surface owner. They only enjoyed a common law right of support to land in its natural state provided that right had not been surrendered previously. Should the railway wish to retain support they had to purchase it unless they could prove that they enjoyed this right by title.

b) Pountney v. Clayton 1883[11]

The rights of third parties who had acquired surplus lands from the railway company subsequent to the construction of the railway was the point in question.

It was held in Court that the railway company had never enjoyed a right of support for any of the severed lands and therefore could not assign parts of that land with such a right.

c) Midland Railway Co v. Robinson 1889[12]

The railway company acquired lands for the construction of a railway from the defendant who also owned adjacent lands from which minerals were being worked. Subsequently these workings approached the railway and a notice of approach was served by the defendant (not the mineral extractor). The workings consisted of a quarry extracting ironstone and limestone ranging in depth from 6' to 60'. The railway company argued that the minerals in question were not excepted but were part of the acquired estate. The common law rights of support could not therefore be set aside by the Mining Code. Furthermore the notice of approach was claimed to be invalid.

The Court held that the minerals in question were excepted and could thus be worked, subject to the provisions of the Mining Code 1845. The notice was valid although served by the mineral owner and not the mineral worker.

d) Eden v. London North Eastern Railway Co 1907[13]

Two important principles were established in this case, viz.

1 Any consideration paid by the railway company was for a right of support and not an acquisition of the minerals left unworked

2 Such consideration should be based on tonnage sterilised multiplied by the net value of proceeds less cost of working.

e) London North Western Railway Co v. Howley Park Coal and Cannel Co 1911[14] and
Howley Park Coal and Cannel Co v. London North Western Railway Co 1913[15]

This case is the most important test case in the history of the Mining Code as it affects railways.

At the first hearing the railway company challenged the rights of the colliery company to withdraw support from their works under the provisions of the Mining Code of 1845, on the grounds that they had acquired an upper stratum to afford support to the railway. Furthermore they claimed a presumptive right of support from adjacent minerals lying outside the area of protection.

The two basic questions were:

1 Does the acquisition of a stratum near to the surface provide absolute support to that surface?

2 Does the common law of right of support given by minerals which are adjacent to the area of protection still apply?

The following cases were referred to:

f) Great Western Railway Co v. Bennett 1867[16]
g) New Moss Colliery Ltd v. Manchester Corporation 1908[17]
h) Lord Gerard v. London North Western Railway Co 1895[18]
i) Dixon v. Caledonian and Glasgow and South Western Railway Co 1880[19]

The judicatures comments on the relevance of these cases is now summarised under their respective titles.

f) Great Western Railway Co v. Bennett 1867[16]

The plaintiffs claimed they had the rights to withdraw support from the railway lands, but the railway claimed presumptive rights of absolute support.

The Court held that the railway company was in no superior a position to any other surface owner in that they could only claim common law rights if they had never been surrendered. Should the railway wish to retain support they had the right to do so under the Mining Code of 1845.

g) New Moss Colliery Ltd v. Manchester Corporation 1908[17]

In 1878 the Corporation purchased an upper seam of coal called the Stone Coal in which they held the fee simple interest. The Corporation subsequently contested the rights of the colliery company of withdrawing support from their lands under the provisions of the Mining Code. They maintained they had a common law right of support from subjacent and adjacent minerals and furthermore had purchased the Stone Coal to ensure that support was retained.

The Court held that the colliery company were legally entitled to work and withdraw support under the provisions of the Mining Code, pointing out that the acquisition of a stratum offered no absolute right of support if it had not been acquired with that stratum.

h) Lord Gerard v. London North Western Railway Co 1895

The judgement in this case concerned the substitution of common law rights and verified the Great Western Railway Co decision of 1867.

The Court further ruled that the compensation to be paid to the mine owner upon receipt of a counter notice should be payable immediately and should include the value of adjacent minerals sterilized which lie outside the area of protection prescribed by the Mining Code.

i) Dixon v. Caledonian and Glasgow and South Western Railway 1880[19]

It was ruled in this judgement that a counter notice could be served at any time after receipt of the notice of approach. The railway company were however exposed to the risk of some of the proposed workings taking place if the counter notice was delayed unduly. Such workings would be deemed authorised if carried out in a proper and customary manner.

Returning to the Howley Park case a judgement was given in 1911 in favour of the railway company. The colliery company appealed but the judgement in 1913 was again in favour of the railway company.

In their summary the Appeal Judges made the following points:

1 The railway company could not claim absolute support from a stratum of mineral

2 The common law rights which existed from minerals lying outside the area of protection were not set aside by statute. Therefore the mineral owner had no legal right to withdraw adjacent support by working minerals outside the area of protection

3 Once the time limit prescribed in the notice of approach procedure had expired, the mineral owner was at liberty to work the proposed mines as authorised workings until a

counter notice was received.

The mineral owner was judged therefore to be entitled to work inside the area of protection provided he did not withdraw support from the surface works of the railway when working minerals outside the area of protection.

The judgement created many anomalies, the principal ones being:

a) The railway company was not legally entitled to a notice of approach until workings were approaching the statutory limits, i. e. 30 days notice of workings being within the prescribed distance or 40 yd if no distance is prescribed

b) The mineral owner could not work the minerals outside the area of protection which would affect the railway, if the railway company enjoyed a common law right of support from them

c) Damage due to the withdrawal of such adjacent support could take place to the railway without any liability on the mineral owner if the latter had a legal right to do so

d) The railway company could exercise no powers over the working of minerals outside the area of protection, such workings not coming within the provisions of the Mining Code.

These anomalies presented both parties with problems seemingly beyond solution. Much parliamentary lobbying followed this decision, culminating in a new Mining Code being incorporated in an enactment titled the Mines (Working Facilities and Support) Act 1923[20]. Part II of the Act repealed the Railways Clauses Consolidation Act 1845[8] so far as railways were concerned. Sections 78 to 85 of the original Act were replaced by Sections 78 to 85E contained in Section 15 of the Act of 1923[20].

The cases arising under the provisions of the Railways Clauses Consolidation Act 1845[8] were argued initially with reference to those disputed under the provisions of the private Canal Acts. They illustrate the uncertainty of the judicature in the knowledge of such technical matters as cause and effect of mining subsidence. With hindsight one can appreciate the rather strange reasonings put forward by learned counsel when read in the context of the knowledge of subsidence engineering in the late 18th and 19th centuries.

With the advancement of knowledge of subsidence engineering it became obvious that 'notice distances' of 20 yd or less as quoted in some Canal Acts were grossly inadequate. Damage would be taking place well before a notice of approach was due to be served.

ii) Mines (Working Facilities and Support) Act 1923[20]

From 1st January 1924 a new Mining Code was introduced for railways and was a direct consequence of the Howley Park case[15]. It was to be applied to all railways constructed after the commencement of this Act and would also apply to all railways previously affected by the Act of 1845, provided no distance had been prescribed in the actual agreement other than that of 40 yd. Although the Act of 1923[20] eliminated many of the disputed points hitherto discussed, it gave rise to further litigation as two further cases will illustrate.

a) London North Eastern Railway Co v. Hardwick Collieries Ltd 1935[21]

The plaintiffs were contesting the amount of compensation claimed by the colliery company. The basis of the claim was with reference to Section 85B of the Act of 1923[19], which provided for the full rate of compensation for the total area of protection. The colliery company claimed certain preferential rights antecedent to the acquisition of the surface lands by the railway company.

The Court ruled in favour of the railway company as it was proved that the original rights claimed by the colliery company had been surrendered when the original lease was renewed, which was subsequent to the acquisition by the railway company.

b) London North Eastern Railway Co v. B A Collieries Ltd 1945[22]

The plaintiffs disputed the amount of compensation claimed under Section 78A of the Act of 1923, contending sums of money would have had to be paid under Section 79A to the railway company if a counter notice had not been served. Such monies should be set off against the gross compensation being claimed by the colliery company.

The case was ultimately referred to the House of Lords who found in favour of the plaintiffs, thus establishing the principle that anticipated costs of subsidence damage should be taken into account in assessing compensation for sterilisation.

C Water Acts

i) Waterworks Clauses Act 1847[23]

In keeping with industrial development the needs of suitable water supply for industrial and domestic growth were appreciated in the early parts of the 19th century. The Waterworks Clauses Act 1847[23] was passed to standardise a procedure for the provision and maintenance of adequate supplies of water. In a similar way to railways the advisability of providing machinery for the acquisition of suitable lands for water undertakings was realised as necessary, including a means of negotiation between water undertakings and mineral owners.

Sections 18 to 27 prescribed such a Mining Code. This remained in force until it was repealed by the Water Act 1945[24], which incorporated a slightly amended Mining Code. Over this period of nearly one hundred years many disputes were referred to Court which extended the case law on the subject of rights.

Some of the principal cases are now highlighted, viz.

a) Glasgow Corporation v. Farie 1888[25]

The corporation had bought surface lands for the construction of waterworks from a landowner who was working brickclay in adjacent land to a depth of 20'. Subsequently the landowner served a notice of approach under Section 22 of the Act of 1847[23] in the belief that he could either work the minerals or be compensated for loss of minerals. The corporation contested such rights arguing that clay was not a 'mineral' and was therefore not excepted from the assignment.

The Court judged in favour of the corporation ruling that clay was not a 'mineral' but formed part of the upper soil and as such could not be the subject of a claim for compensation for loss of minerals.

b) Consett Waterworks Co v. Ritson 1889[26]

The point in dispute was whether minerals were or were not excepted. It was established by the defendants that the lands acquired by the waterworks were part of surface lands formerly allotted by an Inclosure Act. An investigation had proved that the minerals were vested in the lord of the manor.

The Court held the Award to be valid and hence minerals were excepted.

c) Manchester Corporation v. New Moss Colliery Co Ltd 1906[27]
and
New Moss Colliery Co Ltd v. Manchester Corporation 1908[17]

The corporation had bought two parcels of adjacent land, the yellow land with minerals excepted and the pink land with minerals included, each parcel had been in different ownership.

The corporation constructed waterworks partly on the pink land. The colliery company was working a seam of coal under the yellow land and served a notice of approach on the corporation under Section 22 of the Act of 1847[23]. They received no counter notice and therefore proceeded to work in a proper and customary manner but in so doing withdrew adjacent support from the waterworks.

The point at dispute was whether the colliery company had the right to withdraw adjacent support from the pink land by working a seam of coal under the yellow land.

The original judgement held that the Act was considered to set aside any common law rights the surface owner may have enjoyed hitherto, so as to allow the water undertaking the right to construct the waterworks. The mineral owner similarly had the right to work his minerals or be compensated for the loss thereof.

The Court of Appeal reversed this judgement and ruled that the pink land enjoyed an absolute right of support. The mineral owner had removed some of the adjacent support relying upon the Mining Code contained in the Act of 1847[23]. This action was not legal and therefore the colliery company was liable for all damage caused.

d) Wath upon Dearn UDC v. John Brown & Co Ltd 1936[28]

The waterworks were constructed on surface lands acquired from the heirs of allottees under an Inclosure Act, which gave the lord of the manor the mines and minerals.

The colliery company gave a notice of approach under Section 22 of the Act of 1847[23]. As no counter notice was received, they proceeded to work inside the area of protection in a proper and customary manner, eventually causing damage to the waterworks. The water undertaking argued they had a common law right of support and therefore did not recognise the notice of approach.

Judgement was in favour of the water undertaking in that there was no evidence to say the common law right of support had been surrendered and therefore the colliery company had no rights to withdraw subjacent or adjacent support. It had been argued in the Howley Park case, that although the Mining Codes of 1845[8] and 1847[23] were generally common, there was a distinctive variance expressed in Sections 22 and 23 of the latter Act. The words 'as if this Act and Special Act had not been passed' were significant as the respective parties in the absence of a counter notice were bound by common law rights.

ii) Water Act 1945

The Mining Code provisions of the Act of 1847[23] were incorporated in this repealing Act with very slight amendments, these being the scale of the statutory plan of waterworks etc and the location of such plans for public inspection.

D Public Health Acts

Industrial growth was accompanied by changes in patterns and standards of accommodation although these social changes tended to lag behind the industrial changes. The first major step forward with respect to improving living standards came with the Public Health Act 1875[29], which demanded a proper system of sanitation in the cities and principal townships. This Act incorporated the Mining Code provisions of the Waterworks Clauses Act 1847[23] without amendment. The following cases illustrate some of the points disputed in the Courts as a consequence of this Act.

a) Dudley Corporation v. Earl of Dudleys Trustees 1881[30]

The defendants claimed under the provisions of the Act of 1875[29] that the construction of sewers at the surface immediately sterilised any minerals lying subjacent and adjacent to that sewer and therefore compensation should be immediately forthcoming.

The judgement was in favour of the defendant which placed all local authorities in an impossible position financially.

Note

i) As a consequence of this ruling the Act of 1875[29] was amended requiring compensation to be negotiated only when mineral workings were planned to take place and the local authority wished to acquire support. The amended title, the Public Health Act 1875 (Support of Sewers) Amendment Act 1883[31], although cumbersome reflects the reasoning behind the amendment. The Act is applicable to all sanitary works, which include all sewage, drainage, lighting and water supply services.

ii) Certain interests of water undertakings and local authorities came within the provisions of the Mining Code of the Act of 1847[23] and the Act of 1883. The Water Act 1945[24] repealed the Act of 1847, therefore any sanitary works constructed after 1st October 1945 are governed by the Mining Code of the Act of 1945. All those constructed before that date however remain the subject of the Act of 1883[31].

b) Newcastle under Lyme Corporation v. Wolstanton Ltd 1947[32]

The corporation had constructed gas pipes in lands not in their ownership under the statutory powers of a public authority. The colliery company claimed to have special rights vested in them by custom of the Manor of Newcastle under Lyme. These rights were to work, lower and damage the surface without liability for compensation and were challenged by the corporation in 1940. The Court ruled in favour of the corporation, with the result that the colliery company had to obtain a Working Facilities Order in 1943.

Under the provisions of the Order the colliery company worked under the gas pipes and damaged them. The local authority sued the colliery company for a breach of the Mining Code contained in the Amendment Act of 1883[31].

The submission failed because the local authority had not complied with Section 3(3) which requires a plan of the sanitary works to be maintained by the local authority. The claim by the local authority of a breach of common law rights of support also was rejected. The Court ruled that the Mining Code provided a means of preventing workings by the service of a counter notice.

c) Bolsover UDC v. Bolsover Colliery Co Ltd 1947[33]

The local authority challenged the validity of a notice of approach served by the colliery company in that it did not specify in which seams workings were to take place. The colliery company responded by claiming that the local authority had failed to keep a plan of their works.

The Court found in favour of the colliery company ruling that the notice of approach was a valid one, but pointed out that the statutory plan referred to was required only to show 'buried works' and not surface works, so that in this case no plan was required.

References

1 Dudley Canal Navig Co v. Glazebrook (1830) 8 L.J.K.B. 36
2 Stourbridge Canal Co v. Wheeley (1831) 109 E.R. 1336
3 Cromford Canal Co v. Cutts (1848) 12 L.T.(O.S.) 325
4 Birmingham Canal Navig Co v. Dudley (1862) 158 E.R. 764
5 LNW Railway Co v. Evans (1893) 62 L.J. Ch. 1
6 Ilkeston Collieries Ltd v. Grand Union Canal Co (1946) 175 L.T. 12
7 An agreement made under the provisions of the Mines (Working Facilities and Support) Act 1923[20] Section 85A
8 8 & 9 Vict., c.20
9 8 & 9 Vict., c.18
10 Elliot v. LNE Railway Co (1863) 32 L.J. Ch. 402
11 Pountney v. Clayton (1883) 52 L.J.Q.B. 556
12 Midland Railway Co v. Robinson (1889) 59 L.J. Ch. 442
13 Eden v. LNE Railway Co (1907) 76 L.J.K.B. 940
14 LNW Railway Co v. Howley Park Coal & Cannel Co (1911) 80 L.J. Ch. 76
15 Howley Park Coal & Cannel Co v. LNW Railway Co (1913) 82 L.J. Ch. 76
16 Great Western Railway v. Bennett (1867) 36 Q.B. 133
17 New Moss Colliery Ltd v. Manchester Corporation (1908) 77 L.J. Ch. 392
18 Lord Gerard v. LNW Railway Co (1895) 64 L.J.Q.B. 260
19 Dixon v. Caledonian & Glasgow and Southern Railway Co (1880) 5 App. Cas. 20
20 13 & 14 Geo. 5, c.20
21 LNE Railway Co v. Hardwick Collieries Ltd (1935) 104 L.J. Ch. 81
22 LNE Railway Co v. B A Collieries Ltd (1945) A.C. 143, 1 All E.R. 51
23 10 & 11 Vict., c.17
24 8 & 9 Geo. 6, c.42
25 Glasgow Corporation v. Farie (1888) 58 L.J.P.C. 33
26 Consett Waterworks Co v. Ritson (1889) 22 Q.B.D. 318
27 Manchester Corporation v. New Moss Colliery Co Ltd (1906) 75 L.J. Ch. 145
28 Wath upon Dearne UDC v. John Brown & Co Ltd (1936) 105 L.J. Ch. 81
29 38 & 39 Vict., C.55
30 Dudley Corporation v. Earl of Dudley's Trustees (1881) 51 L.J.Q.B. 12

31 46 & 47 Vict., c.37

32 Newcastle under Lyme Corporation v. Wolstanton Ltd (1946) 2 All E.R. 447

33 Bolsover UDC v. Bolsover Colliery Co Ltd (1947) 1 All E.R. 130

CHAPTER VI

STATUTORY ACQUISITION OF WORKING RIGHTS AND RIGHTS OF SUPPORT

A Working Rights and Ancillary Rights

The Mines (Working Facilities and Support) Act 1923[1] consisted of two parts, and so far reference has only been made to Part II which deals with the Mining Code primarily affecting railways. Part I of the Act provided a legal procedure to be followed by persons who may be working minerals, own minerals or whose property might be affected by the working of minerals. This part of the Act was subject to a slight amendment by the Mining Industry Act 1926[2] but then remained in force until it was repealed by the Mines (Working Facilities and Support) Act 1966[3]. This Act has been supplemented by the Mines (Working Facilities and Support) Act 1974[4]. The only minerals now excepted from these provisions are coal and peat cut for purposes other than sale.

Part I of the Act of 1923[1] provided for the first time a means by which persons with varying interests in minerals or surface lands supported thereby, could acquire certain rights. The principal criterion in deciding such issues was what was deemed to be in the "National Interest". The courts have generally interpreted this as being "that which provides the greatest good of the greatest number" as quoted by MacKinnon, J. in Consett Iron Co Ltd v. Clavering Trustees 1935[5]. Disputes which arose under the various Mining Codes, some of which have been referred to, were establishing legal maxims and dicta. Inevitably the vast majority of cases involved the extraction of coal seams. These legal rulings have general application although there have been statutes to nullify them in special cases, such as the subsidences caused by brine pumping in Cheshire.

Because of the increase in disputes a special body was set up under the provision of the Railway and Canal Traffic Act 1888[6] known as the Railway and Canal Commission. All disputes arising under the various Mining Codes were referred to the Board of Trade for consideration and if a prima facie case was considered to be established it was referred

to the Commission. This body continued until its abolition in 1949[7]. All references are now made direct to the Chancery Division of the High Court.

The first case to be brought before the Railway and Canal Commission under Part I of the Mines (Working Facilities and Support) Act 1923[1] was the Nunnery Colliery Co v. John Brown and Others 1924[8], and hence proved to be an important test case. The main points in dispute were:

i) Reserves of coal lay adjacent to the existing workings and the colliery company wished to obtain a lease of such coals which were owned by John Brown and Others.

ii) Despite assurances that damage would not occur to the surface because of the proposed method of working (partial extraction) the owners of the coal would not grant a lease.

iii) The colliery company argued that all methods to acquire working rights by agreement had failed, and that the reserves of coal were valuable and it should be worked in the National Interest.

iv) The surface owners claimed that a common law right of support existed and that the manufacture of steel and ancillary processes carried out in their works were also of National Importance and must be protected from damage.

The judgement given by Sankey, J. on behalf of the Commissioners was in favour of the colliery company, but no costs were awarded to either party.

The Order granted to the colliery company the rights to work certain areas of coal subject to only a partial lowering of the surface which was to be controlled by a specific method of working the seams of coal, that is by partial extraction.

Since that date there have been many references to the Railway and Canal Commission (and the High Court) which have proved the necessity of this particular Act. Such proceedings are however protracted and costly (see Chapter IX).

Although Part I of the Act[1] is often associated with the acquisition of rights to search for and work minerals, an equally important part is that concerning the acquisition of ancillary rights without which the minerals in all probability could not be worked. Such rights include rights to let down the surface, rights of airway, shaftway and wayleave, rights to occupy surface lands.

The acquisition of working rights and ancillary rights require the applicant to establish that it has not been possible to acquire these rights out of Court due to one or more of the reasons listed in Section 3 of the Act[1], for example persons with powers to make a grant are too numerous or have conflicting interests.

The right to compensation and its amount is determined by the Court. In the acquisition of working rights and ancillary rights this is usually in the form of rents and royalties for the working of minerals and occupation of lands. A right to let down the surface however is usually conditional on the surface owners being compensated for any damage to their property. It therefore follows that compensation will only be paid if and when damage occurs.

B Rights of Total or Partial Support

Although land in its natural state enjoys a common law right of support, it is not unusual to find the surface and minerals in different ownership, especially in mining areas.

The Mines (Working Facilities and Support) Act 1966[3] allows any person who has no right of support because of an instrument of severence executed in the past, with the facility to apply to Court for a restoration of that right either in total or in part. Section 7 of the Act of 1966[3] sets down the procedure to be followed by the parties. The onus is on the surface owner to establish that his property should be protected against total or partial subsidence. It must be proved that the value of the property and its importance to the Nation exceeds the value of the minerals which would be sterilised if a support order be granted.

Normally compensation will have to be paid by the surface owner to the mineral owner for sterilization of reserves, but there are statutory exceptions to this ruling. Under the provisions of the Coal Act 1938[9] Part II 2nd Schedule Paragraph 6, persons whose property is situated in the notice area can apply for a Support Order under Section 7 of the Mines (Working Facilities and Support) Act 1966[3]. If successful the applicant will not be required to pay compensation to the National Coal Board. The Coal Act 1938[9] Part II 2nd Schedule has now been replaced by the Coal Industry Act 1975[10] Part II 1st Schedule, but the provisions concerning the acquisition of Support Orders remain unchanged.

References

1 13 & 14 Geo. 5, c. 20
2 16 & 17 Geo. 5, c. 28
3 1966 Eliz. 2, c. 4
4 1974 Eliz. 2, c. 36
5 Consett Iron Co Ltd v. Clavering Trustees (1935) 2 K.B. 42
6 51 & 52 Vict., c. 25
7 Abolished by the Railway and Canal Commission (Abolition) Act 1949 12, 13 & 14 Geo. 6, c. 11
8 Nunnery Colliery Co v. John Brown & Others (1924) Railway Commission
9 1 & 2 Geo. 6, c. 52
10 1975 Eliz. 2, c. 56

CHAPTER VII

STATE CONTROL OF MINERAL OWNERSHIP AND MINERAL RIGHTS

A Introduction

By 1760 the only minerals which were not generally in private ownership were the Mines Royal[1] and Crown minerals[2]. Certain parts of the country were subject to special rights and privileges[3].

This chapter explains how some mineral resources have been acquired by the State and how the interests of the public have been safeguarded.

B Coal Mining Interests

The coal mining industry has been the biggest single mineral industry during the two hundred years under review (see Appendix 2). As the industrial revolution gathered momentum more labour was recruited from the agricultural industry and the multifarious cottage industries prevalent in the latter part of the 18th century and early 19th century. At the same time manufacturing industries were becoming labour intensive; thus a concentration of working class communities began to develop around the mines and factories. It was inevitable that the evolution of the working communities in concentrated numbers both at work and at leisure would lead to a parallel development of working class organisations; these being the forerunners of formal Trades Unions.

The miners in the early 19th century were being subjected to irksome and hazardous conditions. The number of workmen employed underground increased with the growing demand for coal. A natural consequence of these developments due in part to lack of technical knowledge was for more accidents to occur.

A study of social and economic history shows the coal miners pressing constantly for better conditions of employment for nearly one hundred years before realising one of their dearest ambitions, which was the state ownership of the coal mining industry.

The Sankey Commission[4] was set up to investigate the problems in the coal industry and reported in 1919, recommending a move towards State control. The first stage was seen to be the acquisition of all the coal reserves by the State, thus freeing the industry of one of it's 'parasites', a word used by the miners in describing the coal owners. Other proposals were implemented in part by the Mining Industry Acts of 1920[5] and 1926[6], and the Coal Mines Act 1930[7]. These Acts were in support of a proposal for a rationalisation of the industry by grouping together economic small units and closing the uneconomic units. This, it was argued, would lead to higher productivity, greater profitability and overall improvement in safety standards.

Such amalgamations served little purpose in quelling the miners demand for State control of the industry which was fully endorsed by the Trades Union Council and the Labour Party. It was after much Parliamentary pressure that a Conservative Government agreed to support a Bill bringing about the unification of coal mining royalties. This was brought about in two stages, the first one was the enactment of the Coal (Registration of Ownership) Act 1937[8] which required all persons who had an interest in coal to register their interest. The Coal Act 1938[9] was the second stage which established a Coal Commission which was to be responsible for administering the newly acquired state interest in 'coal and mines of coal'. The actual vesting of such interests did not take place until 1st July 1942. All persons who surrendered interests by virtue of this Act were compensated out of a global sum of £66 million. This figure was an aggregated sum of valuations of the registered interests under the Act of 1937[8]. The Valuation Date laid down in the Coal Act 1938[9] was 1st January 1939.

Certain interests did not vest in the Coal Commission and were termed 'retained interests'. The principal retained interest was that of the mineral lessee who was working the coal and mines of coal. The mineral lessee continued to work subject to the provisions of the various leases and paid all rents and royalties to the Coal Commission.

The Second World War (1939-46) tended to reduce the agitation by the miners for state ownership, although there was sustained pressure in Parliament[10]. Because of the emergency and the run-down in manpower (many miners enlisted) the industry was placed in the charge of a newly established Ministry of Fuel and Power in 1942[11]. A

Controller General and Regional Controllers were appointed to give directions to the various coalfields, and carry out overall supervision. In 1943 coal mining was brought under the control of the Essential Work Order. It was therefore the war years which saw the beginnings of state ownership. The Report of the Technical Advisory Committee on Coal Mining[12] (the Reid Report) published in 1945, favoured state control and it was almost inevitable that the industry would become state owned after the cessation of hostilities.

A Labour Government was elected after the war and carried through a heavy programme of nationalisation including coal, steel, transport and health services.

The National Coal Board was established on 1st January 1947 by virtue of the provisions of the Coal Industry Nationalisation Act 1946[13]. Under the provisions of Section 1 the Board is charged with the duties of working and getting coal in Great Britain to the exclusion of other persons, except as provided in Section 36 of the Act (licenced mines and others); with securing the efficient development of the industry and with disposing of its products to the best interest of the Community, ... plus certain other provisions. The Coal Industry Act 1949[14] and the National Coal Board (Additional Powers) Act 1966[15] extended the interests of the Coal Board to areas outside Great Britain subject to the consent of the Secretary of State.

Recently the powers of the National Coal Board were further extended by the provisions of the Coal Industry Act 1977[16] to include the rights to acquire and refine petroleum; to work and get other minerals discovered in the search for coal or petroleum and to exercise such powers overseas.

Returning to earlier years the problems of surface damage due to the extraction of minerals increased in the latter part of the 19th century and into the 20th century. This was due to three basic causes:

1 increased production of minerals
2 total extraction of minerals
3 urbanisation

The Report of the Royal Commission on Coal Supplies 1905 made reference to the problem of mining subsidence and estimated that 6,000 million tons of coal had been sterilised for the support of the surface up to the date of their investigation.

The problem became so acute that a Royal Commission on Mining Subsidence[18] was appointed in 1923 under the Chairmanship of Lord Blanesburgh with the following terms of reference:

> "To consider the operation of the law relating to the support of the surface of the land, and of buildings or works on or under the surface, by underlying or adjacent minerals; to enquire into the extent and gravity of the damage caused by subsidence owing to the extraction of minerals and the incidence of the resulting liability; and to report what steps should be taken, by legislation or otherwise, to remedy, equitably to all persons concerned, any defects or hardships that may be found to arise in existing conditions."

The report was completed in 1927 after hearing evidence presented by 55 witnesses and recommended the provision of compensation to private owners whose property had a Gross Value of £40 or less. This provision was to apply only to properties in existance at the date of commencement of the proposed Act. The reasons given by the Commissioners for excluding future properties are given in detail in paragraphs 96 and 97 of the Report.

The findings of this Report were never implemented although a Bill was eventually presented to Parliament in 1938 titled The Mining Subsidence Bill which contained all the recommendations of the Report. The Bill never completed the 3rd stage and The Mining Subsidence Act 1939[19], scheduled to commence on 1st October 1939 never came into operation. This was not due to any political motive but to the national emergency which obviously was foremost in the mind of the Government.

The Coal Act 1938[9] was primarily for the purpose of unifying the royalty interests in coal and mines of coal, but in so doing it made provisions for compensation to be paid to surface owners whose property suffered damage due to underground coal mining activities. These provisions were to be found in Part II of the 2nd Schedule and were as follows:

"Paragraph 5

In a case in which the fee simple in the coal or mine, or the term of years under a coal-mining lease thereof, was vested on the valuation date in a person other than the person in whom the fee simple in land supported thereby was then vested, and any right to withdraw support from that land, other than a right granted by a working facilities order, was then annexed to the coal or mine, there shall vest in the Commission therewith a right to withdraw support from that land similar in all respects, whether as regards terms, conditions, extent duration (save as in this paragraph provided) or otherwise, to the said right that was then annexed to the coal or mine:

Provided that, where the fee simple in the coal or mine and the fee simple in land supported thereby was vested in the same person but the term of years under a coal-mining lease was subsisting in the coal or mine and a right to withdraw support was annexed thereto, the duration of the right that vests in the Commission shall extend to the whole of the period during which any coal to which the first-mentioned right was annexed remains ungotten."

"Paragraph 6

(1) In a case in which the fee simple in the coal or mine and the fee simple in land supported thereby was vested on the valuation date in the same person and no coal-mining lease of that coal or mine was then subsisting, there shall vest in the Commission with the coal or mine such a right as is hereinafter mentioned, to the extent to which the existing owners of the coal or mine were competent on the valuation date to grant such a right by virtue of their interests in that land, that is to say, a right to withdraw support from that land so far as may be reasonably requisite for the working of any coal, subject to an obligation either

(a) to pay proper compensation for damage arising from such working to that land; or

(b) with the consent (which shall not be unreasonably withheld) of the person who would otherwise be entitled to claim compensation for that damage, to make good that damage to the reasonable satisfaction of that person and without expense to him;

which obligation shall extend to buildings and

works on that land whether constructed before or after the vesting date."

This paragraph contained another four sub-paragraphs which dealt with public notices and precautionary measures in new properties.

An owner of property in an area affected by coal mining can determine any rights of support by examination of the title deeds and the Coal Holdings Register compiled under the provisions of the Coal (Registration of Ownership) Act 1937[8]. The property could fall within one of three categories:

either i paragraph 5;
or ii paragraph 6;
or iii outside paragraph 5 and 6

The last category would apply where on 1st January 1939, the surface lands and minerals subjacent were unsevered, no coal mining lease had been granted, no mining had been undertaken by the owner and no paragraph 6 notice had been published.

The Coal Act 1938[9] went some way to meeting the recommendations of the Royal Commission Report of 1927[18], in that it provided a right to some form of compensation to all properties enclosed in the Paragraph 6 area. It extended some of the recommendations by removing the reference to Gross Value and applied equally to existing and proposed properties. In the latter case it was presumed that the requirements of paragraph 6 would render the need for compensation unlikely. The Coal Act 1938[9] did not change the position of property owners who had no rights or inadequate rights to compensation because of the terms contained in the instrument of severance. This problem was referred to in the Report[18] (paragraphs 41-43) but it was considered to be unimportant; furthermore the Commission claimed that there was provision in the Mines (Working Facilities and Support) Act 1923[20], Part I, for surface owners to either obtain compensation or a right of support.

Some of the provisions of the Coal Act 1938[9] still apply today, but paragraphs 5 and 6 were repealed by the Coal Industry Act 1975[21].

C Subsidence Acts 1950 and 1957

In its programme of social reform the post war Labour Government introduced the Coal Industry Nationalisation Act 1946[13], which provided for the establishment of the National Coal Board as from 1st January 1947.

The government, anxious to resolve the vexed question of mining subsidence, which had been the source of much Parliamentary debate[22], thought it desirable to review the problems afresh. A Committee on mining subsidence was appointed in 1947 under the Chairmanship of Mr Theodore Turner, its terms of reference being:

> "To examine the law of support and the problem of damage caused by mining subsidence in the light of the nationalisation of coal and the coal mining industry, and to make recommendations."

The Committee published its Report[23] in 1949 after hearing 80 witnesses. It contained many of the recommendations in the Report of 1927[18], although they did go much further in their 19 recommendations. Some of which were quite radical and are indicated below:

1 Only properties considered essential in the National Interest to have a right of support.
2 Key points to be established identifying such properties.
3 All other properties to lose their rights of support and any damage to be compensated for or made good by NCB.
4 The NCB to absorb the cost of any pillar of support deemed necessary in the National Interest.

Unlike the fate of many Reports the findings of the Turner Report as it became known were to some extent written into a Bill introduced in that same year, but many amendments were made after strong opposition in debate[24]. The only major recommendation to survive was that which provided for compensation or making good the damage occasioned by coal mining activities and was the basic theme of the Coal Mining (Subsidence) Act 1950[25] which shortly followed.

The Act of 1950 applied to existing and future structures but was to be in substitution for any common law rights or other rights a property owner might possess. Furthermore it was restricted to properties with a Rateable Value of £32 or less. Neverthless this was a major step forward in establishing some measure of redress on a national basis. Claimants with alternative rights could pursue them in substitution for those available under the Act. If successful in toto or in part, any rights provided by the Act of 1950 were surrendered. Conversely a settlement under the Act of 1950 precluded any subsequent action derived from alternative rights. This provision was known in the Act as the 'Avoidance of Double Remedies'.

With the post-war boom in industry and commerce the standard of living was gradually raised accompanied by an increase in property values. Each year more houses were excluded from the provisions of the Act[25], because of the increase in rateable values. As a temporary measure an amendment was made in 1955 increasing the RV limit to £50, but hardship was being imposed by this ad hoc arrangement. Parliamentary pressure forced a new Bill to be prepared which became law on 31st July 1957, titled The Coal Mining (Subsidence) Act 1957[26]. This Act which is still in force, (supplemented by a Code of Practice in 1975), removed any limit on value. It has provided a reasonably equitable method of compensating surface owners of property damaged by underground coal mining activities. The financial costs of these Acts are shown in Appendix 7.

One of the contentious aspects of the Act has been the distinction drawn between 'subsequential loss' and 'consequentional loss'. The Act of 1957[26] provides for the compensation of subsequential losses and not consequential losses, which means that the NCB is only liable to make good any structural damage or pay compensations in lieu thereof. The NCB is not liable for losses as a consequence of damage taking place, such as disruption of a manufacturing process.

A further aspect is the contribution towards the cost of preventive works in buildings to be constructed in mining areas. Local Planning Authorities were granted powers by the Minister of Housing and Local Government to make preventive works a planning condition. The provisions can be found in MHLG Circular No 44/61 titled 'Surface Development in Coal Mining Areas'.

A means of creating greater public awareness of coal mining activities was provided by Section 52 of the Coal Industry Nationalisation Act 1946[13], which allows any person to inspect and copy the working plans of the National Coal Board.

D Brine Pumping

The abstraction of brine by pumping in Cheshire has caused severe damage to the surface from time to time and the principal problem has always been the determination of responsibility for such damage. If there was only one brine pump in operation the problem would not arise, but as there may be several operating simultaneously it is impossible to attribute liability. The Brine Pumping (Compensation for Subsidence) Act 1891[27] was a radical piece of legislation when one considers the situation in the coal mining industry. The principal objective was to set up a fund for compensating persons whose properties were damaged by brine pumping activities.

The Act empowered local land owners or local sanitary authorities to apply for the formation of a Compensation Board for a defined district. The Board was made up of an equal number of representatives of brine pumpers, local landowners and sanitary authorities.

The principle of the Act was challenged in the Case of Salt Union v. Brunner, Mond 1906[28], but the judgement given in favour of the defendants, supported the concept that a brine pumper cannot be held liable for pumping brine from a neighbours land even if such action causes a subsidence of that land.

The Act of 1891[27] proved effective, but was amended by the Cheshire Brine Pumping (Compensation for Subsidence) Act 1952[29], which extended the principles to all the affected regions of Cheshire. A supplementary Act was passed in 1964[30].

A recent case which would seem to challenge the original concept of this special legislation is the Lotus Ltd v. British Soda Ltd 1971[31]. An injunction was granted stopping all working of the brine pumps owned by the defendants and holding them directly liable for damage to the plaintiffs premises.

E Stratified Ironstone

Stratified ironstone has been worked in the Northamptonshire region for well over 100 years by open-cast mining operations. Due to the poor state of the agricultural industry between the World Wars it was common practice for surface owners to accept payment in lieu of restoration, in many instances at very deflated prices. This left the mineral operator with no further liability and thousands of acres of good agricultural land were left derelict, which gave rise to the 'hill and dale' formation common in this locality. Much of this land after workings had ceased was only suitable for forestry because of the large proportion of limestone which had been backfilled in a random manner.

It was evident that in a planned economy this practice could not be allowed to continue and planning conditions were introduced under the provisions of the Town and Country Planning Act 1947[32] by virtue of the Town and Country Planning (Ironstone Areas Special Development) Order 1950[33]. This made restoration to agricultural use a normal requirement following the extraction of the mineral and the costs incurred were to be provided by an Ironstone Restoration Fund, which was established by the Mineral Workings Act 1951[34].

The mineral operator and royalty owner were normally required to subscribe $1\frac{1}{8}$d each for every ton of ironstone excavated, to which the Chancellor of the Exchequer added $\frac{3}{4}$d per ton. Thus 3d was paid into the Fund for every ton of ironstone extracted, such monies being paid annually. Originally the Act required the mineral operator to stand the cost of restoration work up to a figure of £110 per acre which was termed the standard rate; but he could claim excess expenditure from the Restoration Fund. With the rise in cost of living it has been necessary to increase both the contributions and the standard rate, although the Exchequer contribution has remained at $\frac{3}{4}$d (now 0.315p) since the Act was introduced.

The Town and Country Planning (Ironstone Areas Special Development) Order 1950[33] generally requires sites to be restored to agricultural use. The only exceptions permitted are where the site is to be used for authorised tipping purposes or the overburden contains a high proportion of limestone rendering restoration of land to its original condition and level impracticable.

A result of the Act of 1951 has been a gradual reclamation of former derelict land and the continuous return of 'mined lands' to agricultural use. Its success can be judged by the recommendation in the Stevens Report[35] published in 1976 that no changes are considered desirable in the present arrangements.

References

1 Mines of gold and silver - see Chapter IV A
2 See Chapter IV A
3 See Chapter IV C
4 1919 Cmd. 210
5 10 & 11 Geo. 5, c. 50
6 16 & 17 Geo. 5, c. 28
7 20 & 21 Geo. 5, c. 34
8 1 Edw. 8 & 1 Geo. 6, c. 56
9 1 & 2 Geo. 6, c. 52
10 Hansards Reports H.C. Vol. 406, col. 47-48
11 Coal Mining Undertakings Control Order 1942
12 1945 Cmd. 6601
13 9 & 10 Geo. 6, c. 59
14 12 & 13 Geo. 6, c. 53
15 1966 Eliz. 2, c. 47
16 1977 Eliz. 2, c. 39
17 1918 Cmd. 9084
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19 2 Geo. 6, Bill 12
20 13 & 14 Geo. 5, c. 20
21 1975 Eliz. 2, c. 56
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24 Hansards Reports H.C. Vol. 473, col. 110-11, 196; Vol 475, col. 2 & 3, 1221-1340, 2295-2330
25 14 Geo. 6, c. 23
26 5 & 6 Eliz. 2, c. 59
27 54 & 55 Vict., c. 40
28 Salt Union v. Brunner, Mond (1906) 2 K.B. 822
29 15 & 16 Geo. 6 & 1 Eliz. 2, c. xlii

30 1962 Eliz. 2, ch. X

31 Lotus Ltd v. British Soda Ltd (1971) 1 All E.R. 265

32 10 & 11 Geo. 6, c.51

33 SI 1950 No. 1177

34 14 & 15 Geo. 6, c.160

35 Planning Control on Mineral Workings (Stevens Committee) 1976 Ch. I, p. 3

CHAPTER VIII

EXTERNAL FACTORS INFLUENCING THE DEVELOPMENT OF MINERAL RESOURCES

A Introduction

Although this study has concentrated on the development of patterns of land ownership over the past two hundred years and the effects these changes have had on the abstraction of minerals in England and Wales, it would not be possible to reach balanced conclusions without considering the influence of external factors.

External in this context is taken to mean those outside the main theme of study and will be considered nationally in Part B and internationally in Part C, albeit briefly. A chronological list of principal statutes and socio/economic events is shown in Appendix 8, which supplements this Chapter.

B National Factors

i) Development Controls in General

Land ownership has been increasingly subjected to constraints over the past two hundred years chiefly due to the industrial revolution which brought about changes in the way of life, mobilisation of labour and urbanisation. These changes together with the increase in the population made greater demands on housing and public services.

The Land Clauses Consolidation Act 1845[1] was enacted to provide a general code of practice in acquiring land for basic services such as transport, water supply and drainage.

The Artizan and Labour Dwellings Acts 1868[2] and 1875[3] provided a minimum standard of accommodation required by the concentration of labour forces at the hub of industrial growth.

Statutory water and gas authorities were established under the provisions of the Gas and Waterworks Facilities Acts 1870[4] and 1873[5]. The first principal Act controlling building standards and hygiene was the Public Health Act 1875[6].

The redistribution and growth in population saw a marked increase in the absorption of land for building of industry and accommodation. During the period 1893-1908 over 500,000 acres of agricultural land were acquired for such purposes.

During the period 1920-1940 there was a rapid build-up of population in the larger connurbations such as London and Birmingham, resulting in the decline of many traditional high employment areas. This was accompanied by a recession and decline in world markets. In the period 1923-24 the number employed in the south east region increased by 44%, whereas the number of unemployed in Wales grew by 26%. In 1934 the number unemployed in London was 8% whereas in Jarrow it was 68%.

The Special Areas Act 1934[7] was passed for the purpose of injecting money into the depressed areas but proved to be inadequate. More factories were opened in the south east after the Act than anywhere else in England and Wales.

The Barlow Commission was set up in 1936 to investigate the distribution of population and industry. The Report published in 1940[8] recommended the establishment of a National Industry Board. The national emergency had in the meantime overtaken events and the sudden demand for men and materials brought employment to the Depressed Areas.

The Uthwatt Committee appointed in 1941 to investigate post war development, published its Report in 1942[9] and made reference to the importance of a national approach to planning. It emphasised the effects such controls would have on land values. Land about to be developed was termed 'near ripe' and would have a higher capital value than other land. The enhanced value of land was termed development value and it was proposed that such values should vest in the State.

To ensure that any new legislation did not fail in this respect the Uthwatt Committee first considered the outright nationalisation of land, but rejected this in anticipation of a political furore. It did however recommend the nationalisation of development values and this was subsequently adopted by the Labour Government when drafting the Town and Country Planning Act 1947[10].

The salient features of the new Act were:

1) The establishment of local planning authorities to administer the planning machinery and prepare Development Plans of their area.

2) No development was to take place without permission from the Local Planning Authority, except for minor exemptions listed in the 3rd schedule.

3) Normally refusal of planning permission would not entitle the applicant to compensation.

4) If planning permission was granted the applicant would have to pay a development charge.

To avoid any hardship it was considered desirable to pay some compensation initially until the land in question became developed. The compensation to be paid for loss of development values was to be met by a global sum of £300 million. Everyone who had an interest in land was required to register with the Central Land Board under Part VI of the Act. This created an established development value as at 1st July 1948 (the first appointed day).

After registration the fund was increased to £380 million and all such monies were to be distributed to claimants by the Central Land Board before 1st July 1953. The compensation was to be in the form of Government Stock. The original aims of the development charge were not realised and were therefore dropped from 18th November 1952, under the provisions of the Town and Country Planning Act 1953[11]; all payments of the Part VI claims were suspended.

The Town and Country Planning Act 1954[12] made further amendments to the financial provisions of planning control by causing all unexpended Part VI claims to become attached to the land (not the claimant) and to increase the original claim by 1/7th to account for appreciation in value since 1947. The various claims for any parcel of land were aggregated and became known as the unexpended balance of established development value (UBEDV). This assessment of value took into account any new development since 1947.

ii) Development Control of Mineral Workings

Mineral workings were included in the definition of land use in the Town and Country Planning Act 1932[13], but such development was unaffected until the Town and Country Planning (Interim Development) Act 1943[14] brought mining operations under 'interim control'. Mineral workings however were not really affected until the Town and Country Planning (General Interim Development) Order 1946[15], which granted 'deemed planning permission' to all existing surface mineral workings. The Minister had the power to withdraw such permission at any time. Underground mining remained unaffected by planning controls.

The Order of 1946[15] required all new surface mineral workings to obtain planning permission but existing ones were allowed to continue until the 1st July 1948 (the first appointed day).

As from that date all existing surface and underground mineral[16] workings were granted deemed planning permission[17] subject to the power of the Minister to issue a direction withdrawing such permission, known as an Article 4 direction[18].

Owners of mineral bearing land were subject to the same financial constraints imposed by the Act of 1947[10] as any other developer, but minerals contained in lands purchased or the subject of a mining lease on 1st July 1948 could continue to be worked. Any minerals which would be worked within the 3 year period ending 1st July 1951 (known as the maratorium period) could also continue.

Such minerals known as 'near ripe minerals' were free of immediate development charges. All other minerals (known as 'dormant minerals'), could not be worked without obtaining planning permission and would be subject to development charges in the normal way. Special provisions were made for the payment of development charges for the 'near ripe' minerals by allowing the mineral operator to set-off the development charge against any Part VI claim outstanding. Conventional payments of development charge could be paid in a lump sum or on a tonnage basis.

The statutory provisions outlined above were contained in the Town and Country Planning (Minerals) Regulations 1948[19] and the Town and Country Planning Mineral Development Charge Set-Off Regulations 1951[20].

An applicant for a working facilities order under the provisions of the Mines (Working Facilities and Support) Act 1923[21], could presume his claim to be in the National Interest if the land in question was shown designated on the Development Plan for mineral extraction. The regulations establishing this principle were contained in the Town and Country Planning (Modification of Mines Act) Regulations 1948[22].

Because of the many amendments in the financial aspects of the Act of 1947[10] it became necessary to compound these into the Town and Country Planning Act 1962[23], which was supplemented by the T & CP General Development Order 1963[24].

Another attempt was made in 1967 to arrest the rapid increase in land values and ensure that such appreciation in values was of benefit to the nation as a whole and not to the individual. This took the form of a betterment levy introduced by the Land Commission Act 1967[25] which was to be administered by the Land Commission. Betterment levy was shortlived and was abolished by the Finance Act 1971[26]. The land market has remained an open market ever since and any financial gains are subject to Capital Gains Tax.

To try and remedy the defects in the formative years of planning legislation and to adopt a more flexible positive approach, new legislation was enacted with the title of The Town and Country Planning Act 1968[27]. One of the radical changes has been the introduction of Structure Plans supplemented by Local Plans which will replace the existing Development Plans. The Local Plans will be concerned with principal land uses, including minerals.

Returning to the theme of planning control of mineral operations, variations of the normal rules have been implemented progressively. The normal rule for lapsing planning permissions if development had not commenced within 5 years of the date of approval, was changed by regulations made under the provisions of the Town and Country Planning Act 1971[28] (a compounding Statute of the Act of 1968[27] and subsequent Acts). The Town and Country Planning Mineral Regulations 1971[29] provide for the duration of planning approval of mineral development to be increased to 10 years.

Another variation concerns enforcement control, whereby a local planning authority has the power to serve an enforcement notice on mineral operators for a breach of planning control within 4 years of it coming to its notice. In all other cases the 4 year period commences with the date of the breach, after which time the unauthorised development becomes authorised.

All applications for permission to develop minerals are subject to Section 26 of the T & CP Act 1971[28], which requires the applicant to give public notice of the permission being sought. This requirement is applied to minerals by virtue of the T & CP General Development Order 1973[30].

Nearly all mineral applications are dealt with at local level. During the period August 1972 to August 1974 only 10 applications were referred to the Secretary of State out of a total of 1800[31].

iii) Other Statutory Constraints on Mineral Development

There have been a series of enactments which require licences, authorisations and procedures to be followed during the planning and development of mineral operations. Failure to comply with any of these might lead to the interruption of such development. Only the principal ones of general application are referred to here.

Under the provisions of the Water Resources Act 1963[32], now amended by the Water Act 1973[33], a mineral operator wishing to abstract water from a borehole or shaft must obtain a licence from the local Water Authority unless it can be shown that the water is being pumped to waste and is purely for the dewatering of mineral reserves. A record must be kept and an annual return submitted to the Water Authority.

The mineral operator must also notify the Institute of Geological Sciences[34] of the intention to sink the borehole or shaft if it is to go to a depth in excess of 50'. This notice was originally prescribed by the Water Act 1945[35], the provisions of which are now incorporated in the Water Act 1973[33].

A mineral operator wishing to sink a borehole or a shaft for exploration purposes to a depth in excess of 100' (shaft deepening included) must notify the Institute of Geological Sciences[34] of his intention under the provisions of the Mining Industry Act 1926[36], Section 23.

The pollution of waterways has been a cause of concern with the post war growth of industry and the Rivers (Prevention of Pollution) Act 1951[37] required mineral operators to obtain a licence for all new effluents. It was soon realised that existing effluents must also be monitored and the Rivers (Prevention of Pollution) Act 1961[38] made this a statutory requirement by requiring licences for all existing (pre 1951) effluents. Both of these Acts have recently been incorporated in the Control of Pollution Act 1974[39], licences being issued by the Water Authorities.

iv) Statutory Powers of Acquisition of Land

During a period of rapid growth in industry and commerce it was necessary to enact legislation ensuring such economic expansion was not inhibited by the lack of public services and therefore the national interest was seen as outweighing any individual rights - SALUS POPULI EST SUPREMA LEX.

The first enactment to provide compulsory powers of acquiring lands was the Land Clauses Consolidation Act 1845(1), which was incorporated as an enabling Act, into many Acts.

The Land Compensation Act 1961(25) supplemented by the Land Compensation Act 1973(40) now controls the method of assessing and paying compensation.

Compulsory powers of acquisition can be exercised by the Crown, statutory undertakings, public undertakings and local authorities (the National Coal Board operates through the powers of local authorities where necessary). Local authorities have powers vested under Section 168 of the Local Government Act 1933(41) but nearly all other acquisitions are made under Sections 4 and 67 of the T & CP Act 1962(23) and Sections 28 and 29 of the T & CP Act 1968(27). Notification must be given to the public when Orders made under these provisions are in draft form.

It is usual to incorporate the provisions of the Acquisition of Land (Authorisation Procedure) Act 1946(42) in such Orders and their precise content is of importance to the minerals industry. Examination of the Draft Order will indicate which provisions of the Mining Code are incorporated. Usually Section 77 of the Railway Clauses Consolidation Act 1845(43) is incorporated, although the entire Code (Sections 77-85 inclusive) may be included. Section 77 allows the purchaser of the lands to remove any minerals which may be found present without necessarily having a title in them. The inclusion of the entire Mining Code places the mineral operator in a more onerous position as he will be obliged to serve a notice of approach under Section 78 before proceeding to withdraw support and is therefore subject to the issue of a counter notice by the acquiring authority.

Disputes over compensation are usually referred to the Lands Tribunal which was set up under the Lands Tribunal Act 1949[44], although certain enactments specify the nomination of an arbitrator by mutual consent of the parties in dispute.

The Community Land Act 1975[45] is the latest enactment to affect the compulsory acquisition of land and compensation, coming into operation on 6th April 1976. It is accompanied by the Development Land Tax Act 1976[46] and the theme of these Acts is to gradually vest in the State all land ripe for development. Local authorities will play an active and leading role in the property market.

There are exemptions and exceptions under both enactments. It is important to note that mineral workings are classified as excepted development, not exempt development, unless such mineral workings are already operating under either a deemed planning permission or a planning consent granted prior to 12th September 1974.

v) Financial Constraints on Land Ownership

The financial constraints on land ownership, including mineral ownership have changed considerably over the period under review, starting with a relatively simple system and culminating in a complex system of taxation. Finance has become such a dominant factor that it could be argued that land developement in its broadest context does not depend on planning control or other environmental constraints but largely on financial considerations.

This part of the study is confined to a review of the principal taxes and rates to which the mineral owner and mineral operator have been subject.

a) Land Tax

Mines and quarries became subjected to tax by virtue of the Land Tax Act 1797[47], Section 4, which stated that:

'all quarries, mines of coal, tin, lead, copper, mundic, iron and other mines, iron mills, furnaces, and other iron works, salt works, and alum mines and works are subject to Land Tax.'

Voluntary redemption was made possible by the Land Tax Redemption Act 1802[48], but compulsory redemption was brought in by the Finance Act 1949[49].

b) Income Tax

This was introduced by Sir William Pitt in the Income Tax Act 1799[50] and was a means of raising extra revenue for defence purposes in the French wars. There followed a period of time when income tax was re-introduced and subsequently repealed.

Income tax was made a permanent feature by the Income Tax Act 1842[51], which contained the 5 schedules, and placed income derived from mines and quarries under Schedule A. In the Income Tax Act 1866[52] a distinction was made between mines and quarries when mines were placed under Schedule A and quarries under Schedule D. This Act also created an anomaly in the vernacular of the mining world which had always defined a mine or quarry by the method of working, but in this Act it was the type of mineral which was to determine whether it was a mine or quarry. Hence quarries of stone, slate, limestone and chalk were assessable under Schedule D based on the profits of the year preceding the tax year; whereas mines of coal, tin, lead, copper, mundic, iron and other mines were assessed under Schedule A on the full amount produced for one year, or an average of the five previous years.

The Finance Act 1910[53] saw the introduction of taxes on petrol and vehicles, and a new tax on mineral ownership known as the Mineral Rights Duty which remained in force until its abolition in the Finance Act 1967[54].

The Income Tax Act 1945 defined more comprehensively the allowances to be set against taxes for capital expenditure. In the mining industry this took the form of an initial allowance of 10% followed by subsequent allowances of 5% in each subsequent year. The allowance was permissible for expenditure on mineral plant, buildings, machinery and the exploration and location of mineral deposits.

The Finance Act 1963[56] introduced a Mineral Depletion Allowance, which permitted mineral owner/extractors to set-off against profits an annual amount based on a hypothetical royalty multiplied by output and then discounted at certain rates depending on the life of the mineral operation.

The Finance Act 1965[57] introduced a new tax known as Capital Gains Tax which was levied at 30% on gains made by the sale of certain assets.

The Capital Allowances Act 1968[58] provides a series of allowances for plant, machinery and industrial buildings. The mineral industry (including oil wells) is entitled to separate allowances which basically fall into two forms. Firstly an allowance is given for mineral depletion (first brought in by the Finance Act 1963[56]). Secondly for expenditure on exploration, acquisition and development of new mines. Section 60 of the Capital Allowances Act 1968[58] provides an allowance for the mineral owner/mineral operator who can claim a writing-down allowance based on annual 'royalty value' as if minerals had been leased.

The Finance Act 1970[59] introduced an important concession for mineral owners, whose royalty receipts had hitherto been taxed entirely as earned income. The Act now provides for such royalty income to be split for taxation purposes, with one half charged as earned income, and the other half as capital gains which is currently taxed at 30%. This change in assessment considerably relieved the tax burden of mineral owners, particularly those whose annual income placed them in the higher ranges of Income Tax (see Appendix 9).

The Income and Corporation Taxes Act 1970 made provision for 50% of mineral royalty income to be charged at the standard rate of tax, such assessment to be made under Schedule D. Management expenses are allowed against such income on a 50% split basis.

The Finance Act 1974[61] Part III made certain transactions in land the subject of a development gains tax, but mineral royalty incomes are exempt by virtue of Paragraph 24 of the 3rd Schedule of that Act. Relief is allowed against development gains assessment if the interest in land disposed of contains minerals with planning permission.

The Development Land Tax Act 1976[46] now supersedes Part III of the Finance Act 1974[61] and from the mineral resources aspect there are two important provisions. In the first instance any deemed disposal of minerals with planning permission is free of DLT; in the second instance any actual disposal of an interest in land containing minerals with planning approval is to be assessed for Development Land Tax on the same basis as hitherto under the Finance Act 1974[61].

c) Estates Duty

This duty, sometimes referred to as death duty, was first introduced by Sir William Harcourt in the Finance Act 1894[62] on a sliding scale basis, commencing at 1% on estates worth £500 or less rising to 8% on estates valued at £1 million or more. In its first year it realised £14 million.

The Finance Act 1975[63] changed the name of this duty to Capital Transfer Tax. The present rate of tax levied in the case of death commences at 10% for estates valued at £15,000 and rises on a sliding scale to 75% for estates valued in excess of £2 million.

d) Mineral Rights Duty

As stated earlier this duty was levied on the owners of certain minerals under the provisions of the Finance Act 1910[53]. The definition of minerals in the Act is unique in that it lists the minerals that are not affected by the Act so that by exception all other minerals are taxable. The minerals excluded are common clay, common brick clay, common brick earth, sand, chalk, limestone and gravel.

The duty which was one shilling in the pound of rental value was abolished by Section 37 of the Finance Act 1967[54].

e) Miners Welfare Levy

Under the provisions of the Mining Industry Act 1920[64], Section 20, a welfare fund was to be established for the purpose of providing facilities for employees of the coal mining industry for the social well being, welfare, recreation, living conditions, mining education and research.

The Mining Industry Act 1926[36], Part III, required all persons who paid Mineral Rights Duty and who had an interest in coal to pay a similar levy of one shilling in the pound known as the Royalty Welfare Levy.

The Miners Welfare Act 1952[65] abolished these levies, the fund being distributed between the National Coal Board and the Coal Industry Social Welfare Organisation, who were jointly required to pursue the aims originally laid down in 1920.

f) Tithes Rentcharges

Tithes were originally payments in kind to the parish priest of one tenth part of the produce of the soil and of things nourished on the soil. This custom dates back to Anglo Saxon times.

Tithes were commuted to rentcharges by the Tithe Act 1836[66] which abolished payments in kind and converted the annual value into a rentcharge.

The definition of tithe precluded its application to minerals as these were a part and parcel of the land, not an annual produce therefrom nourished on the soil. Exceptions to this ruling were to be found however in certain parishes in Derbyshire, Durham and Yorkshire.

Mineral tithes were not included in the Tithe Act 1836[66], but may have been the subject of parochial agreements by virtue of Section 9 of the Tithe Commutation Act 1839[67].

g) Mineral Rating

The Poor Relief Act 1601[68] (sometimes referred to as the Statute of Elizabeth) required the appointment of overseers

> "to raise weekly or otherwise by taxation of every inhabitant, person, vicar and other and of every occupier of lands, houses, tithes impropiate or propiations of tithes, coal mines, or saleable underwoods in the said parish ....."

Hence coal mines were rateable from the beginning of rating law but other mines and quarries remained in an obscure position until the Rating Act 1874[69]. Quarries were generally treated as lands in general; works such as slate works, brickworks, sand and gravel pits were treated as lands and were thus rateable. Mines other than coal were not rateable as they were not coal mines or surface lands.

Plant and machinery have always been rated separately from mines and quarries and these items were rateable at mines which themselves were non-rateable.

The Rating Act 1874[69] made all mines (other than those where the lessor received payments of dues in fractional parts of the ore produced) subject to rates. Quarries were classed as a form of surface occupation and were thus rateable.

The normal method of determining the prospective rateable value of mines (other than tin, lead and copper which were assessed by a Statutory formula from 1874 onwards) was to determine the notional royalty a tenant might be expected to pay from year to year based on the output of that mine and to add to that figure a percentage for the structural value of plant and machinery. Any existing rents and royalties used in the region could be used as a basis of assessment.

The rateable value was the gross value less expenses incurred by the lessor in the upkeep of the property, and where leases were used as a basis they had to be a lease without fine (premium).

The Rating and Valuation Act 1925[70] together with other statutes of that year set up an administration and procedure for the assessment and collection of rates on a national basis. The Rating and Valuation Apportionment Act 1928[71] and the Local Government Act 1929[72] made provision for relief from rating of 'industrial hereditaments' which included mines and quarries. The definition given for such hereditaments was that quoted in the Factories and Workshops Act 1901[73], which qualified mines as - 'any place, not being a mine, in which the persons work in getting slate, coprolites or other minerals'.

Mines and quarries were originally granted a relief of 75% but this was reduced to 50% by the Local Government Act 1958[74], and eventually abolished from 1963 onwards by the Rating and Valuation Act 1961[75].

The National Coal Board (Valuation) Order 1963[76] prescribed the procedure to be used for assessing the rateable value of coal mines vested and has been subsequently amended by the National Coal Board (Valuation) Order 1973[77].

Section 16 of the General Rate Act 1967 prescribed the basis of assessment to be used for other mines and quarries (excluding tin, lead and copper mines). Section 36 prescribed the basis of assessment of mines of tin, lead and copper. In all cases (other than mines of the National Coal Board) the basis of assessment was the same as that prescribed by the Rating Act 1874[69].

The Third Schedule of the General Rate Act 1967[78] prescribed the plant and machinery which should be deemed part of the hereditament being valued, which supplemented the Plant and Machinery (Rating) Order 1960[79]. This latter Order was revised by the Plant and Machinery (Rating) Amendment Order 1974[80].

The Mines and Quarries (Valuation) Order 1971[81] is the latest order controlling the assessment of rateable values of all mines and quarries (other than those vested in the National Coal Board).

vi) Mining Hazards

With mineral ownership goes the liability for the safety of the public at large against the hazards which mineral operations might present. Our industrial heritage has left us with an aftermath of problems, including blight caused by derelict sites, but it is the existence of old mine shafts, disused mineral workings and spoil heaps, which present the major risks.

Incidents such as Knockshinnock, Aberfan and Lofthouse arouse public interest at the time of happening but are soon forgotten by the majority of people. Fortunately government and industry are not as complacent and try to prevent recurrences of such disasters by strengthening the legislation concerning safety and welfare.

Although these incidents have occurred in recent years a closer examination shows that in some instances the origins dated back to previous centuries. Therefore the past actions of those involved in the ownership and working of minerals must always be borne in mind when planning and developing our resources.

a) The Aberfan Disaster

A comprehensive Report[82] by Mr J Corder, HM Chief Inspector of Mines and Quarries, has been published. It is worth repeating that the prime cause of the colliery tip failing and engulfing part of the village of Aberfan was that its location was on the top of a steep valley slope, typical of many of the Welsh mining valleys. The reason for this stems from the ownership of the surface and minerals in the area. Mountain tops were the most barren part of the surface and of little agricultural value. Such areas were frequently used for tipping colliery waste.

The National Coal Board inherited this tradition and were encouraged to continue this practice by the deemed planning permissions granted by the Town and Country Planning (General Development) Order 1950[83]. The combination of these circumstances, together with excessive rainfall resulted in the Aberfan disaster.

The Mines and Quarries (Tips) Act 1969[84] now controls tipping and provides a code of practice to be followed to ensure the safety of all tips at active and disused sites.

b) The Lofthouse Disaster

There would at first appear to be little direct significance in this incident to the public at large. A review of the situation shows that there were in existence, unknown to anyone in authority, old workings in the Flockton seam.

These disused workings were the prime cause of the inrush of water.

The Report[85] by Mr J Corder, HM Chief Inspector of Mines and Quarries, in 1974, urged that a national appeal be made to the public for the deposition with the Mines Record Office of any old mine plans etc which might be in private hands. The response has been moderate and one cannot help but feel that there are still some records to be deposited.

It should be noted that abandoned mine plans were not required to be kept by law until the Coal Mines Regulations Act 1872[86]. There were many mine workings and mine-shafts abandoned before that date which may not have been officially recorded, as is evidenced by the reclamation of many old industrial sites today. The owner of such land is normally responsible for the safety of any disused mineral workings and is charged with this responsibility under the Public Health Act 1936[87], Part III, and Section 151 of the Mines and Quarries Act 1954[88].

The responsibilities of land owners concerning the safety of the public and adjacent landowners cannot be overstressed, as several cases have proved.

In the Pontardawe case 1929[89], the plaintiffs sought compensation for damage caused to their property by a rockfall from the defendants land (adjoining landowner). The judgement was given in favour of the defendant as the rockfall was considered to be due to natural causes and beyond the control of the defendant.

This decision was recently reversed however in the Leakey case 1978[90], where a similar incident had occurred. The judgement found in favour of the plaintiff on the grounds of negligence by the defendant, who had failed to take steps considered feasible by the Court, which would have prevented the land slip.

C International Factors

The further one is removed from the core area of study, the more remote and debateable become the arguments and appraisals. When moving beyond a nation's boundary it becomes necessary to limit such a review to certain fundamentals, which can only be treated superficially if the study is to be kept in balance. The two main considerations of this part of the review are the socio/economic factors and technological factors.

i) Socio/Economic Factors

The reign of George III (1760-1820) was to be blighted by political strife and pressure to bring about parliamentary reform. Champions of this cause were such activists as Wilkes and Paine, who questioned the integrity of a constitution so much influenced by the monarchy.

The American and French influence was evident in stirring the working classes for better representation in Parliament which would lead to a more equitable economy. The French revolution of 1789 was a sombre warning to the monarchy of the powers of the people. To combat this growing unrest the Combination Act 1800[91] was enacted which made gatherings of workers illegal.

The advent of wars has generally had the effect of quelling unrest and stimulating the economy; the French wars of 1797-1803 and 1805-1815 proved no exception. To meet extra demands on resources Income Tax was introduced in 1799 and the number of inclosure awards were increased to stimulate agriculture.

The social reforms being sought by the working classes slowly began to emerge during the reigns of George IV (1820-1830) and William IV (1830-1837), as evidenced by the Combination Repeal Act 1824[92], the Catholic Emancipation Act 1829[93], the First Reform Act 1830[94], the Factories Act 1833[95] and the Poor Law Act 1834[96].

In the early years of the reign of Queen Victoria (1837-1901), activists such as Lovett and O'Connor threatened anarchy. Such unrest eventually diminished, mainly because of apathy brought about by poor communication among the working classes throughout the provinces.

The Trades Union movement began to emerge and the Trades Union Council was established in 1868.

The British economy grew at an unprecedented rate during the second half of the 19th century with the expansion of the British Empire. By the end of the reign of Queen Victoria the Empire covered 13 million square miles and contained a population of 370 million.

The British dominance of world markets was so great that many overseas countries raised tariff barriers to protect their interests. The United States of America imposed a tariff of 75% on all British goods in 1902.

Queen Victoria had witnessed a vast programme of legislation during her long reign and principal social reforms were the Corn Laws Repeal Act 1846[97], the Second Reform Act 1867[98] and the Third Reform Act 1885[99].

The Trades Union movement now better organised began to pressurise the government for better working conditions and despite a temporary respite brought about by World War I (1914-1918), the post war government was again soon under pressure.

The Representation of the Peoples Act 1918[100] and the findings of the Sankey Commission in 1919[101] could not avert the series of strikes which began in the 1920's, culminating in the General Strike of 1926.

This political unrest was given a sharp set-back by the Wall Street crash of 1929, and the years that followed up to the outbreak of World War II (1939-45) were known as the Great Depression.

The Second World War virtually eliminated unemployment and the Coalition government was responsible for much research into social reforms which were introduced immediately after the War.

The post war period commencing in 1945 has seen a gradual rise in the standards of living despite the constant presence of inflation.

The present monarch Queen Elizabeth II came to the throne in 1952, and the decade that followed became known as the Elizabethan years. The growth of our economy has however fallen behind that of our competitors, especially those who were our enemies in the Second World War.

One cannot leave this brief history without reference to the European Economic Community (EEC) which was formed by six nations in 1960. Great Britain, Denmark and Ireland joined in 1973 bringing the membership to nine countries. The EEC is still in a formative stage but it is anticipated that this country's indigenous supplies of fuel should ensure a sound economic position in the community.

ii) Technological Factors

In 1760 the principal industries in England and Wales were agriculture and textiles with mineral production low in the order of economic importance. Wood was the prime source of fuel, charcoal being used extensively in the production of pig iron.

The growth of the cotton industry arising primarily from the developments of Arkwright, Watts and Boulton, created an increased demand for coal.

The use of copper for plating the hulls of ships towards the end of the 18th century created a boom in the country's copper mines. Pary's mountain in Anglesey was extensively exploited for its rich reserves during this period.

Pig iron production began to increase with the availability of cheap coal and the demand for iron rapidly increased with the construction of railways both in this country and overseas. The total production of iron in 1830 was 700,000 tons but by 1873 this had grown to 6.6 million tons.

Gas street lighting in the early part of the 19th century created a further demand for coal and by 1825 every town in England and Wales with a population in excess of 10,000 was equipped with this form of illumination.

The growth in the economy was reflected in the growth of the coal industry. The annual production increased from 8.5 million tons in 1785 to 50 million tons in 1850.

During the second half of the 19th century the shipping industry for home and overseas buyers achieved world dominance. This played a vital role in establishing Great Britain as one of the worlds centres of trade and commerce. The London Metal Exchange and London Commodity Exchange were established during this period, which are world-renowned markets dealing in base metals and soft commodities respectively.

Meanwhile the salt mining industry of Cheshire had received a boost in demand by the findings of the French scientist, Le Blanc, who had discovered a means of producing soda from rock salt. Similarly a German scientist, Liebig, had found a means of producing artificial fertilisers, which included the use of potash. This invention created a world demand for this mineral, which is now being produced at Boulby mine in North Yorkshire.

The automobile and shipbuilding industry were increasing their demands for steel and production rose by 66% in the period 1895 to 1914.

The coal industry as the prime source of energy in steel making continued to grow and by 1914 reached its highest tonnage of 287 million, 25% of which was exported.

The demand for copper rose with the introduction of electricity as a power source, but the home producing copper mines could not compete with cheap open-mined copper ores of Chile. Home production in a commercial sense had ceased by the end of the 19th century.

Coal production declined from 1918 onwards because of the switch from coal to oil as a source of energy. The run-down of the textile and shipbuilding industries between the World Wars had its obvious effects on steel, iron ore and coal requirements.

The use of electricity increased sevenfold between 1918 and 1938 because of the increased demands for power by industry. This period saw the formation of large corporations such as ICI, Ford and General Motors, General Electric, De Haviland and Hawker Siddeley.

The period following World War II has seen a growth rate in the construction industry unparalleled in its history. This is basically attributable to the post war development necessitated by the war damage in urban areas, coupled with a resumption of house building in the public and private sector.

The motorway programme was also commenced in the 1950's and all of these works placed increasing demands on mineral resources required by the construction industry. The minerals industry had to rapidly expand and the annual production levels in the bulk minerals reached record heights. Sand and gravel production exceeded coal for the first time in the 1970's.

Another technological event has been the North Sea oil and gas exploration programme. Commencing in the 1950's, it is now beginning to supply these vital raw materials to assist in the balance of payments. The discovery of the North Sea resources has been especially beneficial with the emergence of the Third World powers, who through OPEC have almost a monopoly of supply for many countries.

The development of nuclear energy was a natural development of war-time uses of such energy, and the formation of the Atomic Energy Authority in 1954 saw the commencement of a programme of power generation by nuclear powered stations.

In recent years the energy requirements of this country as well as the world has brought an awareness of scarcity and the need for conservation of energy. At one time the coal industry seemed doomed to obscurity, but it is now realised that all sources of energy especially indigenous fuels have a long term future as is witnessed by such coal mining projects as Selby and Belvoir.

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13 22 & 23 Geo. 5, c.48
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15 SI 1946 No. 1621
16 Under Section 119 of the Town and Country Planning Act 1947(20) minerals excepted from the definition were coal, gold, silver and those others worked for agricultural purposes only - special provisions were made for these
17 Under Article 3 of the Town and Country Planning (General Development) Order 1950 (SI No. 728), mineral undertakings and the National Coal Board were permitted to continue working if in existence on 1st July 1948 - deemed planning permission
18 The Minister of Housing and Local Government had powers under Article 4 of the Town and Country Planning (General Development) Order 1950 (SI No. 728) to withdraw deemed planning permissions at any time. This provision still applies under the revised Order of 1977 (SI No. 289)
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34 This notice is to allow officers of the Institute of Geological Sciences to inspect rock samples on site

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PART II

CASE STUDIES

CHAPTER IX

WHITMORE PARK WORKING FACILITIES ORDER, COVENTRY

This case study has been selected to illustrate the effects of certain legal dicta and maxims used in the laws for mines and minerals; to show how modern developments in mining technology and the advancement of knowledge in subsidence engineering have put in question some of the beliefs and principles established over the past two hundred years.

The case study is also an example of the protracted and expensive course of events to which some of the mining enterprises of this country have been subjected because of uncertainty, lack of understanding and a failure of communication in drafting Bills of Parliament and other legal documents.

The first part of the study will describe the series of events commencing in 1804 and terminating in 1963 and will highlight some of the more important legal arguments put forward by the various parties.

The second part will review the proceedings and consider some of the alternatives which might have been adopted, including the possible consequences of such developments.

A Resume of Events Leading Up To The Court Hearings of 1933/34

The Warwickshire Company which was formed in 1912, was working the Warwickshire Thick Coal seam under lands situated in the parishes of Keresley, Exhall, and Coventry. The colliery was known as Coventry Colliery and the shafts were situated in the parish of Keresley, as shown in Figure 1.

The coal seam, 20' 6" in thickness, average depth of 2,400 feet, was worked by the traditional long-wall retreating method, consisting of the simultaneous extraction of three leaves each about 6' in thickness. The first leaf worked formed the base of the Thick Coal, which was followed by the middle leaf and finally the top leaf. The three faces thus formed retreated in parallel and were each about 24' apart, as

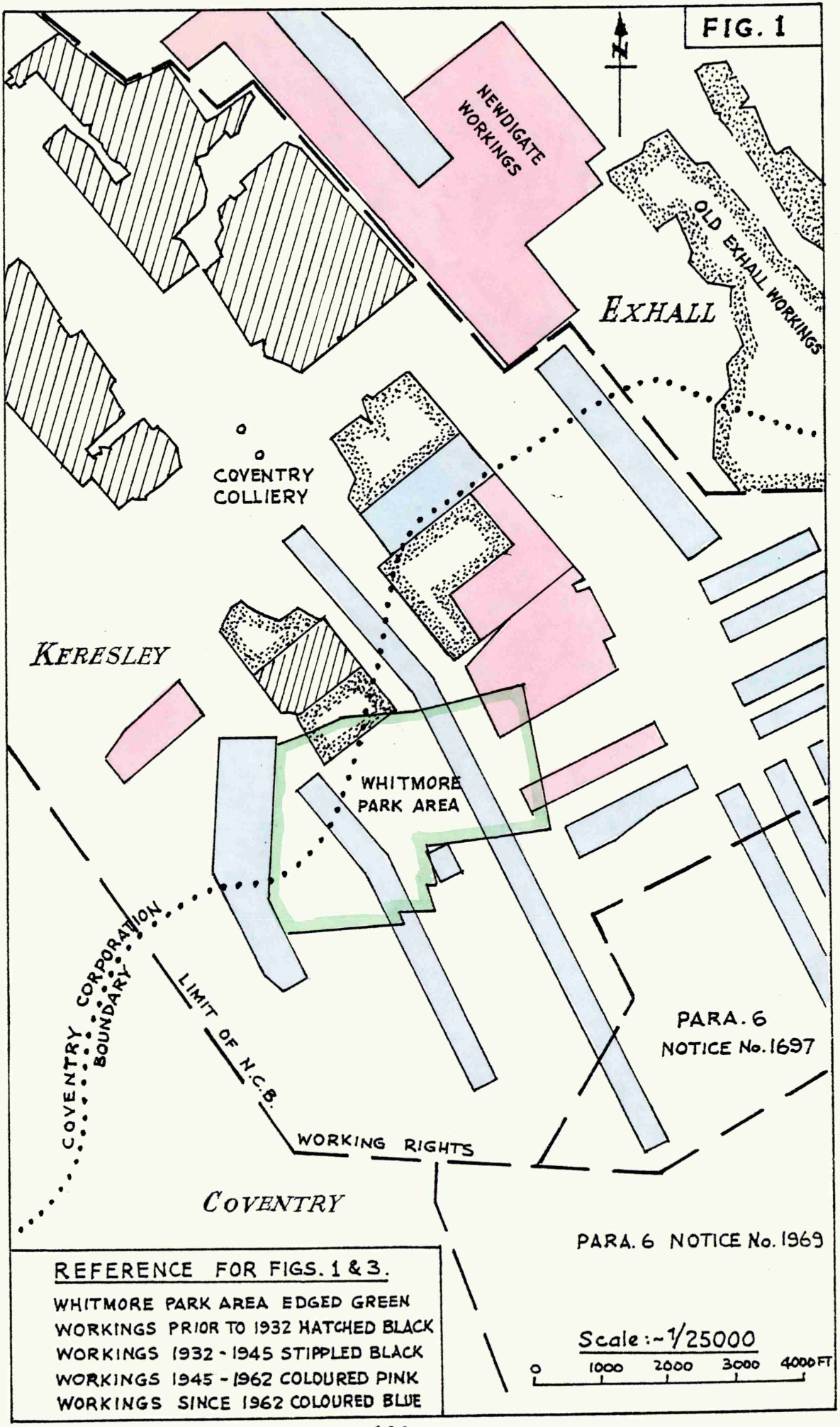
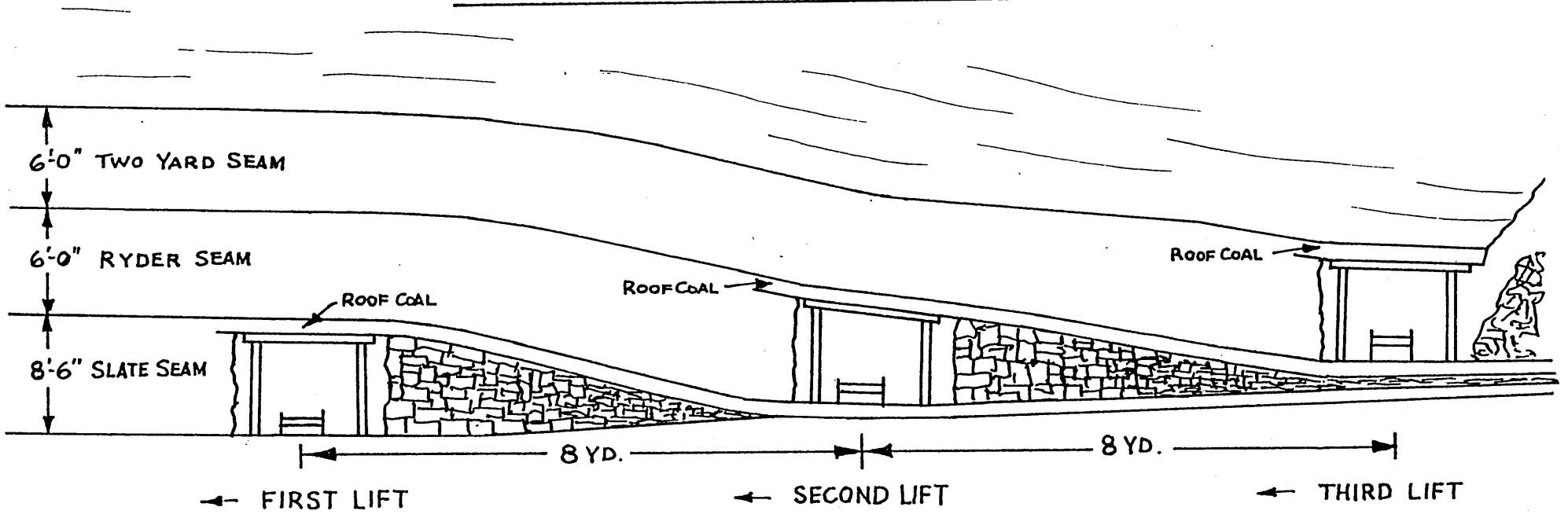


FIG. 1
N
NEWDIGATE WORKINGS
OLD EXHALL WORKINGS
EXHALL
COVENTRY COLLIERY
KERESLEY
WHITMORE PARK AREA
COVENTRY CORPORATION BOUNDARY
LIMIT OF N.C.B. WORKING RIGHTS
COVENTRY
PARA. 6 NOTICE No. 1697
PARA. 6 NOTICE No. 1969
REFERENCE FOR FIGS. 1 & 3.
WHITMORE PARK AREA EDGED GREEN
WORKINGS PRIOR TO 1932 HATCHED BLACK
WORKINGS 1932 - 1945 STIPPLED BLACK
WORKINGS 1945 - 1962 COLOURED PINK
WORKINGS SINCE 1962 COLOURED BLUE
Scale :- 1/25000
0 1000 2000 3000 4000 FT

SECTIONAL VIEW SHOWING METHOD OF WORKING THE WARWICKSHIRE THICK COAL IN THREE LIFTS



ALL LONGWALL RETREAT FACES

FIG. 2

shown in Figure 2. This method of working had been practised for over a century in the locality and was found to be the most economical and the safest way of working this very thick seam.

The Thick Coal is unique in this part of the Warwickshire coalfield and is made up of three separate seams, the Slate seam, the Ryder seam and the Two Yard seam (named in ascending order). To the north of Coventry colliery the Thick Coal splits and is worked as three separate seams.

Although the seams in this coalfield are practically free of methane gas they are susceptible to spontaneous combustion, especially the Thick Coal. It is for this reason that the longwall retreating method was preferred to any other.

The superincumbent strata above the productive coal measures consists of a thick series of interbedded marls and sandstones made up of the Etruria, Halesowen and the Keele series (named in ascending order). These form a thick layer of about 2,400' containing a high proportion of clays, which provides a thick plastic type series of strata.

Workings were taking place on the north and south sides of the shafts, although the earlier workings were concentrated in the northern side of the take. In 1929 a longwall retreating face 300 yds in width commenced on the south side of the shafts retreated in a north east direction, finishing in 1932. This was replaced by a similar face immediately to the south east, as shown in Figure 3. About this time discussions were taking place between the colliery company and Coventry Corporation, who owned large areas of the surface in this locality, including part of an area known as the Whitmore Park estate, see Figure 3.

The discussions mainly concerned the alleged rights of the colliery company to work the coal, damage and let down the surface without incurring any liability to pay compensation for such damage. This claim led to the parties investigating their respective roots of title. The colliery company claimed that under a lease granted to their predecessors by the Ecclesiastical Commissioners on 9 April 1903 for a term of 99 years, they were entitled to all the rights claimed.

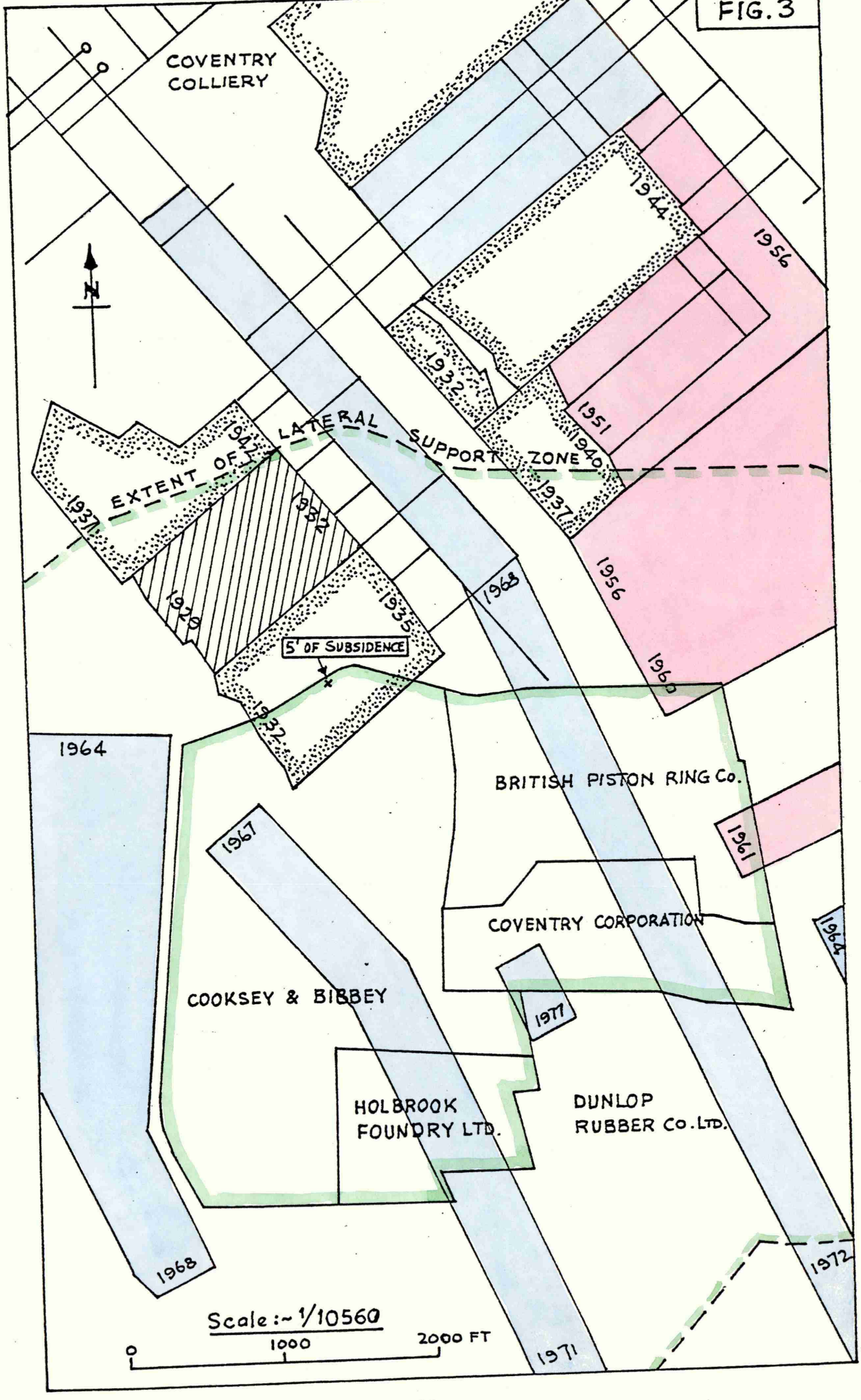


FIG. 3
COVENTRY COLLIERY
N
1944
1956
1932
1951
1940
1937
LATERAL SUPPORT ZONE
EXTENT OF
1937
1942
1937
1920
1935
5' OF SUBSIDENCE
1932
1968
1956
1960
1964
BRITISH PISTON RING Co.
1961
1967
COVENTRY CORPORATION
1964
COOKSEY & BIBBEY
1977
HOLBROOK FOUNDRY LTD.
DUNLOP RUBBER Co. LTD.
1968
1972
1971
Scale :- 1/10560
0
1000
2000 FT

The Ecclesiastical Commissioners had acquired their title under the provisions of the Ecclesiastical Leases Act 1860[1] from the previous holder the Bishop of Lichfield.

There was therefore a clearly defined root of title in the surface and in the mines and minerals which could be traced back into the 18th century. The question in 1931 was what were the rights attached to the ownership of such mines and minerals by an instrument of severance dated 30th January 1804. The Bishop of Lichfield had on that date conveyed surface lands which included the Whitmore Park estate to raise money for the redemption of Land Tax. The sale therefore had to comply with the provisions of the Land Tax Redemption Act 1802[2].

It was with particular reference to Section 80 of this Act that the conveyance of 1804 was made. The provisions of Section 80 are as follows:

> "No mines or minerals, or seams or veins of coal, metals, or other profits of the like nature belonging to any manors, messuages, lands, tenements, or hereditaments which shall be sold by any Bishop or other ecclesiastical corporation aforesaid for the purpose of redeeming any land tax, whether the same shall be opened or unopened, nor any right, title, or claim to open or work the same, ... shall pass by any conveyance of such manors, messuages, lands, tenements, or hereditaments, either by express or general words in such conveyance, ... and such mines or minerals, seams or veins of coal, metal or other profits aforesaid, together with all proper and necessary powers for opening the working the same ... shall be always absolutely excepted and reserved to such bishops or other ecclesiastical corporations aforesaid as fully and effectually to all intents and purposes as if the same were in such conveyance expressly excepted and reserved."

Coventry Corporation traced its title back to the persons who had acquired the surface lands including the Whitmore Park estate which had been sold in 1804 by the Bishop of Lichfield.

It was therefore clearly established and agreed by both parties that their respective titles were sound, but the question as to what had been intended at the date of severance, was still unanswered. The colliery company claimed that the provisions of Section 80 clearly implied the rights to work, lower, damage and let down the surface without incurring liability to pay compensation. Coventry Corporation strongly disputed this and maintained they were entitled to compensation for any damage arising from such underground workings. After seeking Counsels opinion (Gavin Symonds KC) however they claimed that the instrument of severance did not except and reserve the rights to lower the surface, but only the rights to work the said mines and minerals. In response the colliery company sought Counsels opinion (Sir Leslie Scott KC), who advised them that they had the rights originally claimed, that is to open and work the mines and minerals with all the powers necessary.

B Court Hearings and Judgements 1933/34

The matter was referred to the High Court, Chancery Division in 1931, and a hearing was eventually obtained in 1933 before Mr Justice Clauson. The following account highlights the submissions made by the plaintiffs and the defendants.

Warwickshire Coal Company Ltd v. Coventry Corporation[3] (1931 w. 2657)

The plaintiffs were represented by Sir Leslie Scott KC and Mr Evershed KC, who submitted to the court that the rights to work claimed was by an instrument of severance in the form of a conveyance of surface lands forming part of the See of the Bishop of Lichfield dated 30th January 1804. The sale of such surface lands was under the provisions of the Land Tax Redemption Act 1802[2], Section 80, and as such made only a general reference to the reservation of mines and minerals, viz:

> 'except and always reserved unto the said Lord Bishop and his successors, all mines minerals and quarries of what nature and kind soever.'

As can be seen from the full text of Section 80 previously quoted, this statement is a much curtailed version, and the phrase 'together with all proper and necessary powers for opening and working the same' was omitted.

The Counsel for the plaintiff maintained that the proposed method of working was one considered proper and customary and the wording of Section 80 clearly implied the rights to lower the surface. Furthermore the longwall retreating method was known to cause the minimum disturbance to the surface.

The principles established in the case of Welldon v. Butterley Co Ltd 1920[4] were put forward in evidence in which it was held that where the respective parties knew at the time of severance that the mineral owner had reserved mines and minerals with the rights to open and work by an accepted method, there was sufficient inference that the surface would eventually be lowered as a consequence. The judgement given by Mr Justice Astbury included the following statement:

> "If, in other words, the instrument of severance gives a clear and definite right to work and carry away coal, then, as soon as it is ascertained that there is no possible way of doing so without causing subsidence, there is no room to discuss what implication the legislature may have intended should be drawn; all that is necessary is to see whether the right is given; if so, and there is no possible way of exercising it without producing the result which nature provides for, it is impossible to contend, nor do I find it stated in any authority, that, under these circumstances, the clause giving the right is to be regarded as idle and meaningless. There are a number of expressions of many Judges, both in the Butterley case and earlier cases, as to the knowledge or presumed knowledge of the parties at the date of the deed of severance. This was no doubt very relevant at a time when it was supposed that there were different methods of working coal, leading to different results qua subsidence, but it seems to me that, as soon as you arrive at the scientific fact that every method of working must cause subsidence, it is irrelevant to discuss what the parties knew, or what the parties did not know, at the date of the document, as to the effect of exercising the right, provided it is clearly given."

Other cases were quoted in evidence namely Dand v. Kingscote 1840 and the Railway and Canal Commission decision re Tilmanstone Collieries Ltd 1927[6].

The defendants were represented by Messrs Gavin Simonds KC and Wilfred Hunt, who claimed that the colliery company had no right to let down the surface, being satisfied that the instrument of severance did not reserve to the mineral owner either expressly or by implication the right to withdraw support. The purchasers in 1804 had acquired the surface lands for the purpose of building and had they thought such lands might be affected by mining subsidence, they would not have bought the land.

The Counsel for the defendant further argued that the judgement in Weldon v. Butterley Co Ltd 1920 was deemed a bad one and inconsistent with other judgements. The rights of the respective parties should be based on their knowledge at the time of the enabling Act, that is 1802, as established in Beal's Cardinal Rules of Legal Interpretation 3rd edition p. 314. The intention of Section 80 as given by the plaintiff was questioned, and it was argued that if there had been a proviso in that section that the mines and minerals should not be so worked as to let down the surface such a proviso would not have been inconsistent with the rest of the reservation. In the case of Butterknowle Colliery Co v. Bishop Auckland Industrial Cooperative Co 1906[7], Lord Loreburn made the following statement:

> "Whenever the minerals belong to one person and the surface to another, the law presumes that the surface owner has a right to support, unless the language of the instrument regulating either rights, or other evidence, clearly shows the contrary. In order to exclude a right of support the language used must unequivocally convey that intention, either by express words or by necessary implication."

In the same case Lord Macnaghten in support of Lord Loreburn made the following statement:

> "In all cases where there has been a severance in title and the upper and the lower strata are in different hands, the surface owner is entitled of common right to support for his property in its natural position and in its natural condition without interference or disturbance by or in consequence of mining operations, unless such interference or disturbance is authorised by the instrument of severance either in express terms or by necessary implication. This presumption ... holds good whether the instrument of severance is a lease, or a deed of grant or reservation, or an inclosure Act or award."

Thus it was clear to the defence that Section 80 did not set aside the common law right of support, but merely excepted and reserved mines and minerals, as primarily the Act of 1802[2] was to allow the sale of church lands to provide capital for redemption of land tax.

In support of the submission by the defence several other cases were referred to including Bell v. Love 1884[8]; Davis v. Treherne 1881[9]; Hext v. Gill 1872[10]; Butterley Co v. New Hucknall Colliery 1910[11]; Consett Industrial and Provident Society v. Consett Iron Co 1922[12]; Thomson v. St Catharines College 1919[13].

A judgement was given on 12th October 1933 by Mr Justice Clauson following a review of the evidence submitted by both parties, and it was obvious that the principal issue in question was the intended rights of the parties as per Section 80 of the Act of 1802[2]. In his summary he made the following statement:

> "In all cases where there has been a severance in title and the upper and the lower strata are in different hands, the surface owner is entitled of common right to support for his property in its natural position and in its natural condition without interference or disturbance by or in consequence of mining operations, unless such interference or disturbance is authorised by the instrument of severance either in express terms or by necessary implication. This presumption in favour of one of the ordinary and most necessary rights of property holds good whether the instrument of severance is a lease, or deed of grant or reservation, or an inclosure Act or award. To exclude the presumption it is not enough that mining rights have been reserved or granted in the largest terms imaginable, or that powers

> and privileges usually found in mining grants are conferred without stint."

The judgement therefore was given in favour of the defendants with costs, on the grounds that the conveyance of 1804 did not expressly except and reserve the said mines and minerals and did not expressly or reasonably imply a right to withdraw support. The conveyance was made under the provisions of Section 80 of the Act of 1802(2), and there was nothing in that section to set aside the common law right of support.

Following this judgement the colliery company appealed, and this hearing took place on 21st and 22nd March 1934 in the Court of Appeal before Lord Hanworth, MR, Romer, LJ, Maughan, LJ.

The judgement of the Court of Appeal was given on 17th April 1934, and the appeal was dismissed unanimously. The reasons given by the Appeal Judges are hereby summarised:

Lord Hanworth, MR having scrutinised the various cases cited, considered the principle established in the Butterknowle case of 1906(7) as being the touchstone of the entire matter. He rejected the judgement of Mr Justice Astbury as given in the case of Welldon v. Butterley Co Ltd 1920(4), as inappropriate in the first instance and inconsistent with other judgements in the second instance, quoting finally Lord Atkinson in St Catharines Case of 1919(13):

> "if in the absence of such express or implied authority the owner of the minerals should be obliged to leave his mines unworked he must put up with the loss."

Furthermore he pointed out that the conveyance of 1804 had included an abridged version of Section 80, the reservation being based on the phrase "except and always reserved unto the said Lord Bishop, and his successors, all mines, minerals and quarries of what nature and kind soever". He could not accept the full implication of Section 80 in this context.

He therefore rejected the Appeal with costs.

Romer, LJ in essence supported Lord Hanworth but did recognise the dilemma of mineral owners faced with the rights of support of surface owners. This presumptive rule has applied however since time immemorial, as he explained in his judgement, viz:

> "Why the law should make such a presumption is not very clear. It has sometimes been attributed to a common or natural right of support supposed to be possessed by land. That the owner of land is entitled to have it laterally supported in its natural state by the land of an adjoining owner is, of course, true. But the division up of land into horizontal strata in different ownerships is an unnatural state of affairs originating in comparatively modern times."

He stated that the proper test to be applied in all these cases had been laid down in the House of Lords in the Butterknowle case of 1906[7] where it was stated:

> "The same presumption in favour of a right of support which regulates the rights of parties in the absence of an instrument defining them will apply also in construing the instrument when it is produced. If the introduction of a clause to the effect that the mines must be worked so as not to let down the surface would not create an inconsistency with the actual clauses of the instrument, then it means that the surface cannot be let down."

He therefore dismissed the Appeal with costs.

Maughan, LJ similarly supported his learned colleagues making lengthy reference to Section 80 of the Act of 1802[2], as this was the crux of the whole issue.

He reasoned that the conveyance had to be read as if the reservation and exception were by the conveyance expressly excepted and reserved. It had to be borne in mind however that the bishop had not in express terms reserved a right to let down the surface, as he might have done; still less had he made any provision for compensating persons who might be injured by a subsidence or by a destruction of the surface.

Whilst sympathising with the arguments put forward by the applicants re rights to withdraw support, he could not differ from the conclusions reached in other cases cited supporting the common law right of support. The surface owner enjoyed a presumptive right, and it was up to the mineral owner to establish his right to withdraw support, which had not been done in this case. He therefore rejected the Appeal.

C Consequences of the 1934 Judgement

The colliery company was therefore suddenly confronted with a serious depletion of reserves in that all the coal lying within the Whitmore Park estate which consisted of 244 acres of Warwickshire Thick Coal could not be worked if it should cause any lowering of the surface. Furthermore if this surface area was entitled to absolute support, the adjacent areas of coal which afforded lateral support could not be worked either.

In their calculation of tonnages of coal which would have to be left unworked the colliery company estimated that 7.3 million tons of coal afforded vertical support. A further 17.7 million tons would be needed to give lateral support. The lateral zone is indicated in Figure 3.

D Application for a Working Facilities Order in 1945

In 1945 the colliery company decided to apply for a Working Facilities Order under the provisions of the Mines (Working Facilities and Support) Act 1923[14] as amended by the Mining Industry Act 1926[15]. The right to withdraw support was classified as an ancillary right and as such was made under Section 3 of the Act of 1923[14].

The Secretary of State being satisfied that a prima facie case had been made out by the applicants referred the submission to the Court of the Railway and Canal Commission[16].

Objectors to the application were Coventry Corporation joined by Thomas Cooksey and Arther Bibbey who owned the western half of the Whitmore Park estate. There were other surface owners who did not formally object, namely, British Piston Ring Co Ltd, Dunlop Rubber Co Ltd, Holbrook Foundry Ltd. All of these surface ownerships are shown in Figure 3.

The hearing of the application took place in July 1945 but due to an apparent loss of records (possibly destroyed or misplaced after the war), it has not been possible to obtain any contemporary record of the hearing other than the actual Court Order which resulted from the hearing. It is therefore by information given in the 1945 Court Order and subsequent developments that the following summary is made of the 1945 Application.

Application by the Warwickshire Coal Co Ltd for an Ancillary Right to the Court of the Railway and Canal Commission 1945

In July 1945 the applicants sought Court authorisation to work the Warwickshire Thick Coal seam in toto by the longwall retreating method under and adjacent to the Whitmore Park estate, and hence to lower the surface within that estate.

The applicants maintained in their submission that the method of working proposed was one widely practiced in the locality and was the only one to allow the safe and economic working of this seam. Furthermore they maintained that this method of working would cause the least possible inconvenience to surface owners, and provided figures indicating the amounts of subsidence over areas already affected by this method of working.

The induced subsidence profile would be formed by flattish gradients as the area affected by workings at such depth would be considerable, and the properties within these areas of influence were subjected to a gentle lowering of the surface over a period of years, cushioned by the special nature of the superincumbent strata.

The applicants stressed that the Mines (Working Facilities and Support) Act[14] was designed to remove restrictions (expressed or implied) on the working of minerals if it could be shown that such workings were in the National Interest, and they maintained that the freeing of such vast reserves of high quality coal was in the National Interest.

The defendants countered these arguments by requesting a status quo, and maintained that all the arguments raised by the applicants had been heard by the Court in 1934 and rejected. Furthermore the Whitmore Park estate had been extensively developed since 1934 by industrialists and planning approval had been granted for residential development in the western half of the estate.

The Railway and Canal Commission[16] gave its judgement in November 1945 in favour of the applicants and specified that a Working Facilities Order would be awarded to the colliery company authorising them to work all the coal known as the Warwickshire Thick Coal lying under the Whitmore Park estate by the longwall retreating method of working subject to certain conditions specified in the Schedule to the Order. The Order was to expire on 31st December 1980.

The principal conditions contained in the Schedule have been summarised below:

1 The Applicants to pay compensation for all damage occurring after the date of this Order due to workings under the Area, and to include damage to buildings etc (existing and proposed) whether situated within or without the said area.

2 The Applicants to indemnify any person or persons who are responsible for the supply and maintenance of services against claims arising from disruption of supply, provided such persons give notice of any negotiation with such third party.

3 The Applicants to pay for the cost of any precautionary measures for protection of existing and proposed constructions, provided the Applicants were informed before any such works were executed.

4 The Applicants shall have the right, subject to giving notice, of entry of any properties for the purpose of inspecting and carrying out any precautionary measures at their own expense.

5 Any surface owner who believes his property to have been damaged by the Applicants workings under this Order shall normally notify the Applicants to this effect.

6 On 1st January each year the Applicants must submit plans of proposed workings to Coventry Corporation, and shall allow any surface owner the right to visit the offices of the Applicants to inspect copies of such plans.

7 Nothing in this Order shall make the Applicants liable for damage to property outside the Area, other than that in the same ownership as that contained within the Area.

8 Any dispute arising under this Order to be referred to the Commission.

9 The Applicants must at all times comply with all relevant statutory requirements in the working of such coal.

10 The Applicants shall not assign their interest without the prior approval of the Commissioners[16].

11 All notices to be given under this Order to be served in compliance with Section 196 of the Law of Property Act 1925[17].

The Working Facilities Order stated that the Commissioners were satisfied that it was in the National Interest to allow the surface to be lowered.

E Developments Following the Nationalisation of the Coal Industry

Just over 12 months from the granting of the Order the coal industry was nationalised and the interests in the Warwickshire Coal Company were vested in the National Coal Board. Coventry Colliery became one of 14 collieries forming the No. 4 (Warwickshire) Area of the National Coal Board.

Following this transfer of ownership, the National Coal Board who had acquired working rights formerly vested in the Coal Commission under the provisions of Section 8 of the Coal Industry Nationalisation Act 1946[18], were required to observe the requirements of all Working Facilities Orders, and thus the Whitmore Park Order of 1945.

The development of Coventry colliery had been concentrated in the northern and more rural areas of the colliery take following the 1945 decision. It was only towards the end of the 1950's that the Coal Board began to consider the reserves to the south which came within the City of Coventry. Even then the first development by the Coal Board was to the north east of Whitmore Park and it was not until about 1960 that serious consideration was given to working under the Court Order area. By this time the use of power loaders and powered supports was becoming widely practiced. At this colliery the longwall retreating method of extracting the entire seam in one simultaneous operation did not lend itself to power loading and a more practical and economic method was to extract the three seams making up the Warwickshire Thick Coal as separate operations, each such seam being worked at different periods of time.

It was therefore necessary for the National Coal Board to re-appraise the situation in which they had the rights to work 7.3 million tons of coal by a method which 15 years after the Court Order was no longer customary. Other parts of the colliery were no longer using this method and adjoining collieries had also given up the old method. The Working Facilities Order of 1945 clearly stated any variation in the conditions could only be with the Commissioners[16] approval.

The National Coal Board therefore decided in 1962 to apply for a Variation Order allowing them to vary the method of working from longwall retreating to longwall retreating and/or advancing and to work the Warwickshire Thick Coal in three phases as opposed to one extraction.

The application required the parties to the Order of 1945 to be notified of these variations being sought as per the requirements of the Mines (Working Facilities and Support) Act 1923[14]. It was at this stage that one of the original objectors, namely Coventry Corporation, was joined by an extended list of objectors who were also owners of surface lands within the Court Order area. The lands owned by Bibbey and Cooksey who were objectors in 1945 had been subsequently acquired by these other objectors.

The new list of objectors can be summarised as:

1	Coventry Corporation	Surface owners in 1945
2	British Piston Ring Co Ltd	
3	Dunlop Rubber Co Ltd	
4	Holbrook Foundry Ltd	
5	Ansells Brewery Ltd	
6	Birmingham R.C. Diocesan Trustees	
7	Reverend A P Diamond	
8	West Midlands Gas Board	

Application by the National Coal Board for a Variation Order to the Chancery Division of the High Court 1963[19]

The applicants claimed that the variation sought was primarily one seeking the right to work by longwall advancing methods as well as the existing right of longwall retreating methods; and they maintained that the resultant effect on the surface was identical. They claimed that the Court Order of 1945 had clearly established the right to lower and if necessary damage the surface by the total extraction of the Warwickshire Thick Coal. This right had been considered to be in the national interest and thus was to override any common law right of support previously enjoyed.

The applicants further maintained that the old traditional longwall retreating method was not suitable for modern mining methods and it had been proved that the total amount extracted by this old method was not more than 60% of the thickness. Much coal was lost because of the crushing of coal measures and the use of coal packs to support the intermediate roofs. The longwall advancing method now practiced at the colliery and in the neighbourhood was much more suitable for mechanised mining and it was only intended to work one leaf of the Thick Coal at a time (about a third of the total thickness). The first leaf would be the uppermost one known as the Two Yard seam and would eventually be followed by extractions of the middle leaf and lower leaf, known as the Ryder seam and Slate seam respectively. These subsequent leaves would be extracted at about 15 year intervals and would therefore allow the surface to subside much more gradually than the other method. The aggregate effect would be no more and should be less, as the applicants did not intend to completely extract

each leaf, although they enjoyed this right at present. Furthermore the Two Yard and Ryder seams were to be worked by longwall advancing faces and the Slate seam by longwall retreating faces.

The applicants informed the Court that lengthy discussions had already taken place with the objectors and a draft agreement had been drawn up for the approval of the Court which could form the basis of the Variation Order. They had assured the objectors that in view of the surface development which had taken place within the Order Area since 1945, they did not intend to extract all the coal. About 60% was to be removed by the partial extraction method of working, although they did have the right to extract all the coal. The Variation Order being sought therefore did not worsen the surface owners position in any way.

The applicants and objectors had also agreed in principle to a method of working, namely longwall advancing on a partial extraction basis with panels of a width of one quarter of the depth and pillars of a width of one fifth of the depth. The upper seam was to be worked first at a maximum thickness of 6' 6". Six months notice had to be given to the objectors before workings commenced in the second seam.

Furthermore because the existing Order expired in 1980, it had been agreed that the Variation Order should only cover the first and second seams. An entirely new Order would be required for the third and last seam to be worked. Special provisions were to be made for certain surface interests. The existing Schedule of the Order of 1945 would be extended as appropriate by an entirely new Schedule incorporating all of these proposals and amendments.

The principal variations to the existing Order of 1945 as jointly agreed by all parties were summarised as follows:

1 Maximum thickness of first extraction to be 6' 6" and no increase permitted without giving the objectors 6 months notice.

2 Maximum thickness of extraction under the Variation Order to be 13' 0".

3 Normal panel widths to be one quarter of the depth and normal pillar widths to be one fifth of the depth.

4 All objectors, subject to giving applicants 2 months notice, to be entitled to enter into negotiations leading to formal agreements between parties. In such agreements variations in panel widths should be not less than one fifth of the depth and pillar widths should be not greater than one quarter of the depth. The timing of mine layouts should also be agreed. Special precautionary surface works may also form part of such agreements.

5 If such proposals as outlined in 4 above are not agreed within 3 months, then the matter shall be referred to a single expert appointed by the President of the Institution of Mining Engineers, whose decision shall be final.

After considering minor points raised by the objectors Mr Justice Wilberforce agreed to the award of a Variation Order based on the draft Order submitted by the applicants. The new Order which came into force on 14th January 1963 terminates on 31st December 1980.

The original intention of the National Coal Board had been to obtain a Variation Order allowing them to work by the longwall advancing method as well as the longwall retreating method, but the first intimation of this to the objectors was seized upon as an opportunity to contest the rights granted by the Order of 1945 to the predecessors of the National Coal Board.

F Implications of the Variation Order 1963 on Other Reserves

Following the award of the Variation Order the Coventry Chamber of Commerce and Coventry Corporation jointly requested the National Coal Board to state their proposals for the further extraction of coal within the City boundary. Despite assurances from the Coal Board that future workings would not disrupt the industries within this area, Coventry Corporation and Coventry Chamber of Commerce now joined by the Federation of Ratepayers began to make overtures in Parliament through their MP. Speculation was rife in the national and local news media and the House of Commons was subjected to some rather alarmist statements by Mr Maurice Edelman, MP, Coventry North[20].

Coventry Corporation in its dual role of property owner and planning authority had begun to consider the possible use of planning sanctions (issuing an Article 4 direction)[21] as a means of halting the underground development.

The National Coal Board allerted to this consideration was quick to respond by informing the Corporation that should planning permission be withdrawn, a claim for compensation would be made. It was estimated that this would amount to £22 million.

The news media was quick to publicise this figure and it was anticipated that the rates of Coventry Corporation would have to be increased by 12% to meet this sum of money.

The result of this gamesmanship was a jointly staged meeting of the National Coal Board represented by Lord Robens and the principal objectors led by Sir William Lyons (Chairman of the Jaguar Motor Car Co).

The outcome of the meeting was a compromise solution with a voluntary sterilisation of part of the reserves of Thick Coal. The future workings would be similar in layout to those agreed in the Whitmore Park Variation Order of January 1963.

This is the present situation although the Coal Board published a paragraph 6 notice (Coal Act 1938[22]) in 1968, extending its working rights boundary almost to the City centre, but stopping short of the Cathedral.

G Critical Appraisal

The description of the case study so far, has been a factual account of a sequence of events which commenced in 1804. It is now intended to critically appraise these events and consider the consequences of alternative developments.

1) Legal Proceedings 1932-33

The arguments presented by both parties to the action revolved around the question of intent. The conveyance of 1804 was therefore of vital importance. As this transaction was under the provisions of the Land Tax Redemption Act 1802[2], its contents became a focal point in these proceedings.

The plaintiffs argued that Section 80 of the Act clearly intended the mines and minerals to be worked based on that part which states:

> 'together with all proper and necessary powers for opening and working same ..... to all intents and purposes as if the same were in such conveyance expressly excepted and reserved.'

They supplemented their arguments by referring to the judgement of Mr Justice Astbury in the Welldon Case 1920[6].

The judgement, as reported, went against the plaintiffs and they again failed in the Court of Appeal. Lord Hanworth, MR, rejected the Welldon judgement and quoted the Butterknowle Case 1906[10], as being "the touchstone of the entire matter".

It is therefore appropriate to dwell further on these two judgements.

In the Butterknowle case[10] it was held that a presumptive right of support against the mineral owner, can only be set aside if the language used in the instrument of severance either expressly or by necessary implication authorises such an action.

In the Welldon case[6] it was held that where the parties knew at the time of the severance that the mines and minerals were to be reserved with the rights to open and work by a customary method, which would cause subsidence, there was sufficient inference to allow this right to be exercised.

Much has been written on the presumptive right of support, and the interpretation of expressions 'necessary implication' and 'sufficient inference' has been the usual point in dispute.

It would seem the judgements given in the two hearings could have been influenced by the plaintiff's claim to have authority 'to damage and let down the surface without incurring any liability to compensate the defendants.

If one reads Section 80 of the Act[2] it would seem reasonable to assume that the intention was for the mines and minerals to be subsequently opened and worked. This assumption is based on the phrase 'together with all proper and necessary powers for opening and working the same'.

The abridged reservation clause used in the conveyance of 1804 contained the phrase 'except and always reserved unto the said Lord Bishop, and his successors, all mines, minerals and quarries of what nature and kind so ever'. This was interpreted by the judiciary as a deliberate variation of the provisions of Section 80 and was therefore considered a limitation of the rights contained therein. Had Section 80 been incorporated in the conveyance verbatim, the outcome may have been quite different.

Romer, LJ, appreciated the dilemma created by this vaguary of intention as indicated in his summary. Severance of land into horizontal layers was a man made distribution of resources of relatively recent origin. The interpretation of common law should recognise this fact. He questioned the intention of the parties to the conveyance and their knowledge of mining subsidence. He believed that the parties were of the opinion that the mines could be worked without lowering the surface. This is contrary to the plaintiffs claim that the Warwickshire Thick Coal was being extracted in the locality in 1804 by longwall retreating method, accompanied by mining subsidence.

In retrospect the judgements would seem to be founded on the intention of the parties in 1804. The successors in title of the surface lands maintained that the surface without support was virtually valueless, whereas the successors in title of the minerals maintained the minerals without the full rights to work them were equally valueless.

If the plaintiffs had not insisted on their alleged right to damage the surface without incurring liability, the judgements may have been different. As it was the judiciary were given no option but to reject the plaintiffs case.

One might even take conjecture further and suggest that a willingness on the part of the colliery company to pay compensation for any resulting damage might have avoided litigation altogether.

ii) The Court Order of 1945

There is no record available of the proceedings in court which resulted in the grant of working facilities in 1945. One can only assume by inference, having read the legal proceedings of 1962, that greater importance was attached to coal production in 1945 than in 1933.

The Order would seem to have rejected the reasonings given in 1933/34 and the causes of this are open to conjecture. The advancement of knowledge in the science and art of mining and the strategic importance of indigenous supplies of fuel must have been influencing factors.

In 1945 records of mining subsidence were given in evidence, indicating 5' of subsidence resulting from the extraction of 18' 6" of coal (subsidence factor of 26%). The lowering of the surface was a gradual process, there being little evidence of damage.

This advancement of knowledge coupled with the national needs must have been contributory factors, as the legal arguments used by the judiciary in 1933 were not refuted. The special rights under the Order of the surface owners in the Whitmore Park estate are an indication of this.

iii) The Variation Order of 1963

An examination of the transcript of the Court proceedings shows that all the legal, technical and social arguments had preceded the hearing. The parties had virtually agreed terms in Chambers and the Court was therefore requested to formally authorise the variations sought.

iv) General Observations on the legal proceedings include:

a) The apparent oversight of the defence counsel to the illegal withdrawal of support in the northern half of the Whitmore Park estate in the 1933 hearing.

b) The continuance of workings which must have affected properties well inside the Whitmore Park estate until 1935.

c) The plaintiffs counsel appeared to make no reference to the defendants claim to compensation for damage resulting from mining subsidence. This it could have been argued was 'sufficient inference'.

d) Each dispute witnessed an increase in the number of objectors. In 1933 there was only one, but in 1945 there were three and by 1962 the number had increased to eight. This increase reflects one of the consequences of improved communication and public participation which had evolved over the past thirty years.

e) The financial cost of legal proceedings in 1933 and 1945 cannot be determined, but was obviously very high and time consuming. Although the Court proceedings of 1963 were very short, the behind the scenes preparation of the draft Order was protracted and costly. The National Coal Board must have decided that this was the most economic means of achieving the changes sought in the Order of 1945.

v) Financial Consequences

The cost of the legal proceedings cannot be assessed but it is possible to review the financial costs in terms of physical resources lost by the various events. These are illustrated below:

Area contained within Whitmore Park	244 acres
Average thickness of Warwickshire Thick Coal	20' 6"
∴ Tonnage of coal giving subjacent support	= 7,599,300
less 10% loss in working	759,930
	6,839,370

Say 6.84 million tons

As the 1933 Court ruling prevented the withdrawal of adjacent, as well as subjacent support, the total amount sterilised would be 23.42 million tons.

In 1963 Coventry Colliery was making a profit of £1.121 per ton. Using the Wholesale Price Index for discounting purposes, the equivalent profit in 1933 and 1945 would have been £0.260 and £0.671 respectively.

Using these profit equivalents the loss to the Colliery at these respective periods of time, was as follows:

Year	£
1933	6,090,411
1945	15,717,945
1963	26,259,041

These figures readily indicate one of the consequences of not extracting the coal as authorised in 1945.

The Variation Order of 1963 has now restricted the National Coal Board to working by a partial extraction method (55%) in one leaf at a time with a maximum thickness of 6' 6". Furthermore the Variation Order only permits a second leaf to be worked giving a cumulative thickness of 13' 0" maximum. The result of this restriction is to reduce the total reserves by 64%. In financial terms at 1963 values this is equivalent to a loss in revenue to the National Coal Board of £16.8 million.

In the discussions which followed the award of the Variation Order between the Coal Board, Coventry Corporation and Others concerning the future plans to mine within the City boundary, a figure of £22 million was quoted. This was the compensation payable to the Coal Board in the event of planning permission being permanently withdrawn.

This figure was based on 1963 levels of output which would yield a life of 30-50 years. At first this seems a wide variation but when discounted to present values it makes only marginal differences.

vi) Social Consequences

The legal and financial considerations, although important, cannot be divorced from social consequences. An important social consequence in this context is the effect of mining subsidence on housing.

A visit to an area blighted by mining subsidence quickly makes one realise the social costs involved. It is true to say however that in this particular case study no great physical hardship was endured. This statement is based on official records of damage, press reports and personal inspections at the time (1957-1964).

After researching the archives of the Coal Board some interesting statistics have come to light.

Properties in the Whitmore Park region of Coventry had been affected by mining between 1945 and 1962. Claims had been made against the Coal Board from time to time under the provisions of the Coal Mining (Subsidence) Act 1950[23] and subsequently the Coal Mining (Subsidence) Act 1957[24]. An analysis of these claims gives the following data:

Type	No.	Cost £	Cost per Claim £
Houses	520	5,054	9.72
Other buildings	58	562	9.69
Services	111	1,562	14.07
Precautionary Works		2,752	
Total Costs		9,930	

Estimated tonnage extracted from the zone of influence containing the above properties 1945-1962 = 3,150,000.

Costs per ton extracted (old currency)

	Coventry		National Average
Houses	½d		2½d
Services	⅛d		½d
Others	⅜d		1½d
Total	1d	Total	4½d

These figures support the claim made by the colliery company in 1945 that subsidence damage was not severe when compared with other regions.

Initially the number of claims appear to be large but when compared with the extent of the surface area effected and the density of the housing, the amount of damage can only be classed as moderate.

One other consequence of the reduction in reserves within the City boundary is the consequential reduction in revenue from the rating of coal mining. This appears to have escaped the attention of all parties although the Corporation were quick to realise the increase in rates if the Coal Board were to be refused planning permission. With only 18% of the possible reserves being currently extracted (partial extraction based on 55% for one third of the thickness), it is obvious that the revenue received from the rating of coal mining inside the City boundary must be proportionately reduced.

In 1962 the Coal Board were extracting approximately 400,000 tons per annum within the City boundary. A considerable reduction in tonnage has been the consequence of these new arrangements. This loss in revenue can only have an adverse effect on property owners rateable by the Corporation, either by an increase in their rates or a reduction in public services, possibly a combination of both.

In conclusion one cannot help but speculate why Coventry Coal Co did not come to terms with the Corporation in 1932 over the question of compensation. Similarly why the National Coal Board waited nearly 15 years before deciding to work inside the Whitmore Park Court Order area.

If either of these actions had been taken it is more than likely that all the coal would have been worked without much suffering to anyone.

References

1 21 & 22 Vict., c.57

2 42 Geo. 3, c.116

3 Warwickshire Coal Co v. Coventry Corporation (1934) 1 Ch. 488

4 Welldon v. Butterley Co Ltd (1920) 1 Ch. 130

5 Dand v. Kingscote (1840) 6 M & W. 174

6 re. Tilmanstone Collieries Ltd (1927) 19 Rly. & Can. Tr. Cas. 26

7 Butterknowle Colliery Co Ltd v. Bishop Auckland Industrial Cooperative Co (1906) A.C. 305

8 Bell v. Love (1883) 10 Q.B.D. 547

9 Davis v. Treharne (1881) 6 A.C. 460

10 Hext v. Gill (1872) L.R. 7 Ch. 699

11 Butterley Co v. New Hucknall Colliery Co (1910) A.C. 381

12 Consett Industrial & Provident Society v. Consett Iron Co (1922) 2 Ch. 135

13 Thomson v. St Catharines College, Cambridge (1918) 18 L.T. 758 (1919) A.C. 468

14 13 & 14 Geo. 5, c.20

15 16 & 17 Geo. 5, c.28

16 Commission set up by the provisions of statute - 1888 51 & 52 Vict., c.25 Railway & Canal Traffic

17 15 & 16 Geo. 5, c.20

18 9 & 10 Geo. 6, c.59

19 The Court of Chancery took over the functions of the Railway and Canal Commission in 1949 under the provisions of statute - 1949 12, 13 & 14 Geo. 6, c.11 Railway & Canal Commission (Abolition)

20 Hansards Parliamentary Reports, Feb 21 1963, Vol. 672, col. 760-70

21 SI 1963 No. 709

22 1 & 2 Geo. 6, c.52

23 14 Geo. 6, c.23

24 5 & 6 Eliz. 2, c.59

CHAPTER X

LORD FALMOUTH DISPUTE WITH THE CROWN

A Introduction

This case has been selected to contrast with the previous one reviewed in Chapter IX, as different minerals, methods of working, location and principles of law are involved. Furthermore this case exposed certain weaknesses in the law with regard to rights of ownership of a major scale and was unique in bringing into opposition the Crown and the Duchy of Cornwall. The ultimate result of this protracted dispute lasting over 20 years was the Cornwall Submarine Mines Act 1858[1], which formed the basis of later legislation dealing with offshore mineral workings.

The study also highlights the apparent ignorance or indifference of land owners in the activities of the Cornish adventurers. It is an example of the limited knowledge of the layman of the science and art of tin mining.

Although the case study deals primarily with the Lord Falmouth dispute, it is necessary to refer to earlier and later events to illustrate the overall consequences.

B Resume of Events Leading to the Falmouth Dispute in 1843

By the start of the 19th century tin and copper mining had been actively pursued in Cornwall for several hundred years. The laws and customs of these mines have already been referred to earlier. The tin mines of Cornwall enjoyed special privileges by the grant of Charters by King John and his successors commencing in 1201[2] and had been encouraged to search and exploit tin ore and associated minerals in return for coinage levied on smelted tin. The Charter of Edward III in 1338[3] established the Duchy of Cornwall in the name of the Prince of Wales.

The practice of claiming working rights by pitching bounds was losing favour by the 18th century, and more and more adventurers were working mines by the leasing of setts for a term of years granted by the mineral owners. During this period mines were producing more copper

ore than tin ore because of improved market prices and the enrichening of the copper ores with increasing depths.

It had become the practice in granting setts to except and reserve Mines Royal and mines and minerals contained in specified manors and estates. Such a sett had been granted to two adventurers, namely Messrs Williams and Smith by the Duchy of Cornwall in 1810 for a term of 31 years. This term of years was the maximum permissible for the grant of working rights by the Crown under the provisions of the Crown Lands Act 1702[4], Section 5.

It had been brought to the attention of the agent of the Duchy just before the sett was due to expire that the adventurers were working minerals under the sea without the payment of dues to the Duchy; the adventurers claimed that such minerals were not Duchy minerals but vested in the person who owned the surface on which the mine and shafts were constructed. The Duchy contested this claim and argued that they had already granted setts to other adventurers in the region which gave them entitlement to a share of the dues. The sett granted in 1837 to the adventurers at Wheal Pearce mine near St Austell was quoted as an example, in which the owner of the surface had agreed to share shaft rents with the Duchy on a 50-50 basis for minerals extracted from beneath the sea.

About this period a similar agreement had been suggested to the owners of Levant mine at Lands End, but the owners declined the offer of the Duchy. They maintained that any dues should be paid to the owner of the surface lands in which the shaft was situated. They had always done this and could see no reason to depart from a long-established practice.

The Duchy agents sought the advice of the Commissioners of Woods and Forests, but advice given by the Commissioners was inconclusive. They finally persuaded the owners of Levant mine to negotiate for the grant of a sett in 1842 for a term of 31 years, on the basis that undersea minerals were not in the same ownership as the surface lands. The adventurers agreed to pay an equally shared shaft rent on minerals raised from undersea workings to the surface owner and Messrs Coutts and Co, bankers (acting joint stakeholders for the Crown and the Duchy).

This arrangement was considered the most prudent because of the obscurity of mineral rights to offshore resources.

C First Attempt to Negotiate with Lord Falmouth in 1843

The adventurers of Trewavas mine and Botallack mine were approached with similar offers, but the mine owners supported by the mineral owners, namely Reverend Canon Rogers and Lord Falmouth , refused to recognise the claim of the Duchy to dues for minerals worked seawards of high water mark.

Again the Duchy agents discussed the matter of mineral rights with the Commissioners of Woods and Forests and this time the matter was referred to the Law Officers of the Crown.

An abstract from the official records[5] is now given:

"Sea Shore

Case with the opinion
of the Law Officers
as to the Crowns
rights thereto.

Case

The Commissioners of Woods etc have of late years received many applications from different individuals for grants either by way of leases or absolute conveyance of portions of the sea-shore of England and Wales lying between the ordinary flux and reflux of the sea at usual tides and they have in point of fact in several instances demised several portions of the shore for terms of years reserving rents to the Crown, and have also in some instances absolutely conveyed other portions to parties for pecuniary consideration. It has been suggested that the powers of the Commissioners so to deal with the sea shores may be questionable."

"Opinion

The soil between high and low water mark in presumption of law belongs to the Crown subject to certain rights existing in the public or in individuals.

The Commissioners of Woods and Forests may we think deal with this right of soil by demise or otherwise as they are empowered to do generally with the landed possessions of the Crown, but they could not of course confer any other rights which now exists in the Crown or enable the lessees to interfere in any way with the paramount rights of the public or other parties having such rights.

The rights of the public or of individuals over the soil between high and low water will vary in different places. We cannot therefore give any further answer to this query than we have already given to the former.

Temple
6th Feb 1843

Fred Pollock
W W Follett"

The opinion was to say the least not very helpful. A position of stalemate remained until the Duchy agents again pressed the Commissioners of Woods and Forests to obtain a more positive opinion from the Law Officers of the Crown as to the rights of ownership of minerals under the foreshore and under the sea. The opinion was therefore requested in more specific and absolute terms, as the following abstract[6] indicates.

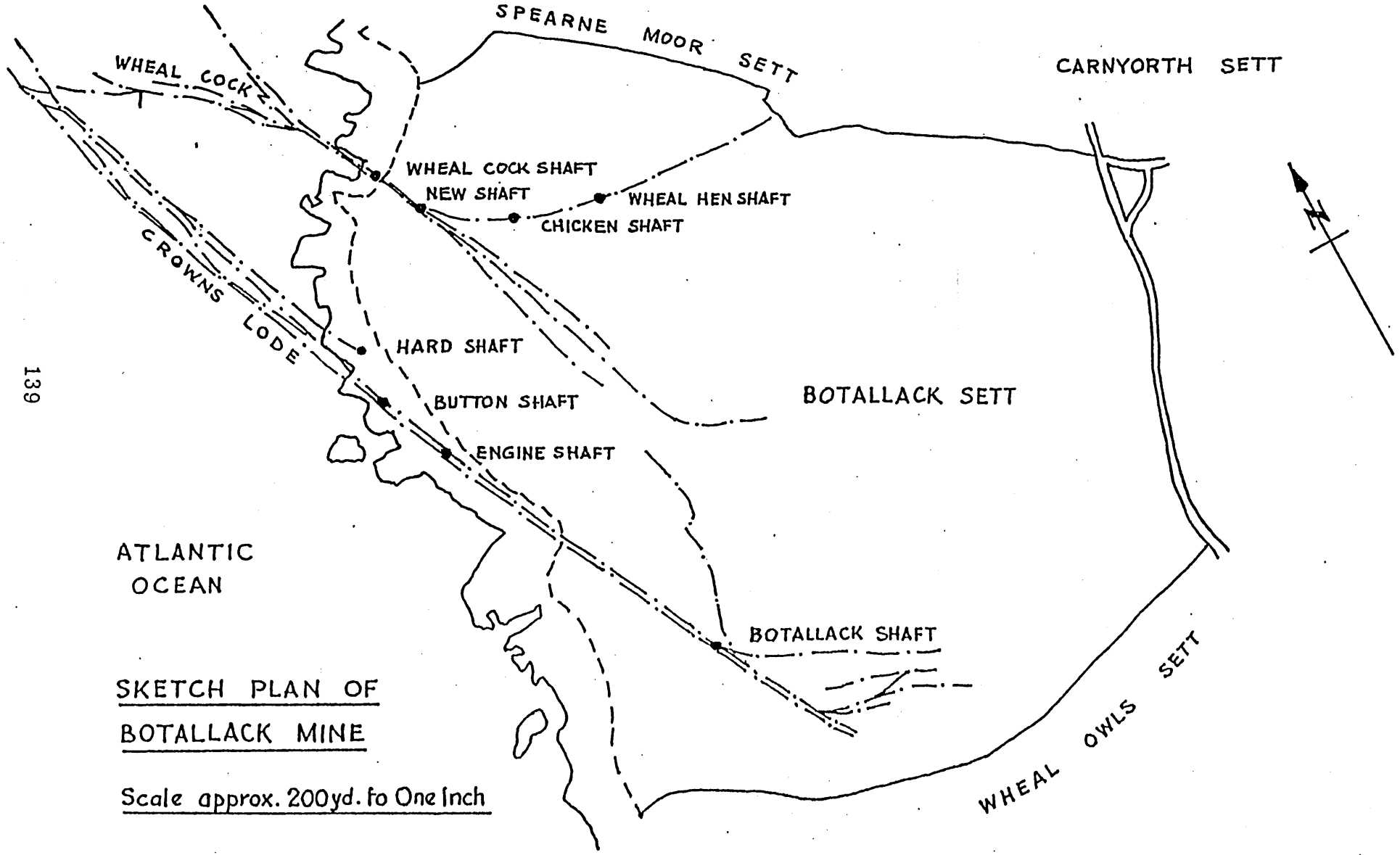
"Cornwall

Mines under the Sea Case with Law Officers Opinion 27th February 1844

Case

Mines under the Sea - Cornwall

The present case is prepared and submitted to the Law Officers of the Crown and Duchy of Cornwall not for the purpose of a legal opinion as to whether the right to the mines and minerals which are found and dug from under the sea opposite to or along the coasts of Cornwall is legally vested in the Sovereign in right of the Crown, or in His Royal Highness the Prince of Wales in right and as parcel of his Duchy of Cornwall, but for the purpose of ascertaining whether the Crown or Prince should be plaintiff, and who should be the other parties to the proceedings as also what form such proceedings should take in order to compel the parties who are now raising minerals from under the sea to account for the same either to the Crown or to

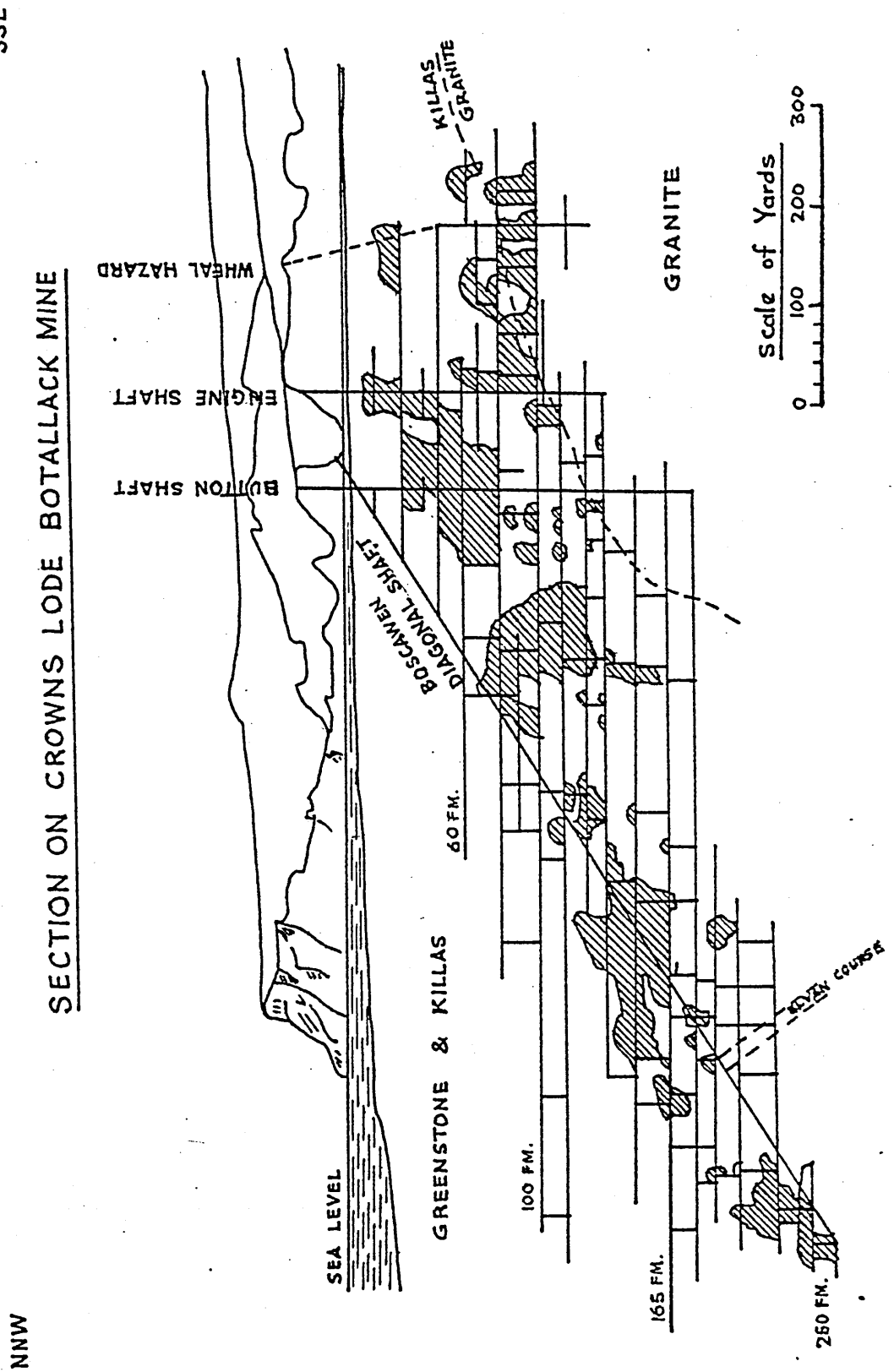


SKETCH PLAN OF BOTALLACK MINE

Scale approx. 200yd. to One Inch

FIG. 4

FIG. 5


SSE
NNW
SECTION ON CROWNS LODE BOTALLACK MINE
WHEAL HAZARD
ENGINE SHAFT
BULLION SHAFT
KILLAS GRANITE
DIAGONAL SHAFT
BOSCAWEN
GRANITE
Scale of Yards
0
100
200
300
SEA LEVEL
GREENSTONE & KILLAS
60 FM.
100 FM.
165 FM.
250 FM.
KEVEN COURSE

the Prince, and upon the wrongdoers being made to account the question of right as between the Crown and Prince will remain for further investigation consideration and decision in such manner as may be agreed upon between the Law Officers of the Crown and Prince.

Subject to the above understanding the Case as hereinafter set forth has been prepared on behalf of the Prince as Duke of Cornwall."

In support of the case stated it was reported that the Duchy had come into dispute with several parties in trying to renew setts which had expired, for example Messrs Williams and Smith, Lord Falmouth and others. New agreements had been entered into with the owners of Wheal Pearse, Wheal Neptune and Levant mines. The rights of ownership however at Botallack mine were strongly disputed by Lord Falmouth and as this was the largest and oldest mine in Cornwall it was felt desirable to obtain an opinion on these opposing viewpoints. It was pointed out that the shafts at Botallack mine were known to reach a depth of 75 fathoms below sea level and were constructed in the face of the cliffs forming the headland of Lands End, as shown in Figures 4 and 5. There was therefore no foreshore of any consequence and because of the age of the mine extensive workings must have taken place under the sea. The shafts were situated on lands owned by Lord Falmouth but held as a tenancy by Mr Stephen Harvey James, Chief agent of Lord Falmouth.

The Duchy agent, Mr W Colenso, had asked for permission to inspect the mines and execute surveys but had been refused permission by Mr S H James.

Mr Colenso maintained the undersea workings must exist because of the location of the shafts and known geology of the area. Between £3000 and £4000 worth of copper was sold every month by this mine and Lord Falmouth received a dish of 1/20th of each months output. The adventurers at Botallack were named as Messrs Batten and Son, Carne, Davey, Rescorld, Taylor (agent for Mr James) and the mine captain William Francis. The case[6] as stated by the Commissioners of Woods etc concluded with the following paragraph:

"Your opinion is requested under the circumstances before stated as to what steps should be adopted to enforce the rights of the Sovereign or the Duke of Cornwall in respect of the Mines and Minerals under the sea generally and under Botallack in particular and by and against what parties the same should be taken.

As also, whether a Commission should be applied for or could be obtained to compel the adventurers in Botallack to allow an inspection and admeasurement by competent persons of the workings under the sea."

"Opinion

As it does not appear at present that the Mines under the high Seas are parcel of the Duchy, it will be expedient that any proceeding adopted for enforcing the right of the Crown or Prince should be taken by and on behalf of Her Majesty.

If it can be shown that ore brought within the body of the County, has been taken from Mines under the Sea, the proper remedy will be an information in the nature of an action of trespass or trover against the parties who have taken or detained it.

If the Landowners or adventurers working on or near the shore purposely conceal their works and refuse to inform the agents of the Crown as to the extent or direction of their submarine excavation, we apprehend that an information in the nature of an English bill for a discovery or an account, or both, will be founded on the fraudulent concealment and on evident impossibility of obtaining any other remedy. In Lord Lonsdale v. Curwen 3 Bligh rep. 168-171 an inspection was also granted under circumstances less strong than the present.

The precise form of the Bill and the proper parties to it will depend on the facts of the particular case selected. Both the Lord and the adventurers must probably be made defendants.

27th February 1844 — F Pollock) Law Officers
W Follett) of Crown

I F Talbot) Law Officers
E Smirke) of Duchy"

This opinion would appear to have at least cleared certain points raised by the Commissioners, but as no further legal action was taken by them or the Duchy agents, one can only presume there was difficulty in establishing all the facts necessary for legal proceedings to be initiated.

D Second Attempt to Negotiate with Lord Falmouth in 1847

Indeed in 1847 the Commissioners of Woods and Forests proffered to grant Lord Falmouth a sett for 21 years to work mines and minerals under the sea. The respective parties failed to agree terms principally over the amount of way-leave claimed by Lord Falmouth as his lands formed the mainland through which all undersea minerals at Botallack had to be brought to bank.

The position was far from satisfactory for the Crown and the Duchy in that some mines were working under recently negotiated setts prepared by the Duchy, who claimed a fractional part of the dues for those minerals worked beneath the foreshore and under the sea. Other mines were continuing to work under the old customary practice of paying dues to the land owner only. The question of who had the power to authorise the working of minerals under the foreshore and under the sea, that is the Crown or the Duchy, was also becoming more prominent in importance. It was therefore necessary to resolve these vexed questions expeditiously and the Office of Woods and Forests once again submitted a case[7] for opinion of the Law Officers, as follows:

> "Mines under the
> Sea Co, Cornwall
>
> Case with the Opinion
> of the Law Officers of
> the Crown thereon
>
> Case
>
> The Mines under the Sea, the Sea Shores and the Shores of Tidal Estuaries and Rivers on the coast of Cornwall are claimed by the Commissioners of Woods on behalf of Her Majesty and they are also claimed by the Council and other proper Officers of His Royal Highness the Prince of Wales as part and parcel of His Duchy of Cornwall.

These Mines have also in several instances been claimed by Lords of Manors and adjoining Land Owners but the Crown and the Prince have by their united exertions succeeded in procuring many of those Parties to attorn and there are various applications for Leases of Minerals situated as above mentioned now pending. The question is ought such Leases to be granted by the Crown or the Prince, or if granted by one how are the rights of the other to be protected in the meantime, the object at present being to compel wrong doers and others to attorn either to the Crown or Prince the question of right as between the Crown and Prince being left for future consideration and decision. The course which we have suggested is as follows, viz. the question is by whom is the Lease to be granted and to whom is the Rent or Royalty to be reserved and these two questions can only as it appears to us be properly and satisfactorily answered by the Opinion of the Law Officers of the Crown and Prince of Wales. We would in submitting the matter to them humbly suggest that the Leases of Mines under the Sea should be granted by or on behalf of Her Majesty that the Rent should be reserved to Her Majesty but to be paid to some Receiver specially appointed by the Board and the Council of His Royal Highness that such Rent after deducting expenses should as received be from time to time invested in the pruchase of 3 per cent Consols in the joint names of some two parties to be agreed upon as Stakeholders on behalf of the Crown and Prince until the right shall be determined and that a Deed setting forth with precision the whole arrangement should be executed by or on behalf of the Crown and Prince and be enrolled in the Land Revenue Record Office and in the proper Office of His Royal Highness the Prince of Wales. The Commissioners of Woods concur in the above suggestions provided you see no objection thereto, but inasmuch as the Officers of the Duchy are more peculiarly and extensively conversant with Mineral Property of this description in Cornwall than the Officers of the Crown the Commissioners consider that it might be more convenient that the Leases should be granted by the Prince of Wales if you are satisfied the rights of the Crown will be sufficiently and properly guarded by means of a Deed of the nature and to the purpose above suggested and as a Duchy Council is appointed for Tuesday next the Chief Commissioner of Woods would be obliged by your opinion on this matter in the course of tomorrow that he may signify the same at the Duchy Council on Tuesday next."

"Opinion

We think that the leases should be granted in the name of the Crown.

13th November 1847 Sir J Jervis Attorney General of Crown

Sir D Dundas Solicitor General of Crown"

The Law Officers had now declared outright a conclusive albeit terse opinion which shifted the focal point of the dispute away from the local dispute at Botallack mine to the more general issue of title in mines and minerals worked under the sea.

The Officers of the Duchy were far from satisfied with the opinion and for the next six years the position remained the same with very little activity in the way of negotiations. Much of the mining which had been taking place under the sea was suspended.

E Negotiations with the New Lord Falmouth in 1853

Mr C Gore , a Commissioner of Woods and Forests, attempted to break this deadlock by writing to the new Lord Falmouth on 9th July 1853 declaring the Crowns title in offshore minerals but offering to negotiate for the granting of a sett allowing the offshore minerals to be worked.

Lord Falmouth replied on 5th September 1853 politely refuting the claim of the Crown to the minerals lying off the shores at Botallack mine and claiming that he had a sound title in such minerals. He stated he was well aware of the heavy financial burden which would have to be met in a Court proceedings against the Crown, but had been advised by counsel to contest the claim against his minerals. Furthermore he would be obliged if he could be informed of which interest he should proceed against, the Crown or the Duchy?

Part of this letter(8) is quoted below:

"It is true that I was no party to the communications which took place between the Crown and my late Cousin, but I had certainly hoped, from the time that had elapsed since this subject was last brought under the notice of the late Earl of Falmouth in 1847, and from the circumstance of no answer having been returned to the enquiry

> contained in the letter of Messrs Gregory & Co (Solicitors to Lord Falmouth) in the same year, that the Crown and Duchy had seen reason to give up their intention of disturbing the exercise of rights, which it is clearly proved, had been openly and notoriously enjoyed without the slightest interruption ever since my own family became possessed of the Lands in question, or of putting me to the expense of resisting a claim upon a portion of my property, which even previous to the date above alluded to, had been by every indication, for generations in the undisturbed possession of private individuals."

Lord Falmouth further argued that Botallack mine was unique and could be termed 'one of the wonders of Cornwall and indeed of England'. It could not be compared with other mines in the area and therefore these other mines could not be used as legal precedents. It was well known that workings had extended beyond low water mark at Botallack mine and had done so for over 50 years and no attempt had been made to disguise this position. The action of the Commissioners was one of discouragement to enterprise and foresight, but if it could be shown that his claim to the minerals was not in the public interest, he was prepared to listen. He concluded his lengthy letter[8] by the following paragraph:

> "I also need hardly add, that I have ascertained my true legal position by the opinion of some of the first and ablest men of the day practising at the Equity and Common Law Bars and these warrant me in the conviction that the rights which I claim are founded in law as well as in justice.
>
> Lord Falmouth, 5th September 1853"

During the next 12 months there was no new development in the dispute but the Crown continued its investigation of title in mines and minerals worked under the foreshore and under the sea, and on 4th April 1854 the Attorney General for the Crown filed an information[9] against Lord Vivian and the Attorney General of the Duchy as joint defendants requesting that Lord Vivian should be decreed to specifically perform a conveyance to the Crown of all foreshores of the Truro river adjoining his lands. This action was probably one to test the claim of the Crown to all foreshore and offshore interests, and the information filed with Chancery opened with the following paragraph:

"The sea adjoining the coasts of this kingdom, and all arms, estuaries, creeks, havens and ports of the sea, and also all navigable rivers within these realms, where and so far as the tide flows and reflows, and the soil and ground forming the bottom and bed thereof respectively, as also the shores and soil thereof respectively, lying between high and low water mark, together with all profits arising therefrom, respectively belong, of common right, to Her Majesty the Queen, and have at all times so belonged to Her and Her Royal Predecessors Kings and Queens of this realm, in right of their Crown, subject nevertheless to such grants by Her Majesty, or Her Predecessors, as are now in force."

As can be seen from the comprehensive nature of this paragraph the Crown claimed the absolute title in all mines and minerals worked beneath the foreshore and under the sea around the coasts of the United Kingdom and therefore such mines and minerals could only be worked by a grant of officers of the Crown.

During 1854 the agent of the Duchy had received an application for the grant of a lease to work minerals under Falmouth harbour by Mr John Barclay. The Duchy was in favour but had forwarded a copy of the application and draft lease to Mr C Gore, a Commissioner of Woods and Forests for perusal. The grant was drafted in the name of the Duchy and not the Crown and Mr C Gore replied to the Secretary of the Duchy[10] in the following terms.

"To Mr I R Gardiner

Secretary of Duchy of Cornwall

Office of Woods etc
December 9th 1854

Sir

I have to acknowledge the receipt of your letter of the 22nd ult. transmitting a copy of Mr Smyths[11] report on Mr Barclay's application for a lease of minerals under Falmouth harbour and a draft of the license which has been prepared in conformity with the recommendations therein contained, and which license, you inform me it is proposed to have completed at an ensuing meeting of the Council of His Royal Highness the Prince of Wales.

To the terms of the proposed grant to Mr Barclay, I do not see any objection, but on referring to the draft which accompanied your letter I observe that it is proposed that the licence should be granted under the Privy Seal of His Royal Highness, a course of proceeding which as the Attorney General of the Duchy has probably acquainted you, the Law Officers of the Crown consider to be one in which they do not feel themselves justified in advising me to concur.

The Solicitor of this Department informs me that at the meeting which took place between the Law Officers of the Crown and the Duchy on the 20th ult. the former handed to the Attorney General of His Royal Highness the Prince of Wales, the draft of an opinion proposed by the Law Officers of the Crown to be signed, suggesting as the course to be adopted in making sales of foreshore, and granting leases of minerals under the sea round Cornwall in order to preserve the claims of the Crown and the Duchy free from prejudice until the question is determined, viz. that an Act of Parliament should be passed empowering some person as Trustee for both the Crown and the Duchy or whichever shall ultimately appear to be entitled to execute the conveyances and grant the leases, directing the purchase monies and rents and royalties to be paid to a separate account and declaring that the proceedings shall not prejudice the rights and claims of either the Crown or the Duchy.

I am also informed that it was arranged that the Attorney General of His Royal Highness should consult the Council as to the suggestion of the Law Officers of the Crown, and that the latter considered that until a satisfactory arrangement could be made (which if their proposal is acceded to could be done on the assembling of Parliament) the granting of the leases in question should be suspended.

The Solicitor of this Department has further acquainted me, that the Law Officers of the Crown intimated a strong expression of opinion as to the great importance of obtaining a decision in reference to the question of title as between the Crown and the Duchy, and that the claims of both may be seriously prejudiced in consequence of the title remaining in dispute.

Under these circumstances I request that you will have the goodness to submit this letter to the Council of His Royal Highness as an explanation of the circumstances which render it impossible for me to concur in the proposed licence to Mr Barclay being granted under the Privy Seal of His Royal Highness and that you inform me after the subject has been brought under their consideration whether they assent to the suggestion of the Law Officers of the Crown as to the course of proceeding to be adopted in granting the leases and making the sales in question, and also

whether the Attorney General of His Royal Highness is yet in a position to concur with the Law Officers of the Crown in endeavouring to devise some proper mode, whereby the question of title between the Crown and the Duchy may be set at rest.

I have the honour to be etc

Charles Gore"

Following a meeting of the Council of the Duchy, their findings and comments on the letter submitted by Mr C Gore were given in the following letter(10).

"To Mr C Gore

Office of Woods & Forests

Duchy of Cornwall
Somerset House
20th December 1854

Sir

I have to acknowledge the receipt of your letter dated the 9th inst. (on the subject of Mr Barclay's application) and I am directed by the Council of His Royal Highness the Prince of Wales, to request your attention to my letter of this date with reference to the general question of Under Sea Mines.

In comparison with the settlement of the general question to which the Council trust they may look forward at an early period, the grant of the lease to Mr Barclay is of little importance - it is however of some urgency, as there is reason to apprehend that Mr Barclay may take some step inconsistent either with the title of the Crown or the Duchy, - "With the prospect of an amicable settlement which at present seems open" perhaps the Officers of the Crown will hardly think it worth while to object to the grant being made in this particular instance under the Duchy seal and the Council hope therefore for your assent to this being done.

I have the honour to be etc

I R Gardiner"

Mr C Gore responded to the above letter shortly afterwards indicating that whilst the opinion of the Law Officers remained unchanged and they were therefore against any such grant by the Duchy, he felt that if the inconvenience which may be experienced was sufficient to outweigh the other considerations he would be ready to act upon that opinion.

This series of exchanges between the Office of Woods and Forests and Officers of the Duchy formed the basis of yet another Instruction[10] to the Law Officers which read as follows:

Under Sea Mines

"Cornwall	Instructions
Instructions for the Law Officers of Crown to advise as within requested	Since the consultation which took place between the Law Officers of the Crown and the Duchy in regard to the form in which sales of foreshore and leases of minerals under the sea round Cornwall should be granted so long as the question of title between the Crown and the Duchy remains in obeyance, and when it was suggested by the Law Officers of the Crown, but not agreed to by the Advisers of the Duchy, that an Act of Parliament should be passed authorising some indifferent person as Trustee for both the Crown and the Duchy to grant the leases and make the sales and directing the rents and purchase monies to be paid to a joint account, - an application has been made by Mr John Barclay for a lease of the minerals under part of Falmouth harbour and the Mineral Inspector of the Duchy has recommended that such application should be acceded to. The draft of a licence to Mr Barclay having been forwarded by the Secretary of the Duchy to the Office of Woods for perusal, it appeared that it was proposed that such licence should be granted under the Seal of His Royal Highness the Prince of Wales, and Mr Gore therefore addressed to the Secretary of the Duchy a letter a copy of which is enclosed."

"Opinion

We are of the opinion that Mr Gore would not be justified in consenting to the proposed license to Mr Barclay being granted under the Seal of His Royal Highness the Prince of Wales.

We frequently expressed the opinion we entertain of the necessity of having the question between the Crown and the Duchy decided without further delay.

We do not think that the letter[12] proposed by Mr Barclay could be made to contain such provisions as are necessary to protect the interests of the lessor or insure a proper course of working by the intended lessee and we do not think the grantee should be permitted to work except under proper and legally binding regulations.

13th April 1855 — A E Cockburn, Richard Bethell } Law Officers of the Crown"

This opinion therefore refuted the suggested compromise which would allow Mr Barlcay to commence mining.

Further instructions[13] were presented to the Law Officers of the Crown by the Commissioners of Woods etc making specific reference to the claim made by Lord Falmouth and in which many authorities were cited, the final paragraphs of which read:

"Under Sea Mines

Cornwall	Further Instructions
Further instructions for the Law Officers of the Crown to advise	It is respectfully suggested that the right of the Sovereign to the bed of the Sea is co-extensive with the territory of England, that within that territory there is not any land which can be called common property for that if there is no other owner, the Land belongs to the Crown. 'A vacant possession is the possession of the Crown' per Abinger C B in a case of Att Genl v. Manwaring not reported. That this general property in the Sovereign in the absence of any other owner is the foundation of the feudal system. It is further submitted that although it may not be very easy to define the exact seaward limit of the territory of England, it is clear that such territory extends beyond low water mark into the main Sea. The exercise by the inhabitants of the Country within a certain distance from the shore of the right of fishing to the exclusion of Foreigners, a right which they enjoy by virtue of their allegiance to their Sovereign, and subject to his prerogatives, the prerogative right of the Crown to things derelict jetsam, flotsam and

lagan, which are found in the sea below low water mark, and the power which has been repeatedly exercised of creating ports nearly all of which extend beyond low water mark and many some distance into the Sea; the right to Royal fish taken in the sea adjoining the Coast all prove that the territory of England and the prerogatives of its Sovereign which are co-extensive with it, are not limited by low water mark."

"Opinion

1 We are of the opinion that the claim made by Lord Falmouth should not be acquiesced in.

2 We advise that an information be filed in the Court of Chancery for a discovery and account. The information should state a working between the High and Low Water mark and also beyond. To avoid question it will be advisable to make the Attorney General of the Duchy a party as defendant.

Lincolns Inn
2nd May 1855

A E Cockburn
Richard Bethell
James Willes
} Law Officers of the Crown"

This opinion formed the basis of information filed in Chancery[14] on 10th September 1855 by the Attorney General against Lord Falmouth, Stephen Harvey James and the Attorney General of the Duchy, which stated:

"The sea adjourning the coasts of this Kingdom, and the bed, soil and shore thereof, up to high water mark of ordinary tides, together with all mine and minerals lying in and under the same, and all profits arising therefrom, belong, of common right, to Her Majesty the Queen, and have at all times so belonged to Her and Her Royal Predecessors, Kings and Queens of this Realm, in right of their Crown, subject, nevertheless, to such grants, by Her Majesty or Her predecessors, as are now in force."

F Pleadings to Chancery by Lord Falmouth and Others in 1855

Pleadings to Chancery[15] were subsequently submitted by Lord Falmouth on 22nd December 1855, some of which are given in precis form, but the more important ones are quoted verbatim.

1 Earl of Falmouth claims title to all lands in which Botallack mine near Lands End is situated.

2 Description of demise, i. e. Botallack mine and its environs at Lands End - lands referred to.

3 Root ot title - conveyance by Sir Charles Trevanion to Mr J W Ustick in 1647 of all lands referred to until 1758, and during this period mining setts had been granted by Ustick to adventurers working tin and copper in the Lands End region, both under the mainland and offshore. Such mines were worked openly and without deception.

4 In 1758 such lands referred to were vested in the Rt Hon Edward Boscawen, predecessor of the Falmouth family.

5 From 1758 to date this title has been sound and unchallenged.

6 (Verbatim) I submit and insist that as the successor in title to the said J W Ustick and Edward Boscawen as aforesaid I am entitled to the said tenements of Botallack and Rosecommon and to all mines under the same and under the ground beyond and seaward of high water mark and under the part of the tenements not covered by the sea and to work and enjoy all such mines and minerals.

7 (Verbatim) I am however informed and believe that His Royal Highness the Prince of Wales in right of his Duchy of Cornwall and of the grants connected therewith alleges that he is entitled to all the ground below and beyond high water mark adjoining the Parish of St Just and to the mines and minerals underneath the same and in particular to the mines and minerals which are the subject of the present information and in the year 1842 communication was made by the agent of the Duchy of Cornwall to the adventurers who were then working and getting ore in Botallack mine

with the views of requiring them to account to the Duchy for all ore raised or got by them under the sea in Botallack mine and I have been informed and believe that the same claim is made and asserted by His Royal Highness in right of His Said Duchy and I submit and insist that I ought not to be vexed by proceedings both on the part of the Crown and on the part of the Duchy of Cornwall and that the Duchy of Cornwall ought to be represented in this suit in order that the claims made by His Royal Highness under the grants from the Crown connected with the said Duchy may be investigated and determined.

8 (Verbatim) Save as herein is stated I do not know and cannot answer as to my belief or otherwise but I submit to this Honorable Court as a question of law whether the sea ajoining the coast of this Kingdom and the bed soil and shores thereof up to the high water mark of ordinary tides does or not and also whether all mines and minerals lying in and under the same and all profits arising therefrom do or not belong of common right to Her Majesty the Queen and whether they have or not at all times so belonged to Her Royal Predecessors Kings and Queens of this Realm in right of Their Crown subject to such grants of Her Majesty or Her Predecessors as are now in force.

9 - Earl of Falmouth questions the validity of the claim of the Duchy to minerals beyond the coastline at St Just as there is no foreshore.

10 Brief history of development of Botallack mine - shaft mouth in cliff face just above high water mark - working tin and copper for over 150 years - contested Crown claim to seaward minerals because of long uninterrupted usage.

11 Present adventurers, John Batten and others, were working undersea by virtue of setts granted by his cousin, George Henry, the former Lord Falmouth, who was the owner of the estate in 1842 when the dispute with the Duchy commenced.

12 (Verbatim) I claim and I believe that the said adventurers claim as my lessees the right of working and getting the tin and copper ore and other minerals from under the sea and the soil and shore thereof below ordinary high water mark and then beyond low water mark opposite to the said tenants and I claim and I believe the said adventurers claim such right under the title herein before mentioned and we claim the same as extending seawards between high and low water mark and thence to such distance seaward as the workings have been or shall and can be extended and I have herein before set forth the general nature and extent of such right and how the same is made out.

13 (Verbatim) That adventurers or tenants for the time being of the Botallack mine and of the other mines herein before mentioned have got and worked ore as well as on the land side as on the sea side of high water mark and they have paid to me and my predecessors in title royalties and reservations for the ore so got as an entire quantity and without any distinction as to the part of the workings from which the same was taken and they have not so far as I know or believe kept and they have not rendered to me and I have never kept or had any record, statement or measurement as to the extent in yards of the workings under the sea or the quantity of tin or copper ore taken from the seaward of high water mark and I say that I have not ever nor as I believe have my predecessors in title ever ourselves got or worked any tin or copper ore from the said mines either to landward or seaward side of high water mark and I cannot answer as to my belief or how far save as herein afforesaid or to what extent in yards each of the several adits or levels of the workings from Botallack mine been carried under the seaward of ordinary high water mark or beyond or to the seaward of ordinary low water mark or what is the entire quantity of tin or copper ore which has at any time been gotten or worked by the tenants or lessees of myself or any of my predecessors in title from under the same or any part thereof or what is the total amount of the rents and profits received by one or by the defendant Stephen Harvey James.

14 Earl of Falmouth claimed the benefit of all Statutes of Limitation, and desired to have his title verified in a Court of Law.

A similar pleading[16] was made by Mr Stephen Harvey James, co-defendant, and their pleadings concluded with the following paragraph:

> "We think that these reasons are sufficient. With regard to what is alleged in paragraph 7, that the Duchy has claimed title to such mines and minerals below high water mark, it is vital the Attorney General of the Duchy should be made a party of this action."

The Law Officers of the Crown and other Counsel representing Crown interests made the following observation on 18th January 1856[17].

"Under Sea Mines

Cornwall	Observations
Observations by Law Officers of Crown and others	The only material points as to which it seems rather doubtful whether the answers are sufficiently explicit, are the statements contained in paras 12 and 13. The 'title herein before mentioned' referred to in para 12 is (as supposed) the claim previously set up in para 6 but there is no definite statement by Lord Falmouth that he claimed by prescription although as much may probably be inferred. With regard to para 13, as the defendants admit that the workings extend below low water mark it does not seem necessary at present to know the exact extent of them, though as the defendants have the means of procuring the information it is apprehended they are bound to give it. It will also be necessary to consider if any amendment in the frame of the proceedings should be made with respect to the allegations as to the claim of the Duchy of Cornwall. The case of Clayton v. Corby seems a very strong authority against Lord Falmouth's claim by prescription.
Lincolns Inn 18th January 1856	A E Cockburn Richard Bethell Roundell Palmer Alfred Hanson } Law Officers of the Crown } Other Counsel"

Instructions for the Law Officers of the Crown[18] were submitted in June 1856 for opinion, which consisted of a series of letters exchanged by the various parties involved, viz.

"In Chancery	Instructions
The Attorney General v. Lord Falmouth	Copies of the information filed against Lord Falmouth relative to the undersea workings of the Botallack mine and of his Lordships answer are left herewith.
Instructions for the Law Officers of the Crown, Mr Roundell Palmer and Mr Hanson to advise as within requested	Since the answer was put in the communications of which the following are copies have passed with a view to an arrangement of the matters in difference.

"To H Watson Esq — Bedford Row
Officer of Woods and Forests — 6th February 1856

Dear Sir,

Attorney General v. Lord Falmouth

Referring to our conversation of yesterday and without prejudice on either side I shall be obliged to you to let me know whether in case Lord Falmouth should feel disposed to terminate this suit by way of compromise the Crown and the Duchy of Cornwall would be willing to state the terms they would be prepared to treat upon and accept.

It will be understood that the summons for production shall stand over in the meantime and that time shall not be considered as running on either side till I received your answer to this letter.

I am Dear Sir, Yours truly,

John S Gregory

(Solicitor of Lord Falmouth)"

A series of short letters[19] followed which have been summarised over:

7th February 1856

Letter from Mr H Watson, Office of Woods, to Mr C Gore, Commissioner of Woods etc, referring to the letter received from Mr Gregory of the 6th inst, and seeking advice on the feasibility of a sett being granted to Lord Falmouth as a compromise, and what terms might be specified in such an arrangement.

11th February 1856

Letter from Mr J S Gregory, Solicitor of Lord Falmouth to Mr J Watson, Office of Woods etc, suggesting dues to be paid by Lord Falmouth for working undersea mines and minerals should be 1/18th part of copper ore and 1/24th part of tin ore raised at Botallack mine.

11th February 1856

Letter from Mr C Gore, Commissioner of Woods etc to Mr I R Gardiner, Legal Adviser of Duchy, summarising proceedings as developed since 1847. The principal items commented on being the suggested terms of settlement with Lord Falmouth set out in a letter dated 22nd February 1847 from the Commissioners of Woods etc to Officers of the Duchy. A sum of not less than £200 and not greater than £500 had been suggested as a suitable amount to be paid by Lord Falmouth for mineral worked by 10th October 1846. After that date a royalty should be paid for minerals raised. This suggested settlement was communicated to Lord Falmouth but negotiations were suspended in 1846 due to differences over royalties to be paid - Levant mine agreement was the basic cause of disagreement as in this instance only 1/3 of the dues was to be paid to the Crown (or Duchy) plus a shaft rent of 50% of such dues for all minerals raised. Botallack mine was much older and more extensive, and therefore it might be prudent to seek a settlement out of court.

12th February 1856

Letter from Mr I R Gardiner, Legal Adviser of Duchy, to Mr C Gore, Commissioner of Woods etc, acknowledging letter of 11th inst., and giving details of meeting which took place in 1847 between Officers of Duchy and Lord Falmouth in which no agreement was reached, as Lord Falmouth refused to accept a liability for dues arising from past workings.

16th February 1856

Letter from Mr C Gore, Commissioner of Woods etc, to Mr I R Gardiner, Legal Adviser of Duchy in which Mr Gore claims no prior knowledge of 1847 meeting with Lord Falmouth.

14th March 1856

Letter from Mr I R Gardiner, Legal Adviser of Duchy to Mr C Gore, Commissioner of Woods etc, reporting on recent meeting with His Royal Highness the Prince of Wales in which suggested terms of settlement with Lord Falmouth were discussed. It was suggested that only half the dues should be requested in the circumstances. Mr Gardiner also expressed surprise at Mr Gores ignorance of 1847 meeting with Lord Falmouth as this had been minuted at the time.

4th April 1856

Letter from Mr C Gore, Commissioner of Woods etc, to Mr Warrington Smyth(11), Museum of Practical Geology, setting out suggested terms of settlement with Lord Falmouth requesting an independent opinion of these terms. The terms included a drawback payment of 1/4 of the dues, and the dues to be paid by Lord Falmouth for undersea minerals to be 1/18th part of copper ore and 1/24th part of tin ore raised at Botallack mine.

5th April 1856

Letter from Mr Warrington Smyth, Museum of Practical Geology to Mr C Gore, Commissioner of Woods etc, expressing general agreement with suggested terms except the dues should be 1/36th and 1/48th part of copper ore and tin ore respectively. A suggested starting date of Crown Lease to be 10th October 1853 for 31 years.

9th April 1856

Letter from Mr H Watson, Office of Woods etc, to Mr S Gregory, Solicitor of Lord Falmouth, referred to the letter dated 6th February 1856 expressing the willingness of the Crown and Duchy to negotiate a settlement with Lord Falmouth based on the grant of a Crown lease for all minerals worked beyond high water mark from 10th October 1853. The dues to be paid by Lord Falmouth for such minerals to be 1/36th part of copper ore and 1/48th part of tin ore raised at Botallack mine. Half of such dues to be paid in wayleave when appropriate. The formal lease to be deferred however until the respective rights of the Crown and Duchy have been established, but monies arising under this agreement should be paid into an account of the Commissioners of Land Revenue. If Lord Falmouth accepts these terms, the Duchy be equally bound by the agreement.

13th May 1856

Letter from Mr S Gregory, Solicitor of Lord Falmouth, to Mr H Watson, Office of Woods etc, acknowledging letter of 9th ult., the contents of which had been discussed with Lord Falmouth. The terms offered were rejected on the retrospective date of the lease which indicated a rather mean attitude considering the length of time Botallack mine had been in operation. There was evidence of a more favourable agreement being made with the proprietors of Levant Mine in which the Crown had agreed to a reduction in dues by two thirds of the normal amount. If Lord Falmouth was prepared to surrender his title in all seaward minerals the Crown and Duchy ought to be more sympathetic in the terms offered, and that the dues to be paid by Lord Falmouth should be reduced by three quarters of the normal dues one would expect to pay, and no retrospective payment should be expected of him.

10th June 1856

Letter from Mr H Watson, Office of Woods etc, to Mr C Gore, Commissioners of Woods etc, referring to an enclosed copy of the Gregorys letter of 13th ult., stressing his opposition to the alternative terms put by Lord Falmouth. The Levant agreement was a special case as it had been proved to his satisfaction that a demand for half of the normal dues would have caused the mine to close, and therefore

the Crown had agreed to 1/3rd part of such dues.

12th June 1856

Letter from Mr Redgrave, Commissioner of Woods etc, to Mr I R Gardiner, Legal Adviser of Duchy, stating Mr Gores willingness to accept the recommendations of Mr Watson in the letter of 10th inst, i.e. to reject the proposals of Lord Falmouth, and Mr Watson has accordingly been advised to seek further opinion of the Law Officers of the Crown.

This series of letters formed part of the Instructions given to the Law Officers of the Crown, and they duly gave their opinion[20], viz.

"Opinion

Considering the great length of time, 200 years and upwards, during which Lord Falmouth and his predecessors have, as he alleges, exercised the right which he claims, of working the minerals from under the sea adjoining the Botallack estate - and the possibility of a Jury presuming for such long enjoyment, a grant from the Crown, we think it not unlikely that considerable difficulty may arise in establishing the right of the Crown to relief against him. - For this reason it is certainly desirable to put an end to further litigation if a distinct recognition of the title of the Crown can be obtained - and we therefore recommend that if the defendant will accept a lease from the Crown of the mines in question he should be allowed to have one for a term of 31 years, to be computed from the commencement of this suit, on payment, by way of royalty of 1/3rd part of the dues which he has received since such period and shall receive during the term - we think that any claim to part of the dues, previously to that time should be waived.

We think that the amount of the Royalty should be 1/3rd and not as the defendants propose 1/4th.

Lincolns Inn
27th June 1856

A E Cockburn, Richard Bethell } Law Officers of the Crown

Roundell Palmer, Alfred Hanson } Other Counsel"

G Temporary Court Order 1856

An Order of the Master of Rolls was made on 20th December 1856[21], compromising all parties in the dispute until the question of title had been resolved, viz.

> "That as soon as the conflicting claims of the Crown and the Duchy of Cornwall should be settled, a lease should be granted to Lord Falmouth of the minerals under the sea below low water mark as far seaward as the Botallack mine could or might be extended for the term of 29 years from the 10th October 1855."

The terms of the Order were therefore accepted by all parties, but the question of title in the offshore minerals still remained to be resolved between the Crown and the Duchy.

H Arbitration Award 1858

Meanwhile a debate in the House of Commons[22] highlighted the conflicting situation which had arisen in the Falmouth dispute between the Crown and the Duchy.

This resulted in a joint letter[23] being compiled by the Lord Chancellor, Lord Cranworth and the Chancellor of the Duchy, Mr T P Leigh, which was submitted on 18th February 1856 to Sir John Patteson, a Judge of the Queens Bench Division of the High Court for a Decision on the issue as sole arbitrator.

A lengthy series of submissions were presented by the Crown and the Duchy respectively during the ensuing 12 months and finally Sir John Patteson was able to reach a decision, which was published on 25th February 1858[24]. The Award is summarised hereunder:

1 All minerals which lie between high water mark and low water mark around the main coastline of Cornwall, together with all minerals which lie beneath estuaries and navigable rivers even if these are beyond low water mark vest in the Duchy.

2 All minerals which lie beyond low water mark around the main coastline of Cornwall, excluding any such minerals which lie beneath any estuaries or navigable rivers, vest in the Crown.

3 The Crown and the Duchy shall have access to seaward minerals lying beneath the foreshores and under the sea via mines and minerals which are based on the land, even if these are in private ownership.

4 The above provisions should be made mandatory by virtue of an Act of Parliament.

The above terms were accepted by both parties and subsequently a Bill was put through Parliament receiving the Royal Assent on 2nd August 1858, and titled 'The Cornwall Submarine Mines Act 1858'[25]. The Act incorporated the terms of the Award and although minor amendments were subsequently made the rights of the Crown, the Duchy and other land owners were finally declared. The money which had hitherto been paid into trustee accounts was apportioned appropiately, and formal grants were prepared to replace provisional agreements.

I Critical Appraisal

i) Introduction

This appraisal examines some of the measures taken by the respective parties in the dispute and questions the apparent grounds on which a settlement was finally reached. It also examines the possible consequences on subsequent developments.

ii) Law Officers Observations 18th January 1856

It would seem that the Law Officers were not certain of the intentions of Lord Falmouth, who in his pleadings in paras 6, 12 and 13 appeared to have established a claim by prescription under the Statute of Limitations.

The principal factors to be considered in such claims are:

a) Character and position of the land
b) Nature and extent of the workings
c) The question of 'bona fides'
d) Whether past workings have been deliberately concealed

Lord Falmouth argued that the lands in question had been in the possession of his family since 1758. The mine at Botallack was 150 years old and was a renowned feature of England, as well as Cornwall. The written statements made to the Commissioners of Woods etc, as in his pleadings, made no secret of the extent of the underground workings. This was substantiated by the Law Officers in their Opinion dated 27th June, 1856.

All these points would appear to satisfy the four principal factors listed above.

One can only postulate as to why prescriptive rights were not pursued by Lord Falmouth, but there are two possibilities. Firstly previous court rulings may have deterred such a course of action and secondly it may have been decided to be more prudent to settle out of Court.

Two Court rulings which may have influenced the ultimate course of action are commented on below:

Clayton v. Corby 1845[26]

This case was referred to by the Law Officers in their Opinion dated 18th January 1856.

The defendant owned a brickworks situated on his own land and adjacent to the plaintiffs lands. He maintained he had worked clays and other minerals in the plaintiffs lands for 30 years openly and without interruption. He therefore claimed prescriptive rights of possession in such lands.

The judgement was given in favour of the plaintiff as the defendant was claiming adverse possession of undefined quantities of mineral, which was bad and could not be sustained in law.

Presumingly the Law Officers based their case on this aspect of undefined quantities. Mines and minerals lying beyond the low water mark could not be said to have a defined boundary.

Doe D. Earl of Falmouth v. Alderson 1836[27]

This case was not referred to in official records of the Falmouth dispute, but it may have had some bearing, especially as it involved the Falmouth family.

The defendant claimed the title to all mines within a tin-bound in his name, which it was claimed was a legal estate in land, capable of assignment.

The plaintiff claimed the rights in a tin-bound were easements and not therefore legal estates.

The judgement was given to the defendant on the basis that the tin-bound was the limiting factor as it had physical limitations. All mines and minerals therefore within the tin-bound were in the possession of the tin-bounder.

This judgement may have influenced Lord Falmouth not to press the argument of prescriptive rights as the operative term would seem to be the limits of the tin-bound.

In the claim against the Crown it would not be feasible to pitch tin-bounds for mines lying under the sea.

Lord Advocate v. Wemys 1900[28]

Although this much later case cannot have had any bearing on the dispute, it is of interest, as with hindsight Lord Falmouth may have been well advised to press his claim.

The Law of Officers of the Crown challenged the right of the defendant (who was a minor) to work mines of coal beneath and beyond the foreshore without lease or licence.

The trustees of the minor acceded to the claim and accepted a lease by the Crown of such mines and minerals. An assignment was made of the lease to the minor on him reaching the age of 21 years, who continued to work under the terms of the Crown lease for a further fourteen years. He then challenged the Crown to the title in the seams of coal being worked, claiming prescriptive rights enjoyed by his predecessors. The first judgement of the Court of Scotland was given in the defendants favour, but upon appeal the House of Lords (Scotland) reversed the judgement.

The principal grounds given by the Appeal Judges were the total length of time the Crown lease had been accepted and the payment of royalties for fourteen years by the defendant.

This reasoning leads one to think that had the defendant challenged the Crown upon reaching maturity a different ruling may have been given.

The conclusions which might be drawn from these three cases are:

1) Prescriptive rights may be exercised against the Crown

2) If adverse possession can be obtained against the Crown similarly it follows that the same rights can be exercised against the Duchy of Cornwall. The Cornwall Mines Act 1844[29] did however make modifications to the normal rule of prescriptive rights, as the claimant had to prove that he had occupied and worked the mines for not less than 60 years.

3) Claims by adverse possession must have definable limits.

iii) Pleadings by Lord Falmouth 1855

Returning to the pleadings by Lord Falmouth, there appears to be some inconsistency in meaning when considered per se and against other statements made previously by other parties.

Paragraph 13 commences:

> "That adventurers etc ..... have got and worked ore as well as on the land side as on the sea side of high water mark and they have paid to me and my predecessors in title royalties etc for the ore so got as an entire quantity".

Later the same paragraph continues:

> "and I say that I have not ever nor as I believe have my predecessors in title ever ourselves got or worked any tin or copper ore from the said mines either to the landward or seaward of high water mark .....".

The paragraph concludes:

> "..... or what is the entire quantity of tin or copper ore which has at any time been gotten or worked by the tenants or lessees of myself .....".

It is hard to believe the legal advisors of Lord Falmouth used such phrases without careful thought, but they are confusing statements. The first quotation indicates Lord Falmouth was well aware of workings extending beneath the sea. The second quotation denies any personal involvement in such workings and finally Lord Falmouth declared no knowledge of the amount of mineral worked in his estate.

It is difficult to imagine Lord Falmouth, or indeed his mineral agent, not having any knowledge of the location and extent of the mineral workings at Botallack mine. Indeed at a mine declared one of uniqueness in England.

The situation seems even more incredulous when consideration is given to the evidence given by Mr W Colenso, Duchy mineral agent in 1843. He reported the extensiveness of Botallack mine, especially seawards and claimed Lord Falmouth was receiving dues of £150 a month for copper ore at this mine.

iv) Consequences of the Arbitration Award of 1858

Lord Falmouth had acquiesced to surrender any title to mines and minerals under the foreshore and beyond low water mark in 1856.

The Court Order of 1856 provided for a lease to be granted to Lord Falmouth on reasonable terms as soon as the relative rights of the Crown and Duchy had been decided by arbitration.

The sett which was eventually granted to Lord Falmouth as a consequence has not been traced, but one can conjecture on the probable contents and possible affects.

Referring to Figure 5 it can be seen that a large part of Botallack mine extended under the sea to considerable depths. Furthermore there is virtually no foreshore in this region because of the near vertical headland constantly underwash at low tides.

Assuming the sett to contain the basic terms proffered by the Law Officers in their Opinion dated 27th June 1856 and the output of copper ore to be £4,000 per month, one can arrive at a crude valuation of the interests of the respective parties named in the sett.

Valuation:

Normal dues to be paid for copper ore raised 1/36th part
Dues to be paid by Lord Falmouth 1/36th x 1/3rd = 1/108th part

Annual value of copper ore raised £4,000 x 12 = £48,000

∴ Dues to be paid to Crown by Lord Falmouth = £444

Dues by adventurers retained by Lord Falmouth = £889

) Total dues = £1,333

As there is no foreshore at this part of the Cornish headlands there would be no payment of dues to the Duchy of Cornwall.

As the sett was granted to Lord Falmouth by the Crown there is no reason why a sub-lease should not have been granted by Lord Falmouth to the adventurers provided this was not precluded in the Crown lease. In which event the annual income to Lord Falmouth could have been much greater.

It is of interest to note that the vast majority of mines which are situated near the coastline of Cornwall are sited on or near steep cliffs, with almost a total absence of beach even at low tide. As a consequence the revenues to the Duchy must have been far less than those payable to the Crown after the Cornwall Submarine Mines Act 1858[25].

Finally one must also reflect on the consequences outside of Cornwall had the Arbitration Award found in favour of the private land owner regarding mines and minerals beneath the foreshore. Literally thousands of tons of coal have been worked under the foreshores of many northern counties before the unification of coal mining royalties in 1938. Such money could have gone into the private purse had the Award been different.

References

1 21 & 22 Vict., c.109
2 'The Stannaries - A Study of the English Tin Miner' by G R Lewis (Harvard Economic Studies III) pp. 238-239
3 Ibid. p. 40
4 1 Anne, c.1
5 CREST 40/52, folios 72-79
6 CREST 40/52, folios 91-98
7 CREST 40/55, folios 263-264
8 CREST 40/55, folios 30-32
9 'Arena Cornubiae' by J W Pycroft, 3rd Edition, London 1856
10 CREST 40/55, folios 2-5
11 Mr Warrington Smyth, curator of the Museum of Practical Geology, became the Chief Agent of the Duchy of Cornwall and was also appointed first Professor of Mining of the Royal School of Mines
12 This letter contained a proposal from Mr Barclay that in the interim a simple agreement could be entered into, jointly signed by the officers of the Crown and Duchy granting him licence to work
13 CREST 40/55, folios 29-35
14 Chancery Cause A 73 of 1855; c. 15/175
15 CREST 40/55, folios 109-113
16 CREST 40/55, folios 113/117
17 CREST 40/55, folio 117
18 CREST 40/55, folio 177
19 CREST 40/55, folios 177-187
20 CREST 40/55, folios 187-188
21 CREST 37/336, Schedule of leases
22 Hansards Parliamentary Reports, March 23 1855, Vol. 137, col. 981
23 House of Commons Session Papers 1857, Vol. 47, p. 245
24 Ibid.
25 21 & 22 Vict., c.109
26 Clayton v. Corby (1845), 5 Q.B. 415
27 Doe D. Earl of Falmouth v. Alderson (1836), 5 L.J. Exch. 153
28 Lord Advocate v. Wemys (1900), A.C. 48
29 7 & 8 Vict., c.105

CHAPTER XI

DONCASTER DRAINAGE AREA

A Introduction

This case study completes Part II of the thesis and is an example of relatively harmonious development of the agricultural and mining industries. It covers a considerable area of land, approximately 400 square miles in extent, much of it classified as low lying land.

The land between Doncaster and the East Coast has been subjected to flooding over the centuries because of the low profile of the region. Flood prevention has been an aspect of surface development for several hundred years. The gradual progression of underground coal mining from the shallower regions of the Yorkshire and Nottinghamshire coalfield created further threats to these farmlands which had been the principal basis of the local economy for many years.

The dichotomy of national and local interests has already been discussed and this study illustrates how a mutual understanding of problems and viewpoints can lead to a rational solution without recourse to litigation.

The Doncaster area was considered of special interest by the Royal Commission on Mining Subsidence[1] which devoted its First Report, published in 1926, to the problems of undermining low lying areas of surface lands. The recommendations of this report and subsequent reports were adopted for the Doncaster region and resulted in the Doncaster Area Drainage Act 1929[2].

It is appropriate to analyse such a case which has worked efficiently since its inception, when such contemporary developments as the Selby and Belvoir projects are currently of national interest.

Plan Showing Doncaster Drainage Area

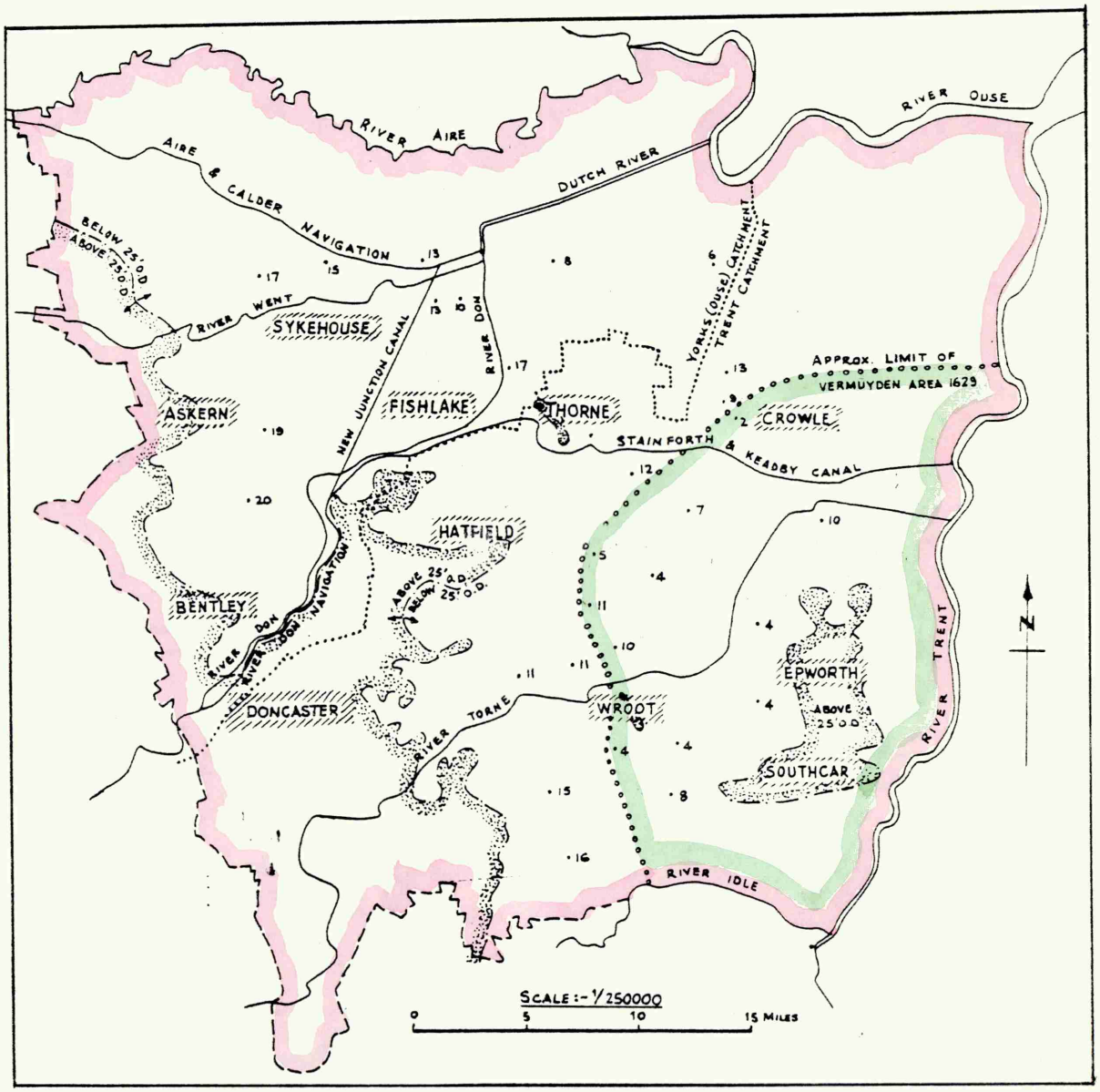
FIG. 6

Reference

Doncaster Drainage Area edged pink

Vermuyden Drainage Area edged green

Contours and spot levels shown in feet above O.D.



B Topography and Geology of the Doncaster Region

The area under review consists of the lowlands adjacent to and east of Doncaster, as shown in Figure 6. The area involved covers approximately 400 square miles. The principal town in the area is Doncaster.

A study of the topography shows the maximum height in the town to be approximately 70' above Ordnance Datum (AOD), but large areas of the township lie below 20' AOD. As one moves eastwards towards Epworth, heights of 10' AOD are commonplace. In Figure 6 land lying below the 25' AOD contour has been indicated and it is these areas which form the major element of this study. The distance from Doncaster to the Humber estuary is approximately 20 miles, the river level at Doncaster is about 20' AOD, which gives an average hydraulic gradient of 1 in 5,000.

The area forms part of two major catchment areas, namely the River Ouse (Yorkshire) Catchment Area and the River Trent Catchment Area. It is thus part of a network of rivers which rise over 50 miles to the west of Doncaster.

A study of the geology of the region shows Doncaster to be sited on thin deposits of superficial clay, sands and gravel overlying the Triassic measures which consist of thick layers of Bunter sandstone (average 100' in total) interbedded with marls. These act as an aquifer providing Doncaster and district with adequate water supplies. The Bunter sandstones lie conformably on the Permian measures which average 300' in thickness and are made up of limestones and marls. These are extensively worked to the west of Doncaster by quarrying companies. The base of the Permian measures lies unconformably on the Upper and Middle Coal measures. The entire area in this study forms part of the concealed Yorkshire - Nottinghamshire Coalfield, which has now been proved to extend under the North Sea. There are several workable seams throughout the region ranging in depth from 550 yd.

The River Don is the principal river passing through the region with a total fall of 91' 9" from Sheffield to the River Ouse over a distance of 43 miles (average gradient 1 in 2,500).

C Local Land Drainage Works Prior to 1760

The first recorded attempt to control the drainage of part of this area was by Cornelius Vermuyden, a Dutch merchant, who was requested by Charles I in 1626[3] to drain certain waterlogged lands contained in a district known as the Isle of Axholme. This district, indicated in Figure 6, contained about 60,000 acres mostly under water and bounded by the old River Idle, the old River Don, the River Bykersdyke and the River Trent.

Before commencing drainage works Vermuyden sold shares to many of his countrymen (51 in total) who became known as the Participants.

The works were successful in draining the area prescribed but at the expense of severe flooding on adjoining lands well to the west of the drained areas. The districts of Fishlake, Sykehouse and Snaith were the worst affected and these defects set off a succession of bitter complaints by the land owners and tenants.

The Participants were ordered in 1635 to carry out the remedial and relief works which Vermuyden had refused to do. The Dutchmans River was constructed at a cost of £33,000, which brought much needed relief to the heavily overloaded River Don and River Aire.

D Local Land Drainage Works from 1760 Onwards

Land drainage was generally poor throughout England and Wales and in order to obtain some improvement the Board of Agriculture was formed in 1793 (later to become the Ministry of Agriculture and Fisheries).

The Hatfield Chase Corporation Act 1862[4] established a new authority to administer the drainage works within the area. The corporation was made up of 6 elected Participants and 3 elected rateable land owners.

Meanwhile in the rest of the country attempts were being made to encourage land owners to improve land drainage and thus increase agricultural produce. Land owners in upland areas were given some incentive by grants offered under the Land Drainage Act 1845[5].

Similar provisions were available to land owners of lowlands under the Land Drainage Act 1861[6]. Furthermore drainage boards could be established by private Acts of Parliament and these began to emerge in the next few years. The Dun Drainage Board was established by virtue of the provisions of the Dun Drainage Act 1873[7]. This Board was to figure prominently in advanced drainage techniques referred to later.

E Development of Remedial Drainage in the Doncaster Region of the Yorkshire Coalfield

The mines in this region were mainly developed in the early part of this century as a natural progression of coalfield development. Mining on a large scale had commenced in the Barnsley - Sheffield region in 1860, where the seams forming the productive middle coal measures outcropped. As these older mines developed so it became necessary to move eastwards towards the virgin areas of Doncaster and Worksop. Due to the general dip of the coal measures (approximately 1 in 35 due East), the workable seams became much deeper, e.g. the Barnsley seam at Rotherham Main colliery is at 421 yd whereas the same seam at Rossington Colliery is 872 yd.

There are nine collieries whose workings affect the Doncaster Drainage Area, and seven of these are still in production. Bullcroft merged with Brodsworth in 1970 and Thorne closed in 1956 due to shaft problems although it is planned to re-open in 1982. The depth of the Barnsley seam varies in this region from 560 yd in the northern part to 906 yd in the Southern part, but this is due to large faults traversing the area, such as the Don Fault with a throw of 126 yd.

The list of collieries shown overleaf gives certain basic information.

	COLLIERY	SEAMS WORKED	THICKNESS	DEPTH (yd)	STARTING DATE	SURFACE LEVEL AOD
1)	Brodsworth	Barnsley	7' 0"	592	1905	122.25'
		Dunsil	5' 5"	608		
		Parkgate	5' 5"	811		
		Thorncliffe	4' 6"	839		
2)	Bentley	Barnsley	6' 0"	624	1908	21.00'
		Dunsil	5' 0"	642		
3)	Bullcroft	Barnsley	6' 10"	658	1908	35.00'
		Dunsil	4' 8"	659		
4)	Yorkshire Main	Barnsley	6' 0"	906	1911	134.25'
		Dunsil	4' 5"	926		
		Swallow Wood	5' 7"	956		
5)	Askern	Barnsley	4' 8"	562	1912	80.00'
		Flockton	3' 3"	717		
6)	Rossington	Barnsley	6' 0"	872	1915	18.43'
		Dunsil	5' 6"	888		
7)	Hatfield	High Hazel	5' 0"	759	1917	13.70'
		Barnsley	6' 6"	860		
8)	Markham Main	Barnsley	5' 3"	728	1922	66.00'
		Dunsil	4' 1"	730		
9)	Thorne	High Hazel	5' 0"	861	1925	12.00'

An important feature to note is the wide variation in surface levels, with Hatfield and Thorne only just lying above Ordnance Datum.

In 1923 Mr J Humble in his evidence to a Special Commission on Land Drainage[8] estimated that the total thickness of workable seams in the Doncaster Drainage Area could be in excess of 24', representing 4,500 million tons. The Area contained approximately 200,000 acres, the majority of which was well below 25' AOD. The hydraulic gradients were very slight throughout this region varying from 1 in 5,000 to 1 in 10,000.

It became obvious to both surface interests and mining interests that the consequences of undermining such low lying areas without some precautionary measures could be disastrous. The first colliery to be involved in drainage schemes was Bentley which itself is situated in a low lying area (shaft collar level 21.00' AOD). Much of the colliery take extends under surface lands with a level of 10' AOD or less.

In 1914 an agreement was made between the Bentley Colliery Co and the Dun Drainage Commissioners, covering remedial and preventive measures due to coal mining subsidence.

Flooding continued to take place however and the colliery company was required to acquire surface lands affected by flooding to relieve their liability to certain land owners. By 1946 the colliery had acquired 2,392 acres.

Similar agreements were made with other Drainage Commissioners including the Hatfield Chase Corporation. Likewise other colliery companies entered into agreements with various Drainage Authorities although not always to their advantage. The Sheepbridge Coal and Iron Company agreed terms with the Hatfield Chase Corporation that proved so stringent, that the company deliberately avoided working beneath surface lands controlled by that Corporation. Generally speaking other collieries entered into agreements similar to Bentley and by the early 1920's Bullcroft, Askern and Rossington were all working under similar agreements. By 1923 the collieries had installed 10 pumps for the purpose of keeping the lowlands drained by an artificial system.

Despite the private agreements there was a growing concern both locally and nationally at the prospect of large reserves of coal being extracted from beneath the lowlands east of Doncaster. The issue was drawn to the attention of the Royal Commission on Mining Subsidence[1] which had been appointed in 1923.

The Royal Commission gave consideration to the problem of land drainage in the Doncaster area and published a First Report in 1926[1]. This was concerned entirely with the vexed drainage problem. Such importance was attached to this special aspect of mining subsidence that the Chairman subsequently requested a Special Commission on Drainage in the Doncaster Area to be set up. Its findings were published separately in 1928, although it is generally considered a part of the findings of the Royal Commission which published its Second and Final Report in 1927[9]. It is however appropriate to review briefly some of the evidence presented to the Special Commission.

F Special Commission on Drainage in the Doncaster Area 1928[10]

The Commission met on 7 days during the period of March to July 1927, and over 20 expert witnesses presented evidence containing 200,000 words, covering various aspects such as geology, topography, hydrology.

The Commission was jointly chaired by Sir Horace Monroe and Sir William Ellis. The following extracts highlight some of the problems peculiar to this area and the resentment felt by certain parties to outside interference.

Colonel R C Otter, Chairman of the River Idle Commissioners and Mr J Taylor, A Commissioner expressed concern at the prospects of coal mining taking place under the River Idle. The average gradient of this river was 1 in 10,000 and the lands through which it flowed were low lying, much of it only 12' above OD. They also complained of a lack of co-operation in drainage works by Hatfield Chase Corporation, which adjoined their lands.

Major G H Peake, Chairman of Hatfield Chase Corporation repudiated the criticisms made by Colonel Otter and was much less anxious about future coal mining entering beneath his lands. He felt it would be advantageous in such circumstances to have some over-riding authority to co-ordinate the works required of remedial drainage.

Mr W D Lloyd, an eminent mining engineer gave the general mining situation in the area and showed how the outputs from the South Yorkshire coalfield were gradually being won at greater depths with increasing tonnages from seams below the Barnsley seam, viz.

	1913	%	1924	%
Less than 500 yards	13,000,000	49.7	13,600,000	42.7
Between 500 & 600 yards	4,200,000	16.0	5,300,000	16.7
Between 600 & 700 yards	7,500,000	28.6	7,000,000	22.0
Between 700 & 800 yards	900,000	3.4	3,400,000	10.7
Between 800 & 900 yards	600,000	2.3	2,500,000	7.9
	26,200,000	100.0	31,800,000	100.0

Mr Lloyd considered the problem of mining under the River Don, which is tidal from a point 2 miles downstream of Doncaster. He estimated that a pillar of support based on a radius of 1/5th of the depth would sterilize 750,000 tons of coal per mile in the Barnsley seam assuming 5' extraction at 700 yd depth. As the canal and railway ran in close proximity to the river it would also be prudent to include them in such a pillar. The tonnage contained in such an extended pillar would approximate 2 million tons per mile.

Sir Percy Jackson, Alderman Yorkshire WRCC, Chairman of the Land Drainage Sub Committee of the WRCC Agriculture Committee presented a very comprehensive report of the drainage system as it existed in 1927, indicating his support for some new central organising body to co-ordinate the works of the various parties involved in draining the area.

In his evidence he described the Doncaster Area as containing 200,000 acres of land. About 141,000 acres lie in the West Riding of Yorkshire, 51,000 acres lie in Lincolnshire and 7,000 acres lie in Nottinghamshire.

He referred to the 14 statutory and 3 non-statutory Drainage Authorities which made up the area covering Yorks, Notts, and Lincs. There were also 29 Inclosure Awards which made statutory provision for land drainage.

Within the area there were several large rivers, the majority of which were tidal (see Appendix 10).

He recommended the early introduction of legislation which would establish a central authority responsible for co-ordinating the remedial drainage works throughout the region. He further recommended that a levy of 1d per ton be made on all colliery and coal owners to provide money for such remedial works.

Lieut Colonel F Rayner, Engineer of Trent Navigation Co presented some tidal records on the lower Trent which give the height differences involved on some of the rivers bounding this area, viz.

TIDAL LEVELS: RIVER TRENT

	14th June 1889			21st June 1889		
	L W	H W	L W	L W	H W	L W
Gainsborough	3.97	12.63	3.97	2.81	8.89	2.59
Keadby	.03	13.86	.07	.05	9.51	.22
Burton Stather	-2.76	13.74	-2.68	-2.43	9.34	-2.76
Blacktoft Jetty	-4.33	13.58	-4.33	-4.25	9.25	-4.33
Hull	-8.92	12.08	-9.92	-5.08	8.17	-6.66

These figures indicate that the river levels well inland at high water level can be several feet above the ground levels of large tracts of land which lie at or below 10' AOD.

Mr J Stafford, Chief Engineer of Bentley Colliery Co presented very detailed technical evidence based on his experience of land drainage in conjunction with land drainage authorities to counter the effects of mining subsidence. This was based on work carried out at four collieries in the area, namely Askern, Bentley, Bullcroft and Rossington. Having reviewed this remedial work Mr Stafford discussed the merits of reclaiming land by warping and tipping and in his opinion neither of the methods were practicable or viable. It was estimated that it would cost £500 per acre to raise the land 4 feet.

The costs of remedial drainage are shown in Appendix 11.

Mr William Humble, Chairman and Managing Director of Doncaster Collieries Association gave evidence on behalf of the land and mineral owners and colliery proprietors of the South Yorkshire region. He strongly objected to the proposal of Sir Percy Jackson of a flat rate levy of 1d per ton on colliery companies working within the area. Experience at the four collieries already described by Mr Stafford showed that ½d was adequate. Any increase on that could have dire consequences for the colliery companies.

Lord Fitzwilliam, Royalty Owners representative spoke in support of Mr Humble in contesting the 1d per ton levy. He pointed out the relatively low royalty levied in this region which reflected the increased working costs of the lessee due to drainage works. Contrary to popular belief, the average royalty was 3d - 4d, about half that charged elsewhere.

Professor Granville Pool spoke on behalf of South Hetton Coal Co Ltd which held mineral leasehold rights over 12,000 acres of land situated in the Hatfield Chase locality. Within this leasehold area was 3,067 acres known as Hatfield Moors which were the subject of a sub-lease to British Moss Litter Co Ltd for the working of peat. This area had been excluded from drainage works carried out by Vermuyden in 1626 and was much more recently excepted from the provisions of the West Riding of Yorkshire County Council (Drainage) Act 1923[11]. The reason for these exceptions was the very low profile of the area (average height 8' AOD) which contained thick deposits of peat, thus rendering the land unsuitable for drainage.

Mr C R Peacock, General Manager of Sheffield and South Yorkshire Navigation Co was the last witness to be called and gave specifications of waterways under his authority and the tonnages of freight carried, together with any anticipated improvements in such freight.

G Recommendations of the Special Commission 1928

In the Second and Final Report of the Royal Commission[9] published in 1927 reference was made in para 57 to the important aspect of land drainage in coal mining areas. It also said the Report of the Special Commission[10] appointed that same year could be important not only to Doncaster but to other regions such as the Lydden and Stour Valley in Kent, where similar problems were anticipated.

The main recommendations of the Special Commission may be summarised as follows:

i) The Doncaster area under investigation contains about 200,000 acres of which 75% lies below 25' AOD, and parts below 10' AOD.

The estimated reserves of coal would last 400 years at an annual output of 10 million tons, based on total reserves of approximately 4,000 million tons.

ii) The South Yorkshire Coalfield was being developed west to east in the same direction as the general dip, which would have an adverse effect on the whole drainage system which was also falling west to east. Drainage of the Doncaster region was part gravity and part artificial, with several pumping stations already commissioned.

iii) The five main rivers serving the area are the Don, Went, Torne, Aire, Ouse and Trent.

iv) At the time of the Report there were 15 statutory drainage authorities.

v) Coal should be allowed to be extracted by the collieries within the area, but remedial drainage works must be executed in anticipation of mining subsidence to alleviate flooding.

vi) It strongly recommended legislative measures to give comprehensive control of the entire area.

NOTE The River Idle was not listed as a river affecting the area, as strictly it did not drain the area.

H Doncaster Area Drainage Act 1929[2]

It was no surprise therefore that this Act was introduced shortly after the Report[10]. The following notes precis the principal contents.

Introduction

An Act to make provision for the better drainage of a certain area drained by the Rivers Don, Went, Torne, Aire, Ouse and Trent; and for purposes connected therewith. (10th May 1929)

Part I Constitution of Doncaster Drainage District etc

Section I

Constitution of the Doncaster Drainage District as defined in a map of the area excepting certain lands including Hatfield Moor and any lands worked by British Moss Litter Co Ltd.

Section 2

Interests of any district drainage board established under Part II of the Land Drainage Act 1861[6] to vest in a Central Drainage Board.

Sections 3 - 8

Various powers of the Central Drainage Board.

Part II Obligations of Mine Owners in Relation to Remedial Works

Section 9

Every mine owner shall construct and maintain in proper condition such works as may be required in order to obviate or remedy any loss of efficiency which has arisen or may arise in the drainage system by reason of subsidence due to coal mining.

The mine owner to comply with all reasonable requests and directions issued by the Central Drainage Board and shall keep the Board informed of the position of all existing and proposed workings.

Any works of a special nature to be executed by the Central Land Board, subject to prior consent of the mine owner. The costs to be charged to the appropriate colliery company.

Any two or more mine owners may act jointly for the purposes of this Act and may similarly enter into any agreement with a drainage authority, authorising them to carry out remedial works. The costs to be charged proportionately to the colliery companies.

Liability under this Act is transferable with changes of ownership of the mine.

Section 10

Mine owners required to provide income in perpetutity for remedial works to be held in trust by the Central Drainage Board.

Section 12

Royalty owners to subscribe proportionately to the costs by set-off arrangements with lessees.

Any right a lessee may enjoy to work, lower and damage the surface without liability has to be honoured by the surface owners of such lands. They shall refund therefore such monies expended on remedial works.

Part III Miscellaneous and General

Section 14

Drainage rates to be based on agricultural values only.

Section 28

Crown lands to be included in the Area provided no works are executed without the prior written consent of the Board of Trade and of the Commissioners of Crown Lands (now Crown Estate Commissioners).

Tidal lands vest in the Crown and any accretions shall become the property of the Crown. Tidal lands are defined as lands below high water mark at ordinary spring tides and are not rateable.

Section 33 - Interpretation

'Minerals' means all minerals and substances in or under land, obtainable whether by underground or surface working.

1st Schedule

Constitution of Central Drainage Board.

2nd Schedule

Channels and banks included in the Act.

3rd Schedule

Powers of compulsory acquisition exercisable by the Central Drainage Board.

I Land Drainage Act 1930[12]

This Act made changes in the administration of land drainage and was of general application to England and Wales. The following drainage authorities were created:

i) Catchment Boards
ii) Internal Drainage Boards
iii) External Drainage Boards

The Catchment Boards were responsible for very large areas formed by natural watersheds and there were 46 such Catchment Areas. Within these were the drainage boards which had been established under the Land Drainage Act 1861[6], these being termed Internal Drainage Boards. Any others falling outside a Catchment Area were termed External Drainage Boards.

The Act of 1930[1] affected the Doncaster Drainage Area by dividing it into two parts, namely the River Ouse (Yorkshire) Catchment Area and the River Trent Catchment Area, each having its own Board.

Every Catchment Board was responsible for defining the main river and drainage systems within its Area and had overall control over the Internal Drainage Boards through delegated authority.

J Joint Committee on Doncaster Area Drainage Bill 1933

Because of the new structure in management of land drainage it was necessary to amend the Doncaster Area Drainage Act 1929[2]. Before making any amendments it was decided to reappraise the situation by a Joint Select Committee of the two Houses of Parliament. There followed another lengthy enquiry lasting four days in February 1933, and the evidence exceeded 90,000 words. The parties represented included county councils, drainage authorities, navigation companies, mineral owners and colliery owners. Much of the ground covered was similar to that of the 1928 Enquiry, but it is of interest to briefly comment on some of the evidence.

The Bill was promoted by the Minister of Agriculture and Fisheries who was represented by Mr F J Wrottesley, KC. It was stated that the Bill was to provide for the vesting of all interests held by the Doncaster Drainage Board in the River Ouse (Yorkshire) Catchment Board and the River Trent Catchment Board respectively. Mr Wrottesley stressed the urgency to promote a Bill to make a comprehensive provision for land drainage in this unique area.

The petitioners against the Bill argued for a status quo as the Doncaster Drainage Board had only just begun to function efficiently. Any split of responsibility could be to the detriment of the Area and could jeopardise the efficient working relationships now established between colliery owners and the internal drainage boards.

Mr Wrottesley responded by pointing out certain inadequacies in the Act of 1929[2] in that certain parts of the Area as yet were not included. The costs of remedial works were not fairly shared as many districts upstream of the Doncaster Area were benefiting from these works and they should therefore subscribe to such costs. The Doncaster Area

contained several rivers all of which were near the outfall and therefore were serving as large drains to the uplands. The River Don drained a catchment area of 665 square miles, whereas the Doncaster Area contained 312 square miles, such were the funnelling actions of the Catchment Areas now set up by the Land Drainage Act 1930[12]. The collection of drainage rates was proving difficult to the Doncaster Drainage Board since the basis of assessment had been changed by the Act of 1930[12] from one of agricultural value to one related to Schedule A assessments.

Concern was being expressed in Parliament[13] at the serious flooding still taking place in the Bentley and Arksey regions of Doncaster. Severe floods had occurred in 1931 and 1932.

As a consequence a deputation representing the two Catchment Boards and the River Don Board met the Minister of Agriculture and Fisheries and put forward the principal points to be embodied in the Bill.

The Joint Committee presented its Report to Parliament and a new Act came into being in 1933.

K Doncaster Area Drainage Act 1933[14]

An Act to make for the better drainage of the Doncaster Drainage District; to provide for the dissolution of the Doncaster District Drainage Board and the transfer of certain property, rights, functions, liabilities of that Board to certain Catchment Boards, and for objects connected with the purposes aforesaid. (13th April 1933)

Section 1

Transfer of powers of the Central Drainage Board of the Act of 1929[2] to the respective Catchment Boards.

Section 2

Dissolution of Doncaster Drainage Board and transfer of its functions and property subject to certain exceptions - principally Part II of the Act of 1929[2] which prescribes the obligations of the mine owners in relation to remedial works.

Section 4

Increased membership of Catchment Boards by including 2 representatives of mining interests on each Board.

Schedule

Part I

Rivers and channels forming part of the River Ouse (Yorkshire) Catchment Area.

Part II

Rivers and channels forming part of the River Trent Catchment Area.

L Subsequent Legislation

Extensive flooding again occurred practically heralding the new Act of 1933[14]. The River Ouse (Yorkshire) Catchment Board soon commenced extensive works downstream on the River Don to try and relieve this situation, chiefly embankments to contain the river in spate. The total cost of these works was £500,000, and the Catchment Board pressed the colliery owners for a contribution, but without success. The colliery owners maintained such works were the normal function of the Catchment Board and were in no way occassioned by mining subsidence.

This friction between the colliery companies and the newly formed Catchment Boards gradually lessened and by 1939 much improvement had been achieved in the internal drainage systems overlying the active mining zones. The work continued uninterrupted throughout the Second World War and by 1945 Bentley colliery had expended £70,000.

In 1947 the National Coal Board acquired all coal mining interests and associated interests held by the Coal Commission. As no rents and royalties would be normally paid for the extraction of coal, provision was made in Section 45 of the Coal Industry Nationalisation Act 1946[15] for the suspension of any payments into sinking funds for the perpetual upkeep of drainage works. The Coal Board was required to continue with the programme of remedial works and thus was required to fulfil

the obligations originally prescribed in Part II of the Doncaster Area Drainage Act 1929[2] as amended by the Act of 1933[14].

The River Boards Act 1948[16] changed the management structure of land drainage in England and Wales, replacing the 46 Catchment Boards by 32 River Boards. All interests of the Catchment Boards were thus apportioned to the new Boards with the exception of the Thames and Lee Catchment areas of London. The former internal and external drainage boards now came under the umbrella of a River Board. The Act of 1948 extended the powers of the new Boards to include pollution control and fisheries as well as land drainage.

Following the nationalisation of the coal mining industry came another government enquiry into the problems associated with coal mining subsidence. The Committee on Mining Subsidence[17], published its Report in 1949 and comment has already been made on its findings, but special mention was made of land drainage in paragraph 67.

The Coal Mining (Subsidence) Act 1950[18] which followed this Report was very limited and did not make any provision for compensation other than dwelling houses of a limited rateable value. Land drainage therefore remained unaffected by this Act and the special provisions for the Doncaster Area remained unique until the Coal Mining (Subsidence) Act 1957[19] came into being for reasons already explained.

Section 5 of the Act of 1957[19] deals specifically with land drainage on a regional and district basis and makes provision for similar schemes as the Doncaster Drainage Area to be applied elsewhere. It however excludes the special provisions only applicable to the Doncaster Area.

The Coal Mining (Subsidence) (Land Drainage) Regs 1958[20] supplement Section 5 of the Act of 1957[19], but this does not affect the Doncaster Area.

More recent changes in legislation controlling land drainage has not really affected the working of the special Act controlling the Doncaster Drainage Area, other than representation on management boards. The Land Drainage Act 1961[21] provided local authorities with powers to execute land drainage works in consultation with the River Boards.

The Water Resources Act 1963[22] made wide-scale changes in administration and functions in general terms, replacing the 32 River Boards with 27 River Authorities. It also made abstraction control part of the function of River Authorities.

No further change occurred in drainage legislation until the Water Act 1973[23] introduced a large scale reorganisation of the management of water resources. The River Authorities are replaced by 10 Water Authorities. Within each Authority there are a number of Divisions (Yorkshire Authority has 7 Divisions).

The major part of the Doncaster Drainage Area lies inside the South Eastern Division of the Yorkshire Water Authority, but parts also come within two other Authorities, namely the Severn - Trent and the Anglian.

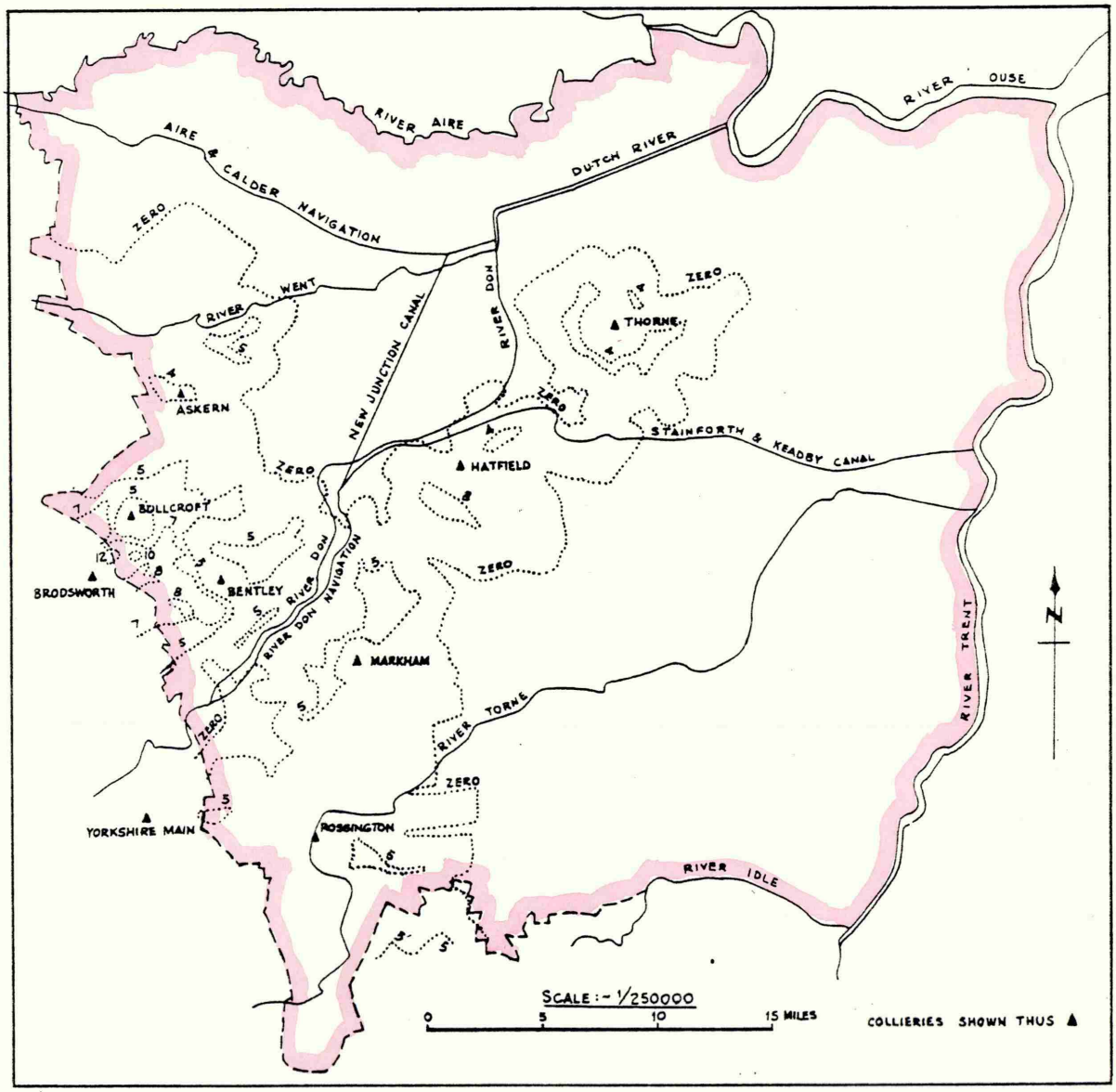
Each Authority has a committee structure reflecting any special needs of that region, but basically there is a separate committee for each of the following functions:

1) Water management
2) Fisheries
3) Amenity and recreation
4) Land drainage

The Water Act 1973[23] has affected the Doncaster Drainage Area in that since 1929 there has always been direct representation of mining interests on land drainage committees. Indeed Section 8 of the Water Resources Act 1963[22] made it a statutory requirement. This latest Act makes no such provision, an omission which was pointed out by the National Coal Board in the Bill stage but to no avail.

Plan Showing Contours of Subsidence in Feet

FIG.7



M Critical Appraisal

i) Introduction

In common with the other case studies a course of action taken several centuries ago has had an impact on the present day activities of the minerals industry.

This study commenced with the early works of Vermuyden in 1626[3] and then reviewed the subsequent developments which led to the legislation currently affecting drainage works in the Doncaster Drainage Area.

This brief appraisal emphasises certain effects, reviews the current situation, attempts to predict the future developments and consequences and concludes with some alternatives.

ii) Review of Developments to Date

The collieries listed earlier have been shown in order of development and these have been progressively worked in an easterly direction, commencing with Brodsworth in 1905 and ending with Thorne in 1925.

The concentration of workings has therefore followed this same progression with the largest number of seams being worked on the western edge of the Doncaster Drainage Area. Unfortunately this development has been counter to the direction of natural drainage of the area, which flows to the east coast as shown in Figure 6.

Referring to Figure 7 one can see the principal contours of subsidence which have developed as a consequence of the mining operations. The greatest amount of lowering has occurred at Brodsworth where isolated zones have been lowered 12' resulting from the extraction of four seams in certain places (total thickness worked 22'). Fortunately most of the surface in this region is above the 25' OD contour.

Moving east Bentley has lowered the surface by 8' in places, but this has been under lands which were already lying well below the 25' OD contour. It is because of these circumstances that this colliery was the first to be involved in remedial drainage schemes.

At most of the other collieries a subsidence of 5' has occurred because of the limited areas of extraction. Similarly the combined zone of influence (zero subsidence boundary) has only affected one fifth of the Doncaster Drainage Area so far. This zone is concentrated down the western edge of the Area, although a spur is indicated in the Hatfield and Thorne region.

The major part of remedial drainage has been undertaken in the south western part of the Area because of these coal workings, but it should be noted that much of this surface area is above the 25' OD contour. Spot levels in the unworked areas indicate the low lying nature of the Area.

The River Don whilst extensively undermined in the western side has hardly been affected in its lower reaches. Other smaller rivers and drains have been similarly undermined but the major rivers and canals have yet to be subjected to mining subsidence. The closure of Thorne Colliery in 1956 has of course been a contributory factor.

Remedial drainage is an ongoing process and by 1978 the number of pumping stations had been increased to 28, of which two thirds are directly maintained by the National Coal Board, the remainder being a shared responsibility. The total area served by these stations is approximately 25,000 acres.

Because of the pattern of development of coal mining only five of the fourteen internal drainage authorities making up the Area have been affected so far by such remedial drainage schemes.

iii) Possible Future Developments and Consequences

The National Coal Board has no detailed long term plans (in excess of 5 years) for mining under the remaining part of the Area. It is certain however that collieries will continue to extend their workings over the next 50-100 years. Indeed Thorne colliery is scheduled to re-open in 1982 and new mines are more than likely if all the available reserves are to be extracted. In the evidence given by Major G H Peake to the Special Commission in 1928[10] reference was made to a new mine at Southcar (see Figure 6) which was never developed.

The estimated reserves within the Drainage Area exceeds 3,000 million tons which if extracted at a rate of 15 million tons per annum (average Doncaster Coal Board Area output) gives 200 years life.

It has already been indicated that most of these reserves lie beneath very low lying areas and unless a major remedial drainage programme is devised it seems unlikely that the entire area will be undermined. From past experience and based on subsidence forecasts the National Coal Board realise that the entire Drainage Area could eventually be lowered approximately 8'. As much of the surface is below 10' OD it is obvious that serious flooding would occur throughout the eastern half of the region.

Approximately 90% of the surface lands is agricultural land of which a high proportion is classified as Grade 2/3 land. If mining was to continue unrestricted and without remedial drainage about 100,000 acres of good agricultural land could be permanently destroyed. Using an average figure of £1,000 per acre this would represent a permanent loss of £100 million.

Obviously some compromise has to be reached allowing the coal mining and agricultural industries to optimise their production. An underground method of mining similar to that planned for Selby, that is a modified partial extraction method of working, will allow the surface to subside tolerable amounts. Remedial drainage phased in with underground development can ensure the low lying tracts of land are kept in agricultural use.

The re-opening of Thorne colliery after 25 years will be closely monitored to study its effects on land drainage. As this mine has never been abandoned it has continued to enjoy the rights of deemed planning approval originating in the Town and Country Planning (General Interim Development) Order 1946[24].

The local planning authority however has the power through the Secretary of State for the Environment to withdraw such planning permission by issuing an Article 4 direction[25]. This would require the National Coal Board to apply for planning permission as if Thorne was a new mine. Without doubt conditions would be imposed similar to those in the Selby project.

iv) Financial Considerations

It has not been possible to obtain the current local drainage costs but the national average figure can be used to illustrate costs.

a) The national average cost in repairing land drainage approximates 0.3p per ton

b) Assuming an extraction rate within the Doncaster Drainage Area of 10,000,000 tons per annum, the annual cost would approximate £30,000.

If one takes the figure of $\frac{1}{2}$d quoted by Mr J Stafford before the Special Commission in 1928[10] and adjusts by the retail price index to present values this approximates $2\frac{1}{2}$d, say 1p. The annual cost in this instance would be £100,000.

One other aspect of cost is loss in revenue to local rating authorities whenever minerals are sterilised. If one assumes the average rateable value to be 10p per ton and the coal is worked by a partial extraction system taking 66% of the reserves, an estimate of loss in revenue can be determined, viz.

Reserves available = 3,000 million tons x .66
= 2,000 million tons

∴ Total RV = 2,000 million x 10p
= £200 million

This is a purely hypothetical figure based on reserves which could not be worked in less than 100 years and therefore when discounted to present values would be considerably less. It does however indicate the large sums of money which are at stake when reaching planning decisions of this magnitude.

In conclusion one feels the Doncaster Area Drainage Act 1933[14] in retrospect has worked very effectively and if the same spirit of enterprise and co-operation can prevail the problems will be resolved to everyones satisfaction.

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CHAPTER XII
CONCLUSIONS

A Introduction

Many papers have been published during the last ten years concerning the demands for mineral resources, past, present and future. Professor M G Fleming presented a paper titled "Man and Minerals - a Viable Contract"[1] in 1973 which illustrated the growth rate of demand for the principal metals. He quoted the life expectancy of certain metals given by authorities as being less than 25 years, but pointed out fallacies of such forecasts. Developments in technology and the ever expanding barriers of knowledge were important characteristics in the supply and demand equation.

Dr E G West also presented a paper in 1973 titled "Factors in the Future Demand for Metals, with Special Reference to Usage in the United Kingdom"[2] which supplemented that of Professor Fleming.

These papers and others when read collectively present a consistent pattern for the future, disregarding temporary economic recessions, which is one of expansion nationally and internationally. This expansion will involve not only a growth in the traditional methods of winning and working minerals, but also in relatively new processes, such as recycling industrial and domestic waste and the use of new materials in substitution for the traditional ones.

These demands must be met by this country where ever possible if it is to retain its position in the world scene. Indigenous supplies of mineral resources must be given a correct weighting in reaching a balance between the various demands on natural resources.

The uncodified English law evolved from common law and equity, the latter of which was seen as the means by which the judiciary could ensure no one suffered undue hardship and allowed the law to keep abreast of the times. This spirit of the law does not seem to have always been applied in disputes over mines and minerals.

The situation therefore remains complex and the various facets which must be considered can be summarised thus:

1) Common law rights of ownership and support of land

2) Statutory rights of ownership and support of land

3) Statutory control of land development

4) Statutory environmental constraints

5) Statutory financial constraints

These have all been reviewed in some depth in the thesis, but none can be considered in isolation if one is to make a balanced assessment of a situation.

The conclusions briefly review the patterns of land ownership (including minerals) over the past two hundred years and the effects of legislation in such developments. Recommendations are made for the way ahead which would remove any unnecessary and obsolete constraints which appear to blight the minerals industry and hence the nations economy.

B Influence of Legislation and the Judiciary

Almost all the case law on mines and minerals involves disputes over the rights of surface owners and mineral owners due to some lack of understanding of an instrument of severance.

Cases quoted in the thesis show the importance of the definition of the word 'mineral' as in the cases of Hext v. Gill 1872[3] and Glasgow Corporation v. Farie 1888[4].

Severance has frequently been taken to mean a sub-division of the strata into the natural layers of sedimentation, but this is not necessarily so. There are exceptions, such as the right of the Duke of Westminster to any lead ore found in the Halkin mountains and the special rights prescribed by local customs.

The definition of 'land' in the Land Registration Act 1925[5] qualifies the phrase 'buildings or parts of buildings' to include a division into horizontal, vertical or any other way. This qualification could equally well apply to 'mines and minerals'.

The principal issue in all instruments of severance whether they have been created by conventional sale, enfranchisement or inclosures, is the right to withdraw support. The judiciary has clearly leaned to the surface owner in cases of doubt based on presumptive rights, as was illustrated in the Whitmore Park case study. Failure to clearly express or imply a right to withdraw support has been taken to mean the contrary. Judicial construction has gradually whittled down the rights of the mineral owner to withdraw support.

The Royal Commission on Mining Subsidence 1927[6] in paragraph 25 of its Report said:

> "It is perhaps not too much to say that in arriving at the meaning and effect in this respect of instruments of severance, and particularly of Inclosure Awards, which frequently operate as such, the Courts have permitted ordinary principles of construction applicable to other cases to go by the board, so anxious have they been to maintain the right of support if at all possible."

This paragraph admirably sums up the situation which still applies fifty years later.

The thesis has given examples of changes in legislation resulting from certain judgements, such as the Dudley Corporation decision in 1881[7] and the Howley Park ruling in 1913[8]. The judiciary has been rather inflexible in its attitudes when dealing with disputes over property rights in minerals.

The Appeal Judges in the Warwickshire Coal Co decision of 1934[9] expressed sympathy about the invidious position of some mineral owners, but gave the surface owners the benefit of the doubt. Attitudes change with time and circumstances as witnessed in the award of the Whitmore Park Court Order in 1945, which finally freed the coal sterilised by the 1934 judgement.

The Falmouth dispute exposed the uncertainty and weakness in the presumptive rights and had to be strengthened by statute law. Nevertheless it served the very useful purpose of laying the foundation of the legislation now controlling offshore mineral exploitation.

The Doncaster Drainage Area case study illustrated how large scale problems can be resolved by mutual understanding and co-operation. Without doubt the National Coal Board has benefited from the goodwill displayed in such a scheme in its Selby and Belvoir developments.

The reforms in the law of property in 1925 removed many of the anomalies and obsolete customs, but in so doing created others. The enfranchisement of the copyhold interests usually reserved the respective rights of the lord of the manor and tenant with regard to mines and minerals. As these vary from Manor to Manor the mineral developer must examine every case presuming he is aware of their existence. The Coal Industry Act 1975[10] has made this procedure less onerous for the National Coal Board.

Inclosure Awards with their special rights and privileges still affect mineral development and mineral developers must acquaint themselves of these rights.

C- Influence of Taxation and Town Planning

The effects of taxation on mineral royalties illustrated in Appendix 9 are important constraints on the availability of mineral resources.

Estate duty has been an important contributory factor in the break up of the large estates to meet or mitigate tax demands. The trend throughout this century must have been for mineral ownership to become more fragmented.

Similarly in recent years some mineral owners have sold their mineral rights to the surface owners (often former tenant farmers) to avoid the liabilities imposed by safety legislation in such matters as old mine shafts and mineral workings.

One might have hoped from the various Reports referred to in this study, such as Barlow[11], Uthwatt[12], Waters[13], Stevens[14], that legislation would have removed at least some of the restrictions which have blighted the minerals industry. This does not seem to be the case and in some counties mineral development is of low priority, as witnessed in some of the draft structure plans now being published.

D In Retrospect

What is apparent after researching material is the slow progress made in rationalising the various procedures to be followed by anyone wishing to acquire working rights and/or ancillary rights.

Unlike many commodities which may be sold, mineral rights are seldom advertised and it is the mineral developer who has to make the initial overtures, assuming of course the owner of the minerals is known in the first place.

To overcome some of these difficulties the Mines (Working Facilities and Support) Act 1923[15] was enacted, which was a major breakthrough for persons prevented from working minerals due to some restriction. Amendments made in 1926[16] and 1934[17] extended the provisions to include a right to search for minerals as well as work.

All applications had to be submitted to the High Court and therefore were costly and protracted.

The Mines (Working Facilities and Support) Act 1966[18] as amended by the Act of 1974[19] does not materially change the situation apart from removing the limit on the minerals to which the Act had originally applied.

From a national viewpoint the complexity of the law and conflict of interests in the development of land does not assist in optimising the development and production of mineral resources.

Land registration, first conceived over one hundred years ago, has made relatively little progress and for reasons given in the thesis has had no real impact on mineral ownership. The only viable form of register which might be of assistance to mineral developers is the Coal Holdings Register compiled in 1937, but this only applies to coal mining areas.

The Coal Commission in 1945 expressed particular concern about the uncertainty of rights contained in instruments of severance, viz.

> "the universal severance of the ownership of the coal from that of the surface, together with the prospect of intense building activity, has brought to the forefront the need for adequate and effective means for determining in the national interest whether a given area of land should be undermined and subjected to the risks of subsidence or should be preserved for the support of surface buildings or works."

This plea for some form of state control to ensure that minerals would be developed in the national interest, was to be repeated in the Report of the Mineral Development Committee in 1949(20).

Although primarily concerned with minerals other than coal (already state owned) the recommendations of the Committee supported the principal of some form of state ownership modelled on the Coal Commission, suggesting the establishment of a Mineral Development Commission. Such an authority would be answerable to the Minister of Fuel and Power and all mineral development and production would be under its control.

Other recommendations were for some relief in the taxation of mineral interests and special safeguards for specified regions.

As with many Reports very little has been implemented although the tax concessions granted by the Capital Allowances Act 1968(21) and Finance Act 1970(22) may be seen as an acknowledgement.

The Mineral Exploration and Investment Grants Act 1972[illegible] in its preamble claims to be for the purpose of enhancing mineral exploration, but in the first six years only £2.5 million has been paid out in grants. This response is very disappointing when judged against the £50 million which has been available. One of the reasons given by the minerals industry for this slow rate of investment is the complexity of acquiring mineral rights.

The National Coal Board who virtually owns all the coal it works, has found it necessary to supplement its powers by the Coal Industry Acts of 1975[10] and 1977[24] in an attempt to derestrict the reserves of coal of some of the legal obstacles.

E European Attitudes

In all the countries making up Western Europe there would seem to be a greater appreciation of the importance of minerals resources to the economy.

In West Germany the largest open-cast coal mine in Europe has been operating over 30 years. This huge deposit of lignite has been worked progressively in rural and semi-rural areas containing rivers, canals, railways and small townships. All of these features have been re-sited on a temporary basis, until workings have moved forward and the excavations back-filled by industrial and domestic waste.

If it is possible to phase and harmonise the varying demands on land use in one country, why is it not possible here? Perhaps our abundant reserves of high quality coal in the past has created the false impression that minerals are in abundance and can always be found in another county.

In France a similar importance to mineral production can be found, but here the mineral developer is greatly assisted by the Napoleonic Code of Law. The Code greatly assists the mineral developer in his pursuit of mineral rights.

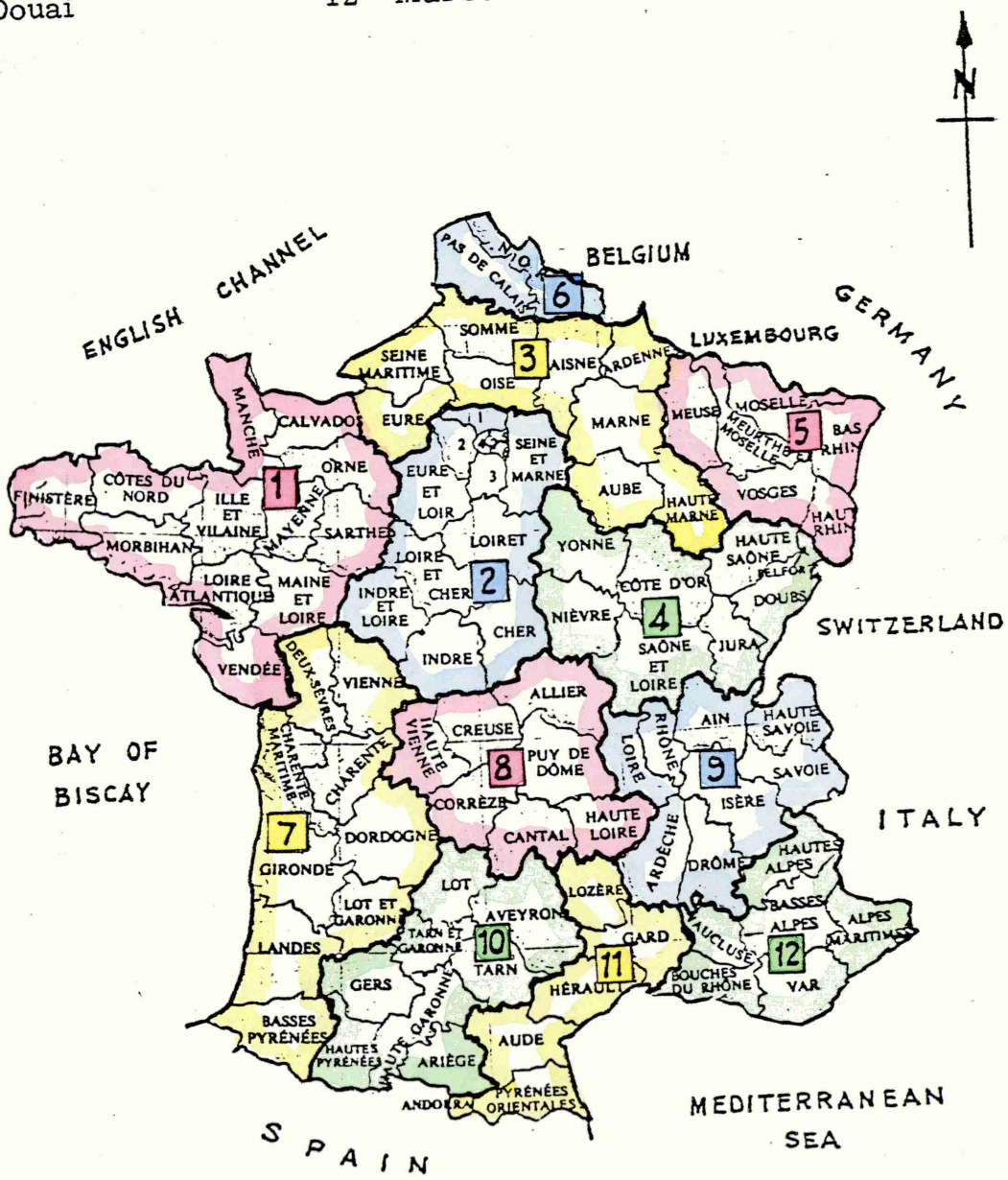
Spain, Italy, Holland, Belgium, Luxemburg, all work to some form of concession system, by which the mineral developer obtains permission from the State.

FIG. 8

District Control of Mineral Resources - France

References

1 Rennes
2 Paris I
3 Paris II
4 Dijon
5 Metz
6 Douai
7 Bordeaux
8 Clermont Ferrand
9 Lyon
10 Toulouse
11 Mont Pellier
12 Marseilles (includes Corsica)



Scale :- 1/8000000

0 50 100 150 200 250 MILES

Returning to the French system because of its simplicity it merits further explanation. The Mining Code derived from the Napoleonic Law of 26th April 1810 controls all mining activity. It is administered by the Directeur des Mines and the Directeur des Carburants and supervised by the Conseil General des Mines.

For local government administration France is divided into departments (departements) in a similar way to the county structure in this country. These departments are however grouped together into districts for the purposes of administering mines and minerals. There are 12 of these districts covering France as shown in Figure 8.

The majority of surface lands in France are privately owned but all sub-surface lands vest in the State. Mineral developers must obtain a concession from the Directeur des Mines (or Carburants) before he can work a mine.

A distinction is made between mines and quarries, as mines can only be worked by a concession granted by the State but quarries are subject to a claim by the surface owner.

Prospecting is encouraged and may be done without State licence provided the surface owner consents. In the event of a dispute a writ of authorisation can be obtained from the Chief Magistrate (Prefet) of the district.

In return for mining rights the grantee pays an annual rent (redevance) to the Commune and Departement in which the mine is situated. The rents vary with the mineral worked but about 5/6th of the rent is paid to the Commune and remainder to the Departement.

The surface owner receives a nominal indemnity payment and the mineral developer is responsible for making good any surface damage.

F <u>The Way Ahead</u>

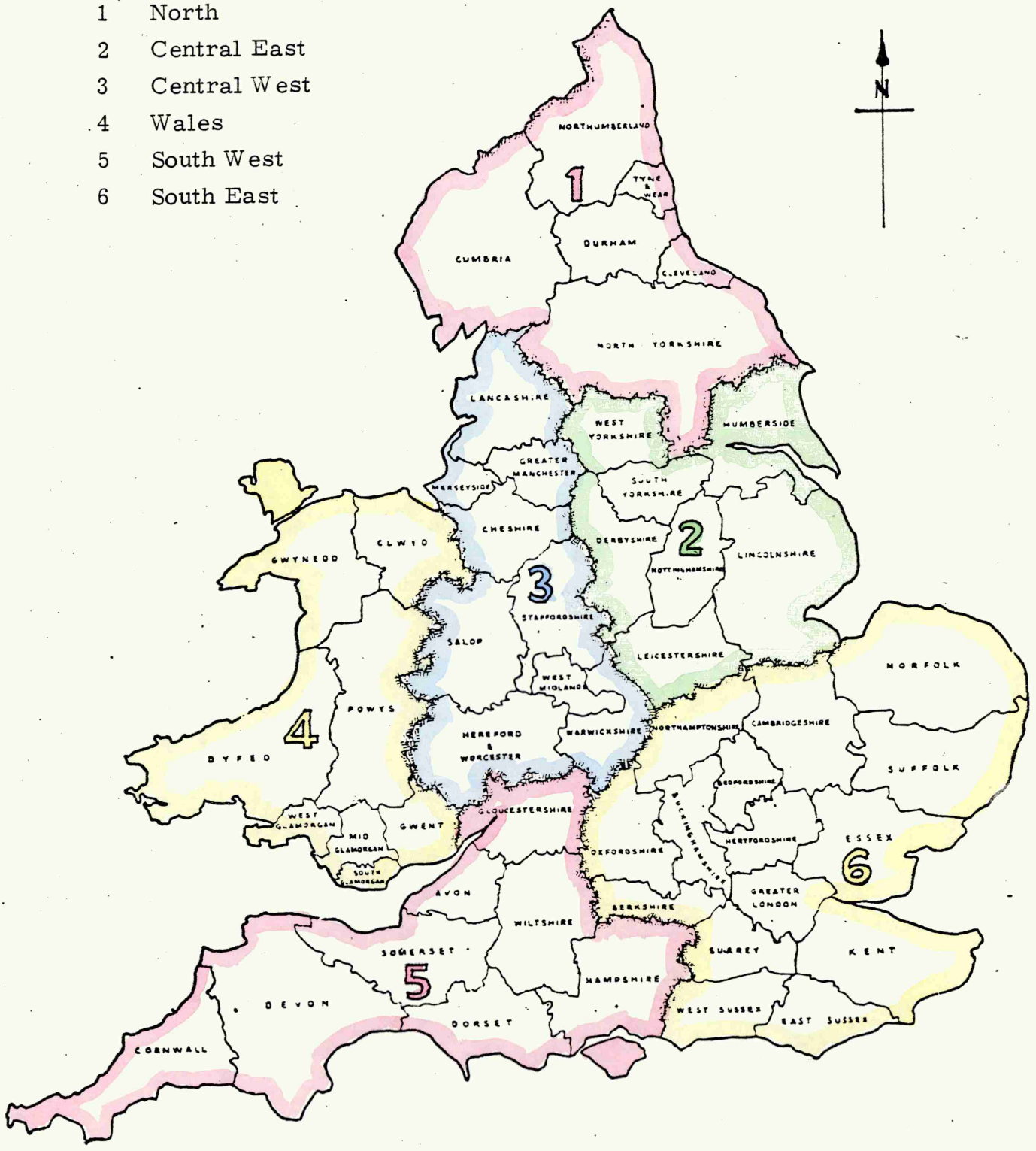
The various Commissions and Committees which have considered the future of the minerals industry have all made recommendations for a national policy and approach. It is therefore intended in this section to examine a system which could be readily adopted in this country

Regional Control of Mineral Resources - England and Wales

FIG. 9

Reference

1 North
2 Central East
3 Central West
4 Wales
5 South West
6 South East



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40 30 20 10 0 40 80 MILES

based on the French method of control.

At present there are two government departments with certain specific responsibilities for all mines and quarries in England and Wales. These are the Department of Inland Revenue (Mineral Valuation Section) and the Department of Energy (Mines and Quarries Inspectorate).

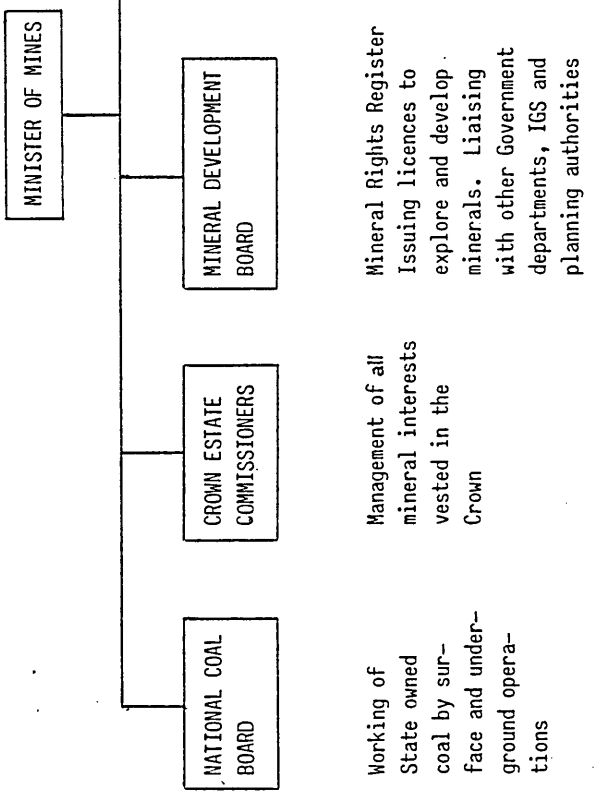
The Mineral Valuers Section is primarily responsible for the assessment of national and local taxation of mineral properties, but also advises other Government departments on the stability of development sites involving public expenditure. Its headquarters are in London, but the administration is delegated to six regional offices in England and Wales. The regions comprise of groups of counties and therefore the regional boundaries conform with the county boundaries involved. The size of the regions are generally well balanced with an average area of 6,000 square miles, as shown in Figure 9.

The Mines and Quarries Inspectorate is responsible for the observance of the laws concerning health and safety in mines and quarries, with its headquarters being in London. The Chief Inspector delegates authority to his Senior District Inspectors situated in eight district offices in England and Wales. Unlike the Mineral Valuers regions, these districts are not made up entirely of counties, but in places contain parts of counties. The area contained in the districts vary considerably ranging from 2,400 square miles to 30,000 square miles.

The administrative arrangement adopted by the Mineral Valuers Section appears to have much in its favour and closely follows that used in France. It is suggested that the Mines and Quarries Inspectorate could be reorganised to conform with that of the Mineral Valuers Section. There would be common regions throughout England and Wales for these two government departments. There still remains the vexed question of mineral rights. This could be made the responsibility of a Mineral Development Board, which would liaise with government departments including the Institute of Geological Sciences. The function of the Mineral Resources Consultative Committee[25] could also be absorbed.

By establishing an entirely new Government Department, such as a Department of Mines and Mineral Resources, it would be possible to re-structure the existing Departments and introduce a third Section responsible for the administration of mineral exploration and development, viz.

Department of Mines and Mineral Resources



It will be noticed that the National Coal Board and Crown Estate Commissioners have been brought within the control of the Ministry as this would have the advantage of bringing all mineral resources under the administration of one body. This principle could be easily extended to incorporate offshore mineral development. Furthermore some change of function has been indicated by transferring site investigation and stability reports to the Mines and Quarries Inspectorate. This has the advantage of utilising the Mine Records which could be built up to include a comprehensive system for all minerals on a truly national basis with all the latest aids in data storage.

The Department of Mines and Mineral Resources would have overall responsibility for all matters concerning mineral exploration, development, taxation, finance, health and safety. It would be capable of assessing the needs of the nation and by liaising with other government departments could continuously monitor the supply/demand situation. This would ensure the production of the nations natural resources were optimised. Furthermore the Department would have statutory powers to issue compulsory rights orders to mineral developers, similar to the rights granted to the National Coal Board Opencast Executive.

The mineral developer would have only one department to deal with when wishing to explore for or develop mineral resources. The Department in processing applications by mineral developers would be responsible for examining the various facets involved, such as safety, stability, other land uses, compulsory rights.

The licence would give the mineral developer the right of access for a specified period (renewable by agreement). The new procedure would remove the protracted and often abortive negotiations and investigations currently experienced by the mineral industry, therefore creating an incentive to invest capital into projects which at present appear not feasible.

The Minister of Mines and Mineral Resources would delegate authority to six Regional Directors, each responsible for three separate sections namely health/safety, exploration/development and taxation/finance. The National Coal Board and Crown Estate Commissioners would continue to operate as at present but answerable to the Minister for their respective interests. Regional sections would be controlled by Deputy Directors.

The administrative boundaries of the regions are shown in Figure 9 and are identical to those used by the Mineral Valuers section today.

Mineral owners would be compensated for loss of mineral rights by an annual payment by the State when the minerals are worked. This could be assessed on a tonnage basis and could be paid from a fund built up by monies received in rents from licencees.

A suggested basis of assessment could be 50% of the rent received from the licencee, the remainder being retained by the State for management expenses and financing restoration schemes.

Mineral developers would be liable for any surface damage caused by their workings and would negotiate directly with the claimant. Any dispute over liability or compensation would be referred to the Regional office for settlement, with a right of appeal to the Lands Tribunal.

A mineral holdings register, similar to that of the coal industry, should be prepared showing all mineral interests including rights to withdraw support, customary rights and privileges. Payment for loss of these rights would be made when the minerals are being extracted.

Surface owners would surrender the presumptive right of support and only those surface lands and buildings considered 'key areas' by the Department of Mines would be given absolute support.

These radical changes would require a phased programme of legislation to enable them to be implemented progressively, including reforms in the existing laws to remove obsolete and ancient customs.

Litigation should be reduced by this greatly simplified procedure although disputes and objections will occur. These would normally be resolved by the Lands Tribunal, which would be strengthened by the appointment of mineral experts to the panel.

The Courts of Law must always remain open to the individual but this should only be on points of law. The procedures of settlement by the Department of Mines or Lands Tribunal would thus relieve the Courts at all levels of this type of dispute. This in turn would encourage mineral developers to pursue projects, knowing any dispute would be decided by mineral experts acting as arbitrators.

The judiciary has been criticised in this appraisal for its rather inflexible, albeit inscrutable, attitudes in disputes concerning mines and minerals. The British legal system has been held in world esteem and rightly so, but it can be improved upon in special cases. The establishment of the Lands Tribunal in 1949 was a recognition of this fact and by widening its function and expertise as suggested above would meet many of the criticisms made.

G Summary of Recommendations

1) A Department of Mines and Mineral Resources should be established to be responsible for matters of health/safety, exploration/development and taxation/finance affecting mines and mineral resources. England and Wales to be divided into six regions for administration purposes.

2) A register of mineral rights and holdings should be prepared as a pre-requisite stage of reorganisation.

3) All rights of mineral ownership to be vested in the State.

4) Mineral exploration and development licences to be issued by the Department of Mines and Mineral Resources. These licences to be comprehensive giving authority to carry out the proposed development completely.

5) Mineral developers to pay rents and royalties based on output to the State. Such payments would include a levy for restoration and after land use.

6) Mineral licences to include conditions concerning general layout, hours of operation, output, landscaping and restoration.

7) Owners of land suffering damage or loss of amenity due to mineral workings should be compensated by the licencee. Any disputes to be settled by the Department of Mines etc with a right of appeal to the Lands Tribunal - points of law to the Courts.

8) Changes in legislation to accommodate these proposals and repeal ancient and obsolete practices.

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25 The Mineral Resources Consultative Committee was formed in 1967 and consisted of representatives of various Government Departments and specialist advisers. Its functions are to monitor the supply of and demand for mineral resources in the United Kingdom

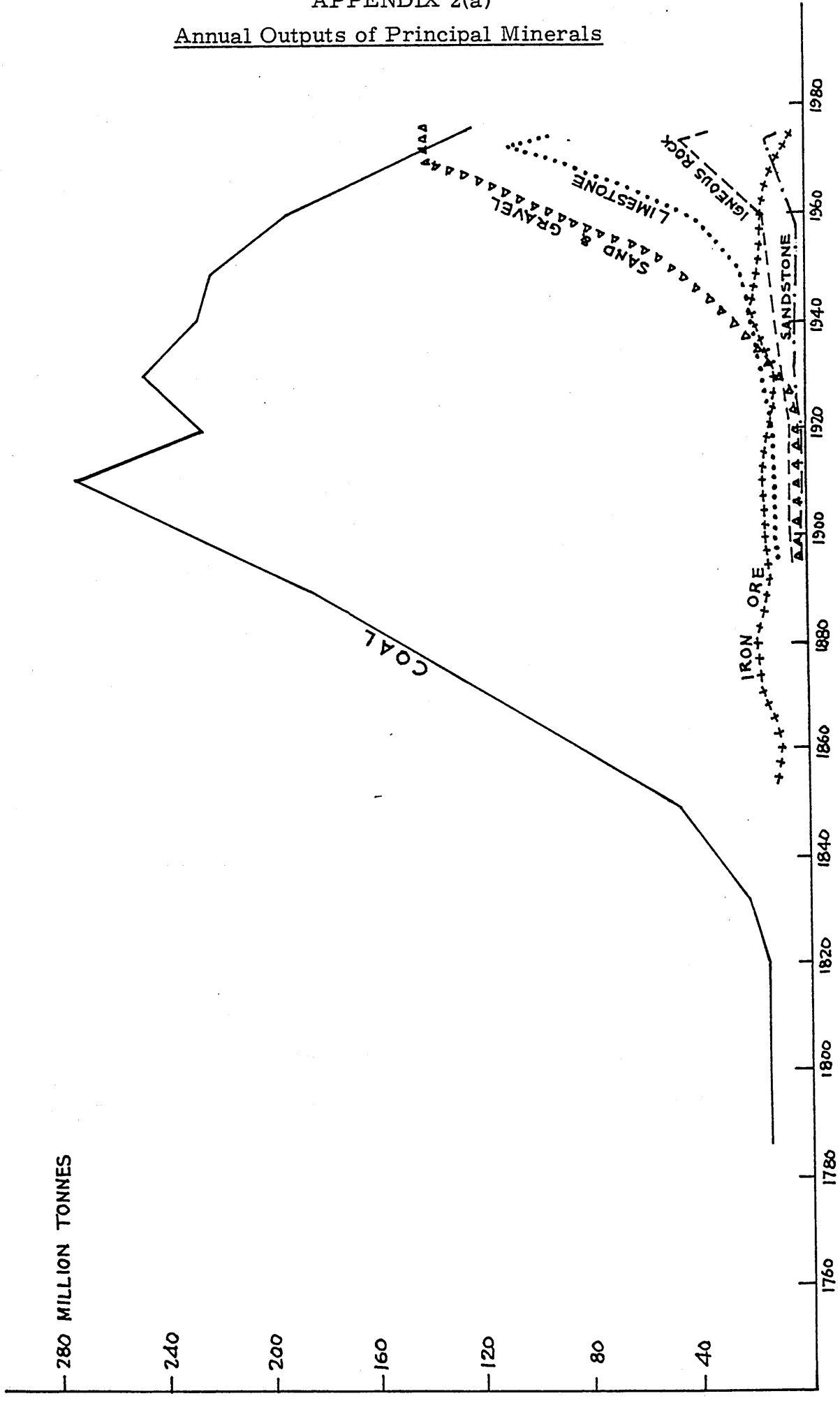
APPENDIX I

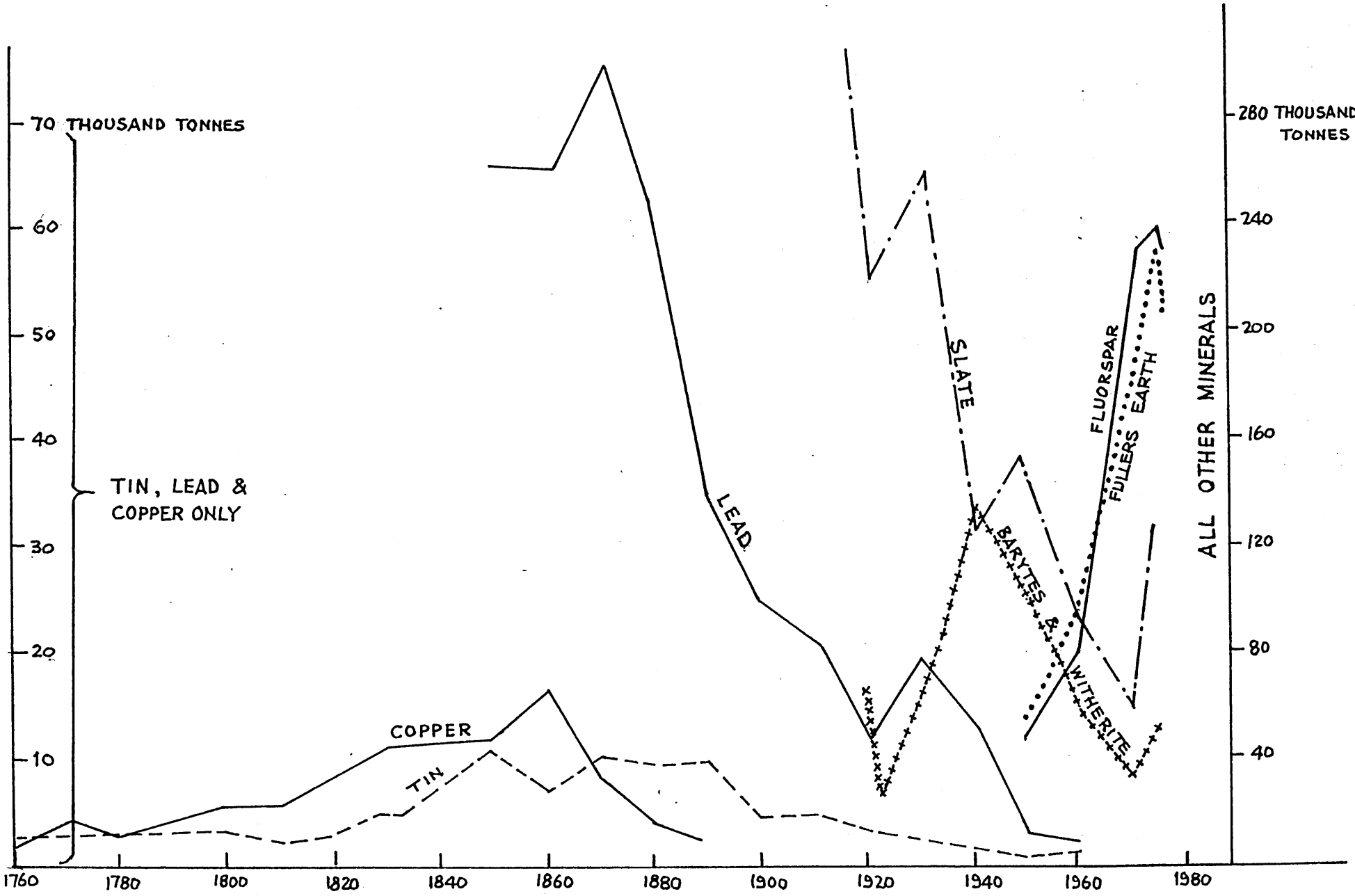
Principal Minerals, Their Uses and Methods of Working

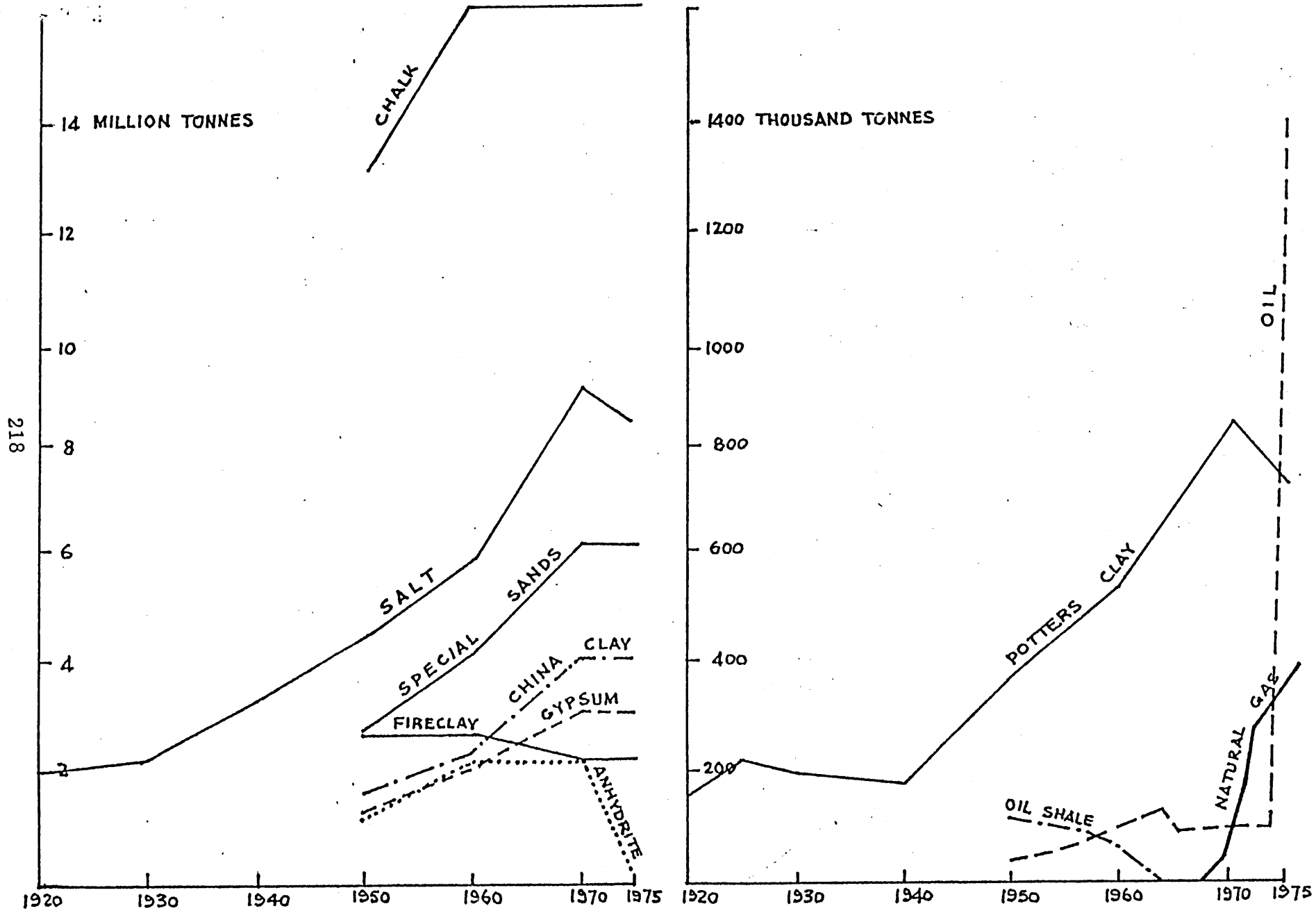
SYSTEM OF WORKING	FUELS	BUILDING CONSTRUCTION	ROAD CONSTRUCTION	MANUFACTURING	CHEMICALS	INDUSTRIAL PROCESSES	AGRICULTURE
Mining & Quarrying — Open Pit	Coal	Slate Sandstone Sand & Gravel Fireclay Gannister Gypsum Limestone Chalk Clays	Sand & Gravel Limestone	Limestone Iron Ore Fluorspar Fullers Earth China Clay	Fluorspar Fullers Earth	Fullers Earth	
		Igneous Rock					
Mining & Quarrying — Deep Mined	Coal	Fireclay Gannister Lead Copper Zinc Anhydrite Ball Clay Calcite Slate	Salt	Fluorspar Lead Copper Zinc Tin Iron Ore Potash Barytes Ball Clay Witherite	Anhydrite Coal Oil Shale Lead Copper Zinc Salt Potash Barytes Ball Clay	Lead Barytes Tungsten	Salt Potash
	Oil Shale						
Pumping & Others	Oil Natural Gas				Oil Salt		Salt

APPENDIX 2(a)

Annual Outputs of Principal Minerals




70 THOUSAND TONNES
60
50
40
30
20
10
TIN, LEAD & COPPER ONLY
280 THOUSAND TONNES
240
200
160
120
80
40
ALL OTHER MINERALS
LEAD
COPPER
TIN
SLATE
BARYTES &
WITHERITE
FLUORSPAR
FULLERS EARTH
1760
1780
1800
1820
1840
1860
1880
1900
1920
1940
1960
1980


14 MILLION TONNES
12
10
8
6
4
2
CHALK
SALT
SPECIAL SANDS
CHINA CLAY
GYPSUM
FIRECLAY
ANHYDRITE
1920
1930
1940
1950
1960
1970
1975
1400 THOUSAND TONNES
1200
1000
800
600
400
200
OIL
POTTERS CLAY
NATURAL GAS
OIL SHALE
1920
1930
1940
1950
1960
1970
1975

The Pleadings in the Case of Mines.

A Report of a Judgment given by the Court of Exchequer, *in* Hillary *Term, in the* tenth *Year of the Reign of Queen* Elizabeth, *by the Assent of all the Justices of* England, *in a Case depending in the said Court between the* Queen *and the Earl of* Northumberland, *upon an* Information *exhibited by the Queen's Attorney against the said Earl, touching a Mine of Copper containing Gold or Silver, claimed by the Queen, in the Lands of the said Earl. Which Case was argued in the* Exchequer Chamber *before all the Justices of* England, *and the Barons of the* Exchequer, *in* Michaelmas *Term next before the Judgment given. And the Record thereof appears among the Records of the* Exchequer, *in the Remembrancer's Office, in* Michaelmas *Term, in which the 8th Year of the Reign of the said Queen ended.* Rot. 239.

Information. Same Precedent Rast. Entr. 410, pl. 3.

BE it remembered, that *Gilbert Gerard*, Esquire, Attorney-General of the Lady the Queen now, who prosecutes for the same Lady the Queen, being present here in Court the 28th Day of *November*, in this Term, in his proper Person, for the same Lady the Queen, gave the Court here to understand and be informed, that whereas the Lady the Queen now, by reason of her Prerogative royal, is intitled to have and enjoy, and ought to have and enjoy, to her own proper Use, all and singular Mines and Ores of Gold and Silver, and of other Metals whatsoever containing in themselves Gold or Silver, with all Things concerning them, which may or can be found in any Lands, Tenements, or Hereditaments within this Realm of *England*, or other the Dominions thereof, as well in the proper Lands and Soil of the same Queen, as in the Lands and Soil of any of her Subjects; and whereas also the said Lady the Queen now, the *first* Day of *March*, in the 8th Year of her Reign, was and yet is seized in her Demesne as of Fee, in Right of her Crown of *England*, of and in * certain wast or mountainous † Lands called *Newlands*, in the County of *Cumberland*, in which there are certain Veins or Mines and Ores or Metal of Copper containing in themselves Gold or Silver, which to the said Lady the Queen appertain and belong, as in many Records, Rolls, and Remembrances of this Exchequer more fully of Record appear; and whereas also the said Lady the Queen the aforesaid *first* Day of *March*, in the Year aforesaid, at her Palace at *Westminster*, in the County of *Middlesex*, commanded and assigned one *Thomas Thurland*, Clerk, and *Daniel Hoxseter*, to cause and procure certain Lands to be searched and dug for such Ore and Metal, called Ore of Copper, containing in itself Gold or Silver, within the said wast or mountainous

* Note the Generality of the Information, which does not specify the certain Quantity of the Acres, no more than in Trespass *Quare clausum fregit*, which is brought for a Trespass at the common Law. Savil 48. *Per Manwood.*

† See 2 Rol. R. 166.

tainous Lands called *Newlands*, or in any Lands or Tenements in the said County of *Cumberland*, to the Use of the said Lady the Queen, and such searching and digging to be continued there with all Diligence for a certain Time yet enduring, and also to procure such Ore or Metal there from Time to Time found and dug up to be taken and carried away from thence, and to the Use of the said Lady the Queen, to be melted, fined, or otherwise converted. By reason whereof the aforesaid *Thomas Thurland*, Clerk, and *Daniel Hoxseter*, caused the Quantity of six Hundred Thousand Pounds Weight of Ore and Metal of Copper, containing in itself Gold or Silver to be dug up in the said wast or mountainous Lands called *Newlands*, and there to be laid ready upon the Land to be carried away from thence, endeavouring and intending to continue the said Search and Digging there, as they were commanded by the aforesaid Lady the Queen, until *Thomas* Earl of *Northumberland*, the 8th Day of *October* last past, and divers other Days and Times afterwards, in and upon the Possession of the said Lady the Queen of the aforesaid wast or mountainous Lands, called *Newlands*, entered, intruded, and made Ingress, and the aforesaid *Thomas Thurland*, Clerk, and *Daniel Hoxseter*, and other Labourers in the Mines and Ores aforesaid, as well from and in the making and continuing the Search and Digging of the aforesaid Lands and Mines for the Ore and Metal aforesaid within the aforesaid wast Lands called *Newlands*, as from and in the taking and carrying away the aforesaid six Hundred Thousand Pounds Weight of Ore and Metal of Copper aforesaid there in Form aforesaid dug up and laid upon the Land, hindered and disturbed, and them yet to hinder and disturb does not desist, to the ‡ Damage of the said Lady the Queen £1000. Wherefore the aforesaid Attorney of the Lady the Queen for the same Lady the Queen prays the Advice of the Court in the Premisses.

‡ See 2 Hawk. P. C. 243, 244.

And now, *viz. &c.* comes the aforesaid Earl of *Northumberland*, by *Thomas Fanshaw*, his Attorney, and prays *Oyer* of the Information aforesaid, and it is read to him. Which being read, heard, and by him understood, he complains that he shall be vexed and disquieted by colour of the Premisses in the aforesaid Information specified, and that by no Means justly, because by protesting that the Information aforesaid, and the Matter therein contained, are insufficient in Law, to which he has no Necessity, nor is by the Law of the Land bound to answer, by protesting also that the Lady the Queen now ought not to have or enjoy, by reason of her Prerogative royal, all and singular Mines and Ores of Gold and Silver, and of other Metals whatsoever containing in themselves Gold or Silver, with all Things concerning them, in the Lands or Soil of any of her Subjects, for Plea as to the Entry and Ingress into the aforesaid wast or mountainous Lands called *Newlands*, and as to the Interruption and Disturbance, as well from and in the making and continuing the Search and Digging of five Hundred Thousand Pounds Weight of Metal of Copper called Copper Ore, Parcel of the aforesaid six Hundred Thousand Pounds Weight of Metal of Copper called Copper Ore, as from and in the

Answer.

Hill. Term, 10 *Eliz.* *Curia.*

And after these Arguments made at the Bar, all the Justices and Barons assembled several Times the same Term to confer together upon the Matter. And then they took Respite further until *Hillary* Term then next following, in which Term they assembled twice, and at last they gave their several Opinions, and the Cause thereof, at which I was not present, for there were none present but themselves and the Counsel who had argued for the Queen. And (as I was informed by several of them who were there) their Resolution was as follows.

[a] Vin. Abr. tit. Prerogative, K. a. pl. 15.

First, all the Justices and Barons agreed, [a] that by the Law all Mines of Gold and Silver within the Realm, whether they be in the Lands of the Queen, or of Subjects, belong to the Queen by Prerogative, with Liberty to dig and carry away the Ores thereof, and with other such Incidents thereto as are necessary to be used for the getting of the Ore.

[b] Vin. Abr. tit. Prerogative, K. a. pl. 16. Crompt. J. C. 111. b. 1 Finch 146. 2 Finch 152.

[b] Also *Harper*, *Southcote*, and *Weston*, Justices, agreed, that if Gold or Silver be in Ores or Mines of Copper, Tin, Lead, or other base Metal in the Soil of Subjects, as well the Gold and Silver as the base Metal entirely belongs of Right to the Subject, who is the Proprietor of the Soil, if the Gold or Silver does not exceed the Value of the base Metal; but if the Value of the Gold or Silver exceeds the Value of the Copper or other base Metal, then it was their Opinion that the Crown should have as well the base Metal as the Gold or Silver; and in such Case it shall be called a Mine Royal, and otherwise not; but if the base Metal exceeds the Value of the Gold or Silver, then it draws the Property of the whole to the Proprietor of the Land. But they three agreed, that forasmuch as the Information sets forth that the Ore and Mine of Copper contained in it Gold or Silver, and the Defendant has not denied it, but has fully confessed it, thereby it shall be taken that the Gold or Silver were of the greater Value, for the best shall be intended for the Queen; and therefore they assented with all the other Justices and Barons, that Judgment should be given against the Earl, and for the Queen. But all the other Justices and Barons of the Exchequer unanimously agreed, [c] that if the Gold or Silver in the base Metal in the Land of a Subject be of less Value than the base Metal is, as well the base Metal as the Gold or Silver in it belong by Prerogative to the Crown, with Liberty to dig for it, and to put it upon the Land of the Subject, and to carry it away from thence; and in such Case it shall be called a [d] Mine Royal, for the Records don't make any Distinction herein, but they are general, and prove that all Ores or Mines of Copper, or other base Metal, containing or bearing Gold or Silver belong to the King. And where *Weston* said, that there is a Text in the civil Law to this Effect, *viz.* that by the Negligence or Poverty of the Proprietor of the Soil *possunt fodi omnia metalla in alieno solo, invito domino, quia utile est reipublicæ, et aliter non:* to this *Saunders*, Chief Baron, said, [e] that the same Law says, *quòd optima legum interpres est consuetudo*, and here there is *consuetudo*, for the Precedents and the Accounts prove that from Time to Time it has been a Custom and Usage, that the Kings of this Realm have had the Profit of such Mines of base Metal containing or bearing Gold or Silver, without any

[c] But see Post 338, 339; the Reporter seems to doubt this, and gives strong Reasons to the contrary. See 4 Bac. Abr. 162, 163.

[d] But now by the Statute of 1 *W.* and *M. cap.* 30, no such Mine shall be called a Mine Royal.

[e] Kitch. 474.

any Distinction with regard to the Value of the Gold or Silver, be the same greater or less than the base Metal. Wherefore he and all the others (except the three abovementioned) took it that the whole Ore and Mine belonged to the Queen, although the base Metal be of the greater Value. And here it is confessed by the Defendant, that the Ore and Mine of Copper contains in it Gold or Silver, so that it agrees with the Precedents. And therefore as well the other three as all the rest unanimously agreed, that Judgment should be given for the Queen upon this Plea, although they differed in the Matter itself, and in the Reasons of the Judgment, as it is shewn before.

[f] Also they all agreed, that if the Ore or Mine in the Soil of a Subject be of Copper, Tin, Lead, or Iron, in which there is no Gold or Silver, in this Case the Proprietor of the Soil shall have the Ore or Mine, and not the Crown by Prerogative, for in such barren base Metal no Prerogative is given to the Crown.

[g] Also they all agreed, that a Mine Royal, whether of base Metal containing Gold or Silver, or of pure Gold and Silver only, may by the Grant of the King be severed from the Crown, and be granted to another, for it is not an Incident inseparable to the Crown, but may be severed from it by apt and precise Words.

* But all the Justices and Barons (except the said three Justices, and they also, if so be these Ores and Mines in question shall be called Royal) unanimously agreed, that the Ores in the first Plea specified shall not pass to the Earl by the Grant of the *Land*, nor the Mine in the second Plea specified, by the Grant of the *Mines*, although the Patent be *de gratiâ speciali, certa scientia, et mero motu*, [a] but the Words (*Land*) and (*Mines*) shall be taken to common Intent, and shall not make the Ores-royal nor the Mines-royal to pass, to convey which there ought to be in the Patent precise Words expressing them. And the Act of 4 and 5 *Philip* and *Mary* will not avail the Earl in this Case, because the Tenor, Words, or Purport of the Charter don't extend to a Mine-royal. But the Lord *Dyer*, Chief Justice of the Common Bench, said, [b] that if the Queen has a Mine-royal in the Soil of *J. S.* and she *ex gratia speciali, certa scientia et mero motu suis*, grants to a Stranger all Mines which she has in the Land of *J. S.* by this Grant the Mine-royal shall pass, for else the Words would be void and without Effect, because she cannot have a base Mine in the Soil of another; and therefore when she says *ex certa scientia*, and recites, that it is in the Soil of another, she shall not be taken to be misconusant of the Thing, for which Reason it shall pass. But it is not so here, for the King and Queen might intend to make base Mines pass, so that the Words may be satisfied in that Intent.

And the Lord *Dyer* said in this Case, that although the Vein or Ore mentioned in the first Plea was not open, but close, at the Time of the Date of the Patent, yet it might be termed a Mine, *quia de mineris aliquæ sunt occultæ, et aliquæ apertæ*, and that which is not open may be called a Mine, in his Opinion. And Baron *Frevil* held, that if there is a Vein of Copper in the Mine without Mixture of Gold, and in digging further there is a Vein of Gold with little or no other Metal in it, in this Case it shall be called a Mine of Copper and Gold, and not a Mine of Copper only,

[f] Vin. Abr. tit. Prerogative K. a. pl. 17. See Post 339 (d), where the Reporter cites Authorities to prove that there is no such Mine as this in the Realm, for there is naturally some Portion of Gold or Silver [*337] Ore in every base Metal, and therefore that this Point of the Resolution is in vain, and proceeds from the Want of knowing the Nature of base Mines.

[g] Vin. Abr. tit. Prerogative K. a. pl. 18.

[a] 1 Co. 46. b. Davis, 17. a. 57. b. Litt. R. 114. 116. Palm. 60. Noy, 175. Jenk. 277. pl. 99. 1 Show. 485. 4 Bac. Abr. 163. 204. 213.

[b] S. P. Jenk. 277. pl. 99. Vin. Abr. tit. Prerogative E. c. 3.

APPENDIX I

Mineral Royalties

(In Alphabetical Order)

	Average Rates 1913*	Average Rates 1963
Anhydrite		3p per tonne
Ball Clay		10p per tonne
Barium Carbonate Barium Sulphate	either 1s 0d per ton or 1/20th of S.P.	6p per tonne 10p per tonne
Calcite		5p per tonne
Chalk	2d per ton	3p per tonne
Coal, deep mined	either 6d per ton or £275 per acre or £30 per foot acre	No royalties paid since 1st Jan 1947 - industry nationalised
	NCB Opencast NCB Licenced	1/5th of S.P. 35p per tonne
Clay	either 4½d per ton or 1s 6d per 1000 bricks or 1/20th of S.P.	3p per tonne 9p per 1000 bricks
China Clay		15p per tonne
Copper Ore	1/25th of S.P.	1/25th of S.P.
Fireclay		18p per tonne
Fluorspar		7½p per tonne
Fullers Earth		10p per tonne
Gannister	either 1s 0d per ton or 1/20th of S.P.	25p per tonne
Gold Ore	1/15th of S.P. if other base minerals privately owned	
	1/25th of S.P. if other base minerals Crown owned	
Gypsum	9d per ton	4p per tonne
Igneous Rock	3d per ton macadam stone	5p per tonne
	6d per ton dressed stone	
	or 1/20th of S.P.	
Ironstone	either 9d per ton or 1/6th of S.P.	either 3p per tonne or 1/10th of S.P.
Lead Ore	1/24th of S.P.	
Limestone	2d per ton	3p per tonne
Oil Shale	4d per ton	4p per tonne
Potash		30p per tonne
Salt	3d per ton 1/10th of S.P.	
Sand and Gravel	2d-4d per cub yd	5p-10p per cub yd

Sandstone	3d per ton	5p per tonne
Slate	2s 6d per ton	
Tin Ore	1/20th of S.P.	1/25th of S.P.
Zinc Ore	1/24th of S.P.	1/25th of S.P.

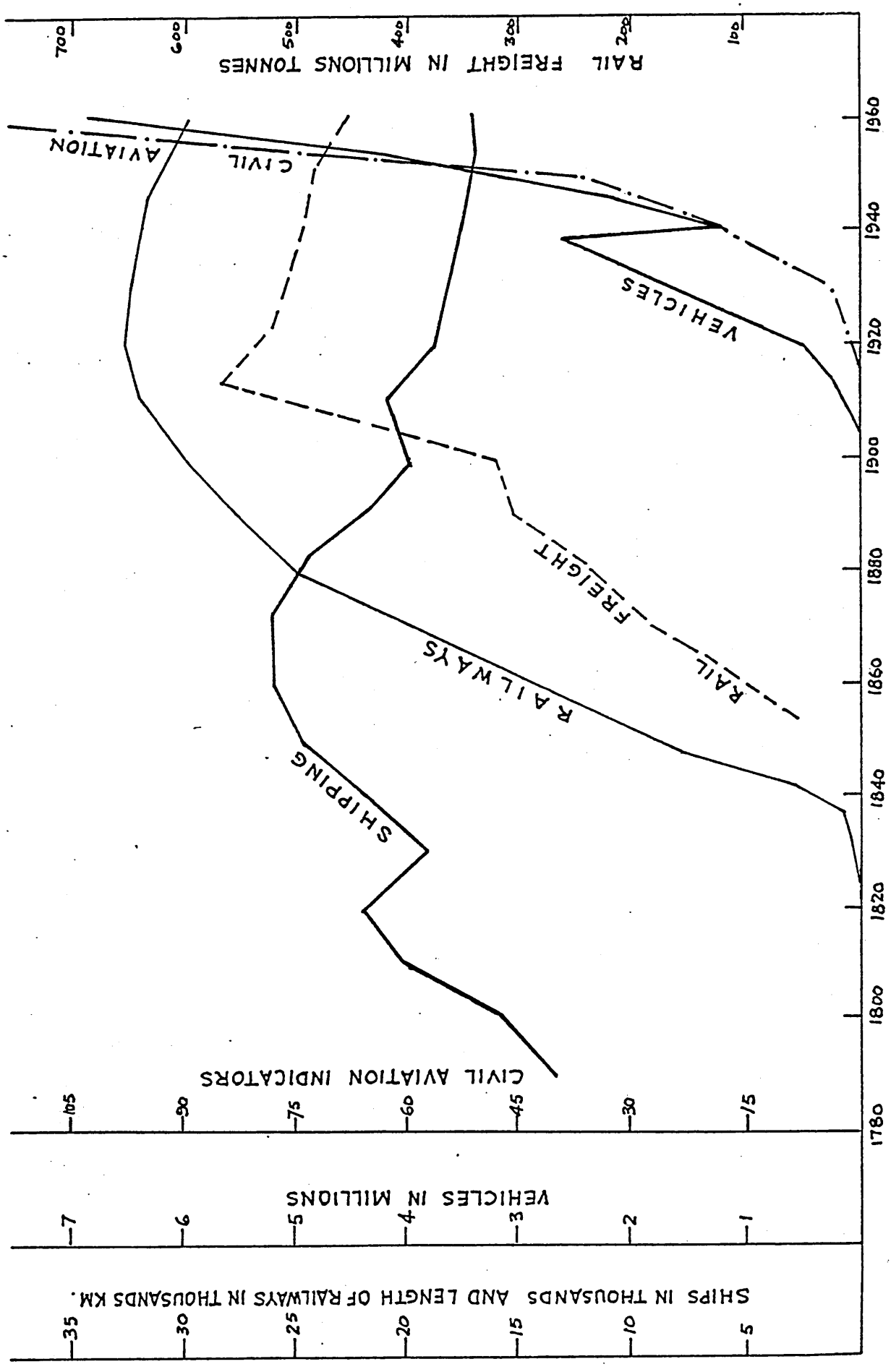
* These figures are taken from the publication "Mine Rents and Royalties" issued by the Surveyors' Institution in 1917 and based on data contained in the Report of the Royal Commission on Mining Royalties 1893 Cmd. No. 6980

'to all intents and purposes, as they could have had, held, or enjoyed before the passing of this Act; and for that purpose shall and may use all pits, shafts, levels, soughs, already open and sunk in any of the said commons and waste lands (not including the said Manor of Penbedw) and all machines, engines and buildings thereon erected or standing, together with the full and free liberty, power and authority, to and for His said Majesty, His Heirs and Successors, and the said Richard Earl Grosvenor, His Heirs and Assigns, and all other persons who shall hereafter for the time being be entitled to the mines and minerals, and quarries therein, (not including the said Manor of Penbedw), his and their lessee and lessees, and their and every of their agents, servants, miners, colliers, and other workmen, to sink, dig, delve, drive, and work all and every, or any number of pits, shafts, levels, soughs, and tunnels, which they shall think necessary for discovering, searching for, raising, or getting any mines, ores, minerals, coals, and stone whatsoever, in, upon or under the said commons and waste lands (not including the said Manor of Penbedw) and to dig and raise clays for making and burning bricks, tiles, gutters and ridges, in and upon any part or parts of the said commons and waste lands, (not including the said Manor of Penbedw), as well before as after the same shall have be inclosed for the use of any colliery or collieries, quarry or quarries, now open or hereafter to be opened therein, and for repairing any old or erecting any new buildings which may be necessary for carrying on or working any mine or mines, quarry or quarries whatsoever; and also to erect any number of steam or other engines, machine or machines, of what nature or kind so ever, which they shall think necessary for the use, convenience, or advantage of any mine or mines, quarry or quarries whatsoever, in or upon the said commons and waste lands (not including the said Manor of Penbedw) or any part thereof, and to place, stack up, and lay all lead, copper, iron, and other ores, coals and other minerals, stone, and matters which shall be gotten and raised, and all rubbish, earth, and soil, upon the said commons and waste lands, or any part thereof (not including the said Manor of Penbedw); and to make, burn and also to have, make, and use all convenient ways, roads, and railways, in, upon, or over the said commons and waste lands, or any part thereof (not including the said Manor of Penbedw) when inclosed, for the use of any colliery or collieries, mine or mines, quarry or quarries, open, sunk, or made, or which may be open, sunk, or made in any part or parts thereof, and for working or carrying on the same, with carts, waggons, and other carriages to fetch, take, and carry away the lead, copper, and iron ores and coal, and all other mines and minerals, and stones whatsoever, there to be found, got, and raised as aforesaid; and to do all other reasonable and necessary acts and things, in and upon the same commons and waste lands, and grounds (not including the said Manor of Penbedw), when inclosed, for discovering, getting, working, converting, removing, carrying away, felling, and disposing of all mines, coals and other minerals, stones, and quarries of stones whatsoever, without any molestation or interruption whatsoever; and all and every such damage, trespass, and injury, as shall and may arise or happen to any allotment or allotments which shall be set out under this Act to the owners and occupiers thereof, shall be afterwards reimbursed to and raised amongst such owner and owners and occupiers respectively, other than and except His said Majesty, His Heirs and Successors, and the said Richard

Earl of Grosvenor, his heirs and assigns, and except the allotments in common for the parish use, and the allotments for the benefit of poor labourers, in manner hereinafter mentioned and directed; (that is to say), that when and as often as such damage, trespass, or injury, in any allotment or allotments to be set out by virtue of this Act, for, or in searching or working the aforesaid mines and minerals, and quarries, or on account of any works, buildings, or concerns relating thereto, shall be done, the person or persons who shall sustain such damage, trespass or injury as aforesaid, shall give information thereof to any two or more justices of the peace for the said county of Flint, (ten days previous notice of such information, signed by the person giving the same, being fixed on one of the doors of the said parish churches of Ysceifiog and Nannerch respectively), and such justices shall and are hereby empowered to examine and enquire into such complaint, in a summary way, by examination of witnesses upon oath (which oath such justices are hereby empowered to administer) or by such other evidence or proof, ways and means, as they shall think proper; and all and every sum and sums of money paid in satisfaction of such damages, and the reasonable charges of giving and prosecuting such (to be settled by the said justices) shall be borne and paid by the owners or occupiers of all the allotments of the lands and grounds hereby intended to be divided, allotted, and inclosed, by an equal rate to be assessed and charged upon them in respect of their several allotments, by such justices, in such shares and proportions as shall be just, according to the respective yearly rents or values, which shall be ascertained and determined by the assessments to the poor rates for the time being of the said allotments; and in case any person, who shall be charged to such equal rate as aforesaid, shall refuse or neglect to pay the same within a time to be limited by the said justices, to the person informing as aforesaid, then the said justices shall and are hereby required, by warrant under their hands and seals, to cause the same to be levied by distress and sale of the goods and chattels of the person refusing or neglecting to pay as aforesaid, rendering the overplus (if any) after deducting the reasonable charges of such warrant, distress, and sale, to the owner of such goods and chattels, upon demand; and in any occupier of any of the said allotments shall pay any part or share of such equal rate as aforesaid, every such occupier shall be at liberty to deduct the same out of his or her next rent, and his or her landlord shall and is hereby required to allow such deduction.'

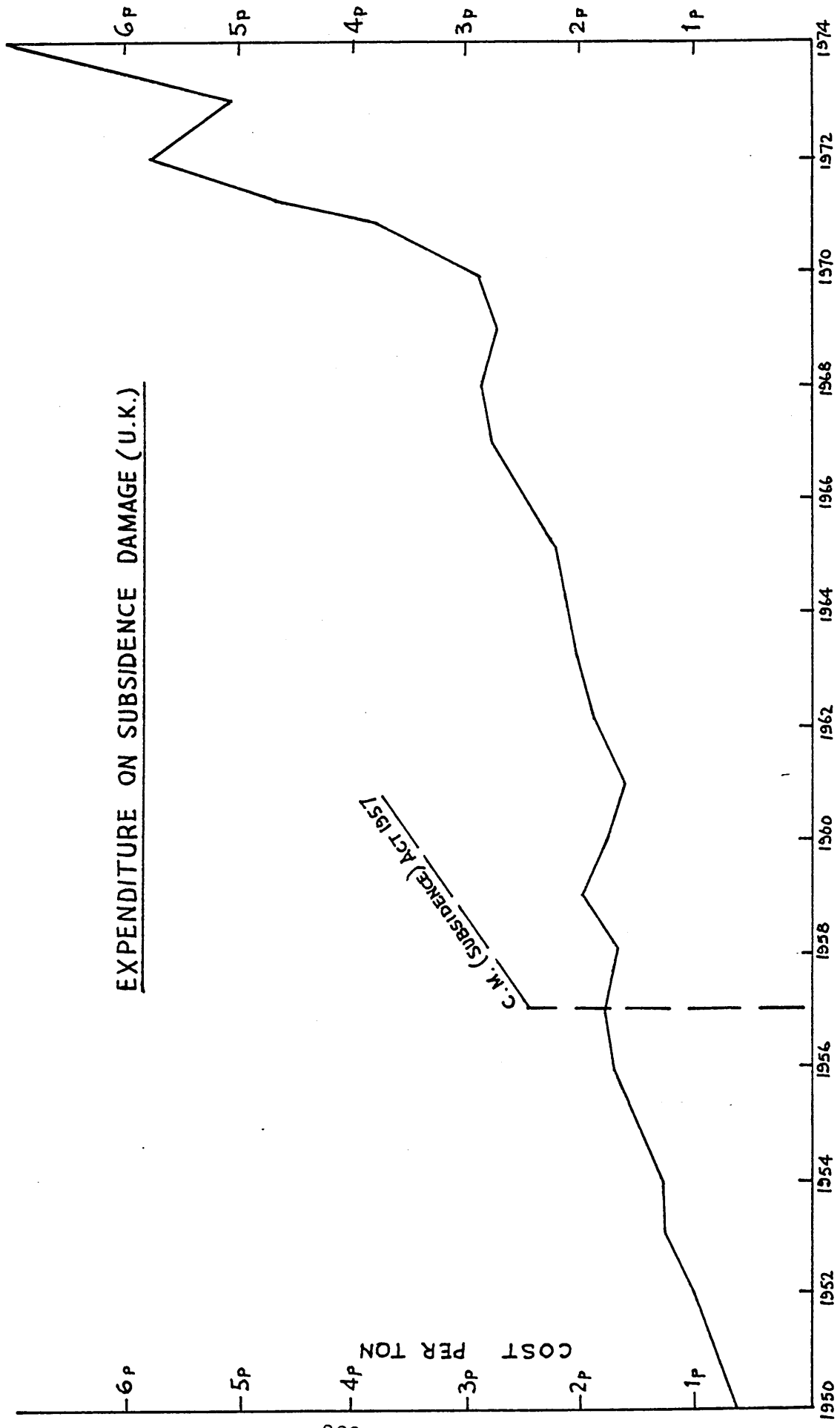
APPENDIX 6

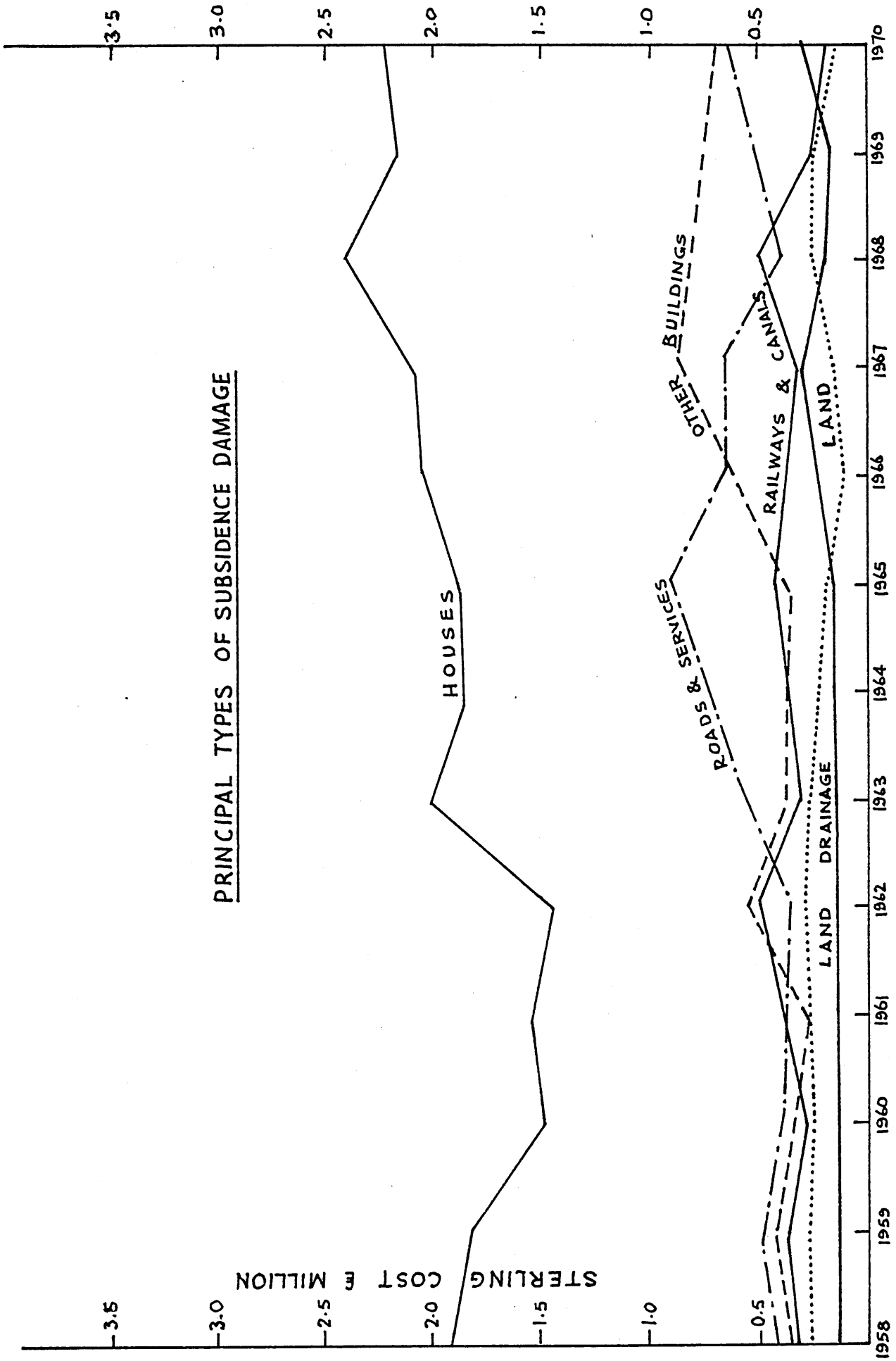
Methods of Transport



APPENDIX 7(a)

Subsidence Costs




PRINCIPAL TYPES OF SUBSIDENCE DAMAGE
STERLING COST £ MILLION
3.5
3.0
2.5
2.0
1.5
1.0
0.5
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
HOUSES
ROADS & SERVICES
OTHER BUILDINGS
RAILWAYS & CANALS
LAND DRAINAGE
LAND

MONARCH	GOVERNMENT	OWNERSHIP/ SUPPORT	SAFETY/WELFARE	FINANCE	PLANNING/ DEVELOPMENT	OTHER DEVELOPMENTS
George III 1760 – 1820	PARLIAMENT FORMED BY SOVEREIGN, LORDS AND COMMONS Seats bought and sold by gentry 1774 Wilkes MP 1781 Pitt PM 1806 Death of Pitt	Canal Acts Miscellaneous 1795 Settlement Act 1801 Inclosure (Consolidation) Act 1815 Crown Pre Emption of Lead Ore Act	1815 Davis Safety Lamp 1819 Factory Act	1797 Bank of England issues first paper notes 1797 Land Tax Act 1799 Income Tax introduced 1802 Land Tax Redemption Act 1815 Income Tax abolished 1816 Corn Laws 1819 Paper Tax	1760 Carron Iron Works 1770 Watts Steam Engine 1801 First Census 1760 – 1830 Rapid growth of canals (Bridgewater Canal) 1758 1807 Geological Society formed	1776 Adam Smith's Wealth of the Nations 1789 French Revolution 1800 Combination Act 1810 Durham Miners Strike 1811 Founding of Luddites 1815 Defeat of Napolean 1817 Gagging Act 1819 Peterloo Massacre
George IV 1820 – 1830		1829 Crown Lands Act			1825 First steam railway Stockton–Darlington	1824 Combination Act repealed 1825 Northumberland/ Durham Miners Union formed 1829 Catholic Emancipation Act
William IV 1830 – 1837	1830 Whig Government	1836 Tithe Act 1836 Stannaries Court Act	1833 Factory Act (4 HMI's appointed)	1834 Poor Law Act	1830 Liverpool–Manchester Railway 1835 Geological Society of Great Britain founded incorporating the Museum of Practical Geology	1830 Nat Assoc Protection of Labour 1831 Nat Union of Working Classes 1832 First Reform Act & Police Force established 1833 Consolidated Trades Union 1833 Chartist Movement (William Lovett) 1834/35 Tolpuddle Martyrs 1835 Rise of Non-Conformist Churches

MONARCH	GOVERNMENT	OWNERSHIP/ SUPPORT	SAFETY/WELFARE	FINANCE	PLANNING/ DEVELOPMENT	OTHER DEVELOPMENTS
Victoria 1837 – 1901	1842 Peel reduces Corn Duty 1845 Peel lowers tariff 1846 Peel repeals Corn Law 1850 Palmerston PM 1860 Gladstone PM (Liberals) 1865 Death of Palmerston 1867 Tory Govern-ment Disraeli PM 1868 Whig Govern-ment Gladstone PM 1874 First 2 TU MPs in opp to Tory Govt 1886 10 TU MPs as Liberals in Tory Parliament 1892 3 Labour MPs in Liberal Govt 1895 Tory Govt joined by J Chamberlain 1900 Tory Govt Lord Balfour PM	1838 Dean Forest (Mines) Act 1839 Tithe Commut. Act 1841 Copyhold Act 1843 Copyhold Act 1844 Copyhold Act 1845 Rail. Cl. Consol. Act 1845 Land Cl. Consol. Act 1845 Inclosure Act 1847 Waterworks Cl. Act 1851 High Peak Min. Act 1851 Copyhold Act 1858 Copyhold Act 1858 Cornwall Sub-marine Mines Act 1858 Durham County Palat. Act 1860 Eccl. Leases Act 1861 Dean Forest (Amend) Act 1862 Land Regist. Act 1862 Crown Private Estates Act 1863 Duchy Cornwall Manag. Act	1844 Factory Act 1847 Ten Hours Act 1850 Factory Act 1850 Coal Mines Inspection Act 1855 Coal Mines Act 1858 Public Health Act 1860 Coal Mining (Checkweigh) Act 1860 Coal Mines Reg Act 1867 Factory & Workshop Act 1872 Coal Mines Reg Act 1872 Metalliferous Mines Regs Act 1875 Employers & Workmens Act 1875 Factory Act 1876 10 Hours Act 1880 Employers Liability Act 1887 Coal Mines Act 1897 Workmens Compens. Act	1838 Coinage Abolit. Act 1842 Income Tax Act reintroduced 1844 Bank Charter Act (Limited Liability) 1846 Corn Laws (Repeal) Act 1855 Company Act 1862 Company Act (Limited Liability for all) 1866 Income Tax Act 1885 Redistribution Act 1894 Finance Act	1844 Cheap Trains Act 1845 Land Drainage Act 1848 Board of Health Act 1854 Railway Act (Cordwell) 1861 Land Drainage Act 1864 Public Schools Act 1867 Housing Act 1868 Artizans & Labourers Dwellings Act 1869 Endowed Schools Act 1870 Gas & Water Facil. Act 1870 Education Act 1872 Public Health Act 1873 Gas & Water Facil. Act 1874 Endowed Schools Act 1874 Rating Act 1875 Artizans & Labourers Dwellings Improvement Act 1875 Housing Act	1841 Mines Assoc of GB French sovereign overthrown 1842 First HMI Mines 1848 Californian Gold Rush 1851 Great Exhibition 1851 Australian Gold Rush 1856 Bessemer Converter 1857 End of Chartist Movement 1857 Slump in USA 1858 McDonalds Nat. Assoc. of Miners 1862 Collapse in City of Ouereno & Gurney £5 million 1863 Leeds Miners Conf. 1864 Karl Marx + 1st TU Conf. 1866 Siemens Open Hearth 1867 Second Reform Act 1868 TUC formed 1869 Suez Canal opened 1871 TU Act 1871 Criminal Law Amend Act 1872 Trade Boom 1873 Judicative Act 1874 Endowed Schools Act

MONARCH	GOVERNMENT	OWNERSHIP/ SUPPORT	SAFETY/WELFARE	FINANCE	PLANNING/ DEVELOPMENT	OTHER DEVELOPMENTS
Victoria (cont.)		1866 Crown Lands Act 1871 Dean Forest (Mines) Act 1873 Crown Lands Act 1875 Public Health Act (Supp. Sewers) Amend. Act 1876 Commons Act 1881 Conveyancing Act 1884 Yorkshire Reg. Act 1887 Copyhold Act 1888 Rail & Canal Traffic Act 1891 Brine Pumping Act 1894 Copyhold Act 1896 Stannaries Court (Abolit.) Act 1897 Land Transt. Act			1875 Public Health Act 1875 Sale of Foods & Drugs Act 1876 Education Act 1888 Local Govt. Act 1881 Electric Lighting Act 1890 Housing Act (Workmans) 1894 London Building Act	1876 Elementary Education Compulsory Act 1876 Conspiracy & Protection of Property Act 1879 Use of Phosphoric Ores 1884 Fabian Society 1884 Third Reform Act 1889 ILP support TUs through Ramsey McDonald & Keir Hardie 1893 National Miners Strike 1898 Keir Hardie – 1st Labour MP 1900 Taff Rly Co

MONARCH	GOVERNMENT	OWNERSHIP/ SUPPORT	SAFETY/WELFARE	FINANCE	PLANNING/ DEVELOPMENT	OTHER DEVELOPMENTS
Edward VII 1901 – 1910	1906 Lib Govt Campbell Bannerman PM (later Asquith) 43 Labour MPs in House		1901 Factory Act 1906 Workmens Compens. Act 1908 Coal Mines (8 Hrs) Act 1909 Coal Mines Act 1909 Trade Boards Act	1910 Finance Act	1909 Housing & Town Act 1909 Planning Act	1902 Education Act 1902 End of Boar War 1903 Workers Educ Assoc 1905 Unemployed Workmens Act 1906 TU Disputes Act 1909 Labour Exchange Act
George V 1910 – 1936	1910 Two General Elections (Lib Govt with minority) 1915 Coalition (Asquith PM Lloyd George 1916) 1918 Labour lost General Election but returned 60 MPs with 29 Liberals Coalition Govt with Lloyd George PM 1921 Black Friday 1922 Tory win election Bonar Law PM 1923 Baldwin PM 1924 Labour win election but not for long 1924 Tories back with Baldwin PM	1918 Petroleum Production Act 1922 Property Act 1923 Forests (Transf. Woods) Act 1923 Mines (Working Facilities & Support) Act 1925 Land Regist. Act 1925 Mines (Working Facilities & Support) Act 1925 Property Act 1925 Admin. of Estates Act 1925 Settled Land Act 1925 Land Charges Act 1927 Landlord & Tenant Act 1929 Local Government Act 1934 Petroleum Production Act	1911 CM Act 1912 Coal Mines (Min. Wages) Act 1920 Mining Industry Act 1926 Mining Industry Act 1930 Coal Mines Act	1911 National Insurance Act 1931 Means Test 1924 Unemployment Protection Act 1925 Rating & Val. Act 1928 Rating & Val. Apport. Act	1911 Shops Act 1919 Hsg & T P Act 1924 Housing Act 1925 Electricity Supply Act 1929 Local Government Act 1930 Housing Act 1930 Land Drainage Act 1930 Development Act 1930 Land Utilisation Act 1930 Transport Act 1932 T & C P Act 1933 Local Government Act 1934 Special Areas Act 1935 Ribbon Development Act 1936 P H Act	1911 Parliament Act 1912 Miners Strike 1913 Amendment Act 1914 End of Gold Standard 1914 – 18 World War I 1915 Strikes in Scotland and Wales 1917 Iron & Steel Trades Federation 1915 Defence of Realm Act 1918 Education Acts 1918 Representation of People Act (women 30+ to vote) 1919 Great Industrial movement 1919 Sankey Commission 1919 Levant Mine Disaster 1919 Rail Strike 1920 Coal Dispute 1920 Major TUs formed

MONARCH	GOVERNMENT	OWNERSHIP/ SUPPORT	SAFETY/WELFARE	FINANCE	PLANNING/ DEVELOPMENT	OTHER DEVELOPMENTS
George V (cont.)	1929 Labour back with Lib/Lab pact 1931 Labour defeated. McDonald defects to Tory Nat Party Govt Lambury Labour Leader 1935 Baldwin PM after McD in returned Tory Govt Labour 54 seats 1936 C Attlee Labour Leader	1934 Mines (W F & S) Act 1936 Land Regist. Act				1920 Great capitalist boom 1920 Emergency Powers Act 1921 Coal Mines dispute 1925 Return to Gold Standard 1926 1.5.26 General Strike (all 2 wks) Miners 26 weeks 1926 BBC established 1926 Samuels Report (Coal Mines) 1927 Trades Disputes and TU Act 1929 Wall Street Crash 1930 American economy collapsed 1931 Gold Standard suspended 1929/31 2.9 million unemployed
George VI 1936 - 1952	1937 N Chamberlain Tory PM 1940 Coalition with W Churchill PM 1945 Labour Govt C Attlee PM 1951 Conserv. Govt W Churchill PM	1937 Coal (Regist. of Ownership) Act 1938 Coal Act 1943 Coal Act 1945 Water Act 1946 CI Nat Act 1946 Atomic Energy Act 1946 Acquis. Land (Auth. Proced.) Act 1949 Coal Industry Act	1946 National Health Act 1952 Miners Welfare Act	1939 Limitations Act 1945 Income Tax Act 1949 Finance Act 1949 War Damage (Public Utils. UTS) Act 1951 Mineral Workings Act	1938 CEGB formed 1943 T & C P Act 1947 Transport Act 1947 Electricity Act 1947 T & P Act 1948 River Boards Act 1948 Gas Act 1948 Agric. Holds. Act 1949 Iron & Steel Act	1936 Invasion of Abysinnia by Italy 1936 Spanish Civil War 1937 - 39 Popular Front (S Cripps) 1939 World War II commenced 1940 Barlow Report 1942 Beveridge Report 1942 Uthwatt Report 1943 Bevin Boys 1945 End of World War II

MONARCH	GOVERNMENT	OWNERSHIP/ SUPPORT	SAFETY/WELFARE	FINANCE	PLANNING/ DEVELOPMENT	OTHER DEVELOPMENTS
George VI (cont.)		1949 Rail & Canal (Abolit.) Act 1950 Coal Min. (Subsid.) Act			1949 Lands Trib. Act 1950 Arbitrat. Act 1951 Rivers (Prevent. of Pollut.) Act	1950 Korean War starts 1952 Korean War ends 1952 Knockshinnoch Disaster
Elizabeth II 1952 –	1964 Labour Govt H Gaitskell PM 1971 Conserv. Govt E Heath PM 1974 Labour Govt H Wilson PM	1957 Coal Min. (Subsid.) Act 1958 Opencast Coal Act 1964 Continental Shelf Act 1964 Commons (Regist) Act 1966 Mines (W F & S) Act 1966 Land Regist. Act 1966 NCB (Addit. Powers) Act 1971 Land Regist. & Land Ch. Act 1971 Mineral Workings (Offshore Install.) Act 1974 Mines (W F & S) Act 1975 Coal Indust. Act 1977 Coal Indust. Act	1954 Mine & Quarries Act 1969 M & Q (Tips) Act	1961 Rating & Val. Act 1963 Finance Act 1965 Finance Act 1967 General Rate Act 1967 Finance Act 1968 Cap. Allow. Act 1970 Income & Corpn Taxes Act 1970 Finance Act 1971 Finance Act 1972 Mineral Exploit. & Invest. Grants Act 1973 Land Compensation Act 1974 Finance Act 1975 Finance Act 1976 Develop. Land Tax Act	1953 Iron & Steel Act 1953 T & C P Act 1954 T & C P Act 1958 Local Government Act 1959 T & C P Act 1961 Land Drainage Act 1961 Rivers (Prevent. of Pollut.) Act 1963 Water Res. Act 1967 Land Comm. Act 1968 T & C P Act 1971 T & C P Act 1973 Water Act 1974 Control of Pollut. Act 1975 Community Land Act	1954 Atomic Energy Auth. formed 1956 Suez crisis 1960 Formation of EEC 1966 Aberfan Tip Disaster 1971 Currency decimalised 1973 Lofthouse Inrush 1973 UK joined EEC

APPENDIX 5

Taxation of Mineral Royalties

To illustrate the various effects of taxation and mineral production levels the following assumptions have been made.

i Mineral owner A already pays Income Tax at the 50% rate (other earned income £12,000)

ii) Mineral owner B already pays Income Tax at the 33% rate (other earned income £7,000)

iii) Mineral owner A grants a lease for 10 years with a royalty income of £12,000 per annum

iv) Mineral owner B grants a lease for 20 years with a royalty income of £6,000 per annum

1 Annual Assessments

A Tax Assessment on Royalties of Mineral Owner A

Since the Finance Act 1970 half of royalty incomes are charged to Income Tax and the remainder to Capital Gains Tax (30%). The gross earned income would be increased to £18,000 placing owner A in the 70% tax range and his royalty income would be taxed as follows:

Income tax	= £6,000 x .70	= £4,200
Capital gains tax	= £6,000 x .30	= £1,800
	Total Tax	£6,000

B Tax Assessment on Royalties of Mineral Owner B

The gross earned income would be increased to £10,000 which remains in the 33% tax range and the royalty income would be taxed thus:

Income tax	= £3,000 x .33	= £1,000
Capital gains tax	= £3,000 x .30	= £ 900
	Total Tax	£1,900

Note

The tax liability of mineral owner A on the royalties if calculated on the pre-1970 basis would have been £9,000 (an increase of 50%). Similarly mineral owner B would have been charged with £3,300 (an increase of 74%).

From these examples it can be seen that the Finance Act 1970 has considerably reduced the tax burden of all income groups, the greatest benefit in real terms being in the higher income groups.

2 Capitalisation of Royalty Incomes

Assuming a risk rate of 20% and an accumulative rate of 4%, the present values of the respective owners would be:

A Mineral Owner A (Income Tax 50%)

Present value = £12,000 x 2.254 Y.P. = £27,048

Note

If mineral owner A was paying income tax at 33% the present value would be £29,904 (an increase of 10%)

B Mineral Owner B (Income Tax 33%)

Present value = £6,000 x 3.434 Y.P. = £20,605

Note

If mineral owner B was paying income tax at 50% the present value would be £19,536 (a reduction of 5%)

General Note

The principal factor affecting present values is not the taxation levels but the rate of extraction, i.e. life of the mine or quarry, which determines the taxation band of a mineral owner.

The tax liability of mineral owner A would have been reduced to £2,700 if the life of the mineral interest had been 20 years (a saving of 55%).

Conversely if mineral owner B had granted a lease exhausted after 10 years the tax liability would have been £5,100 (an increase in tax of 168%).

APPENDIX 10

Tidal Rivers, Doncaster Region

		Tidal Miles	Non-Tidal Miles	Total Miles
Aire	From its confluence with the River Ouse at Airmyn to near Kings Mills at Knottingley. Subject to the statutory rights of the Aire and Calder Navigation Trustees.	16	$8\frac{1}{4}$	$24\frac{1}{2}$
Ouse	From the confluence of the River Aire at Airmyn to Trent Falls. Subject to the statutory rights of the City of York Corporation and the Aire and Calder Navigation Trustees.	14	-	14
Trent	From Trent Falls to the River Idle confluence at West Stockwith. Subject to the statutory rights of the Aire and Calder Navigation Trustees and the Conservancy Authorities.	22	-	22
Idle	From the confluence with the River Trent at West Stockwith to the confluence with the River Ryton shortly south of Bawtry. Subject to the statutory rights (if any) of the River Idle Navigation. The jurisdiction of the Court on this River at Misterton Soss shall also extend to the sluice or lock now partly under the jurisdiction of the Hatfield Chase Corporation and to the tidal outfall sluices now under the jurisdiction of the Everton Drainage Commissioners.	1	$10\frac{3}{4}$	$11\frac{3}{4}$

Dutch River	From its confluence with the River Ouse at Goole to its confluence with the River Don at New Bridge. Subject to the statutory rights of the Navigation Authorities.	$5\frac{1}{4}$	-	$5\frac{1}{4}$
Don	From its confluence with the Dutch River at New Bridge to about 1 mile above the Doncaster Bridge, subject to the statutory rights of the Navigation Authorities.	13	$4\frac{1}{2}$	$17\frac{1}{2}$
	Total Lengths	$71\frac{1}{4}$	$23\frac{1}{2}$	$94\frac{3}{4}$

APPENDIX II

General Statement of Costs of Remedial Arterial Drainage - at Bentley Colliery

ITEMS OF COST	Annual Totals			Per ton per annum of Coal worked			Per Acre per Annum of Area drained		
	Averages of			Averages of			Averages of		
	1915 to 1924 incls	1925	1926	1915 to 1924 incls	1925	1926	1915 to 1924 incls	1925	1926
	£	£	£	d.	d.	d.	s/d	s/d	s/d
a Wages	1862	1260	1120	.344	.302	.269	9/4	6/4	5/8
b Materials (1) Pumping Plant	537	-	-	.099	-	-	2/8	-	-
(2) Stores etc	102	336	76	.019	.018	.018	-/6	1/8	-/4
c Electric Power and Fuel	145	200	200	.027	.048	.046	-/9	1/-	1/-
d Management Expenses Etc	80	125	125	.015	.030	.030	-/5	-/8	-/8
TOTALS	2726	1921	1521	.504	.461	.365	13/8	9/8	7/8
e Tons of Coal worked	Total of 13 mill	1 mill	1 mill	-	-	-	-	-	-
f Acres of Land drained	2,000	4,000	4,000	-	-	-	-	-	-

Average Costs per acre drained per annum

ITEMS OF COST	Maintenance		New Works				Total Costs Average	
			Dyking and Banking		Installing Pumps			
	1915 to 1924	1925 & 1926	1915 to 1924	1925 & 1926	1915 to 1924	1925 & 1926	1915 to 1924	1925 & 1926
	s/d	s/d	s/d	s/d	s/d	s/d	s/d	s/d
a Wages	3/1	2/11	4/7½	3/1	1/7½	–	9/4	6/–
b Materials (1) Pumping Plant	–	–	–	–	2/8	–	2/8	–
(2) Stores etc	–/0½	–/0½	–/5½	–/11½	–	–	–/6	1/–
c Electric Power and Fuel	–/9	1/–	–	–	–	–	–/9	1/–
d Management Expenses etc	–/2	–/4½	–/3	–/3½	–	–	–/5	–/8
TOTALS	4/0½	4/4	5/4	4/4	4/3½	–	13/8	8/8