# A Guide for the Owners of Farming Properties in relation

# **Exploring and Mining**

# On Private (Agricultural) Land in the Central Great Southern

September 1999

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# INTRODUCTION

It is widely recognised that the agricultural and minerals industries are the mainstays of the State's economy. As both sectors operate in a competitive environment, cooperation on key issues has become increasingly important and of mutual benefit

These booklets, which should be of considerable use to farmers and minerals explorers in the region, are one element of a partnership approach by the two industries. We urge farmers to keep them handy for quick reference.

We also recommend the efforts of the Working Party, which contains regional and industry representatives, for compiling these reference documents on the law and practice of mineral exploration and mining. Particular recognition is extended to the Shire Councillors of the five local authorities involved in the project. All embraced the concept of a comprehensive information document early, and have worked consistently through many submissions and drafts to develop these two booklets. The Code will be most effective when used in a spirit of goodwill and cooperation and, where necessary, with the assistance of your relevant industry body.

Signatures of Presidents of

#### K. McMENEMY

General President
The Western Australian Farmers
Federation

#### **B COURT**

President Pastoralists and Graziers Association

#### **P JOHNSTON**

President Chamber of Minerals and Energy

#### **W RYAN**

President Association of Mining and Exploration Companies

Mineral Exploration Working Party

# **INDEX**

#### 1. Exploration and Mining Today

- 1.1 Crown ownership of minerals
- 1.2 The extent and effect of minerals development
- 1.3 Access to your freehold land by minerals explorers
- 1.4 The use of the Code of Conduct

# 2. Pre-exploration

- 2.1 Minerals exploration in an agricultural region
- 2.2 Applying for an Exploration Licence
- 2.3 The significance of the Access Agreement

# 3. Exploration Guidelines

- 3.1 Before starting work
- 3.2 An operating farm
- 3.3 The explorer's equipment
- 3.4 The explorer at work
- 3.5 Completing the job

# 4. Mining Guidelines

- 4.1 Getting a Mining Lease
- 4.2 A new Access Agreement
- 4.3 The Mine Plan
- 4.4 The operating mine
- 4.5 Completing the project

#### 5. Information Sources

- 5.1 The Code of Conduct
- 5.2 The Western Australian Farmers Federation (WAFF)
- 5.3 The Pastoralists and Graziers Association (PGA)
- 5.4 The Chamber of Minerals and Energy (CME)
- 5.5 The Association of Mining and Exploration Companies (AMEC)
- 5.6 The Department of Minerals and Energy (DME)
- 5.7 The Great Southern Development Commission
- 5.8 The Working Party

#### 1. EXPLORATION AND MINING TODAY

# 1.1 Crown ownership of minerals

All minerals, except in a few well defined cases such as pre-Federation titles, are the property of the Crown, and are thus vested in the State government for the benefit of all Western Australians. The rights to explore for and or mine minerals are given under the provisions of the Mining Act.

Exceptions to this rule relate to pre 1899 Land Grants, and there are such grants within the central Great Southern. They are usually adjacent to regional rail routes. Also, hard rock clays, sands and gravels are not classed as minerals when they occur on private property. When required, extraction is administered by the local government authority.

### 1.2 The extent and effect of minerals development

The search for, and commercial exploitation of, mineral resources began in Western Australia during the last century. A little over 100 years ago the capital intensive mining that we are familiar with today was established in the Eastern Goldfields.

The mining sector has steadily grown, particularly since the 1960's, and is now the State economy's main generator of investment, employment and export receipts. Western Australia's rich endowment comprises an extensive range of minerals. Technological improvements in exploration and extraction operating within a secure regulatory framework will carry industry growth well into the next century.

While a modern mining development is usually quite complex, all projects are essentially made up of three stages. These are, **Exploration, Construction** and the **Mining Operation**.

1

**Exploration**, in most cases, involves two phases. The first is non intrusive and involves field observation, the collection of small samples, surveying and geophysical measurements. It is only if these investigations prove encouraging, that a full program of drilling, trenching and the taking of bulk samples will be considered. With an adequate amount of geological and other technical information, estimates are made as to the richness of the resource, the processing likely to be required and probable costs of production. The analysis of this technical material, together with and estimates of the future market for the mineral commodities, make up the project feasibility study and determine the decision to further invest. Access to other deposits may also influence the outcome.

**Construction** includes the mine planning, plant design and the assembling of a treatment facility. This stage ends with the start up of ore extraction and the commissioning of the plant and associated infrastructure. In the majority of developments, post mining rehabilitation which involves earthmoving and landscaping is also considered to be construction.

A modern **Mining Operation** involves the largely mechanised extraction and processing of ore. Allied management tasks include the stockpiling of overburden and ores, the handling of residual materials, ongoing investigations of the ore body and the incremental and progressive rehabilitation of worked out areas.

Having outlined the **possible** chain of events relating to a mining project, it is useful to consider the **probable!** 

For a start, the odds against an investigation resulting in a mining project is 1000 to 1. In other words, very few mineral "prospects" survive the rigours of economic assessment and go on to become mineable concentrations or deposits. For the would-be mining company, the main factor to be considered is the **uncertainty** associated with the development. This uncertainty has its origins in the largely unknown nature of the ore body, the size of the investment which has to be committed over several years, plus the

effects of operational and market risks which have to be managed over the life of the mine.

It is therefore the unknowns and the amount of money needed which, in most cases, cause the relatively slow start to a mining project. It is only as exploration programs are completed, the uncertainties reduced to likely expenditure and reliable estimates made of a future income stream, that investment begins to rise. The net effect is, that even if all factors are positive, several years will pass between initial exploration and the establishment of an operating mine.

In Western Australia there is a growing interest by explorers in accessing private freehold properties. This is occurring while the majority of exploration and mining operations are still on Crown Land (Pastoral Leases are considered Crown Land under the Mining Act) and in remote areas. The factors driving this interest in freehold properties include the increasing evidence of economic mineralisation on farmland, certainty of title and the development of non-intrusive exploration techniques. It is fairly certain that, even with the effective "veto" in place, approaches to farmers for permission to explore on freehold properties are likely to increase over the next 5 to 10 years.

#### 1.3 Access to your freehold land by minerals explorers

It is an accepted fact that farming families have a deep affinity for their land. The value of a farmer's property cannot therefore be placed "neatly" in some sort of equation or table along with other productive assets. For many farmers, to be approached by an exploration company which wishes to enter their land to undertake even a preliminary investigation, may be a novel and probably disturbing experience.

Experience demonstrates that when approached in the right way, most farmers will agree to access for the taking of surface rock and soil samples and other non-intrusive surveys. These surveys are usually part of a wider examination of the farming district including, road reserves, Shire properties and Crown lands. Requests to enter farming properties may form part of this work.

It should be stressed that a full exploration program (for which a signed agreement for access must be obtained) has major implications. When farmers are uncertain about what an exploration program means, who is involved and what it can lead to, many chose to deny access. They are entitled to lodge objections with the Department of Minerals and Energy (DME) using the relevant provision of the Mining Act.

Conversely, farmers who are informed about the mining industry, are familiar with the legislation covering it, and who know what a modern exploration program is about, will not feel threatened or be unaware of the economic advantages which could arise from the request for access.

#### 1.4 The use of the Code of Conduct

The Code is a primary reference for those farmers and mineral resource companies who understand that if mineral exploration is to be allowed on private land there needs to be benefits to both parties. Cooperation and trust are essential so that both parties are able to make informed decisions.

As a starting point, the farmer must know what will happen during an exploration program (or if and when exploration is successful, the possible extent of resulting mining activity), and its expected duration. The Code must provide this information as a first step. Afterwards, a discussion with the mineral company and, if there is a basis for such an understanding, the drafting of an access agreement should follow.

Access Agreements can be negotiated to cover the separate exploration and mining phases (disjunctive agreements) or both exploration and subsequent mining (a conjunctive agreement).

Negotiation between the farmer and the mineral resource company will determine which type of agreement best suits their particular circumstances.

The drafting of the Access Agreement, is a key stage in the arrangement between farmer and explorer. Ideally, the document will cover the avoidance of damage, or practical measures to repair or compensate and will present an opportunity for both parties to formalise other areas of mutual understanding regarding the project.

Again, the strength of the agreement is in it being the result of informed decision making. A significant part of that process is the recognition that for it to be worthwhile, the project must identify up front potential as well as tangible benefits for land owner and would be explorer.

#### 2. PRE-EXPLORATION GUIDELINES

#### 2.1 Minerals exploration in the agricultural region

For the mineral explorer, the need to enter private farm land will usually arise after other, much wider examinations are well advanced or already completed. The exploration program, usually covering hundreds of square kilometres, will initially be influenced by reviews of historical information including data collected from earlier geological and geophysical surveys. In addition, there will be information interpreted from aerial and satellite imagery and lastly, sampling and drilling along road reserves.

It is usually only after these preliminary investigations provide encouraging results, or there are major gaps in the knowledge which can only be ground proofed or validated, that the explorer will seek access to farm land.

Ideally, some preliminary contact will be made with the farmer at this stage, and an informal agreement made for exploration teams to enter and take surface soil and rock samples. The formal Mining Act process requires the issuing of a Permit to Enter, which in the majority of cases is not opposed by the farmer.

The level of investigation allowed by this Permit is mainly field observation and the gathering of up to a total of 13 kilograms of surface material. The Permit can be used for 30 days and, if the owner is notified of proposed activities and the basic rules of courtesy followed, the process is usually relatively smooth and hassle free.

This stage of passive investigation is fully supported by the main farm industry organisations.

Any advancement made by the explorer on this preliminary work depends upon the results of the much wider survey, most of which is conducted beyond the farm boundaries. If the sum of the geological data gathered from all sources is positive a decision might be made to undertake a full exploration program. This decision will require the explorer to formally apply to the Department of Minerals and Energy for an Exploration Licence.

In a competitive world, mineral exploration companies are obliged to move rapidly from reconnaissance to applying for formal rights to explore. Otherwise, they stand to lose out on their work on geologically favourable grounds.

# 2.2 Applying for an Exploration Licence

Approval of an application is a lengthy process. (Please see Figure 1 in attached Code of Conduct) Once approved, the licence will usually involve between ten and twenty farms, plus Shire reserves and Crown land. The explorer's work program, which is lodged with the Department of Minerals and Energy (DME), must therefore contain all relevant information. It will refer to the extent and type of exploration proposed, the likely duration and estimates of expenditure. Before the actual grant of the licence, and prior to the commencement of exploration activities or ground disturbance, conditions will be imposed requiring the tenement holder to obtain

approval from the DME. This will include appropriate rehabilitation measures. The quality of the work program and the explorer's "track record" when working elsewhere are considered by DME when determining whether an Exploration Licence is granted by the Minister for Mines.

It is usually at this early stage, when the explorer is designing the work program, that substantial discussions will commence with individual farmers. For practical purposes, it is probably the most appropriate time for such discussions to take place. The explorer now has some real plans for the farmer to consider, and the farmer, equipped with a copy of the Code, is able to determine his or her requirements from an informed position. Some companies organise public meetings so that farmers and other interested parties are able to be briefed about the proposed program and for exploration teams to be made aware at first hand about district or regional issues.

It must be emphasised that, without a properly drafted and signed Access Agreement from each farmer affected, the exploration licence application will not be progressed very far in the title granting process by the DME.

### 2.3 The significance of the Access Agreement

While it is important for the explorer to secure a signed agreement from the land owner as soon as possible, time and effort spent at this stage is generally productive and can have benefits to both parties later in the life of a project. That is, if the farmer is given the details of the proposed exploration program, including those "beyond the farm gate", the information may lead to a cooperative, approach to the venture.

The reality of what the exploration work will mean to the farm can best be explained through the use of grid line maps supported by a joint inspection of the area under investigation. In the event of exploration proceeding, maps and aerial photograph overlays should, upon request, be provided to the farmer.

At this point, the main factors usually considered by the land owner are the location of the farm's physical features, buildings, improvements, present and future stock and cropping programs and the land area which could eventually be rendered unproductive or less productive. It is important for the explorer to be able to clearly explain the proximity and possible effects the proposed work program would have upon these structures and activities. The main issues are covered in some detail in the attached Code, and include not only the effects in the first year but the implications of an exploration program that could continue for 2 to 5 years, or longer if any extensions are granted.

With the satisfactory completion of these discussions, the drafting of an Access Agreement should be a relatively simple process. Again, a guide is provided in the attached Code. While the final document will need to include all the points in the guide, the farmer has the option of expanding the type of issues covered. For example, both parties may wish to more tightly define the *General* provisions in regard to disturbance of stock or include specific issues which could be subject to compensation under *Other Conditions*.

With the signing of the Access Agreement, the explorer's work program can be advanced for full review by, in turn, the DME and the Warden's Court. If the program is adequate, the Exploration Licence will be granted according to the protocols of the Mining Act Regulations and the provisions of the Access Agreement.

#### 3. EXPLORATION GUIDELINES

# 3.1 Before starting work

With the granting of the Exploration Licence the investigation of the tenement area can begin. Because of the Mining Act provision which requires a staged reduction in the land held under the licence, to 25% of the original land by the end of the fourth year of the licence term, the explorer will be keen to begin exploration of the

more prospective mineralised ground. In most cases, because minerals investigation is a costly activity, there is an incentive for the explorer to complete work on private land well within the licence period.

As some notification is required, however, this can be an opportunity to finalise some practical steps with the farmer. The introduction of the field supervisor, a last minute site inspection and the provision of a location map (usually as an overlay) are the customary and recommended ways to commence operations. Any pre-planning issues which can be handled by direct discussion will reduce the risk of overlapping with, and hence disrupting, the normal farm activities and access to structures.

#### 3.2 The operating farm

Because a modern farm is subject to the seasonal changes of property management, cropping and stock programs, the commencement of exploration activity can be an intrusion. Careful planning, a clear time schedule for operations and a close working relationship will overcome most problems. For example, if certain paddocks are subject to inundation by water during wet periods it would be damaging and wasteful to undertake drilling, or any ground disturbing activity during that time.

If practical, the appointment of a field supervisor who has an affinity with and knowledge of farming and grazing practices, and is familiar with all aspects of rural practice, would benefit the project. Where the explorer has senior field personnel and contractors who also have experience in dealing directly with land owners, this benefit will be extended to other team members and contractors.

If the exploration program is to be relatively short, as it is in the majority of cases, the activities of the explorer and the farmer need not overlap. The farmer should be aware, however, that the investigation may be prolonged. Subsequent drilling and/or sampling may be necessary, in order to follow up interesting but inconclusive analytical reports and geological observations. Again,

within a close working relationship such minor changes in the program can usually be accommodated. There is also the capacity to make a specific reference to such extensions in the Access Agreement ie in the document itself or as an attachment.

# 3.3 The explorer's equipment

A full scale exploration program will, at some point, usually involve a range of vehicles, from utilities to trucks, drilling and trenching equipment, and, in some cases, temporary accommodation.

Any concerns that the farmer might have with this apparatus will generally relate to access, noise and the length of time it will be in operation. It would probably be useful for the farmer to be verbally briefed on the type and amount of equipment to be used and, if necessary, some specific reference made to it in the Access Agreement. It is probably worth noting that a perceived problem, as opposed to a real one, requires patience and tact from both parties.

#### 3.4 The explorer at work

10

The "business end" of the exploration program begins when the field supervisor and contractors enter the property to start work. As stated previously, the explorer will have a clear program of investigation, the extent of which will be defined by the Exploration Licence's area and conditions as well as the conventions of the Access Agreement.

The actual places to be explored within the Exploration Licence area will have been identified through analysing aeromagnetic data, geological survey work and the surface sampling completed under the Entry Permit. By focusing on the areas of "interest" the explorer will maximise the chance of discovering deposits of significant mineralisation and minimise the time and effort extended in the search.

Initial work will usually focus on soil sampling, which involves collecting surface material, drilling and possibly costeaning, (or trenching). If this point is reached, and the company believes further work is warranted, the last stage could involve more advanced sampling including bulk sampling. Each of these techniques enables the exploration team to map and sample subsurface features. After the collection and analysis of samples, any positive results will probably attract closer and more detailed investigation. Decisions on the elimination of areas of little promise across the Exploration Licence, which will extend beyond the farm gate, are generally taken at this stage. Within the bounds of commercial confidentiality, the farmer may be briefed on these developments.

The next phase of the program will see an intensive investigation of any areas of significant mineralisation. The physical part of this is for a system of pattern drilling to be employed. This technique is used to build up a three dimensional underground map of the mineralisation to define the amount, grade and metal content. A progressive program of chemical and laboratory analysis will complement this field work.

Exploring for minerals is akin to playing darts where the drills are the darts, the dartboard is the geologically favourable land and the bullseye ore target is hidden!

Because this fieldwork of bulk and targeted sampling is the core of the exploration program for the farmer, its impact and duration are most important.

As exploration activity is the central issue, the protocols which include vehicle movements, cropping and livestock management, drilling, trenching etc are all covered in detail within the attached Code of Conduct.

#### 3.5 Completing the work

For the mineral explorer and the farmer, it is important that immediately upon completion of exploration activity all tenement conditions associated with the Exploration Licence and issues identified in the Access Agreement are finalised.

Tenement conditions attached to the Exploration Licence are a statutory requirement, and as such are strictly enforced by the DME. They include minimum expenditure, aboriginal heritage protection, the backfilling of drill holes and trenches, protection of groundwater, remnant vegetation and farm improvements. Breach of, or other non-compliance with, conditions may lead to fines or, if sufficiently serious, to forfeiture of licence.

As stated in the preceding section, the protocols of the Code of Conduct covering the exploration program are fairly explicit. That is, the methods employed while exploring on farmland, any necessary repairs to or development of improvements and rehabilitation of disturbed ground are covered in detail. It is always good practice, where possible, for the explorer to progressively rehabilitate areas as work is completed and where no more investigations are necessary.

In regard to the issue of compensation, Section 123 of the Mining Act defines those matters for which the owner or occupier may be entitled to restitution. In broad terms, compensation should be paid in the event of any diminution in farm income, or in the value of the property, which occurs as a result of exploration, including mineral resource evaluation, or mining. These latter considerations should fall under *Other Conditions* in the Access Agreement.

#### 4. MINING GUIDELINES

# 4.1 Getting a Mining Lease

With the completion of the tenement investigation program, and the reduction of the land covered by the original licence, the explorer must decide about any future activity. The analysis of the bulk

samples, and the drilling results undertaken during the course of the exploration program, are one part of the final assessment of any areas of significant mineralisation found to occur within the ground covered by the tenement.

Any analysis of the extent and value of ore bodies discovered, will include the factors needed to turn the project into an operating mine. It is this evaluation, through the metallurgical, chemical, process engineering, infrastructure and marketing studies, which will largely determine if the project goes ahead.

Again, it is probably worth noting that, on average, for every 1000 explorations initiated only one operating mine will result! Exploration, as with farming, is a high risk enterprise.

If, after this exhaustive examination, the exploitation of the mineral resource looks to be profitable the explorer may wish to apply for a Mining Lease. A successful application will mean that the State awards the lease with the right to develop to the lessee. The people of Western Australia remain the owners of the minerals. The State will receive fees and a royalty, based on the type of mineral and the value of the commodity produced.

While under the provisions of the Mining Act, the holder of an Exploration Licence has the right to convert the tenement for mining purposes, unless a conjunctive access agreement has previously been negotiated, a new agreement must be made with the land owner. This new Access Agreement will probably be more complex than the original because it must cover the realities of a long term, mining operation. The impacts of the development can include the disruption of normal farming activities, the alienation of part of the land for an extended period plus other issues which would need to be covered by compensation provisions. These issues are defined in Section 123 of the Mining Act 1978.

In summary, the explorer or mineral developer must satisfy a range of technical and investment hurdles before a mining project can commence. A central requirement is the drafting of a new and comprehensive Access Agreement. As with the application for an Exploration Licence, any application for a Mining Lease over the tenement, will not be accepted by the DME unless and until it contains a signed Access Agreement.

Should the farmer not agree the DME can, in some cases, grant the Mining Lease but excluding the upper 30 metres of the ground. This is also true for Exploration Licences. Such administrative action occurs for about a quarter of the applications processed by the DME.

#### 4.2 A new Access Agreement

Discussions with the farmer regarding a new agreement should be initiated at the earliest possible time. This process will be easier if the exploration stage has resulted in the development of a mutually cooperative relationship. That is, where the exploration team and company is also involved in the mining phase, and the land owner was regularly briefed during the course of investigations, a fairly smooth transition can usually be expected.

Given a good working relationship, it is recommended that the farmer continue to follow the step-by-step method of considering all the information before entering into an agreement.

As with the drafting of the original Access Agreement, all relevant information on the type and scale of the mine should be made available by the would be miner. Although certain aspects of the mine plan may be commercially sensitive, detail on the extent of works, access roads, ore processing and the rehabilitation program can and should be included in the discussions.

Reference to the initial drafts of a Notice of Intent (NOI) would probably provide the best package of information for the project. The NOI is the main document that is lodged with the DME as part of the approvals process; and it covers, among other things, the method and duration of mining, the management of likely

environmental impacts and the rehabilitation programs. Access to the draft NOI is determined by the would be miner. The document, however, may not always be prepared at this stage.

The DME's review and approvals process for the NOI places most, if not all, of the onus of proof on the would be miner. In other words the company has to satisfy the DME that environmental impacts are able to be adequately managed.

There are many issues, which are particular to the proposed mine, that are not listed here because they are peculiar to the site. A good "rule of thumb" would be for the farmer to focus on the issues which will directly affect the efficient operation of the farming business and the family's social environment. Any prolonged or major disruptions of these activities should be compensated, and any reasonable estimate of the value of such losses is usually met as a lump sum or an interim payment.

It is not the purpose of this document to provide a guide to the preparation of a draft Access Agreement and compensation arrangements, the specifics of such documents can only be negotiated, albeit with legal or other advice, by the farmer and the miner. It is worth stressing again, however, that the Access Agreement is the key document in developing a project which has real benefits for both parties as well as the State.

#### 4.3 The Mine Plan

The overall plan for the development of the mineral resource is the province and responsibility of the miner and whoever is employed as a consultant team by the investor group. A large component of the plan, and the part which the DME as the statutory authority and the farmer have an interest, is the NOI.

As outlined in the preceding section, the NOI is the main document assessed by the DME when considering a recommendation to grant a Production License. The NOI contains the current and proposed

works, as well as details on the environmental safeguards and rehabilitation measures for the proposed work programs. An accurate assessment of the amount of money to be spent on the tenement and a performance bond, in the form of a bank guarantee, are usually included in this documentation.

The farmer should note that while the NOI is necessarily comprehensive, other sources of information are available for assessing the probable effects of a mining project on a property. It is always recommended that a reasonably wide consultation is undertaken by the farmer before making decisions about the content of the Access Agreement and compensation provisions. In this, the Western Australian Farmer's Federation (WAFF), the Pastoralists and Graziers Association (PGA) and, on mining specific issues, the Association of Mining and Exploration Companies (AMEC) and the Chamber of Mines and Energy (CME) can provide comprehensive advice.

#### 4.4 The operating mine

The type, location and design of the proposed mine will in most cases determine its final effects on the farm and its operations. For example, an underground mine will generally have a long development stage but a relatively benign impact during its operation, because of the small surface area occupied by the shaft and processing plant. By contrast, an open-cut mine could be large and require additional space for waste dumps. Such a development will start producing ore from an early stage and will require a strict management program for the prevention and abatement of dust, noise as well as the control of vehicle movements for the life of the project.

During the construction phase of the mine a water supply will often need to be developed, generally by pumping ground water from a specially established and licensed bore field. This proposed extraction would be included as part of the NOI so as not to adversely effect other water users. The building of water storage

and tailings dams, roads, fences and the extension of power, will usually be the other mine site infrastructure requirements.

In all of the above instances, it will be useful if the farmer is directly involved during the development phase and that this consultation continues as the mine becomes fully operational.

The actual location of the mine on the farming property, and its proximity to buildings and other working aspects of the farm, is the other prime consideration to be kept in mind. Unfortunately, ore bodies are not always neatly positioned in a remote corner of the property, neither are they always effectively screened from sight and on land which is unsuitable for crop or pasturing stock!

In all cases, however, with good forward planning, and strict adherence to the statutory requirements of the DME, and importantly by maintaining a regular level of consultation with the farmer, most issues of concern that commonly arise through "two businesses operating from the one premises" can be resolved.

The other major issue relating to an operating mine is the length of time for which that mine will be operational. If a Mining Lease is granted, the period of grant is 21 years. While the mining operation may be completed in less time, this is a statutory period provided by the Mining Act. The farmer should also be aware that the Mining lease can be extended for further blocks of 21 years if necessary.

If the mining operation becomes financially non-viable through factors which are beyond the miner's control, the miner will be able to put the project on "care and maintenance" and still retain ownership of the tenement. This change should be made known to the farmer.

A closure of operations can occur, for example, if the traded price of the mine's product falls steeply outside the "usual" fluctuations of the metal market and stays down. In all cases, the Mines Minister must be convinced that the reasons for the close down are beyond the miner's control. In such a case the miner would need to fully brief the landowner of the changed circumstances and convince the DME, with a full financial statement, of the necessity of closure. In all cases, the environmental bond and other funding would be used to make the site safe and continue the rehabilitation programs.

Most mines do not, however, close during the course of operations. The level of investment and forward planning, including a range of financial instruments, in the majority of cases ensure a completed project.

#### 4.5 Completing the project

The wind down or decommissioning of the mining operations occurs at the exhaustion of the ore body or when market conditions or other factors cause any residual mineralisation to be considered by the company to be uneconomic. In most cases, careful mine planning in which various grades and types of ores are blended for consistent processing will result in the efficient exploitation of the total resource. For example, high grade material is mixed with materials of low or medium grades to achieve a pre-determined "head grade" and a reliable rate of recovery in the processing plant. Ore bodies are mapped in terms of chemical grades and ore processing properties as part of a whole-of-mine planning system. Such planning is one of the conditions applied by the DME over the life of the mineable resource. Progressive and post-mining rehabilitation are important components of this planning.

Other decommissioning related conditions applied to the tenement by the DME, come into effect during the final phase of mining activity and a range of established procedures is implemented. Topsoil is replaced in disturbed areas, seeding and revegetation stepped up, as outlined in the mine plan and stipulated tenement requirements. As a rule of thumb, the extent of rehabilitation is determined by the scale of operations and by the type of mineral being developed. For example, while a decommissioned large open cut gold mine would be made safe, though not backfilled, a shallower mineral sands operation would be required to return the landscape to its original configuration. Ground compacted by heavy equipment would be ripped and scarified and generally made ready for a return to the farm for pasture or cropping, or mix of both.

If not required by the landowner, all roads constructed by the mine and other infrastructure would be removed in accordance with agreement. In some cases these could actually add to the productivity of the farm. The landowner would have the opportunity to "sign off" the project through a joint inspection of all relevant sites to ensure they left in a reasonable condition before the company moves its activities out of the district.

#### 5. INFORMATION SOURCES

#### **5.1** The Code of Conduct

The broad terms of reference for the Working Party were to consult widely and to produce a set of guidelines for mineral exploration, and possible mining, on private land within the five shire region. This task was completed to the satisfaction of all parties by June 1999. While the documents produced are a voluntary Code, the Working Party recognised early in the process that a comprehensive information package could have economic and regional benefits by facilitating the responsible development of the State's mineral resources.

The members of the Minerals Exploration Working Party, and the organisations that they represent, are probably the best first contacts for farmers who require further information on exploration or mining issues. These representatives have become very familiar with the range of factors that arise when minerals investigations are proposed on private land. The following list includes Working Party member's contact details and those of their sponsoring organisations. The mining and farming industry organisations are particularly well informed and are experienced in providing advice, to members as well as other interest groups.

- Fachelle Reynolds Western Australian Farmers Federation (WAFF) 08 93252933 E-mail wafarmers@bigpond.com
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