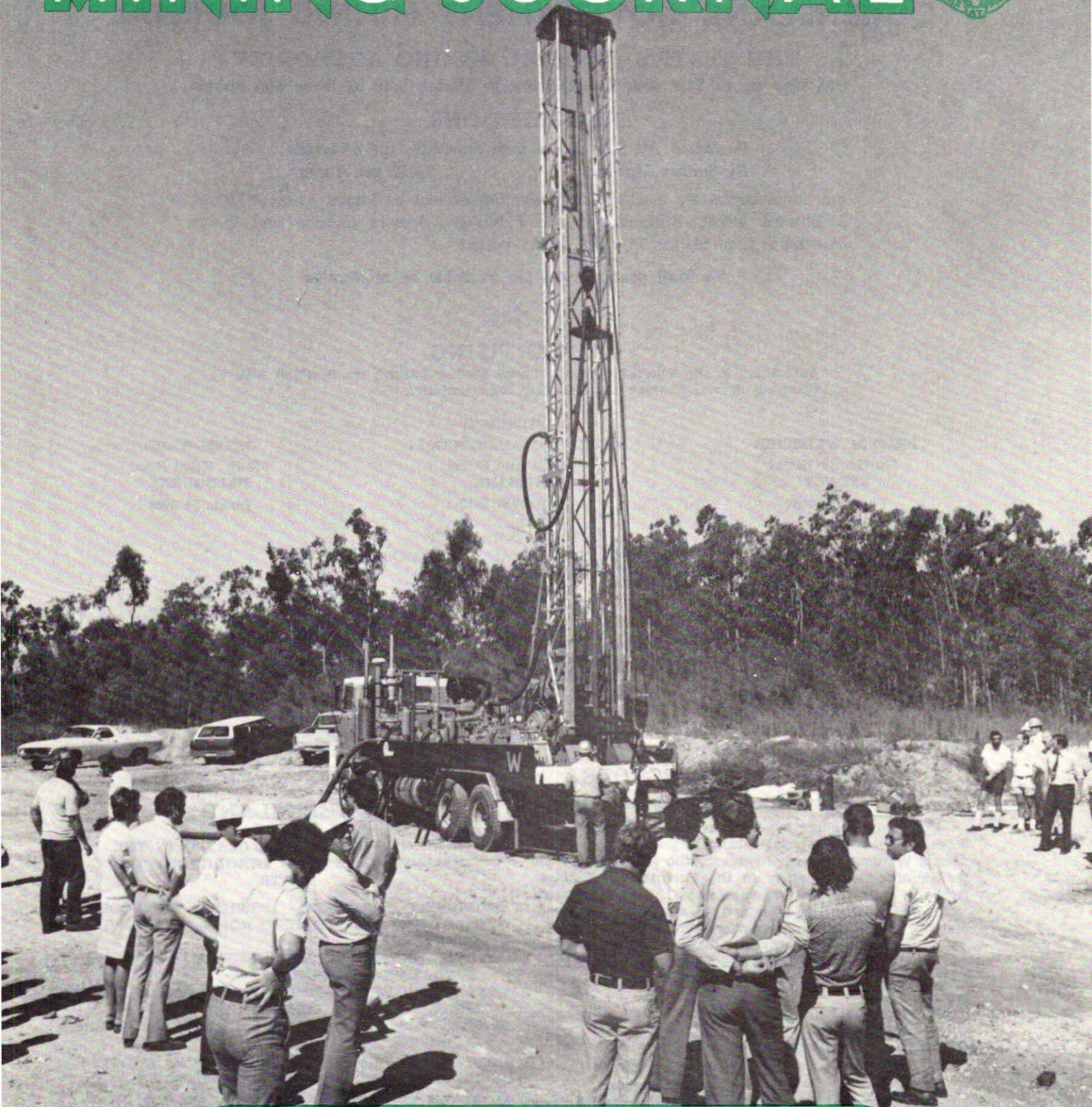


Queensland Government MINING JOURNAL



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No. 895

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Peter Wakeling
EDITOR

MINERAL HOUSE, 2 EDWARD ST.,
BRISBANE, Q'L'D. 224 4904

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THIS MONTH'S COVER

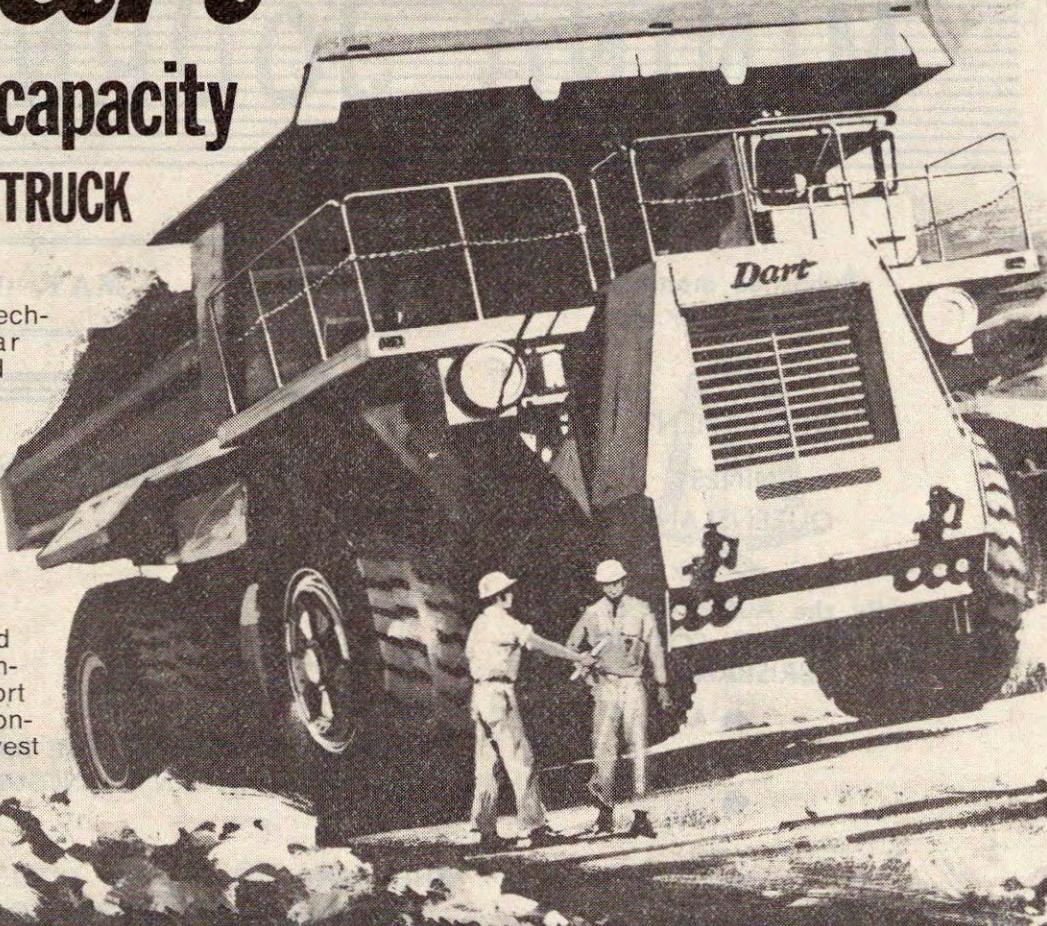
The Mines Department's new \$114,000 Brisbane-manufactured rotary water well rig. It is testing groundwater reserves between the Noosa and Pine Rivers and later will be used in North and Central Queensland areas.

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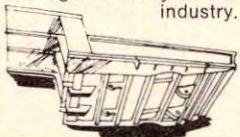
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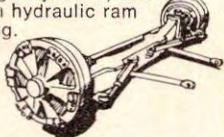
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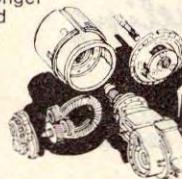
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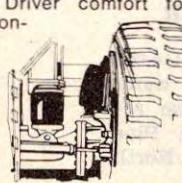
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EDITORIAL

The Uranium Issue:

The man in the street must be completely confused about the argument over the mining and export of Australian uranium. There are two clear cut facts which defy contradiction.

The by-products of uranium are potentially harmful in an environmental sense and they can be used to manufacture nuclear weapons.

Uranium is not the only source of energy used today which can harm the environment.

Petroleum, when it is burned, produces gases that can cause permanent damage or death in animals and plants.

Coal, when used in a power station, produces equally dangerous gases and solid pollutants. In addition, the waste from any coal fired power station contains naturally occurring radioactive elements in larger concentrations than are emitted into the atmosphere by a nuclear power plant.

If one accepts the facts two conclusions can be drawn.

Either the arguments being applied to uranium should be applied to all our current sources of energy or there is the need for a rational approach to this whole question.

No one has yet suggested a ban on all sources of energy although on the face of it this would seem logical.

Clearly there is a need for common sense. The alternative is to plunge mankind into darkness.

Technology is already well on the way to solving the power pollution problem.

There are certainly dangers and problems, such as the disposal of waste products, which must not be underestimated and to which an enormous scientific and technical effort is being devoted.

However, these problems must be weighed against the needs of man everywhere.

Science in the long term will certainly provide us with cleaner forms of power but in the short term we need the atom to fill the gap.

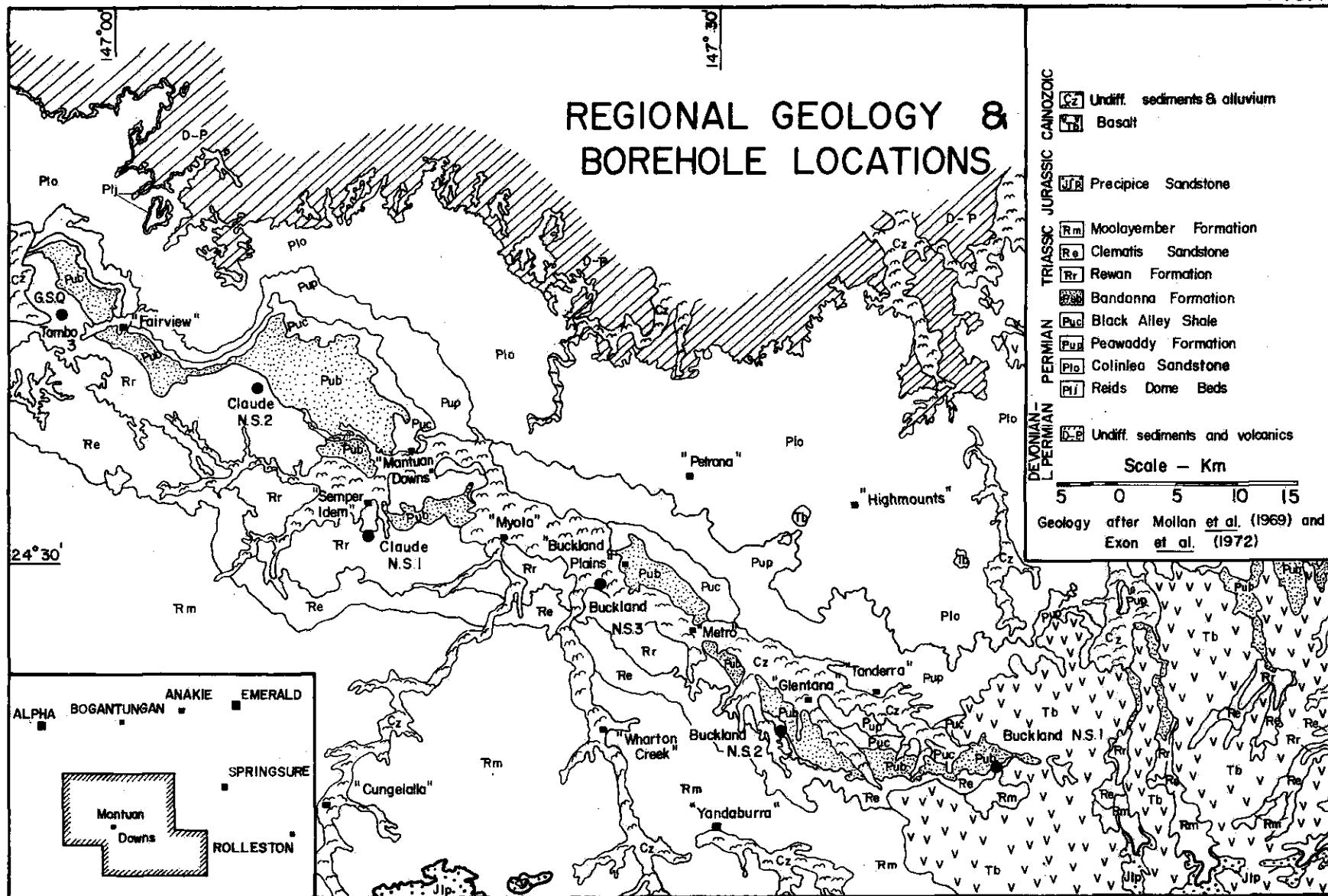
No doubt there is some validity in the argument that someone, somewhere, might use the by-products of our uranium to manufacture nuclear weapons.

This point accepted, it must be realised that we are not the only source of uranium on earth, it is already a much used commodity, and anyone with the necessary training can make a bomb given the raw materials.

The question is can we afford to pass up the opportunity for employment and income on the premise that we might be contributors to a state of affairs which is already a fact.

More importantly, can we morally adopt a dog in the manger stance over our natural resources and force a lower standard of living on the millions of people who today depend on the atom for their prosperity and progress.

FIG. 1



COAL EVALUATION OF THE BANDANNA FORMATION, WESTERN SPRINGSURE SHELF

by J. C. ANDERSON

Geological Survey of Queensland

SUMMARY

During 1973 the Department of Mines drilled a series of six cored holes to test the coal-bearing potential of the Bandanna Formation along the western side of the Springsure Shelf.

The programme showed that the prospective part of the Bandanna Formation is condensed with only thin coal seams. Rank was found to be very low.

INTRODUCTION

Regional geological mapping (Mollan et al., 1969, and Exxon et al., 1972) has shown that the Bandanna Formation (as defined by Power, 1967) crops out along the Springsure Shelf. As this formation is continuous with the uppermost Permian coal measures elsewhere in the Bowen Basin, it was thought to be prospective in this area. The strata are well exposed on the western side of the shelf, are relatively flat lying, and have very little structural complication, thus facilitating exploration and any subsequent mining development in the area. A thick sequence of Tertiary volcanics covers most of the eastern Springsure Shelf, making it a less attractive coal prospect.

Six holes were programmed about 18 km apart to test the Bandanna Formation on the western part of the Springsure Shelf. The locations of the holes, together with the regional geology, are shown in Fig. 1. Drilling of five of the sites was supervised by the Coal Section of the Geological Survey of Queensland (GSQ), and the sixth (GSQ Tambo 3) was drilled as part of a stratigraphic programme of the Petroleum Section (Gray, in press). Fig. 2 is a cross section showing stratigraphic correlations, only the relevant interval being shown for GSQ Tambo 3. More detailed lithological logs of the five Coal Section holes, together with the geophysical logs run, are included in GSQ Record 1974/37 (Anderson, 1974).

STRATIGRAPHY

REGIONAL SETTING

The Springsure Shelf is an east-west trending area of condensed section providing a link between the Bowen Basin to the east and the Galilee Basin to the west. It is considered by some authors (e.g. Exxon et al., 1972) to be a tectonic element of the Bowen Basin. Strata on the shelf range in age from Late Carboniferous or Early Permian to Late Triassic, and unconformably overlie Devonian-Carboniferous rocks of the Drummond Basin sequence. They are overlapped to the south by Jurassic strata of the Surat Basin.

In the Coal Section boreholes, only the upper part of the Permian section and the very base of the Triassic were investigated.

PERMIAN

Colinlea Sandstone

The Colinlea Sandstone consists mainly of sandstone, coarse grained to conglomeratic, quartzose to sub-labile, and is of fluvial to marine origin. Gray (in press) found that the unit thins from about 350 m to 125 m between the eastern and western limits of the Springsure Shelf. No significant coal seams have been reported within the unit on the Springsure Shelf, however not enough holes have been

drilled through it to satisfactorily evaluate its potential. The Coal Section boreholes either did not reach the top of the formation, or drilled only the very top.

Peawaddy Formation

The Peawaddy Formation overlies the Colinlea Sandstone with apparent conformity. It consists of an upper arenaceous section and a lower argillaceous section. The sandstone was found to be mainly labile and nonporous; however a thin, porous, more quartzose bed was located near the top in Claude NS 2. The argillaceous section was found to wedge out westwards. Total drilled thickness ranges from 66 m in Buckland NS 2 to 44 m in Claude NS 1, the thinning probably resulting from the pinchout of the lower section.

Marine fossils, including brachiopods, pelecypods, bryozoa and crinoids, were found throughout most of the unit, and concentrated in a lenticular zone close to the top. This richly fossiliferous bed is the "Mantuan Productus Bed", a coquinite located at or near the top of the Peawaddy Formation.

Black Alley Shale

The Black Alley Shale overlies the Peawaddy Formation with a sharp, but apparently conformable contact. It consists essentially of dark, poorly bedded mudstone with a relatively high proportion of interbedded light coloured tuffaceous mudstone. Some fine grained labile sandstone may occur in the upper part of the unit, and thin limestone beds were found in the lower part. Scattered marine fossils were evident in the core. Thickness of the Black Alley Shale was found to be about 45 m.

Bandanna Formation

The Bandanna Formation conformably overlies the Black Alley Shale, the boundary being gradational from mudstone and siltstone below to sandstone and siltstone above. On the Springsure Shelf the unit can be divided into three parts — an upper and a lower arenaceous section and a middle argillaceous section. Small amounts of coal were found near the top of the upper sandy section, and tuffaceous material within the middle and lower parts. Some bioturbation was evident in the argillaceous section, suggesting a partly marine depositional environment. Thickness drilled was approximately 50 m.

The upper part of the unit is the approximate correlative of the coal-bearing Rangal and Elphinstone Coal Measures and the upper Baralaba Coal Measures elsewhere in the Bowen Basin.

EARLY TRIASSIC

Rewan Formation

The Rewan Formation overlies the Bandanna Formation with apparent conformity. Departmental drilling elsewhere in the Bowen Basin has not produced evidence of any regional hiatus between these two units, however the possibility of local disconformities in areas marginal to the basin, such as the Springsure Shelf, cannot be discounted. The lower formation boundary is generally taken to approximate the base of the Triassic sequence.

Most of the Rewan Formation drilled in the programme was weathered, as the holes were sited close to the outcrop of the Bandanna Formation. Lithologies included sandstone and mudstone, the sandstone being labile with an abundance of mica. Surface exposures show that the unit is thin and, like the underlying Permian formations, condensed. Red Beds, which occur above the basal 150 m in the Denison Trough, were seen in outcrop a few tens of metres above the base on the Springsure Shelf.

TRIASSIC - JURASSIC

The Rewan Formation is overlain by the Triassic Clematis Sandstone and Moolayember Formation in a conformable sequence. A major unconformity separates the Moolayember Formation from the overlying Jurassic Surat Basin strata. No units younger than the Rewan Formation were investigated in the programme.

STRUCTURE

The structure of the area is dominated by an east-west strike with a gentle southerly dip. Mapping by Mollan et al. (1969) shows that there has been slight north-south folding, sympathetic with the folding of the underlying strata.

COAL RESOURCES

The prospective upper part of the Bandanna Formation was found to be thin and devoid of significant coal seams—the thickest seam being 0.89 m at 20 m in Buckland NS 1. This contrasts with most of the Bowen Basin, where good quality seams are common within the unit and its correlative. In those areas the coal measures are thicker and reflect a greater rate of sedimentation in a fluvial environment. On the Springsure Shelf, however, there is evidence of marine influence persisting into the upper Bandanna Formation. The relatively high sulphur content of the seam analysed (see below) probably reflects this influence.

Rank was found to be very low — vitrinite reflectance in oil being 0.38% in Buckland NS 1 and 0.32% in Buckland NS 3 (J. W. Beeston, pers. comm.). ASTM classification of the seam in NS 1 is sub-bituminous C, analysis carried out by the Government Chemical Laboratory, being:—

Air Dried Basis	Ash	6.0%
	Moisture	14.6%
	Volatile Matter	31.6%
	Fixed Carbon	47.8%
	Sulphur	3.5%
	Specific Energy	24.66 MJ/kg
	Crucible Swelling Number	0
	ASA Code Number	80-(1)

The low rank of the coal indicates that it was never buried very deeply, and that the Springsure Shelf has remained a stable area since the Permian.

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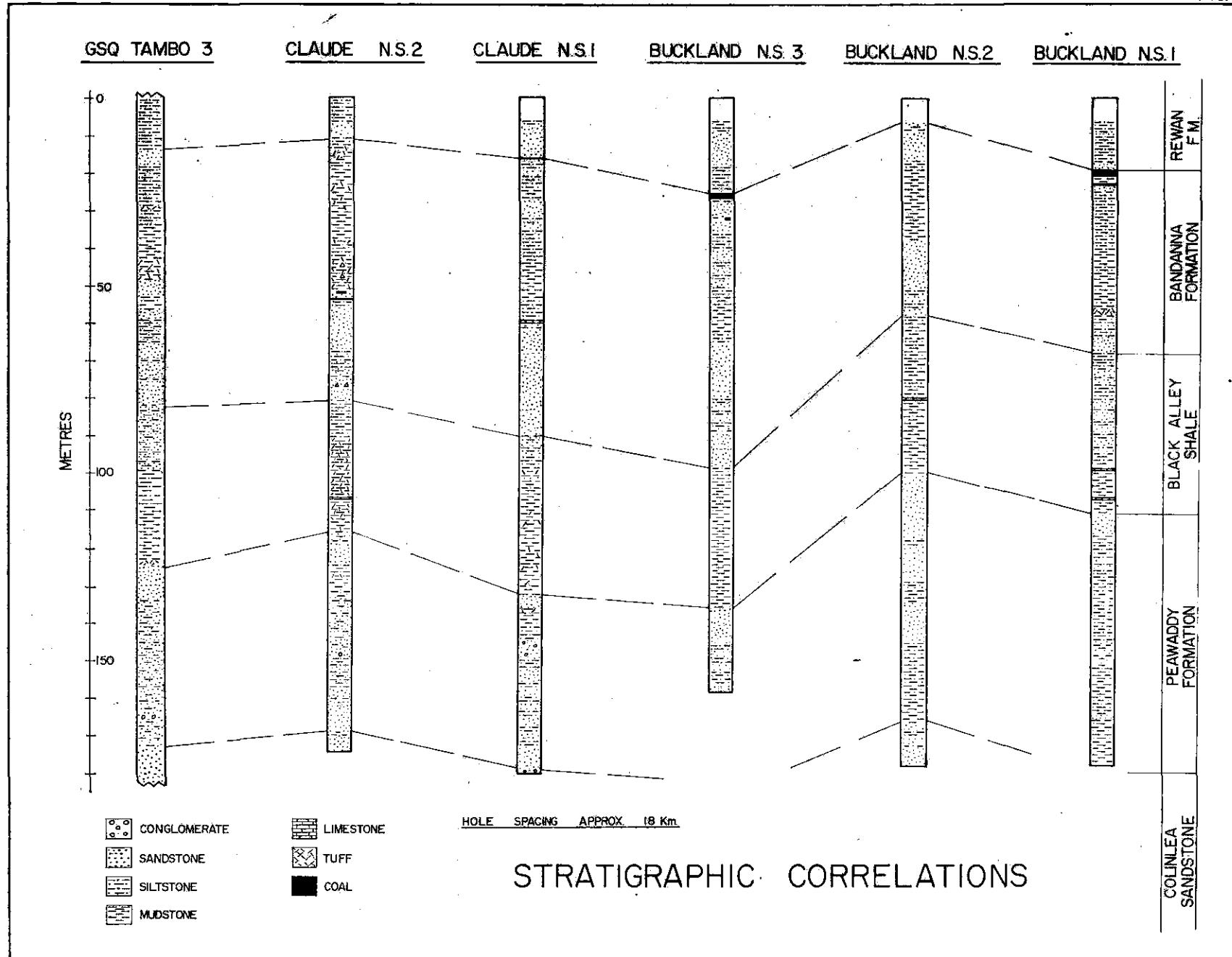
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SALARY RANGE: \$17,152 to \$17,362 per annum.

APPLICATIONS quoting position reference number 386 V 76 and containing full particulars of name, address, telephone number, date of birth, marital status, qualifications, experience and present employment and furnishing copies of testimonials and the names of two referees should be forwarded to the Chief Administration Officer, Department of the Public Service Board, Box 59, Post Office, Brisbane, North Quay, Queensland, 4000 by 15 June 1976. (6037)



Flameproof Testing

The Minister for Mines and Energy recently visited the University Experimental Mine accompanied by the Vice-Chancellor Professor Sir Zelman Cowen, to inspect and watch a demonstration of the new Flameproof Testing facilities which have been established at the University Experimental Mine. The University Department of Mining and Metallurgical Engineering is the approved testing station for flameproof electrical equipment for the Queensland Department of Mines.

The Department of Mining and Metallurgical Engineering first established facilities for flameproof testing in 1963. The establishment of these facilities has helped in improving the safety standards of electrical equipment used in coal mines in Queensland and also encouraged the development of facilities in the State for the manufacture of flameproof electrical equipment.

During the demonstration the Minister was shown the explosion that could occur from the sparking of electrical contacts inside a control box if it was full of an explosive mixture of gas; he was then shown that a similar explosion inside a flameproof enclosure would not ignite an explosive mixture of gas outside the enclosure and in the final test the effects if the enclosure were not flameproof were demonstrated.

DEAN'S ADDRESS

In his address at the demonstration, the Dean of Engineering and Head of the Department of Mining and Metallurgical Engineering, Professor R. L. Whitmore, said:

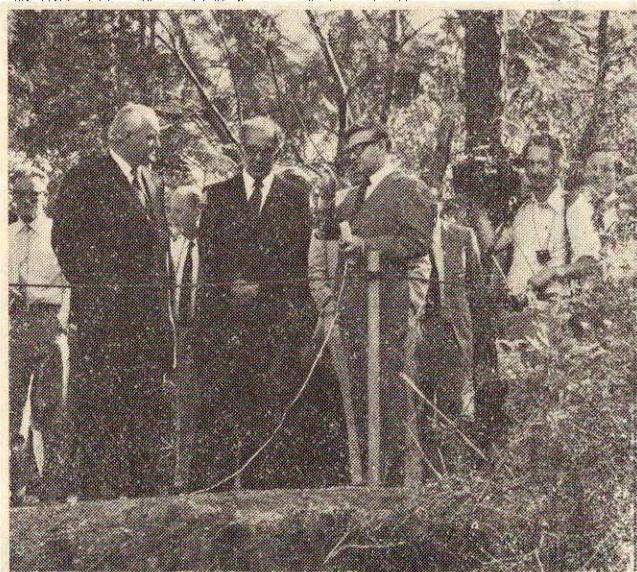
"Universities are supposed to be concerned with teaching and research. And so they are. But we live in times of turbulent change in which the role and function of institutions are being constantly analysed and questioned. The Universities cannot expect exemption from these enquiries because they play a central role in moulding the skills, interests, aptitudes and attitudes of the ablest members of the next generation. This is certainly true in engineering.

"Universities find difficulty in coming to terms with engineering because it cannot be neatly packaged and dispensed like physics or classics. Engineering is a sprawling, multi-level, multi-area activity in which many different bodies play different but interacting roles. No single body—be it in education, Government or production—can on its own provide the full support which is essential for the effective practice of engineering. This becomes increasingly obvious as the scale and complexity of the engineering operations increase and nowhere is it more obvious than in mining and in metallurgical engineering. One of Queensland's major concerns must be the provision of satisfactory support facilities in these areas. Without them the ability of the minerals industry to mine, process and export minerals and metals on a massive scale in a cheap and safe manner with the minimum of long-term environmental damage is jeopardised. The economic stability of Australia is so closely geared to the maintenance of a strong export market in minerals that this risk must be minimised.

"The number of people engaged in the technological support of Queensland's mining operations—in Government, industry and in education—is comparatively small, bearing in mind the wide range of activities to be covered. Effectiveness is not enhanced by splintering them into tiny, physically-separated sub-groups. Viability follows their accretion into groups of sufficient size for individuals to participate jointly in a number of support activities, making

maximum use of sophisticated, centralised facilities. This is a matter in which 2 plus 2 seldom equals 4; it is more likely to make 6 or 16 or even 60.

In some areas of Australia the need for concentrating support facilities for the minerals industry is clearly recognised. For example, at Glenside in Adelaide, the South Australian Department of Mines, the Pipeline Authority, Australian Mineral Development Laboratories Limited and the Australian Mineral Foundation have been established on a single site with mutually-shared facilities. I am confident that the Minister and the Vice-Chancellor of this University are alive to the advantages of fostering a similar accretion in Queensland.



The Reader in Mining Engineering, Mr. W. E. Vance (Right), outlines aspects of flameproof testing to the Minister for Mines and Energy, Mr. R. E. Camm (Left), and the Vice-Chancellor of the University of Queensland, Professor Sir Zelman Cowan, at the demonstration.

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"Developments on this site show that we have moved some way towards this objective. There is the experimental mine itself, a unique, multi-purpose, experimental facility. There are well-equipped teaching facilities maintained by normal educational funds; there is the Julius Kruttschnitt Mineral Research Centre, funded jointly by the University and industry operating at the highest levels of engineering technology (albeit on a narrow front); and there is the new safety testing facility, supported jointly by the University and the State Mines Department which is to demonstrate its capabilities today.

"I would like to think that the Minister's officers who come here to assist in operating this facility will stay to disseminate their expertise to others. I would like to see them actively collaborating here with others in gaining new knowledge on how to make our mines safer and pleasanter places to work in. I would like to see this site become a focus for high technology mining developments in Queensland and the genesis of an Australian equipment industry based on our own needs but ultimately aimed at challenging the supremacy which countries such as Sweden and S.Africa have achieved in the mining machinery field overseas.

"This objective will only be attained by close co-operation in such areas as education, research, development and testing; competition and dispersion will not do it. In Queensland we are coming to recognise the validity of this approach and I hope that this meeting is another step towards the provision of the comprehensive support facilities which the minerals industry requires for its efficient, safe and economic operation."

NEW DRAFT CODE FOR ELECTRICAL EQUIPMENT IN COAL MINES

The Standards Association of Australia invites comments on the provisions of the draft (DR 76024) of a new Australian Standard Code of Practice for the overhaul and maintenance of electrical equipment in coal mines.

The draft standard is in two parts. Part 1 deals with the overhaul and maintenance of flameproof enclosure used on electrical equipment associated with underground coal mining machines and apparatus.

The increasing quantity and complexity of flameproof mining equipment has required the development of organizations at the mines and remote from them who are engaged in the overhaul of mining machinery.

These developments have prompted the preparation of recommendations to formalize the procedures of maintenance for equipment whilst in service and repairs which occur on an ad-hoc or cyclic basis.

The draft standard recognizes the need to properly maintain equipment whilst in service and lays down guidelines in the form of check lists and test procedures for those persons engaged in this aspect of maintenance.

Where restoration, repair or modification is required, the draft recommends that this work be performed by persons or organizations with the facilities and competence in workmanship to satisfy the requirements of both the user and Statutory Authority concerned.

Part 2 of this draft (in course of preparation) will deal with the repair and overhaul of non-flameproof electrical equipment.

Copies of DR 76024 (free of charge) may be obtained from the offices of the Association in state capitals and Newcastle and comments should reach any of these offices by June 15, 1976.

JOINT VENTURE DEAL FOR BRISBANE ENGINEER

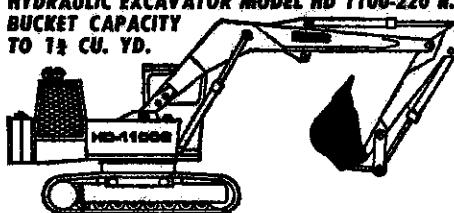
Brisbane Capital Engineering Pty. Ltd., of Geebung, has signed a joint venture agreement with Fire Fighting Enterprises Ltd., one of Australia's largest suppliers of fire prevention equipment and installations.

The agreement was signed recently in Sydney by Mr. David Meikle, managing director of Brisbane Capital Engineering and Mr. Les Bullen, managing director of the F.F.E. Group.

Mr. Meikle launched Brisbane Capital Engineering on his own in 1963 and brought the firm up to its present status as a highly-regarded source of custom-designed rolling stock for the sugar industry. In addition to its routine fabrication activities, it is building 12T. ballast wagons for track preparation in the canefields and is also responsible for the original design and production of other handling equipment yet to be announced.

The joint venture agreement, whereby the F.F.E. Group has acquired a 51 percent ownership of B.C.E., will give David Meikle and his team access to extensive research and development facilities and representation in all States through F.F.E.'s national sales and service network. In Queensland alone, Fire Fighting Enterprises has branches in Brisbane, Mackay and Townsville, with average annual sales of \$2 million.

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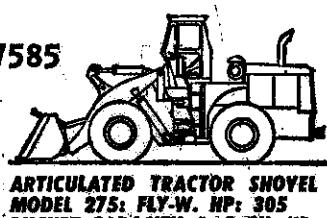
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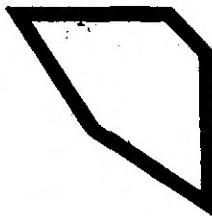
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- △ Treats **dry, moist, slurried** and other "impossible" — eg., **hot** up to 800°C — materials.
- △ Separations between **0.1** and **500 mm (150 mesh - 20")**.
- △ **Small, light, simple** and yet **tough**, easy to install and to dust-proof.
- △ **Better economy** through **low** power consumption and **cheap** servicing
- △ **Experienced:** Thousands of MOGENSEN SIZERS treat efficiently hundreds of materials, throughout the world.

**This is a
Mogensen
Sizer type
DESTOR.**

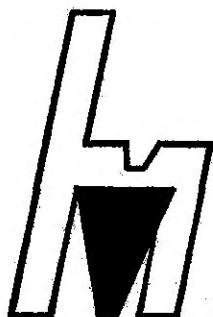
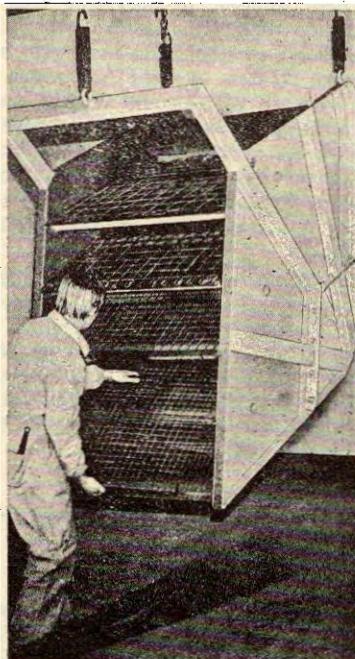
**It is ca 1 m
(40") wide,
and weighs
less than 1 ton:
easy to install.**

**It has two 1.5
kW (2 hp)
motors, only.**

**It has five
screen decks,
and the man
can change
any of them
in 10 minutes.**

**The DESTOR
manages, e.g.,**

**400 t/h limestone at 10 mm (3/8")
150 t/h raw coal at 6 mm (1/4")
180 t/h moist OH-slag at 6 mm (1/4")
350 t/h iron ore pellets at 4 mm (5 mesh)
50 t/h coke breeze at 3.2 mm (6 mesh)
40 t/h urea at 0.8 & 3.4 mm (20 & 6 mesh)
20 t/h sand at 0.4 mm (40 mesh)
165 t/h cement slurry at 0.2 mm (70 mesh)**
just to mention a few...



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THE MINING LAWS OF QUEENSLAND WITH PARTICULAR REFERENCE TO GEMSTONES

By D. W. ALBRECHT

Department of Mines*

The production of any precious or semi-precious stone, commonly referred to as "gemstone", which by definition is a substance included within the term "mineral" as defined in the Mining Act, 1968-1976, is permitted in Queensland subject to strict compliance with the provisions of the Mining Act by any person desiring to win by means of a mining operation any such precious or semi-precious stone.

Any such mining operation must be conducted within the boundaries of land lawfully held as a mining tenement and it may only be conducted after due compliance by the miner with the provisions of the Mining Act relating to obtaining lawful possession of the mining tenement in question.

Such a mining tenement may be either a mining lease or claim. From experience it would appear that most producers of gemstones favour the tenure of a claim, rather than a mining lease.

But, it is pointed out that on the recognised gemfields of Yowah-Eromanga, Opalton, Agate Creek, and Rubyvale-Sapphire - Tomahawk Creek - Guenalva - Willows with the Restricted Mining Areas, claims of varying types are the only tenures available to miners.

A tenure is lower in status than a mining lease and there are various distinctions between claims and mining leases.

A claim is held by virtue of possession of a miner's right; the possession of a miner's right is not necessary for the holding of a mining lease, but, instead, annual rent at the rate of \$2.00 per acre must be paid on the lease.

A Miner's Right is a document issued by any Mining Warden, in Queensland to a person for a term of years not exceeding ten in number at a fee of \$1.50 for every year for which the right is to be in force.

The holder of a miner's right is entitled to:-

- (a) take possession of and occupy Crown land for mining purposes (other than mining for coal);
- (b) take possession of and occupy as a place of residence or business Crown land and any part of the surface of land comprised in a mining lease reserved and set apart for the purpose of residence or, as the case may be, business;
- (c) cut, construct and use for mining purposes races and dams upon and through Crown land that is not occupied for mining purposes;
- (d) right of way over Crown land that is not occupied for mining purposes;
- (e) erect and maintain any structure upon land lawfully occupied by him under a miner's right and remove the same;
- (f) cut, remove and use timber and get, remove and use stone, clay and gravel on and from Crown land for the purpose of building for himself while he carries on mining operations a place of residence or for mining purposes.

However, Crown land:

- (a) which is included in a mining lease or application therefore;
- (b) which is in lawful occupation as a yard, garden, orchard or cultivated field;
- (c) in actual occupation on which a house, shed or other building has been erected;
- (d) on which an artificial dam or reservoir has been sunk

is not available to the holder of a miner's right unless he pays compensation to the present occupier or owner.

If Crown land is situated within the boundaries of an Authority to Prospect, such Crown land cannot be occupied by the holder of a miner's right, unless the holder of the Authority to Prospect consents to such occupation.

Priority of title in respect of claims is granted according to priority in marking out of the land, whereas priority in respect of mining leases is granted according to the order in which the applications therefore are received by the Warden.

Except as is otherwise expressly provided with reference to any specific claim, the holder of a miner's right may take up and work as a claim any land authorised to be so taken up and worked by fixing firmly in the ground at each angle thereof a round post or a square post standing at least 3 feet above the surface and sunk not less than 18 inches in the ground and set in 'L' trenches 3 feet long and 6 inches deep along each boundary line. The posts must be kept uncovered at all times. Unless the Warden specifies, the post may be of either timber or iron construction. A timber post must be barked and dried of sap before use. If round timber posts are used they must be at least 6 inches in diameter, whereas, with squared timber each side must be at least 6 inches. Also, the holder must fasten and maintain arms of a substantial construction and of reasonable size in a secure and permanent manner to each post in the direction of each boundary line.

If posts cannot be procured or sunk, the angles of claims may be marked by stones at least 18 inches high. If it is impracticable to mark an angle of a claim by either a post or a stone, the angle may be marked by offsets, or sunken pegs, or in such other manner as the Warden may direct.

A claim must be rectangular in shape or as nearly as circumstances will permit to the satisfaction of the Warden. Except within the Restricted Mining Areas the dimensions of a claim cannot exceed 300 feet by 300 feet, which is approximately 2½ acres.

The requirements of the regulations regarding marking out are simple, but their simplicity has created difficulties by inducing miners to believe that such requirements may be carried out in a casual manner. However, legal decisions show that the requirement to mark off a claim in the exact prescribed manner is an imperative and indispensable condition precedent to the valid taking up of a claim. If marking out wrong the title to the claim can be challenged. An incorrect marking-out cannot be cured by a correct description in an application for registration of a claim. When marking-out and the description vary, the marking-out prevails, as it shows the original intention of the applicant.

*Paper originally delivered to Federal Conference of the Gemmological Association of Australia, Brisbane, 1st May, 1976.

When marking-out a claim a miner should be careful not to mark more land than that he is entitled to, otherwise he becomes liable to have the surplus land pegged off at either end or side of the claim at the option of any holder of a miner's right who might apply to the Warden for such surplus land.

When the holder of a miner's right desires to register a claim marked as previously mentioned, he must within seven days after such marking, make an application to the Warden, for the district in which the land is situated, in the prescribed form. Each application for registration of a claim has to be accompanied by a sketch plan showing the locality relative to some well-known place or natural feature, and the north point.

When submitting an application for registration of a claim the applicant must also produce his miner's right for inspection. Upon the receipt of the application for registration, the Warden then delivers to the applicant a certificate of application. Within seven days of receipt of the certificate of application the applicant is required to post true copies of such certificate on some conspicuous part of the land applied for and at the Warden's Office. Such copies are to be kept so posted for a period of seven clear days.

After the notices have been posted for the prescribed period the applicant is required to complete a declaration of posting and submit same to the Warden. If there is no objection to the registration of the claim, the Warden then issues a certificate of registration in favour of the applicant, as the holder of the claim, but if an objection is lodged within such time the Warden defers registration until the matter has been heard and determined by the Warden's Court.

Within seven days of receipt of the certificate of registration of a claim, the holder is required to engrave or durably mark the description and registered number on every angle post of the claim. Such engraving or marking must be maintained by the holder, whilst the claim remains registered.

Outside the boundaries of the Restricted Mining Areas, the holder of a miner's right may take up and hold any number of claims not exceeding ten provided he complies with the prescribed working condition.

The Mining Act provides that, except for instances where it is expressly provided, every claim must be continuously worked from a date commencing not later than seven clear days after it has been marked out, or from such other date as may be prescribed with reference to a specific claim. If a claim remains unworked for three clear days within any period of fourteen days, such claim will, on application of any holder of a miner's right, be liable to forfeiture.

Ground is deemed to be continuously worked if eight hours bona fide work is performed thereon on every working day as prescribed by the relevant award, either Federal or State, and except a public holiday or other holiday notified by the Warden (on which day no work is necessary). Holidays are generally notified by the Warden at the end of each year to cover the Christmas-New Year period. Such holidays usually extend for two or three weeks.

If the holder of a claim is prevented or unable to work his claim for any period, he may apply for exemption by submitting a written application on the prescribed form to the Warden, and posting copies of such application for exemption on a conspicuous part of the land and at the Warden's Office for seven clear days. If exemption is desired for a term of less than one month, the notice is required to be posted for three days only. The Warden then

hears and determines the application and any objections that may have been lodged, and may grant exemption, subject to such conditions as he thinks just, or without conditions.

A fee of \$1.00 is payable if exemption is granted for more than one month; otherwise no fee is payable.

In the case of an emergency, the Warden may grant immediate exemption for fourteen days, and may renew such exemption for a further period of fourteen days.

Certain areas of Crown land have been set apart for certain mining purposes and such areas are called Restricted Mining Areas. There are eleven such areas and they are situated in the previously mentioned areas of Yowah, Opalton, Agate Creek, Rubyvale-Tomahawk Creek, Glenalva and Willows. Within the boundaries of six Restricted Mining Areas situated at the aforementioned localities, a claim of dimensions not exceeding 66 feet by 66 feet is the only tenure now available to the holder of a miner's right. Such claims are known as restricted mining claims and the procedures regarding marking out, application, registration, working conditions, exemptions, etc., are similar to those applying to claims generally. However, the use of machinery, other than hand tools, and explosives on such a claim is not permitted except with the written approval of the Warden.

If a person fails to comply with any of the regulations regarding use of machinery or explosives on a Restricted Mining Claim he may, in addition to any other penalty, have his claim forfeited by the Warden.

Within the large Restricted Mining Area of 135 square miles containing the gemfields at Rubyvale, Sapphire and Tomahawk Creek, there are five smaller areas.

The first of these is an area of approximately 700 acres east of Rubyvale known as the "Scrub Lead". Within this area the areas marked out may be either a Restricted Mining Claim or a special Gem Claim. These are the only forms of title available to the holder of a miner's right. If the area is required as a Restricted Mining Claim the previously outlined regulations still apply.

In the case of a Special Gem Claim the area of land marked out must not exceed three acres in area. Also, rental at the rate of \$100.00 per annum is payable to the Warden for use and occupation of the land, as well as the necessary survey fee as prescribed by the Regulations under the Mining Act.

There is no restriction on the use of machinery or explosives on a claim within the "Scrub Lead" Restricted Mining Area, but the holder must rehabilitate the surface of such a claim to the satisfaction of the Warden.

Also, in respect of this Restricted Mining Area, a miner cannot hold an interest in any more than one claim at any one time.

The Regulations as to marking out, registration, etc., of claims generally, also apply to both types of claims in this area.

The second small Restricted Mining Area is an area of approximately 4 square miles situated north-west of Rubyvale in the locality known as "Bedfords' Hill". In this area the holder may mark-out and apply for a Restricted Mining Claim, the dimensions of which must not exceed 300 feet by 300 feet. The Regulations in respect of Restricted Mining Claims 66 feet by 66 feet previously mentioned apply to the claims at "Bedfords' Hill".

Within two further areas of 5 square miles and 4 square miles situated in the localities of "Goanna Flats" and Tomahawk Creek respectively, the holder of a miner's right may mark-out and apply for a Restricted Prospecting Area not exceeding 5 hectares in area. Labour conditions, i.e., bona fide prospecting cannot be commenced on such a Restricted Prospecting Area until such area has been registered by the Warden. The registration of a Restricted Prospecting Area may be for a maximum period of 60 days, and such registration may be renewed for a further period of 60 days. The provisions previously mentioned in respect of claims generally relating to marking out of the land apply to Restricted Prospecting Areas.

The holder of a Restricted Prospecting Area may apply for a Special Gem Claim not exceeding 2 hectares over part of the land within their Restricted Prospecting Area, and the provisions previously mentioned as relating to Special Gem Claims in the "Scrub Lead" apply thereto.

The fifth Restricted Mining Area in the Rubyvale locality is east of the "Scrub Lead" and about 276.8 hectares in area and is being made available for machine mining. The area has been divided into blocks of about 2 hectares in size and marker posts have been inserted by Departmental Surveyors.

These blocks will be made available at Licensed Gem Claims, which, apart from existing tenements, will be the only type of claim available in this area. It is proposed that these blocks be made available by ballot and to be eligible to take part in the ballot a person will be required to hold a Sapphire Mining License, with a yearly fee of \$100.00 payable in advance.

To obtain a License, application must be made to the Warden on the prescribed form and in determining a person's eligibility to obtain a license the Warden is required to have regard to the mining experience of the applicant, his ability to undertake mining operations, financial capacity, integrity and manner in observance and performance of the provisions of the Mining Act relating to mining for sapphire.

The Warden may issue a license for such period of years as he thinks fit, but such period shall not be more than three years.

Apart from a yearly rental of \$100.00 the holder of a Licensed Gem Claim will be required to lodge a bond or security of at least \$3,000 per hectare to ensure the area is rehabilitated after mining and that the holder complies with all conditions applicable to the claim.

The first ballot for blocks in this area is expected to take place later this year and further ballots will not take place for at least another two years.

Working conditions in respect of Licensed Gem Claims are similar to those applying to Claims generally.

NEW MAP AND GAZETTEER

The Division of National Mapping of the Department of National Resources has released a new edition of a map of Australia at scale 1:2,500,000.

The map is available in either four separate sheets at \$1.50 each or mounted on canvas with top and bottom rollers for \$21.20, including ordinary postage.

The mounted map measures about 1.5 metres by 2.0 metres. Accompanying the map, at a cost of \$1.50, is a gazetteer of all the features shown on the map to enable the map user to immediately pinpoint the towns, rivers, hills etc which are able to be shown at this scale.

In addition, a gazetteer composed entirely of the names appearing on the 541 topographical maps covering Australia at scale 1:250,000 is also available. The maps were completed in 1968. Although some of the names have not been approved by the responsible authorities in each State or Territory, this publication is designed to meet the need for a gazetteer of topographical names throughout Australia until such time as a National Gazetteer of approved names is available. Its cost is \$22.95.

Copies of the map and gazetteers are available from the Map Sales Office, Department of National Resources, G.P.O. Box 5, Canberra 2600.

SYMPOSIUM ON COMBATING CORROSION AND ABRASION

Combating corrosion and abrasion is of great importance in industry generally, and particularly in the mining and mineral processing industries.

It is vital in controlling costs in the current difficult times of processing low grade ores, high operating costs, and marginal metal prices on world markets.

Every mine and mineral processing plant, including the cement industry, must minimise loss of production while mill lines, chute lines, or other abrasion-resistant components are replaced, pumps repaired, or valves changed. Nor should "dry" corrosion in wasting, sintering or smelting plants be overlooked.

Under today's pressures to obtain the highest possible efficiency and lowest maintenance costs, the Symposium on Combating Corrosion and Abrasion in the Mining and Mineral Processing Industries, to be held on Wednesday afternoon and evening, August 25, 1976 in the Applied Science Theatre, University of N.S.W., Kensington, should be of major interest.

Organisers are the Australasian Corrosion Association, in conjunction with the Productivity Promotion Council of Australia. Papers will be presented by overseas and Australian authorities on Alloy Selection, Natural and Synthetic Rubbers, Polyurethane, Corrosion-resistant Coatings, Practical Solutions to Corrosive and Abrasive Problems, Designing for Corrosion and Abrasion Resistance, Pumps, and Valves.

Mr. Sidney M. Renof, Chairman, has emphasised that the Australasian Corrosion Association has arranged for the Symposium to be specifically on practical aspects, and therefore of great interest to mining engineers, plant operators, metallurgists, designers, suppliers, consultants, chemists, draftsmen, etc.

Members of technical societies and associations, and interested members of the public, are invited to attend.

The N.S.W. branch of the Association is in Science House, 157 Gloucester Street, Sydney.

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METAL MARKET INFORMATION

The following end of month Metal Market Information has been compiled from information and statistics supplied by the Bureau of Mineral Resources and overseas sources. Unless otherwise stated, all prices are shown in Australian currency.

ALUMINIUM:

Australia, domestic ingots 99.5% c.i.f. capital cities:—

March 1976	\$754	tonne
April 1976	\$754	tonne

United Kingdom:—

March 1976	£420	tonne
April 1976	£456	tonne

Estimated U.S. price:—

March 1976	38 to 39c	(US) lb.
April 1976	40 to 41c	(US) lb.

ANTIMONY:

Australia, 1-tonne lots, del. capital cities:—

March 1976	\$3700	tonne
April 1976	\$3700	tonne

ANTIMONY ORE:

United Kingdom, 60% sb min., c.i.f. per unit of contained metal:—

March 1976	\$US/mtu 22.00	to 23.50
April 1976	\$US/mtu 23.75	to 25.00

ASBESTOS:

March 1976	Not quoted
April 1976	Not quoted

BARYTES:

March 1976	Not quoted
April 1976	Not quoted

BERYLLIUM ORE:

United Kingdom, per unit, 10% BeO, c.i.f.:—

March 1976	\$US/stu 28	to 31
April 1976	\$US/stu 28	to 31

BISMUTH:

Australia, min. lots 12.5 - 50 kg.:—

March 1976	\$32.25	kg
April 1976	\$22.25	kg

BISMUTH ORE:

United Kingdom, conc., oxide, min. 80% Bi., c.i.f.:—

March 1976	Nominal
April 1976	Nominal

CADMIUM:

Australia, min. 1-tonne lot, del. Melbourne:—

March 1976	\$4.40	kg
April 1976	\$4.40	kg

CHROMIUM ORE:

Russian lumpy, min. 48% Cr₂O₃; 3.5:1 c.i.f.:—

March 1976	\$US 150	to 170	tonne
April 1976	\$US 150	to 170	tonne

COBALT:

United Kingdom:—

March 1976	\$US 4.00	lb.
April 1976	\$US 4.00	lb.

COLUMBIUM ORE:

United Kingdom, per unit of 65% combined oxides, 10:1 ratio, c.i.f.:—

March 1976	\$US 2.20	to 2.50	lb.
April 1976	\$US 2.20	to 2.50	lb.

COPPER:

Australia Mount Isa Mines price:—

March 1976, average	\$1033.91	tonne
April 1976, average	\$1152.63	tonne

United Kingdom, L.M.E., cash midday:—

March 1976, average	£683.73	tonne
April 1976, average	£816.93	tonne

U.S.A., del. Conn. Vall.:—

March 1976	US 65.190	lb.
April 1976	US 68.861	lb.

GOLD:

Australia, min. 400 oz. bars:—

March 1976	\$103.18	fine oz
April 1976	\$103.44	fine oz

INDUSTRIAL MINERALS:

These are usually sold under contract or on a negotiated prices basis. The price of a mineral may vary considerably depending on grade and other specifications.

LEAD:

Australia, f.o.b., f.o.r., f.o.t. Port Pirie:—

March 1976, average	\$290	tonne
April 1976, average	\$290	tonne

United Kingdom, L.M.E.:—

March 1976, average	£197.44	tonne
March 1976, average	£246.04	tonne

U.S.A.:—

March 1976 average	20c	(US) lb.
April 1976, average	21.92c	(US) lb.

MANGANESE ORE:

Australia:—

March 1976	Nominal
April 1976	Nominal

MERCURY:

United Kingdom, min. 99.99%, c.i.f. main European ports:—

March 1976	\$US 102	to 107	flask
April 1976	\$US 94	to 99	flask

MOLYBDENUM ORE:

U.S.A., 95% MoS₂, considered nominal, cost of container extra:—

March 1976	\$US 2.90	lb.
April 1976	\$US 2.90	lb.

NICKEL:

Australian equivalent of U.S. price:—

March 1976	\$3.86	kg
April 1976	\$3.91	kg

PIG IRON:

Australia, basic price State capitals:—

March 1976	\$96.50	tonne
April 1976	\$96.50	tonne

PLATINUM:

United Kingdom:—
 March 1976 £81.50 to £86.50 troy oz
 April 1976 £85 troy oz

SILVER:

Australia, min. lots 320 kg, f.o.b., f.o.t. Port Pirie:—
 March 1976 \$106.23 kg
 April 1976 \$115.25 kg

TANTALUM CONCENTRATES:

United Kingdom, 60% Ta₂O₅, c.i.f.:—
 March 1976 \$US 16.00 to 17.50 lb.
 April 1976 \$US 16.00 to 17.50 lb.

TIN:

Australia, spot, min. 2-tonne, ex-smelter:—
 March 1976, average \$5961.82 tonne
 April 1976, average \$6126.00 tonne

TIN CONCENTRATES:

Australia, conc. 70%, del. Sydney:—
 March 1976 \$/mtu 50.86
 April 1976 \$/mtu 52.54

TITANIUM CONCENTRATES:

Ilmenite f.o.b. Bunbury; rutile, bagged, f.o.b.:—
 March 1976 Nominal
 April 1976 Nominal

ZINC:

Australia, g.o.b. del. buyers works, capital cities:—
 March 1976, average \$637.00 tonne
 April 1976, average \$637.00 tonne

ZIRCONIUM, ZIRCON CONCENTRATES:

March 1976 Nominal
 April 1976 Nominal

SWEDISH STEEL PLATE FOR MINING INDUSTRY

Abrasion-resistant steel plate with properties particularly appropriate to the handling of rock, ores and gangue will be exhibited at Scandia Plate AB, of Sweden, at the International Mining Congress and Exhibition — Bergbau 76 — (Dusseldorf, May 22-29, 1976).

The company's OX AR grades of plate are used for the bodies and cutting edges of excavator- and loader-buckets; in truck bodies, skips and ore freight-cars; and in chutes, discharge stations, measuring hoppers and conveyor-belt feeders.

Stock sizes are 1000 mm x 2000 mm, 1500 x 2500 mm and 5000 x 2500 mm, in thicknesses from 12-25 mm (½-1 inch); maximum plate width is 3.3 m, maximum length 14.5 m. OX AR plate can be welded to the same or other grades of steel using metal arc, MIG or submerged arc welding, and can be drilled, milled, planed and gas-cut just like normal structural steels. Plates up to 15 mm thick can be bent to an internal radius of 4 x t, greater thicknesses to 5 x t.

It is claimed that on excavator and loader buckets, OX AR grades provide abrasion resistance and lightness more cheaply than many other abrasion-resistant steels. Although more expensive than structural steels, OX AR steels often permit a simpler design and reduced fabrication costs. Their strength and wear resistance can reduce plate thickness and hence bucket weight, thereby increasing payload. Furthermore, composite fabrications are possible, using OX AR steel for cutting edges and teeth (where abrasion resistance is most vital) and cheaper grades for the body and sides.

Ore trucks manufactured by Mining Transportation Co. AB, used in Scandinavian, African and Australian mines, employ OX AR1 widely.

Scandia Plate AB is the overseas sales company for two of Sweden's largest steel producers — Granges Oxelösunds Järnverk and Stora Kopparberg, Domnarvets Jernverk.

DRAFT SAFETY CODE FOR FLAMMABLE CARGOES

The Standards Association of Australia invites comments on the provisions of the drafts (DR 76020, 76021, 76022) of new Australian standards for multi-compartment tank vehicles for flammable liquids, single compartment tank vehicles for flammable liquids, and safety procedures affecting the operation maintenance and repair of tank vehicles for flammable liquids.

The drafts cover multi-compartment tank vehicles intended for the distribution of flammable liquids within built-up areas, single compartment tank vehicles for the haulage of flammable liquids over long distances, and safety procedures affecting the operation, maintenance and repair of both types of vehicles. The flammable liquids concerned are petroleum products and industrial solvents, generally classified as Class 3 in the Model Code for the Transport of Dangerous Goods by Road. The drafts include general requirements for the construction of tanks, fitment of ancillary equipment and mounting of the tank on the vehicle. The draft codes are intended for use by the Australian Flammable Liquid Statutory Authorities.

Copies of Drafts 76020, 76021, 76022 (free of charge) may be obtained from the offices of the Association in state capitals and Newcastle and comments should reach any of these offices by June 15, 1976.

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HAIL CREEK AGREEMENT

The partners in the Hail Creek Project, Associated Australian Resources N.L. (AAR), IOL Petroleum Limited (IOL), Marubeni Corporation (Marubeni) and Sumitomo Shoji Kaisha Ltd (Sumitomo) announce that agreement has been reached with Cominco Riotinto of Australia Limited (CRA) whereby CRA will acquire a direct interest in the Project subject to certain conditions, including the receipt of the necessary Government approvals. CRA will also become the Manager of the Project and will continue the project planning and design, the necessary financial arrangements and the other work required prior to a final decision to commit to the Project.

Following the withdrawal of Western Mining Corporation Limited (WMC) from the Project in July 1975, the partners have been actively seeking a new partner with proven mining experience to take over the responsibility of the Hail Creek Project. The partners believe that the proposed entry of CRA will provide financial, managerial and technical strength to the Project and will greatly assist in the successful development of the Project.

As part of the agreement, CRA will acquire from the partners the 5% interest in the Project formerly held by WMC which had reverted to the partners in exchange for an initial payment of one million dollars (payable on receipt of Governmental approvals) and 6.5 million ordinary shares of 50 cents each in CRA credited as fully paid to be allotted at the time of the decision to commit to the Project.

It is proposed that the partners will decide whether or not to commit to the Project towards the end of 1976, but in any event not later than 30 April 1977. If CRA should withdraw from the Project before that time and any one or more of the other partners shall also have withdrawn AAR will refund to CRA an amount up to \$500,000.

CRA will generally assume the rights and obligations of WMC in relation to the Project. These include responsibility for contributing \$2.5 million towards the capital of the Project and the provision of 20% of the loan funds needed for the Project. These obligations arise at the time of the decision to commit to the Project.

These arrangements are subject to the receipt of the necessary Government approvals. In reaching agreement on the terms of CRA's entry into the Project, the partners and CRA have endeavoured to ensure that the majority beneficial ownership will continue to be Australian so that the ownership and control of the Project will conform with the guidelines set recently by the former Labour Government and the policies more recently announced by the present Government while it was in opposition.

On the basis of the above arrangements the interests in the Project will become:

AAR	42%
IOL	12%
Marubeni	10%
Sumitomo	5%
CRA	31%
	100%

A basic sales agreement was signed with the Japanese steel mills in December 1974 for the supply of an aggregate of 66 million tonnes of coal over 15 years at a base rate of 4.5 million tonnes a year.

Since the signing of the sales agreement, work has proceeded with the detailed calculation of reserves and coal quality, mining and infrastructure feasibility studies and the other work which will form the basic data on which loan raising will be based. Discussions have been held with Australian and overseas banking institutions and orders have been placed for overburden draglines, coal shovels and other major equipment items. Land has been acquired at the mine site and at Hay Point coal port.

The Project, which will directly employ over 800 people when in full operation, involves, in addition to a major mine, the construction of a town for 2,500 people, a 160 kilometre rail line to Hay Point, coal loading facilities, a major water supply dam on Denison Creek, new power transmission facilities and railway rolling stock of nine locomotives and 213 wagons.

The total cost of the Project, allowing for expected inflation and interest charges during construction, is currently estimated at above \$500 million. Exploration and development expenditure on the Hail Creek Project to date is approximately \$7 million.

ASSESSING INDIVIDUAL DUST HAZARDS IN MINES AND QUARRIES

Two new personal dust-sampling instruments developed for pneumoconiosis studies by The Safety in Mines Research Establishment, Sheffield, England are now being manufactured commercially by C. F. Casella & Co. Ltd., London N1 7ND. Unlike static samplers, they enable the individual hazards from airborne dust faced by mine and quarry workers during a 9-hour shift to be accurately assessed. Cutting-machine operators, for example, may inhale amounts of dust very different from those inhaled by other face-workers.

Both instruments — certified as intrinsically safe for methane atmospheres — consist of motorised pump unit and a sampling head. The pump draws a constant 1.9 l/min of air through the head, where a small cyclone separates the respirable dust-fraction (that small enough to reach the alveoli of the lungs) from larger dust. A pulsation-damper creates the smooth airflow required by the cyclone. The fraction selected matches closely that specified by the 1959 Johannesburg Conference: effectively 100% of $1 \mu\text{m}$ diameter particles, 50% of $5 \mu\text{m}$ diameter and none above $7 \mu\text{m}$. This respirable fraction is collected on a 37 mm or 25 mm diameter filter contained in a re-usable, sealable cassette; the whole cassette may be sent to a laboratory for assessment of the quartz content by weighing or X-ray diffraction. The oversize dust is also collected, separately. A counter in the pump unit records minutes run.

Australian Agent for the instruments is Watson Victor Ltd.

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AUSTRALIAN INSTITUTE OF PETROLEUM

The establishment of a new, broadly-based petroleum organisation for Australia has been announced.

Named the Australian Institute of Petroleum, it is modelled partly on the Institute of Petroleum in Britain and the American Petroleum Institute and will aim to acquire the status of these internationally-recognised scientific and professional bodies, though operating on a smaller scale.

Membership is open to companies engaged in any branch of the petroleum industry, to companies which supply goods and services to the industry, and to individuals who have some association with the industry, not necessarily as employees.

Local branches for individual members will be established to enable them to hold their own technical meetings. The first branch is already being formed in Victoria, following a decision by members of the Institute of Petroleum in that state to affiliate with the AIP.

The new institute will consolidate and extend the work of existing technical groups dealing with environmental protection, employee safety, standards for petroleum products and the design and performance of petroleum industry equipment.

The AIP already has established new committees to encourage advances in other technical fields.

Also, it will serve as an authoritative source of statistical and other factual information on the petroleum and allied industries.

Regarding itself as having a responsibility not only to its members but to the community as a whole, the new institute foresees benefits to Australia from its efforts to help the petroleum industry maintain high technical standards and meet the challenges the industry faces as the nation's largest supplier of energy.

Mr. W. M. Leonard, chairman of Ampol Petroleum Ltd., has been elected first chairman of the institute's board.

Mr. L. T. Froggatt, chairman of the Shell group of companies in Australia, has been elected deputy chairman of the AIP board.

Mr. P. S. Parkin has been appointed AIP executive director. While on secondment from Mobil Oil Australia Ltd., he has relinquished his positions as a director of Mobil and related companies.

Mr. J. M. Flower, director of the Petroleum Information Bureau (Australia), has been appointed secretary of the institute. The PIB is being absorbed into the AIP and will cease to operate as a separate entity.

The organisation known as PIECE has become a division of the AIP and thus has been re-named Petroleum Institute (instead of Industry) Environmental Conservation Executive.

Mr. H. G. Babbage, manufacturing and planning director of Caltex Oil (Australia) Pty. Ltd., remains chairman of PIECE and Mr. R. D. Crook continues as PIECE executive director.

The Petroleum Marketing Engineers' Advisory Committee (PMEAC) also will become part of the AIP, while retaining its present name. The current chairman of PMEAC is Mr. L. J. Fitzgerald, engineering manager of Esso Australia Ltd.

New Chief Executive Officer for the Australasian Institute of Mining and Metallurgy

Mr. W. E. Vance, at present Reader in Mining Engineering in the Department of Mining and Metallurgical Engineering, University of Queensland, has been appointed to the position of Chief Executive Officer of the Australasian Institute of Mining and Metallurgy, he will be taking up his new appointment on the 1st July.

Mr. Vance joined the Department of Mining and Metallurgical Engineering as a Lecturer in Mining in 1962 and was promoted to Senior Lecturer in 1967 and Reader in 1971.

He has been Secretary and Chairman of the Southern Queensland Branch of the Australasian Institute of Mining and Metallurgy, Chairman of the Queensland Group of the Geomechanics Society and for 10 years has been a member of the Board of Examiners of the Department of Mines.

NEW STANDARD FOR LPG HOSES

The Standards Association of Australia announces the release of an Australian standard specification for rubber hose and hose assemblies for Liquefied Petroleum Gases (LP Gas), issued as AS1869.

The standard incorporates specialised information made available by the Australian Liquefied Petroleum Gas Association and takes cognisance of the latest developments on this subject in the International and British standards organizations.

Included is an application for brazing and cutting and metallisation and to this extent complements AS1335, Hose and hose assemblies for general purpose gas welding and allied processes.

Copies of AS1869 (\$2.40) may be obtained from the offices of the Standards Association in all State capitals and in Newcastle. (Postage and handling 50 cents extra).

BMR SURVEY — CAPE YORK PENINSULA

The Bureau of Mineral Resources of the Department of National Resources has released radiometric data of a geophysical survey covering part of the Cape York Peninsula. The work was carried out between March and July, 1975, to supplement a joint geological survey undertaken by the BMR and the Geological Survey of Queensland.

The radiometric data is available as four sheets for each of Ebagoola and Holroyd 1:250,000 areas showing total count, uranium, thorium, and potassium profiles.

Data for the other Sheet areas — Cape Melville, Hann River, Rutland Plains and Cooktown — will be available in similar format shortly.

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MKU's GENERAL MANAGER

Mr. D. F. Fairweather will become General Manager and a Director of Mary Kathleen Uranium Ltd. as from 1 July 1976.

He succeeds Mr. H. F. Melouney, the present General Manager, who has elected to retire on 30 June 1976, and will retire also from the Board on that date.

Mr. Fairweather is currently General Manager - General Mining Division, Conzinc Riotinto of Australia Limited, Melbourne, and will continue to be responsible for the activities presently covered by that Division. He will also retain his role as CRA Group co-ordinator on environmental matters.

NEW GENERATION OF UNIVAC PUMPS

Sykes Pumps Australia Pty. Ltd., supplier of pumps and dewatering equipment, has released details of updated models in the company's Univac range of centrifugal pump sets.

The units are described as heavy duty contractors pumps, suitable for use on dewatering projects using the wellpoint or sump pumping methods.

There are three pumps in the range designated UVC3/D Mk. II (75 mm), UVC4/D Mk. II (100 mm) and UVC6/D Mk. II (150 mm). They are also suitable for use in the pumping of water containing a high proportion of abrasive solids (they will pass solids up to 50 mm, 64 mm and 76 mm respectively), crude sewage, thick slurries and trade effluent.

In comparison with the previous models, the new units have been re-designed to provide a wider range, resulting in higher heads and capacities. In addition, all Univac pumps from Sykes now incorporate an adjustable suction lift control valve, which enables the automatic vacuum priming system to be effectively tuned to the suction lift required, resulting in greater efficiency in operating well-point systems in ground of varying permeability.

QUARRY ROCK RESOURCES OF EASTERN MORETON REGION — RELEASE OF INFORMATION

The Geological Survey of Queensland has for some time been investigating the resources of extractive materials (quarry rock, sand and gravel, and clay) within the Moreton Region. This work is at reconnaissance scale and is intended to benefit the industry in the search for deposits needed for the future, as well as to assist local authorities in their town and shire planning procedures. The results of the investigations will eventually be published as Reports of the Geological Survey for the various 1:000 000 Sheet areas.

In order to make some of these results available as soon as possible, it is announced that as from 1st July 1976, information on potential quarry rock deposits will be made available to interested persons. Arrangements for access to this information may be made by contacting the Geological Survey Office, Mineral House, 2 Edward Street, Brisbane; telephone 224 4970.

PETROLEUM STATISTICS — 1975

The Petroleum Branch of the Department of National Resources has compiled the following petroleum statistics for the calendar year 1975:

Indigenous crude oil production during 1975 amounted to 149.9 million barrels, averaging 410,628 barrels a day. The majority of this was produced in the Victorian offshore fields where production amounted to 136.4 million barrels, averaging 373,793 barrels a day.

Commercial usage of natural gas during the year increased by 7.5 per cent and amounted to 5,026 million cubic metres.

Input of crude oil and other feedstock to Australian refineries totalled 209.2 million barrels. Of this, indigenous crude oil comprised 71.2 per cent. The remainder was imported mainly from the Middle East, in particular Saudi Arabia, Kuwait and Iraq.

Out-turn of marketable products from these feedstocks totalled 194.0 million barrels. The largest single products out-turned were motor spirit (78.2 million barrels) and fuel oil (29.8 million barrels) and these two products between them comprised 55.7 per cent of the total marketable products out-turned by the refineries.

Imports for the year at 83.3 million barrels were 12.9 per cent lower than in 1974. The main finished product imported was fuel oil at 13.9 million barrels. Imports of crude oil and other refinery feedstock amounted to 61.1 million barrels. Preliminary figures show that the cost of these imports was \$846.3 million.

Total consumption of petroleum products during the 12 months amounted to 205.7 million barrels, a fall of 0.7 per cent over consumption in 1974. Motor spirit (81.5 million barrels) and fuel oil (40.0 million barrels) together accounted for 55 per cent of total consumption.

Exports of finished products increased by 16.9 per cent to 27.1 million barrels. Liquefied petroleum gas was the main product exported at 130 million barrels. More than half the total exports were destined for Japan, mainly in the form of L.P.G.

NEBO COAL PROJECT

The Deputy Prime Minister and the Treasurer have announced that, following consideration by the Foreign Investment Review Board of proposals concerning the level of Australian interest in the Nebo coal project, agreement had been reached with the Government to increase the level of Australian interest in the project to 55%.

The Ministers expressed their satisfaction that this important new mineral development would now involve this level of Australian interest.

The parties will be keeping the Board informed as to the implementation of the proposal.

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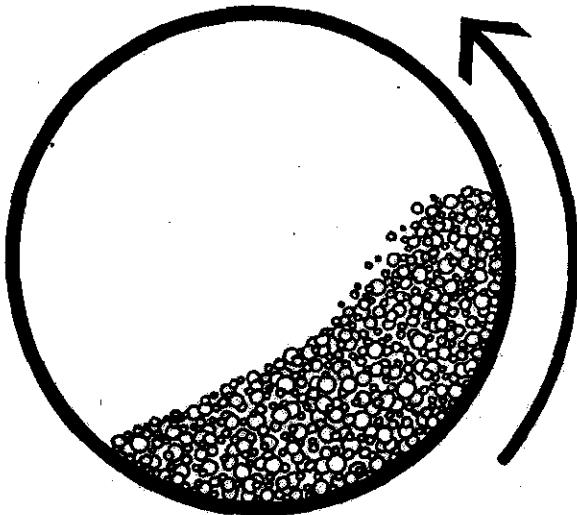
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WARDENS' AND INSPECTORS'

REPORTS

ELECTRICAL INSPECTOR OF MINES, REDBANK

EXTRACTS FROM ANNUAL REPORT FOR YEAR ENDED 31 DECEMBER, 1975

During the year, inspections were carried out in the Brisbane, Rockhampton and Mount Isa Divisions.

Since assuming responsibility for the Mount Isa Division late in 1974, a considerable amount of time has been required for correspondence, enquiries and inspection of equipment prior to delivery to the area. Supervising the Mount Isa District has not been as difficult as was initially envisaged because much of the planning for mining in the area is done in Brisbane and Southern cities. This applies particularly to the development of the mining establishment of Queensland Phosphate Ltd. near Dajarra.

Inspections in the Brisbane and Rockhampton Divisions have not been as frequent as desired because of the high level of current activity in the Mount Isa District, and the assistance received from the Chief Inspector of Coal Mines, Mr. Roach, in having the Electrical Inspector of Coal Mines, Rockhampton, carry out some of my duties in the Rockhampton District is appreciated.

Activity in the Mount Isa District will continue to be high during the next year as Queensland Phosphate Ltd. and Mary Kathleen Uranium Ltd. continue with their activities, and Mount Isa Mines Ltd. continues to modify and improve its plant.

In July, accompanied by Inspector's Assistant O'Sullivan and Electrical Inspector MacMaster, a comprehensive inspection was carried out in the Rubyvale-Sapphire gemstone area. Electricity usage in this area is extensive and closer supervision is necessary. I anticipate that best results will be obtained in this area by placing the accent on education and encouragement of safe practices rather than by directly applying the requirements of the regulations.

A more direct approach will be necessary for some of the machine miners with larger generating plant and many drives. Discussions are continuing with the State Electricity Commission's officers on usage of small generating sets which are not this Department's responsibility.

Installations of significance during the year were — Queensland Phosphate Ltd., Phosphate Hill. Small scale phosphate production facility supplied by a 700 kW Cat. Diesel Generator. Distribution switchgear is all FPE circuit-breakers, with G-H starters.

D.M. Minerals Ltd. commenced operations at Fraser Island and Maryborough. Much of the equipment in the Maryborough plant was obtained from the disused Murpyrores Plant in Gladstone.

Gunpowder Copper Ltd., Gunpowder. An Ingersoll-Rand raise borer has been installed to sink ventilation shafts. The machine has hydraulic lifting gear with a P & H variable speed head drive Thyristor controlled motor.

Mary Kathleen Uranium Ltd., Mary Kathleen. Installation of new plant and re-commissioning of old equipment. Many alterations have been necessary to bring the old equipment up to compliance with current regulations. This plant shows promise of being a tidy operation because of the approaches taken by staff and the good initial plant design.

Mount Isa Mines Ltd., Isa Mine, Kennedy Siltstone Open Cut. A Gardner Denver 120 drill and P & H 1900 excavator, operated at 3300V. A10S, N53, K57 Areas, extensive alterations to 11kV & 3.3kV distribution systems, 17 & 21 Levels, 375 kW K & L pumps. UIS Ventilation Fan, 750-900 kW, 3.3kV drive. The on site Molanite factory was operational.

Hilton mine. The first permanent supply cable has been installed in J53 shaft.

Sand Miners have generally run sustaining operations with no major changes during the year.

Drilling activity in oil and gas exploration has been exceptionally low, however, any rigs inspected have shown generally poor maintenance of equipment.

Several quarries were visited during the year to assess the probable work loading when the electrical requirements of the Regulations are applied to them. In general, most installations are in very poor condition.

There were approximately 50 gazetted quarries in the State, of which two thirds were in the Brisbane and Rockhampton Divisions. Their supervision will be difficult and time-consuming for a few years.

Safety. No fatal accidents have been caused by electrocution during the year. There were four electrical accidents involving shock reported by Mount Isa Mines Ltd., three of which were serious.

Two were caused by a breakdown in job instruction and supervision with inadequate work procedures, and were sustained by non-electrical personnel. A welder received a serious shock from a welding lead. An electrician contacted a live conductor which had been incorrectly energised.

The usage of earth leakage protection equipment in general distribution systems is resulting in reduced usage of isolation transformers (Safety packs).

During the year, conferences were held in Hobart, Brisbane, Rockhampton and Mount Isa for preparation of a code of rules for electrical installations in mines throughout Australia.

B. E. JAMES, Electrical Inspector of Mines

SOUTHERN DIVISION

Inspector of Coal Mines Report for February, 1976

Mines and areas visited in course of February's duties were: Rhondda No. 1 (3 visits), M. W. Haenke (2 visits), Oakleigh No. 3, Burgowan No. 12, Rhondda No. 1 Open Cut (2 visits), Rylance No. 3 Open Cuts (2 visits), New Hope Open Cuts (2 visits), Rylance Abermain No. 2 handling plant, Goodna, Blackstone & Grenadier Circle re subsidence and aftermath of heavy rain, Redbank Geo. Survey (2 visits), United No. 8 lease determination, Westfalen No. 2, Bogside - Main Riads, Qld. University - Mines Safety Meeting.

February was a month of rain, with considerable interruption to Open Cut operation resulting. Heavy rains during the week commenced 8th Feb. produced stream rises throughout the district, with some old workings subsidence reported and rectified.

A severe wind storm during early morning of Sunday, 22nd February, swept through Bundaberg, Howard, Torbanlea, Maryborough area, causing extensive damage.

The Torbanlea mines Burgowan 12 & 13 suffered only minor effects of mine road wash out and Burgowan 13 railway spur, with railway repairs affected on Monday 23rd. The Monday shunt only was lost on this spur line, and coal to Millaquin sugar mill was despatched on the Wednesday and Friday following line repair.

A surface accident was reported from Rylance Abermain handling plant at 1.30 p.m. on 29th January, 1976, A. Baills suffered fractures of the right scapula when he was struck by a lump of coal falling from the top of the 60 ft. high No. 1 storage bin.

Baills had taken cover below the bin on noting the fall of some lumps and moved out from below cover when they appeared to stop. A further falling lump struck him on his movement out.

Overfill of the bin is controlled by a cat's whisker microswitch which was apparently neutralised by a fallen scraper which dammed the coal back from the contact, allowing the overflow.

Inspection and record book required erection of a cowling to fit around the return drum inlet to the bin at its top to prevent roll over in event of a similar circumstance.

End of February was accompanied by a season of heavy storms, producing rainfall of cloud burst proportions in short periods of times in various areas of the south east corner of the State.

During the early evening of Saturday, 28th, a rainfall reported to be in excess of four inches in less than an hour inundated the Swanbank-Rhondda areas.

At 8.0 p.m. it was reported that inrush damage had been experienced in the stone drive containing the No. 1 belt at Rhondda Colliery. Inspection on Sunday 29th showed that water had entered the portal resultant to inability of installed drainage to cope with the heavy run off from the high ground nearby.

The surface to underground bin containing app. 100 tons of open cut coal had accepted influx additional to the portal and conveyor structure was swept down the highly inclined drive, jamming some 75 yds. below the installed syntron underground feed, bin to No. 1 belt.

Some floor damage was incurred at felled intersections of old Bergins and Striped Bacon workings by this stone drive. Rob Roy old workings were felled to the dip and to a point just below the No. 3 belt tail end, where No. 4 belt delivers coal from the Striped Bacon to Rob Roy bin and across level course to No. 3 tail end.

It is anticipated that Rhondda production will be interrupted for at least one week whilst damage is repaired.

M. W. Haenke received water from surface overflow and run down from Rob Roy via Rhondda No. 1 and pillar breaks.

Underground road repair and water control was not expected to impede normal production commencement for March at Haenke mine.

REG. N. HARDIE, Inspector of Coal Mines.

SOUTHERN DIVISION

Electrical Inspector of Coal Mines Report for February, 1976

During the month inspections were carried out at: Haigmoor Washing Plant, New Hope (2 inspections), Southern Cross No. 11, Southern Cross No. 12, Southern Cross No. 1 Open Cut, Southern Cross No. 2 Open Cut, Blackheath Open Cut, Testing Station, Indooroopilly (5 inspections), W. & S. Electrics P/L, Newstead.

A number of routine F.L.P. tests were carried out during the month at the Department's Official Testing Station at Indooroopilly.

A two day meeting of the EL/23 S.A.A. working group dealing with the Overhaul and Maintenance of Electrical Equipment for use in Coal Mines was held at the Brisbane Office during the month. The terms of reference for Part II of the above Code of Practice were determined and areas of development were allocated to the Qld. & N.S.W. working groups.

No electrical accidents of a serious nature were reported during the month.

N. F. BUSCH, Elec. Insp. of Coal Mines.

SOUTHERN DIVISION

Electrical Inspector of Coal Mines Report for February, 1976

During the month the following Collieries were visited for the purpose of inspection: Box Flat Nos. 8 and 9, Southern Cross Nos. 9, 10 and 11, Rhondda No. 1 (Striped Bacon Seam), Rylance Abermain Nos. 1 and 2 and River Plant, Oakleigh No. 3, Normanton, Lanefield & Rosewood Colls., M. W. Haenke Coll., Rhondda No. 1 (Rob Roy mine), Acland No. 3 Coll., Whitwood Coll.

Matters of approval were attended to at Bundamba Office.

The incident involving damage to the 11kv plug at Southern Cross No. 9 is being further investigated by the companies supplying the plug body and filling compound respectively.

Meeting of Standards Association Committee EL/1 was attended at the Institute of Engineers Building, Brisbane.

There were no reportable incidents involving electricity notified at the Bundamba Office.

T. G. HISLOP, Elec. Insp. of Coal Mines.

SOUTHERN DIVISION

Chief Inspector of Coal Mines

Monthly Report for March

During the month routine inspections were carried out at New Hope (2 visits) Acland No. 3, Southern Cross No. 10, Southern Cross No. 1 Open Cut, Southern Cross No. 2 Open Cut and Amberly Open Cut.

No accidents of a serious nature were reported from these mines during the month.

P. J. FARRELL, Inspector of Coal Mines.

SOUTHERN DIVISION**Inspector of Coal Mines Report for February, 1976**

During the month, routine inspections were made at: Normanton Open Cut, New Whitwood Nos. 2, 4 and 6, Open Cuts, Box Flat No. 8 Colliery, Southern Cross Nos. 9 and 11 Colls., Box Flat No. 9 Colliery and Box Flat No. 2 Open Cut.

No accidents of a serious nature were reported from any of these mines.

Box Flat No. 2 Open Cut has been working the Bluff seam where it outcrops in CML 292 for several years, and as the overburden becomes excessive, the cut is moved eastward along the crop. Firing of overburden has been permitted and used in places where rock became too hard to rip. The cut is currently winning coal in CML 293 which is adjacent to Southern Cross Nos. 9 and 11 Colls., and to ensure that no damage is caused to either of these two mines, extreme care is being exercised by the open cut when boring and charging rounds of shots. Box Flat has also bored into the old Wright workings of United No. 5 Extended and proved these to be free of any accumulation of water.

Southern Cross No. 11 is still working excessively steep grades, and the Lee Norse Miner is having to drive cut throughs of 1/2.8.

All the persons concerned realise the extra strains placed on the machines operating under these conditions and are taking all necessary precautions.

At Box Flat No. 8, good results are being obtained in both sections where pillars are being extracted. In the No. 5 section, 3/8" diameter galvanised steel pipes have been laid in the return roadway, and as the roof is collapsed air samples from inside the goaf are being taken for analysis.

On the 11th February, an inspection was made of a property in Braggan St., Goodna, where a slip had occurred which endangered a house. This inspection was made at the request of the Ipswich City Council. However, the slip had no connection with underground workings and this information was given to the Council Engineer.

A Seminar at Queensland University was attended on the 16th of the month and discussions regarding safety aspects in mining took place. Some interesting facts resulted, and a further meeting is planned for March.

P. J. BILBROUGH, Inspector of Coal Mines.

MECHANICAL INSPECTOR OF COAL MINES
Monthly Report for February, 1976

During this month four days were spent in New South Wales. Opportunity was taken to have very valuable discussions with N.S.W. Mines Department Coal Mine Inspectors. Much useful information was also obtained from visits to various manufacturers works in Sydney. Inspection was carried out on an emergency brake which has been fitted to a Joy Shuttle Car. It is hoped that this emergency brake will prove a valuable safety feature in actual service. A detailed report of this visit has been presented to you.

Underground inspections of mechanical equipment were made in the following mines: Southern Cross No. 9, 10 and 11, Haenke, Rhondda, Box Flat No. 8, Acland, Oakleigh and New Hope.

Inspections of diesel engines in accordance with Rule 28 of the Coal Mining Act 1925-1974 were carried out on five engines.

Detailed discussions were held this month with manufacturers who are submitting tenders for the haulage at Cook Colliery.

An underground incident was inspected involving a belt attendant who was attempting to clean a snub roller whilst the belt was moving. The attendant had his arm caught in the belt resulting in serious injuries.

Some months previous a letter had been sent to all Managers at mines under my inspection stating the dangers of manual cleaning of belts, pulleys or drums whilst the conveyor was in motion. A request was made that measures be taken to ensure that all those who work around conveyors are aware of the inherent dangers of moving belts. The Australian Standard Association Specification AS 1755-1975 Conveyor Safety Code is a useful document for reference for all who have responsibility for the safe working of conveyors.

K. E. ALLISON, Mech. Insp. of Coal Mines.

GYMPIE DISTRICT**Warden's Monthly Reports on Tamaree Lime Works****SEPTEMBER, 1975**

Work has been carried on full time during the month. All limestone has been won from quarries on M.L.'s 163, 164, 122, 253 and 354, Gympie and M.L.'s 85, 124, 125, and 145, Nanango. All minerals treated at the plant on M.L. 118, Gympie. Production for the month is as follows:—

Pulverised Limestone 442 tonnes, value \$4420.00.

Burnt Lime 106 tonnes, value \$3180.00.

Slaked Lime 2 tonnes, value \$80.00.

Limestone Spalls 202 tonnes, value \$1616.00.

Pulverised Serpentine 215 tonnes, value \$2150.00.

Total value \$11426.00.

All plant in good working order and 9 men employed.

OCTOBER, 1975

Work has been carried on full time during the month. All limestone has been won from quarries on M.L.'s 163, 164, 122, 253, and 354, Gympie and M.L.'s 85, 124, 125, and 145 Nanango. All minerals treated at the plant on M.L. 118, Gympie. Production for the month is as follows:—

Pulverised Limestone 332 tonnes, value \$3320.00.

Burnt Lime 73 tonnes, value \$2190.00.

Slaked Lime 5 tonnes, value \$150.00.

Limestone Spalls 224 tonnes, value \$1792.00.

Pulverised Serpentine 184 tonnes, value \$1840.00.

Total value \$9292.00.

All plant in good working order and 9 men employed.

NOVEMBER, 1975

Work has been carried on full time during the month. All limestone has been won from quarries on M.L.'s 163, 164, 122, 253 and 354, Gympie and M.L.'s 85, 124, 125, and 145, Nanango. All minerals treated at the plant on M.L. 118, Gympie. Production for the month is as follows:—

Pulverised Limestone 140 tonnes, value \$1400.00.

Burnt Lime 64 tonnes, value \$1920.00.

Limestone Spalls 53 tonnes, value 416.00.

Pulverised Serpentine 172 tonnes, value 1720.00.

Total value \$5456.00.

All plant in good working order and 9 men employed.

DECEMBER, 1975

Work has been carried on full time with exception of annual holidays starting on 19th December and resuming on 22nd January. All limestone has been won from quarries on M.L.'s 163, 164, 122, 253 and 354, Gympie and M.L.'s 85, 124, 125, and 145, Nanango. All minerals treated at the plant on M.L. 118 Gympie. Production for the month is as follows:—

Pulverised Limestone 215 tonnes, value \$2150.00.

Burnt Lime 30 tonnes, value 900.00.

Limestone Spalls 67 tonnes, value \$536.00.

Pulverised Serpentine 224 tonnes, value \$2240.00.

Total value \$5826.00.

All plant in good working order and 9 men employed.

S. J. DEER, Warden.

GYMPIE DISTRICT
Warden's Monthly Report

COOROY BRICKWORKS
JANUARY, 1976

From M.L. No. 273 Nandroya) 354 tons of ore was raised, the estimated content being 85% clay and 15% moisture. A total of 611 tons of ore was treated for a return of 183500 bricks. Two men were employed.

From M.L. No. 305 (McGilchrist's) nil tons of ore was raised, the estimated content being 85% clay and 15% moisture. A total of 268 tons of ore was treated for a return of 80650 bricks. Two men were employed.

From M.L. No. 334 and 740, 720 tons of ore was raised, the estimated content being 85% clay and 15% moisture. A total of 852 tons of ore was treated for a return of 255900 bricks. Two men were employed.

S. J. DEER, Warden

GYMPIE DISTRICT
Warden's Monthly Report

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MINING LEASE NOS. 608 and 632

NOVEMBER, 1975

113 tonnes of ore was raised, the estimated content being 100% lime. A total of 113 tonnes of ore was treated for a return of 113 tonnes. One man was employed.

DECEMBER, 1975

54 tonnes of ore was raised, the estimated content being 100% lime. A total of 54 tonnes of ore was treated for a return of 54 tonnes. One man was employed.

S. J. DEER, Warden.

ROCKHAMPTON DIVISION
Inspector of Mines Report for January, 1976

Wet weather during the month restricted field inspections. However inspections were made in the following areas.

Rockhampton

The Central Queensland Cement Co. Limestone Mine at Mount Etna was inspected. Preparations were in hand for recommencement of operations following Christmas shut down. A new hopper and feeding system has been installed and should give much better feed control.

The Clay pits of Kalpa Brickworks were inspected at Stanwell and Westwood.

The Mountainside Limestone Mine of Industrial Minerals Pty. Ltd. was operating at South Ulam.

At the Nerimba Quarry of Capricornia Quarries Pty. Ltd. the upper section of the main face had subsided 1 - 2 m. as a result of heavy rain. Rain had also caused some settlement of primary crusher feed hopper foundations.

Double Heads Quarry was inspected. This quarry has not operated for sometime.

Chrysoprase Mines at Marlborough were closed for Christmas shut-down at time of last visit.

Mount Morgan

Further heavy rain associated with Cyclone David caused flooding in the Mount Morgan Ltd. Open Cut but did not cause any major movement of the subsidence area reported previously.

Operations have been reduced due to diminution of ore reserves and No. 2 Mill was closed down.

No. 1 Mill and the Smelter are still operating.

Rehabilitation on Horsepaddock Dump is progressing satisfactorily.

Sarina

The Grasstree Mine of Zelma Syndicate was inspected. Further sublevel development work has been carried out on 55ft. sublevel. There were approximately 70 tonnes ore at grass. 200 tonnes have been shipped to Mount Morgan Ltd. for treatment.

Mackay

Coastal Crushers Quarry was inspected. Farleigh Quarry of Enterprise Minerals had not re-opened following Christmas Shut-down. Some preparation work was in hand at the time of inspection.

Tandy Quarry was inspected. The crushing section at this quarry has been modified and is crushing material supplied by Farleigh Quarry. The Tandy Quarry itself has been closed.

Mount Bassett Quarry was inspected. No work was in progress at the time of inspection.

Mount Flora

The Mount Flora area was inspected. At the time of inspection Leo Sachnowsky, who is sinking a prospect shaft on the Royal Prince, was away on holidays.

Emerald

Wet weather severely limited access and operations on the Anakie Gemfields during the month.

G. R. MORRIS, Inspector of Mines.

ROCKHAMPTON DIVISION

Inspector of Mines Report for February, 1976

Further heavy rain in February again caused some restriction on field inspections and some flooding in Mount Morgan Open Cut. Inspections were carried out in the following areas.

Craew — Golden Plateau N.L. The Warrego Shaft and workings at Golden Mile were inspected. Drive on 200 ft. Level was approaching gold intersection obtained in surface drillhole.

Roses Pride, Roma North and Tailings Dams were inspected. Discussions were held regarding closure of the Mine.

Mount Morgan — Mount Morgan Ltd. Inflow of water from heavy rain caused some flooding in the Open Cut and restricted mining operations in both Sugarloaf and Mount Morgan Sections.

Wet weather has promoted growth of vegetation on Horsepaddock Dump.

Inspections were carried out at Copper Smelter, No. 1 Mill, Assay Laboratory and Workshops.

Discussions were held with representatives from Bureau of Mineral Resources, Canberra, Department of Mines, Mount Morgan Ltd. and Geopeko Ltd. regarding current mining operations at Mount Morgan and exploration in Central Queensland.

Rockhampton

Old mines at Mount Warminster and Mount Chalmers were inspected.

There is some gold prospecting activity in New Zealand Gully area near Mount Nicholson.

Capricornia Minerals Pty. Ltd. Chrysoprase mine is operating near Marlborough. D8 and D6 dozers and a backhoe are working the Western Cut.

Gladstone

Murphyores Pty. Ltd. installations at Gladstone and Mining Leases at Tannum Sands were inspected. The recent cyclonic conditions yielded some high grade ilmenite concentrations on beaches near Tannum Sands. Recovery of these is being investigated.

Sarina

At the Grasstree Mine heavy rain caused flooding of the 75 ft. Level which was inaccessible at the time of inspection. Pumping was in progress.

Mackay

Farleigh Quarry of Enterprise Minerals Pty. Ltd. was operating at Black Mountain.

Tandy Quarry crushing and screening plant was working.

Mount Bassett Quarry was inspected. No work was in progress at the time of inspection.

Prosperpine

Seismic tests were conducted at the proposed Prosperpine Shire Council quarry site near Foxdale Repeater Station.

The tests were carried out by officers of the Department in collaboration with representatives from TELECOM and Ullman and Nolan (consultants for Prosperpine Shire Council).

Emerald

Routine inspections at Anakie Gemfields by Inspector's Assistant were resumed. Inspections were also made of tailings dams, and areas where illegal mining had been carried out.

Officers from the Department met the executive of Queensland Sapphire Producers Association and explained Departmental requirements regarding Royalty Returns.

G. R. MORRIS, Inspector of Mines.

NORTHERN AND CENTRAL DIVISION**Report for February, 1976**

During the month routine inspections were made at Peak Downs, Leichhardt, Laleham No. 1, B.C.C.M. No. 2, B.C.C.M. No. 3, Dacon No. 3, Dacon No. 5, and Dacon Open-cut.

A request for exemption to rope capping was received from the manager of the Leichhardt Colliery. The exemption was for the production winder and after examination it was granted.

Travelling in the district was hampered in the early part of the month by heavy rains cutting roads.

The merger of the two mining companies in Collinsville took a further step with the reorganisation of the engineering staff.

M. BELL, Mech. Insp. of Coal Mines.

NORTHERN AND CENTRAL DIVISION**Electrical Inspector of Coal Mines Report for February, 1976**

Inspections were made at the following mines during the month: Saraji, Peak Downs, Dacon No. 3, BCCM No. 2, BCCM opencut, State Coke Works.

The inclement weather has restricted the number of inspections this month.

One day was spent at a Safety Seminar in Collinsville. The Seminar was conducted by the National Safety Council of Australia.

It has come to my notice that an electrical incident occurred at Goonyella in December, which was not reported. An investigation is to be carried out, and full details will be sent to you.

E. S. PATE, Elect. Insp. of Coal Mines.

STATE TREATMENT WORKS, IRVINEBANK**Manager's Report****Period Ending 15th February, 1976**

At the beginning of the month 1.715 tonnes of external concentrates were floated and produced .936 tonnes of clean concentrate.

Sumps and launders are being made and installed on pumps. Electric motors have been attached to pumps and are awaiting connection to the power.

Repairs to the primary vibrator are still in progress and the few new buckets on hand were installed on the elevator. Many of the old buckets are very badly worn. Repairs to tables are still in progress.

All drains around the mill were cleared of debris deposited by heavy run-off after rain.

The timber for No. 4 table has been received and the framework is ready for the marine ply decking. As soon as this arrives, it can be completed and be ready for the linatex top.

The last of the roofing over the grinding section is well ahead and the dismantling of the tailings pipe line and salvaging of good piping is in progress.

W. E. LUDLOW, Manager.

STATE TREATMENT WORKS, IRVINEBANK**Manager's Report****Period Ending 31st January, 1976**

Repairs to the mill commenced on 15th January when employees returned to work.

Replacing the roof over the primary section is about three quarters complete but progress is slow owing to wet weather.

A new spur wheel was fitted to the large Rod Mill and the barrel replaced on the reconditioned foundation, ready for installation of the liners.

Repairs to tables are still being effected and water control butterflys are being renewed where necessary. New launders are being made and installed and repairs to worn plates etc on the primary vibrator screen are being attended to. The large Rod Mill Warman Pump was also installed.

A small parcel, 4.833 tonnes, of external concentrates were treated by flotation yielding 1.886 tonnes of clean concentrates.

As a result of heavy rain during the month, all creeks in the area are running strongly and both the Ibis and Loudon Dams are overflowing.

W. E. LUDLOW, Manager.

STATE TREATMENT WORKS, IRVINEBANK**Manager's Report****Period Ending 31st December, 1975**

As from the 15th December, repairs to the works ceased and employees proceeded on Recreation Leave.

W. E. LUDLOW, Manager.

STATE TREATMENT WORKS, IRVINEBANK**Manager's Report for Period Ending 29 February, 1976**

Dismantling of the old tailings pipe line was completed and salvaged piping brought back to the mill and stacked for future use. The roof over the grinding section also was completed and now makes this part waterproof.

New distributors for No. 4 table were made, painted and covered with linatex where necessary to preserve the timber. A rotary screen was made for the large rod mill and partly installed. The bottom floor of the mill was cleaned and forms made and installed ready for the pouring of the foundation for the new Linatex Tailings Pump.

Towards the end of the month .37 tonnes of clean concentrates were recovered from the flotation treatment of .456 tonnes of external concentrates.

During the month the clearing of the depression near the office for disposal of tailings was done by a D7 Dozer and the roadway to the office built up.

Both the Ibis and Loudon Dams were still overflowing at the end of the month.

W. E. LUDLOW, Manager.

STATE TREATMENT WORKS, IRVINEBANK**Manager's Report****Period Ending 15th January, 1976**

No repairs were carried out up to the 15th of the month as employees at the Works were still on Recreation Leave.

W. E. LUDLOW, Manager.

STATE TREATMENT WORKS, IRVINEBANK**Annual Report — ending 31st December, 1975**

Ore treated for the year commenced on 3rd February with three shifts working throughout to the 23rd September, when crushing operations ceased. This was due to the badly worn condition of the large Rod Mill liners, when to continue would have resulted in damage to the barrel. All old liners on hand had been made use of also. Quantities of ore treated and concentrates produced were:—

TIN	Tonnes Ore	Tonnes Concentrates
January to June	3158.032	49.846
July to December	3199.638	26.115

During December 11.12 tonnes of external concentrates were treated by flotation, the final result being 6.528 tonnes of saleable concentrates.

Carting of ore was spasmodic from January to April due to washed out roads and boggy conditions but once the rains eased deliveries were once again underway. About half the crushing for the year were floated. At the time of closing all hoppers had been booked with expectations of a few hundred tonnes being delivered. From September until 12th December, when employees proceeded on Recreation Leave, repair and maintenance work was carried out. Approximately 275 tonnes of ore had been carted before the December shutdown in anticipation of treatment as soon as the new liners are delivered and installed.

Demand for Departmental Hire Plant was mainly for Compressor Plants, Quick Winches and Pumping Plants.

Good rain during the beginning of the year kept both the Ibis and Loudon Dams overflowing until June and despite the call on the water for both ore treatment and domestic use the level did not drop any considerable distance before rain in December once again filled them both.

W. E. LUDLOW, Manager.

BOWEN DISTRICT**Warden's Report for the Quarter ended December, 1975****COAL**

Lease No.	Tonneage	Value
DACON COLLIERIES PTY. LTD.		
C.M.L. 179	42390	

C.M.L. 163	48844	1131392.83
BOWEN CONSOLIDATED COAL MINES LIMITED		
C.M.L. 179 Open Cut	39085	494787.00

C.M.L. 179 Underground	99355	1253436.00
GOLD		

M.L. No. 410 — L. F. WHITE

No. of men employed — 2 — Alluvial Gold.

Mulloch raised — 500 tons. Ore raised 47 tons for a return of 18 ozs 19 dwt.

Cross cut 112 feet long by 14 feet wide by 12 feet deep to top of alluvial wash of about 2 to 4 feet.

Two shafts — one 9 feet and one 18 feet to gold bearing wash.

Four cross cuts from one to three feet for testing the surface of the wash.

M.L. Nos. 141, 161 & 175 — L. F. WHITE

No. of men employed — 2 gold copper and silver.

Ore raised for testing — 40 contents — estimated content 6% to 8% copper.

Tests from all leases should be completed by the end of January, 1976

M.L. No. 409 — UKALUNDA DEVELOPMENT PTY. LTD.

No. of men employed — 2 Gold — deep lead.

Ore raised for testing only — estimated content — 7 to 12 dwt.

Continued No. 1 drive 4 feet for sampling 6 inch seam of alluvial gold bearing wash, assayed at 2 ozs 18 dwt.

M.L. No. 413 — UKALUNDA DEVELOPMENT PTY. LTD.

No. of men employed — 2 alluvial gold wash.

Ore raised — 1½ tons for testing — estimated contents 1 to 3 ozs.

Sunk three bore holes from 21 feet to 42 feet down to alluvial wash about 3 to 5 feet with average gold content — 7 to 10 dwt. Extended No. 1 drive 6 feet for sampling.

D. M. FARDON, Warden

CAIRNS DIVISION**EXTRACTS FROM INSPECTOR OF MINES ANNUAL REPORT FOR 1975****GENERAL**

Exploitation of mineral deposits was chiefly in respect to bauxite at Weipa, nickel at Greenvale, silica sand at Cape Flattery, wolfram at Mount Carbine, alluvial tin at Mount Garnet and lode tin at Irvinebank and Sunnymount areas.

Exploration and prospecting on mining leases and Authorities to Prospect continued.

STAFF

Inspector G. V. Sandercock was transferred permanently to Cairns in June following two periods on relieving duties earlier in the year.

Mr. R. H. J. Perry commenced duties as Inspectors Assistant at the end of June.

The strength of the Division at 31 December, 1975 consisted of two Inspectors, an Inspector's Assistant and a clerk/typiste.

MINES REGULATION ACTS**MINES**

Inspections of mines were regularly carried out. Observance of the regulations was generally satisfactory. Health and Sanitation — Satisfactory. No case of industrial disease was reported.

Accidents — There were 163 lost time accidents reported of which 43 involved lost time in excess of 14 days.

Machinery Accidents — No accidents were reported due to faulty machinery.

Inquiries — No inquiries were held under Section 42 of the Act during the period.

Fencing and Protection — Generally satisfactory.

Ventilation — Satisfactory.

Ladders and Travelling Ways — Satisfactory.

Explosives — The provisions of the Act were satisfactorily complied with and there were no complaints of defective explosive have been distributed.

QUARRIES

Gazetted quarries were in operation throughout the year. Except in one instance, observance of the regulations under the Act have been satisfactory.

Health and Sanitation — Generally satisfactory. Suppression of dust in crushing and screening plants had to be continuously watched.

Accidents — Four accidents reported, of which three were in excess of 14 days.

Inquiries — Nil.

Explosives — No reports of defective explosive.

SEWERS

Sewerage construction was carried out in Cairns, Weipa, Innisfail, Ayr, Townsville and Ingham.

Health and Sanitation — Satisfactory.

Accidents — One accident involving loss of time of one day reported.

Explosive — Not used.

Inquiries — Nil.

EMPLOYMENT

The average number of employees throughout the Division totalled 2478 comprised as follows:

Mines — 2054

Sewers — 201

Quarries — 85

Authorities to Prospect — 138

PROSECUTIONS

There were no prosecutions during the year.

SPECIAL REPORTS

A number of special reports were submitted, chiefly in respect to river pollution, road grants, subsidy loans, etc.

FIELD WORK

Regular inspections of mines were carried out.

DEVELOPMENT AND PRODUCTION**Gold**

One company reported production of 5656.4g valued at 24,335.70. Other smaller parties continued to search for gold but with no tangible results.

Antimony

There was no reported production.

Tin (Alluvial)

The chief producers are the two tin dredges in the Mount Garnet area. Other areas worked included Emu Creek, Gurrumba, Silver Valley, Watsonville, Fulford Creek, Crystalbrook, Koorboora Creek, Helenvale and Bismarck Creek.

Main producers reported as follows:

RAVENSHOE TIN DREDGING LTD. continued operating its dredge on Nettle Creek, and for part of the year mobile plants in the Emuford area.

Dredge:

Ground treated (m³)	1454400
Yield concentrate (tonnes)	477
Estimated value	\$1484000
Mobile Plant No. 1 & No. 2:	
Ground treated (m³)	78600
Yield concentrate (tonnes)	37
Estimated value	\$115000

TABLELAND TIN DREDGING N.L. continued operations on its leases at Upper Return Creek.

Dredge:

Ground treated (m³)	2030230
Yield concentrate (tonnes)	604.3
Estimated value	\$2061448

Tin (Lode)

Main production was centred around Irvinebank and Sunnymount areas.

LOLOMA LTD.: Lateral development at the mines at Irvinebank including driving, cross-cutting and decline haulageways totalled 1690 m, and in addition 441 m of rising was completed. Mining of the opencut involved removal of 26950 t overburden. Ore broken totalled 47679 t.

At the Jumna Mill a total of 51390 t of ore was treated for a recovery of 367 t of concentrate.

During the latter part of the year, mining operations on the leases was severely curtailed.

GOLD COPPER EXPLORATION LTD.: During the year modifications to the Prince Alfred Battery were undertaken and mechanical equipment introduced into underground operations to promote increased production.

Driving and cross-cutting at the Tommy Burns Mine totalled 608 m and 10 m of rising was carried out. In addition, 1400 m of core drilling and 1500 m of percussion drilling were completed.

The Prince Alfred Battery treated 8972 t of ore yielding 221.4 t concentrate valued at approximately \$564,200.

Bauxite**COMMONWEALTH ALUMINIUM CORPORATION LTD. Weipa.**

At the mine an RH75 hydraulic excavator was placed under test, and a prototype three-axle 125 t rear dump haulage truck was delivered for testing. A fines recovery plant was commissioned to treat tailings from No's 3 and 4 beneficiation plants.

Production of bauxite showed a marginal increase when compared with the previous year.

Crude bauxite mined (tonnes)	12,730,000
Beneficiated bauxite (tonnes)	9,548,149
Approximate value	\$54,329,000

141,056 t of calcined bauxite was produced, valued at approximately \$4,775,000.

Silica

CAPE FLATTERY SILICA MINES PTC. LTD. reported production showed a marked decrease when compared with the previous year.

	1975	1974
Dry tonnes produced	281,740	479,560
Approximate value	\$1,254,771	\$1,473,000

R. STANLEY (Bohle): Reported production of 12,870 tonnes of silica valued at \$37,605.

Wolfram

R. B. MINING PTY. LTD.: The opencut mine and plant at Mount Carbine continued operations.

The plant treated 156,983 t of ore, yielding 231,131 t of wolfram concentrate valued at approximately \$1,000,000.

Two new jaw crushers were installed at the plant and construction of a mechanical equipment workshop completed.

MOUNT ARTHUR MOLYBDENUM N.L.: This company reported treating 17784 m³ for 39.74 tonnes wolfram concentrate valued at approximately \$146,278.

Clay

Reported production was as follows:

NORTHERN BRICK & PIPE CO. PTY. LTD. — 7638 tonnes of clay mined with an estimated value of \$6,415.

NORTH AUSTRALIAN CEMENT LTD. — 52,284 tonnes valued at \$13,071.

CLAY INDUSTRIES PTY. LTD. (Q.U.F. Industries) — 5059 tonnes valued at \$8,600.

Limestone

NORTH AUSTRALIAN CEMENT LTD. — 334,848 tonnes valued at \$455,188.

CHILLAGOE LIMEWORKS PTY. LTD. — 1400 tonnes processed, yielded 1100 tonnes lime valued at \$26,000.

CALCIUM PRODUCTS PTY. LTD. — quarried 18791 tonnes yielding 9697 tonnes lime products valued at \$242,302

CROTTY LIME WORKS — quarried 4522 tonnes for 3015 tonnes burnt lime valued at \$111,555.

FAIR CHANCE (A. & L. G. Leoni) — produced 1500 tonnes burnt lime valued at \$45,000.

Nickel

GREENVALE NICKEL PROJECT: All plant and equipment operated satisfactorily. Ore production and despatch was limited by the demand for ore from the process works at Yabulu.

A total of 1,626,968 tonnes of ore valued at \$3,254,000 f.o.r. was despatched.

W. P. BRUNTON, Inspector of Mines.

CAIRNS DIVISION**EMPLOYMENT**

Number of persons employed in the Division was as follows:

Mines	1476
Mills (Including dredge and sluicing plant crews)	119
Smelting (Lime kilns)	9
Workshops	200
Miscellaneous on Surface and Authorities to Prospect (Including construction contractors)	935
Total	2192
Quarries	85
Sewers under Construction	201

CAIRNS DIVISION — ANNUAL REPORT 1975**List of Machinery Installed****Gold Copper Exploration Ltd., Sunnymount**

One Underground Elenco Loader; Two Benford dump trucks; One exhaust fan and motor. (Underground).

One 14" x 8" jaw crusher; One 8' x 5' rod mill. (Prince Alfred Battery).

Comalco, Weipa

Fines recovery plant commissioned to treat tailings from No's 3 & 4 beneficiation plants.

One R.H.75 hydraulic excavator under test.

One proto-type 3 axle 125 tonne rear dump truck for testing.

R. B. Mining Pty. Ltd., Mount Carbine

One 36" x 24" jaw crusher in the primary circuit.

One 36' x 10' jaw crusher in the tertiary circuit.

Queensland Nickel Pty. Ltd., Greenvale

One Schramm T985H Rotary Drill.

One Gardner Denver SP 1058 Rotary Screw Compressor (Mobile).

One secondary wobbler and reject conveyor.

Chillagoe Limeworks Pty. Ltd.

One new kiln constructed.

Big Sandy Creek Leases (G. H. Smith)

Erection of a 75m³/hour alluvial tin dressing plant commenced the previous year completed.

Males Gully Tin (Vancea)

A small alluvial treatment plant erected but after operating for a short period was closed down indefinitely.

Eden Exploration, Herberton

One new Cat. 930 1.7m³ loader, and capacity of alluvial tin dressing plant doubled to 2900m³ per month.

CAIRNS DIVISION**ANNUAL REPORT FOR 1975****Reported Development — Metres (Ex. A-P's)**

	Sinking	Driving/ X-cutting	Rising	Trenching
Tin	170	2752	597	—
Copper	9	14	—	—
Gold	27	—	—	—
Sewers	—	—	—	90825
	206	2766	597	90825
	—	—	—	—

Details of Limestone Production — 1975 — Cairns Division**Output and Values**

Lime Quarry or Limeworks	Average No. of Men Employed	Tonnes Limestone Quarried	Tonnes Burnt Lime	Tonnes Pulverised Lime	Tonnes Hydrated Lime	Total Value
Crotty Limeworks	7	4522	3015	—	—	111555
N.A.C.L.	17	334848	—	—	—	455188
Calcium Products	10	18791	7047	2651	—	242302
A. & L. G. Leoni	3	1500	—	1500	—	45000
D. A. & B. D. Bosworth	1	1034	—	—	—	517
Chillagoe Limeworks P/L.	4	1400	750	350	—	26000
	42	362095	10812	4501	—	\$880562

ANNUAL RETURN FOR QUARRIES

Name of Quarry	Class of Stone	Average Number of Men Employed During Year	Total Graded	Output and Value
Smithfield Quarry	Blue Metal	8	Cubic m. \$	Total Ungraded
Saltwater Creek	Blue Metal	7	10576 55200	Value at Quarry
Henleys Hill	Road Gravel	4	8698 71062	Cubic m. \$
The Rocks	Granite	12	50758 184000	14024 27498
North Bohle	Granite	30	273595 617390	81 227
Roseneath	Granite	10	81488 271530	101873 106534
Cole Bros.	Granite	6	24293 142902	3825 7500
Palmerston	Basalt	8	60755 216548	6143 7201
		85	510163 1558632	125946 148960

NORTHERN DIVISION**Inspector of Mines report for September, 1975**

During the month inspection tours were made to O'Briens and Big Sandy Creek, Palmer River and Mitchell River areas.

At Big Sandy (Smith & Quin) construction of an alluvial tin dressing plant was almost completed.

On the Palmer River, Northern Minerals Syndicate was constructing a heavy minerals plant.

Inspections: Routine inspections were made at the following:

Ingham — Cole Bros. Quarry.

Townsville — North Bohle Quarry.

Mount Carbine — R. B. Mining Pty. Ltd.

Irvinebank — Loloma Ltd. — Great Adventure, Lone Range, Mt. Petersen, North Hope.

Mount Garnet — Ravenshoe Tin Dredging Ltd., Tableland Tin Dredging N.L., Black River Mining (Trounce), Males Gully Syndicate (Vancea), Battle Creek (Petersen), Gurrumba (H. W. Bird).

W. P. BRUNTON, Inspector of Mines.

NORTHERN DIVISION**Inspector of Mines report for October, 1975**

The following routine inspections were made:

Calcium — Limestone Quarries (N.A.C.L.), Limestone Quarries (Calcium Products).

Ayr — The Rocks Quarry (Burdekin Quarrying Co.).

Townsville — North Bohle Quarry (Farley & Lewers), Roseneath Quarry (Farley and Lewers).

Ingham — Cole Bros. Quarry.

Greenvale — Queensland Nickel.

Mount Garnet — Ravenshoe Tin Dredging Ltd., Tableland Tin Dredging N.L.

China Camp — Alluvial plant (Averkoff & Adams).

Innisfail — Palmerston Quarry.

Cairns — Henley's Hill Quarry (Cairns City Council), Saltwater Creek Quarry (Cairns City Council), Smithfield Quarry (Kenny), Sewerage construction.

Charters Towers — Ladybird (J. Donovan).

W. P. BRUNTON, Inspector of Mines.

NORTHERN DIVISION**Inspector of Mines report for November, 1975**

An inspection tour was made to Kidston, Einasleigh, Agate Creek and O'Brien's Creek areas.

Routine inspections carried out as under:

Mount Garnet — Ravenshoe Tin Dredging Ltd., Tableland Tin Dredging N.L., Big Biscuit (I. Leski).

Townsville — Bohle Sand Leases (R. Stanley).

Irvinebank — Great Adventure (Loloma Ltd.), Lone Hand (Loloma Ltd.), Jack in the Box (Loloma Ltd.), Town Talk (Ward), Eureka (Turvy & Jenkins).

Sunnymount — Tommy Burns (Gold Copper Exploration Ltd.)

Almaden — Crotty Limeworks, Octan (Graham).

Chillagoe — Lime Quarry (Marane).

Wolfram Camp — Mount Arthur Malybdenum.

Ingham — Mount Cordelia Quarry (Dunn).

Innisfail — Palmerston Quarry (Johnston Shire Council), Saltwater Creek Quarry (Cairns City Council), Sewerage construction.

Watsonville — Jamie Creek (Plateau Tin & Exploration)

W. P. BRUNTON, Inspector of Mines.

NORTHERN DIVISION**Inspector of Mines report for December, 1975**

The following areas were inspected:

Weipa — Comalco — Mining operations at Weipa and

Andoom, beneficiation and calcination plants, railway workshops.

Kangaroo Hills — Waverly workings, Shrimp Battery (Reddie), Ruxton (Metals Exploration).

Clark River — Adventure (C. Jackson), Silverspray (A. Green).

Mount Garnet — Ravenshoe Tin Dredging Ltd., Tableland Tin Dredging N.L., Males Gully (Vancea).

Irvinebank — Great Adventure (Loloma Ltd.) Investigation of serious accident, Brass Bottle (Mesh & Party).

Sunnymount — Tommy Burns (Gold Copper Exploration), Prince Alfred Battery (Gold Copper Exploration).

Mount Carbine — R. B. Mining Pty. Ltd.

Ayr — The Rocks Quarry (Burdekin Quarrying Co.), Sewerage construction.

Townsville — North Bohle Quarry (Farley & Lewers), Roseneath Quarry (Farley & Lewers).

Calcium — Limestone Quarries (N.A.C.L.), Limestone Quarry and plant (Calcium Products).

Ingham — Cole Bros. Quarry, Mount Cordelia (Dunn).

Cairns — Sewerage construction works.

Almaden — Bismark Creek (Reddcliffe).

Mareeba — Tinaroo Creek leases (McPherson & Gleeson).

W. P. BRUNTON, Inspector of Mines.

NORTHERN DIVISION**Inspector of Mines report for January, 1976**

Inspector W. P. Brunton was on leave during the month.

The following areas were inspected:

Innisfail — Palmerston Quarry (Johnstone Shire Council).

Irvinebank — Anniversary (G. Merret), Lady Battle (F. Hilla).

Cairns — Henley's Hill Quarry (Cairns City Council), D'Avanzo Brothers Sewerage Works, General Construction Sewerage Works.

Mt. Carbine — R. B. Mining Pty. Ltd.

Mt. Molloy — Southedge Lime Quarry (A. Leoni).

Mt. Garnet — Revenshoe Tin Dredging Ltd., Tableland Tin Dredging N.L.

Greenvale — Queensland Nickel.

Visits were paid to three mines in connection with Departmental assistance.

Loloma Ltd. commenced the removal of tailings from the State Treatment Works for milling at their Jumna Mill.

G. V. SANDERCOCK, Inspector of Mines.

NORTHERN AND CENTRAL DIVISION**Inspector of Coal Mines Report for January-February, 1976**

During the two monthly period under review twelve (12) routine inspections were made of opencut and underground mines on the Clermont, Moranbah and Collinsville fields.

A copy of the inspection report had been forwarded to you immediately following each occasion of inspection.

Surface area 10 on S.C. M.L. 179 (old C.M.L. 148) was examined on 30th January following advice by Collinsville Coal Company that they wished to commence opencast mining operations in the area as soon as possible. This matter is still under investigation.

On Monday, 16th February I attended a meeting of members of the Coal Owners Ass. Mines Department, Department of Technical Education and University Staff at the Queensland University. The meeting discussed problems confronting the mining industry today and possible solutions to these problems. It was decided to have a second meeting sometime in March.

No accidents of sufficient severity to warrant further investigation were reported to this Inspector during this period.

D. W. BAILEY, Inspector of Coal Mines.

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