A BIBLIOGRAPHIC INDEX FOR
NATURAL RESOURCE MANAGEMENT
IN THE UPPER BURDEKIN AND
FITZROY CATCHMENTS

N.S. Reilly and M.E. Lech

CRC LEME OPEN FILE REPORT 182

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PREFACE

This report (completed in January 2006) is a companion to the Burdekin-Fitzroy web-based Geographic Information System (GIS). These were developed by Geoscience Australia, the Cooperative Research Centre for Landscape, Environment and Mineral Exploration (CRC LEME) and the Queensland Department of Natural Resources and Mines (NR&M) to bring together and describe a wide range of data layers that are of potential relevance to Natural Resource Management (NRM) decisions. Together, they provide an integrated body of knowledge that can be used as a tool by interested parties to rapidly access information and guide NRM decisions. They are unusual in the focus they provide on geoscience layers, which provide information on the distribution of surficial materials and the insights into subsurface geological features that influence soil types, groundwater and salinity.

The GIS, which is hosted by Geoscience Australia, is not a “live” system drawing on the latest versions of the various databases. However, it contains comprehensive metadata that facilitates access by interested parties of updated material from specific sources. The contents of this report are also available from the Burdekin-Fitzroy Project web mapping system page.

Burdekin-Fitzroy Project web mapping system

This interactive map is an output of the Burdekin-Fitzroy Project 2003-2004, a cooperative project between Geoscience Australia, Queensland's Department of Natural Resources and Mines and the Cooperative Research Centre for Landscape Environments and Mineral Exploration (CRCLEME)


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INTRODUCTION

Geological, geophysical and natural resource management keyword search terms were used to search bibliographic reference databases for relevant natural resource management information within the Burdekin-Fitzroy study area. Additional references were provided from project members and geological library catalogues.

These references include published and unpublished materials from many sources, such as papers and abstracts, open-file reports from geological surveys, company reports, conference papers and proceedings, maps, and theses. This collection is not exhaustive. It indicates the scope of information available for natural resource management research in this study area.

Sources

The four main bibliographic reference databases for geological and environmental materials searched were AESIS, GEOBASE, GeoRef, and Streamline.

AESIS, Australia's National Geoscience, Minerals and Petroleum Reference Database, is coordinated by the Australian Mineral Foundation. Coverage is from 1975 (and earlier for some material) to February 2001. AESIS covers Australian-generated published and unpublished documented materials over the full range of the geosciences, minerals and petroleum, and also covers material published on continental Australia by non-Australian sources.

GEOBASE, from Elsevier/Geo Abstracts, is a bibliographic database of the global literature in earth science, ecology, geography and marine science, ideal for searching multidisciplinary topics such as environmental or geographical studies. Coverage is from 1980 to the present day.

GeoRef is the CD-ROM version of the American Geological Institute's geoscience database containing records of North America since 1785, and other areas of the world since 1933. The database is the equivalent of four major reference publications: Bibliography of North American Geology, Bibliography and Index of Geology Exclusive of North America, Geophysical Abstracts, and the Bibliography and Index of Geology.

STREAMLINE, Australia's Natural Resources Database, is produced by Infoscan Pty Ltd for the Land and Water Resources Research and Development Corporation and the Urban Water Research Association of Australia. This bibliographic database includes all aspects of natural resource management, written by an Australian or about Australia. Subjects cover the sustainable management of land, vegetation and water resources, including urban water and wastewater and irrigation systems. Coverage is from 1982 (with selective earlier material) to the present.

Search terms used

Search terms include keywords and prefixes, and any 1:250 000 map sheet in the study area. Relevant keywords were selected based on project aims, and are set out in Table 1.

AESIS also enabled division of search results on company report and non-company report document types.

Format of Index

This index is in two parts, Company Reports (around 2000 records) and Non-company Reports (around 1000 records). Each record includes the reference, and, where available, the keywords and an abstract. Both datasets are available in pdf and html formats.

Table 1. Search terms used to generate the reference list.

ANY OF
Acknowledgments

For the compilation of this index we wish to acknowledge the valuable assistance of Bev Allen and Matilda Thomas, Geoscience Australia, and Maxine Fisher, Queensland’s Department of Natural Resources and Mines, and the Burdekin-Fitzroy project team members from Department of Natural Resources and Mines, and Geoscience Australia.
NON-COMPANY REPORTS


Abstract: The nature of the beef cattle industry and land developments in the Fitzroy River region are described. Key issues, which include Landcare, drought and marketing, are discussed. Research and development includes projects to address the sustainability of the catchment.


Keywords: Remote-sensing:-geodesy

Abstract: The Nogoa River catchment in the Fitzroy Basin is a very significant contributor to the Queensland economy. The topographical complexity of this catchment requires efficient and effective management of the environment to sustain both economic and ecological benefits. Information on terrain shape and drainage structure is important in developing sustainable management practices. This paper outlines the methods used and the challenges faced during the development of a Digital Elevation Model (DEM) for the Nogoa River catchment. It is also intended to assist those involved in DEM creation to understand potential problems and to plan ahead to maximise efficiency.


Abstract: The Queensland Department of Primary Industries set up a database on Burdekin soils to meet the needs of users in designing irrigation systems, with potential flood irrigation areas and with sodic soils. The creation of the database and its current state are discussed.


Keywords: available-water-capacity/ soil-water-potential/ light-textured-soils/ irrigated-soils/ clay-soils/ sodic-duplex-soils/ Australia-/ Queensland-/ Burdekin-Irrigation-Area

Abstract: Models for predicting profile available water capacity (PAWC) from laboratory measurements were compared with published field values for the same sites. The intention was to choose the best model/s to predict PAWC, by using a database, for a wide range of soils in the Burdekin Irrigation Area. Effective rooting depth for all models was estimated from the chloride profile. A model based on the difference between water retained at -33 and -1500 kPa matric potentials was higher (P < 0.01) than field measured PAWC. An empirical model based on cation exchange capacity and depth was suitable only for cracking clays and sodic duplex soils. Another empirical model based on -1500 kPa water retained and depth, predicted field PAWC particularly well on cracking clays, sodic duplex and related soils, and was also suitable for better drained, lighter textured soils.


Abstract: Construction of the Burdekin Falls Dam has led to a demand for soil salinity data to assist farm design, and location of irrigation channels. This summary reports that a databank of soil chemical, physical and morphological properties is being established using results from all Queensland Department of Primary Industries' Soil survey and research samples from the lower Burdekin area. To assist in land use planning, and extension to farmers, previously identified soil
profile classes have been rationalized into 35 more manageable soil groupings based on similarity of profile morphology.


**Abstract:** Presents soil sodicity data on 6 maps based on actual and calculated values for the exchangeable sodium percentage (ESP) of soils in the Mulgrave section of the Burdekin River. Findings include substantial areas of sodic soils, ESP levels increasing with depth and 35% of the total area is highly sodic.


**Abstract:** A databank of soil chemical, physical and morphological properties for the lower Burdekin area has been established. A technical bulletin is being prepared using this extensive database. Predicted leaching fraction and deep drainage under various rainfalls, irrigation applications and soil conditions is documented for some 250 sites. The model used is described. Histograms of deep drainage by the local soil profile classes and principal profile forms have been prepared. Preliminary grouping by predicted deep drainage under rainfall indicates 3 broad groupings may be possible. Data is being used to assist in planning farm layouts and land use limitations.


**Abstract:**


**Abstract:** Using Burdekin soil analyses stored in a database, this Bulletin documents basic and derived measures of salinity and sodicity for individual soil profile classes (SPC's). It was highlighted that various salinity measures and rating systems (including the use of weighting functions) can lead to different classifications of salinity hazard of an individual soil. Most miscellaneous SPC's and red duplex SPC's have low salinity and sodicity. Irrigation on such soils needs to avoid excessive deep drainage. Some duplex SPC's on landscape units 1 to 3 have high salinity and sodicity and would appear to be risky for irrigation, more because of potential long term consequences on the region as a whole, than because of the ability to ameliorate initial high salt or sodicity on the individual farm level.


**Keywords:** Sandstone-/ Carbonate-minerals/ Diagenesis-/ Pore-water/ Geochemistry-/ Paragenesis-/ Sedimentary-environments/ Permian-


**Abstract:** Permian coals from Blackwater, Poitrel and Moura (Bowen Basin, Queensland) have been extracted and characterised by detailed organic geochemical techniques. A variety of
source-related aliphatic and aromatic biomarker parameters indicate that these coals from three different locations are similar in terms of organic matter type and palaeoenvironment of deposition. The hydrocarbons extracted from these coals appear to have been generated from predominantly plant-derived organic matter deposited in a fluvio-deltaic environment. Moderately high Pr/Ph ratios, the high proportion of C-2-9 steranes and very low sterane to hopane ratios are indicative of their largely terrestrial source. Molecular maturity parameters derived from aliphatic and aromatic biomarkers corroborate a measured maturity of 1.0-1.1% R(o) for these medium volatile bituminous coals. The aliphatic and aromatic hydrocarbon distributions in these coals also allow their differentiation into two groups: biodegraded Moura coals and non-degraded Blackwater and Poitrel coals. Comparison of various compound ratios from the degraded and non-degraded coals indicates the dependence of susceptibility to biodegradation on precise molecular structures. Major aromatic compound classes in coals, generally regarded as being more resistant, may be microbially altered before branched/cyclic alkanes are affected and even before the n-alkanes are completely removed. As reported in crude oils, susceptibility to biodegradation of aromatic hydrocarbons decreases with increasing number of aromatic rings and with increasing number of alkyl substituents. Furthermore, alkylnaphthalenes with 1,6-dimethyl substitution patterns are more susceptible to degradation than other alkylnaphthalene isomers. This study reveals that biodegradation may alter the hydrocarbon composition of coals in a similar way to that observed in crude oils or oil spills, except that aromatic hydrocarbons are altered relatively earlier than aliphatic hydrocarbons in coals compared to oils.


Keywords: abundance-/ aquifers-/ artificial-recharge/ Australasia-/ Australia-/ Burdekin-River- Delta/ Claredale-/ fluvial-features/ gamma-/ ground-water/ hydrogen-/ hydrogeology-/ hydrology-/ isotopes-/ precipitation-/ Queensland-Australia / radioactive-isotopes/ radioactivity-/ recharge-/ rivers-/ techniques-/ tracers-/ tritium-/ well-logging


Keywords: Geological-logs/ Lithology-/ Palynology-/ Sedimentary-environments/ Sedimentary-geology/ Sedimentary-structures/ Stratigraphic-correlation/ Stratigraphy-Qld/ Triassic-/ SF5507/ SG5507/ SG5508


Keywords: Sedimentary-basins/ Structural-evolution/ Structural-geology-Qld


Keywords: Land-Use/ Community-Participation/ Farms-and-Farming/ Rural-Areas/ Finance-/ Regionalization-/ Farmers-/ Adoption-/ Landcare-/ Perception-/ Whole-Farm-Planning

Abstract: Landcare provides the basis for a most imaginative rural and regional development strategy. It gets away from the rhetoric and gets on with the job, but the community has to be careful that it stays that way. Living up to the Landcare challenge needs patience, good hard thinking, and the resources to do the job.

Abstract: The nature of the climate, catchment and channel forms in subhumid tropical northeastern Queensland results in short duration, high discharge flow events (cyclone induced floods) during which transitory development of stationary waves builds sandy gravel antidunes on river beds. The flood wave shape is such that most sediment is transported and deposited in waning flow, and downstream migrating antidunes develop. Antidunes become inactive and emergent in periods of hours to days, and are frequently observed on dry river beds with little falling stage reworking. The antidunes observed on the Burdekin River bed have a wavelength of up to 19m and are sinuous crested with a slight upstream symmetry. They form erosive based sandy gravel lenses with low angle downstream dipping internal lamination and generally steep upstream dipping a-b planes. These lenses are associated with thick high angle cross bed sets, are easy to recognize and are possibly diagnostic of downstream migrating antidunes.


Keywords: Tropical-regions/ Vegetation-/ Organic-material/ Fluvial-sediments/ Sedimentary-environments

Abstract: In the deposits of the Burdekin River (north Queensland, Australia), plant material (character and directional fabric) together with the sedimentary facies character are generally diagnostic of depositional environment. Plant material is selectively entrained, transported, and deposited in all flow conditions ranging from dry season minimal flow (<10 m $^{3}$ s $^{-1}$) to tropical cyclone-induced catastrophic flood (up to 40,393 m $^{3}$ s $^{-1}$). Deposition of plant material occurs in five main ways: (1) burial in situ, (2) fall directly onto sediments of the emergent bars and burial, (3) wind transport before burial, (4) entrainment and deposition by flowing water, and (5) pre-existing accumulations of plant material within sediment may be eroded and re-deposited. Each of these depositional styles produces plant-material assemblages with distinct characteristics: (1) in-situ plant remnants (roots and stems) overturned in the flow direction, (2) mostly leaf material within falling stage mud near-parallel to bedding surfaces and showing weak-strong alignment often with more than one mode, (3) dense accumulations of complete leaves and small twigs in dune troughs and scour hollows, often with locally strong clast alignment but wide directional scatter through the deposit, (4) (i) isolated, palaeoflow-parallel logs within bar deposits, dense chaotic accumulations of logs and other debris, either (ii) associated with in-situ trees, or (iii) with bank irregularities, and (iv) strandline deposits (dominantly wood fragments, seeds, and minor proportions of other plant parts with a wide range of orientations), (5) finely comminuted plant material in cross-bedded and ripple cross-laminated sand, often composed dominantly of leaf fragments with long-axis alignment related to sedimentary structure. The predominance of different assemblage types and the nature of those assemblages vary with discharge and with location within the channel belt. Identification of characteristic plant-material assemblages, combined with sedimentary facies should allow improved interpretation of the depositional environment of ancient deposits and help assess discharge variability. In the Burdekin River and similar settings, the plant-material assemblages within the channel are dominated by plant parts from plants growing within the channel, and the floodplain community is relatively unrepresented.


Keywords: River-flow/ Sediment-transport/ Vegetation-/ Geomorphology-

**Keywords:** Floods/- Flood-plains/ Flood-control/ Alluvium-

**Abstract:** River systems of this type may give rise to more sandy overbank deposits than is common in most fluvial settings. One of 24 papers in this special publication.


**Keywords:** Surface-water-quality:-rivers-and-streams

**Abstract:** The chemical composition of river water integrates a number of factors such as weathering, land use, climate, vegetation cover and human activity that individually affect its chemistry. Short term variations may also be significant. The Burdekin River, NE Australia, is an example of a class of tropical streams which experiences two to four orders of magnitude variation in discharge in response to seasonal but erratic monsoonal and cyclonic rainfall. In these systems individual discharge events last for days to weeks. Given the inherent difficulty sampling these events published data on water chemistry (and thus calculated fluxes and global budgets) may tend to be biased to low flow conditions. One such discharge event in February 1996 has been investigated for its impact on the chemistry of the water. Major cations (Na, Mg, K, Ca) all decreased in concentration as the water level rose, as did the minor elements Sr, Ba and U. Some other trace elements, notably Rb, Cr, Pb and REE were enriched in the peak flow waters. The flux of all measured elements increased substantially during the seven days of the discharge event. Such short term but significant events will have a major impact on the annual fluxes of elements delivered to the oceans from the land and global discharge budgets may need to take them into account when refining databases in the future.


**Abstract:** Massive corals in the Great Barrier Reef, analyzed at high-resolution for Sr/Ca (thermal ionization mass spectrometry) and trace elements such as Ba and Mn (laser ablation inductively coupled plasma mass spectrometry), can provide continuous proxy records of dissolved seawater concentrations, as well as sea surface temperature (SST). A 10-yr record (1989 to 1998) from Pandora Reef, an inshore reef regularly impacted by the freshwater plumes of the Burdekin River, is compared with an overlapping record from a midshelf reef, away from runoff influences. Surface seawater samples, taken away from river plumes, show little variability for Sr/Ca (8484 ± 10 × 10^-6 mol/mol) and Ba (33.7 ± 0.7 nmol/kg). Discrete Ba/Ca peaks in the inshore coral coincide with flood events. The magnitude of this Ba/Ca enrichment is most likely controlled by the amount of suspended sediments delivered to the estuary, which remains difficult to monitor. The maximum flow rate at peak river discharge is used here as a proxy for the sediment load and is shown to be strongly correlated with coral Ba/Ca (r = 0.97). After the wet summer of 1991, the coral Ba/Ca flood peak is followed by a plateau that lingers for several months after dissipation of plume waters, signifying an additional flux of Ba that may originate from submarine groundwater seeps and/or mangrove reservoirs. Both Mn and Y are enriched by a factor of < similar-to > 5 in inshore relative to midshelf corals. Mn/Ca ratios show a seasonal cycle that follows SST (r = 0.7), not river discharge, with an additional high variability in summer suggesting a link with biological activity. P and Cd show no significant seasonal variation and are at a low level at both inshore and midreef locations. However, leaching experiments suggest that part of the coral P is not lattice bound.


Keywords: Coal-resources/ Coal-reserves/ Coal-production/ Oil-shale/ Gold-deposits/ Copper-deposits/ Silver-/ Industrial-materials/ Mineral-deposits-Qld/ Production-

Abstract: Substantial coal resources, and production and mines.


Keywords: airborne-/ Australasia-/ Australia-/ data-processing/ Duchess-/ economic-geology/ gamma-ray/ geophysical-methods/ mineral-exploration/ mineral-resources/ Queensland-Australia/ radioactivity-methods/ spectroscopy-

Allison GB. 1999. Consultancy report on possible R and D activities on the environmental impacts of irrigation for the National Program for Irrigation R and D. Land and Water Resources Research and Development Corporation, Canberra. Research and Development Final Report; ALL2;

Abstract: An evaluation of possible research and development (R and D) activities on the environmental impact of irrigation for the National Program for Irrigation R and D (NPIRD) strongly recommends that a whole of catchment approach be adopted in R and D activities, that projects be organised on the basis of satellite and linked projects, and that projects incorporate socioeconomic considerations. In relation to eight Stage 1 project proposals, it is considered that none of the projects were suitable for Stage 2 proposals in their current format. The evaluation also identified a possible investment strategy based on proposals for the Ord River, the Fitzroy River, and the Goulburn-Broken Rivers. On balance it is considered that the Ord River proposal ranks highest, and has the advantage of having a data rich environment.


Keywords: Australasia-/ Australia-/ biostratigraphy-/ Canaway-Ridge/ electrical-methods/ Eromanga-/ gamma-ray-methods/ geophysical-methods/ GSQ-Eromanga-1/ interpretation-/ lithostratigraphy-/ microfossils-/ Paleozoic-/ palynomorphs-/ Queensland-Australia/ southwestern-Queensland/ stratigraphy-/ well-logging


Keywords: Agriculture

Abstract: When the dynamics of a system is too complex to be analytically modelled, it has been found useful to assume that expected values of explanatory variables generate expected values of the response variable, and hence, deviations from the expected value of the response variable can be modelled by a Linear Perturbation Model (LPM) of the explanatory variables. This method is used in this study to develop a technique to update crop forecasts where climate is a major factor in crop production. The study is important because modern cultivars, which are the result of genetic gains, are sensitive to climatic variability, and recent studies with general circulation models suggest that one of the consequences of an increase in greenhouse gases may be greater variability in the climate of a region. The usefulness of the LPM technique in the study of agriculture-climate relationships is tested through application to the Fitzroy catchment in Central Queensland. Since no reported climatic change is yet occurring in the region, the expected values
for climatic conditions are obtained through averaging. By contrast, the expected values of crop yield are obtained from trend analysis; such trends are mainly attributable to genetic gains in the recent past. Three crops (wheat, barley, and sunflower) have been studied. Deviations (or perturbations) in crop yields are related, in the framework of LPM, to deviations in minimum, maximum, and average values of rainfall, temperature, and humidity at planting, flowering, and harvesting time. The most significant climatic factors affecting deviations in crop yield are identified. Regression models are developed which are capable of filtering and updating crop forecasts due to any unexpected climatic conditions, assuming consistent genetic trends and management practices.


Abstract: Four minesoil profiles were sampled in Queensland and one in New South Wales, Australia, for chemical characterization. These sites represent minesoils from the upper and lower portions of the Bowen Basin, with overburden dominated by Permian sandstone and some mudstones. The objective of this study was to compare chemical properties to establish future land use potential. Total dissolution analysis using a modified micro-wave technique included the following elements: Ca, Cu, Fe, K, Mg, Mn, Mo, Na, P, and Zn. Total C, N, and S were determined using 60 mesh samples on the LECO CNS 2000. In addition, organic C was determined using the Walkely-Black technique. Total P values were low in the Queensland minesoils. Organic C and total N values were higher in the New South Wales minesoil than those values found in the Queensland minesoils. This is primarily due to age of the minesoils. Sodium concentrations are high and may present special problems for plant establishment. Chemical measurements are a key component to assess future land use.


Keywords: Sediments-and-sedimentary-processes-transport/ Sediments-and-sedimentary-processes-transport

Abstract: Interactions between catchment variables and sediment transport processes in rivers are complex, and sediment transport behaviour during high-flow events is not well documented. This paper presents an investigation into sediment transport processes in a short-duration, high-discharge event in the Burdekin River, a large sand- and gravel-bed river in the monsoon- and cyclone-influenced, semi-arid tropics of north Queensland. The Burdekin's discharge is highly variable and strongly seasonal, with a recorded maximum of 40 400 m$^3$s$^{-1}$. Sediment was sampled systematically across an 800 m wide, 12 m deep and straight reach using Helley-Smith bedload and US P-61 suspended sediment samplers over 16 days of a 29-day discharge event in February and March 2000 (peak 11 155 m$^3$s$^{-1}$). About $3.7 \times 10^6$ tonnes of suspended sediment and $3 \times 10^5$ tonnes of bedload are estimated to have been transported past the sample site during the flow event. The sediment load was predominantly supply limited. Wash load included clay, silt and very fine sand. The concentration of suspended bed material (including very coarse sand) varied with bedload transport rate, discharge and height above the bed. Bedload transport rate and changes in channel shape were greatest several days after peak discharge. Comparison between these data and sparse published data from other events on this river shows that the control on sediment load varies between supply limited and hydraulically limited transport, and that antecedent weather is an important control on suspended sediment concentration. Neither the empirical relationships widely used to estimate suspended sediment concentrations and bedload (e.g. Ackers & White, 1973) nor observations of sediment transport characteristics in ephemeral streams (e.g. Reid & Frostick, 1987) are directly applicable to this river.

Commission, Brisbane. Hydrology Report; No 12002 PR/6; 53p

**Keywords:** Flood-forecasting/ Backwater-/ Reservoirs-

**Abstract:**
The proposed Burdekin Falls reservoir will back up the Burdekin, Suttor, Cape, Rollston and Sellheim Rivers. This study aims to locate, on each river, the most upstream cut-off point which is to be used for resumption design. The study estimated the magnitude of floods for the reach, on each river, where the cut-off point was expected to occur. Flood profiles for these discharges were computed by backwater analysis through the reach. Cut-off points were then located and the most upstream cut-off point identified.


**Abstract:**
Data from fourteen catchments in the Burdekin River Basin upstream of Burdekin Falls damsite were analysed in a regional flood frequency study to relate peak flood estimates of 50, 10, 2, 1, .5, .1 and .01 percent annual exceedence probability to catchment areas and mean annual rainfall variable by multiple linear regression methods. Greater equation accuracy was obtained when the data was divided into two sub-basin sets - the Upper Burdekin and the Suttor. The Upper Burdekin equations are based on catchment area alone and explained 56 percent of the variance in the data. The Suttor equations are based on area and rainfall and explained 74 percent of the variance in the data.


**Abstract:**
The effects of pastoralism on the original vegetation of the Fitzroy River catchment are noted. Grazing land studies currently being undertaken in the area are outlined and the importance of grazing management is highlighted.


**Keywords:** Coal-exploration-Qld/ Core-drilling/ Stratigraphy-Qld/ Carboniferous-/ Permian-/ SF5515 8450/ SG5503 8449


**Keywords:** Gold-exploration-Qld/ Alunite-/ Indicator-minerals/ Regolith-/ Ore-genesis/ Sulphur-isotopes/ Oxygen-isotopes/ Rubidium-strontium-dating/ Sulphide-minerals/ SE5509 7760/ SF5502 8157


**Keywords:** Seismic-surveys/ Gravity-surveys/ Geophysical-surveys-Qld/ Geophysical-interpretation/ Structural-geology-Qld

**Abstract:**
Accurate modelling demonstrates a complex involving three discordant basins.


**Keywords:** Natural-Resource-Management/ Resource-Management/ Conservation-/
Abstract: The abstracts from all papers presented to an international symposium on the Application of Social Science to Resource Management in the Asia-Pacific Region are presented in a single volume. The papers address a broad range of sub themes including indigenous land and resource management, social and environmental assessment, community participation in resource management, social science of parks and protected areas, human-wildlife interactions, integrated resource management, watershed management and soil conservation.

Keywords: aquifers-/ artificial-recharge/ Australasia-/ Australia-/ Burdekin-Delta/ Burdekin-River/ ground-water/ hydrogeology-/ Queensland-Australia/ recharge-/ surveys-


Keywords: agriculture-/ Australasia-/ Australia-/ Ayr-/ Burdekin-Delta/ carbohydrates-/ ground-water/ Home-Hill/ hyacinth-/ hydrogeology-/ irrigation-/ management-/ organic-compounds/ organic-materials/ Para-grass/ Queensland-Australia/ recharge-/ sugars-/ surveys-
Abstract: The conference included a field trip to the Burdekin Delta some 80km southeast of Townsville, where the largest and most successful artificial groundwater recharge project in Australia, has been developed over the past 15 years. A report on the trip is included in the conference proceedings. Information is presented under the following headings: geographic setting, irrigation and the sugar industry, scheme management and financing, recharge works, and problems.

Abstract: Examines 2 inland diversion proposals which will be the subjects of comprehensive studies under the Federal Government's $640 million water resources development scheme. In Queensland, a prefeasibility study estimated the costs of diverting the water from the Tully, Herbert, and Burdekin rivers across the Great Dividing Range to the Flinders River, by tunnels. In New South Wales, it has been proposed that water could be diverted west across the Range from the Clarence River catchment. The article examines, for both schemes, the costs, the methods, and the potential advantages.

Keywords: Water-Quality (Natural-Waters)/ Water-Quality-Monitoring/ Community-
Initiatives like the National Landcare Program, upgrading sewage treatment plants, increased soil conservation activities, use of less harmful pesticides, activities of Greening Australia, integrated catchment management, protective Natural Resources legislation, WaterWise and increased community consultation are all working towards improved water quality. At the same time, continued clearing, increased and inefficient use of water, increased numbers of storages and diversions from rivers, progressive straightening of rivers, increases in numbers of exotic species, and population growth are impacting adversely on water quality. Community driven water quality monitoring programs highlight the problems for the people who can make a difference to water quality locally. They are more effective than programs directed by government agencies.


Abstract: Mapping Australia's land use pattern provides a geographic basis for characterization of rural landscapes and also provides links to agricultural production, land management practices and other resource information. The project will prepare land use maps for Gippsland and the Fitzroy River catchment suitable for predictive modelling at the catchment scale, and carry out broadscale land use mapping for the whole of Western Australia. A national land use layer will be prepared as part of the Audit framework dataset with satellite imagery from 1996-97. Agreed specifications for mapping land use type, commodities and land management practices for the Australian continent will also be developed and an interpreted land use dataset on agricultural commodities will be provided. The methods, results and conclusions, including an assessment of the quality and accuracy of the information provided, will be collated in a final report.


Abstract: Workshop considers basic principles and processes of landscape salting and various topics concerning salinity, mostly from the Burdekin region. Aims to improve dialogue between research and field staff. Discusses soil and water salinity, salinity measurement and data interpretation. Provides guidelines on minimum information on salting outbreaks that should be obtained in order to enable planning and management of reclamation. Also, gives guidelines for assessment and management of irrigation waters for different crop, environment and soil situations. In the discussion of Burdekin region salinity, includes water quality and its determination and management, prevention, reclamation and consequences of the problem.


Keywords: Sugar-Cane/ Irrigation-/ Sugar-Industry/ Irrigation-Plant/ Recharge-/ Aquifers-

Abstract: The first water to come from the Burdekin Dam will be used to relieve the problems created by the failure of the wet season which threatened to cost the sugar industry $40 dollars this year. The water will flow into the Haughton River beginning on 1 Aug and will be used to irrigate late plantings. The Invicta Mill at Giru has been drawing its water from the town bore. If it became necessary to stop the mill, the large area would be without crushing facilities. The Queensland Water Resources Minister, Mr. Martin Tenni, indicated the necessary work to move the water would be completed on time. Further, the Queensland Water Resources Commission would help Giru farmers by recharging groundwater resources to meet the needs of this year's crop.

Anonymous. 1982. North gears up for the changes that a Burdekin dam will bring. Australian Canegrower; 4(8):59-60

Abstract: The Burdekin River Irrigation scheme was discussed at the 'Dam on the Burdekin' symposium held on 26 June 1982 organized by the North Queensland Sub-Branch of the Australian Institute of Agricultural Science. Work on the project had begun in 1980-81 and
would end in 1988 with the first water available in 1986. The additional water would allow creation of new farms. Possible salinization is the greatest threat to the success of the project.

Anonymous. 1998. Overcoming salinity at Balfes Creek catchment. Australian Landcare; 61

**Keywords:** Salinity

**Abstract:** The Balfes Creek catchment was chosen as a focus catchment for the National Dryland Salinity Program (NDSP) as an area with existing dryland salinity and at risk of further problems. It has been shown that the risk of salinity problems in the catchment was greater following tree clearing, due to increased water going into the groundwater and raising the water table. There is an urgent need to provide a set of land management guidelines for landowners if the risk of dryland salinity is to be reduced. Paddock-scale guidelines that focus on vegetation management strategies and sustainable grazing practices are being developed. Salinity risk areas are being identified on individual farms using aerial photography and satellite imagery.


**Abstract:** Responsible water resource development and management can only be achieved if it is based on an understanding of the resource and related issues. This report focuses on the upper Burdekin region, and examines the existing and likely future water demands, available water supplies, and significant, water related environmental and social issues.


**Keywords:** Flood-Irrigation/ Cotton-/ Irrigation-/ Drainage-/ Runoff-/ Waterlogged-/ Infiltration-/ Emerald-Irrigation-Area

**Abstract:** Queensland's Department of Primary Industry is undertaking a water management study in the Emerald Irrigation Area. The study aims to improve irrigation management of cotton crops by determining the amount and frequency of watering necessary for maximum efficiency. Preliminary results indicate that the area is well suited to flood irrigation. Associated studies are being made into deep drainage and the waterlogging of soils.


**Keywords:** Agriculture

**Abstract:** A summary is presented of a report on the irrigation potential of the Fitzroy Valley WA. The study concludes that establishment of a large scale cotton industry on the black soil plains, horticultural development on sandy soils using groundwater for irrigation and irrigation of leucaena pastures using water pumped from the Fitzroy River WA will achieve optimum development of the irrigation potential. A positive return on capital investment could be gained by a large scale cotton industry involving: the public sector constructing and operating the headworks, storages, main channels and pump stations to supply water to 40000ha of potentially irrigable land and the private sector constructing and operating all of the internal channels, drains, roads and levees required for flood mitigation and irrigation of 25000ha of cotton annually during the dry season.


**Abstract:** Coal mining operations at Norwich Park are described. Water management of open cut pits is outlined and the control of spills to minimize degradation of water quality in the district is discussed.


**Keywords:** Ground-water

**Abstract:** Groundwater problems in the field of geotechnical engineering form 2 areas of major concern: movement into or out of excavations and the detrimental effect of water on slope stability. Three papers are critically reviewed. These deal with large scale permeability testing at Fitzroy Canal NSW, groundwater inflow into 2 mines in the South Sydney Basin NSW and the relationship between rainfall and landslide occurrence at Lake Macquarie NSW. Alternative models or interpretation of observed data are presented.


**Keywords:** Dam-site-investigations / Dams-/ Foundations-/ Rock-mechanics/ Rock-bursts/ Stress-measurement/ Overcoring-/ Strain-gauges/ Core-drilling


**Keywords:** Sites-/ Power-Generation/ Weirs-/ Augmentation-/ Geology-/ Water-Supplies (Industrial)

**Abstract:** This report covers investigations to determine the suitability of a proposed weir site on the Fitzroy River (AMTD 156.1km) to augment the Stanwell Power Station water supply. Investigations included geological mapping, core and auger drilling, water pressure tests, in situ permeability tests, standard penetration tests and laboratory testing. Suitable foundations for the weir exist. Stream sand and gravel deposits were investigated as potential sources of concrete aggregate and found to be alkali-reactive, although mortar bar tests will be carried out to verify that. Durable rock suitable for use as rock basket filling is available 4.2km upstream from the weir site. Large quantities of nondispersive clay are available within the alluvial plain northwest of the weir site, if needed for placement in a double-walled coffer dam or an embankment to act as a coffer for weir construction.


**Abstract:** A new research program at the Griffith University Centre for Catchment and In-stream Research is designed to provide a sound ecological basis for the integrated management of Queensland rivers. The Fitzroy River will be one of the major study areas. It will be compared with the Burdekin River and other rivers studied to date.


**Abstract:** One of the major issues in river management in Australia is the maintenance of instream flows for environmental purposes. Several methods for estimating environmental flows have been developed in the United States and their applicability to Australian rivers of high flow variability has been questioned. This research has determined and modelled the abiotic and biological factors which regulate fish distributions and assemblage structures in coastal Queensland and presents a preliminary classification of these rivers based upon the relationships of fish assemblages to physical habitat structure, which in turn is related to flow regime, channel morphology and catchment areas. The project has developed a new approach to instream flow management and has contributed to the development of policies and strategies for instream flow and river management in Queensland.

**Keywords:** Groundwater-/ Water-Management/ Modelling (Hydrological)/ Data-Handling/ Soil-Water-Systems/ Water-Soil-Plant-Interactions/ Salinity-/ Recharge-/ Water-Allocation/ Irrigation-Water/ Land-Use/ Water-Use/ Surface-Water/ Hydrology-/ SPLASH-/ MODFLOW-

**Abstract:** The ways in which the range of complex interacting hydrological processes were considered in the development of a groundwater management model for the Burdekin River irrigation Area are discussed. A lumped parameter model SPLASH (Soil PLAnt Salinity and RecHarge) was developed for simulating the temporal behaviour of moisture in the plant root zone and in the unsaturated zone between the root zone on a regional scale. Irrigation use and recharge data generated by SPLASH for different cases combined with GIS data on land use and surface water usage provided input to a management model, MODFLOW, to determine groundwater allocations. It is argued that the model assists resource managers to address interacting issues rather than focussing on short term remedies.


**Keywords:** Systems-Analysis/ Streams (in-Natural-Channels)/ Water-Resources-Planning/ Integration-/ Water-Yields/ Water-Resources/ Modelling (General)/ Catchment-Areas/ Rainfall-Runoff-Relationship/ Discharge (of-Natural-Waters)/ Simulation-/ Rivers-

**Abstract:** Queensland's coastal rivers have a huge agricultural and industrial potential which has come under intense development only in recent years. This paper describes how a generalised simulation model has been applied in the analysis of three major coastal river systems. The essential point is that an integrated approach has been used in both flow derivation and system behaviour analysis, and the paper concludes that this technique leads to higher expected yield and more practical operating rules.


**Keywords:** Surface-Water/ Groundwater-/ Use-/ Water-Supplies/ Aquifers-/ Modelling (Hydrological)/ Modelling (General)/ Irrigation-/ Water-Management/ Recharge-

**Abstract:** Presents an analysis of the groundwater resources of the Callide Valley in central Queensland, and sets out a means whereby inadequate groundwater supply in augmented by utilizing a surface water storage and groundwater storage in conjunction with one another. The prime element in the analysis is a computer programme designed for the simulation of operation of any generalised river basin system. The primary conclusion of the study is that it is possible to assemble a set of operation rules for conjunctive use which will lead to increased system efficiency.


**Keywords:** Soil (Types-of)/ Vegetation-/ Grasses-/ Seeds-/ Species (Biological)/ Distribution (Mathematical)/ Community-Composition/ Recruitment-/ Survey-/ Mines-and-Mining/ Habitat-/ Threat-/ Land-Restoration/ Rangelands-/ Revegetation-/ Grasslands-/ Land-Management

**Abstract:** The Rockhampton-Marlborough region in Queensland has large areas of serpentine habitat which contain unique flora including many rare and endangered species. A study to characterize the seed banks present in topsoil from the majority of plant communities at the
Lagoon Hill nickel mining site in Queensland was conducted in an effort to identify ways in which mining could be conducted in the area while still preserving the habitats of the region's unique flora. Analysis of seed numbers, composition and germination rates indicate that the seed banks of topsoils in serpentine habitats contain reasonable numbers of viable native grass and forb seeds, but low counts of tree and shrub seeds. The findings indicate that mining companies in serpentine habitats could rely on local topsoil as a source of native grass seeds in rehabilitation programs.


Keywords: Mineral-exploration-Qld/ Regolith-/ Landforms-/ Geomorphic-evolution/ Geochemical-exploration-Qld/ Weathering-/ Gold-deposits-Qld/ Vein-deposits/ Volcanogenic-deposits/ Massive-sulphide-deposits/ Base-metal-deposits-Qld/ Porphyries-/ Exploration-potential


Keywords: Geophysical-surveys-Qld/ Gravity-interpretation/ Gravity-maps/ Gravity-surveys/ Petroleum-exploration-Qld/ Stratigraphic-succession/ SF5516 8650/ SF5516 8651/ SF5516 8750/ SF5516 8751

Abstract: Broad gravity low south of MacKenzie River and west of Bluff.

Aubrey DJR. 1980. Raglan Creek damsite 65.7km geology. Queensland Water Resources Commission, Brisbane; 16p

Keywords: Dams-/ Geology-/ Building-Materials/ Spillway-/ Foundations-

Abstract: Limited geological investigations aimed at achieving a preliminary appraisal was conducted on a damsite 65.7km on Raglan Creek. The site is located on metavolcanics of the Devonian Mt Holly Beds. Investigations, though severely limited, concluded that few geological problems exist and that it is feasible to construct an earth and rockfill structure at the proposed site. An overflow chute spillway can be constructed on the left abutment. The main problems are: 1) The need to remove up to 7 metres of unconsolidated sand and gravel in the creek bed, 2) Whether it is correct to assume the existence of a relatively uniform clay layer across the alluvium and upstream of the proposed axis, 3) The relative strength of the clay materials and whether it is possible to site the embankment on top of them, 4) The possibility of existence of further faults or crushed zones in the abutment foundations not discovered during this phase of investigations, and 5) The apparent lack of a large naturally occurring source of filter and concrete aggregate materials.

Australia. Department of National Development GS. 1972. Burdekin-Townsville Region, Queensland, Resources Series; Geology and Minerals. Department of National Development, Geographic Section, Canberra; 67p

Keywords: areal-geology/ Australasia-/ Australia-/ Burdekin-/ explanatory-text/ geologic-/ maps-/ mineral-resources/ Queensland-Australia/ Townsville-Australia

Abstract: Precambrian, Paleozoic, Mesozoic and Cenozoic history, mineral occurrences and mining history, explanatory text for accompanying geologic and mineral maps.


Abstract: The estimated available historical safe yield in the Callide Valley is 20400ML per year with the inclusion of a 20000ML capacity dam at 68. 8km on Kroombit Creek and the conjunctive use of groundwater resources. The Sacramento Model was used for the stream flow generation and a generalized water resources model for yield determination.

**Keywords:** effective-rooting-depth/ available-water-capacity/ Burdekin-soil/ rooting-depth/ Australia-/ Queensland-/ Burdekin-River

**Abstract:** In a recently assembled database for the Burdekin River Irrigation Area, no single criterion, commonly used to estimate rooting depth, was available for all sites. Therefore a number of methods of estimating rooting depth which give interchangeable results were required. This paper compares eight methods of estimating rooting depth within three AWC models and compares the outcome with field determinations. Soil properties used to estimate rooting depth were laboratory-based (two chloride methods, electrical conductivity and pH), morphological (carbonate and mottling) and two fixed depths (0.9 and 1.0 m). For all soils tested, the laboratory-based methods used within one AWC model (based on regression equations by using -1500 kPa water retained) resulted in predicted AWC values not significantly different (P < 0.05) from field measurements. The suitability of mottling was limited to cracking clays and sodic duplex soils and other rooting depth methods had varying applicability depending on soil type.


**Keywords:** Soil-pH/ ESP-/ Soil-analysis/ Burdekin-River/ Australia.

**Abstract:** Interrelations between soil pH and exchangeable sodium percentage were examined using soils from the Burdekin River area in tropical Queensland. Highly significant correlations were found but the goodness of fit differed between groups of soil profile classes. By using the appropriate regression, pH levels associated with non-sodic, sodic and strongly sodic horizons have been defined.


**Keywords:** Land-Use/ Community-Participation/ Farms-and-Farming/ Finance-/ Politics-/ Landcare.

**Abstract:** The Natural Resources Management (Financial Assistance) Act (1992) established the National Landcare Advisory Committee to make recommendations to the Federal Ministers for Primary Industries and Environment on natural resources management issues and to investigate and report on matters concerning natural resources management. The community must continue to be the driving force in determining the direction of Landcare.


**Abstract:** Accessory green ferric clay occurs in fluvial litharenites of the Early Triassic Rewan Group. Although resembling glauconitic minerals in thin-section, electron microprobe analyses indicate that the green ferric clay is mainly ferric illite. The ferric illite may have formed in a small hypersaline lake or well drained, flood-plain soil, and its presence in the Rewan Group cannot be used to support a notion that the unit is partly marine influenced. Identification of the ferric illite by electron microprobe analysis shows that some green ferric clay, particularly those that resemble glauconitic minerals optically, may require precise quantitative elemental analysis before they can be used as a basis for environmental interpretation. Green ferric clay in the Rewan Group also includes detrital celadonite that most likely originated in a volcanic arc setting.


**Keywords:** Stratigraphic-drilling/ Coal-deposits-Qld/ Palynology-/ Stratigraphy-Qld/ Carboniferous-/ SF5502 8057

**Abstract:** Correlation with the Galilee Basin.

**Keywords:** Stratigraphic-drilling

**Abstract:** No Permian sediments in a gravity anomaly.


**Keywords:** Agriculture

**Abstract:** Thirty-three trees were identified from commercial orchards in Queensland during the 1990-91 and 1991-92 seasons to investigate the potential of improving the agronomic and fruit quality aspects of Kensington Pride mango. These selections were grafted and planted in a replicated field trial in the Burdekin district for comparative evaluation. Cropping characteristics were recorded annually until the trees reached 10 years of age. Small yield variations were observed between the selections, with no significant differences between the top 19 selections. No single selection had outstanding yields, however 2 selections had significantly lower yields than the rest. These findings indicate the difficulty in significantly improving Kensington Pride mangoes through selection from existing commercial germplasm. Sixteen of the best performing selections from the field trial were used as a top group to investigate the cropping characteristics of the cultivar. The average annual increase in yield and fluctuations from this average were modelled. The first significant crop was 15.7 kg per tree in year 4 and modelled yields increased by 23.3 kg per tree per year thereafter to year 10. There were significant annual fluctuations from the modelled trend with yields varying from between -44.7 to +35.7% of the expected yield. As fruit number per tree increased, average fruit weight decreased by 0.14g for every extra fruit.


**Keywords:** Basalt-/Aggregates-/Blasting-/Slope-stability/Tertiary-/SF5515 8550


**Abstract:** The Australian landscape has been regionalized on the basis of recognizable geological, soil and vegetation patterns or discontinuities in the landscape. The Fitzroy River region is dominated by the Brigalow Belt North and Brigalow Belt South bioregions. This paper attempts a preliminary 'State of the Environment' report for the biodiversity of the region. The Fitzroy region contains a comparatively high percentage of the State's scheduled rare and threatened species. Some of the more significant regional issues associated with biodiversity management at the species level include investigating the adequacy of the existing reserve system, strategic consolidation and improved wildlife management within the reserve system to ensure the maintenance of species, acquisition of baseline data concerning species distribution/abundance patterns, improving understanding of the impact of habitat change in multiple land use situations, and providing improved management of rare or threatened species.


**Keywords:** Land (Grass-and-Pasture)/ Vegetation-/ Grasses-/ Shrubs-/ Trees-/ Community-Composition/ Distribution (Mathematical)/ Spatial-/ Monitoring-/ Methods-/ Aerial-Surveys/ Photography-/ Videographics-/ Data-Handling/ Arid-Regions/ Tropical-Regions/ Rangelands-/ Grasslands-/ Land-Management

**Abstract:** Sustainable rangeland management requires constant monitoring of the impacts of grazing to reduce the risk of land degradation through heavy defoliation of pastures. The potential for using aerial videography to measure herbage cover, compared with ground data was assessed in a grazing study at Charters Towers in northeast Queensland. Analysis of the results from each approach indicates that the video data allowed cover levels to be determined across the entire area of each paddock, and hence provided a more accurate estimate of actual cover than did ground data collection techniques. The video imagery techniques have the added advantage of enabling analyses of spatial patterning arising from environmental or grazing effects.


**Keywords:** Ground-water-quality/ Biogeochemistry-


**Abstract:** Shallow and rising groundwaters underlying irrigated agricultural areas are vulnerable to contamination by infiltrating agricultural chemicals and microbes of public health significance. Groundwater quality has been assessed for the unconfined aquifers of four irrigated agricultural areas, Shepparton East, Berriquin-Denimein, Padthaway-Coonawarra and the Burdekin Delta. Groundwater nitrate concentrations varied noticeably although they rarely exceeded the WHO drinking water guideline. However, depending on the irrigation area, elevated nitrate concentrations considered indicative of contamination from anthropogenic sources were found in 12% to 65% of groundwaters sampled. Pesticides were detected in many of the waters sampled. The triazine herbicides and their degradation products were overwhelmingly the most frequently detected. Concentrations of parent compounds exceeded National Health and Medical Research Council draft drinking water guideline values in only 7-15% of samples overall, with draft health guideline values not being exceeded.


**Keywords:** Ground-water-quality/ Irrigation-/ Agriculture-/ Ground-water-pollution

**Abstract:** An assessment of groundwater quality surveys in the irrigated agricultural areas of the Murray Basin, particularly Shepparton- Bunbartha-Cobram, Berriquin-Denimein and Padthaway-
Coonawarra in Victoria and the Burdekin Delta is given. This paper discusses the data to hand from some pesticides, nitrate, fecal indicator bacteria and manganese. Groundwaters from about half the observation wells sampled in the Shepparton East area contained the triazine herbicides atrazine and simazine at low concentrations, high levels of nitrates and manganese and two thirds of the wells exceeded the guidelines for faecal coliforms. Groundwater samples from the Padthaway-Coonawarra area contained atrazine and high concentrations of nitrates. The assessment of groundwater quality in shallow aquifers underlying irrigated agricultural areas, shows that both particulate and dissolved contaminants are infiltrating to the water table.


**Keywords:** Ground-water-quality/ Irrigation-/ Agriculture-/ Ground-water-pollution

**Abstract:** Particulate and dissolved contaminants are infiltrating to the water table.


**Abstract:** The unconfined aquifer of the Burdekin River Delta (BRD) and the Burdekin River Irrigation Area (BRIA) consist of coarse, unconsolidated quartzose sands which overlie granite bedrock, and host widespread clay lenses. Groundwater samples were acquired and analyzed for a wide range of natural and anthropogenic water quality indicators including nutrients, pesticides and faecal indicator bacteria. Nitrate and nitrogen concentrations appeared to be above 'background' in approximately one third of samples in each year. Faecal indicator bacteria were detected in only about 5% of groundwater samples, consistent with low populations of livestock in the study area. Samples were screened for a wide range of pesticides, but only the triazine herbicide atrazine was detected. The application of irrigation water and the cultivation of sugar cane may have increased solute flux and soil permeability, thus enhancing the transport of nutrients and pesticides to the underlying groundwaters.


**Abstract:** Present surface and groundwater supply and present and estimated future demand for water in the Fitzroy River catchment are discussed. Existing storages and their adequacy are considered.


**Keywords:** Coal-outbursts/ Monitoring-/ Microseisms-/ Methane-drainage/ Longhole-drilling/ SF5503 8456


**Keywords:** Geochemical-exploration-Qld/ Regolith-/ Geochemical-sampling/ Sampling-methods/ Case-studies/ Concealed-deposits/ Mineral-exploration-Qld/ Reviews-
Abstract: Development of innovative sampling and analytical techniques should result in further discoveries.


Keywords: Mineral-exploration-Qld/ Regolith-/ Geochemical-sampling/ Concealed-deposits/ Geochemical-exploration-Qld/ Sampling-methods/ Case-studies/ Reviews-


Keywords: Base-metal-deposits-Qld/ Gold-/ Silver-/ Massive-sulphide-deposits/ Pyrite-/ Mineral-exploration-Qld/ Chalcopyrite-/ Chalcocite-/ Geochemistry-/ Hydrothermal-alteration/ Cambrian-/ Ordovician-/ Tertiary-/ SF5502 8157


Keywords: Base-metal-deposits-Qld/ Gold-/ Silver-/ Massive-sulphide-deposits/ Pyrite-/ Mineral-exploration-Qld/ Chalcopyrite-/ Chalcocite-/ Geochemistry-/ Hydrothermal-alteration/ Cambrian-/ Ordovician-/ Tertiary-/ SF5502 8157


Keywords: Water-resources/ Ground-water/ Rainfall-/ Water-storage

Abstract: Endowed with both surface and ground water resources.


Keywords: Palynology-/ Systematic-palaeontology/ Biostratigraphy-/ Palaeobotany-/ Algae-/ Pteridophyta-/ Gymnospermae-/ Pollen-/ Tertiary-/ SF5507 8355

Bell PRF, Greenfield PF, Nicklin DJ. 1984. The composition of waste waters from the processing of Rundle oil-shale and some treatment strategies. In: Engineering Conference, 'Engineering Australia', 2-6 April 1984, Brisbane, Papers. Institution of Engineers, Australia, Barton ACT. National Conference Publication; No 84/1; 97-101
Keywords: Oil (Mineral)/ Retort-Wastewater/ Leachate-/ Wastewater-Analysis/ Wastewater-Treatment/ Environment-/ Shale-/ Laboratory-Scale

Abstract: This work is concerned with oil shale from the Rundle resource currently the most advanced of Australia's oil shale developments. The characteristics of the retort water and leachates from processed shale have been investigated using bench scale equipment. Leachate composition in the spent shale heaps has been characterized by operating packed beds of spent shale in controlled unsaturated flow conditions and by analysing the effluent as a function of pore volumes of liquid eluted. A leachate model has been developed and is being tested. At this stage it appears that no inorganic constituent of the leachates would be of particular environmental concern -leachable organics may prove a more serious problem. Analysis of retort water has shown that, as with US shales, a multistage treatment process will be necessary before such a stream is suitable for discharge to a receiving body of water.


Keywords: Total-Catchment-Management/ Tropical-Regions/ Wet-/ Reviews-/ Natural-Resources/ Resource-Management/ Environmental-Management/ Catchment-Areas/ Policy-/ Planning-/ Bodies (Corporate)

Abstract: A research project looked at integrated catchment management (ICM) in the Herbert River catchment over five years. One of the key outputs of the project was a collection of 41 key reports, journal articles and databases available on CD-ROM, online and in hard copy. The current thinking in ICM, a challenging area of natural resource management (NRM), is presented in seven volumes: Vol 1 Synthesis of findings; Vol 2 Institutional arrangements for ICM in Queensland; Vol 3 ICM and sugar industry planning; Vol 4 Implementing ICM in the Herbert River catchment: HRCCC views and progress; Vol 5 Implementing ICM in the Herbert River catchment: community views; Vol 6 Implementing ICM in the Herbert River catchment: economic, communication and resource use issues; and Vol 7 Implementing ICM: evaluation and information needs. An evaluation framework relevant to a broad range of NRM policy initiatives and a comprehensive set of recommendations for planning and implementing community based ICM policy initiatives in Australia are presented.


Keywords: Total-Catchment-Management/ Catchment-Areas/ Natural-Resources/ Resource-Management/ Environmental-Management/ Bodies (Corporate)/ Private-Sector/ Land-Use/ Community-Participation

Abstract: Stakeholder representation and participation are essential elements of legitimate and successful natural resource management (NRM) policy initiatives. The degree to which there is adequate and responsive communication and coordination between stakeholders underlies the effectiveness and fairness of their outcomes. Fundamental to integrated catchment management (ICM) policy initiatives in Queensland is reliance on existing authorities, organizations, government and the private sector to accomplish ICM objectives and implement the strategy. Organizational structures and linkages are critical in facilitating information exchange and supporting a coordinated and inclusive approach to catchment management decision making. A broad range of community, industry and government organizations with some level of responsibility or interest in resource use management and planning are present in the Herbert River catchment. This study investigates the change in organizational structures and linkages on NRM within the Herbert River catchment from the inception of the Herbert River Catchment Coordinating Committee in 1993, to 1998.


**Keywords:** Integrated-Catchment-Management/ Tropical-Regions/ Planning-/ Determination-/ Monitoring-/ Land-Management

**Abstract:** The basic assumption that integrated catchment management (ICM) can contribute effectively to the better management of land and water resources requires systematic and critical investigation. Indicators of progress are not easily defined and the evaluation of the effectiveness of integrated programs in resolving or ameliorating natural resource use and management problems has been largely neglected. To address these deficiencies, this study develops an integrated systems framework for the evaluation of ICM policy initiatives based on a consideration of the changing nature of approaches to natural resource management policy and experience in the practical assessment of on-ground programs. The framework provides the basis for an integrated evaluation of the different perspectives on the natural resource management and planning process. The study provides a comprehensive and integrated longitudinal evaluation over five years of an ICM policy initiative in Queensland and the ICM process in the Herbert River in particular. This provided the basis for the identification of a set of over 50 factors that may influence the success of community based ICM and also 32 recommendations for planning and implementing ICM that has broad application to natural resource management policy initiatives in Australia.


**Keywords:** Total-Catchment-Management/ Catchment-Areas/ Natural-Resources/ Resource-Management/ Environmental-Management/ Human-Activity/ Land-Resources/ Land-Use/ Land-Management/ Water-Resources/ Water-Management

**Abstract:** The emerging paradigm of natural resource management (NRM) supports a more flexible and adaptive approach to address the uncertainty, complexity and interconnectedness associated with natural resource and human management systems. Translation into practice is proving difficult and proactive evaluation is required. Issues of integrated resource management (IRM) evaluation are examined and a conceptual evaluation framework is proposed, identifying technical, institutional, economic and social criteria that may influence the success of IRM in practice. This framework should facilitate the proper formulation of the NRM problem and its underlying characteristics. Australian governments are investing considerable resources in IRM programs, with high community expectations. The fundamental challenge of these programs is to improve the way natural resources are used and managed with a long term perspective. The basic assumption that IRM approaches contribute effectively to better land and water resource management has not been systematically or critically addressed.


**Keywords:** Natural-Resources/ Resource-Management/ Environmental-Management/ Sustainable-Development/ Resource-Allocation/ Finance-/ Accountability-/ Policy-

**Abstract:** Program evaluation and policy analysis are recognized as critical elements of successful policy development and implementation. With increasing demands for better scrutiny of the use of public funds, and greater accountability for environmental protection and equity in resource use, the focus of policy, program and research evaluation and implementation has shifted. Recent thinking on ecologically sustainable development (ESD) emphasizes continuous change, adaptation and learning, which has caused a shift in the theory underpinning natural resource management (NRM) and this shift is increasingly reflected in policy. The adoption of new policy models for NRM and environmental management demands a new approach to evaluation. A basis for an integrated evaluation of the social, economic, environmental,
institutional and technological perspectives on the effectiveness of NRM policy initiatives is presented.


**Keywords:** Natural-Resources/ Resource-Management/ Environmental-Management/ Community-Participation/ Bodies (Corporate)/ Policy-/ Legislation (on-Environment)/ Total-Catchment-Management/ Catchment-Areas/ Interdisciplinary-/ Research-

**Abstract:** Natural resource management, based on integrating community involvement, technical knowledge, organizational structure and policy objectives, has been adopted into integrated catchment management (ICM) programs by all State Governments in a variety of policy and legislative frameworks. These initiatives aim to improve the way natural resources are used and managed in the long term, but the translation into practice at a catchment scale is proving difficult. As an evolving concept, ICM lacks a well defined body of guiding principles capable of general application. Guiding principles for the role of community based ICM and factors likely to influence its success are identified and recommendations on planning and implementation are presented. The principles and recommendations, backed up by comprehensive and rigorous interdisciplinary research, are based on a five year study to investigate factors influencing the success of the Herbert River ICM process.


**Keywords:** Natural-Resource-Management/ Environmental-Management/ Policy-/ Efficiency-/ Determination-/ Methods-/ Project-Evaluation/ Systems-Analysis/ Case-Study

**Abstract:** It is argued that the adoption of a new paradigm for natural resource and environmental policy which emphasises the evolutionary nature of resource management demands the concomitant adoption of a new approach to program evaluation. A systems-based approach is proposed which reflects the complexities of natural resource management policy, particularly problem characterization, policy formulation and intent, program logic, and on-ground implementation. The utility of the systems approach is demonstrated in relation to three Australian case studies: a community-based integrated catchment management project, a resource information delivery system, and the development of a decision support system.


**Keywords:** Natural-Resources/ Resource-Management/ Environmental-Management/ Sustainable-Development/ Interdisciplinary-/ Research-/ Policy-/ Planning-

**Abstract:** The emerging focus on ecologically sustainable development (ESD) has caused a paradigm shift in the theory underpinning natural resource management (NRM) which is increasingly reflected in policy. A new approach to evaluation of NRM programs is developed using a systems framework, taking into account practical assessment of on-ground projects. The framework provides the basis for an integrated evaluation of the social, economic, environmental, institutional and technological perspectives on NRM and planning. It recognizes the multiple levels and nested nature of NRM policy and research, namely: problem characterization, policy formulation and intent, program logic, and on-ground implementation. Its utility is demonstrated through application to six case studies and the implications are discussed.


**Keywords:** Fluvial-sediments/ Terrestrial-sediments/ Marine-sediments/ Deltaic-sediments/ Sea-level/ Holocene-
Abstract: The Burdekin River acts as a large source of sediment which is dispersed to the northwest.


Keywords: Fluvial-environment/ Littoral-zone/ Sedimentation/- Littoral-drift/ Dunes-


Keywords: actinides/- airborne/- Australasia/- Australia/- copper/- economic-geology/- exploration/- gamma-ray/- geochmical-methods/- metals/- methods/- mineral-exploration/- New-South-Wales-Australia/- Queensland-Australia/- spectroscopy/- uranium-


Abstract: Sampling of freshwater fish species at 21 sites throughout the major rivers of the Fitzroy catchment in central Queensland reflected 26 species, representing 15 families, a reduction compared to earlier surveys. It is argued that dams and weirs throughout the Fitzroy catchment in Queensland have had a major impact on the fish communities. For example, the Fairbairn Dam in the upper Nogoa River appears to have created an isolated breeding population of Macquaria ambigua oriens (Fitzroy River golden perch) in the headwaters above. Prior to the establishment of a fishway on the Fitzroy River barrage, the migratory passage of catadromous and diadromous fish was severely restricted. It is suggested that the implementation of fish passage devices on barriers in other parts of the catchment may assist in the free passage and re-colonisation of migratoy fish species.


Keywords: Water-Resources-Planning/ Water-Management/ Water-Policy/ Economics/- Ecological-Management/ Water-Supplies/ Water-Use/ Land-Use/ Water-Quality (Natural-Waters)/ Water-Quality-Control/ Bodies (Corporate)/ Resource-Management/ Resource-Conservation/ Sustainable-Development

Abstract: Australia's quality of life is critically dependent on the sustainable use of our water resources. In the past, this has depended on the construction of storages, diversion of streams and extraction from groundwater to provide urban, industrial and rural water needs. In many parts of the country, options for further development are minimal and in some, current developments and use can no longer be sustained. Water quality decline, over exploitation of water resources, saline intrusion and increasing severity of blue-green algae outbreaks are discussed as evidence of the need for improved water management with greater recognition of long term impacts. Natural resource management issues, economic aspects of water management, water planning and institutional arrangement are discussed as essential components of water policy. The substantial changes of the last decade are acknowledged, but coordination of policy changes is considered necessary to maximize the conservation and community benefit of water resources beyond 2000.


Keywords: Trees/- Farms-and-Farming/ Plantations/- Research/- Productivity/- Forestry/- Sheltering/- Salinity-Control/ Wood/- Agroforestry/- Land-Management
**Abstract:** The Victorian Department of Agriculture is involved in agroforestry research and demonstration projects which aim to determine combinations of tree species and management techniques which will allow the successful integration of trees with agriculture to maximize land capability and production. Agroforestry should be central to any comprehensive salinity management plan, and is an essential part of Landcare. A summary of the agroforestry projects being undertaken in the southwestern region of Victoria is presented.


**Keywords:** coastal-belt/ Herbert-River/ Burdekin-River/ surface-moisture/ soil-moisture/ groundwater-resources

**Abstract:** The area under discussion is confined to the coastal belt between the Herbert and Burdekin River deltas and deals primarily with the hydrology. The study is divided into three main sections dealing with surface moisture, soil moisture and groundwater resources. A general survey introduces each section. This is followed by case studies where appropriate.


**Keywords:** Oil-shale/ Petrology-/ Geochemistry-/ Tertiary-/ SF5516 8850


**Keywords:** Soil-water/ Arable

**Abstract:** Irrigation water accounts for almost 40% of total variable production costs for rice (Oryza sativa L.) cropping in the Burdekin River irrigation Area, northern Australia. Increasing the efficiency of water use would improve the economic viability of growers and long-term environmental benefits would also be likely due to lower water tables and decreased salinisation in irrigation areas. The aim of these studies was to maximize grain yield by optimizing its functional components: water use, efficiency of water use for dry matter production (WUE(dm)) and harvest index (HI). The responses of dry matter and yield in rice (cv. Lemont) to five methods of irrigation were studied in a wet and dry season in the region. Applying a permanent flood at sowing, the 3-leaf stage (traditional) and prior to particle initiation were compared with two unflooded methods: saturated soil culture (SSC) and intermittent irrigation at weekly intervals. Saturated soil culture consisted of growing rice on raised beds of height 0.2 m and width 1.2 m, with water maintained in the furrows (0.3 m wide) some 0.1 m below the bed surface. The results of these studies show that it is not necessary to flood rice to obtain high grain yield and quality. The trend was for yield to increase with water supply, but there was no significant difference in yield and quality between SSC and traditional flooded production, although SSC used about 32% less water in both seasons. Therefore the efficiency of water use for grain production (WUE(g), g m<sup>-2</sup> mm<sup>-1</sup>) was higher in SSC than in traditional flooded production in the wet season and a similar trend existed in the dry season. There were no differences between SSC and the traditional method of irrigation in any of the grain quality components measured, indicating that this water saving method did not lower grain quality. Weed growth was generally higher in unflooded treatments, although weed populations in SSC and traditionally flooded rice were equivalent in the dry season, suggesting that weeds can be controlled in SSC. Saturated soil culture provides a viable alternative to flooded rice production for growers in semi-arid tropical environments. Substantial reductions in variable costs of production are attainable by reducing water use without reducing yield and quality.


**Abstract:** Refers to a long term hydrological experiment to study the effects of the Brigalow Lands Development Scheme which involves clearing development and closer settlement in the
Fitzroy River basin. Stage 1 of the experiment is a calibration period with 3 catchment areas under native vegetation. Documents the hydrological characteristics of the 3 catchment areas during the stage 1 period of 1965-79. Describes the catchment areas, and reviews the rainfall and runoff data. Discusses the simulation modelling of the water balances of the catchment which was used as a method of estimating runoff from rainfall. Gives details of the calibration procedure and the calibrated value of the model parameter for each catchment. Examines runoff events, their number, value and peak rates. Includes consideration of unit hydrograph variations.


**Keywords:** Catchment-Areas/ Industries-/ Natural-Resources/ Structures-/ Water-/ Management-/ Community-Participation/ Sustainable-Development/ Planning-/ Total-Catchment-Management/ Landcare-

**Abstract:** Integrated catchment management offers the best mechanism yet to achieve coordinated resource management on a large enough scale to be able to demonstrate the value of public and private investment in improving the quality of life of the wider community. A strategy provides a framework and focus for debate on what the community wishes to achieve and includes the process of negotiation, mediation and consensus building, planning at all the necessary levels, the implementation of the plans, and the monitoring, evaluation and review of the whole process. It is essential that the regional strategy support and empower the plans and planning processes of catchment coordinating, Landcare, and other community groups, for it is these groups which implement on-ground action.


**Keywords:** Forests-/ Trees-/ Covering-/ Deciduous-/ Land (Grass-and-Pasture)/ Stress (Physiological)/ Drought-/ Tolerance-/ Tropical-Regions/ Vegetation-/ Species (Biological)/ Rainforests-/ Eucalyptus-/ Savannas-

**Abstract:** Woody plant species that are typically restricted to rainforest were observed to have established in a Eucalyptus savanna, which had never been grazed by exotic herbivores and had remained unburnt for a very long time. This paper reports the comparison of damaged canopies in evergreen rainforest and savanna species following a severe drought. It was found that there was statistical difference in the number of damaged juvenile evergreen rainforest or savanna species. However, significantly more savanna saplings had damaged canopies compared to evergreen rainforest canopies. These results are interpreted as demonstrating a tolerance of most dry evergreen-rainforest species to severe moisture stress. Only seven out of the 26 species were deciduous and all of these were considered to be rainforest specialist. The predominance of evergreen species may reflect their greater capacity to opportunistically respond to favourable moisture conditions given the high variability of rainfall in the study region.


**Abstract:** Observations are presented on the hydrology of the Carnarvon Gorge from a visit made in 1992. Although Carnarvon Creek at Wyseby always has a minimum flow of zero in October to December, the flow within the gorge never stops. This phenomenon occurs because the gorge incises a huge depth of sandstone which soaks up rainfall and from which the groundwater then leaks into the creek above an impermeable base of shale. The combined effects of evaporation and infiltration cause the water to disappear within a few kilometres except during the wet season. Floating mats of green algae in 1992 were observed to be due to a greater than
usual amount of timber debris in the creek bed. This derived from flood damage in 1990 and was now gradually decomposing to release a larger than usual nutrient supply to the creek. It was also estimated that the maximum flood height was about 2.9m above the present channel bed.

**Keywords:** Coal-preparation/ Heavy-media-separation/ Heavy-media/ Magnetite-/ Magnetic-fluids/ Utah-Development-Co/ SF5516 8650

**Keywords:** Soil-properties / Soil-chemistry/ Agriculture-/ Trace-elements

**Abstract:** This report reviews the flood hydrology of Eungella Dam on Broken River. When full, the dam occupies 6.3% of the catchment and floods 29.6% of the stream length which is more than many other Queensland reservoirs. Since the first study was done, new data have become available. The new estimates show a small increase in design floods (3% for the 0.1 exceedance probability and 17% for the 1.0 level). However, the estimate for the probable maximum flood is 184% higher. The author concludes it is unlikely water will overtop the dam wall and reservoir routing calculations show the dam reduces the peaks of design floods significantly.

**Abstract:** Fitzroy Canal NSW was excavated through jointed sandstones of the Hawkesbury Sandstone and Mittagong formations in the southern position of the Sydney Basin. This paper outlines investigations carried out on bulk permeability of the rocks traversed to determine the waterproofing requirements of the canal. Predicted hydrogeological parameters are then compared with those determined from a prototype leakage test.


Brodie JE, Hicks WS, Richards GN, Thomas FG. 1984. Residues related to agricultural chemicals in the groundwaters of the Burdekin River delta, North Queensland. Environmental Pollution (Series B); 8:187-215  
**Keywords:** agriculture-/ alkali-metals/ Ammonia-/ Australasia-/ Australia-/ Burdekin-River-delta/ chloride-ion/ chlorine-/ environmental-geology/ fluoride-ion/ fluorine-/ Foraminifera-/ ground-water/ halogens-/ heptachlor-/ hydrochemistry-/ Invertebrata-/ mercury-/ metals-/ microfossils-/ nitrate-ion/ nitrite-ion/ northern-Queensland/ pesticides-/ phosphate-ion/ pollution-/ potassium-/ Protista-/ Queensland-Australia/ Rotaliacea-/ Rotaliina-/ sodium-/ surveys-  
**Abstract:** The concentrations of a range of species, related to agricultural chemicals applied to the sugar cane crops, have been determined in the groundwaters of the Burdekin River delta. Concentrations of gamma HCH and heptachlor, organic and inorganic mercury, nitrate, nitrite and ammonia, phosphate, sodium, potassium, chloride and fluoride are reported. The concentrations of the various species are discussed in terms of local geographic features, annual rainfall pattern and agricultural chemical usage.

**Keywords:** Dams-/ Sites-/ Seismicity-/ Refraction-/ Profiles-/ Granite-/ Quarries-/ Sites-/ Drilling-/ Burdekin-Dam

**Abstract:** Seismic refraction profiles totalling 1.76km were shot at two proposed granite quarry sites near the proposed Burdekin Falls dam site. The purpose of the profiling was to assist in a drilling program to select the site with more fresh granite at a shallow depth. Results have shown that the fresh, shallow granite at Area 2 is unevenly distributed with parts that have been dissected by deeply weathered shear zones. At Area 1, the fresh granite occurs over most lines at shallow depths.


**Keywords:** Site-investigations/ Geophysical-surveys-Qld/ Seismic-refraction-surveys


**Keywords:** Reviews-/ Mineral-occurrences/ Marketing-/ Strategic-plan/ Data-bases/ MINOCC-/ Geophysical-responses/ Knowledge-base/ GEOSIGN-/ Expert-systems/ Physical-properties


**Keywords:** Dam-site-investigations/ Geophysical-surveys-Qld/ Seismic-refraction-surveys


**Keywords:** Dams-/ Sites-/ Seismicity-/ Refraction-/ Profiles-/ Interpretation-/ Geology-

**Abstract:** Seismic refraction profiles totalling 4.62km were shot at the Don River 56.4km damsite, at the request of the Queensland Water Resources Commission. The purpose of the profiling was to assist in geological interpretation. Results have shown that the uppermost low velocity layers mainly represent the semi-consolidated sediment while the high velocity bedrock has zones that represent different geological bodies resulting from the Hecate Granite intrusion into the granodiorite. An uphole shooting experiment was carried out unsuccessfully to evaluate approximate elastic constants of fresh granodiorite.


**Keywords:** Dam-site-investigations/ Engineering-geophysics/ Seismic-refraction-surveys/ Weathering-

**Abstract:** Evidence of depth of weathering and a low velocity fracture zone.


**Keywords:** Geology-/ Seismicity-/ Refraction-/ Survey-/ Pipelines-/ Pumping-Stations/ Sites-/ Geophysics-/ Awoonga-Callide-Pipeline

**Abstract:** This report discusses the seismic refraction results carried out for the Queensland Water Resources Commission (QWRC) along the proposed Awoonga to Callide Pipeline, and over the Wooderson and Bocoolima Pump Station sites. The survey is part of the foundation investigation which includes surface geological mapping, test-trenching and drilling. A total of 29.1 line kilometres of seismic profiling was conducted. The survey's objectives were to locate areas of shallow 'hard' rock and determine seismic layer thickness and velocities in these areas. The seismic velocities and trench tests provide an approximate index of rippability over the steep terrain and highly variable geology. This method of investigation has been successful in providing a good indication of conditions to be encountered during excavation.
**Keywords:** Geophysical-surveys-Qld/ Electrical-IP-surveys/ Direct-current-surveys / Mise-a-la-masse-surveys/ Core-drilling/ Geochemical-exploration-Qld/ Core-sampling/ Assay-value/ Geophysical-anomalies/ Geological-mapping-Qld/ SF5511 8452

**Keywords:** Geochemical-anomalies/ Aerial-geophysical-surveys/ IP-surveys/ Mise-a-la-masse-surveys/ Core-drilling/ Sedimentary-basins/ Assay-value/ Geological-mapping-Qld/ SF5511 8452

**Keywords:** Land-Clearing/ Groundwater-/ Salinity-/ Risk-Analysis/ Recharge-/ Discharge-/ Hazard-/ Vegetation-/ Geographic-Information-Systems/ Extension-  
**Abstract:** A GIS (Geographic Information System) based salinity risk assessment was developed for north Queensland extension agents responsible for evaluating tree clearing permit applications. The work identified potential intake areas for recharge to groundwater and potential saline discharge areas, identified salinity hazard areas in the upper Burdekin River basin, and estimated the risk of salinization after tree clearing in these areas. Risk management strategies are suggested.

**Keywords:** Information-Analysis/ Decision-Theory/ Land-Clearing/ Salinity-/ Risk-Analysis/ Soil (Characteristics-of)/ Groundwater-/ Recharge-/ Geographic-Information-Systems/ Decision-Support-Systems  
**Abstract:** The aim of this research has been to develop a decision rule for evaluating the impact of tree clearing on soil salinisation in the upper Burdekin River catchment and to show that geographic information systems (GIS) could be used as a decision support tool in this case where the area under consideration is so large. The decision rule is structured in the context of minimizing the risk of salinisation in the landscape. Criteria for evaluating the decision include position in the landscape, depth to groundwater, rate of recharge to groundwater and, to some extent, salinity of groundwater or presence of salt in soil above rising groundwater. A multi-criteria evaluation procedure is being developed to combine these criteria and arrive at a risk assessment map showing areas at high, medium, or low risk of salinisation in the Burdekin catchment.

**Keywords:** aquifers-/ Australasia-/ Australia-/ bedrock-/ Burdekin-Basin/ chemically-precipitated-rocks/ drainage-/ electrical-conductivity/ evaporites-/ ground-water/ hydrogeology-/ hydrology-/ landforms-/ northern-Queensland-Australia/ parent-materials/ PERFECT-/ permeability-/ qualitative-analysis/ Queensland-Australia/ rainfall-/ recharge-/ risk-assessment/ salinity-/ salinization-/ salt-/ sedimentary-rocks/ soil-surveys/ soils-/ surveys-/ SWIM-/ thickness-/ total-soluble-salts/ unconfined-aquifers/ water-balance/ water-resources/ water-table/ watersheds-

**Keywords:** Salinity-/ Soil-maps/ Electrical-surveys/ Ground-water-discharge

**Keywords:** Groundwater-/ Recharge-/ Salinity-/ Soil-Sampling-and-Analysis/ Saline-Water/ Discharge (of-Natural-Waters)/ Data-Handling/ Modelling (General)

**Abstract:** The focus of this paper is on how soil survey information can be used to identify potential intake areas for recharge to groundwater and potential saline discharge areas in the basin of the upper Burdekin River. As this area is sparse in hydrogeological and other natural resources data the digital 'Atlas of Australian Soils (1:200000)' was used to infer catchment behaviour. Spatial statistical results from the study suggest that the pedological model for inferring catchment behaviour has merit.


**Keywords:** Land-Clearing/ Salinity-/ Risk-Analysis/ Catchment-Areas/ Trees-/ Forest-Cutting/ Tree-Felling/ Water-Balance/ Dryland-/ Waterlogged-/ Water-Table/ Modelling (Hydrological)/ Geographic-Information-Systems

**Abstract:** Extensive clearing of native forests in southern and western Australia has altered the water balance in those regions, leading to extensive dryland salinity. Several lines of evidence were followed to assess the risk of salinization after tree clearing in the upper Burdekin River basin. Conceptual, biophysical process based approaches (pedological interpretation, event tree analysis, one-dimensional water balance modelling, and Boolean spatial analysis) were compared to empirical methods and field evidence. The convergence of all lines of conceptual reasoning to the conclusion that there exists a risk of salinization in northern Queensland, consistent with field evidence of naturally occurring waterlogging and salinity, strengthens the argument against tree clearing.


**Keywords:** aquifer-vulnerability/ aquifers-/ Australasia-/ Australia-/ bedrock-/ brines-/ Burdekin-River-basin/ digital-terrain-models/ drainage-basins/ ecology-/ ground-water/ marshes-/ mires-/ playas-/ pollution-/ Queensland-Australia/ salinization-/ salt-lakes/ salt-marshes/ salt-water-intrusion/ soils-/ substrates-


**Keywords:** Salinization-/ Soil-surveys/ Ground-water-surveys/ Spatial-data


**Keywords:** aquifer-vulnerability/ aquifers-/ Australasia-/ Australia-/ bedrock-/ Burdekin-River/ Burdekin-River-basin/ concentration-/ Dalrymple-Shire-Australia/ drainage-/ electrical-conductivity/ geographic-information-systems/ ground-water/ hydrology-/ information-systems/ land-use/ monitoring-/ nonpoint-sources/ pollution-/ Queensland-Australia/ recharge-/ risk-assessment/ saline-composition/ shallow-aquifers/ soils-/ surveys-/ unconfined-aquifers/ unsaturated-zone/ water-balance/ water-management/ water-table/ waterlogging-/ watersheds-


**Keywords:** Lava-flows/ Pyroclastic-rocks/ Magmatic-segregation/ Great-Basalt-Wall

**Keywords**: Environmental-protection/ Mineral-resources/ Coal-resources/ Land-use-planning/ Urban-planning

Burdekin Project Committee. 1977. Resources and potential of the Burdekin River Basin, Queensland: appendix 3 water resources. AGPS, Canberra; 266p

**Keywords**: Water-Resources-Development/ Costs/- Surface-Water/ Groundwater/- Dams/ - Water-Use/- Flood-Control/- Environment/- Hydrology/- Water-Supplies/ Mitigation-

**Abstract**: Sets out the results of investigations undertaken to assess the potential for development of the water resources of the Burdekin River Basin and the likely cost of development. The water resources study included the following aspects: (a) exploration and assessment of groundwater resources (b) the identification of favourable storage sites with potential for the development of the surface water resources of the basin (c) preliminary engineering and hydrologic investigations of these selected damsites (d) preliminary examination of environmental aspects and (e) examination of the extent of possible flood mitigation in the lower Burdekin floodplain.


**Abstract**: The short-lived but intense discharge of freshwater from tropical rivers into the Great Barrier Reef (GBR) Lagoon and the associated salinity reductions are a critical consideration in marine research and management of the ecologically sensitive GBR World Heritage Area. Salinity provides a unique tracer that gives clues to the origin of river-borne contaminants and allows the influences of storm-induced resuspension and river discharge on turbidity to be clearly distinguished. We describe a field investigation of the evolution and dynamics of the Herbert River plume in the central GBR. Its primary goals were to use an airborne salinity mapper and in situ instruments to study the three-dimensional structure and evolution of the plume and to lay a foundation for numerical modelling studies of its dynamics. The aircraft surveys provided a rapid assessment of the plumes spatial extent, while the in situ data revealed details of its subsurface structure. The Herbert River plume was produced by heavy rainfall associated with tropical storms during the La Nina-dominated 1999/2000 monsoon season. In the near field, the surface expression of the plume boundaries was indicated by sharp colour and salinity fronts that were clearly visible from the air and sea surface. In the far field and middle Lagoon, the plume was more dispersed and ultimately merged with the larger-scale salinity gradients and with the remnant plume of the more distant, and larger, Burdekin River. The plume location and structure evolved in response to changing river flows, tidal and subtidal circulation, and wind. Using Garvine's Kelvin number-based scheme, the plume was classified as intermediate in dynamical character and thus is subject to a variety of forcings. The plume evolved in response to changes in the relative intensity of tidal currents and low-frequency circulation due to wind and western boundary current forcing. It also displayed a characteristic "hook-shaped" structure, which has been identified previously in numerical plume model studies. This structure appeared in the presence of accelerating along-shelf current flow and horizontal shear and it indicates that the plume circulation had a strongly three-dimensional character. The approach demonstrates the efficacy of combining airborne and in situ methods to observe rapidly evolving coastal salinity structure and dynamics and sets the stage for future satellite-borne studies of larger-scale features showing contrasting salinity distributions.

Abstract: There is increasing concern that the condition of grazing lands in the Fitzroy River basin is declining. To address these concerns a plan to monitor the vegetation at selected sites was put in place to record changes in its population and structure over time. The two monitoring systems in use, TRAPS and QGRAZE, are outlined and trends indicate that there are few pasture systems in the Fitzroy Basin region which are in equilibrium with their management. The productivity of many systems has improved substantially as a result of research and development, but it is equally true that production from others, both native and introduced, has declined. Native pasture systems are mostly 'fragile' and easily converted to a less desirable state, whether from a conservation, resource management or agricultural production viewpoint. Until their dynamics are fully understood and predictable, conservative use is the best approach to continued maintenance of these systems and the livestock industries founded on them.


Keywords: Land (Grass-and-Pasture)/ Arid-Regions/ Vegetation-/ Trees-/ Grasses-/ Management-/ Land-Clearing/ Environmental-Management/ Fires-/ Rangelands-/ Land-Management/ Woodlands-/ Biological-Diversity/ Savannas-

Abstract: Changes in land management practices and fire regimes have shifted the woody plant to grass balance in many savannas and rangelands, in favour of woody plants. An experiment at Dingo assessed the effectiveness of several tree clearing treatments on tree basal area and woody plant density in a grazed eucalypt woodland. All treatments resulted in lower plant densities but the most effective method was soil applied arboricide which kills both seedlings and adults of susceptible species. On the basis of findings it is suggested that in eucalypt woodlands developed for pastoral production trees be retained in stands rather than scattered to reduce fragmentation and to maintain biodiversity, carbon sink and shade advantages.


Keywords: Geology-/ Pumping-Stations/ Foundations-/ Building-and-Construction/ Geotechnics-/ Influents-/ Excavation-

Abstract: Foundation conditions at the Haughton Pump Station No. 1 site were recorded as part of geological investigations during its construction. 1:100 scale foundation mapping was carried out along the batters and floor of the pump station excavation. The site is founded on intrusive rocks of Upper Carboniferous to Lower Permian age overlain by Quaternary alluvium. Three rock types were present at the site, namely medium-grained tonalite, medium to fine grained quartz diorite and porphyritic trachyandesite. Chemical weathering is the dominant type of weathering and there is strong correlation between degree of chemical weathering and fracture spacing. The major structures found in the foundation were zeolite-healed sheared zones. It appears that these structures accounted for the core losses and horizontal sheared zones encountered during drilling. Water began to inflow at a rapid rate into the excavation on 27 June 1987. It appears that the main area of water inflow occurred around the base of sheet pile no 143 which was at elevation 10m. The base of the alluvium in this area should have been at elevation 10 to 11m. Photographs taken during the water inflow appear to show that the sheet piling did intercept bedrock. Borehole logs show that horizontal sheared zones and core losses were encountered during the investigation.


Keywords: Engineering-geology/ Site-investigations

**Keywords:** Transient-EM-surveys/ Geophysical-logs/ Geophysical-models/ SF5502 8057


**Keywords:** EM-methods/ Transient-EM-surveys/ EM-interpretation/ Geophysical-models


**Keywords:** Gold-deposits-Qld/ Silver-/ Exploration-history/ Mineralization-/ Drilling- / SF5502 8156


**Keywords:** Streams (in-Natural-Channels)/ Floods-and-Flooding/ Discharge (of-Natural-Waters)/ Bays-/ Tropical-Regions/ Coral-Reefs/ Biological-Impact/ Sediment-/ Nutrients-/ Pollution (Coastal-Waters)/ Land-Use/ Runoff (Agricultural)/ Catchment-Areas/ Environmental-Management/ Local-Government/ Total-Catchment-Management/ Land-Management/ Rivers-

**Abstract:** Discharge from the Fitzroy River to Keppel Bay is described. Flood runoff of agriculturally derived sediment and nutrients which have been elevated by changes in land use are discussed and the significance of catchment management practices for the Great Barrier Reef is considered. The role of local government is addressed.


**Abstract:** The Fitzroy River exhibits a unique fish faunal assemblage with at least two species known only from this drainage system. Extensive clearing and impoundments have modified habitat conditions and ecosystem health of the river. Habitat requirements, migratory patterns, and introductions of fish species are examined. The impacts of catchment management on species are discussed and the need for greater understanding of existing ecosystems and their management regimes is highlighted.

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Cameron McNamara Pty Ltd. 1982. The Bradfield concept: preliminary study: executive summary. Cameron McNamara Pty Ltd, Brisbane; 82/1157:16p

**Keywords:** Interbasin-/ Water-Transfer-Scheme/ Water-Resources-Development/ Diversion-/ Cost-Estimation/ Irrigation-Water

**Abstract:** Executive summary of a preliminary study of modern data showing that a modified version of the Bradfield Scheme is physically possible. However, the quantities of water available and land that could be irrigated although still large, are much less than in Bradfield's original forecast of 1938. A practical method of interbasin transfer of water is nominated. This involves pipelines with gravity flows, canals, tunnels and storages. Development of such a scheme through 4 stages of increasing the total transfer of water would cost in the order of $580 million for first stage to irrigate 11000ha and a final total of $1380 million to complete scheme of 72000ha.
Cameron McNamara Pty Ltd. 1982. The Bradfield concept: preliminary study: report. Cameron McNamara Pty Ltd, Brisbane; 82/1157

**Keywords:** Interbasin-/ Water-Transfer-Scheme/ Water-Resources-Development/ Cost-Estimation/ Irrigation-Water

**Abstract:** A preliminary study of modern data showing that a modified version of the Bradfield Scheme is physically possible. However, the quantities of water available and land that could be irrigated, although still large, are much less than in Bradfield's original forecast of 1938. A practical method of interbasin transfer of water is nominated. This involves pipeline with gravity flow, canals, tunnels and storages. Development of such a scheme through 4 stages of increasing the total transfer of water would cost in the order of $580 million for first stage to irrigate 11000ha and a final total of $1380 million to complete scheme of 72000ha.


**Abstract:** The objectives presented in the report are to achieve a consistent standard of drainage to increase rural production of sugar in the Hinchinbrook drainage basin. The defined study area includes assigned and unassigned canelands within the catchment are of drains to be assessed, with areas detailed for evaluation classed Category 1, and areas with lesser drainage problems, Category 2. Using available drainage criteria, surface runoff, hydraulic behaviour, and cane drainage modelling studies, data was provided for drain design principles and structures. The location, costs and the benefit of these structures, as well as the impact of the proposed works on the environment are discussed. Includes recommendations that the responsibility for construction of the works, and their subsequent management and operation, under the provisions of the Queensland Water Act, be with a single Drainage Board managing a single drainage area encompassing the whole of the shire of Hinchinbrook.


**Keywords:** Uranium-/ Hydrology- / Recharge-/ Aquifers-/ Groundwater (Surface-Water-Relationship)/ Isotopes-/ Infiltration-/ Tracers-/ Streams (in-Natural-Channels)/ Rivers-

**Abstract:** A novel hydrological technique based on the hydrogeology of uranium and its isotopes has been applied to problems of recharge in the Burdekin Delta. Variations in uranium concentration and uranium isotope disequilibrium ratio enabled waters of different origin to be distinguished. The potential for determining mixing volumes of different waters is indicated.


**Abstract:** Four catchment studies in the Fitzroy River basin, designed to investigate the relationship between land management, surface runoff and soil erosion, are described. A future study will monitor the effects of open cut coal mining. Soil erosion can be minimized by maintaining soil surface cover and good pasture condition.


**Keywords:** Mines-and-Mining/ Land-Restoration/ Water-Soil-Plant-Interactions/ Erosion-/ Runoff-/ Slopes-/ Vegetation-/ Grasses-/ Pollution (Water)/ Salinity-/ Water-Quality (Natural-Waters)/ Rainfall-Runoff-Relationship/ Conductance-/ Land-Management
Abstract: The impact of vegetative cover and slope on runoff, erosion and water quality was assessed at three open-cut coal mines in Curragh, Oaky Creek and Goonyell/Riverside. The greatest soil erosion occurred before pasture cover established, and when a large area was exposed to rainfall and overland flow. Once buffel grass (Cenchrus ciliaris) colonized soil plots, there were negligible differences in soil erosion between slope gradients. On mine spoil, Rhodes grass (Chloris gayana) reduced in situ soluble salt content, and reduced runoff electrical conductivity to levels measured in surrounding creeks. Where spoil crusted, there was poor vegetative cover and high rates of runoff and erosion. The results indicate that successful establishment of vegetative cover is critical to reducing runoff, erosion and improving water quality.


Keywords: Land-Restoration/ Mines-and-Mining/ Land (Grass-and-Pasture)/ Vegetation-/ Species (Biological)/ Grasses-/ Chloris-gayana/ Cenchrus-ciliaris/ Erosion-/ Water-Quality (Natural-Waters)/ Ground-Cover/ Runoff-/ Catchment-Areas

Abstract: To determine the impact of vegetative cover and slope on runoff, erosion and water quality, a field study was commenced in 1993 at three open-cut coal mine sites in the Bowen Basin. The greatest soil erosion risk occurred before pasture cover established, when a large surface area of the soil was exposed to rainfall impact and overland flow. Once grass species colonized soil plots, there were negligible differences in soil erosion between slope gradients. On spoil plots, Rhodes grass (Chloris gayana) reduced in situ soluble salt content and runoff electrical conductivity levels. Average electrical conductivity of water leaving the catchments also declined with the increase in vegetative cover. After one month and following rainfall, buffel grass (Cenchrus ciliaris) biomass had regenerated to 1.1 and 1.7 t/ha on the two catchments.

Abstract: Major storm events occurred at Newlands on 2 and 20 May 1983. These storms, especially the one of 20 May, caused considerable localized flooding along the various creeks draining the lease area. After the flood of 2 May, a field trip was made to Newlands during the period 10-12 May to determine peak flood heights and flood slopes. Further peak flood height and flood slope data were obtained after the flood of 20 May. Results of the flood slope surveys are presented. Rainfall and water level data recorded during these storm and flood events are also presented and analysed, rating curves are revised and discharge and runoff data are estimated.

Abstract: A comprehensive and integrated monitoring network has been established around the Newlands minesite. Meteorological data are monitored at 4 locations whilst surface runoff and surface water quality are monitored at 10 locations. The purpose of the network is to (i) gather baseline surface water quality and surface runoff data to monitor any future effects of the mine on water quality, and (ii) gather hydrological and meteorological data for incorporation in the design and operation of the water management system for the mine.

Keywords: Mines-and-Mining/ Surface-Water/ Monitoring-/ Coal-/ Water-Quality-Monitoring/ Drainage-/ Runoff-
Abstract: This report describes the purpose, establishment and instrumentation of the surface water monitoring network at the Rolleston minesite. A network of 5 monitoring stations -1 rainfall station, 2 water level stations and 2 water quality stations -has been established. Data collected from this network, when used in conjunction with meteorological and discharge data
obtained by other means, will provide a sound basis for assessing flooding behaviour around the
minesite, for establishing baseline water quality data for 'natural' runoff from the minesite area
and for evaluating the volume and reliability of surface runoff from local catchments as a
supplementary source of water supply.

Catchment River and Coastal Engineering Pty Ltd. 1981. Water monitoring studies, Newlands:
progress report no 1. Catchment River and Coastal Engineering Pty Ltd, Ashgrove;
Abstract: This report describes the activities undertaken during the first field trip and reasons for
establishing monitoring sites at the various locations. A network of 9 monitoring sites was
established in creeks draining the coal lease area, 2, pluviographs and a solar monitor were
installed and the existing automatic weather station was relocated. The sites have been established
to assess water quality as mining operations proceed to ensure that mining is not having a
deleterious effect on the quality of receiving waters.

Catchment River and Coastal Engineering Pty Ltd. 1982. Water monitoring studies, Newlands:
progress report no 2. Catchment River and Coastal Engineering Pty Ltd, Ashgrove;
Abstract: This report describes a second field trip to Newlands to install additional monitoring
stations over the coal leases of Mount Isa Mines Limited, and to ensure this network was
operational for the 1981-82 wet season. The purpose of this monitoring network is to provide
baseline measurements of meteorological, stream flow and water quality data. The network
comprises 3 meteorological stations and 9 stream gauging and water quality stations.

Catchment River and Coastal Engineering Pty Ltd. 1983. Water quality control measures, Newlands
minesite. Catchment River and Coastal Engineering Pty Ltd, Ashgrove;
Abstract: A network of 10 surface water monitoring stations have been established around
Newlands minesite, to gather baseline water quality data to monitor any future effects of mining
operations on water quality. Surface waters samples have been collected and analysed for the
1981-82 and 1982-83 wet seasons. Up to March 1983, 117 samples have been analysed. Results
indicate that the natural pre-mining surface runoff is neutral, highly turbid and contains high
concentrations of non-filterable residue. Limited tests have been made to assess the likely effects
of Newlands mining on water quality, with data being presented.

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University of North Queensland; 237p
Cavanagh JE, Burns KA, Brunskill GJ, Coventry RJ. 1999. Organochlorine pesticide residues in soils
and sediments of the Herbert and Burdekin River regions, North Queensland; implications for
Keywords: Australasia-/ Australia-/ Burdekin-River/ chlorinated-hydrocarbons/ concentration-/ Coral-Sea/ geochemistry-/ Great-Barrier-Reef/ halogenated-hydrocarbons/ Herbert-River/
hydrochemistry-/ hydrology-/ marine-sediments/ organic-compounds/ Pacific-Ocean/ pesticides-/ pollutants-/ pollution-/ Queensland-Australia/ reef-environment/ reefs-/ runoff-/ sediments-/ soils-/ South-Pacific/ Southwest-Pacific/ transport-/ West-Pacific

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School of Earth Sciences; 155p
Keywords: Reefs-/ Palaeoecology-/ Sedimentary-geology/ Rugose-coral/ Devonian-

Champion DC. 1987. Geology and geochemistry of the Mount Jukes Intrusive Complex. B.Sc.(Hons)
Thesis. James Cook University of North Queensland. Department of Geology; 247p
Keywords: Regional-geology-Qld/ Geochemistry-/ Magmatic-segregation/ Igneous-intrusions/
Tertiary-/ SF5504 8656/ SF5508 8655

Abstract: Landholders at Dingo, Clermont, Arcadia Valley and Aramac are considering establishing pondage systems. Inland pondages should be successful if certain safeguards are taken. The major differences to coastal conditions are (i) greater incidence of frost, (ii) greater evaporation, and (iii) less runoff from storm rains. Deep ponds take longer to dry up by evaporation. Deeper water will last longer into the frosty months. Water modifies the temperature and ponded grasses growing in and adjacent to water will remain green. Two grasses, hymenachne and aleman can grow in water depths up to 1m. To fill the inland ponds, sufficient catchment area is required. A catchment 8-10 times the area ponded should yield enough runoff to fill the ponds on an average of once a year. Alternatively, flood harvesting from an adjacent stream should be considered.


Abstract: Examines an area affected by rising saline groundwater in the Dingo-Duaringa region, slope from one of the many red laterised plateau areas occurring in the region. It was identified by bare scaled areas surrounded by salt tolerant grasses. An abundance of salt occurs in the soils of the region and scaled areas and affected watercourses occur as water tables rise. Outlines how the removal of trees causes this rise. Rehabilitation of salt affected areas and prevention of further degradation by salinity is possible. Preventative measures covered include (i) on upper slopes: retain trees where practical, plant deep rooted vegetation and utilize groundwater and (ii) on lower slopes: plant salt tolerant species of trees and pastures, restrict grazing and tree clearing, avoid irrigation and improve drainage and waterways.


Abstract: Describes a pondage bank system for para grass production. The system uses artificial ponds to store runoff and to grow para grass (Brachiaria mutica) which provides feed for stock in the winter months as the ponded water recedes. Addresses the matter of suitable sites. Para grass can grow on a wide range of soil types. Outlines the slope, water storage and runoff aspects in different situations. Examines the design and construction of a pondage system, with catchment yield and peak discharges being important considerations. Banks are designed to pond a maximum depth of 0.5m of water. Para grass establishment is affected by vegetative planting, with the introduction of stock being delayed. Looks at land use and management aspects of the system. The better ground cover allows for better stock management, reduced soil erosion, and more efficient use of runoff. Cattle liveweight gains using para grass as opposed to the native spear grass are tabulated.


Abstract: Use of the prompt-neutron gamma technique to determine the ash content, depth, and thickness of coal strata was successfully demonstrated in water-filled boreholes at six deposits in eastern Australia. The diameter of the boreholes varied from 96 mm (nominal diameter) to around 175 mm. The root-mean-square (rms) deviation between ash determinations based on regression analysis of logging data and laboratory assays for ash content varied between 1.4 and 2.8 weight percent. This variation is partially due to errors in sampling and chemical analysis (the errors are generally unknown). The optimum configuration for the logging probe consists of a 0.7 µg (super 252) Cf neutron source, a 51 X 51 mm BGO detector, and a source-to-detector spacing of 15 cm. This configuration gives the best vertical resolution as well as the smallest rms deviation for ash determination. Probe diameter was 70 mm and wall thickness was 3.2 mm. Regression analysis of the logging data was performed for each coal deposit to establish a calibration equation for the deposit. The calibration equations obtained in one of the deposits (Hunter Valley Deposit B) were applied to new boreholes in the same deposit. The rms deviation between the ash
content predicted by the technique and the chemical analysis was approximately 2 percent, which was consistent with the results for the calibration holes.


**Abstract:** A combination of natural processes, mining and agricultural activities has resulted in degraded water quality in some areas of the Fitzroy River catchment, but generally water is suitable for most purposes. The major surface water quality problems are elevated levels of turbidity, salinity, sulphates and hardness. Groundwater quality is quite variable. The existing water quality monitoring network is inadequate for modern requirements and needs to be revised and upgraded. A network of 25 surface water sampling stations and 12 groundwater monitoring bores is proposed.


**Abstract:** The Drummond and Claude groups of land systems, dominated by silver leaf ironbark trees, are the most eroded in the upper Nogoa watershed and the serious gully erosion is delivering over 100t per ha per year to the adjacent lowlands. Bare and scalded areas with rills are lesser sources of erosion, but severely restrict productivity of the land. Geomorphic, hydraulic and anthropocentric influences on erosion are discussed, as well rainfall and runoff, pasture condition, surface cover and revegetation. To reduce erosion, management should aim at maintenance of a minimum dry matter of about 1000kg/ha on valley floors and 700kg/ha on hillslopes, giving about 40% ground cover. A nomograph relating standing dry matter, vegetative cover and soil movement is given to support recommendations for grazing land management.


**Abstract:** Describes some of the research matters encountered when conducting catchment erosion studies in central Queensland grazing lands. Initially, looks at the erosion problem and the theoretical methodology. Deals with the geomorphic status of catchments, and climatic and anthropocentric effects. The problem facing all land degradation studies is the designing of an experiment to separate out the effects of relict and present climate from those of geomorphology and land management. Discusses the instrumentation for the studies. These include flumes, pluviometers and rain gauges, water level height recorders, stage and pumping samplers, erosion pins, and Gerlach troughs and tipping buckets for measuring runoff. Instrumentation is vitally concerned with where measurements are taken, and not simply what is measured.


**Keywords:** Erosion/- Equipment/- Problems/- Determination/- Dams/- Gauges/- Transport/- Infiltration/- Duration-Curve

**Abstract:** Abstract only published. To establish relationships between vegetative cover and erosion rates and to develop grazing management strategies that will minimize erosion of the catchment and sedimentation of the Fairbairn Dam, 2 catchments, grazed and ungrazed, were monitored. Problems encountered with equipment used for erosion measurement were: (i) tipping bucket pluviometers -under steady depression type rain it was found the V-shaped tipping buckets of the pluviometers allowed water to siphon up the edges of the buckets where fine dust had collected, (ii) intensity frequency duration curves -within the 4 years of measurement, 1 in 5 year events occurred twice, as well as 1 event with a 25 year exceedance. Peak discharge overtopped the flume more than once per year, (iii) sediment transport -bed load of the gullies could not be transported successfully through the Parshall flumes, (iv) erosion pins -in loam surfaced duplex soils there is sufficient profile expansion during wet winters to mask the soil
losses of the previous summer, (v) infiltration variability -rainfall simulation on sites with 20%, 40%, 60% and 80% cover at specific locations throughout the catchment produced extremely variable infiltration results.

**Abstract:** Soil, pastures, forests, fish, oceans, rivers and biodiversity have been mined over the years through unsustainable practices. Groups like Landcare, catchment coordinating groups, Great Barrier Reef Marine Park Authority and the commercial fishing industry are all working towards sustainable futures. A proposal to dam the Dawson River near Nathan, and the negative environmental impact of such a dam on the riverine environment, is discussed.

**Keywords:** Palaeomagnetism- / Palaeolatitude-/ Polar-migration/ Magnetic-overprinting/ Permian-/ SF5502

**Keywords:** Mantle-/ Rock-/ Sediment-/ Permeation-/ Maps-and-Mapping/ Geophysics-/ Airborne-/ Data-Handling/ Radiometry-/ Salinity-Control/ Geology-/ Boreholes-/ Slug-Test/ Conductance-/ Groundwater-Flow/ Modelling (Hydrological)/ Salinity- / Agricultural-Areas/ Revegetation-
**Abstract:** Widespread clearing of native vegetation in the wheatbelt of Western Australia has dramatically changed the hydrological balance, resulting in substantial land degradation, altered groundwater flow, increasing saline seepage and stream flow in affected catchments and lessening effectiveness of revegetation. Major faults, minor faults, mafic dykes and Tertiary sediments all influence the development of dryland salinity because of permeability contrasts with the dominantly Archaean granite and gneiss basement of the region. Airborne magnetics, radiometrics and the SALTMAP measurement of regolith electrical conductivity are being used to map these geological features with minimal manual involvement. Borehole slug tests are being used to assign permeability ratios to the four other geological features compared to the Archaean granites and gneisses. The resulting permeability map will be used in computer groundwater models to improve predictions of revegetation strategies.

**Keywords:** Abstracts & Proceedings

Claydon GK. 1985. Investigations into high water table problems in the Emerald Irrigation Area, central Queensland. Australian Salinity Newsletter; 83-4
**Abstract:** Relief measures are required in areas of the Emerald Irrigation Area affected by high water tables. Problems arise from percolation losses below the root zone of shallow upslope soils. Trial channel linings have been investigated, with flexible plastic membrane being the most cost effective. Subsurface drainage trials are also discussed.

**Abstract:** This paper begins with an outline of investigations into the extent and causes of high water table problems in the Emerald Irrigation Area. A number of trials involving various types of channel linings, subsurface drainage layouts and saline soil amelioration techniques were initiated. Open earth irrigation supply channels lined with flexible membranes, the major trial approach, are discussed. It was found that thin membranes buried under the channel batters gave a more encouraging performance than exposed plastic membrane linings which have all failed within 4 years of installation.


**Abstract:** Soon after the start of irrigation on the left bank of the Emerald Irrigation Area, high water table problems appeared near the inter-face between shallow, upslope dark cracking clays developed on basalt and deeper, downslope dark cracking clays developed on older basalt. Trafficability, seedling emergence and final crop yields were adversely affected. The waterlogged deeper soils became highly salinised at the surface. As part of its investigations to determine methods of overcoming these problems, the Queensland Water Resources Commission initiated trials using corrugated and slotted, polythene, subsurface drainage pipe. This paper outlines some of the investigations into the high water table problems and discusses the performances of some of the subsurface drainage installations to date. The layouts have show variable results. Data have now been collected to provide preliminary guidelines for depth/spacing/size criteria for interceptor type drains placed in the weathered basalts.


**Abstract:** Record flooding in the Fitzroy River in January 1991, following tropical cyclone Joy, caused very low water salinity in Keppel Bay. High mortality of intertidal invertebrates followed. The succession of sessile animals in cleared substrates was studied at five sites, where succession progressed differently and was unpredictable.


**Keywords:** Deltaic-environment/ Deltaic-sediments/ Weathering-/ Chemical-weathering


**Keywords:** Long-wall-mining/ Mine-subsidence/ Aquicludes-/ Surface-waters/ Floods-/ Engineering-geology/ Hydrogeology-

Keywords: Irrigation-Water/ Wetlands-/ Nutrients-/ Suspended-Solids/ Sediment-Water-System/ Water-Quality (Natural-Waters)/ Algal-Blooms/ Erosion-/ Fertilizers-/ Aquatic-Macrophytes/ Filters (Biological)/ Pollution (Surface-Water)/ Total-Catchment-Management

Abstract: Data on water quality were collected over 26 months from 11 sites within and downstream of the Burdekin Irrigation Area. At least some of the increased nutrient concentrations are likely to have resulted from irrigation drainage. To reduce nutrient inputs and the likelihood of algal blooms in natural wetlands receiving irrigation drainage, it is suggested that an artificial wetland system be developed to act as a biological filter. Total catchment management, however, would be necessary to reduce the impact of nutrients and sediments on the coastal waters of the Great Barrier Reef. It is considered probable that the natural wetlands play an important role in absorbing some nutrients and accelerating sedimentation. Eichhornia and Salvinia were found in the wetlands, and it is recommended that their distribution be monitored, as they can clog irrigation channels as well a degrading natural aquatic systems.


Abstract: The Burdekin River system has its headwaters in wet tropical rainforests on the Great Dividing Range, but flows through much drier savanna woodlands to the enormous Burdekin Dam, and thence to the coast. Water from the dam is diverted to the Burdekin River Irrigation Scheme near the river's delta, where it drains into the wetlands of the Barrattas creeks. This paper summarizes studies underway in a rainforest catchment in the river's headwaters and in the Barrattas wetlands. These extremities of the Burdekin system show contrasting water quality, with important implications for management.


Abstract: An understanding of nutrient cycling processes is fundamental to the management of natural and disturbed vegetation growing on tropical soils of low fertility. Few scientific studies of the effects of selective logging in forests have been published. This paper introduces studies of nutrient cycling in disturbed and undisturbed tropical rainforest plots in the upper catchment of Birthday Creek, near Paluma. Differences between undisturbed plots and plots disturbed 25 years previously by selective logging are still apparent. Disturbed plots have soils with higher bulk densities and pH, lower soil nutrient concentrations and changes to species compositions. Compaction appears to be one of the major consequences of logging on these particular soil types and the data suggest that recovery from selective logging is dependent on soil fertility and intensity of disturbance.


Keywords: Land-Use/ Sugar-Cane/ Irrigation-/ Runoff-/ Nutrients-/ Water-Quality (Natural-Waters)/ Floodplains-/ Streams (in-Natural-Channels)/ Wetlands-/ Seasons-/ Pollution (Surface-Water)/ Pollution-Sources/ Rivers-

Abstract: Water quality has been monitored in water bodies upstream, within and downstream of the Burdekin River Irrigation Area since 1988, to provide baseline data against which possible changes in water quality can be determined. The highest nutrient concentrations, recorded at sites receiving drainage from areas growing sugar cane for 25 years, may indicate the possible future water quality in the newer irrigation drains. However, considerable variation in water quality has been found, and long term trends are obscured by strong seasonal and year to year
variation in rainfall and discharge. Peaks in nutrient, sediment and chlorophyll a concentrations follow storm events, but high nutrient concentrations also occur during dry periods, and probably result from irrigation drainage. Chronic inputs of nutrients during the dry season are probably of greater significance to the floodplain wetlands.


**Keywords:** Wetlands/-/ Floodplains/-/ Irrigation/-/ Ecology/-/ Water-Quality-Monitoring/ Land-Use/ Environmental-Management/ Nutrients/-/ Micro-organisms / Aquatic-Organisms/ Biological-Impact

**Abstract:** The Burdekin River and its catchment, has the largest delta and floodplain in the tropical northeast of Australia and water management has been a major aspect of agriculture on the delta and floodplain. Traditionally the area was farmed for sugar cane and horticulture using surface water from channels and lagoons, and eventually supplemented by pumping from shallow unconfined aquifers. This study examines the effects of irrigation development and the subsequent impact of irrigated agriculture on the wetland ecosystems of the Burdekin River floodplain. Water sampling was undertaken to establish nutrient concentrations and showed that high creek discharge and nutrient loadings result from heavy rainfall during good wet seasons. A survey and classification of wetlands was carried out and revealed 77 palustrine, 11 riverine, 5 lacustrine and 1 estuarine sites. The land use around the wetlands includes mainly grazing and agriculture, and no site is pristine. Within the grazed areas there is evidence of selective logging and water bodies are frequently dammed, dug out and/ or used as watering holes for livestock. Within agricultural areas only a narrow riparian zone remains in most cases, however, banks and littoral zones are not trodden by cattle and the water is usually clearer. Despite these impacts, several high quality wetlands, representing both shallow and deepwater habitats occur on the floodplain. It was concluded that careful management can be achieved by taking the precautionary approach, especially in relation to the widths of riparian zones, the tenure, design and area of remnant habitat reserves and corridors, the management of tailwater volume, the impact of progressive decline in water quality, and the invasion potential of exotic species.


**Keywords:** Oil-shale/ Core-drilling/ Mineral-exploration-Qld/ Oil-recovery/ Permian/-/ SF5514 8250


**Abstract:** Landfills are use to dispose of solid waste, but the movement of leachates into the local groundwater systems is a management concern. This paper presents a model to predict the saturated-unsaturated flow of water within such waste dumps. The model takes account of moisture movement when the surface of the dump is bare and when it has revegetated. This model was developed as part of a program on waste disposal from the Rundle oil shale resource.


**Abstract:** Landfills are use to dispose of solid waste, but a management concern is the movement of leachates into the local groundwater system. This paper presents the application of a model to predict the saturated-unsaturated flow of water within waste dumps associated with the oil shale mining operation of the Rundle deposit. The model takes account of moisture movement when the surface of the dump in bare and when it has revegetated. The model was applied to predict the moisture movement within waste dumps. Predictions were found to be sensitive to the surface roughness, and evaporation was related to surface moisture content, with most evaporation
occurring directly after rainfall.


Keywords: Seismic-refraction-surveys/ Seismic-survey-equipment/ Seismic-surveys/ SF5507/ SF5511/ SF5512/ SF5516/ SG5504


Abstract: Measured and simulated runoff data were used to evaluate the effects of surface conditions, particularly vegetative cover, on runoff from a 10 ha pasture catchment near Emerald, in the semi arid tropics. The ANSWERS model was used to simulate runoff. Measured annual runoff at the catchment outlet decreased from 30% of rainfall when the catchment was in a bare, grazed condition, to 5% of rainfall when vegetative cover increased to 60% after destocking and revegetation. Several revegetation strategies were simulated. The most effective revegetation strategy in terms of runoff reduction from all rainfall events was to increase cover levels modestly across the whole catchment rather than to revegetate small areas intensively.


Abstract: This paper illustrates the application of a process based, distributed parameter, runoff hydrograph model, ANSWERS. The ANSWERS model, previously modified to include an energy based, transient conductivity Green and Ampt representation of infiltration, was used to simulate runoff from a range of catchment scales, varying from simple 1 sq m and 88 sq m rainfall simulator plots, 0.07 and 0.2ha rill catchments, and a 3.2ha contour bay on cultivated soils, to a 9.6ha topographically and spatially complex grassland catchment. ANSWERS was applied for storms with a range of cover and antecedent soil water content conditions using parameters derived from measured soil, cover and topographic data. Rainfall simulator data was used to derive important infiltration parameter values. Fits of predicted with measured runoff were generally good for all scales. This was due, in no small way, to the accurate representation of infiltration. These results show that runoff from complex agricultural catchments can be satisfactorily modelled using ANSWERS, provided runoff is generated by Hortonian processes and baseflow is not significant, and data and simulation resources are available to adequately represent the catchment.


Abstract: The town of Clermont derives its water supply from a buried stream channel adjacent to Sandy Creek which is both naturally and artificially recharged from waters in the creek and from a weir constructed on it. Prior to the weir’s inception, it was learnt that near failure of the supply could be caused by seasonal conditions alone. With the possibility of a large population increase it became critical to evaluate the effect of the weir on the reliability of the supply, and to investigate the possibility of further augmentation of the recharge mechanism. To this end, calculations have been made which have produced a monthly history of stored volumes and aquifer downflows for the period 1959-74. The effects on the monitored area of upstream and downstream formations have been considered and these effects have been recorded.


Keywords: Sedimentary-environments/ Facies-analysis/ Biostratigraphy/- Hydrozoa-

Abstract: Sedimentological analysis to provide an ecostratigraphic context for study of the abundant stromatoporoid fauna and other faunal elements.


Keywords: Regional-geology-Qld/ Sedimentary-cycle/ Carbonate-sediments/ Facies-analysis/ Field-excursions/ Devonian-


Keywords: Invertebrates

Abstract: Thirty five stromatoporoid taxa are described from the Middle Devonian (Givetian) lower Fanning River Group, Burdekin Subprovince, north Queensland, Australia. Ten faunal communities are recognised, based on the study and distribution of stromatoporoid and selected molluscan taxa, and the distribution of tabulate and rugose corals. The Burdikinia community, characterised by robust gastropods, occupied the coarse siliciclastic inner shelf. The Modiomorpha community is represented by a near-shore, in situ shell bed. The Stachyodes costulata-Syringopora community lived in inner shelf muddy carbonate-dominated lagoons, but was in part able to inhabit subtidal interstitial niches of marine headlands. In the Fletcherview-Burdekin Downs area, the Hermatostroma maculatum-Geronostroma hendersoni community constructed lagoonal patch reefs, back-reef laminar stromatoporoid pavements and bioherms. The Clathrocoilona spissa-Aulopora community occupied nearshore, fringing biostromes in the Fanning River area. Ferestromatopora heideckeri-Amphipora ramosa-Stringocephalus community occupied extensive nearshore to offshore biostromes within the Fanning River-Golden Valley areas. The Coenostroma-Hermatostroma episcopale community dwelt within dispersed stromatoporoid pavements and less commonly, within offshore coralline thickets. The Amphipora pervesculata community characterised by dendroid stromatoporoid-coralline thickets adjacent to and seaward of bioherms, dispersed stromatoporoid pavements and stromatoporoid biostromes, particularly in the Fletcherview-Burdekin Downs area. The Endophyllum community was restricted to patch reefs which grew during a regressive phase, carbonate to siliciclastic transition. A cephalopod association is represented by a sparse fauna occurring within deeper water micritic facies in the Golden Valley area. Analysis of stromatoporoid shape demonstrates the influence of both genetic and ecologic factors. Zonation of skeletal shape, apparent for both biostromal and biothermal complexes, indicates that strong ecologic influences dominated. Substrate type, sedimentation rate and water depth were important controls. Most taxa display a range of shape. Complex overgrowth phenomena, between stromatoporoid taxa, tabulate corals, chaetetids and algae produced compound skeletons that are most common within nearshore biostromes, and are interpreted to indicate stress imposed by repeated lethal depositional events or by seasonal variations in salinity. Intergrowths of stromatoporoids with tabulate corals Syringoporella? sp. and Syringopora sp., a number of rugose corals and a ?vermetid are documented. Syringoporella? sp. is more common in stromatoporoids with irregular skeletal architecture. For Syringoporella? sp. an even distribution of corallites within the host, skeletal response to corallite occurrence and the absence of micritic envelopes suggests a symbiotic relationship with both the coral and the stromatoporoid accreting at the same rate and maintaining an even growth surface. Six new species of stromatoporoids are described comprising Gerronostroma hendersoni, Trupetostroma

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zheni, Euryamphipora merlini, Ferestromatopora heideckeri, Coenostroma burdekinense and Coenostroma wyatti. Biogeographic affinities of the fauna are strongly with the Old World Realm, with species level affinities with Guangxi, Poland and Belgium.


**Keywords:** Stratigraphy-Qld/ Coal-seams/ Stratigraphic-drilling/ Coal-exploration-Qld/ Permian- / SF5511 8352/ SF5511 8452

**Abstract:** A 500m thick sequence containing coal.


**Keywords:** Soil-chemistry/ Estuaries-/ Watersheds-/ Water-chemistry/ Deltaic-sediments/ Statistical-analysis/ Mathematical-models

**Abstract:** The influence of catchment geochemistry on estuarine sediments and surface waters.


**Keywords:** Sedimentary-environments/ Hydrology-/ Estuaries-/ Petrology-/ Mineralogy-/ Sedimentary-geology/ Stratigraphy-Qld/ Holocene-


**Keywords:** airborne-methods/ Australasia-/ Australia-/ electromagnetic-methods/ environmental-analysis/ geophysical-methods/ geophysical-surveys/ land-management/ land-use/ New-South-Wales-Australia/ Queensland-Australia/ salinity-/ surveys-/ Victoria-Australia/ Western-Australia

**Abstract:** A comprehensive evaluation of the application of airborne geophysics to the management of dryland salinity is currently underway in Australia. Known as the National Airborne Geophysics Project (NAGP), it is a joint initiative of the Commonwealth and State Governments designed to assess the value-added contribution that can be made by time domain EM, frequency domain EM, magnetics and radiometrics to those data (including topography, soils and satellite imagery) already in use for salinity management. The project will concentrate on five selected catchments in Queensland, New South Wales, Victoria and Western Australia. The focus of the project will be to define the geological characteristics, to measure three-dimensional variability in conductivity in the regolith system, and to determine the spatial variability in soil characteristics. The analysis will allow the derivation of products such as maps showing salinity hazard, water resource target, soils, regolith conductivity and thickness, and geological interpretation. These derived products will be integrated with other datasets to specifically assist with the development of land management plans at appropriate scales and to contribute to the understanding of hydrogeological processes. The project will also produce cost/benefit analyses and confidence level estimates associated with the use of airborne geophysical and other data.


**Keywords:** Databases-/ Total-Catchment-Management/ Catchment-Areas/ Natural-Resources/
Abstract: The Excel database files for the study on natural resource management issues and integrated catchment management, as reflected in the Herbert River Express for 1990-1998, are available on request from the principal author or through the website.


Keywords: Total-Catchment-Management/ Catchment-Areas/ Bodies (Corporate)/ Natural-Resources/ Resource-Management/ Environmental-Management/ Information-Analysis/ Communication-/ Research-

Abstract: The evaluation of the integrated catchment management program (ICM) conducted in the Herbert River catchment needed an indication of the social context of the Herbert River Catchment Coordinating Committee (HRCCC). A method of assessing the local social context was to consider how natural resource management issues and ICM in particular were presented in the media. An analysis of the Herbert River Express (a paid tabloid, published three times weekly with a circulation of approximately 3,200) appeared to be a reasonable course of action, particularly because it was a frequently mentioned source of information and considered reliable. Content analysis, an unobtrusive research method, was used because over surveying was becoming an issue. The research examined how natural resource management issues were presented in the Herbert River Express between 1990 and 1998 to provide an assessment of the social context within which the HRCCC was and is operating.


Keywords: Burdekin-River/ basalt-flow/ terrace-

Abstract: Direct evidence of a late Tertiary age for a red earth profile, formed in high level alluvium of the Burdekin River, has been derived from isotopic dates from an overlying basalt flow. Dates of 2.3-2.4 Myr show that the buried red earth profile developed before or during the late Tertiary.

Cowan EJ. 1993. Longitudinal fluvial drainage patterns within a foreland basin-fill; Permo-Triassic Sydney Basin, Australia. Sedimentary Geology; 85(1-4):557-77

Abstract: The north-south trending Permo-Triassic Sydney Basin (southern sector of the Sydney-Bowen Basin) is unique compared to many documented retro-arc foreland basins, in that considerable basin-fill was derived from a cratonic source as well as a coeval fold belt source. Quantitative analysis of up-sequence changes in sandstone petrography and palaeoflow directions, together with time-rock stratigraphy of the fluvial basin-fill, indicate two spatially and temporally separated depositional episodes of longitudinal fluvial dispersal systems. A longitudinal drainage-net similar in geometry to the modern Ganga River system (reduced to 60% original size) explains many of the palaeoflow patterns and cross-basinal petrofacies variation recorded in the basin-fill. The Late Permian to Early Triassic rocks reveal a basin-wide southerly directed fluvial drainage system, contemporaneous with east-west shortening recorded in the New England Fold Belt. In contrast, the Middle Triassic strata reveal a change to an easterly directed fluvial system, correlated to a shift in orogenic load to a NW-SE orientation in the fold belt northeast of the basin. The detailed petrofacies variation in the deposits of the second longitudinal fluvial dispersal system reveals vertical jumps in petrofacies compositions, with uniform compositions between jumps. The petrological jumps are interpreted as the result of minor fault adjustments in the fold belt, resulting in changing rates of sediment supply to the foreland basin. Uninterrupted erosion of the same terrain most likely caused the compositional uniformity between jumps. The identification of similar longitudinal fluvial systems, with transverse variation in detrital composition, is likely to help resolve the tectonic history of foreland fold belts elsewhere.

**Keywords:** Natural-Resources/ Environmental-Management/ Innovations-/ Education-/ Technology-Transfer/ Methods-/ Community-Participation/ Sociology-/ Research-and-Development/ Catchment-Areas/ Soil-Conservation/ Salinity-Control/ Farms-and-Farming/ Schools-/ Total-Catchment-Management/ Land-Management/ Extension-/ Education-/ Landcare-

**Abstract:** A review of traditional natural resource management extension questions conventional assumptions about the sources of technological change and innovation, about the need to actively engineer the adoption of technologies and about the capacity of any one group to reach the ideal solution. Contemporary extension examples are presented which illustrate an alternative view of the nature of technology design, development, adaptation and adoption: integrated catchment management, Landcare, and action education programs in schools. These examples rely increasingly on iterative and participatory methods that consider many concerns and points of view, and recognize a much broader definition of technology and its potential and actual achievements. It is argued that participatory approaches to resource management can, with their additional benefits, be an effective starting point, leading to a higher ratio of successful outcomes and to outcomes that are more successful than they might have been, especially in complex social situations.


**Keywords:** Rights-/ Water-Allocation/ Transferability-/ Groundwater-/ Surface-Water/ Water-Resources-Planning/ Legislation (on-Water-Resources)

**Abstract:** The focus of this paper is the transfer of water entitlements in Queensland, particularly in relation to groundwater. Water entitlements have traditionally been tied to the land and have been allocated as required by existing legislation. Use of groundwater is controlled through a licensing system that operates in declared areas of the State. In some of these areas, restrictions on the availability of new entitlements create the potential for a transfer market. By regulating the transfer market, the distribution of the extraction points could be altered to improve the performance of the aquifer. While developing new natural resource management legislation, the Queensland Department of Primary Industries is moving toward a more integrated approach to water allocation planning and is exploring the option of transferable property rights in relation to both surface and groundwater.


**Keywords:** Surface-Water/ Water-Quality (Natural-Waters)/ Precipitation (Atmospheric)/ Monitors-/ Mines-and-Mining/ Discharge-/ Runoff-/ Floods-and-Flooding/ Rain-

**Abstract:** A surface water quality and quantity monitoring network was established at Rolleston minesite in December 1982 for Brigalow Mines Pty Ltd. The network consists of 1 rainfall station, at Gibbs No 1 Bore, 1 water level station on Bootes Creek, 2 water quality sampling stations, one on Bootes Creek and one on Meteor Creek, and a runoff volume monitoring station in a large farm dam. The operation of the various monitoring instruments is described and data collected during the period December 1982 to December 1983 is presented.


**Keywords:** Stratigraphy-Qld/ Palaeontology-/ Carboniferous-


Abstract: The Fitzroy Catchment Coordinating Group (FCCG) was formed in 1992 to coordinate management issues within the basin. In 1995, the FCCG sponsored the development of a draft strategic plan for the management of natural resources in the catchment. The aim of this paper is to provide a basis for extensive community consultation. Issues were grouped under land management, water management, habitat management, riverine management and rural enterprise viability.


Abstract: The nature and extent of the soil erosion hazard in the Fitzroy River catchment are described. Rainfall patterns and the rapid development of new crop lands make it one of the highest risk areas in eastern Australia. Land use and land management options to minimize the problem are outlined.

Curkpatrick J. 2000. Review of the use of focus catchments in phase 1 of the National Dryland Salinity Program. In: Span Communications Pty Ltd, Melbourne. Research and Development Final Report (Land and Water Resources Research and Development Corporation); SPC2; 43p

Abstract: An analysis of the National Dryland Salinity Program (NDSP) arrangements in five focus catchments (Liverpool Plains NSW, Loddon- Campaspe VIC, Upper Southeast SA, Kent WA and Balfes Creek QLD) considered the extent of community participation, the role of community reference groups and the influence of government agencies and researchers in catchment programs. The results suggest that the Program would have been more successful if there had been more planning and appropriate resourcing. However, despite any shortcomings the first phase of the NDSP has increased the understanding of dryland salinity, and enhanced communication flows. Recommendations arising from the review emphasize the need to enhance community involvement in the Program.


Keywords: Engineering-geophysics/ Seismic-monitoring


D


Keywords: Coal-resources-Qld/ Coal-exploration-Qld/ Drilling-/ Coal-analysis/ Structural-geology-Qld/ SF5515 8450/ SF5515 8550

Abstract: Numerous seams up to 11m thick.

Keywords: Coal-exploration-Qld/ Coal-resources-Qld/ Stratigraphy-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Graphic-logs/ Coal-analysis/ Gases-/ SF5515 8350/ SF5515 8450

Keywords: Coal-exploration-Qld/ Drilling-/ Graphic-logs/ Well-logs/ Geophysical-logs/ Coal-analysis/ Coal-resources-Qld/ SF5515

Keywords: Coal-exploration-Qld/ Core-drilling/ Geological-logs/ Geophysical-logs/ Coal-analysis/ Coal-resources-Qld/ SF5516
Abstract: Six workable seams intersected: Aries, Castor, Pollux, Pisces, Virgo, Leo. However, structural complexity of area inhibits economic potential.

Keywords: Coal-exploration-Qld/ Core-drilling/ Geological-logs/ Geophysical-logs/ Graphic-logs/ Economic-geology-Qld/ Limestone-/ Sediments-/ Volcanic-rocks/ Devonian-/ Carboniferous-/ SF5515

Keywords: Coal-exploration-Qld/ RC-drilling/ Geophysical-surveys-Qld/ Vertical-seismic-profiles/ Seismic-refraction-surveys/ Geological-logs/ Geophysical-logs/ Coal-analysis/ Core-sampling/ Drill-cuttings-sampling/ SF5515 8450
Abstract: Basic information about the Taroborah area using current technology as a benchmark for comparison against later experimental work.

Keywords: Coal-exploration-Qld/ Seismic-surveys/ Regional-geology-Qld/ Stratigraphy-Qld/ Coal-analysis/ Water-analysis/ Drilling-/ SF5515 8450

Keywords: Catchment-Areas/ Natural-Resources/ Land (Grass-and-Pasture)/ Community-Participation/ Management-/ Sustainable-Development/ Planning-/ Rangelands-
Abstract: The success or otherwise of regional approaches to resource use planning, particularly in rangelands, is reviewed and lessons that may benefit new regional strategy initiatives across the country are drawn. This paper suggests that, to deliver effective outcomes, regional resource use planning must move towards approaches that facilitate equitable negotiations among key regional stakeholders with an interest in natural resource management. There is concern that not enough effort is being invested nationally in determining what can lead to sustainable and equitable regional outcomes.

Dampier Mining Company Ltd. 1976. Field investigations in AP 136C - Wendouree, Central Queensland. Logs 1-151. GSQ CR 5851B:501p
Keywords: Coal-exploration-Qld/ Well-logs/ Permian-/ SF5514 8151/ SF5514 8251

Keywords: Gravity-anomalies/ Gravity-maps/ Gravity-surveys/ Structural-geology-Qld/ Seismic-
traverses/ SF5413/ SF5414/ SF5505/ SF5506/ SF5510/ SG5401/ SG5402/ SG5512/ SG5609/ SG5613

**Abstract:** The gravity features can be correlated with structural features delineated by the previous seismic work.


**Keywords:** Geophysical-interpretation/ Gravity-anomalies/ Gravity-surveys/ Structural-geology-Qld


**Keywords:** Coal-exploration-Qld/ Core-drilling/ Coal-analysis/ Geological-logs/ Geophysical-logs/ Permian-/ SF5507 8554


**Keywords:** Coal-exploration-Qld/ Rotary-drilling/ Core-drilling/ Coal-analysis/ Coal-resources-Qld/ Geological-logs/ Geophysical-logs/ SF5507 8454/ SF5507 8554/ SF5511 8453/ SF5511 8553


**Abstract:** Rainfall, temperature, humidity and evaporation data for the Fitzroy River catchment are presented in tables and graphs and discussed. An explanation of the causes of Central Queensland climate and its variability is given.


**Abstract:** Compilation of papers cited in this Bibliography under the separate authors.


**Abstract:** The communications objective is to facilitate consultation with those stakeholders concerned with managing harmful or undesirable algal blooms in freshwater and estuarine systems and to communicate to them the knowledge and tools arising from the National Eutrophication Management Program. Stakeholders include natural resource users, resource managers and regulators, environmental interest groups, research groups, and research and development funding bodies. To ensure effective communication, a three level administration framework, linking local, regional and state committees/agencies, will be developed in each focus catchment. Details of the administrative structure are appended. Plans for communication activities and communication products appropriate for each stakeholder group are outlined.


**Abstract:** The National Eutrophication Management Program was established in 1995 to undertake research and communication activities necessary to reduce the frequency and intensity of harmful or undesirable algal blooms in fresh and estuarine waters. Strategies for achieving these objectives are outlined. Research will focus on the causes and control of cyanobacteria in four rural catchments with eutrophication problems representative of broader regions: Wilson
Inlet WA, Goulburn River and Broken River VIC, Namoi River above Narrabri NSW and Fitzroy River QLD. Six priority research topics have been selected: bioavailability of nutrients, sources and transport of nutrients, management of sediment nutrient sources, effects of episodic events on water body ecology, factors leading to the initiation and development of blooms, and evaluation of nutrient management actions. Annual assessments of all projects will be communicated to the research community, local and regional management groups and policy makers.


Keywords: Saline-soils/ Irrigation-/ Soil-surveys


Abstract: The Leichhardt Downs relift section of the Burdekin River Irrigation Area is currently used for beef cattle fattening and irrigated sugar cane. Intensive dyking has caused significant hydrosalinity in areas that have been used for sugar cane production. A detailed soil survey of the area was conducted during the dry season of 1986. Sodic duplex soils occupy 35% of the total area. The adverse characteristics of these soils will have an immediate impact on crop growth if the shallow surface horizons are removed during levelling operations or if dykes occur close to the soil surface. Furrow irrigation of such areas will result in highly saline perched water tables adjacent to the dykes. Fifty-six percent of the area has been assessed as suitable for the production of sugar cane under furrow irrigation. Far less land is rated as suitable for irrigated maize, capsicums and mangoes. No areas are suitable for flood irrigation of rice.


Keywords: Salinity-/ Conductance-/ Appraisal-/ Soil-Horizons/ Saline-Water/ Water-Table/ Irrigation-/ Electromagnetic-/ Maps-and-Mapping

Abstract: Discusses preliminary measurement results of soil salinity and electrical conductivity at locations over a cleared site on Leichhardt Downs. The site was chosen in expectation that saline water tables would develop close to the surface in the less permeable soils on lower slopes in response to high volume irrigation of upland terrain. The relationship between soil morphology and measures of soil salinity and electrical conductivity as detected by electromagnetic induction is discussed. Comments are made on the usefulness of soil mapping to identify interface areas where deep drainage will be required to minimize salinisation of soils lower in the landscape.


Keywords: Oil-shale/ Economic-geology-Qld/ Tertiary-/ Cretaceous-/ Permian-/ Cambrian-/ SF5403 7256/ SF5504 8657/ SF5613 9051/ SF5613 9150

Abstract: Only the Tertiary and a few Cretaceous deposits are of immediate economic interest but Jurassic, Permian and Cambrian shale are also known.


Abstract: National heritage resources of the Fitzroy River catchment area are reviewed. Gaps in the coverage are identified and a proposal is outlined to use waterways and interfluves to link heritage areas. Work in progress is outlined.


Keywords: Catchment-Areas/ Satellite-Imagery/ Remote-Sensing/ Coastal-Areas/ Management-/ Information-Handling/ Geographic-Information-Systems/ Total-Catchment-Management

Abstract: Geographic information systems (GIS) are highly useful in integrated catchment management (ICM) as information storage, analysis and communication systems. This display provides visual images in the form of satellite, air photo, topographic and other maps of the lower Fitzroy River region and adjacent coastal areas.


Keywords: Sedimentary-basins/ Sandstone-/ Pore-water/ Oxygen-isotopes

Abstract: Study of porewater flow and deep ankerite formation.


Abstract: In this paper three topics of relevance for magnetotelluric data reduction are discussed. 1) Three methods of reducing field data to MT impedance estimates are compared by applying them to data from the Bowen Basin in Queensland, Australia. 2) The reliability of the predicted coherence function in assessing the quality of the data is examined, and methods of correcting for bias due to the variable smoothing band sizes are given. 3) The effects of some coherent and incoherent noise sources are examined and illustrated, particularly the effects of shallow sheet currents.


Keywords: Water-pollution / Pollution-control

Abstract: Sources of pollution and control considerations.


Abstract: Three divisions (Units A, B, C) of Middle Bowen Beds in N part of Bowen Basin. Each 5 units A, B1, B2, B3, C contains characteristic macrofossil assemblage Bandanna Fm contains Middle Bowen Beds and Upper Bowen Coal Measures.


Keywords: Aerial-radioactivity-surveys/ Geomorphology-/ Weathering-/ Regolith-/ Geophysical-interpretation/ Gamma-spectroscopy/ Landsat-


Keywords: Oil-shale/ Mineral-exploration-Qld/ Cainozoic-/ Eocene-/ SF5516 8850


Keywords: Coal-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-surveys/ Site-investigations/ Geophysical-logs/ Work-programmes/ SF5515 8450


Keywords: Dam-site-investigations/ Engineering-geophysics/ Seismic-refraction-surveys


Keywords: Engineering-geology/ Dam-site-investigations/ Geophysical-surveys-Qld/ Seismic-refraction-surveys


Keywords: Seismic-reflection-surveys/ Structural-geology-Qld/ Structural-analysis/ Faulting-/ Permian-/ SF5511 8553

Abstract: High resolution seismic methods confirm structural dislocations.


Keywords: Coal-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-surveys/ Seismic-reflection-surveys/ Seismic-interpretation/ Coal-seams/ Structural-geology-Qld/ Structural-analysis/ Stress-/ Strike-slip-faults/ Normal-faults/ Thrust-faults/ Geological-structures/ Permian-


Keywords: Weathering-profile/ Hydrothermal-alteration/ Mineralogy-/ Geochemistry-/ Gold-/ Tertiary-


Keywords: Aquifers-/ Pump-tests/ Mine-shafts/ Mine-waters/ Mathematical-models/ Ground-water-management

Abstract: The Stockholm gold mine near Charters Towers is now disused and filled with water to a level of about 12m below the natural land surface. To explore the possibility of using water in the mine for nearby ore processing, a pump test was carried out to assess the likely inflow while the mine is being emptied. Water was extracted from surrounding aquifers through the network of old workings. Since conventional methods of pump test interpretation were inappropriate, a mathematical model incorporating linear flow, sink storage and a connection to the regional groundwater regime was developed. The equation for water movement within this model is solved and a fast, efficient method of numerical inverse Laplace transformation is presented. Model parameters are estimated by least squares inversion, and used to predict long term inflow to the mine.


Abstract: Land in the Burdekin irrigation area was divided into unique map areas for the purpose of performing soil surveys to assess the suitability of land for growing crops under irrigation. The author discusses land suitability classification, procedures used in determining salinity, water uptake by crops in relation to root zone depth and crop tolerance to salinity.


Abstract: A 1:25000 soil survey and land suitability evaluation were undertaken over 9297ha in the Inkerman west and central sections of the Burdekin River Irrigation Area. The morphology, physical properties and chemical analysis of the soil types for each landscape unit identified are described. Sixty-two percent of the area was found suitable for sugar cane, 56% for maize, 13% for capsicums, 19% for rice, and 14% for mangoes. Extreme care will need to be taken in siting farms to avoid exacerbating the salinity problems. Means of lowering the water table to acceptable levels will need to be developed.


Abstract: A 1:25000 soil survey and land suitability evaluation were undertaken for Leichhardt Downs Section in the Burdekin River Irrigation Area. The survey provides information to assist the Queensland Water Resources Commission with resubdivision and farm design for the proposed irrigation areas of the Burdekin River Irrigation Area. The soil maps and a summary report are completed and published. A more detailed report is being compiled. The land suitability classification used in the evaluation enables mapping units to be classed as unsuitable due to their potential salinity hazard. Brief guidelines for both irrigation development and farm subdivision are given to reduce the incidence of salinisation.

Keywords: Streams (in-Natural-Channels)/ Rivers-/ Catchment-Areas/ Natural-Resources/ Resource-Management/ Spatial-/ Land-Management/ Land-Use/ Geographic-Information-Systems/ Distribution (Mathematical)/ Water-Quality (Natural-Waters)/ Community-Participation

Abstract: The Fitzroy Basin is a large catchment in which complex ranges of natural resource management issues occur, but impacts from land use are often far removed from the source and difficult to quantify, study and visualise. The Neighbourhood Catchment approach proposes that local sub-catchments are an appropriate size to address resource management issues. Two 'focus Neighbourhood Catchments' have been established in the catchment whereby geospatial information on land management and catchment condition is first captured, and using a Geographical Information Systems (GIS), linked to produce a spatial database. Sediment yields and water quality results are then analysed within the GIS and the impacts of changes in stream and land management practices are assessed. Information generated from the approach is used to create ownership for landholders and promote change in land and stream management at a sub-catchment scale and larger.


Abstract: Since grain farming commenced in Central Queensland there has been continuing degradation of the soil resources on which farming is based. This has resulted in soil fertility loss, soil structural decline and soil erosion. This paper describes the project 'Sustainable farming systems for Central Queensland' which is a new participatory approach to developing sustainable farming systems based on producer groups.


Keywords: Alluvium-/ Groundwater-/ Water-Quality (Natural-Waters)/ Salinity-/ Variation-/ Modelling (Hydrological)

Abstract: Abstract only published. Reports on the sampling of 45 alluvial bores and 7 surface streams on 11 occasions between Jan 1976 and April 1981, to measure temporal and spatial variations in salinity parameters within the Quaternary alluvial groundwaters of the Callide Valley. Groundwater salinity had been observed to vary over the length of the alluvium, with a significant proportion of waters being unsuitable for irrigation of salt sensitive crops. With increasing demand for groundwater, salinity had also been observed to increase. Salinity variations in the Callide alluvium were explained using a simple hydrological model involving recharge, transmission and accumulation areas. The transmission of groundwater, in response to a slight hydraulic gradient, has resulted in an accumulation of soluble salts in areas where permeability discontinuities restrict groundwater flow and hydraulic gradients approach zero.


Keywords: Groundwater-/ Salinity-/ Recharge-/ Runoff-/ Streams (in-Natural-Channels)/ Boreholes-/ Rivers-

Abstract: Increased salinity following increasing demand for groundwater in the irrigation area of the Callide Valley has been observed. Results of alluvial bore and surface stream sampling are discussed. Salinity increases were found with distance from recharge areas, with recharge via surface stream runoff occurring in the alluvial headwaters of these streams. An explanation of
salinity variations in the Callide alluvium is offered which involves recharge, transmission and accumulation areas.


Abstract: The objectives of the investigation in the Callide, Don and Dee Valleys are: (i) to provide information on water level and quality changes for selected bores within the valley system, (ii) to evaluate differences between bores on a spatial and temporal basis, and (iii) to assess directional trends in water quality attributes within the valleys. Waters in the Callide Valley show, from preliminary analysis, lower overall salinity than waters from the Dee and Don Valleys. While water levels remained steady over the sampling period, salinity was found to fluctuate. Within the aquifer system, water level and salinity parameters can be strongly related to location.

Abstract: The objectives of this investigation in the Don, Dee and Callide Valleys in Queensland include provision of information on water level and quality changes for selected bores within the valley system, evaluation of differences between bores and assessment of directional trends in water quality attributes. Conclusions regarding salinity restricted lateral groundwater flow and groundwater leakage is presented. Salinity variations in the Callide alluvium were explained using a simple hydrological model involving recharge, transmission and accumulation areas.

Keywords: chloride-leaching/ irrigated-soil/ salinity-/ sodic-duplex-soil/ gypsum-/ Australia-/ Queensland-/ Burdekin-River
Abstract: An investigation was undertaken to describe chloride and water movement in a newly irrigated sodic duplex Gaynor soil from the Burdekin River Irrigation Area, north Queensland. After landforming, this sodic duplex soil is considered suitable for irrigation of rice but marginal for irrigation of row crops due to the need for further amelioration. In this unreplicated study, chloride leaching was observed under both furrow and ponded irrigation. In furrow irrigated plots, gypsum influenced root zone hydrology such that greater chloride leaching and, hence, infiltration occurred. Chloride leaching, however, decreased with distance along the furrow suggesting 'intake opportunity time' decreased down the furrow. This has management implications in terms of obtaining uniform water application with minimal runoff and deep drainage losses. Under ponding, chloride leaching was not clearly related to landforming or use of gypsum but did appear consistent with ponding plus some form of subsurface drainage, in this case via gravel layers. Use of gypsum increased water use raising the question of increased deep drainage and accessions to local and regional groundwater systems.

Abstract: This study examines changes occurring within the Gaynor soil of the Burdekin River Irrigation Area under different irrigation regimes (nil, furrow, ponded, saturated soil culture) in the presence or absence of gypsum. Changes in water use, water movement through the soil profile, profile salinity and sodicity will be related to the irrigation management of this soil. It is hoped to quantify the economics of the different management options likely to be followed in irrigating these saline and sodic soils.

Abstract: Investigates the temporal and spatial variations in groundwater salinity within the Callide Valley alluvial basin. Gives the background, stating that with increasing demand for groundwater both for agricultural and domestic purposes, the incidence of reports describing apparent deteriorating groundwater quality have increased. Describes the sampling and analytical methods. The data did not show any significant temporal trends with respect to groundwater salinity and quality. However, some very definite spatial relations became apparent. These are discussed. They feature salinity gradients, and the fact that salinities tend to increase with decreasing hydraulic head, and with distance along the aquifer from the alluvial headwaters. This simple concentration process is due to groundwater flow decreases due to pumping. Looks at groundwater chemistry and the fact that all soluble salts do not concentrate to the same degree due to precipitation reactions.


Abstract: In the Callide Valley, groundwater salinity and sodicity vary over the length and breadth of the alluvium with a significant proportion of the water being unsuitable for irrigation of salt sensitive crops. An explanation is presented for this spatial variation in groundwater salinity. It is based on the concentration of a constant mass of salt introduced near the headwaters of each alluvial valley. If the system is both dosed and in steady state, then as water is extracted with increasing down-valley distance, salt is left behind and progressively concentrated.


Abstract: Groundwater chemistry in the Emerald Irrigation Area is being investigated in a monitoring study. Following development of the area for irrigation with imported surface water, the results of this study will be used to relate variations in groundwater chemistry to increases in groundwater level. Monitoring activities are described.


Keywords: Mass-Balance/ Furrows-/ Irrigation-/ Modelling (Hydrological)/ Soil-Water-Systems/ Infiltration-/ Drainage-/ Flux-/ Calcium-Sulphate/ Soil-Additives/ Water-Table/ Groundwater-/ Recharge-/ Soil (Types-of)/ Irrigation-/ Drainage-

Abstract: Gypsum improves infiltration and plant available water capacity, but at the same time increases accessions to the groundwater which can cause salinity. For this reason, it is important to accurately measure deep drainage. This paper combines a solute mass balance model and a furrow irrigation advance model to provide an estimate of infiltration and deep drainage fluxes in permeable soils, based upon readily measured parameters.


Abstract: A series of 3 catchments at the Brigalow Research Station, Theodore, are being monitored to quantify the effects of clearing land for grazing, pasture and cropping on soil water, soil salt and nutrient distribution, runoff waters and sediment load. Salinity and sodicity profiles are presented for various soil types within the study area. These soils are classified as saline and strongly sodic below 30cm in most cases.

Abstract: With the development of the Emerald Irrigation Area (EIA) rising water tables have affected about 400ha of midslope land near the interface of shallow (Bu) vertisols and deeper (TbUg) vertisols overlying basalt. In the more seriously affected areas, water tables have reached the ground surface near this interface. This study looks at the relationships between cotton yield and water-table levels and salinity. Results are presented, and the drainage and reclamation of these high water table areas are considered. Management practices aimed at restricting further water additions to the groundwater system will need to be studies in the EIA if the development of these highly saline areas is to be avoided.


Abstract: Geology and mineral resources of the Fitzroy River catchment area described. The energy sector will continue its dominance with coal leading the way. The mineral industry remains important with the magnesia and magnesium industry becoming an important export earner and employer.


Keywords: Mudstone-/ Stratigraphic-drilling/ Pebbles-/ Ice-rafting/ SF5515/ SF5516 8650/ SF5516 8651/ SG5503 8548/ SG5503 8549/ SG5504 8648/ SG5504 8649/ SG5507 8546/ SG5507 8547/ SG5508 8646/ SG5508 8647

Abstract: Transportation and deposition by seasonal river ice.


Abstract: The limestones are mainly skeletal grainstones and rarer packstones. Crinoid remains are dominant, but brachiopod-rich and coral-rich limestones are present locally. Non-skeletal carbonate grains are absent from the limestones. Terrigenous components range from negligible to dominant. The Permian limestones share similar characteristics with temperate Cenozoic limestones of New Zealand, suggesting that differences in carbonate sedimentation between tropical and non-tropical regions have been consistent.


Keywords: Sedimentary-geology/ Regional-geology-Qld/ Stratigraphy-Qld/ Sedimentary-environments/ Structural-geology-Qld/ Economic-geology-Qld/ Devonian-/ Carboniferous-


**Abstract:** Results are given of a study of the distribution, species richness and dynamics of aquatic macrophytes of the Fitzroy River catchment. Three surveys were conducted of 101 sites, between 1989 and the end of 1991. A large proportion of sites had two or less species of macrophytes. Their role in the prevention of bankside erosion is discussed.


**Abstract:** The aquatic macrophytes at 11 sites in the Fitzroy River system were surveyed twice in 1994 as part of a project which aims at assessing the ecological 'state of health' of the river system. The aquatic plant species most commonly occurring at the sites were species of Lomandra, Cyperus, Persicaria, Muelenbeckia and Marsilea. Only three species of submerged plants were recorded in June. Generally, five to eight aquatic plant species were found per site, there being little difference between sites in this regard. The number of species found per site in October was similar to that found in June. The overall low numbers of aquatic plant species found is likely to be the result of the generally arid climate, high turbidity and possibly high grazing pressure in waters of the catchment, and therefore does not indicate water of poor quality.


**Abstract:** The Fitzroy River catchment is the largest river catchment draining to the east coast of Australia, and it comprises approximately eleven percent of Queensland's arable land. The
catchment leads the way in water management, being the subject of Queensland's first Water Allocation and Management Plan, which aims to balance economic and environmental needs. However, water bodies in the catchment are still subject to massive algal blooms that often last much longer than those in temperate areas. The diversity of algal species in the catchment is also very high, with most of the potentially toxic algal species found in Australia having been recorded from the catchment. This compendium of information relevant to eutrophication in the Fitzroy catchment was gathered from a wide range of sources, including a survey of people thought likely to have information on eutrophication in the catchment. An emphasis was placed on different land uses and their relationship to eutrophication.


**Keywords:** Irrigation/- Risk-Analysis/ Threat/- Water-Quality (Natural-Waters)/ Soil (Characteristics-of)/ Land-Degradation/ Salinity/- Aquatic-Communities/ Aquatic-Environments/ Streams (in-Natural-Channels)/ Rivers/- Catchment-Areas/ Animals (Invertebrates)/ Fish/- Species (Biological)/ Distribution (Mathematical)/ Community-Composition/ Population-Statistics/ Research/- Land-Management/ Land-Use

**Abstract:** An assessment of the ecological risks associated with irrigation of the Fitzroy Basin, identified six ecological effects at each of two scales, the local irrigation area scale and the entire catchment scale. At the local scale the main risks identified were decline in water quality, soil degradation, increase in salinity, changes in composition and decline in abundance of macroinvertebrates, changes in nutrient cycles and decreases in desirable fish populations. Similar effects were identified at the catchment scale, but in different ranking order. An assessment of the knowledge gaps associated with each of the risks identified a number of priorities for future research. It is recommended that the second phase of the project focus more on the effects of irrigation at the local scale, that the impact of water quality decline on macroinvertebrate and fish be investigated in the Fitzroy, and that studies should include comparisons between particular land/irrigation management practices where possible.


**Abstract:** This symposium examined the resource base of the Fitzroy River catchment and its present condition. The papers presented considered the resource uses and management, including community initiatives in catchment management and conservation.

Duncan IH. 1980. An investigation into the geochemistry and clay mineralogy of a portion of the Burdekin aquifer system with special reference to the phenomenon of reverse osmosis. B.Sc.(Hons.) Thesis. James Cook University of North Queensland;


**Keywords:** Alluvium/- Sand/- Quarrying/- Quarries/- Gravel/- Streams (in-Natural-Channels)/ River-Management/ Environmental-Assessments/ Rivers-

**Abstract:** An exploration of the occurrence and potential for exploitation of alluvial resources around Rockhampton was conducted using auger drilling, excavator pitting, bed sampling and laboratory testing. Sand supply for the local market will continue to be met by extraction from the
Fitzroy River because alternative deposits on the floodplain are overlain by large thicknesses of overburden. Extraction methods may have to be modified in the future to reduce degradation in the river bed. Gravels from creeks are a useful resource for concrete aggregate, road base and screened gravel. The Queensland, Water Resources Commission can take a positive role in encouraging the planned extraction of these resources. The sand and gravel market is a dynamic one. There is a large discrepancy between published figures for sand and gravel production and figures obtained from Commission records. It is probably that part of the discrepancy arises because producers’ returns to the Commission are understated.


**Abstract:** Potential postmining uses for the pits remaining after extraction of mineral resources by open cut mining (final voids) include waste disposal, water storage, wildlife habitat, stock watering and recreation. Final void hydrology and water quality, critical in determining the most appropriate use, are heavily influenced by hydraulic and geochemical properties of upgradient spoil. Because of the variety and complexity of processes affecting water quality in a final void, effective prediction of water quality and quantity requires site specific models incorporating the key processes. As an example, a model based on limited groundwater and chemical data, identifies key processes that may be important in determining water quality in final voids suggested for use as cattle watering places in the Bowen River basin. The fact that three different possible attenuation processes are identified for selenium, arsenic and molybdenum emphasizes the need to identify processes before attempting to develop site specific models.


**Abstract:** Data on the erodibility of overburden spoils resulting from open-cut coal mining are limited. These data are required to derive parameters for erosion prediction models which can be used in the design of re-formed landscapes after mining. In this study, laboratory rainfall simulation data were used to derive CREAMS (Chemicals, Runoff and Erosion from Agricultural Management Systems) inter-rill erodibility parameters K and n (sub bov) for Central Queensland coal mine overburden spoils. For the spoils studied, K values ranged from 0.0111 to 0.1398 Mg.ha.h/(ha.MJ.mm) and n (sub bov) values ranged from 0.0004 to 0.0081. Sediment yield was transport controlled. Results for 1 spoil, South Blackwater Terang, showed that total soil loss increased linearly with slope, and both K and n (sub bov) varied non-linearly with slope. If a
constant set of K and n (sub bov) values is used in modelling. CREAMS over-predicts spoil loss for slopes greater than that for which the parameter values were determined, and under-predicts spoil loss for slopes less than that for which the parameter values were determined. The results show evidence of differences between mine spoils and agricultural soils, including modality of size distribution of surface sediment available for erosion, a higher percentage of dispersed clays in eroded sediment from mine spoils than from agricultural soils, and the observed amount of surface sealing and crust formation. These differences indicate that erosion-erodibility parameters for mine spoils should be measured and that agricultural soil parameters should not be a basis for estimates of mine spoil parameters.


Keywords: Salinity-/ Irrigation-/ Soil (Types-of)/ Groundwater-/ Hydrogeology-/ Water-Table/ Boreholes-/ Scalding-

Abstract: A hydrogeological investigation has been undertaken in the proposed West Inkerman section of the Burdekin River Irrigation Area QLD to assess the likely hydrosalinity effects of irrigation development. This program involved installation of 12 new monitoring bores to define subsurface strata and enable long term measurement of groundwater parameters. The drilling revealed the bedrock to consist dominantly of a heavily intruded series of weathered and fractured Precambrian rocks which are overlain in the uplands by thin permeable red soils and in the lowlands by clayey alluvium with thin basal gravels. A depth, to groundwater surface contour plan, prepared from water level data from the new and existing networks has revealed that large areas of shallow, relatively saline groundwater existed beneath the proposed West Inkerman section. Particularly, one monitoring bore which was installed in the mid 1970s has indicated groundwater levels at or near groundsurface for extended periods after successive ‘wet seasons'. This data is consistent with salt scalds which are visible on aerial photographs of the area.


Keywords: Salinity-/ Groundwater-/ Hydrogeology-/ Water-Balance/ Irrigation-/ Soil (Characteristics-of)/ Waterlogged-/ Maps-and-Mapping/ Geophysics-/ Boreholes-

Abstract: Hydrosalinity investigations have been undertaken in the proposed Leichhardt Downs sections of the Burdekin River Irrigation Area QLD to assess the likely effects of irrigation development. Additional work consisted of extensive drilling and installation of monitoring bores, geological mapping, geophysics and the establishment of a water balance experiment. The investigation resulted in a significant revision of the previous geological mapping, with large areas of metamorphic rocks being discovered in the area. Hydrologic analyses indicate that certain portions of the landscape could be susceptible to salinisation and waterlogging if irrigation development is not appropriately planned. Various development options including design, engineering, land use and agronomic considerations are put forward.


Keywords: Devonian-/ Jurassic-/ Palaeontology-/ Palynology-/ Permian-/ Stratigraphy-Qld

Abstract: The Lower Permian division compares in age with part of the Fitzroy Basin, W.A.


Abstract: Water is supplied from Fitzroy River QLD to the Stanwell power station, the latest 1400MW coal fired power station, built 30km west of Rockhampton. Water passes through a
weir, barrage, pumping station and pipeline to the power station and after use, is discharged back to the river system.


**Keywords:** Gold-deposits-Qld/ Epithermal-deposits/ Gold-exploration-WA/ BLEG-sampling/ Isotope-geochemistry/ Fluid-inclusions/ Oxygen-isotopes/ Sulphur-isotopes/ Hydrogen-isotopes/ Geophysical-surveys-Qld/ Radiometric-dating/ SF5503 8356/ SF5503 8456/ SF5507 8355/ SF5507 8455

**Abstract:** Covering BHP's exploration work in the area.

F


**Abstract:** Freshwater zooplankton, excluding protozoa, of the lower Fitzroy River are identified. Relationships between zooplankton and phytoplankton are discussed. The need for further research is highlighted.

Fabbro LD. 1999. Phytoplankton ecology in the Fitzroy River at Rockhampton, Central Queensland, Australia. Ph.D. Thesis. School of Biological and Environmental Sciences, Central Queensland University; 346p, map


**Abstract:** Physical and chemical river water parameters were monitored at two sites above and below the Fitzroy River barrage, from January 1990 to July 1992. Seasonal changes in temperature, oxygen, conductivity and nutrient content of the water are documented and the major differences in these parameters between the two sites are highlighted.


**Keywords:** Cylindrospermopsis-raciborskii/ Rotifer-/ Brachionus-angularis/ Australia-/ Queensland-/ Fitzroy-River/ cyanobacteria-/ bloom-

**Abstract:** The physical, chemical and biotic conditions before and during a bloom of predominantly coiled heterocystous C. raciborskii are described. Initial increases in the population of this species were associated with windy days and the first downward movement of the thermocline into an anoxic hypolimnion after an extended period of stable stratification and no flow. Exponential growth and bloom formation coincided with the arrival and retention of first wet-season inflows into the river impoundment. Cyanobacteria and rotifers dominated the planktonic assemblage and chytris (cyanobacterial pathogens) were present when the cell density of cyanobacteria peaked. Grazing of the coiled forms that dominated during the bloom was not recorded, but the rotifer Brachionus angularis has been observed ingesting entire straight trichomes of C. raciborskii.

Falkner AJ, Fielding CR. 1990. Geometrical facies analysis of a mixed-influence deltaic sequence; the Late Permian German Creek Formation, Australia. In: 13th International Sedimentological
Congress; Abstracts of Papers. International Association of Sedimentologists, Comparative Sedimentology Division. Utrecht, Netherlands; 160-1


Abstract: The Staircase Sandstone Member of the Cattle Creek Formation is interpreted as the deposits of a wave- and tide-influenced delta because of its interbedded lithological character, alternation of marine and non-marine strata, bipolar palaeocurrent distribution and assemblage of preserved sedimentary structures.


Keywords: Australia-/ Queensland-/ Burdekin-River/ river-/ tropical-environment/ monsoon-/ sediment-/ bedform-/ river-/ tropical-environment

Abstract: The Burdekin River QLD exemplifies a class of tropical streams that experience two to four orders of magnitude variation in discharge in response to seasonal but erratic monsoonal rainfall. The geomorphology and deposits of these rivers reflect the extreme fluctuations and have not previously been described. The river bed of the upper Burdekin is largely exposed for most of the year, with a small misfit channel carrying low stage flow. Major geomorphic elements of bends include point bars with ridge and swale topography (some vegetated), three distinct types of chute channels, and avalanche slipfaces around the downstream edges of bars. Straight reaches are flat or gently inclined, sand and gravel covered surfaces. Much of the river bed is covered by well sorted coarse sand with local accumulations of pebble to boulder gravel. Dunes and plane beds are the most common bedforms, with local development of gravely antidunes. Bank tops and vegetated bars are covered by silt and fine sand. River bed vegetation dominated by the paperbark, Melaleuca argenta, plays an important role in controlling sediment distribution. The gross geomorphology and most sedimentary features are interpreted as having formed during major flows recurring at about 18 year intervals.


Keywords: Fluvial-sediments/ Sedimentary-facies/ Sedimentary-structures/ Ground-penetrating-radar/ Holocene-


Keywords: Fluvial-landforms/ Sediments-and-sedimentary-processes-deposition

Abstract: In sub-humid parts of north Queensland, NE Australia, certain types of trees are well adapted to living in river bed habitats. The bed of the tropical, variable-discharge, upper Burdekin River hosts a community dominated by the paperbark Melaleuca argenta. Trees grow preferentially in flow-parallel, linear groves, and engineer their own environment by deflecting currents, building sand and gravel bars and stabilising banks. This is the first study to document in-channel bar development resulting from vegetation growth, rather than the reverse which has been inferred by previous workers. In the Burdekin River study site, individual Melaleuca range from seedlings to mature trees over 100 years old. These trees survive regular, partial to total submergence and impact damage during wet season runoff events (often reaching over 20,000 m$^3$ at peak discharge) partly by adopting structural and growth modifications. These
modifications include a reclined, downstream-trailing habit, multiple-stemmed form, modified crown with weeping foliage, development of thick, spongy bark, root regeneration and group strategies, notably development of flow-parallel, linear groves. Following death, in situ remains of trees are preserved within the mainly coarse sand to gravel channel fill, either as reclined stems/trunks stripped of branches and foliage or as more upright trunks snapped at a height of typically 1-2 m above base, both with roots. The morphological adaptations and styles of preservation of in situ vegetation within the Burdekin River are considered distinctive of variable-discharge rivers, and may be useful in the identification of facies formed in such environments in the rock record, particularly when associated with bar development.


Abstract: The latest Permian Rangal Coal Measures and equivalents accumulated during a phase of declining volcanism and active thrust loading in the complex retroarc foreland Bowen Basin in eastern Queensland, Australia. The unit was formed in predominantly alluvial environments which covered the entire Bowen Basin and it represents the final phase of coal formation in the basin. Large opencut mine exposures, mainly in the Blackwater area, have allowed the establishment of a facies scheme for the Rangal Coal Measures. Seven facies have been recognised on the basis of lithology, geometrical criteria and palaeocurrent relationships. (1) Sheet-like Sandstone Channel Bodies; (2) Laterally Accreted, Heterolithic Channel Bodies; (3) Levee (Proximal Overbank) Deposits; (4) Minor Crevasse Channel Fill; (5) Floodbasin; (6) Stagnant Lake Floor; and (7) Mire. Together, these constitute an array typical of alluvial, coal-bearing systems. The depositional style of the Rangal Coal Measure channels is unusual, and considered to be related to the periodic oversupply of coarse sediment to the system. Heterolithic channel fills (Facies 2), which comprise alternations of thinly interbedded sandstone/siltstone and sharp-bounded sandstone, formed under conditions of dramatically variable sediment supply. Such channel deposits, while formed dominantly by lateral accretion, were the product of only slightly sinuous streams (less than 1.5). Facies 1 sheet sandstones, however, are interpreted to have formed during times of sand oversupply to the basin, and were the product of low-sinuosity, probably braided streams. The overall character of the Rangals is considered a response to overfilling of the basin by immature, volcanic sediment released by the uplift of thrust sheets in the adjacent orogen.


Abstract: The Permo-Triassic Bowen Basin and overlying Jurassic-Cretaceous Surat Basin fills are intersected by the BMR Eromanga-Brisbane seismic transect between the Nebine Ridge and Kumbarilla Ridge structural highs to the west and east, respectively. The Bowen Basin, which is of controversial origin, is a north-south trending, asymmetrical syncline bounded in places by faults. The basin is here interpreted as a retro-arc foreland basin, which developed on the landward (west) side of a continental arc associated with continent-ocean plate convergence. Following a period of erosion, the Surat Basin was initiated by largely passive downwarping. Sediment accumulation in the Surat Basin was terminated in mid-Cretaceous times. Minor extensional fault movements characterised the Palaeocene period, and mild compressive deformation in Oligocene-Miocene times coincided with a major phase of basaltic volcanism in eastern Australia.


Abstract: The rocks studied represent part of the fill of the northern Denison Trough, a north-south elongate feature on the western margin of the Bowen Basin. The section is interpreted as the product of coastal environments of deposition. Evidence for tidal flux and the importance of wave-generated structures suggest that the coastal complex was of mixed-influence, affected by a balance between fluvial outflow, waves and tides. Regional correlations suggest that the exposed section represents an eastward-prograding coastal plain without any pronounced deltaic depocentres. Palynological assemblages from four samples support an interdistributary bay interpretation for the thin-bedded facies, and indicate a Late Permian age for the exposed sequence. The age and lithostratigraphic correlation suggest that the rocks exposed in the vicinity of the dam spillway are part of the Freitag Formation.


Keywords: Sediment-/ Sediment-Water-System/ Transport-/ Streams (in-Natural-Channels)/ Erosion-/ Catchment-Areas/ Tropical-Regions/ Headwater-/ Alluvium-/ Land-Use/ Management-/ Total-Catchment-Management/ Rivers-
Abstract: Sediment storage in the upper Fitzroy River QLD catchment, and sediment movement from the Nogoa and Brown rivers, are discussed. The effect of erosion on sediment discharge is considered in relation to the channel network which is not fully integrated. The value of integrated catchment management for the Fitzroy Basin is discussed.

Keywords: Natural-Resources/ Conservation-/ Management-/ Marketing-/ Economics-/ Resource-Management
Abstract: The issues associated with management of natural resources in the future are explored. These include reconciliation of conflicting claims, enforceable property rights, the effect of risk on taxation policies particularly with respect to mineral and energy resources, intergenerational equity (use non renewable resources now or save them for the future), valuation of environmental amenities and modelling technological change.

Keywords: Catchment-Areas/ Salinity-Control/ Land (Grass-and-Pasture)/ Dryland-/ Project-Evaluation/ Costs-/ Finance-/ Salinity-/ Water-Table/ Recharge-/ Farms-and-Farming/ Total-Catchment-Management/ Land-Degradation/ Revegetation-/ Land-Management
Abstract: Salinity management issues in the Murray uplands of New South Wales and Victoria are discussed from a land and resource conservation perspective. It is argued that the limited successes of dryland salinity management in the region are outweighed by what are regarded as more fundamental failures. A wide range of key issues and obstacles are discussed which require urgent attention if progress on dryland salinity is to become a reality. Recommendations for salinity and catchment management are made which, whilst largely reinforcing current directions, call for a more strategic focus and propose new directions and new emphases.


Keywords: Abstracts & Proceedings


Abstract: The Burdekin irrigation project comprises a large dam at Burdekin Falls some 160km from the mouth of the river, a weir at 50.5km and 2 pumping stations and supply canals. An area of 45000ha will be irrigated annually in a region adjacent to an existing groundwater supply area of 40000ha. The new development will irrigate different soil types and landscapes from the present development and part of an area subject to overbank flooding. The paper discusses possible environmental degradation due to irrigation, resulting from changes in the hydrologic balance, in particular waterlogging and salinisation. The necessary surface and subsurface drainage systems will carry agricultural chemicals and fertilizers into the adjacent marine environment. General design and management considerations with respect to the drainage systems are discussed. The large floodways necessary to carry overbank flooding offer a unique opportunity to preserve and manage some significant natural ecosystems.

Fleming PM, Gunn R, Reece AM, McAlpine JR. 1981. Burdekin project ecological study. AGPS, Canberra; 233p

Keywords: Ecology-/ Streams (in-Natural-Channels)/ Dams-/ Irrigation-/ Soil-/ Vegetation-/ Water-Resources-Development/ Animals-/ Diseases-/ Geology-/ Geomorphology-/ Climate-/ Pollution (Water)/ Hydrology-/ Sediment-/ Transport-/ Conservation-/ Environmental-Impact-Assessment/ Rivers-

Abstract: Ecological study of the implications of the proposed dam at Burdekin Falls, paying particular attention to the soil, climate, vegetation, hydrological and terrain aspects of the region. The study has been particularly directed to the implications of the specific development project: a storage reservoir and associated irrigation and drainage works. Identifies three problems which could arise as a result of the proposed developments. These are concerned with salinization resulting from rising saline groundwater, overbank flooding and the discharge of pesticides in drainage water. Strongly recommends a monitoring procedure be introduced as part of the initial planning.


Keywords: river-regulation/ dam-/ flood-generation/ geology-/ geomorphology-/ soil-/ land-use/ Australia-/ Queensland-/ Burdekin-River / Australia-/ Queensland-/ Haughton-River

Abstract: Flood generation in the Burdekin and Haughton Rivers is discussed in relation to geology, geomorphology, soils and land use, and their interaction with the landscape and weather systems. Major floods generated above the Burdekin Falls Dam are usually partial area floods from low gradient streams draining low relief catchments and so have broad hydrographs.
The highest flows in the lower Burdekin are generated by floods from either the rapidly responding Bowen-Broken-Bogie systems below the dam, or the upper Burdekin above the dam. The 1991 wet season is found to be a rare event, where no floods were associated with a major weather system. The catchment was rapidly responsive to any significant rainfall due to the presence of a monsoonal trough for two months. The Haughton flood season was also unique, with floods in response to rain, matching both northern and southern Burdekin catchments.


Abstract: This paper briefly describes the Ben Lomond Uranium project and explains the design, philosophy, operating characteristics and inter-relationship between the various facilities utilized for the water management system. The quality of waters downstream of the project after dilution of deep aquifer seepages with runoff water from outside the restricted release zones is reviewed. The conclusions reached by State and Federal Governments and the author concerning such water quality are stated. The water management system proposed should achieve its initial aim of avoiding the release of waters which do not conform to the Department of Health 'Desirable quality for drinking water in Australia'. This will protect the environment and the system is confidently expected to be able to meet any reasonable water quality criteria for discharge from the site which may be imposed by the Queensland Government.

Abstract: Describes the design and construction of the 40m high roller-compacted concrete Copperfield River Gorge Dam. The dam site commands a catchment of 1272sq km and is located some 20km upstream of the new Kidston Gold Mine located at Kidston, some 300km west of Townsville. This article describes the site, investigations, design, construction and future design considerations of the dam.

Keywords: Palynology-/Spores-/Drill-cuttings/Pollen-/ SF5511 8452

Keywords: Water-Quality (Natural-Waters)/Natural-Resources/Community-Participation/Management-/Data-Handling/Decision-Theory/WaterWatch-/Education-
Abstract: The developmental philosophies and current operational structures and support behind the WaterWatch Queensland program are described. This paper also identifies issues associated with changes in the needs of contemporary natural resource management and the role of the community in these new paradigms. It identifies the developmental processes which have generated systems able to produce valid trend data, sound participatory decision making and innovative educational criteria.

Keywords: Regolith-/Nickel-deposits-Qld/Laterites-/SF5512 8852


**Keywords:** Soil-surveys/ Land-use-planning/ Multispectral-imagery


**Abstract:** The PERFECT (Productivity Erosion Runoff Functions to Evaluate Conservation Techniques) computer simulation system allows scientists to quickly test the long term impacts of various farming systems on runoff, erosion and crop yield using historical climate data and soils information. The model was validated in a range of catchments in Queensland, and probabilistic data relating to runoff, soil erosion and crop yield on these sites were incorporated into an expert system for use by extension officers and landholders. User friendly interface software was developed together with a series of pamphlets describing the models capabilities so that PERFECT can be used by a range of people.


**Keywords:** Coal-mining/ Open-cut-mining/ Ground-water/ Mine-planning/ Ground-water-management/ Pumping-/ Environmental-protection

**Abstract:** Current practices in control of local runoff and ground water.

G


**Keywords:** Coal-exploration-Qld/ Coking-coal/ Drilling-/ Coal-resources-Qld/ Coal-reserves/ Permian-/ SF5516 8750


**Keywords:** Coal-resources-Qld/ Coal-reserves/ Coal-exploration-Qld/ Drilling-/ Coking-coal/ SF5515 8550


**Keywords:** Coal-/ Drill-holes/ Geological-logs/ Mesozoic-/ Stratigraphy-Qld/ SF5513/ SF5514/ SG5501/ SG5502/ SG5505/ SG5506


Abstract: Land use and water planning in the Fitzroy River catchment is discussed and related to local government legislation. Results of a study of the catchment above the barrage are considered.


Keywords: Availability-/ Water-/ Capacity-/ Plants-/ Wet-/ Drying-/ Prediction-/ Uptake-/ Gravimetry-/ Soil-Water-Systems/ Hydrology-/ Equations-/ Soil (Characteristics-of)/ Estimation-/ Definition-/ Soil-Horizons/ Cracking-/ Clays-/ Depth-

Abstract: The Plant Available Water Capacity (PAWC) expression can be calculated using the parameters: Wmax the gravimetric water content at the upper soil water storage limit, Wdry the gravimetric water content after plant water extraction, BD the bulk density at Wmax and RD the rooting depth. The experimental difficulties of determining these parameters are discussed with particular reference to a field study on heavy-textured subsoils in the Burdekin Valley. It is shown that conventional laboratory estimates of Wmax are completely inappropriate to soils which exhibit variable and/or limited depth and degree of subsoil wetting. Similarly, valid estimates of Wdry from minus 15 bar water content depend on the soil depth considered in the summation and the severity of the drying regime imposed. PAWC is therefore not a single valued hydrological parameter of a given soil-crop combination. However it can be predicted with acceptable accuracy for soils subject to a moderate drying regime, using simply measured soil properties. The use of this prediction for irrigation planning is discussed.


Keywords: tropics-/ rangeland-/ livestock-/ grazing-/ zebu-/ cattle-/ Australia-/ Queensland-

Abstract: The open woodlands of the Burdekin River catchment area have been grazed by livestock for over 120 years, but in recent years improved management practices have increased herbage consumption and grazing pressure. Some areas are now suffering from severe overgrazing with loss of herbaceous cover, shrub invasion and soil erosion. Reduction in grazing pressure is seen as the main mechanism for controlling the problem and different management practices based on sound ecological principles need to be adopted together with improved technology.


Abstract: A multidisciplinary project is being undertaken in the Burdekin River Irrigation Area where significant hydrosalinity problems are anticipated when irrigation water is applied to sloping landscapes commanded by the Elliot Main Channel in the right bank of the river. The nature of these problems is discussed. The basic experimental technique will measure water table, wet area and salinity responses to irrigation as well as the magnitude and time course of the deep

**Keywords:** Soil-Water-Systems/ Soil-/ Soil (Types-of)/ Field-Studies/ Irrigation-/ Crops-/ Soil (Characteristics-of)/ Salinity-/ Sodium-/ Fruit-and-Vegetable-Crops (Cereals)/ Drainage-/ Grain-Crops

**Abstract:** Reports on a study to assess the suitability of soils for irrigated crop production in the Lower Burdekin Basin. Summarizes the types of soils examined. Briefly describes the methodology of the field experiment. The hydrological behaviour of a range of cracking clay and duplex soils of varying salinity and sodicity were examined. Discusses the results. Regarding plant available water capacity (PAWC), deals with measured values, commercial irrigation scheduling implications, drying regime, soil factors limiting PAWC, and prediction. Regarding infiltration, deals with recharge of soil water deficit, lateral spread under furrow irrigation, drainage under row crops, and deep drainage under rice. Also covers other aspects such as surface drainage and aeration, surface structure, and soil variability. Highlights practical implications of the study, examining soil amelioration treatments and management implications.


**Abstract:** An experimental area of 50ha of irrigated row crop has been established and extensively instrumented in the Burdekin River Irrigation Area. It has been designed to measure water on (PA meters and recording rain gauges), water off (Parshall fumes), soil moisture profiles and soil hydraulic gradients (neutron moisture meter and tensiometers), water table changes (data logging piezometers), crop cover (by light extinction method and overhead photography) and evaporative demand (automatic weather station). Work has also proceeded with models which allow the partitioning of known amounts of water into ETR/ drainage or infiltration/ drainage.


Georg D. 1985. Placing method speeds dam building. Engineers Australia; 57(9):26, 28

**Keywords:** Concrete-/ Dams-/ Building-and-Construction/ Techniques-

**Abstract:** The Burdekin Falls Dam in north Queensland is gaining height unusually rapidly thanks to a special technique of placing the concrete. The dam, 150km southeast of Townsville, is of the mass concrete gravity type built with a standard wet-mix concrete. The dam's size, requiring large quantities of concrete, made it feasible to build a big concrete-mixing station on site. The concrete is placed into formed blocks by 2 huge 50t dump trucks. As soon as the concrete is dumped a 25t excavator spreads it and another small excavator with special hydraulic immersion vibrators mounted to its dipper arm compacts it. This procedure allows the concrete to be placed in 1.5m thick layers.


**Abstract:** The persistence and degradation of endosulfan isomers and their primary degradation products in a clay soil collected from cotton farms in the Emerald region of Queensland were studied in a series of controlled environment experiments. Effects on pesticide degradation by such factors as soil moisture, temperature, day and night fluctuation of temperature, waterlogging and re-application were studied in these experiments, which ranged in duration from a few days
to a few months depending on the rate of pesticide disappearance from the media. It was concluded that the controlled environment method of investigating pesticide degradation in the soil and water environments seems to be a very useful and cost effective addition to field and catchment studies of these chemicals. Results obtained in this way can best be used as a basis upon which application oriented mathematical models can be constructed.


**Keywords:** Gold-mines/ Epithermal-deposits/ Vein-deposits/ Drill-core/ Field-excursions/ Mining-geology/ SF5507 8355


**Keywords:** Gold-mines/ Vein-deposits/ Epithermal-deposits/ Drill-core/ Field-excursions/ SF5507 8355


**Keywords:** Land-/ Community-Participation/ Local-Government/ Finance-/ Decision-Theory/ Landcare-

**Abstract:** In the past, shires have not always shown leadership in Landcare. Local government must inform and instruct its workforce on much more environmentally conscious ways of carrying out various tasks. Landcare groups can also cement relations with their local shire by asking for assistance and cooperating with shires in community decision making.


**Keywords:** Pumping-Stations/ Sites-/ Geology-/ Seismicity-/ Refraction-/ Rock-/ Depth-/ Water-Table

**Abstract:** This report presents the results of a seismic refraction survey of selected sections of the Fitzroy River right bank in the vicinity of lilymere Lagoon to define the depth to rock, particularly those areas where depth was minimal. Sixty traverses totalling 3325m were run. The survey generally detected the water table and found the most prospective area for rock was near the ski club and cottage at the northern end of the seismic line. The survey was done for the Queensland Water Resources Commission.


**Abstract:** Fauna, especially mammals and birds, of the Fitzroy River catchment are described. Of 58 native mammals known in the area, four are considered extinct. Endangered and vulnerable species are noted. Habitat destruction is widespread and severe and likely to be the major cause of extinctions and declines. Fauna conservation issues are noted.


**Keywords:** Salinity-/ Dryland-/ Discharge-/ Salinity-Control/ Vegetation-/ Halophyte-/ Grasses-/ Tropical-Regions/ Plants-/ Distribution (Mathematical)/ Productivity-/ Soil (Characteristics-of)/ Soil (Types-of)/ Chenopods-/ Atriplex-amnicola/ Enchylaena-tomentosa/ Atriplex-nummularia/ Atriplex-muelleri/ Grasslands-

**Abstract:** The results of three vegetation projects to assist Queensland farmers identify and manage saline discharge areas are outlined. The main objectives of the studies were to: identify soil indicators of saline affected areas, evaluate halophytic species, and assess the productivity of Rhodes grasses and marine couch pastures on saline soils. Key outcomes include: vegetation found on saline soils does not differ dramatically from that on non-saline soils but changes in species abundance and distribution can indicate saline areas, trials on chenopod species can be satisfactorily established on saline soils in tropical and sub-tropical areas (the most promising species being Atriplex amnicola, Enchylaena tomentosa, A. nummularia and A. muelleri), and productivity trials on Rhodes grasses and marine couch indicate both can provide high yield on saline soils but further study is required to assess their nutritional quality and palatability.


**Abstract:** Cotton growing in the Fitzroy River region, mostly under irrigation, is described. Its impact on river flows and on land and water management is discussed. Environmental initiatives by the industry and future developments are considered.


**Abstract:** Permian-lower Cretaceous, lithology, thickness, occurrences of economic deposits, including an appendix on Cretaceous palynology by D. Burger, an appendix on petrography of Mesozoic arenites by Beverley R. Houston, an appendix on the sedimentology of the Rewan Formation and Clematis Sandstone (both Triassic) and an appendix on gas and water analyses by the Government Chemical Laboratory.
Abstract: No hydrocarbon shows; good source potential, poor reservoir characteristics.


Keywords: Stratigraphy-Qld/ Stratigraphic-drilling/ Stratigraphic-wells/ Sedimentary-basins/ Structural-geology-Qld/ Lignite-/ Tertiary-/ SF5504 8656/ SF5504 8657/ SF5504 8756

Abstract: Oil shale accumulated under lacustrine conditions.
Abstract: The mean annual litterfall was measured at two dry woodland sites in central Queensland (a Eucalyptus populnea dominated site at Sarajji mine and a E. cambageana dominated site at Norwich Park mine). Leaves formed the largest component of total litterfall at both sites, and varied seasonally with a spring-summer maximum. Annual litterfall at these sites conformed with a pattern of decreasing litter production with declining annual rainfall, consistent with a range of eucalypt dominated communities.


Keywords: Water-resources/ Ground-water-management/ Optimization-/ Aquifers-/ Research-and-development

Abstract: Management techniques and optimization procedures.


Abstract: The Fitzroy Basin Association grew from the Fitzroy Catchment Coordinating Group when it accepted the challenge of developing a regional strategy to guide natural resource and environmental management. This conference was held to explore the concept of sustainability. The preparation of the ‘Central Queensland Strategy for Sustainability’ is only a part of the overall journey towards sustainable development in the region. While the strategy will spell out what the community wants to achieve, its success will ultimately be measured in terms of the actions that are initiated by the community in response to the issues identified. These include river health, water quality and water resource management, weeds, salinity, land use and management, biodiversity and ecosystem health and pollution.


Keywords: Geomorphology-/ Regional-geology-Qld


Keywords: Allingham-Formation/ Aurukun-Surface/ Australasia-/ Australia-/ Bulimba-Formation/ Burdekin-Uplands/ Campaspe-Surface/ Carpentaria-Basin/ Cenozoic-/ chemically-precipitated-rocks/ correlation-/ cycles-/ cyclic-processes/ Donors-Plateau/ erosion-/ Featherby-Surface/ Georgia-Basin/ Gilbert-Mitchell-Trough/ Karumba-Basin/ Kendall-Surface/ lithostratigraphy-/ Mesozoic-/ nomenclature-/ processes-/ Queensland-Australia/ sedimentary-rocks/ sedimentation-/ Strathgordon-Surface/ stratigraphy-/ Sub-Claraville-Surface/ Tennant-Creek-Surface/ unconformities-/ weathering-/ weathering-crust/ Wyaaba-Beds


Keywords: Australasia-/ Australia-/ basins-/ Brisbane-Australia/ Burdekin-/ Burnett-/ Carpentaria-/ Cenozoic-/ chemically-precipitated-rocks/ correlation-/ duricrust-/ economics-/ evolution-/ Fitzroy-/ northeastern-Queensland/ paleogeography-/ Queensland-Australia/ sedimentary-rocks/ sediments-/ stratigraphy-/ structural-geology/ tectonics-/ Tertiary-

Abstract: A few major basinal areas and many small isolated sequences.


Keywords: Sedimentary-basins/ Stratigraphy-QLd/ Stratigraphic-correlation/ Marine-geology/
Palaeogeography-/Tertiary-

**Abstract:** A few major basin areas and many small isolated sequences.


**Keywords:** Geological-mapping-Qld/ Stratigraphy-Qld/ Structural-geology-Qld/ Palaeozoic-/ Triassic-/ Cainozoic-/ SF5507


**Keywords:** Stratigraphy-Qld/ Geological-logs/ Composite-logs/ Stratigraphic-wells/ Devonian-/ Permian-/ Tertiary-/ SF5507 8354/ SF5507 8355/ SF5507 8455


**Keywords:** Regional-geology-Qld/ Cainozoic-/ Tertiary-/ Quaternary-/ SF5515 8450/ SF5515 8451


**Keywords:** Groundwater-/ Water-Use/ Recharge-/ Surface-Water/ Water-Resources-Development/ Use-

**Abstract:** Conjunctive use and artificial recharge are described briefly in general terms together with their development in Australia. Several case studies are examined in some detail to highlight the need to evaluate surface and groundwater systems as being integral and complementary components of any water resources scheme. The case studies examined are: the Burdekin Scheme (QLD), Mount Newman (WA), Oaklands Coal Basin (NSW) and Leigh Creek (SA). All known examples of projects in Australia where conjunctive use and artificial recharge are in operation or have been tried are listed.


**Keywords:** Australasia-/Australia-/bedrock-/erosion-features/Fitzroy-/geomorphology-/landform-description/mountains-/peneplains-/Queensland-Australia/soils-/surveys-/terrain-classification/weathering-


**Keywords:** Australasia-/Australia-/environment-/Fitzroy-/geomorphology-/landform-description/natural-resources/Queensland-Australia/soils-/terrain-classification/topography-/vegetation-


**Keywords:** Australasia-/Australia-/biogeographic-maps/climate-/environment-/Fitzroy-/geomorphologic-maps/geomorphology-/landform-description/maps-/natural-resources/Queensland-Australia/soils-/terrain-classification/vegetation-

   Keywords: Dam-site-investigations/ Engineering-geophysics/ Seismic-refraction-surveys

   Keywords: Coal-exploration-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ Physical-properties

   Keywords: Sapphire-/ Basalt-/ Mineral-inclusions/ Corundum-/ Pyroclastic-rocks/ Cainozoic-/ SE5509 7861/ SF5515 8451

   Keywords: Fluvial-sediments/ Sands-/ Gravel-/ Estuaries-/ Tropical-regions/ SF5508 8755

   Keywords: Groundwater-/ Recharge-/ Modelling (Hydrological)/ Aquifers-/ Precipitation (Atmospheric)/ Streams (in-Natural-Channels)/ Rain-/ Rivers-

   Abstract: Groundwater management programmes frequently require data on the response of the
aquifer to its various inputs and outputs. A numerical model has been developed to assist in the assessment of recharge quantities. The model is designed to be capable of representing the processes of rainfall and river recharge, irrigation extraction, and leakage to the sea. As an example, the model is applied to predict recharge quantities in the Burdekin Delta aquifer. The adequacy of the model is assessed by comparing predicted with recorded average water levels (A).


Keywords: Q237.28

Abstract: A major surface storage on the Burdekin River in North Queensland will be constructed to supply water to approximately 680 sq km of mostly sugar cane. Currently an aquifer in the Delta region provides irrigation water for approximately 300sq km. The paper describes results from a dynamic programming and simulation study to investigate the performance of several operating rules for the surface reservoir. Simplistic rules work well for small irrigation areas but for a large area more complex rules are necessary. The study indicates that a larger irrigation area than is planned could be developed.


Keywords: Irrigation/- Reservoirs/- Releasing/- Water-Use/ Modelling (General)/ Simulation-

Abstract: A major surface storage on the Burdekin River in North Queensland will be constructed to supply water to approximately 680sqkm of mostly sugar cane. Currently an aquifer in the Delta region provides irrigation water for approximately 300sqkm. The paper describes results from a dynamic programming and simulation study to investigate the performance of several operating rules for the surface reservoir. The possible advantages of conjunctive use of the surface and groundwater reservoirs are also examined.


Keywords: Water-Resources:-Planning/ Water-resources-and-management

Abstract: One of the key economic issues faced by the managers of the two water boards in the Burdekin River Delta is the allocation of surface water between immediate rise on farm for irrigation and storage in the aquifer for future use. Because of the significance of the interaction between surface water and groundwater and the return flow externalities within the delta, policies on surface water and groundwater need to be determined simultaneously. A model is formulated of the dynamic system of surface water and groundwater in the delta with water demand, groundwater extraction cost and stochastic recharge and surface water availability. The optimal pumping/artificial recharge policies for each state of the joint surface water and groundwater system is derived for the southern part of the delta and this policy is applied over a large number of years to derive the expected development over time of extraction/artificial recharge and the state of the groundwater system. The implications of the optimal pumping/artificial recharge policy for any review of existing allocations of surface water and groundwater are discussed.


Keywords: Hydrogeology/- Ground-water/ Artesian-aquifers/ Leaky-aquifers/ Well-discharge-tests/ Aquifer-properties/ Rotary-drilling/ Electrical-well-logging/ Coal-seams/ Cleat/- Permian/- Triassic/- SF5516 8651

Hair ID, Moser AP, Alford RG. 1998. The operation and management of Braeside borefield, central Queensland. In: Weaver, T R & Lawrence, C R (Eds.), Groundwater: Sustainable Solutions:
Abstract: Braeside Borefield, covering an area of about 30 sq km of alluvial floodplain at the confluence of Nebo and Denison creeks 120km southwest of Mackay, provides water sourced from alluvial sediments to BHP coal mines and agricultural communities in the northern Bowen Basin. Since commissioning in 1983, an average of 2800ML/yr has been produced from the 15 production bores. Monitoring and maintenance programs have been key elements in management of groundwater quality and quantity. The impact of pumping on groundwater resources is monitored at the bore field, upstream and downstream over a distance of 50km and detailed reviews of bore field performance are conducted every two years. Declining groundwater levels from prolonged drought conditions have increased community interest in the operation and management of the bore field. Augmentation is currently being investigated to more evenly distribute pumping rather than to increase overall capacity.


Keywords: Groundwater-/ Abstraction-/ Water-Resources-Development/ Water-Supplies (Potable)/ Water-Management/ Aquifers-/ Boreholes-/ Pumping-/ Mines-and-Mining/ Agriculture-/ Water-Level/ Water-Use/ Drought-/ Recharge-/ Water-Table/ Water-Quality-Monitoring/ Community-Participation/ Resource-Management

Abstract: Braeside Borefield, covering an area of about 30 sq km of alluvial floodplain at the confluence of Nebo and Denison creeks 120km southwest of Mackay, provides water sourced from alluvial sediments to BHP coal mines and agricultural communities in the northern Bowen Basin. Since commissioning in 1983, an average of 2800ML/yr has been produced from the 15 production bores. Monitoring and maintenance programs have been key elements in management of groundwater quality and quantity. The impact of pumping on groundwater resources is monitored at the bore field, upstream and downstream over a distance of 50km and detailed reviews of bore field performance are conducted every two years. Declining groundwater levels from prolonged drought conditions have increased community interest in the operation and management of the bore field. Augmentation is currently being investigated to more evenly distribute pumping rather than to increase overall capacity.
Harman PG. 1984. High resolution seismic reflection techniques applied in coalfields; Cook Colliery, Queensland; a case history. Exploration Geophysics; 15(4):220-8


Keywords: Salinity-Control/ Dryland-/ Remote-Sensing/ Modelling (Hydrological)/ Catchment-Areas/ Wetlands-/ Finance-/ Cost-Effectiveness / Land-Use/ Aquaculture-/ Perennial-/ Grasses-/ Livestock-/ Olive-Industry/ Indigenous-/ Plants-/ Water-Use/ Trees-/ Recharge-/ TOPOG-/ HARSD-/ Flowtube-/ Revegetation

Abstract: Topics addressed at the conference include a review of the National Dryland Salinity Program, updates of the Remote Sensing, Socio-economic and Communications subprograms, community activity reports for Balfes Creek QLD, Liverpool Plains NSW, Loddon-Campaspe VIC and the upper southeast of South Australia, Kent River WA flows and salt loads, improved dryland salinity management, Liverpool Plains groundwater modelling using a simple Flowtube approach, catchment and regional scale hydrological modelling for salinity control with TOPOG and HARSD, a local management plan for the Coorong SA and districts, salinity and hydrology of the Wambellup Swamp catchment, saltland pastures, contingent valuation of the Kent River wetlands, mapping, monitoring and predicting salinity, perennial grasses for animal production, a cost-benefit analysis of land use planning for catchment management, aquaculture opportunities, olive tree income, profitable revegetation with native plants, soil constraints to tree water use, managing groundwater recharge and remnant vegetation condition in the upper Kent catchment.


Keywords: Geophysical-interpretation/ Petroleum-exploration-Qld/ Seismic-reflection-surveys/ Seismic-surveys/ Structural-geology-Qld


Keywords: Land-Use/ Catchment-Areas/ Economics-/ Costs-/ Water-Quality-Control/ Water-Quality (Natural-Waters)/ Economic-Development/ Total-Catchment-Management/ Policy-/ Land-Degradation/ Land-Management

Abstract: The contribution of economics to public policy concerning catchment management is examined in the context of the Fitzroy River QLD catchment. The catchment is examined as a management unit and causes and costs of land and water degradation are discussed. Economic techniques to evaluate intervention methods and to plan catchment developments are discussed.


Keywords: Base-metal-deposits-Qld/ Rotary-drilling/ Geochemistry-/ Copper-/ Lead-/ Regional-geology-Qld/ Cambrian-/ Ordovician-/ SF5502 8057

**Keywords:** Geochemical-exploration-Qld/ Rotary-drilling/ Basement-/ Rock-chip-sampling/ Massive-sulphide-deposits/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Gold-/ Cambrian-/ Ordovician-/ Tertiary-/ SF5502

Harvey RL. 1998. Geomorphology and sedimentology of abandoned channels on the Burdekin River delta plain, northeast Queensland. B.Sc.(Hons.) Thesis, University of Queensland; 113p


**Abstract:** Pasture-based systems, dominated by the tussock forming Cenchrus ciliaris cv. Biloela (buffel grass) and the stoloniferous Chloris gayana cv. Pioneer (rhodes grass), are commonly used in the revegetation of lands disturbed by coal mining in the Bowen Basin of Central Queensland. Although able to establish quickly under favourable conditions, neither species has proven entirely suitable for use in this situation, particularly in providing effective ground cover for erosion control on the re-contoured post-mining landscape. The aim of this study was to evaluate a range of new pasture grasses, with the objective of identifying accessions better adapted to the edaphic and climatic conditions of the areas requiring revegetation. Seven grasses were evaluated, on both bare spoil and replaced topsoil, at the Saraji mine, about 25 km north of Dysart. Differences in establishment between grasses were limited, although establishment was up to 5 times greater in the replaced topsoil plots. Urochloa mosambicensis CPI 60128 exhibited better seedling survival (up to 8 times greater) and produced a more extensive ground cover (up to 3 times greater) than the stoloniferous control Chloris gayana cv. Pioneer under conditions of below average rainfall (rainfall was below average in 70% of the months). This work resulted in the commercial release of U. mosambicensis CPI 60128 as cv. Saraji.


**Keywords:** Seismic-survey-methods/ Mine-exploration/ In-seam-seismic-surveys/ Crosshole-geophysics


**Keywords:** Magnetic-susceptibility/ Rock-geophysics/ Frequency-distribution/ Histograms-/ Petrology-/ SF5502 8157/ SF5502 8257


**Keywords:** artificial-recharge/ Australasia-/ Australia-/ Burdekin-River/ Callide-Valley/ ground-water/ hydrogeology-/ irrigation-/ Lockyer-Valley/ Queensland-Australia/ rainfall-/ surveys-


**Keywords:** Streams (in-Natural-Channels)/ Discharge (of-Natural-Waters)/ Storage-/ Stream-Flow/ Water-Loss/ Infiltration-/ Transmission-/ Recharge-/ Rivers-
Abstract: An investigation into the behaviour of natural streams when subjected to a controlled increase in discharge has been conducted on two surface storages in Queensland. Stream characteristics investigated were travel time, bank storage and infiltration as related to both groundwater recharge and stream transmission loss.


Abstract: Commercial fisheries of the Fitzroy River and Keppel Bay are profiled. The range of current management interventions and the level of catch and effort from 1988 to 1991 are described.


Abstract: This study extends the range of litterfall data for Australian tropical rainforests to include complex and simple notophyll vine forests growing on relatively infertile granite derived soils. Litterfall rates are reported for two sites disturbed by selective logging and two undisturbed sites in the upper catchment of Birthday Creek near Paluma. No significant differences were found in annual litterfall between the sites, with litterfall rates ranging from five to six tonnes per hectare per year, much lower than rates reported for other Australian rainforest areas. Litterfall was strongly seasonal at all sites, maximum falls occurring from the end of the dry season to the end of the wet season and the between year variability of the sites quite low. Composition of litterfall was largely dominated by leaves, but at certain times on undisturbed sites the fall of wood and reproductive material was quite significant. It is suggested that this was due to the differences in floristic composition of the sites resulting from the disturbance associated with logging operations. For this reason, the nutrient content of litterfall may vary between logged and unlogged sites.


Abstract: The aim of this project was to determine whether metal tolerant groves suppress heavy metals/arsenic residues as well as leachate emission in tailings dumps and naturally mineralized areas. Three species of Acacia, one of Albizia, and one of Tamarindus have been found to suppress, as well as control, erosion of arsenic, lead, mercury, copper, barium, zinc and copper in tailings dumps and naturally mineralized areas of the Burdekin River catchment near Dalrymple and Charters Towers, north Queensland. This project has identified several areas which have long term value as gene banks and which could serve research into leaching controls for a wider range of seasonal conditions and elements.


Keywords: Land/- Geomorphology/- Hydrogeology/- History/- Photography/- Maps-and- Mapping/ Interpretation-

Abstract: This paper outlines the historical landscape of an area of the Burdekin River situated north of Charters Towers. The author describes the structural basis for photomapping and the photostructural criteria for historical interpretation of landscapes. The history of the Burdekin River landscapes is described and the implications of landscape histories are outlined. Conclusions and recommendations are presented.


Keywords: Earth-atmosphere/ Air-pollution/ Sedimentary-environments/ Devonian-


Keywords: Volcanism-/ Boulders-/ Pebbles-/ Abrasion (geological)/ Ground-water-movement/ Devonian-/ Toomba-Flow


Keywords: Economic-geology-Qld/ Secondary-enrichment/ Low-grade-ores/ Gold-deposits/ Silver-deposits


Keywords: aquifers-/ Australasia-/ Australia-/ Burdekin-River/ Charters-Towers-Australia/ conservation-/ controls-/ Dalrymple-National-Park/ evapotranspiration-/ ground-water/ protection- / pseudokarst-/ Queensland-Australia/ regolith-/ salinity-/ trees-/ vegetation-/ water-resources/ water-supply


Keywords: Silver-/ Lead-/ Zinc-/ Iron-/ Sulphides-/ Hydrothermal-fluids/ Geothermal-heat-flow/ Epithermal-deposits/ Diapirs-/ Mineralization-


Keywords: Algae-/ Faunal-extinctions/ Devonian-


Keywords: Geomorphology-/ Structural-geology-Qld/ Structural-control/ Tectonics-/ Cainozoic-/ SE5514/ SE5515/ SF5503/ SF5504/ SF5508


Keywords: Alluvial-soils/ Australasia-/ Australia-/ basalt-flows/ Burdekin-River/
geomorphologic-controls/ mineral-exploration/ phosphate-deposits/ Queensland-Australia/ soils-/Toomba-Basalt

**Keywords:** Water-storage/ Water-supply/ Pollution-control/ Embankments-/ Vegetation-/ Environmental-protection/ Gold-mines/ Waste-management

**Keywords:** applications-/ Australasia-/ Australia-/ Burdekin-Falls-dam-site/ Charters-Towers-Australia/ distribution-/ earthquakes-/ epicenters-/ geophysical-surveys/ interpretation-/ Landsat-/ lineaments-/ microearthquakes-/ mineral-exploration/ Mount-Warning/ northeastern-Queensland/ Queensland-Australia/ remote-sensing/ seismicity-/ seismology-/ structural-geology/ surveys-/ Tasman-Line/ tectonics-

**Keywords:** Regional-geology-Qld/ Stratigraphy-Qld/ Field-excursions/ Devonian-/ Carboniferous-

**Keywords:** Regional-geology-Qld/ Historical-geology/ Tectonics-/ Continental-margin/ Carboniferous-/ Cretaceous-/ Tertiary-/ SE5515/ SF5503/ SF5504/ SF5508

**Keywords:** Sedimentary-rocks/ Regolith-/ Weathering-profile/ Cainozoic-

**Keywords:** Epithermal-deposits/ Strike-slip-faults/ Hydrothermal-fluids/ Structural-control/ Orogenesis/ Gold-deposits-Qld/ Aerial-magnetic-surveys/ Palaeozoic-/ SF5507 8355

**Keywords:** Groundwater-/ Optimization-/ Water-Resources-Planning/ Systems-Analysis/ Modelling (Hydrological)/ Water-Management/ Aquifers-/ Water-Supplies/ Decision-Theory  
**Abstract:** The steps involved in using operations research methodology to solve management problems are outlined. Nine manageable resources of groundwater basins are described. The possible benefits resulting from correct management and the advantages and disadvantages associated with the use of each manageable resource are discussed. Some particular problems
associated with the management of groundwater basins in Queensland are introduced as examples. Specifications for a system of operations research techniques for groundwater management are given in non-mathematical terms. A case is developed for the serious use of operations research techniques in solving problems of regional groundwater management.


**Keywords:** Recharge-/ Groundwater-/ Weirs-/ Modelling (General)/ Streams (in-Natural - Channels)/ Groundwater-Surface-Water-Relationship/ Dams-/ Aquifers-/ Releasing-/ Use-/ Rivers-

**Abstract:** The Callide-Don River System is situated in central Queensland. Groundwater from the alluvium of the streams is used to irrigate 8000ha of cotton, summer and winter grains, fodder crops, and pasture. The current annual water use of some 20000ML represents virtual full development of natural groundwater supplies, and schemes for the conjunctive use of surface water and groundwater are in operation. The paper describes the analysis of trials with recharge weirs, releases of water from Callide Dam, and diversions of water from the dam to other streams.


**Keywords:** Water-Yields/ Streams (in-Natural-Channels)/ Storage-Reservoirs/ Hydrology-/ Water-Supplies/ Rivers-

**Abstract:** The Dawson River was examined in relation to supplying existing water requirements and assessing the yields from storage at Baroondah. All previous work on the Dawson River above Theodore was reviewed and briefly discussed. Two strategies were used for extracting water from Baroondah dam, firstly at the dam and secondly downstream at the Palm Tree Creek junction. The reanalysis results showed a 7% yield reduction for capacities greater than 800000ml.


**Abstract:** The Wura Dam site on the Dee River was examined as part of the regional study of the Don and Dee River system. The previous yield analysis for the Wura Dam site was based on a short period of recorded flows for Callide Creek which is a similar sized catchment. In this study, the Sacramento Model was calibrated using recorded flows at GS 130335A and long term flows were generated for the dam site. In this analysis the yields calculated using recorded flows and derived long term flows are approximately 3 times the previous yields for storage of 120000ML.


**Abstract:** River sediments may hold clues to algal blooms. Land and Water Resources Research and Development Corporation, Canberra. National Eutrophication Management Program; No 3; 2p

**Abstract:** Analysing dated sediment cores from some of Australia’s key waterways for indications of algal activity and nutrient sources for the past 200 years will provide catchment managers with information to help improve the quality of Australian surface waters. The relative abundance of the heavier and lighter stable carbon isotopes at different depths in the sediment cores will indicate that different amounts and types of algae were present during a particular time
period. The research will also help verify the source of the carbon, nitrogen and other nutrients
that find their way into rivers.

Herczeg AL. 1999. Retrospective study of nutrient variations in some riverine systems. CSIRO Land
and Water, Glen Osmond SA. Research and Development Final Report (Land and Water
Resources Research and Development Corporation); CWS7; 9p
Abstract: Sediment records from six sites (Burriunjuck Dam NSW, Lake Alexandrina SA,
Walgett NSW, Wilson Inlet WA, Lake Nagambie VIC and the Fitzroy River catchment QLD,) were used to determine if it would be possible to reconstruct a history of nutrient flux variations before European settlement. Results indicate that there have been changes in sources and or cycling of nitrogen, and to a lesser extent, carbon over the past several decades. These changes are attributed to increasing fluxes of bioavailable nitrogen due to irrigation drainage, or to increased fluxes from catchments. Most organic material buried in sediments is derived from aquatic plant material, suggesting that relatively little terrestrial plant litter reaches water ways. Phosphorous to iron ratios at Lake Alexandrina and Burriunjuck Dam show increases near the top of core samples that are consistent with enrichment in 15 N. This suggests increasing fluxes in these elements to the aquatic ecosystems over the past 30 years. The management implications of these findings are briefly canvassed.

attitude. In: Eldridge, D & Freudenberg, D (Eds.), People and Rangelands Building the Future:
Keywords: Land (Grass-and-Pasture)/ Agricultural-Areas/ Land-Use/ Natural-Resources/ Water-
/ Conservation-/ Environmental-Management/ Sociology-/ Economics-/ Arid-Regions/
Rangelands-/ Sustainable-Development/ Land-Management
Abstract: The South-West Strategy was launched in 1994 to address major economic, social and
natural resource problems affecting significant areas of southwest Queensland. The strategy adopts an holistic approach to the region's long term economic sustainability and comprises four integrated components: enterprise reconstruction to facilitate rural adjustment, natural resource management to facilitate sustainable land and water management and to balance environmental conservation principles with production, regional development to encourage leadership in achieving sustainable production, and information and technology to improve telecommunications and associated services to rural and outback communities. The approach has been adopted as a model for similar regional recovery programs throughout Australia.

Hewson RD, Drake LA. 1991. Transmission characteristics of in-seam seismic waves through dykes at
German Creek Central Colliery, Queensland. Exploration Geophysics; 22(1):179-84
Keywords: Seismic-waves/ In-seam-seismic-surveys/ Dykes-/ Coal-seams/ Finite-element-
analysis/ SF5516 8651

Mining Journal; 77(897):289-93

Hicks WS. 1976. Some problems associated with the analysis of chlorinated hydrocarbon insecticide
residues in the ground water of the Burdekin River Delta. B.Sc.(Hons.) Thesis. James Cook
University of North Queensland; 52p

AGSO Journal of Australian Geology and Geophysics; 14(2-3):213-7
Keywords: Water-Management/ Saline-Water-Intrusion/ Pollution (Groundwater)/ Water-Use/
Water-Supplies/ Aquifers-/ Groundwater-/ Recharge-/ Surface-Water/ Monitoring-/ Streams (in-
Natural-Channels)/ Rivers-
Abstract: Many Queensland rivers have extensive deltas with large reserves of groundwater.
These deltas contain fertile land suitable for intense agricultural development with associated
towns and industry all relying on groundwater for their water supplies. In some areas, extensive water use has resulted in saltwater intrusion into the aquifers. Management techniques have had to be developed and implemented to ensure the sustainability of these supplies. Individual hydrological situations have to be managed in different ways to take full advantage of the resources available. Options for management include artificial recharge schemes or the provision of supplementary supplies from surface water storages to relieve demand on the groundwater resources. Examples are drawn from Bundaberg, Mackay, and the Burdekin River.


**Keywords:** Aquifers-/ Saline-Water-Intrusion/ Groundwater-/ Pollution (Groundwater)/ Water-Quality (Natural-Waters)/ Water-Use/ Water-Supplies/ Recharge-

**Abstract:** Agriculture, towns and industry rely on groundwater for their freshwater requirements. Extensive use, especially in dry times, has resulted in salt water intrusion into the aquifers in some areas. A description of the coastal aquifers in Queensland is provided, together with the management techniques which have been used to reduce salt water intrusion and ensure the sustainability of supplies. Options adopted for management include, artificial recharge schemes where recharge conditions are suitable and surface water is available, supplying supplementary supplies from surface storages to relieve the demand for groundwater resources, heavy restrictions on use during dry periods, and deliberate overuse, which allows the intrusion of salt water to encourage development of certain areas.


**Keywords:** Gold-mines/ Geochemical-exploration-Qld/ Quartz-veins/ Drilling-/ Project-development/ Economic-geology-Qld/ Oxidized-ores/ Mineral-processing/ Ore-reserves/ SF5507 8355

**Abstract:** By May 1987 some 3,000 m of diamond drilling and 8,000 m of reverse circulation drilling had delineated a mineable reserve of 3.7 Mt at 2.7 g/t (using a cutoff grade of 1.0 g/t).

Hockings M, McDonald KR. 1994. A pilot project in development of resource assessment for national park management. University of Queensland, Gatton. Occasional Paper (University of Queensland, Gatton College, School of Natural and Rural Systems Management); No 2 (1); 57p

**Keywords:** Parks-/ Natural-Resources/ Personnel-/ Management-/ Decision-Theory/ Modelling (General)/ Data-Handling/ Planning-/ Perception-

**Abstract:** A model for the collection and management of natural resource data for national park management was developed and tested in a variety of parks in northern Queensland. It aimed to improve the knowledge base available to park managers for planning and decision-making and to increase park staff knowledge, interest and involvement in natural resource management. The project resulted in a significant increase in natural resource data for the parks included in study. However the extent of park staff commitment to continue data collection was less than desired. It is argued that resource assessment work needs to be given a higher priority in park management and that a change in the ‘culture’ of park management may be required to achieve this.


**Keywords:** Gold-deposits-Qld/ Diatremes-/ Mineral-exploration-Qld/ Ore-reserves/ Geophysical-surveys-Qld/ Magnetic-surveys/ Gravity-surveys/ IP-surveys/ SF5502 8157


**Keywords:** Dams-/ Floods-and-Flooding/ Land-Clearing/ Grazing-/ Crops-/ Ecology-/
Indigenous-Vegetation/Habitat/Environmental-Management/Remnant-Vegetation

Abstract: The Queensland waterway, the Dawson River, and its surrounding Fitzroy Basin, is attracting its share of controversy as the proposed location for the fourth largest dam in the State. If the dam project goes ahead, it would inundate up to 14,000 ha, destroying approximately 60 km of riparian river corridor. While the proposed site, located about 20-50 km northeast of Taroom in central Queensland, has already been heavily cleared for grazing and cropping, valuable remnants of the original ecology remain, including bog mosses, vine scrub and old growth trees, river channels and wetlands. Several ecologists, economists and a growing number of environmentalists have criticized the consequences of flooding the pockets of native habitat that remain and the failure of the project's impact assessment survey to address downstream impacts.


Keywords: Basalt-Lava-flows/Petrology/Emplacement-mechanism


Hooper B. 1997. Integrated information management system for catchment managers (Project UQL 10). Land and Water Resources Research and Development Corporation, Canberra. Integration and Adoption of R&D Results at the Catchment Scale (I&A) Program. Fact Sheet 5; 2p

Abstract: Catchment managers are faced with the difficulty of accessing, managing and understanding large amounts of data and information in order to make effective resource management planning decisions. This project explores the development of an integrated information management system (IIMS) to facilitate the adoption of research outcomes at the regional level. Input and feedback from the Liverpool Plains NSW catchment group and the Dawson Valley Development Association in Queensland is considered.


Keywords: Natural-Resources/Conservation/Environmental-Management/Ecological-Management/Bodies(Corporate)/Community-Participation/Catchment-Areas/Salinity-Control/Farms-and-Farming/Sustainable-Development/Land-Management/Resource-Management

Abstract: Best practice integrated resource management has become a buzzword among resource managers yet there are significant impediments to the application of the approach. An assessment of the application of the concept to salinity management identifies significant institutional and individual barriers to its adoption. Part of the problem lies in who defines best practice, and whether it recognizes prevailing economic, social and structural constraints to on-farm adoption. A new framework for adoption of the integrated management approach in the agricultural sector is presented which links regional resource management organizations and cost-sharing programs.


Abstract: A study trip to North America examined experiences in R&D delivery to catchment managers, noting current processes and technologies to integrate data and information. The study has shown that institutional arrangements play a key role in facilitating R&D information
delivery to the catchment managers. It is important to develop social organizations and institutional arrangements which can deliver research products and other catchment information to decision-makers. These arrangements must consider the scale, jurisdiction, financing and administration of research and catchment management. The most effective social organization and institutional arrangements to deliver catchment information may be the use of inter-firm networking. This is a generic term and includes contractual arrangements between data and information providers and users in a catchment, to deliver information to assist natural resources management decisions. These contracts involve setting up cost-sharing arrangements whereby participants agree on providing data and information, and legal protocols to protect participants’ information-sharing. It is proposed that a study be undertaken to identify the most effective social organization and institutional arrangements to deliver catchment R&D information, extending current work in Land and Water Resources Research and Development Corporation project UQL10 to create a generic Australian prototype.


Abstract: The primary outcome of this project was the development of the Catchment Education and Information Exchange Program to integrate catchment information and facilitate information exchange in catchment management. A prototype of the catchment information system (CIS) was developed for the Dawson River catchment, Liverpool Plains NSW catchment and the Dee River. The purpose of each CIS is to provide information to valley residents on natural resources management and environmental planning, specifically agreed best management options for different land types and river stretches, and to provide improved access and equity of access to valley residents to information for decision making in regional planning and catchment management, via joint discussion on the Internet. The program is implemented using a training program with catchment managers based on a user guide, a self guided evaluation of information management, that can also be found on the web at www.catchment.com.


Keywords: Geomorphology/- Deltas/- Deltaic-sediments/ Surficial-sediments/ Dunes-


Keywords: Australasia/- Australia/- ecosystems/- Fitzroy-River/ ground-water/ human-activity/ land-use/ policy/- pollution/- protection/- Queensland-Australia/ salinity/- surface-water/ suspended-materials/ technology/- water-management/ water-quality


Keywords: Porphyry-copper-deposits/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Diamond-drilling/ IP-surveys/ Resistivity-surveys/ Magnetic-surveys/ SF5503 8456

Abstract: A discovery by stream sediment geochemistry.


Keywords: Trees/- Farms-and-Farming/ Salinity-Control/ Erosion-Control/ Environmental -Management/ Planting/- Land-Restoration/ Forestry/- Water-Quality (Natural-Waters)/ Water-Quality-Control/ Habitat-/ Agroforestry/- Landcare -/ Land-Management/ Revegetation-

Abstract: The Warrenbayne Boho Land Protection Group is located near Benalla VIC and involves 150 landholders managing 40000ha of land. The group has been involved in large scale
revegetation programs for salinity recharge control, river and stream management, wildlife corridor and habitat development, and repair to eroded and saline sites. The group is developing systems for the integration of tree growing for commercial purposes as a better form of land use, as an alternative source of income for farmers, and as a significant means of land degradation control.

**Abstract:** The treatment and control of dryland salinity at Barmoya on the coast of Central Queensland was investigated. Experiments with soil mounding and mulching were conducted. A production system using marine couch (Sporobolus virginicus) and swamp-sat (Casuarina glauca) is advocated.

**Keywords:** Salinity-Control/ Trees-/ Species (Biological)/ Waterlogged-/ Water-Table/ Coastal-Areas/ Revegetation-/ Casuarina-glauca/ Casuarina-obesa/ Eucalyptus-camaldulensis/ Casuarina-cunninghamiana
**Abstract:** National parks and other reserves in the Fitzroy River region, and the rare and threatened plants, are listed. The objectives and tasks of regional nature conservation strategies are discussed.

**Keywords:** Salinity-Control/ Trees-/ Species (Biological)/ Waterlogged-/ Water-Table/ Coastal-Areas/ Revegetation-/ Casuarina-glauca/ Casuarina-obesa/ Eucalyptus-camaldulensis/ Casuarina-cunninghamiana
**Abstract:** Species selection trials using 38 tree species were undertaken on salinized, waterlogged land in coastal central Queensland. Casuarina glauca and C. obesa gave best survival and growth, while Eucalyptus camaldulensis and C. cunninghamiana gave good initial survival but succumbed to salt and waterlogging stress after several years. The role of soil mounding and mulching for the establishment of C. glauca was investigated and low soil mounding was found to have little effect on plant survival or growth or soil conductivity, but mulching greatly influenced these parameters, with plastic mulch being recommended over hay or bagasse mulch for short term increase in plant survival and growth. Soil amelioration with lime, gypsum or dolomites did not improve plant growth

**Keywords:** Seismicity-/ Refraction-/ Foundations-/ Pumping-Stations/ Sites-
**Abstract:** The Queensland Water Resources Commission sought the assistance of the Geophysical Section of the Geological Survey of Queensland in a preliminary assessment of the foundations for the Elliot and Haughton pump stations sited along the Burdekin River. The seismic refraction method has measured the thickness of alluvial cover over basement rocks near the proposed pump sites. Seismic velocities associated with the basement rock indicate little weathering of the basement.

**Keywords:** Coal-exploration-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ SF5511 8553

**Keywords:** Coal-seams/ Electrical-surveys/ Wire-line-logging/ Resistivity-logging/ Coke-/
Spontaneous-combustion/ SP-logging/ SF5507


**Keywords:** Hydrogeology-/ Geophysical-surveys-Qld/ Seismic-refraction-surveys/ EM-surveys/
Seismic-interpretation/ Field-methods

**Abstract:** The Queensland Water Resources Commission requested the Geophysical Services Section, Geological Survey Division, to conduct a seismic refraction/EM soil conductivity survey in the Leichhardt Downs area of the Burdekin River Irrigation Scheme. The aim of the survey was to provide a vertical section which may be used in the formation of a regional drainage model. Three regional profiles were conducted along existing Department of Primary Industries soil traverse lines. The interpreted seismic sections have been correlated with drillhole geology logs. EM soil conductivities have been correlated with soil traverses.


**Abstract:** Presents an overview of dryland seepage salting in the Rockhampton- Biloela area. A variety of geological types are involved with high water intake characteristics being a common feature. Three main type areas have been recognized. They are Barmoya, Granodiorite and Ulam. These are analysed in turn, with the following aspects considered: (i) geology and associated vegetation, (ii) likely water table movement after clearing, and (iii) preventative measures. Comments on the areas which are particularly susceptible to seepage salting. Provides reasoning as to why the Rockhampton area has been identified as the worst area in the state for seepage salting. Suggests that the areas of cracking clay alluvia associated with the Fitzroy River drainage are the overriding cause.

Hughes KK, Ishag S. 1983. Melaleuca Bracteata (Black Tea Tree) as an indicator of areas susceptible to saline seepage. Australian Salinity Newsletter; 11:93-4

**Abstract:** Seepage salting occurring near Clermont in Central Queensland after clearing of Melaleuca bracteata for dryland cultivation is examined. There is a general relationship between this vegetation and seepage salting in Queensland because of the Association of M. bracteata with shallow groundwater levels. On present data clearing should not be carried out because of risk of seepage salting. Extension of data is underway using M. bracteata to identify those catchments where shallow groundwater occurs and preventative measures against salinity are needed.


**Keywords:** Rural-Areas/ Runoff (Agricultural)/ Irrigation-/ Tailwater-/ Nutrients-/ Phosphorus-/ Nitrogen-/ Fertilizers-/ Nutrient-Control/ Wetlands-/ Artificial-/ Streams (in-Natural-Channels)/ Aquatic-Environments/ Water-Quality (Natural-Waters)/ Pollution (Surface-Water)/ Pollution-Sources/ Farms-and-Farming/ Rivers-

**Abstract:** A project to investigate the use of constructed wetlands to reduce the adverse impacts of irrigation tailwater on downstream aquatic systems in the Burdekin River Irrigation Area is briefly described. A key objective of the project is to assess the effectiveness of constructed wetlands in removing contaminants (nutrients, suspended solids and pesticides) from irrigation drainage waters over a range of seasonal conditions. Early results indicate that wetlands are effective in reducing concentrations of suspended solids and total phosphorus (P) but had little effect on total nitrogen (N) concentrations. It is suggested that if shown to be effective wetlands...
could be used as part of a broader management strategy which integrates efficient water use, water re-use, more efficient fertiliser use, and improved soil surface management.


Abstract: The effects of clearing and burning brigalow forest on the fertility of clay and sodic soils were measured in 3 small catchments. Marked changes in surface (0-0.1m) soil chemistry occurred. Increases in pH of 1.2 and in plant available N, P and K of 47, 28 and 140kg/ha respectively were measured. Soil organic matter losses of 11%, including the loss of 250kg/ha of N were attributed to the breakdown of the soil organic matter through heating. Later increases in pH and exchangeable Ca were attributed to ash incorporation. With subsequent development for cropping and pasture production, plant available N, P and K levels declined, but after 3 years the levels of P and K were still higher than those before clearing. No decline in soil total N (0- 0.1m) was measured after 5 years of pasture production and grazing and organic C levels increased back to those before clearing. A further loss of 360kg/ha of N from the surface soil after one grain sorghum and 4 wheat crops was accounted for in grain removal. The rate of loss of N agrees with findings on similar soils in southern Queensland. The rates of change of most surface soil attributes decreased over 5 years as new equilibria were approached. After scrub clearing and burning, salt levels in the surface 1.0m reduced greatly while in the 1.0-1.5m zone there was a small increase. In the following 4 years, salt levels to 1.0m in the cropped catchment fluctuated and in the pasture catchment increased, while in the 1.0-1.5m zone levels continued to increase in both catchments but at a reduced rate. Chloride was the dominant anion.


Keywords: Land-Use/ Catchment-Areas/ Streams (in-Natural-Channels)/ Nutrients-/ Contamination-/ Biological-Impact/ Natural-Resources/ Surface-Water/ Groundwater-/ Sea-Water/ River-Management/ Technology-Transfer/ Rivers-

Abstract: Reliable and relevant technical information provides an important foundation for use by resource managers, land holders and others trying to achieve sustainable and balanced use of natural resources in river catchments. This conference brought together scientists, natural resource managers, industry, conservationists and the wider community to investigate five themes: the condition of marine and freshwater ecosystems and impacts of land use practices on these natural resources, sources and movement of nutrients and contaminants from the land to surface waters, groundwaters and the sea, strategies to mitigate adverse effects of land use on river catchments and the sea, gaining technical knowledge and putting natural resource management into practice, and perspectives on the use and adoption of technical information on catchment management and related practices.


Keywords: Oil-shale/ Vitrain-/ Organic-geochemistry/ Sedimentary-petrology / Sedimentary-environments/ Tertiary-/ SF5516 8850

Abstract: Contains two types of low-vitrinite lamosites with significantly different properties.


Keywords: Oil-shale/ Organic-geochemistry/ Lacustrine-sediments/ Tertiary-/ SF5504 8657


Keywords: Regional-geology-Qld/ Petrology-/ Geochemistry-/ Granite-/ Granodiorite-/
Radiometric-dating/ Chemical-analysis/ Palaeozoic-/ Cambrian-/ Ordovician-/ Silurian-/ Devonian-/ SE5514 8158/ SE5514 8258/ SF5502 8157/ SF5502 8257


Keywords: Regional-geology-Qld/ Regional-geophysics-Qld/ Reviews-/ Stratigraphy-Qld/ Geological-maps-Qld/ Deformation (structural-geology)/ Mining-history/ Exploration-history/ Mineral-deposits-Qld/ Historical-geology/ Sedimentary-rocks/ Volcanic-rocks/ Igneous-rocks/ Proterozoic-/ Palaeozoic-/ Cainozoic-


Keywords: Regional-geology-Qld/ Regional-geophysics-Qld/ Radiometric-dating/ Granitic-rock/ Magnetic-susceptibility/ Magnetic-anomalies/ Radiometric-anomalies/ Geochemistry-/ Rock-geochemistry/ Structural-geology-Qld/ Economic-geology-Qld/ Proterozoic-/ Palaeozoic-/ SF5501 7857/ SF5501 7956/ SF5501 7957/ SF5502 8057


Keywords: Regional-geology-Qld/ Stratigraphy-Qld/ Structural-geology-Qld/ Tectonics-/ Granite-/ Igneous-intrusions/ Metamorphic-complex/ Economic-geology-Qld / Gold-deposits-Qld/ Base-metal-deposits-Qld/ Radiometric-dating/ Geological-maps-Qld/ Proterozoic-/ Cambrian-/ Ordovician-/ Silurian-/ Devonian-/ Carboniferous-/ Permian-/ SE5514 8158/ SE5514 8258/ SE5515 8358/ SF5502 8157/ SF5502 8256/ SF5502 8257/ SF5503 8356/ SF5503 8357


Keywords: Regional-geology-Qld/ Stratigraphy-Qld/ Mineral-deposits-Qld/ Volcanic-rocks/ Sedimentary-rocks/ Granite-/ Intrusive-rocks/ Mineral-occurrence/ Gold-/ Base-metals/ Tungsten-/ Graphite-/ Clays-/ Lime-/ Devonian-/ Carboniferous-/ Permian-/ Cretaceous-/ Tertiary-/ Cainozoic-/ SF5507 8555/ SF5508 8654/ SF5508 8655/ SF5508 8754/ SF5508 8755/ SF5512


Keywords: Regional-geology-Qld/ Stratigraphy-Qld/ Potassium-argon-dating/ Geological-mapping-Qld/ Exploration-potential/ Magmatism-/ Economic-geology-Qld/ Devonian-/ Carboniferous-/ Permian-/ Cretaceous-/ Tertiary-/ Quaternary-/ SF5507/ SF5508/ SF5512


Abstract: This report describes the results of an assessment of the yield hydrology of Crescendo dam site on Capella Creek at AMTD 6.2km. The site is located about 12km south of Capella. The results were achieved by employing a daily soil moisture stores accounting model (Sacramento Model) to simulate catchment runoff. This model was calibrated against flow records which were available for a similar catchment on Wolfgang Creek which is located northeast of Clermont. The Sacramento Model was modified and combined with rainfall data for Capella in order to simulate historical runoff from the catchment above the dam site for the period 1900-1984. Simulated historical runoff was used to provide the parameters for a stochastic model of monthly stream flow. The stochastic model was then used to determine a relationship among target annual yield,
monthly and annual risk of supply failure and storage capacity and to provide an indication of the uncertainty of the results by placing confidence bounds on the relationship. Simulated historical flow data were also used to simulate storage behaviour for storages of 43000ML and 46000ML capacity.


**Keywords:** Land (Grass-and-Pasture)/ Arid-Regions/ Environmental-Management/ Community-Participation/ Economics-/ Sociology-/ Rangelands-/ Land-Management/ Policy-/ Planning-

**Abstract:** The Desert Uplands Scheme, a rural partnerships program jointly funded by the Queensland and Commonwealth governments, aims to provide development opportunities for communities in the region while maintaining a sustainable environment. The objectives of the scheme are encapsulated in three management strategies: enterprise reconstruction, natural resource management, and an integrated regional development action plan. All focus on integrated regional development and rangeland sustainability. It is argued that the success of the scheme to date has been facilitated by a flexible approach to emerging issues and highly committed participants.


**Keywords:** Crustal-structure/ Seismic-velocity/ Crustal-thickness/ Primary-waves/ SF5502 8157

**Abstract:** Mean crustal thickness of 40 km.

Irvine RJ, Hartley JS, Mourot A. 1985. The geophysical characteristics of the Thalanga volcanogenic sulphide deposit, Queensland. Exploration Geophysics; 16(2-3):231-4

**Keywords:** Volcanogenic-deposits/ Sulphide-ores/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ Magnetic-surveys/ Electrical-surveys


**Keywords:** Volcanogenic-deposits/ Transient-EM-surveys / Overburden-/ Analogue-simulation/ Massive-sulphide-deposits/ Sirotem-surveys/ Geophysical-interpretation

**Abstract:** Problems with conductive overburden.


**Keywords:** Pumping- Stations/ Siting-/ Foundations-/ Pipelines-/ Seismicity-/ Traversing-/ Geology-/ Maps-and-Mapping

**Abstract:** This study sought to locate an area of suitable bedrock for the Bocoolima pump station on the Awoonga-Callide pipeline in Queensland. The required site had to be near the 180 meters contour level and within 200 meters of the pipeline. Pits were excavated, seismic traverses were laid out, and some geological mapping done. Only one suitable site was found.


**Keywords:** Geology-/ Investigation-/ Sites-/ Selection-/ Pumping-Stations/ Pipelines-/ Seismicity-/ Pits-/ Location-/ Design-/ Tests-/ Awoonga-Callide-Pipeline

**Abstract:** Describes the geological examination of pits and core samples, and seismic traverses which were carried out around and within the proposed boundary of the Bocoolima balancing storage tank and pump station on the Awoonga-Callide Pipeline in Queensland. Two phases of investigation were carried out, firstly to examine ideal design locations and then to locate suitable
foundations when the initial sites were found to be unsuitable. All test locations have been surveyed since completion.


**Keywords:** Sites-/ Pipelines-/ Pumping-Stations/ Design-/ Structures-/ Investigation-/ Geology-/ Pits-/ Boreholes-/ Seismicity-/ Routing-/ Awoonga-Callide-Pipeline

**Abstract:** Two programmes of investigation have been carried out on the Wooderson pump station and balancing storage sites on the Awoonga-Callide Pipeline in Queensland. The first programme covered the initial design locations, while the second phase studied locations for the above structures selected on the basis of the first investigation. Nineteen pits were excavated and examined during both investigations, with 2 shallow boreholes being drilled during the second phase. Three seismic refraction profiles parallel to the original pipeline route and across the site were carried out by the Geological Survey of Queensland. All pits and boreholes have been surveyed since completion. This report describes the results of the investigation.


**Keywords:** Excavation-/ Geomechanics-/ Pipelines-/ Geophysics-/ Rock-/ Logging-

**Abstract:** Logging of excavation progress, methods and use of blasting were compared against seismic refraction profiles along the Awoonga-Callide pipeline, which supplies water to the Callide B Power Station. Correlation of lineal excavation rate with seismic velocity profiles was attempted. No such correlation is evident, due to variability of geological and probably, construction factors. The seismic velocity profiles generally predict the necessity for blasting or rock hammer at velocities above 1800m/sec. Quartzitic and siliceous rocks reduce this threshold. Massive resistant outcrops also indicate lower refusal velocities, probably due to stress relief effects. Attention must thus be paid to geological features and setting while designing a test pitting programme after seismic refraction profiling has been completed.


**Abstract:** Open cut spoil heaps have a distinctive hydrology which is influenced by their particular spoil materials and spoil structure and understanding the processes involved is critical to the development of appropriate models for predicting spoil hydrology outcomes. The research methodology employed in two projects conducted at two open cut coal mines at Bowen Basin to investigate the hydrology and water quality of final spoil-void systems is described. Research priorities of the projects include modelling of rainfall-runoff- deep recharge relationships, spoil base flows and storage and void evaporation losses. It is contended that significant progress has been achieved in understanding the spoil-void hydrology but there is a pressing need for reliable field data to validate the daily water balance model to allow it to be used for practical predictions.


**Keywords:** Lakes-/ Watersheds-/ Climatology-/ Floods-/ Palynology-

**Abstract:** Evidence of coincidence of high river to the east with Lake Eyre floods to the west.


**Keywords:** Coral-Reefs/ Stream-Flow/ Precipitation (Atmospheric)/ Data-/ Drought-/ Weather-/ Coelenterates (Corals)/ Rainfall-Runoff-Relationship/ History-/ Fulvic-Acids/ Rain-

**Abstract:** Inshore corals in the Great Barrier Reef Province contain composed of an organic
compound (fulvic acid) introduced into the marine environment through rivers. The bands show as yellow-green fluorescence with long wave ultraviolet light. Outlines preliminary studies conducted on fluorescence data. Provides a description of the drilling rig used to obtain cores. It enables acquisition of lona (gt 6.0m) solid cores from colonies of massive porites. Stream flow and rainfall data for the Burdekin River basin are summarized. The preliminary analyses show a high degree of correlation between the fluorescence data and stream flow recorded in the Burdekin River. Future work will try to establish the transfer function between river runoff and fluorescence.


Keywords: Coal-reserves/ Ore-reserve-estimation/ Coal-exploration-Qld/ Open-cut-mining/ Drilling/- SF5516 8650

Abstract: Drilling, sampling and testing practices at Blackwater.


Keywords: algae/- artificial-recharge/ Australasia/- Australia/- Burdekin-Delta/ Cyanophyta/- diatoms/- ground-water/ hydrogeology/- infiltration/- microfossils/- Plantae/- Queensland-Australia/- recharge/- surveys/- thallophytes-

Abstract: Biological factors influencing the recharge rates in the Burdekin Delta groundwater recharge system are: (i) algal and to a lesser extent bacterial growth, (ii) sedimentation of fine particulate matter, both organic and inorganic, and (iii) the interaction of algae, bacteria and sediments. Any procedures aimed at optimizing recharge rates must aim at reducing or at least controlling these factors. Thus it is proposed that a sedimentation pond be established to reduce the load of suspended solids carried by the recharge water, and that a trench be constructed that favours minimal algal growth without the addition of algicides. Such a trench should be shallow and slope gently downwards away from the intake pipe and be lined with a coarse non homogeneous substrate.


Keywords: Grasses/- Trees/- Soil (Characteristics-of)/ Land (Grass-and-Pasture)/ Forests/- Species (Biological)/ Indigenous/- Nutrients/- Fertility/- Growth/- Shade/- Covering/- Drought/- Soil-Plant-Systems/ Tropical-Regions/ Woodlands/- Eucalyptus/- Chrysopogon-fallax/ Heteropogon-contortus

Abstract: To investigate the effects of eucalypt trees on pasture in open eucalypt woodlands of northeastern Queensland, two common native pasture species, Chrysopogon fallax and Heteropogon contortus, were grown in soil collected from under tree canopies and inter-canopy areas. Chemical analyses showed that nutrient levels were higher in under-canopy soils, and plants grown in these soils produced 42% more biomass than plants grown in inter-canopy soils. Shading reduced plant root biomass but had no effects on above ground biomass or leaf quality, while water stress reduced above and below ground biomass and increased leaf quality. Shading and water stress effects were greater in plants in the more fertile soil types. The results showed that soil nutrient availability is enhanced under eucalypt canopies, and these positive benefits
should be considered when management decisions are taken to remove or kill trees in eucalypt woodlands.


**Keywords:** Petroleum-exploration-Qld/ Drilling-/ SF5501 7956/ SF5502 8056/ SF5502 8156/ SF5502 8256


**Keywords:** Hydrogeology-/ Ground-water-recharge/ Silts-

**Abstract:** Deltaic sediments of the Burdekin-Haughton Delta provide a groundwater reservoir limited by the threat of sea water intrusion. Natural recharge is from direct infiltration of local rainfall, runoff and seepage from the Burdekin and Haughton Rivers. Artificial recharge involves the use of electrical pumping plants to divert part of the unregulated flow in the Burdekin to intake areas through a system of channels and relift pumps. Infiltration occurs through the channel beds and specially constructed off-channel recharge pits and trenches. Major operating problems include the clogging of sediments underlying the infiltration areas by material suspended in the infiltrating recharge water.


**Keywords:** Water-resources-Qld


**Keywords:** Petroleum-exploration/ Stratigraphic-drilling / Core-drilling/ Literature-reviews/ Stratigraphy-/ Sedimentary-geology/ Petrology-/ Petroleum-geology/ Palaeontology-/ Hydrogeology-


**Keywords:** Total-Catchment-Management/ Catchment-Areas/ Sugar-Industry/ Land-Management/ Natural-Resources/ Resource-Management/ Environmental-Management/ Ecological-Balance/ Sustainable-Development/ Agriculture-/ Ecosystems-/ Case-Study

**Abstract:** Management of natural resources on the basis of ecologically sustainable development (ESD) principles is inherently more complex than management premised solely on maximum productivity or conservation. In attempting to operationalize the goals of ESD, a number of Australian States have introduced and fostered community based approaches to integrated resource management (IRM). Using the Herbert River catchment as a case study, some of the key impediments to the implementation of IRM approaches are examined within the context of the sugar industry activities. It is argued that integrated community based approaches to resource planning and management can play an important role in assisting the sugar industry to achieve ESD and that operationalizing the concept of ESD through integrated approaches to natural
resource management poses enormous challenges. Some essential characteristics of an IRM process that could assist the sugar industry to adapt to, and manage change for, sustainable agriculture are identified.


**Keywords:** Regional-geology-Qld/ Tectonics/- Field-excursions/ Quaternary-/- Permian-/- Triassic-/- Jurassic-/- Cretaceous/-/ Tertiary/- SE5514/ SE5515/ SF5503/ SF5504/ SF5508


**Abstract:** Major vegetation types of the Fitzroy River catchment presumed to exist at the time of white settlement are described. The impact of development, especially the clearing of Acacia harpophylla (brigalow), and the conservation of diverse vegetation types are considered.


**Keywords:** Transient-Response-Analysis/ Computer-Programming/ Modelling (General)/ Pipelines/- Water-Hammer/ Water-Flow/ Water-Supplies/ SURGE-

**Abstract:** Describes a programme to carry out transient analyses. It solves the finite difference approximations to the equations of flow by using the method of characteristics. The programme has the capacity to model most of the features and operating conditions that would occur in a typical pumped or gravity flow pipeline system. Pump sets may be modelled under conditions of either normal operation, run down, or start up. For those systems where column separation will occur, the programme can determine the location and size of the separation volume and then model column rejoin. The programme runs on a Digital Systems PDP11/23. A number of jobs have been handled successfully, including (i) water supply for the Curragh coal mine, near Blackwater, (ii) water supply for Karumba and, (iii) upgrading of the Hinze Dam water supply in the Gold Coast hinterland. Lists other water hammer analysis software.


**Keywords:** Water-Management/ Water-Resources-Development/ Water-Resources-Planning/ Water-Policy/ Charges/- Sustainable-Development/ Total-Catchment-Management

**Abstract:** Queensland is looking to ensure that it has appropriate policies and strategies in place to provide the orderly and responsible development and management of its water resources. These include integrated catchment management approaches, water pricing and environmental policies, institutional reforms and promotion of economic growth.


**Keywords:** Open-cut-mining/ Mine-rehabilitation/ Voids/- Water-quality


**Keywords:** Open-cut-mining/ Mine-rehabilitation/ Water-storage/ Water-quality

**Abstract:** With two case studies as examples of current work being done on voids from coal strip mining in the Bowen Basin and a hard rock mine in the NT.

Keywords: Coal-exploration-Qld/ Coal-deposits-Qld/ Regional-geology-Qld/ Stratigraphy-Qld/ Anthracite-/ Coal-quality/ Coal-resources-Qld/ Drilling-/ Permian-/ SF5516 8650


Keywords: Artificial-ground-water-recharge/ Programmes-


Keywords: aquifers-/ artificial-/ Australasia-/ Australia-/ Burdekin-Delta/ Burdekin-River/ deltas-/ ground-water/ hydrogeology-/ movement-/ Queensland-Australia/ recharge-/ tracers-/ water-resources


Keywords: Gold-/ Geochemistry-/ Regolith-/ Ore-genesis/ Secondary-enrichment/ Palaeochannel-/ Tertiary-/ SF5507 8355

K


Keywords: Groundwater-problems-and-environmental-effects

Abstract: This paper presents the benefits, disadvantages and expected future direction of the South Walker Creek mine partnership to achieve environmental outcomes, via its relatively new association with the Australian Minerals Industry Code for Environmental Management (AMI Code). The mine is managed by BHP Coal Pty Ltd on behalf of BHP and Mitsui Coal Pty Ltd. Thiess, as the principle contractor, is responsible for mining and Coal Handling Preparation. Plant (CHPP) operation. Brambles, the main subcontractor, hauls, stockpiles and loads coal on to rail wagons. All parties are in a formal partnership and have been since the mine commenced. South Walker Creek mine is located on the eastern margin of the Bowen Basin coalfields of central Queensland, 20 km east of Coppabella and 35 km west of Nebo. Before mining came to the area, the site supported a mix of woodland and low intensity cattle-grazing on introduced pastures such as buffel grass. Walker Creek and smaller streams drain the lease areas into the Fitzroy River system. Mining commenced in mid-1996 and is currently being expanded to 2.6 million tonnes per year of low volatile coal. Currently the number of employees is approximately: 2 BHP Coal, 98 Thiess and 14 Brambles. Some of the mine's performance achievements have been: 1996 Queensland Premier's Environmental Excellence Award 1998 NOSA 5 Star rating 1999 Thiess HS and E Excellence Certificate for best in group performance first quarter. 1997-99 averaged greater than 20 000 tonnes washed coal per person working at the mine Both BHP and Thiess are signatories to the AMI Code, Brambles is not. Because the Code means different things to each party, a memorandum of understanding has been drawn up between BHP and Thiess to address interface issues. In July/August 1999, BHP and Thiess rated themselves independently, in accordance with AMI's draft Progressive Assessment Protocol, for each of the 9 principles in the Code. The results of those ratings out of a maximum of 5 for each of the 9 principles, are shown in the tables at the end of each section in this paper. Differences between the two self-rating scores have several causes: 1. There is a degree of subjectivity when two different assessors rate
compliance with the Code. 2. Thiess and BHP are new to the Code and neither had undertaken self-assessment before. 3. Each party has fundamentally different objectives under the Code (related to their role on the mine).


Abstract: A review of bank stability in north Queensland coastal streams between Mossman and Mackay was conducted using the OECD's pressure-state-response model which assesses the impact of human activity on rivers, the present state of the river and management responses to those conditions. The review considers, in particular, the status of the streams, identifies the areas requiring additional data on stream processes, and highlights the need for appropriate management responses in the region. A range of research and development initiatives which reflect local hydrological conditions and the relationships between biological and physical aspects of the riverine systems are also discussed.


Keywords: Thematic-mapper-surveys/ Vegetation-/ Rubber-vine/ Land-use-planning


Abstract: Current evidence suggests that pesticide contamination in Queensland groundwater is rare, with only a small number of positive detections of chemicals such as atrazine and EDB. Experience elsewhere suggests that nitrate is the only nutrient that poses a significant threat to the quality of Queensland groundwaters. Nitrate concentrations exceeding Australian drinking water standards are being recorded at low frequency in aquifers underlying the intensively farmed river valleys of the Queensland coast. The immediate priority is for a comprehensive survey of Queensland groundwaters in which high quality sampling programs are combined with tracer techniques to assist in identifying sources of contamination.


Keywords: Cotton-/ Irrigation-/ Soil-Water-Systems/ Efficiency-/ Crops-

Abstract: Experiments in the Emerald irrigation area have shown that yield differences of 25% can result from different irrigation management strategies. During the 1982-83 season, a major cotton irrigation management project was conducted on the D.P.I. Emerald field station. The aim was to provide a basis for sound irrigation management of cotton through studies of (i) crop response to various irrigation management options in terms of crop irrigation efficiency and plant and fruiting development (ii) soil water balance in terms of irrigation application efficiency, crop water use, groundwater accessions and model predictions.


Keywords: Streams (in-Natural-Channels)/ Rivers-/ Floods-and-Flooding/ Sediment-/ Sediment-Water-System/ Suspended-Load/ Transport-/ Hydrology-

Abstract: The results of sediment transport in the Fitzroy River, at Laurel Bank during a major flood event are presented. Total discharge during the flood was 2.5 million megalitres, with a
peak instantaneous flow of 2700 cubic metres per second. Suspended sediment loads were up to 2.3 tonnes per megalitre of water, amounting to 3.4 million tonnes of soil for a relatively small flood event. The results will be examined further in relation to land use and catchment conditions at the time of sampling.


Abstract: The collection of hydrologic information in the Fitzroy River catchment is described. The types of data collected include stream flow, survey information, rainfall and water quality. The need for data and their application is tabulated. Stream gauging stations are listed.


Kelly RE. 1984. Effects of land use change can be measured by catchment water chemistry. Landline; 9:2

Abstract: Development of coal in the Isaac River catchment has led to intensive agricultural development. Water samples have been collected over almost 20 years, and analysed to gain an indication of the catchment’s chemistry. Electrical conductivity, pH, dissolved and suspended solids, and a range of metals, were analysed. No significant correlation was found between time, pH and dissolved solid levels, and there was no sign of increased chemical loading. Synergistic effects of the land use changes are expected to become apparent in the river water chemistry in the future.


Abstract: Examines the chemical loadings in the river, both spatially and temporally. As sampling was carried out at wide intervals on an ephemeral stream, the available data in some areas of flow regime is meagre and the establishment of significant correlations is affected. It is estimated however, that the annual loss rate from the catchment of suspended material is approximately 12 tonnes/sq km and dissolved material loss approximately 7.8 tonnes/sq km. Although there was sufficient data to produce a broad characterization of the chemical loadings of the river, the paucity of flowing water data at specific sites precluded the adequate correlation with land features. The study did show a reduction in solute concentration with increasing distance downstream.


Abstract: This paper relates to water monitoring of the river and streams in the Upper Isaac River catchment in Central Queensland. It discusses the water monitoring programme used. Results to date indicate that not only land use changes effect water chemistry but also climatic factors such as cyclic patterns and cyclonic activity. In general the programme suits the designed purpose and has provided data on which to base environmental decisions.


Abstract: The chemistry of waters within a catchment is related to the natural features such as soils, geology, topography and vegetation. When these features are subjected to manipulation as in cases of change in land use, the chemistry of the waters of the catchment can also reflect the change. In the latter part of the 1960's features of the upper Isaac River catchment were being
modified for agriculture and then open cut coal mining. During 1975 sampling of waters of the river was commenced to gather data to enhance the knowledge of the hydrogeochemistry of the river. This paper broadly describes the catchment and the features affected by land use change. It also looks at some aspects of the sampling programme and the water management practices of open cut mining.


Abstract: A study aimed at minimizing off-site movement of pesticides in the sugar industry is being conducted in response to growing community concern regarding the effect of agrochemicals on the environment. By studying the mechanisms of pesticide transport in canelands through testing of soil, runoff and groundwater and developing a greater understanding of how the pesticides are displaced, strategies will be developed to minimize off-site movement. Field test sites have been established in the Bundaberg and Burdekin regions.


Keywords: Salinity-Control/ Land-Reclamation/ Seepage/-/ Land-Use/ Agricultural-Areas

Abstract: This summary reviews the formation of the Salinity Action Group in the South Burnett region of Queensland. The group comprises representatives from the Queensland Department of Primary Industries, Forestry Department and Water Resources Commission. Main activities include organizing 2 field days. The first aimed to promote management and reclamation of seepage salinity areas in grazing land. The second will promote alternative management strategies suitable for cropping lands. The group is currently recording the size and location of salinity outbreaks in an attempt to monitor development of the problem.

Kerby BM, Bunn SE, Hughes JM. 1995. Factors influencing invertebrate drift in small forest streams, south-eastern Queensland. Marine and Freshwater Research; 46(8):1101-8

Abstract: The downstream movement of benthic invertebrates through drift is a universal phenomenon in streams and is often considered to be a major mechanism of dispersal for stream invertebrates. Analysis of the relative gut fullness of simuliid and chironomid larvae showed that a higher proportion of non drifting individuals had full or nearly full guts compared with those in the drift. Hungrier individuals in these two taxa may enter the drift as a food searching mechanism. An analysis of limb loss of hexapod nymphs indicated that a disproportionate number of individuals in the drift had one or more limbs missing compared with those that remained in the benthos, supporting the hypothesis that invertebrates present in the drift are less fit than non drifters.


Abstract: The Burdekin Irrigation Scheme has resulted in the release of new farms. However, the first 5 blocks auctioned failed to reach the reserve price. Uncertainty about the future direction of interest rates and sugar prices have deterred many potential buyers. It is expected that smaller lots suitable for small crops and the proximity to established cane or rice farms will increase buying interest. Ample water is now available for Townsville's growth and the district's aquifers have been constantly recharged. By 1990 8000ha of new land will have water.


Keywords: Long-wall-mining/ Ground-water/ Ground-water-movement

**Keywords:** Coal-exploration-Qld/ Core-drilling/ Permian/- SF5507 8554/ SF5511 8553


**Keywords:** Land (Grass-and-Pasture)/ Soil (Characteristics-of)/ Vegetation-/ Grasses-/ Health-/ Soil-Plant-Systems/ Water-Soil-Plant-Interactions/ Rangelands-/ Ecosystems-/ Land-Management/ Heteropogon-contortus/ Aristida-

**Abstract:** A study conducted in the Dalrymple Shire using data collected from fifteen QGRAZE monitoring sites aimed to provide information on rangeland trends on three soil types and to evaluate the resilience or resistance to disturbance of three rangeland ecosystems. The study also assessed the validity of using percent frequency of black speargrass (Heteropogon contortus), wire grass (Aristida spp.) and forbs and percent ground cover as indicators of rangeland trends. The results suggest that yellow earth soils are less resistant to disturbances than more fertile soils. The percent ground cover and frequency of wire grass and speargrass and, to a lesser extent, forbs, appeared to be a good indicator of condition.

**Abstract:** Riparian areas are important sites for local and regional species diversity and conservation, especially if sub-optimal conditions and degradation within such zones creates the potential for a reduction in biodiversity and local species extinctions. Degraded riparian habitat and vegetation is prevalent throughout the Burdekin-Haughton catchment, due to exotic weed invasion, excessive grazing, unrestricted bank access by cattle and river bank erosion. Careful management and rehabilitation of these zones should be a priority for conservation in this region.

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**Keywords:** Rock-geophysics/ Aerial-magnetic-surveys/ Magnetic-properties/ Mineralogy-/ Rock-geochemistry/ Remanent-magnetism/ Magnetic-susceptibility/ SF5502 8157

**Keywords:** Rock-geophysics/ Magnetic-properties/ Palaeomagnetism-/ Magnetite-/ Magnetic-anomalies/ Gold-deposits-Qld/ SF5502 8157

**Keywords:** Salinity-/ Dryland-/ Catchment-Area/ Soil (Types-of)/ Soil (Characteristics-of)/ Groundwater-/ Recharge-/ Land-Clearing/ Modelling (Hydrological)/ Risk-Analysis/ Water-Quality (Natural-Waters)/ Native-Vegetation
Abstract: Locality: Balfes Creek QLD; Burdekin River (I20); Tasman Groundwater Province (3F); AER (4)

Abstract: The Balfes Creek QLD catchment was identified as an area most at risk of developing dryland salinity, but not currently having a major salinity problem. This paper developed a water quality and hydrogeological model for the catchment, combining this with other currently available data such as soils and vegetation in a generic Geographical Information System database. Three areas of high risk of developing dryland salinity were identified in the catchment. These are areas of restricted groundwater flow, shallow saline groundwater, and some saline soil profiles. The high risk areas occur on Yellow Earth Soils and Grey Clays which comprise more than 30% of the catchment and are up to 90% cleared on some properties. Current research is assessing the water usage and depth of extraction of native vegetation on the Yellow Earth Soils, and determining certain soil physical properties such as recharge, runoff, water retention and localized drainage. This will give a clearer understanding of the effects of vegetation, clearing, and localized recharge, in relation to groundwater flow, depth and quality, and their combined effect in the prediction and management of dryland salinity.


Keywords: Groundwater-/ Drilling-/ Logging-/ Aquifers- / Chemistry-/ Water-Supplies/ Augmentation-

Abstract: The Queensland, Department of Local Government carried out a programme of deep drilling in 1984 to augment the water supply to the Woorabinda Aboriginal Community. The object of the drilling was to intersect sandstones of the Clematis Group at a maximum depth of about 1000m. Four investigation bores totalling 1832m were drilled. Adequate supplies of water of marginal quality were obtained from sandstones of the Moolayember Formation in 2 of the bores, while only a small supply was reported (from Tertiary sediments) in a third bore. A fourth relatively shallow bore drilled close to one of the other bores did not intersect a large supply of water, and was abandoned. Two bores were pump tested and proved to have adequate yields for augmentation of the existing water supply. Analyses of water samples taken during the pump tests indicate water of reasonable quality.


Keywords: Ground-water-recharge/ Water-storage/ Weirs-/ Artificial-ground-water-recharge

Abstract: Site investigation, structures used, and monitoring methods.

Lam JS, Garrad PD. 1993. Mineral occurrences - Monteagle (8352) and Albro (8252) 1:100 000 sheet areas, central Queensland. Department of Minerals and Energy. Geological Record; 1993/1

Keywords: Mineral-occurrence/ Mineral-deposits-Qld/ Mineral-exploration-Qld/ Regional-geophysics-Qld/ Regional-geology-Qld/ Gold-/ Copper-/ Chromium-/ Nickel-/ Tungsten-/ Uranium- / Phosphorite-/ Zeolite-/ Geochemistry-/ Cambrian-/ Ordovician-/ Devonian-/ Carboniferous-/ Permian-/ Tertiary-/ Quaternary-/ SF5510 8252/ SF5511 8352


Keywords: Salinity-Control/ Dryland-/ Catchment-Areas/ Research-and-Development/ Groundwater-/ Recharge-/ Extension-

Abstract: The National Dryland Salinity Research Development and Extension Program was established jointly by the Commonwealth and State Governments to support State salinity management programs. This document outlines the management structure, sponsorship, objectives and program activities of the program. The goal is to generate integrated techniques and approaches for optimal management of dryland salinity in Australia and is not aimed at rehabilitating all the land affected by dryland salinity, nor is it to prevent dryland salinity
occurring in the future. The program is however, aimed at developing and testing new, generic tools which will enable those concerned with managing the focus and other catchments across Australia to make more appreciable progress in managing salinity.


Abstract: Landholders of 19 commercial farming properties that make up the Balfes Creek catchment formed the Balfes Creek Catchment Group in August 1994. At a workshop, the Group developed an action plan to address major issues within the catchment, which included woody weeds, salinity, erosion, soil fertility, fire management and clearing strategies. The plan’s aim is that by the year 2005 the catchment will be economically and ecologically sustainable through long term planning for the control of woody weeds, sound property management practices, and through cooperation with governments and other stakeholders.


Abstract: The Dalrymple Landcare Committee was formed in 1988 as a result of the concern of landholders in the Dalrymple Shire at the extent of overgrazing and land degradation occurring throughout the region. The Balfes Creek Catchment Group was formed in recognition of the need for smaller local groups to address local problems. The group's aims for the Balfes Creek catchment are for the subcatchment to be economically and ecologically sustainable through long term planning, control of woody weeds and sound property management. Progress in implementing the group’s plans is discussed.


Abstract: A number of outbreaks of dryland salting on the Ohio property in the Rookwood catchment near Rockhampton are considered in relation to groundwater chemistry. The study site is a grazing property on which there was extensive clearing of eucalypt woodland in the 1960s and 1970s and with a geology consisting of early Permian alkali basalts, overlain by middle Permian sedimentary rocks of marine origin. Rock type, rock permeability and porosity are shown to affect groundwater chemistry. Although rock type is found to be the primary control over the chemical character of groundwater, geomorphology is important in controlling the location of surface seepage. The causes of salting in this area and the increased concentration of salts in the near surface waters appear to be an elevated water table due to over clearing, poor drainage and the geomorphology of the specific catchments combined with high evaporation.


Keywords: airborne-methods/ Australasia-/ Australia-/ cartography-/ computer-programs/ conductivity-/ coupling-/ data-processing/ electromagnetic-methods/ geophysical-methods/ geophysical-surveys/ noise-/ Queensland-Australia/ surveys-/ TEMPEST-/ three-dimensional-methods/ Walford-Creek/ waveforms-

Abstract: The TEMPEST airborne electromagnetic system is designed to measure the information that is required to derive accurate, high-resolution three-dimensional conductivity estimates of the subsurface. TEMPEST is configured with a transmitter loop located on a fixed-wing aircraft and receiver coils located in a towed bird. The system measures the EM response of the ground over a wide-bandwidth (25-37.5 kHz). The transmitter waveform is a square wave with 50% duty cycle, i.e. equal on and off times, and variable switching ramp. Very low noise levels are achieved by recording the received signal at a high sampling rate, 75 kHz, then
applying sophisticated signal processing techniques. The signal processing operates in the frequency domain to perform a full deconvolution of the measured response, removing the system transfer function characteristics and dynamically compensating for variations in the transmitted waveform. The broad bandwidth allows the variable primary field effects that result from changes in coupling between the receiver coils in the towed bird and the transmitter loop to be more accurately removed by reducing the uncertainty in the ground response. To assist interpretation, the deconvolved ground response signal is converted to a 100% duty cycle square-wave B-field response, allowing a single transient decay to be presented for the full 20 ms half cycle length available for a base frequency of 25 Hz. The system geometry can be accurately monitored. This involves measuring the orientation of both the transmitter loop located on the aircraft and the receiver coils located inside the towed bird. These orientation measurements are used to compensate the ground response data for the effects that result from variations in the system geometry as the aircraft flies along the survey line. A 3D conductivity grid is produced by combining a series of 1D inversions. In addition to standard conductivity sections, the contents of these data volumes can be displayed as conductivity slices and iso-conductivity surfaces. Data from Walford Creek, Queensland, define conductivity distributions in close agreement with ground EM and drilling information.


Keywords: Recharge-/ Groundwater-/ Weirs-/ Analysis-/ Streams (in-Natural-Channels) / Rivers-

Abstract: Three weirs were constructed on tributary streams in the Lockyer Valley in southeastern Queensland and monitoring programmes were initiated to provide the basis for assessment of the recharge that resulted from these weirs. Sets out details of the methods used in the investigation of the proposed recharge weir sites, the types of structures used, the observations made and analytical techniques used in assessing the magnitude of recharge at these sites and at others located throughout Queensland.


Keywords: Carbonate-rocks/ Arenaceous-rocks/ Clastic-rocks/ Sedimentary-facies/ Stratigraphy-Qld/ Devonian-/ Carboniferous-


Keywords: Volcanogenic-sediments / Sedimentary-facies/ Stratigraphy-Qld/ Devonian-/ Carboniferous-


Keywords: Sedimentary-basins/ Structural-evolution/ Sedimentary-geology / Stratigraphy-Qld/ Regional-geology-Qld/ Structural-geology-Qld/ Devonian-/ Carboniferous-

Abstract: In a semi-arid environment such as the Dawson Valley, ponded pastures can offer the benefits of increased carrying capacity and beef production while decreasing the pressure on dryland pastures. There must be sufficient depth of water in the ponded pastures during the late autumn and early winter months. If the water cannot be pumped from a creek or dam, there must be reliance on catchment runoff to fill the pond. Surface runoff from a catchment in the Dawson Valley is highly variable. The most appropriate method of assessing the reliability of ponded pastures in a dry environment is to model the 2 stages of catchment runoff and evaporative losses. A study is currently underway using long term data from the Brigalow Catchment runoff study.


Abstract: A simulation model called POND with inputs of monthly rainfall, runoff and evaporation, explores the interactions between catchment size, area of pond and storage bank height for a shallow water storage. To demonstrate its versatility, the POND model was used to assess the hydrological reliability of runoff fed ponded pasture systems at Theodore and Rockhampton in central Queensland. A pond configuration area was considered adequate if the storage contained 60cm depth of water between March and May when supplied by surface runoff. Coastal areas required a pond to catchment area ratio of 1:2 while a ratio of 1: 20 was needed for inland areas where lower volumes of runoff and higher rates of evaporation reduce the net storage of water. Results demonstrate the direct relationship between height of bank and area of pond to increase the carrying capacity of the land. Ponded pasture systems in drier inland environments need to consider the unreliable storage of water, the economic viability of a small area of pond on which to graze animals and the proximity to permanent water.


Abstract: Abstract only published. In the early 1960s, major land development in the Fitzroy River basin opened a large expanse of Brigalow (Acacia harpophylla) and softwood scrub for pasture and agricultural production. Soil erosion and failure of soil and water conservation structures following land clearing highlighted the need for a better understanding of the hydrology and soil erosion in the region. Problems of dryland salinity are expected from high levels of salt at shallow depth in virgin soils. In 1965 the Queensland Department of Primary Industries commenced a long term small catchment runoff experiment. The experiment comprises a calibration period with all 3 catchments under Brigalow vegetation, followed by a development period starting in 1982 when the land use was changed on 2 of the catchments to pasture and cropping production. The aim of the runoff and soil loss project is to determine the effects of 3 land use systems on catchment hydrology, runoff rates, suspended sediment and bed load over time. The dryland salinity project monitors the effects of land use change on profile, groundwater and runoff salinity and nutrient status over time.


Keywords: Forests-/ Land-Clearing/ Land (Grass-and-Pasture)/ Water-Balance/ Soil (Characteristics-of)/ Soil (Types-of)/ Arid-Regions/ Subtropical-/ Rainfall-Runoff-Relationship/ Catchment-Areas/ Groundwater-/ Recharge-/ Grasses-/ Precipitation (Atmospheric)/ Evapotranspiration-/ Nitrogen-/ Phosphorus-/ Potassium-/ Carbon (Organic)/ Trees-/ Modelling (General)/ Woodlands-/ Native-Vegetation/ Acacia-harpophylla / Simulation-/ PERFECT-/ Rain-

Abstract: Brigalow (Acacia harpophylla) forest and allied communities are a unique ecological zone within the 600-800mm/yr rainfall areas of central and southern Queensland. Clearing of the
forests for agriculture has resulted in land deterioration, soil erosion and reduced productivity. A multidisciplinary study was undertaken on experimental catchment sites near Rockhampton to investigate the changes in catchment runoff, groundwater recharge and soil fertility following conversion of brigalow forest to buffel grass pasture. Runoff was increased by 21mm/yr but this represented a small component of the annual water balance. An increase in groundwater recharge immediately after clearing was not sustained after pasture establishment. Clearing did not alter the annual water balance, evapotranspiration taking 90% of the annual rainfall. Clearing and burning caused a short lived flush of plant available nitrogen (N), phosphorus (P) and potassium (K), and within three years soil organic carbon (C) and soil total N levels had returned to preclearing levels. Five years of grazed pasture removed an estimated 10kg N/ha and was considerably less exploitative of soil N than cereal cropping.


Abstract: The analysis of long term rainfall data is complicated by the problem of spatial variability and the use of non-standard rain gauges. Measurements from 4 recording stations, each station comprising of a standard 203mm rain gauge, a 127mm rain gauge and a tipping bucket pluviometer, were collated to examine the spatial variability in rainfall and relationships between standard and non-standard rain gauges. The study was unable to conclude whether the differences between rainfall stations of 8% were due to exposure or spatial variability. A general equation was derived to convert past recordings by the 127mm gauge to a standard rain gauge value. The 127mm rain gauge overestimated the rainfall by 4.5%. No consistent relationship was found between the pluviometer and the 203mm rain gauge. While 2 pluviometers were within 1 calibrated tip of the rain gauge measurement, overestimation by the pluviometers at the other 2 stations revealed mechanical and calibration faults.


Abstract: The Brigalow Catchment Study aims to determine the long term effects of clearing brigalow forest for agricultural land uses on catchment hydrology and soil loss. Three experimental catchments (11-17ha) were calibrated over a 17 year period. In 1982, catchment C2 was cleared for cropping and catchment C3 was cleared for pasture. Catchment C1 remained uncleared. Median annual rainfall is 650mm. Between 1984 and 1987, average annual runoff on the crop catchment C2 increased from 26mm to 56mm. Increases in peak rate of runoff ranged from 0.3mm/hr to 62mm/hr. On the pasture catchment C3, average annual runoff increased from 23mm to 47mm. Increases in peak rate of runoff ranged from 0.1mm/hr to 28mm/hr. Runoff on the brigalow forest catchment C1 represented 3% of the annual water balance. The remaining 97% of annual runoff was consumed by evapotranspiration. After clearing, runoff on the crop catchment C2 and the pasture catchment C3 represented 6% of the annual water balance. There was little change in water movement below the root zone after clearing. Average annual soil loss as suspended sediment from the brigalow forest, crop and pasture catchments were 0.1, 1.7 and 0.3t/ha, respectively.

Lawrence PA, Thorburn PJ. 1989. Changes in hydrology, soil fertility and productivity of brigalow catchments following clearing. Queensland. Department of Primary Industries, Biloela; 237p

Abstract: The papers contained in this publication were presented at a review of a major research project to study the long term effects of land use on catchment hydrology and soil loss. Runoff, erosion, soil fertility and salinity were determined in 3 virgin brigalow scrub catchments. Two catchments were then cleared, with one being cropped and the other planted to buffer grass pasture and grazed. Measurements continued to be made following clearing. In addition, productivity of both cleared catchments was determined. Results from the first 6 years after clearing are presented.

**Keywords**: Land-Clearing/ Hydrology-/ Arid-Regions/ Forests-/ Recharge-/ Runoff-/ Modelling (General) / Water-Balance/ Crops-/ Land (Grass-and-Pasture)/ Drainage-

**Abstract**: Measurements of rainfall, runoff, soil water and soil chloride from the Brigalow QLD experimental catchment study and a land systems model called PERFECT were used to provide information on the changes in catchment hydrology following the removal of brigalow forest for cropping and pasture. During the four years after clearing, mean annual runoff doubled, but increases in drainage only occurred in the initial year after clearing, prior to establishing crops and pasture. In the long term, land owners must manage for the occasional wet period which causes bare ground to produce large volumes of runoff and substantial increases in deep drainage from fallow wheat catchments.


**Keywords**: Dams-/ Foundations-/ Rock-/ Permeation-/ Siting-/ Geology-/ Rockfill-/ Bed-/ Maps-and-Mapping/ Erosion-

**Abstract**: Foundation conditions and potential sources of rockfill were investigated at Kroombit Creek damsite (AMTD 68.8km) as part of a feasibility study for a dam to recharge diminishing ground water supplies in the Callide Valley. Bedrock in the reservoir area is interbedded basalts, andesites and arenites of the Kroombit Beds. In the foundation area, rock is covered by up to 13.4m of alluvial clay, silt, sand and gravel. The bedrock surface beneath the alluvium is irregular. The investigation outlined a 300m wide, steeply sided channel eroded 4-10m below the surrounding bedrock surface. The permeability and degradability of some of the rock units of the Kroombit Beds should be considered when selecting a quarry site for rockfill and riprap.


**Keywords**: Dam-site-investigations/ Foundation-engineering/ Gravity-dams


Abstract: Geological studies and satellite imagery of the Bowen Basin in Central Queensland, Northeastern Australia, have shown that the significant structural controls are a series of major North East/South West (NE/SW) trending structures, which can be traced as lineaments on Advanced Very High Resolution Radiometer imagery and Landsat Multi-Spectral Scanning and Thematic Mapping imagery. These lineaments can be traced offshore and into the Coral Sea by the distribution of offshore reefs and the bathymetry of the Queensland Shelf and the Queensland and Marion Plateaus. The seismic activity in Eastern Queensland seems to be divided into two distinct provinces separated by a seismically quiet area. This apparent seismically quiet area is bounded by two of the large lineaments seen on the satellite imagery. These features could be related to the deep crustal structure of Eastern Queensland and to the opening of the Coral Sea.

Abstract: Perennial plants should be introduced to restore the hydrological balance in farming systems utilizing annual plants. Assuming that as little as 5 -10% of rainfall unused by plants is causing problems of recharge, rising water tables and salinity, a simple calculation is used to estimate the proportion of land needed to be planted to perennials. Using limited information on plant water use, the result is about 20-40 healthy trees per ha as a rough guide for a 400mm rainfall catchment. In lower rainfall areas, suitable forage shrub species can be grown as browse feed for sheep. Trials on wheatbelt farms in Western Australia have indicated that trees as windbreaks increase crop yields.

Abstract: Nature conservation can be easily integrated into normal property management to the benefit of the native species, the land resources and farm production. Land systems need areas of bushland to allow for long term sustainable use. Landcare groups are an important link in delivering this message throughout Queensland.


Keywords: Organic-geochemistry/ Oil-shale/ Kerogen-/ Petrogenesis-/ Petrology-/ Stratigraphy-Qld/ Mineralogy-/ Tertiary-/ SF5504 8657/ SF5516 8850/ SF5609 9052/ SF5613 9150

Abstract: Organic petrography and analysis reveal an algal source for the kerogen.


Keywords: Oil-shale/ Sedimentary-geology/ Stratigraphy-Qld/ Cainozoic-/ Quaternary-/ SF5504


Keywords: Sedimentary-basins/ Structural-evolution/ Oil-shale/ Cainozoic-/ SF5504 8657


Keywords: Salinity-/ Irrigation

Abstract: Deals with Queensland Water Resources Commission investigations into groundwater salinity in the Dee and Don River valleys. The quality of groundwater in the alluvium of the 2 rivers has deteriorated significantly over the past decade. Further permanent increases in salinity levels will have a serious economic impact on irrigation enterprises in the area. The situation history is discussed. The main potential sources of increasing groundwater salinity are considered. They are: (i) leakage of saline water from the rocks flanking and underlying the alluvium, (ii) salt accumulation in the alluvial soil profile, (iii) surface flow of saline water from catchments adjacent to the alluvium and also groundwater flow from these catchments, and (iv) down valley flow restrictions. Examines the results of preliminary investigations (Wowan area), and the scope and results of current investigations. The investigations include assessment of water quality and water levels in all geologies underlying and flanking the alluvium and detailed appraisal of the hydrochemistry in each.


Abstract: Summarizes a symposium on water and energy resources of the Fitzroy River basin. Describes the Water Research Foundation of Australia and its objectives. The official opening of the proceedings is outlined. Covers the broad range of subjects discussed at the symposium. These subjects are: a) Water resources of the Fitzroy basin and their development. b) Agricultural
development of the Fitzroy basin, present and future. c) Mineral resources, an overview and coal case studies. d) Management of conjunctively used water resource systems in an alluvial valley. e) Alternative energy sources. f) Environmental aspects, including consideration of Fitzroy basin development, and of water quality.


Keywords: Climate-/ Weather- Forecasting/ Precipitation (Atmospheric)/ Risk- Analysis/ Modelling (General)/ Modelling (Hydrological)/ Research- and- Development/ Bodies (Corporate)/ Climatic- Change/ Decision- Support- Systems/ Southern- Oscillation/ Rain-

Abstract: Some of the research and operational challenges faced by the Queensland Department of Natural Resource's (QDNR) seasonal climate program in its operational application of seasonal forecasts are reviewed. The program aims to improve the accuracy of seasonal rainfall prediction at catchment and county/shire scales using regional climate models in conjunction with hydrological and environmental spatial models. The approach is described as forming the foundations for the next generation climate risk management strategies and moves away from current climate risk management decision support systems which exploit Southern Oscillation Index (OSI) data for spatial environmental monitoring as well as the integration of seasonal climate forecasts from coarse resolution global climate models.


Keywords: Vegetation-/ Birds-/ Animals (Mammals)/ Reptiles (Lizards)/ Distribution (Mathematical)/ Community- Composition/ Species (Biological)/ Population- Dynamics/ Population- Statistics/ Threat-/ Grazing-/ Land- Clearing/ Cracticus- torquatus/ Manorina- flavigula/ Pardalotus- striatus/ Platycercus- eximius/ Malurus- melanocephalus/ Mus- musculus/ Cryptoblepharus- carnabyi/ Smicronis- brevirostris/ Heteronotia- binoei/ Pseudomys- delicatulus/ Land- Management

Abstract: The effects of clearing and the level of grazing on patch structure and vegetation composition in eucalypt woodlands, and the effect of habitat changes on bird, reptile and small mammal species was examined at 37 sites in two regions of central Queensland (near Blackwater and Emerald, and near Jericho and Alpha). As anticipated, the cover and size of tree groves declined and the cover of grass clumps increased as the degree of clearing increased. Native grass composition changed to introduced Buffel grass as the level of grazing increased. Clearing affected faunal counts more than did grazing. Grey Butcherbird (Cracticus torquatus), Yellow-throated Miner (Manorina flavigula), Striated Pardalote (Pardalotus striatus) and Pale-headed Rosella (Platycercus eximius) had significantly lower counts on cleared sites, but numbers of Red-backed Fairy-wren (Malurus melanocephalus) increased. The House Mouse (Mus musculus) also had higher counts on cleared sites, but Carnaby's Skink (Cryptoblepharus carnabyi) had lower counts. Counts of the Weebill (Smicronis brevirostris), Bynoes Gecko (Heteronotia binoei), and the Delicate Mouse (Pseudomys delicatulus) did not change significantly with clearing. Counts of Platycercus eximius increased as the level of grazing increased, but counts for other faunas did
not change significantly under grazing. The results will be of value to land managers concerned about the impacts of clearing and grazing on faunal compositions.

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Keywords: Water-Supplies (Domestic)/ Water-Supplies (Industrial)/ Mines-and-Mining/ Coal-Industry/ Water-Demand/ Pipelines/- Water-Quality (Natural-Waters)/ Pumping-Stations/ Radio-/ Control-/ Monitoring-/ Storage-/ Design-

Abstract: Large quantities of water are required to meet the needs of the many coal mining developments in Central Queensland. Except during the wet season, surface waters are scarce, and groundwaters are generally unsuitable for domestic use. Long pipelines, often with multiple pumping stations, are required to convey water from the few adequate sources of supply to the coal production centres and associated townships. The paper covers water requirements for coal production and township use and describes features of pipeline design with a general description of the radio links used for monitoring and control.


Abstract: Exploration in the Bowen-Surat basin led to the mapping of an eastern hinge, the delimitation of a western and southern shelf area, and the conclusion that the deeper parts of the basin were devoid of structure. Three major sedimentary phases were recognized: a Devonian to early Permian phase related to the development of the Tasman geosyncline; a Permian to early Triassic phase associated with the Bowen basin; and a Triassic to early Cretaceous phase related to the Great Artesian basin. The Horton group of interfingering Devonian volcanics and continental sediments is considered the economic basement. It is unconformably overlain by the Permian and Triassic Bowen group, which is in turn unconformably overlain by seven formations of the Triassic to lower Cretaceous Great Artesian group. The Precipice sandstone, a Triassic-Jurassic formation near the base of the Great Artesian group, was the reservoir rock at the Moonie field and the object of later deep exploration.


Keywords: Resources-/ Survey-/ Salinity-/ Land-Use/ Appraisal-/ Agriculture-/ Susceptibility-/ Identification-/ Soil-

Abstract: Relates to the Port Curtis-Wide Bay land resource survey, considering salinity and land use aspects. Describes the survey and its objectives. Salinity, both existing and potential is a very important aspect of the survey. Known occurrences are recorded and attempts are made using soil, geological, geomorphological and vegetation indicators to determine areas of likely outbreaks should agricultural development occur. Problems of extrapolating information on salinity to all other areas of similar lithology are illustrated with examples. Comments that even with a low intensity reconnaissance survey it is possible to identify the effects of land use on salinization of soils.


Keywords: Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-maps/ Gravity-surveys/


Abstract: The Bowen basin, Queensland, is a structurally complex region composed of a thick sequence of Permian and Triassic volcanics and sediments whose deposition took place in a series of downwarps and in adjacent, less rapidly subsiding shelf areas. The shape, distribution, and persistence in time of the downwarps and shelf areas and their relationship to the present structural elements of the basin are discussed. The possible presence of hydrocarbon source beds and reservoir rocks is also discussed.


Keywords: Gold-/ Copper-/ Silver-/ Lead-/ Stratigraphy-Qld/ Regional-geology-Qld/ Structural-geology-Qld/ Economic-geology-Qld/ Petrology-/ Brachiopoda-/ Coal-fields/ Drainage (geomorphology)/ Gastropoda-/ Historical-geology/ Igneous-intrusions/ Mineralization-/ Palaeobotany-/ Palaeontology-/ Bivalvia-/ Sedimentary-environments/ Water-supply


Keywords: Economic-geology-Qld/ Igneous-intrusions/ Lithology-/ Regional-geology-Qld/ Stratigraphy-Qld/ Structural-geology-Qld/ Geological-maps-Qld/ Explanatory-notes/ Macrófossiles-/ Palaeozoic-/ Permian-/ Mesozoic-/ Cainozoic-/ SF5503 8556/ SF5503 8556

Abstract: The Bowen south area, which was mapped in 1961, can be divided into three parts. The western part consists of Paleozoic sediments, volcanics, and intrusives of several ages and complex interrelations. The central part is occupied by the Permian-Triassic sediments, volcanics, and associated intrusives of the Bowen basin, and was mapped in more detail than the western part. The eastern part consists partly of pre-Permian intrusive rocks and volcanics. In the west the oldest rocks are the fossiliferous Ukalunda beds, which are at least partly middle Devonian. Permian macrofossils and their use in the Bowen basin stratigraphy are discussed. Minerals of...
economic importance mentioned are gold, silver, lead, copper, bismuth, graphite, arsenic, and the most important, coal.


**Keywords:** Coal-/ Economic-geology-Qld/ Igneous-intrusions/ Lithology-/ Geological-maps-Qld/ Palaeontology-/ Regional-geology-Qld/ Sedimentary-environments/ Stratigraphy-Qld/ Fossils-/ Explanatory-notes/ Palaeozoic-/ Mesozoic-/ Cainozoic-/ SF5512/ SF5516


**Abstract:** In Queensland, vegetable production is centred in Bowen, Gumley, Ayr and Home Hill which incorporate the Don, Elliott and Burdekin River systems. The climate of the dry winter period is ideal for vegetable production, but irrigation is essential. There are a wide variety of soil types including sandy clay loams, dark medium-heavy clay soils and reddish-brown sandy textured soils. About 7000ha are used for vegetable production and all of this is irrigated. Almost all water in the Bowen area comes from the underground aquifer system which is fed from the Don River. The Burdekin area also draws its irrigation water from an aquifer system. This system is recharged from the Burdekin River and specially constructed soakage pits. The Rollingstone/Mutarnee area mainly uses bores to get its irrigation water. Charters Towers area uses the Broughton and Burdekin Rivers with some supplies from their associated underground systems. Townsville and Mackay use underground systems.


**Abstract:** Drip irrigation was found to produce better performance than sprinkler irrigation from avocado and custard apple trees grown in the Lower Burdekin area. Sprinkler irrigation was associated with a salinity build up in the surface 60cm of soil where electrical conductivity of saturation extract was greater than critical levels. Under drip irrigation this conductivity was at the critical level only in the top 0-20cm zone and decreased rapidly below that. Poor growth may therefore be avoided by using drip irrigation with lower salt inputs and increased leaching potential.


**Abstract:** Examines the results of studies into the quality of underground irrigation water and its effects on rice growth in the Lower Burdekin area. Sampling and analysis were done for all underground waters used for rice production. The sampling and analytical methods are introduced. Discusses the general salinity effects on rice, establishing that its 'sensitivity' varies with growth stage. Suggested maximum allowable salinities for rice are shown. The effect of salinity on growth is thought to be a specific ion effect rather than a straight osmotic effect. Gives salt tolerances of different varieties. Interprets the water quality survey results, with chloride and bicarbonate being the dominant anions. Notes the unintentional application of potassium as a plant nutrient, coming from the irrigation waters. Observes soil salinity increases due to rice cropping. The study results of electrical conductivity values show that depth must be taken into consideration when sampling for suspected salinity problems.


**Keywords:** Geomorphology-/ Landforms-/ Drainage (geomorphology)

**Keywords:** Coral-reefs/ Carbonate-rocks/ Diagenesis-/ Calcrete-/ Drilling-/ Holocene-/ Pleistocene-

**Abstract:** A thin Holocene reef developed on a foundation comprising a succession of older reefs.


**Keywords:** Construction-materials/ Aggregates-/ Building-sands/ Gravel-/ Clays-/ Shale-/ SE5515 8358 / SF5504 8657

**Abstract:** A guide to the industry and to materials available.


**Keywords:** Carbonate-rocks/ Sediments-/ Trace-elements/ Coral-reefs


**Keywords:** Coal-exploration-Qld/ Drilling-/ Geological-logs/ Coal-analysis/ Permian-/ SF5506/ SF5510

**Abstract:** Coal is high ash and subbituminous, suitable for power generation.


**Keywords:** Coal-exploration-Qld/ Drilling-/ Geological-logs/ Coal-analysis/ SF5501 7956/ SF5502 8056

**Abstract:** Seven of fourteen holes intersected Permian coal which is high ash, subbituminous, low rank and suitable for power generation.


**Keywords:** Coal-exploration-Qld/ Core-drilling/ Geological-logs/ Core-sampling/ Coal-analysis/ Geophysical-logs/ Graphic-logs/ Coal-petrology/ Permian-/ SF5507 8554/ SF5511 8553

**Abstract:** Twelve fully cored holes establish five coal seams, two of which are of possible economic interest.


**Keywords:** Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ SF5511

**Abstract:** Coal consists of mainly dull, high sulphur, medium volatile bituminous coal with average raw ash of 17.1% and average mean maximum vitrinite reflectance of 0.95%.


**Keywords:** Coal-exploration-Qld/ Coal-deposits-Qld/ Coal-resources-Qld/ Regional-geology-Qld/ Isopach-maps/ Coal-quality/ Cainozoic-/ SF5511 8453


**Keywords:** Coal-exploration-Qld/ Drilling-/ Stratigraphy-Qld/ Carboniferous-/ Permian-/ SF5507 8454/ SF5507 8455

**Abstract:** No significant coal seams encountered.


**Keywords:** Coal-exploration-Qld/ Drilling-/ Coal-analysis/ Geological-logs/ Geophysical-logs/ Coal-petrology/ SF5511 8553


**Keywords:** Coal-exploration-Qld/ Stratigraphy-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ SF5507 8454 / SF5507 8455


**Keywords:** Coal-exploration-Qld/ Coal-resources-Qld/ Stratigraphy-Qld/ Drilling-/ Regional-geology-Qld/ SF5515 8550


**Keywords:** Coal-exploration-Qld/ Coal-quality/ Stress-measurement/ Drilling-/ Geophysical-logs/ Composite-logs/ Well-logs/ Graphic-logs/ SF5503 8556/ SF5504 8656/ SF5504 8756/ SF5507 8554/ SF5507 8555/ SF5508/ SF5511 8552/ SF5511 8553/ SF5512/ SF5515 8551/ SF5516 8651/ SF5516 8751


**Abstract:** Considers the physical and chemical properties of the major saline/ sodic soil types of the lower Burdekin area. These soil types are assigned to 8 groups, which are described, and their soil classification, location and approximate area are given. Mean pH, electrical conductivity (EC), chloride and exchangeable sodium percentage (ESP) depth profiles for each of the groups are presented and discussed. Mean ESP and EC profiles of groups are compared. The usefulness of the data to justify the division between the groups is considered. The occurrence and
morphogenesis of the soil types within the groups is examined. Also examined is the potential secondary salinization of these soil types. Leads into an evaluation of the groups for development for irrigated cropping.


Abstract: Five landscape units and 64 soil types were identified in the 8580ha of the Mulgrave section of the Burdekin River Irrigation Area. The amount of land suitable for furrow irrigation of sugar cane, grain, small crops, low volume irrigation of mangos and flood irrigation of rice was found to be: 6277ha for sugar cane, 5154ha for grain, 5426ha for rice, 476ha for small crops and 602ha for mangos. Land management considerations are given for soil types. Risks of land degradation or crop loss due to salinization, flooding or erosion can be reduced by the use of protective measures.


Keywords: alkaline-earth-metals/ Anthozoa/- Australasia/- Australia/- barium/- bedload/- Burdekin-River/ calcium/- Cenozoic/- chemical-ratios/ Coelenterata/- Coral-Sea/ drainage-basins/ environmental-effects/ floods/- fluctuations/- fluvial-sedimentation/- Great-Barrier-Reef/- Havannah-Reef/- Holocene/- Invertebrata/- land-use/ metals/- Pacific-Ocean/ Porites/- Quaternary/- Queensland-Australia/- reefs/- rivers-and-streams/ Scleractinia/- sediment-transport/- sedimentation/- sedimentation-rates/- semi-arid-environment/- South-Pacific/ Southwest-Pacific/- stream-transport/ suspended-materials/- terrestrial-environment/- upper-Holocene/- water-quality/- West-Pacific/- Zoantharia-


Abstract: The effect of mineral matter on the moisture-binding capacity of samples from two Australian bituminous coal seams was investigated by gravimetric sorption and nuclear magnetic resonance (NMR) techniques. The water uptake contributions from the mineral matter (predominantly clay) and organic components of the coal samples were determined from precise isothermal sorption measurements at relative pressures up to 0.9 using a Hidden intelligent gravimetric analyser. Also, water interacting with the coal samples, such that it is unfrozen at -3 degrees C during heating, was quantified using a proton NMR technique. Water uptake (per unit mass of dry solids) at a relative pressure of 0.9 by the mineral matter in the coal samples studied was assessed to be 2.3-2.8 times the uptake by the organic material. Coal mineral matter containing 26 wt % of montmorillonite, swelling type clay, had more than twice the water uptake per unit surface area when compared to mineral matter in which clay was present only as kaolinite. For two coal samples from the same seam differing in both mineral-matter content and maceral composition, the differences in water uptake at relative pressures up to 0.9 could be accounted for completely by the mineral-matter content. This indicates that the large difference in maceral composition between these two samples had no effect on the moisture-holding capacity. The NMR results for the amount of water in the coal samples that was unfrozen at -3 degrees C support the findings of the water sorption measurements.


Keywords: Pasture-and-livestock

Abstract: The distributions of individual plant age and biomass of Chamaecrista rotundifolia cv. Wynn and a mix of Stylosanthes scabra cvv. Seca and Fitzroy in grazed grass legume pastures were examined to determine their effect on seed production. The effects of enhanced soil water conditions and severe defoliation on seed production were assessed in ungrazed plots. These

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experiments were part of a larger study to develop a demographic model of perennial forage legumes. The distribution of individual plant age and biomass was highly skewed towards a large number of young/small plants, with fewer old/large plants. Lack of seed set when stem length was less than approximately 200 mm, and in most small plants (<2 g), resulted in older/larger plants contributing far more to seed production and, to a lesser extent, legume biomass, than they did to legume plant numbers. C. rotundifolia seed production was linearly related to individual plant biomass but was highly variable and was greatly reduced in swards containing >3000 kg/ha of grass. Using log-transformed data, plant biomass accounted for 74% of the variation in seed production (SP), but together with grass biomass accounted for 91% of the variation \[\ln(\text{SP}) = 6.01 + 0.91*\ln(\text{BIOMASS}) + 0.28*\ln(\text{GRASS BIOMASS}), P < 0.001\]. Total legume biomass accounted for only 44% of the variation in seed production. S. scabra herbage allowance (kg legume/head) had a major impact on seed production. Total legume biomass and individual plant biomass alone accounted for less than 40% of the variation in seed production. Using herbage allowance (HA) as well as individual plant biomass improved the prediction of seed production (SP) to account for 74% of the variation \[\ln(\text{SP}) = 0.11 + 1.14*\ln(\text{BIOMASS}) + 0.24*\ln(\text{HA}), P < 0.001\]. Enhanced soil water conditions increased the biomass of individual plants of both species and increased the seed production per gram of plant in S. scabra but not in C. rotundifolia. Severe defoliation in early summer or autumn can greatly reduce or even eliminate seed production by some plants by removal of flowers, reducing individual plant biomass, or allowing insufficient time for plants to reach minimum stem lengths. The different factors affecting seed production in the 2 species highlight the complexity of legume seed set in grazed pasture systems, and some implications for grazing management and modelling are discussed.


**Keywords:** Bodies (Corporate)/ Land-Use/ Planning/-/ Rural-Areas/ Natural-Resources/ Resource-Management/ Environmental-Management/ Legislation (on-Environment)/ Community-Participation/ Total-Catchment-Management/ Catchment-Areas/ River-Basin-Projects

**Abstract:** Recently, local government has played a much more significant role in land use planning in rural areas and natural resource management (NRM) due to: legislation which increasingly gives local government the role of development manager; delegation under State legislation; local community based programs such as integrated catchment management (ICM) and Local Agenda 21 programs; and increased commitment to integrated resources management. Local government could become the dominant force in managing local resources. A case study of the evolution of the role of local government in NRM in the Herbert River basin, which is administered by two local governments, Hinchinbrook and Herberton Shires, is presented.


**Keywords:** Natural-Resources/ Land-Use/ Parks/-/ Conservation/-/ Methods/-/ Training/-/ Personnel-

**Abstract:** A methodology for natural resource assessment in the national parks of northern Queensland was developed. This report describes the project which involved park staff in a program to develop skills in fire management planning, collection and analysis of natural resources, and procedures for assessment of natural resource issues relevant to infrastructure development and park use. Recommendations for a state wide natural resource assessment and management project are provided.

**Abstract:** Settlement and land use of the Fitzroy River region is described. The impact of agriculture and the Brigalow Land Development Scheme is discussed.


**Keywords:** Cracking-/Clays-/Soil (Characteristics-of)/Comparison-/Chemical-Properties/Soil (Types-of)/Classification-/Agriculture-/Irrigation-/Vegetation-/Climate-/Salinity-/Emerald-Irrigation-Area

**Abstract:** Cracking clays occupy the major proportion of the 30,000ha soil surveyed for the Emerald Irrigation Area. They are representative of large areas of cracking clays, in central Queensland areas of agricultural potential. The area has a subhumid to semi-arid, subtropical climate and cracking clays are developed on alluvia of varying ages and Tertiary basalt. There are 5 Landscape units on alluvia and 2 on basalt. Most clays on basalts are black earths, the shallower being non-sodic and the deep clays sodic at depth. Alluvial clays include grey clays, black earths, brown clays and most are strongly sodic at depth. Soils are compared in relation to their physiography, parent materials, vegetation, and morphology, chemical and physical characteristics. These data are discussed with regard to distinguishing between soil groups, relative age of the soils, possible origin of salts and dryland and irrigated agricultural suitability. Classifications of soils in 4 systems are compared.


**Abstract:** In assessing land for this major irrigation scheme, an integrated programme of soil and agronomic studies was implemented by the Queensland, Department of Primary Industries. This paper outlines the programme of feasibility and development study soil surveys, describes land capability classifications, summarizes the major findings of soil modification, management, hydrological and salinity research, briefly reviews agronomic research and specifies development guidelines arising from these studies.


**Keywords:** Volcanic-rocks/Lavas-/Trachyte-/Latite-/Syenite-/Potassium-argon-dating/Regional-geology-Qld/Oligocene-/SF5504 8756

**Abstract:** Absolute ages for Early Oligocene lavas and for an associated syenite intrusion.


**Keywords:** Water-Demand/ Water-Supplies/ Augmentation-/ Water-Resources-Development/Urban-Areas/ Sources (of-Water)/ Pipelines-/ Dams-

**Abstract:** Review of recent relevant investigations by various authorities, together with consideration of current predictions of the Townsville urban area water demand to the year 2020 and the current status of development of Ross Dam, confirm that future water supply augmentation schemes for the urban area, should be based on the Burdekin River, with initial connection from the Clare Weir. Investigations covering a range of options for both delivering water from the Burdekin River at Clare to Townsville, and for the operation of such a system in conjunction with the existing supply sources for the urban area have been investigated. The scheme recommended, involves the supply of water for Townsville, out of the Queensland Water Resources Commission proposed Haughton Main Irrigation Channel, which is to be supplied from the Clare Weir, and delivery via a 1525mm nominal diameter pressure pipeline and matched gravity channel, discharging into the Ross Dam storage at Toonpan.

**Keywords:** Plant-Litter/ Trees-/ Eucalyptus-/ Woodlands-/ Nitrogen-/ Sulphur-/ Phosphorus-/ Leaves (of-Plants)/ Organic-Matter

**Abstract:** The amount and chemical composition (nitrogen, phosphorus and sulphur concentrations) of the components of tree litter were measured in eucalypt woodlands at two sites near Charters Towers. Annual litterfall averaged 720 and 1,270 kg per ha over three years with leaves the major component at both sites. Rate of litterfall was greatest during September-December and lowest during May-July. Nutrient concentrations varied widely but no seasonal patterns were detected. Phosphorus concentrations in the leaf litter at one site were much higher than in other studies of eucalypt litter, probably reflecting the high soil phosphorus levels at the study site. Tree litter represents an important proportion of the organic material and nutrients being cycled through these woodlands.


**Keywords:** Basalt-/ Lava-flows/ Drill-core-analysis

McLoughlin S. 1992. Late Permian plant megafossils from the Bowen Basin, Queensland, Australia; Part 1. Palaeontographica. Abteilung B: Palaeophytologie; 228(1-6):105-49


**Keywords:** Deltaic-sediments/ Ground-water/ Aquifers-/ Water-chemistry


**Abstract:** The establishment of a water quality monitoring network for the Fitzroy River Basin is outlined. Procedures for assessing the existing surface water data and provisional selection of monitoring sites are described.


**Keywords:** Ground-water/ Ground-water-quality/ Alluvium-/ Chemical-composition

Abstract: Fluctuations in groundwater, soil salinity and vegetation cover on a saline outbreak in the Burdekin River Irrigation Area are being monitored to enable understanding of the processes involved prior to commencement of large scale irrigation. Evaluation of monitoring and measurement methods are included in the experimental design.


Abstract: The importance of conservation of the dry rainforests of the Fitzroy River catchment and their conservation status are outlined. Management issues are discussed.


Abstract: The most spectacular extinction event in Earth's history occurred across the Permian-Triassic boundary. In the northern Bowen Basin, a major coal-bearing sedimentary basin in eastern Australia, a long-lived (c. 9 Myr), cold climate, peat mire ecosystem collapsed at the Permian-Triassic boundary when the vast majority (c. 95%) of peat-producing plants became extinct. The environmental change marked by the Permian-Triassic boundary is expressed as an abrupt and sharp change in sedimentary regime at the contact between the Rangal Coal Measures and the Sagittarius Sandstone. The stratigraphic record shows no diminution in the thickness, lateral extent or spatial distribution of coal seams prior to the boundary event. The abrupt ecological shift at the Permian-Triassic boundary was coincident with and interrelated to a change in landscape attributes and fluvial style. The boundary shift is considered to reflect a short-period radical atmospheric change accompanied by an abrupt change in plant ecosystems. However, palynological data indicate that it was preceded by a more gradual gross taxonomic progression in the floral succession. The boundary shift is unlikely to reflect change in the tectonic setting of the northern Bowen Basin because the detrital character of clastic sediment supply shows no provenance change within the boundary sequence. The Late Permian fluvial style is characterised by large-scale (up to 1 km wide), sandstone-dominated, low sinuosity, trunk river channel deposits. The trunk river channels were flanked by extensive levee/composite crevasse-splay systems. Channel tracts were relatively stationary in position over enduring periods, and developed stacked sediment accumulations up to 30 m thick. The constrained character of the Late Permian trunk river systems was most likely due to progressive compaction of thick tracts of peat substrate, and the stabilising effect of vegetation adjacent to the channel complex. The well-developed crevasse splays, coupled with the low sinuosity style of the fluvial channels, might suggest a perennial fluvial system, characterised by short discharge periods, as common in high-latitude settings. The fluvial architecture of the Sagittarius Sandstone, the basal formation of the Lower Triassic Rewan Group, is characterised by sheet-like elements, suggestive of broad, shallow channels in a deforested braid-plain setting. The channel deposits are considered to represent highly mobile sandy systems, dominated by a flashy runoff regime. The mass extinction of plants in the northern Bowen Basin at the Permian-Triassic boundary thus had a significant impact on the Early Triassic landscape and fluvial architecture.


Abstract: The Late Permian Moranbah Coal Measures are developed throughout the northern and central Bowen Basin, eastern Australia, and are subject to large-scale opencut coal mining activity. They were deposited in a rapidly subsiding retroarc foreland basin, during frequent base-level changes. Contemporaneous compressive deformation and volcanism facilitated the supply of abundant volcanoclastic sediments, resulting in rapid, but punctuated, basinal aggradation. To the south and east, transgressive-regressive cycles were marked by the inter-digitation of paralic-shallow marine and alluvial strata. Lonestones (dropstones) are common within the marine deposits and are attributed to ice-rafting indicative of a cold-climate depositional regime. Two basin-wide chronostratigraphic units, the P-tuff bed and the Harrow Creek superseam, have been used to evaluate the facies architecture of the stratigraphic interval they enclose. The lithofacies mosaic of the 25-75 m thick sequence has been examined by means of 26 widely distributed coreholes and two detailed district-scale studies based around the Moranbah-Goonyella and German Creek minesites. Eight alluvial-shallow marine facies associations have been recognised. Their architectural and temporal relationships allow the accurate reconstruction of the coal-bearing depositional system. Two dissimilar, stacked, depositional systems tracts, A (organics) and B (clastics) are recognised. The P-tuff bed is enclosed by facies of tract A, forming a thick, low-ash, coal-bearing interval which was emplaced essentially synchronously across the basin. It represents a time of clastic sediment starvation when basin-wide peat mire accumulation prevailed. Four similar extensive coal-bearing intervals within the Moranbah Coal Measures are also considered to represent basin-wide episodes of peat accumulation. This pattern is in strong contrast to traditional views of coal measure development, which argue that coals formed within a contemporary facies mosaic, in which fluvial channels, levees and crevasse splay deposits were also represented. The second depositional systems tract (B) is characterised by clastic packages, dominated by large-scale (up to 4 km wide and 50 m thick), sandstone bodies deposited by low sinuosity trunk river systems, flanked by substantial crevasse splay deposits (up to 3 km wide and 30 m thick). It represents the product of catastrophic flooding events. The cyclothemtic succession of systems tracts A and B is interpreted in terms of eustatic sealevel cycles. The tract A coal-bearing intervals represent relative sealevel lowstands. Systems tract B represents relative sea level highstand with its lower interval at German Creek to the south consisting of paralic and marine facies. The cycles had durations in the order of 400 to 600 ky and are considered to represent 4th order sealevel cycles of the Permian Period.


Abstract: The Upper Permian Rangal Coal Measures in the northern Bowen Basin, Australia, accumulated during rapid basinal aggradation in a retroarc foreland basin setting. They reflect peatland deposition towards the close of a long-lived climatic regime that came to an abrupt termination at the Permian-Triassic boundary, which is well developed in the Newlands mine highwall and adjoining borefield. Six lithofacies are represented in the Newlands district: (1) erosionally based, vertically stacked, ribbon and sheet-like sandstone bodies (up to 30 m thick and 1000 m wide); (2) heterolithic lobes and wedges; (3) interbedded siltstone and sandstone sheets; (4) interlaminated claystone and coal stringers; (5) laterally extensive bituminous coal sheets; and (6) laterally extensive laminated carbonaceous siltstone sheets. This facies assemblage is interpreted to correspond to six alluvial, cold-climate depositional environments: (1) trunk river channels and crevasse feeder channels; (2) levee bank-proximal crevasse splay; (3) distal splay-overbank; (4) marsh; (5) peat mire and (6) floodbasin lake, respectively. The sequence architecture at Newlands reveals that a prolonged period of peat deposition was progressively terminated by northward-stepping lobes of fluvial sediment in the south and by lacustrine drowning in the north. Exceptionally well developed, composite, elongate crevasse splay microdeltas, up to 26 m thick and >3000 m long, indicate that crevassing was responsible for the localized emplacement of thick sediment packages on the proximal floodplain. In the absence of active siliciclastic sedimentation, peat mire environments expanded from the distal floodplain, extending across abandoned depositional lobes. The geometry of these deposits reflects in large part accommodation space developed by the compaction of the peat precursor of the thick and
laterally extensive Upper Newlands Seam. Sequential compaction of peat by clastic overburden controlled the nucleation and location of succeeding clastic packages. The behavior of the peat under compactional load largely controlled the lateral facies mosaic and stacking pattern of depositional units on a district scale.


Abstract: The problems of erosion and, to a lesser extent flooding, in three rivers in the Mackay region, Pioneer River and Cattle Creek, Proserpine River and Don River, are discussed. To a large extent, the difficulties have been caused by development, agriculture and grazing usages in the catchments. The technical and economic means of attaining a satisfactory level of catchment management have yet to be determined. The works of the river management trusts on those streams are described, and increased Government funding will be required if they are to fulfil their charters satisfactorily.


Abstract: The rainfall runoff model developed by Porter and McMahon at Monash University was modified and applied to the Burdekin River Basin in North Queensland. The Burdekin catchment is particularly large by Australian standards and the amount of data on rainfall, evaporation and streamflow is limited. The main modification to the model involved a change to the routing procedure. This, together with other changes to the coding, significantly decreased the computation time. The model produced satisfactory agreement with recorded volumes of flood runoff and also with recorded flood hydrographs.


Keywords: Seismic-reflection-surveys/ Seismic-surveys/ Permian-/ Triassic-/ SF5515/ SF5516 8650/ SF5516 8651/ SG5503 8548/ SG5503 8549/ SG5504 8648/ SG5504 8649/ SG5507 8546/ SG5507 8547/ SG5508 8646/ SG5508 8647

Abstract: Examples of seismic sections and descriptions of techniques.


Keywords: Igneous-petrology/ Petrology-/ Regional-geology-Qld/ Structural-geology-Qld/ Volcanic-rocks/ Tertiary-/ SF5511 8452


Keywords: Volcanic-rocks/ Stratigraphy-Qld/ Igneous-petrology/ Petrogenesis-/ Basalt-/ Tertiary-/ SF5511 8452/ SF5511 8552

**Keywords:** Geological-maps-Qld/ Explanatory-notes/ Stratigraphy-Qld/ Economic-geology-Qld/ Oil-fields/ Natural-gas-fields/ Ground-water/ Regional-geology-Qld


Morales RH, Davidson SC. 1993. Analysis of the hydraulic fracturing behaviour in the Bowen Basin. In: Rocky Mountain Regional Meeting/ Low Permeability Reservoirs; Symposium and Exhibition; Low Permeability Reservoirs; an Emerging International Energy Source. Society of Petroleum Engineers, Richardson, TX; 233-44


**Keywords:** Irrigation-/ Water-Management/ Groundwater-/ Surface-Water / Water-Supplies/ Water-Use/ Recharge-/ Water-Resources-Development/ Water-Yields/ Augmentation-/ Water-Demand

**Abstract:** Two irrigation schemes involving the conjunctive use of groundwater and regulated surface water and incorporating works for groundwater recharge are being implemented in central Queensland. One is located in the Callide Valley, centred on Biloela, utilizing Callide Dam and the other along Three Moon Creek, centred on Monto and utilizing Cania Dam. The main source of irrigation supplies in both areas is groundwater derived from shallow alluvial aquifers. The current development and use of groundwater in the Callide Valley exceeds average annual yield by 150% with use in some sections of the system being up to 7 times the long term safe yield. In a number of sections of the Three Moon system, potential groundwater use allows for existing demands, and the projected requirement for approved expansion will exceed assured long term supply. The performance of the 2 groundwater systems under these circumstances is of major concern and in order to offset the risk of failure and maintain productivity and efficiency of irrigation in these areas, regulated surface supplies are being introduced to assist with recharge of the aquifers and in certain cases, to provide an alternative or supplementary source of irrigation water supply. Management controls have also been introduced to attempt to ensure that effective and beneficial use is made of the available water resources.


**Keywords:** Coal-mining/ Hydrogeology-/ Ground-water/ Mine-planning


**Keywords:** Trees-/ Salinity-Control/ Recharge-/ Discharge (of-Natural-Waters) / Water-Table/ Planting-/ Groundwater-/ Land (Grass-and-Pasture)/ Salts-/ Tolerance-/ Species (Biological)/ Propagation-

**Abstract:** An overview is given of the major findings of research projects carried out in the past 10-15 years on many aspects of tree-salinity interactions. Planting strategies for the use of trees in salinity control must distinguish between recharge and discharge control. Satisfactory methods
for monitoring the effectiveness of recharge control measures have not yet been developed, although successful reversal of rising groundwater by trees and perennial pastures has been claimed. Mass production of salt tolerant planting stock using micropropagation techniques has been successful, but trials in discharge areas are incomplete. Important areas for increased research effort are identified.


**Keywords:** Seismic-profiles/ Seismic-reflection-surveys/ Seismic-surveys/ Structural-geology-Qld/ SF5516 8651

**Abstract:** Structural information in the vicinity of the Anticline is obtained and two possible sites for a test bore are indicated.


**Keywords:** Federal-/ State-/ Relationships-/ Water-Management/ Government-/ Water-Resources/ Streams (in-Natural-Channels)/ Resources-/ Rivers-

**Abstract:** In federal systems of government the constitutional assignment of powers between governments, jurisdictional boundaries and the mechanisms for changing these relationships are principal determinants of interjurisdictional interdependence and as such are major influences on institutional innovation and effective natural resource management. Intergovernmental regulatory conflict is likely to be a permanent feature of many federal systems of government. This paper analyses the recently resolved federal-state conflict over wilderness preservation, viz, the Gordon River development in Tasmania and considers the results of this analysis in the context of Australia's longest running natural resource management problem, the horizontal regulatory conflict over management of the Murray River.


**Keywords:** Catchment-Areas/ Natural-Resources/ Environmental-Management/ Community-Participation/ Management-/ Sustainable-Development / Planning-/ Total-Catchment-Management

**Abstract:** The Fitzroy Catchment Coordinating Group is an organization for those who have a stake in the use and management of natural resources in the Fitzroy River catchment. The Group's key task is to facilitate the development of a natural resources and environmental management strategy for the Central Queensland region. The regional strategy is to be a framework for achieving sustainable natural resource management using the guiding principles of Integrated Catchment Management. It used a business technique called scenario planning in community participation sessions, because it asked different kinds of questions of the participants and yielded richer insights into community understandings and priorities than would have been achieved by more direct approaches.


**Keywords:** Catchment-Areas/ Natural-Resources/ Environmental-Management/ Community-Participation/ Management-/ Sustainable-Development/ Planning-/ Total-Catchment-Management

**Abstract:** The Central Queensland Strategy for Sustainability is a strategic plan for the river catchments of the region using the process of Integrated Catchment Management. It provides a framework for achieving the sustainable use of natural resources and the protection of the natural
environment, encourages the active participation of all stakeholders, and guides investment in natural resource and environmental management in Central Queensland. This working paper draws together the information and ideas that have been gathered so far.


Abstract: The Centre for Mined Land Rehabilitation at the University of Queensland has been actively involved for many years with a number of research initiatives in the area of ecosystem reconstruction on post-mined land. There is a growing recognition of the need for criteria to determine when rehabilitation is successful or complete, and with the current emphasis on sustainability, criteria need to embrace a range of ecological attributes which in turn require an understanding of the ecosystems being created. Among the projects currently underway are those at four contrasting types of open-cut mining operations dealing with gold (Kidston), bauxite (Weipa), coal (Bowen Basin) and heavy mineral sands (North Stradbroke Island). The underlying aim of much of this work is to devise ecologically meaningful and robust completion criteria or success indicators. The case studies presented cover a number of ecological processes including nutrient cycling, vegetation succession and seedling recruitment. The examples demonstrate that the importance of an issue or particular attribute is dependent on site conditions and the proposed post-mining land-use, but at the same time show that many of the attributes of a functioning ecosystem are interrelated.


Abstract: In 1988, the University of Queensland commenced a research program at Curragh coal mine in the Bowen Basin of central Queensland to examine factors that would encourage the growth of a cover crop sufficient to control soil erosion, but not so competitive as to hinder the establishment of native species. Weed and grass growth from the soil seed store in replaced topsoil often has a negative impact on the establishment and survival of sown native tree and shrub species. In contrast, good establishment has been achieved using a surface mulch of coarse coal reject. Longer term data confirm the beneficial effect of coarse coal reject, with approximately 4500 trees/ha on coarse reject after 10 years compared to 300 trees/ha on replaced topsoil. The difference is attributed largely to the competitive effects of the dense ground cover on topsoil at initial establishment. However, there are two potential problems for the long-term sustainability of communities on coarse coal reject. Firstly, reject is very low in nutrients and microbial biomass, limiting the satisfactory development of nutrient cycling. Secondly, it is often saline and will be likely to continue to generate salt with weathering, raising concerns over the success of secondary recruitment. It is concluded that coarse coal reject can play a role in successful tree and shrub establishment and hence in increasing the diversity of post-mining ecosystems. However, careful management is required to avoid the use of saline materials, and strategies need to be explored to increase its biological activity.


Keywords: Mines-and-Mining/ Remediation/- Land-Restoration/ Research-and-Development/ Environmental-Management/ Ecological-Management/ Soil (Characteristics-of)/ Vegetation/- Community-Composition/ Distribution (Mathematical)/ Nutrients/- Micro-organisms/ Microbiological-Analysis/ Salinity/- Land-Degradation / Land-Management/ Ecosystems/- Sustainable-Development
Abstract: Rehabilitation research which has contributed to the remediation of coal mining sites in the Bowen Basin in central Queensland is broadly outlined. The research has reflected a multidisciplinary approach to improve the establishment and sustainability of reconstructed ecosystems and incorporated research into surface crusting, microbial associations and salinity, vegetation competition and structure and nutrient cycling. It is argued that the approaches and techniques have implications beyond the rehabilitation of mining sites and could be applied to the remediation of degraded lands in general.


Keywords: Natural-Resources/ Environmental-Management/ Ecology-/ Pollution-Control (Environmental)/ Economics-/ Legislation (on-Environment)/ Bodies (Corporate)/ Community- Participation/ Sustainable-Development/ Ecosystems-/ Policy-/ Natural-Resource-Management- Act (Qld)

Abstract: The natural resources of Queensland are essential to the economic prosperity and social well being of the community and the ability to sustain that prosperity is dependent on using the land, water, forest and fisheries in an ecologically sustainable manner to maintain their quality and availability, protect them from degradation and manage their use to protect the wider environment. This paper outlines the objective of the Queensland Department of Primary Industries to produce an integrated natural resource management policy with non regulatory strategies and a minimum of legislation and to integrate the existing natural resource legislation administered by the Department. The integration of a range of agencies responsible for environmental policy initiatives within the one Department led to the preparation of a single Natural Resource Management Act. The consultation, discussion and review processes involving natural resources holders and users and the wider community are described.


Keywords: Regional-geology-Qld/ Tectonics-/ Structural-evolution/ Metallogenesis-/ Geophysical-surveys-Qld/ Gravity-surveys/ Aerial-magnetic-surveys/ Radioactivity-surveys/ Mineral-deposits-Qld/ Exploration-potential/ Radiometric-dating/ Biostratigraphy-/ Geological-mapping-Qld/ Permian-/ Mesozoic-/ Triassic-/ Cainozoic-/ SF5512/ SF5516/ SF5609/ SF5613/ SG5601/ SG5602/ SG5605


Abstract: Soil samples from 4 irrigation areas in Queensland were investigated to establish the relationships for salinity and sodicity parameters determined on saturation and 1:5 soil:water extracts. Equations relating saturation extracts to 1:5 soil:water extracts were established for electrical conductivity, pH and sodium adsorption ratio. Results for each of these aspects are presented.


Keywords: Fluvial-landforms

Abstract: Vegetation-induced obstacle marks are described from Dalrymple Bend in the Burdekin River of Queensland, Australia, and their preservation potential is discussed. The bend is divided into a sand- and gravel-covered lower bar, and a vegetated upper bar. Obstacle marks, comprising an erosional scour and a depositional sediment tail, are recognised on the lower bar.
and the lower margin of the upper bar. Two types of obstacle marks are dominant in the lower part of the lower bar; sediment tail-dominated obstacle marks associated with inclined trees of Melaleuca argentea (Silver-leaved Paperbark), and comparatively small obstacle marks around stranded driftwood. Obstacle marks in the upper part of the lower bar are formed around grass clumps armoured with mud and gravel. At the lower margin of the upper bar, scours and gravelly sediment tails are recognised around mature tall trees. In these cases, the scour is > 4 m in width, and covered with alternating beds of fine sand and mud. Among the obstacle marks described, sediment tail-dominated obstacle marks around groves of M. argentea have the highest preservation potential. Obstacle marks in the lower margin of the upper bar are also considered to have high preservation potential. Obstacle marks around stranded driftwood have the lowest preservation potential. Obstacle marks around grass clumps survive more than 1 year, but their long-term preservation potential is nonetheless low. Implications for the stratigraphic record are also discussed.

National Program for Irrigation Research and Development. 2002. NPIRD update: issue 4. NPIRD Update. Newsletter (National Program for Irrigation Research and Development); 4; 3p

**Keywords:** Bodies (Corporate)/ Research-and-Development/ Irrigation-/ Irrigation-Water/ Water-Management/ Water-Resources-Conservation/ Sustainable-Development/ Research-/ Finance-

**Abstract:** The National Program for Irrigation Research and Development (NPIRD) is the only national body to coordinate irrigation research activity in Australia. This newsletter briefly outlines a new focus for irrigation research and development which will address sustainable irrigation issues. The National Program for Irrigation will aim to provide Australia with research and innovations to achieve sustainable irrigation and will focus on three main research themes: enhancing the sustainability of irrigation, exploring future visions and values, and informing public policy development. The newsletter also provides an update of ongoing research projects on the sustainable management of the Burdekin Delta groundwater systems, Queensland, and the socioeconomic issues affecting positive change in irrigation communities.


**Keywords:** Bodies (Corporate)/ Research-and-Development/ Irrigation-/ Irrigation-Water/ Water-Management/ Water-Resources-Conservation/ Sustainable-Development/ Groundwater-/ Water-Table/ Salinity-/ Water-Use/ Efficiency-/ Stream-Flow/ Evaporation-Control/ Research-

**Abstract:** This issue of the National Program for Irrigation Research and Development's (NPIRD) newsletter, 'WaterWheel', provides a snapshot of the Murray Irrigation Limited Area, NSW. Major issues in the region include rising water tables and associated salinity, and water security associated with seasonal fluctuations and political uncertainties. NPIRD has funded a major research project in the region to investigate benchmarking improved hydraulic efficiency of irrigation and drainage. Other features in this issue include a brief article on the Burdekin groundwater sustainability initiative in northern Queensland. It is a cooperative research undertaking involving local farmers, NPIRD and other research and government agencies. There are also brief articles on standardising definitions of water use efficiency in the context of irrigation systems, a new tool for forecasting stream flow, and a brief glance at a new NPIRD project to control evaporation losses from on-farm storages.


**Abstract:** A simple model is proposed for estimating the sediment yield from catchments emptying into the Great Barrier Reef (GBR) lagoon. Unit sediment yield is predicted from mean annual catchment runoff. This model takes into account the considerable variation across the region in factors such as rainfall and vegetative cover. Sediment yield to the GBR lagoon is dominated by the two largest rivers, the Burdekin and Fitzroy Rivers. Their influence on coastal
ecosystems is increased by the fact that their sediment inputs occur at high concentrations and with greater temporal variability than those of other catchments in the region. An assessment of the effects of land use suggests that estimates of the anthropogenic contribution to sediment yield should generally be regarded as minimum estimates. Evaluation of the value of agricultural production in relation to the quantity of soil lost suggests that a re-evaluation of land use policy is warranted for some catchments.

Keywords: Dams-/ Sites-/ Geology-/ Profiles-/ Seismicity-/ Refraction-
Abstract: Seismic refraction profiles totalling 12.478km were shot at the Burdekin Falls 159.3km damsite, at the request of the Queensland Water Resources Commission. The purpose of the profiling was to assist in geological interpretation. Results were more irregular than usual. It is suspected that this is due in some areas, to refractors within steeply dipping volcanics, and in other areas, to disturbance of refractors caused by major faulting. Two lines were located to cross a major thrust fault, and it is believed that refractions from the fault plane were recorded, enabling the dip of the plane to be calculated.

Keywords: Sites-/ Power-Generation/ Drilling-/ Seismicity-/ Refraction-
Abstract: A seismic refraction survey was conducted at the proposed power station site at Burdekin Falls to assist in choosing drilling targets. Three seismic layers were detected over most of the area, with depth to bedrock up to 20m. However, results are unreliable because the area is geologically and topographically complex. It is believed that refracted energy was recorded from a variety of discordant refractors, whose attitudes are impossible to determine.

Keywords: Seismic-interpretation/ Stratigraphy-Qld/ Gravity-surveys/ Isopach-maps/ Exploration-potential/ Petroleum-/ SF5501/ SF5502/ SF5505/ SF5506/ SF5509/ SF5510
Abstract: Contour maps of three geological horizons.

Keywords: Geophysical-surveys-Qld/ Gravity-surveys/ Coal-exploration-Qld/ Coal-resources-Qld/ SF5511 8352/ SF5511 8452

Keywords: Coal-fields/ Gravity-anomalies / Gravity-maps/ Gravity-surveys/ Structural-geology-Qld/ SF5511 8352/ SF5511 8452
Abstract: The survey provides information on the basement underlying the coal field. It is unlikely that substantial coal reserves exist beyond the limits of the known deposit.


Council, United Graziers' Association of Queensland, Rockhampton; 6p

Abstract: Research on the breakdown and environmental fate of herbicides in the Fitzroy River catchment is outlined. Residues in soils have been tested and groundwater samples are under analysis.


Keywords: Water-Quality-Monitoring/ Water-Quality (Natural-Waters)/ Irrigation-/ Cotton-/ Pollution (Surface-Water)/ Pollution (Groundwater)/ Sediment-/ Nutrients-/ Groundwater-/ Inland-Waters/ Farms-and-Farming/ Drainage-/ Plankton-/ Fish-/ Animals (Invertebrates)

Abstract: The Fitzroy River QLD system comprises almost 10% of the agriculturally productive land in Queensland with major land uses being grazing, irrigated and dryland cropping and coal mining. This paper presents preliminary data on the ecological 'state of health' of the river, from river and groundwater monitoring and sediment and nutrient transport studies in an irrigated cotton system. Suspended sediment loads are low under base flow conditions, but rise dramatically even under moderate flows. Nutrient concentrations tend to mimic sediment levels, rising well above guideline values for even moderate flows. In general, species diversity of phytoplankton, plants, fish and invertebrates decreased with distance from the mouth of the river. Higher concentrations of suspended sediments, nitrogen and phosphorus than are commonly found in the river systems appear to move off an irrigated cotton farm at the tail drain. These concentrations are reduced by water recycling and movement down the system of drains before there is potential for discharge into the riverine environment. Low levels of atrazine have been detected in groundwater, but there does not appear to be widespread contamination of aquifers in the region.


Keywords: Oil-shale/ Stratigraphic-drilling/ Lithologic-correlation/ Sedimentary-environments/ Tertiary-/ Quaternary-/ Cainozoic-

Abstract: A 670-metre bore through 605m of Cainozoic sediments including oil shale intersections.


Keywords: Water-Quality-Assessment/ Water-Quality-Monitoring/ Groundwater-/ Surface-Water/ Water-Management/ Data-Handling/ Agriculture-/ Water-Supplies/ Water-Resources-Conservation

Abstract: Measuring water quality is an important aspect of water management which, in turn, is part of the larger area of natural resource management. The Condamine-Balonne region is significant to Queensland in agricultural terms. Water quality monitoring in the region is a joint effort between the Condamine-Balonne Water Committee and other agencies. The actual monitoring should be done carefully to collect data which can be put into a database useful to everyone.


Keywords: Water-Policy/ Water-Industry/ Water-Management/ Economics-/ Rights-/ Water-Allocation/ Costs-/ Water-Resources-Planning/ Transferability-
Abstract: Natural resource management, water allocations, economic and financial policies, planning issues and institutional arrangements are areas of water policy currently under debate in Australia. While these policy areas may seem isolated and of little relevance to local managers, the linkages which exist between them by considering the four elements of a property right, are illustrated. These are specification, exclusivity, enforceability and enforcement and transferability. Specification requires a clear understanding of the relationship between the resource allocatable for consumptive use and the natural environment. Exclusivity can be related to the sharing of costs connected with water use between users and the community. Enforceability requires clear and workable legislative frameworks and management arrangements allowing all parties to understand their roles and responsibilities. Transferability requires consideration of potential off-site ramifications of such transfers in relation to natural resource issues and planning issues.


Keywords: Water-Management/ Water-Industry/ Costs/- Environment/- Water-Allocation/ Economics/- Planning/- Policy/- Sustainable-Development

Abstract: Substantial water industry policies are under debate in Australia at present, in the areas of natural resource management, water allocations, economic and financial policies, planning issues and institutional arrangements. It is important to link these debatable issues to arrive at a total water management plan which is ecologically sustainable and attainable.


Keywords: Land (Grass-and-Pasture)/ Grasses/- Arid-Regions/ Vegetation/- Soil (Characteristics-of)/ Health/- Organic-Matter/ Carbon/- Livestock/- Grazing/- Threat/- Environmental-Management/ Productivity/- Rangelands/- Grasslands/- Woodlands/- Land-Degradation/ Land-Management

Abstract: Perennial tussock grassland is critical to landscape productivity in much of the infertile Australian rangelands. As the carbon pool is an important indicator of soil health, a study was conducted near Charters Towers in Queensland to assess the impacts of grazing management and tussocks on fine-scale distributions of carbon. Results indicate that high levels of organic carbon were restricted to zones with active root growth and concentrations of surface litter near the periphery of tussocks. Overgrazing results in a reduction of tussock vigour and organic material and loss of soil condition. It is argued that flexible management strategies are required to prevent overgrazing and ultimate soil degradation to ensure sustainable management of Australian northern rangelands.


Keywords: Australasia/- Australia/- C-14/- carbon/- cyclones/- damage/- Double-Island/ Fitzroy-Island/ floods/- frequency/- geologic-hazards/ isotopes/- landslides/- mass-movements/ planning/- prediction/- Queensland-Australia/ radioactive-isotopes/ recurrence-interval/ Red-Cliff/ risk-assessment/ shorelines/- tsunamis/- urban-environment


Keywords: Diamond-drilling/ EM-surveys/ Electrical-surveys/ Lead/- Magnetic-surveys/ SP-surveys/ Turam-EM-surveys/ Zinc/- SF5502 8156/ SF5502 8157

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**Abstract:** A distributed parameter hydrologic model, based on analysis of topography in redistributing soil moisture in natural terrain is described. The model, TOPOG, can be adapted to predicting the hydrologic impact of land use change by simulating the effects of locally altered water balance. Example applications include dry and wet weather simulations of moisture status in catchments, the size and locations of non-point source areas of particulate runoff, effluent disposal using absorption trenches and rehabilitation of salinized land.


**Keywords:** Recharge-/ Pits- / Wetting-Front/ Groundwater-Mound / Waterlogged-/ Siting-/ Standards-/ Burdekin-Delta-Recharge-Scheme

**Abstract:** A conceptual framework for consideration of artificial recharge of groundwater from a pit, which divides one recharge cycle into a wetting front phase, a water table mound phase, a surface clogging phase and a refurbishing phase, is presented. Some insights provided by this framework are discussed and 10 criteria for the selection of pit sites are considered with particular reference to the Burdekin Delta Recharge Scheme in Queensland. Some guides for the design of pits based on experience and research in the Burdekin are presented.


**Keywords:** aquifers-/ artificial-recharge/ Australasia-/ Australia-/ Ayr-/ Brandon-/ Burdekin- Falls-Dam/ Burdekin-River/ Burdekin-Haughton-Delta/ Claredale-/ Giru-/ ground-water/ Home-Hill/ hydrogeology-/ hydrology-/ Queensland-Australia/ surveys-

**Abstract:** The operation of a regional groundwater recharge scheme, instituted in the Burdekin Delta area of The operation of a regional groundwater recharge scheme, instituted in the Burdekin Delta area of northern Queensland in 1965 is reviewed. Two local Boards were constituted to manage the scheme with capital and operational costs being recouped from sugar growers and millers. Since the scheme began, river pumping capacity has been increased from 4.25 cumecs to 11.63 cumecs. River water pumped for recharge to 30 June 1985 totalled 1637 million cu m and groundwater levels have been maintained above sea level. Problems which have arisen include the deposition of fine sediments and the growth of aquatic plants in the recharge channels. Some biological controls have been introduced. It is concluded that the scheme has been highly successful in its first 20 years of operation and should operate successfully in the future though a conjunctive use study with the Burdekin Falls Dam and financial viability of the Boards require consideration.


**Keywords:** Australasia-/ Australia-/ Burdekin-Delta/ ground-water/ hydrogeology-/ Queensland-Australia/ recharge-


**Keywords:** Australasia-/ Australia-/ Burdekin-Delta/ ground-water/ hydrogeology-/ Queensland-Australia/ Resources-aquifer-properties

**Abstract:** Aquifer characteristics, yield-recharge investigations, Queensland.

**Keywords:** Discusses hydrogeological aspects of littoral salting with reference to the environmental background, groundwater systems in coastal areas and special problems in soil salinity and acidity. Detailed drawings explain aspects of the text. Idealizes some common systems and considers the possibilities for improving natural systems.

**Abstract:** Discusses hydrogeological aspects of littoral salting with reference to the environmental background, groundwater systems in coastal areas and special problems in soil salinity and acidity. Detailed drawings explain aspects of the text. Idealizes some common systems and considers the possibilities for improving natural systems.


**Keywords:** Salinity-Control/ Dryland-/ Farms-and-Farming/ Profitability-/ Catchment-Areas/ Regionalization-/ Survey-

**Abstract:** Addressing the problem of dryland salinity through Government programs such as Landcare and Total Catchment Management enables regional communities to play a central role in identifying management strategies. To facilitate these programs, the National Dryland Salinity Program has been developed. As part of this program, the Australian Bureau of Agricultural Resource Economics (ABARE) through its farm surveys is collecting economic information on the interaction of farm management practices, salinization effects and farm profitability. This information is used to develop producer profiles within catchments to assess the viability of alternative salinity management strategies. Analysis of the Loddon and Campaspe Rivers VIC catchments, the Liverpool Plains NSW, Kent River WA, the Upper South East Region SA and the upper Burdekin Catchment QLD is included. While it is difficult to draw substantive conclusions on options for salinity management from farm financial results, the results demonstrate the importance of looking beyond averages and gaining an understanding of variation in farm performance within a region.


**Keywords:** Anticlines-/ Gravity-anomalies/ Gravity-maps/ Gravity-surveys/ Structural-geology- Qld/ SF5516 8650/ SG5504 8649

**Abstract:** A gravity high which is believed to coincide with the axis of the Comet Anticline has been traced over a distance of about 30 miles. Further gravity traverses are advised.


**Abstract:** The Baralaba area in Queensland, covering part of the Bowen basin, is dominated by the Mimosa syncline containing an incomplete section from Devonian to Quaternary. Upper Devonian sandstones, siltstones, and shales, dated by Leptophloeum australe, do not outcrop in the area but were penetrated by a deep well in the downwarp. Volcanic flows and breccias have been correlated with lower Permian although they may be older. They are covered by essentially fresh-water sediments with lenses of crinoidal limestone suggesting some marine invasion. The upper Permian section is represented by an alternation of fresh-water and marine beds indicating transgressions and regressions. Triassic rocks are the most widespread in the area, and the thickest as well, with as much as 20,000 ft of sediments deposited in the Mimosa syncline. Jurassic sediments are overlain by Tertiary sediments and basalts. Structural trends are north-northwest, parallel to the Bowen basin trends. Uplift and emergence in the lower Permian were accompanied by some folding. Permian-Triassic folds are truncated by an erosional surface on which lower Jurassic sediments were deposited. There is no evidence of folding after the Jurassic.


**Abstract:** Outcrop in the Baralaba Sheet area is generally poor owing to the softness of most of
the sedimentary formations and the extensive cover of Cainozoic sediments. The Clematis and Precipice sandstones are the only formations to form conspicuous topographic features. The oldest exposed rocks are the lower Permian Camboon andesite in the north-east. They are overlain by an unknown thickness of tightly folded Permian Back Creek group and Upper Bowen coal measures, which crop out only east of the Dawson river. The Permian rocks are overlain by up to 20,000 feet of Triassic sediments, comprising the Rewan formation, Clematis sandstone, and Moolayember formation. The tremendous thickness of sediments, as compared with neighbouring areas, indicates that the southern part of the Baralaba Sheet area was the locus of the major downwarp in the Bowen basin. The whole sedimentary sequence west of the Dawson river has been gently folded. The largest structure is the Mimosa syncline. In recent years, great interest has been shown in the area in connexion with the search for oil and gas. Practically the whole area has been covered by seismic surveys, several exploratory wells have been drilled, and accumulations of gas have been discovered in the Rolleston and Arcturus anticlines, 7 miles south and 28 miles north-north-west of Rolleston, in the west of the Baralaba Sheet area.


**Keywords:** Sediment-transport/ Size-distribution/ Deltaic-sediments/ Carbonate-sediments


**Keywords:** Runoff,-streamflow-and-basins

**Abstract:** An Australian native pasture growth-water balance model (GRASP) was modified to include the USDA curve number runoff method from PERFECT, with the aim of providing a more general model than the regionally derived Scanlan runoff approach used previously and to improve runoff and water balance prediction. The modified model was calibrated against measured runoff and soil water data for a range of pasture treatments in Central Queensland. Optimised curve numbers were related to cover; curve number reduced from 97 for bare conditions to a minimum of 57 for 53% cover, with no difference between soils (mudstone or sandstone derived, or eroded phases) or types of cover (grass biomass and litter, or tree litter). In the modified model this equation provides feedback of effects of grazing management and tree density on cover to the water balance.

Runoff prediction using the Scanlan runoff sub-model (derived for soils in the Burdekin catchment) was satisfactory ($r^2_{1:1} = 0.70$), indicating that soils at the Central Queensland site had similar runoff responses to those in the Burdekin. Addition of the curve number sub-model improved runoff prediction ($r^2_{1:1} = 0.87$). Adjusting curve number each day according to cover improved runoff predictions for low cover situations where cover varied through time, which is important in degraded pastures. Total soil water prediction was very good using the Scanlan runoff sub-model ($r^2_{1:1} = 0.88$) and slightly improved using the modified model ($r^2_{1:1} = 0.91$). Soil water in the surface layer was predicted well, giving confidence in prediction of soil evaporation. This study provides important new runoff parameter values for modelling water balance and degradation of hard setting soils under pasture. The parameters derived from this study can be used with historical climate data to provide a long-term assessment of effects of grazing management on runoff on such soils.


**Keywords:** Catchment-Areas/ Management-/ Water-Resources-Planning/ Total-Catchment-Management

**Abstract:** A view of planning in Queensland and its relationship to integrated catchment management (ICM) is presented. Planning concepts are applied to ICM.

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Keywords: anomalies-/ Australasia-/ Australia-/ boreholes-/ Carpentaria-Basin/ correlation-/ Eromanga-Basin / facies-/ gamma-rays/ gamma-ray-methods/ geophysical-surveys/ oil-shale/ organic-residues/ Queensland-Australia/ radioactivity-/ sedimentary-rocks/ surveys-/ well-logging


Keywords: Sedimentary-geology; Stratigraphy-Qld; Brachiopoda-; Devonian-; Carboniferous-;


Keywords: Land (Grass-and-Pasture)/ Arid-Regions/ Animals-/ Grazing-/ Sustainable- Development/ Land-Management/ Natural-Resources/ Monitoring-/ Ecological-Management / Policy-/ Planning-/ Community-Participation/ Bodies (Corporate)/ Rangelands-/ Mulga-/ Acacia- aneura

Abstract: The final report of a project which aimed to develop an integrated strategy for managing total grazing pressure in mulga (Acacia aneura) communities in the Murray-Darling Basin identifies a number of approaches which will contribute to sustainable management of the rangelands. Detailed recommendations are outlined against each of the project's five objectives and focus on mechanisms for establishing partnerships between relevant stakeholders, and identifying appropriate tools for monitoring and managing total grazing pressure at the paddock, property and regional scales. Overall recommendations include: the development of flexible management systems that evolve with changing circumstances, the adoption of an holistic approach to the management of natural resources within the framework of the Murray- Darling Basin Commission Sustainability Program, the development of a natural resource management strategy in which profitability is synonymous with sustainability, the development of scientific and practical methods for monitoring ecological change, and government and industry funding for marketing strategies emphasizing the role consumers play in achieving ecological sustainability.


Keywords: Base-metals/ Economic-geology-Qld/ Gold-/ Igneous-intrusions/ Petrology-/ Radiometric-dating/ Regional-geology-Qld/ Stratigraphy-Qld/ Structural-geology-Qld/ SF5503


Keywords: Economic-geology-Qld/ Geological-maps-Qld/ Explanatory-notes/ Regional-geology-Qld/ Stratigraphy-Qld/ Structural-geology-Qld/ Palaeozoic-/ Mesozoic-


Keywords: Coal-exploration-Qld/ Coal-resources/ Core-logging/ Drilling-/ Permian-/ SF5515 8550/ SF5515 8551/ SF5516 8650/ SF5516 8651


Keywords: Farms-and-Farming/ Dryland-/ Catchment-Areas/ Economics-/ Biophysics-/ Sociology-/ Modelling (General)/ Mathematical-Analysis/ Scale-/ Environmental-Management/ Farmers-/ Decision-Theory/ Erosion-/ Salinity-Control/ Nutrients-/ Spatial-/ Time-Dependent/ Productivity-/ Profitability-/ Land-Degradation/ Land-Management/ Total-Catchment-Management

Abstract: The advantages and disadvantages of the use of mathematical programming in the analysis of land degradation issues and policy initiatives at the catchment level are reviewed from a theoretical perspective and illustrated with applications. The types of land degradation and associated socioeconomic aspects to be included in the modelling process are considered. Comparison with simulation based models is extended in an empirical setting in which the results from three research projects are presented: soil nutrient loss at Billa Billa, soil erosion in the Central Highlands and salinity management in the Lake Goran NSW catchment. By considering both the decision making behaviour of farmers and the complex biophysical linkages in farm production systems, mathematical programming readily permits analysis of farm level constraints which, when linked together, provide catchment level effects. This permits analysis of both temporal and spatial externalities, and leads naturally to a consideration of environmental policy.

Patterson JH, Lindner AW. 1990. Inorganic geochemistry and mineralogy of Unit B, Duaringa oil shale deposit. Fuel; 69(9):1081-5

Keywords: Oil-shale/ Mineralogy-/ Geochemistry-/ Siderite-/ Tertiary-/ SF5516 8850


Keywords: aquifers-/ Australasia-/ Australia-/ Barmount-region/ carbonate-rocks/ case-studies/ Comet-River/ Dawson-River/ Fitzroy-River/ fractured-rocks/ fracturing-/ ground-water/ hydrogeology-/ hydrology-/ Isaac-River/ limestone-/ Mackenzie-River/ Mount-Larcom/ Nogoa-River/ Queensland-Australia/ Rockhampton-Australia/ sedimentary-rocks/ surveys-/ water-quality

Abstract: The water level behaviour, water quality, aquifer performance and drilling characteristics of five fractured rock aquifers in Central Queensland are discussed. The aquifers are (i) Mt Larcom limestone deposits (ii) cherts in the Yeppoon area (iii) Andesites and sediments in the Banana area (iv) Central Highlands basalts (v) shales in the Barmount area.


Keywords: Groundwater-/ Water-Quality (Natural-Waters)/ Aquifers-/ Salinity-/ Alluvium-/ Water-Use/ Irrigation-/ Water-Supplies/ Land-Use/ Saline-Water-Intrusion/ Recharge-/ Water-Quality-Monitoring/ Land-Clearing

Abstract: Groundwater supplies available from shallow alluvial deposits associated with the Don and Dee Rivers, centred on the township of Wowan in central Queensland, support intensive irrigation of various agricultural crops, as well as providing town water supplies and stock water throughout the valley. In recent years, following a succession of above average rainfall over the
area, a marked deterioration in groundwater quality has occurred in the alluvial deposits. This
deterioration appears to be at least in part caused by a migration of more saline groundwaters
from adjoining Tertiary sediments into the alluvium as a result of rising water levels exerting
greater heads in the Tertiary sediments. These higher heads appear to have partly resulted from
extensive land clearing that has taken place in recent years on the surrounding Tertiary
sedimentary deposits. An investigation has been instigated to determine the nature, causes and
extent of the salinization within the Don and Dee Rivers catchment and its impact on land use,
water use and water quality throughout the area. This paper gives an outline of the extent of the
salinity problems being encountered and reviews the method of investigation being undertaken to
identify the source of the increasing salinity.

Pearce BR. 1993. Potential applications of remote sensing in investigation, planning, assessment,
monitoring and management of water resources in the Fitzroy catchment. In: Fitzroy Catchment
Symposium, 12-13 Nov 1992, Rockhampton, Proceedings. University of Central Queensland,
Queensland. Department of Primary Industries, Capricorn Conservation Council, United
Graziers' Association of Queensland, Rockhampton; 9p
Abstract: The use of remote sensing of water resources, with data integrated with a geographic
information system is outlined. Applications in the Fitzroy River catchment and other parts of
Queensland are described and difficulties and benefits noted.

Queensland Water Resources Commission, Brisbane;
Keywords: Groundwater/- Water-Supplies/ Water-Allocation/ Water-Table/ Water-Yields/
Water-Use/ Licences-and-Licensing/ Recharge-
Abstract: Current allocations in the Callide Valley QLD far exceed the assessed yield. In order
to implement new licensing procedures in the area, it was necessary to assess the current storage
situation in the Valley. The report outlines the results of a detailed analysis of the current storage
situation in each of the groundwater sections of the Callide Valley as at June 1987 and provides
recommendations on possible suitable formulae that could be applied in determining annual
announced allocations for each property. The procedures adopted in determining the allocations
are outlined.

Pearce BR. 1980. The use of temporary sand dam storages in determining the river recharge in the
Australian Water Resources Council; 77-86
Keywords: Ground-water-recharge/ Mathematical-models/ Aquifer-properties/ Specific-yield/
Aquifers-
Abstract: Values of transmissivity and specific yield using a finite difference model.

Pearce BR, Ceplecha VJ. 1969. Fitzroy region, Queensland, resources series; underground water.
Australia. Department of National Development, Geographic Section; 25p
Keywords: aquifers/- Australasia/- Australia/- Fitzroy/- ground-water/ hydrogeology/-
Queensland-Australia
Abstract: Explanatory text for a map, scale 1:2,000,000, showing water quality, yields, depth,
and utilization, with data on fractured and porous rock aquifers and the water resources of the
Cenozoic deposits.

Development Corporation, Canberra. Research and Development Final Report; No 9/91; 36p
Abstract: A 2yr study of the habitats and biota of the middle Burdekin River is described. The
river is a large, seasonal, tropical river draining a catchment with varied vegetation, severe land
degradation and a new dam along its course. Aquatic macrophytes were virtually absent and no
plankton, apart from shrimp larvae was found. Fish fauna was abundant but not very diverse, with
most abundance in detritivorous benthic feeders. Multivariate analyses of invertebrate samples
produced site groups characterized by sediment size, current velocity, depth and the amount of
particulate inorganic matter. Results were supported by anovas performed on groups derived from cluster analysis and by multiple regression analysis of species against environmental variables. Differences between sites up and downstream of the Burdekin Falls Dam may be related to the protection of downstream habitats from disturbances due to minor flooding. Most of the common taxa demonstrated definite seasonal trends in abundance, while some taxa were of very patchy distribution both spatially and temporally. The project is considered to have provided a necessary baseline for future studies.

Keywords: Coal-/ Coal-exploration-Qld/ Drilling-/ Wire-line-drilling/ Radioactivity-logs / Conductivity-logs/ SF5510

Keywords: Coal-liquefaction/ Coal-resources/ Liquid-fuels

Keywords: Carboniferous-/ Devonian-/ Petrology-/ Regional-geology-Qld/ Remote-sensing/ Stratigraphy-Qld/ Structural-geology-Qld/ Tertiary-/ SF5506 8154/ SF5506 8155/ SF5506 8254/ SF5506 8255

Keywords: Aerial-EM-surveys/ Salinity-/ Dighem-surveys/ SALTMAP-

Keywords: Landforms-/ Palaeogeomorphology-/ Geomorphic-evolution/ Regolith-/ Age-determination-methods/ Case-studies/ Palaeomagnetism-/ SF5501/ SF5502/ SI5507

Abstract: A method based on the Upper Mississippi River Basin Commission formula is proposed for estimating the wash loads in 3 north Queensland catchment areas: the Burdekin River, Flinders River, Mulgrave and Russell Rivers. This method lumps in one regional factor the influence of rainfall, catchment characteristics and land use. As wash load is a significant component of total sediment transport, it is proposed that a study be undertaken to map values of the regional factor and the influence of climate, geology and land use be further investigated. It is recommended that regional factor values k = 95 to 140 be adopted for catchments between latitudes 17 deg S and 21 deg S until more reliable data becomes available.

Abstract: Road and rail transport in the Fitzroy River region is described. The major river crossings are noted and the effect of flooding is discussed.
Poulsen J. 1995. The depositional context, weathering and diagenesis of the Palaeocene Suttor Formation, Rutherford's Table area, North Queensland. B.Sc.(Hons.) Thesis. James Cook University of North Queensland. Department of Earth Sciences; 102p
**Keywords:** Weathering-/ Duricrust-/ Sedimentary-environments/ Diagenesis-/ Gold-/ Oil-shale/ Cainozoic-/ SF5503 8356/ SF5507 8355

**Abstract:** The concept of sustainable development can be applied to most areas of human activity, such as tourism, manufacturing and urban development. This paper focuses on the sustainable use and management of natural resources of land, water and vegetation, which are the work of the Fitzroy Catchment Coordinating Group and because it is the primary objective of the Land and Water Resources Research and Development Corporation (LWRRDC). There are three specific forces driving interest in sustainability and the concept of sustainable development: the cost of unsustainable use of natural resources, market forces and prices and trade barriers, and expectations of the wider community. The sources of failure to manage sustainably include technical, market, institutional and policy failure. It is important in discussing a regional strategy, to address each of these failures.

**Keywords:** Deltas-/ Deltaic-sediments/ Sandbars-/ Mangroves-/ Aerial-photographs
**Abstract:** A study of aerial photographs over a forty year period.

**Keywords:** river-discharge/ sediment-delivery/ flood-/ cyclone-/ rainforest-/ coast-/ Australia-/ Queensland-
**Abstract:** River discharge and sediment yield are examined in the catchments of the Barron, Mulgrave-Russell and Burdekin Rivers. Their initial erosive impact and constructional effect are examined along the Burdekin and Barron delta coasts. The effects of human interference are noted.

**Keywords:** Sandbars-/ Deltas-/ Tropical-cyclones/ Floods-/ Deltaic-sediments

**Abstract:** Spatial variation in freshwater fish community structure in the large structurally monotonous subtropical Burdekin River is described from results of a 1989-1992 study. The number of species collected (25) was low, given the size of the river catchment (130000 sq km). The low diversity of fishes present in the river was suggested to be due to a combination of factors including the imposition of an ancient downstream barrier to fish movement (Burdekin Falls), substantial volcanic activity during the late Tertiary, past climatic stress and little variation in habitat structure over the range of sites examined. Notwithstanding the low species richness, the Burdekin River freshwater fish fauna is distinctive, containing elements of the fauna of both eastern and northern Australia, possibly reflecting aspects of ancient landscape evolution. Spatial variation in fish community structure was most strongly influenced by the presence of the Burdekin Falls (and reservoir) and secondarily by minor differences in habitat structure of main channel and tributary streams.

Keywords: Dunes-/ Geomorphology-/ Tropical-regions/ Sedimentary-environments/ Weathering-profile/ Stratigraphy-Qld/ Holocene-/ Quaternary-

Abstract: Dune activity associated with shoreline erosion; suggested poor development of coastal dunes in other humid-tropics due to rapid progradation in the later Holocene.


Keywords: Australasia-/ Australia-/ Burdekin-Delta/ Cape-Bedford/ Cape-Flattery/ Cenozoic-/ changes-of-level/ coastal-dunes/ dunes-/ eolian-features/ geomorphology-/ models-/ nearshore-environment/ patterns-/ Quaternary-/ Queensland-Australia/ Ramsay-Bay/ shore-features


Keywords: Hydrogeology-/ Ground-water/ Water-chemistry/ Ground-water movimiento/ Geochemistry-/ Devonian-/ Carboniferous-/ Permian-/ Jurassic-/ Cretaceous-/ Tertiary-/ Quaternary-


Keywords: Coal-exploration-Qld/ Anthracite-/ Drill-cuttings/ Geological-logs-Qld/ Geophysical-logs/ Rotary-drilling/ SF5516 8651


Keywords: Dam-site-investigations/ Rockfill-dams/ Geological-mapping-Qld/ Trenching-/ Rotary-percussion-drilling/ Diamond-drilling/ Geophysical-surveys-Qld/ Seismic-refraction-method/ Geological-logs/ Devonian-/ Carboniferous-

Abstract: Incorporates all geological investigations for construction of concrete dam and three saddle dams.


Keywords: Catchment-Areas/ Land-Use/ River-Basin-Management/ Land-Restoration/ Natural-Resources/ Community-Participation/ Bodies (Corporate)/ Farms-and-Farming/ Soil-Conservation/ LandCare-/ Land-Degradation

Abstract: The overall objective of the Queensland LandCare plan is to obtain community input and commitment to the goals and actions which are required to conserve the soil resources of the State for sustainable economic and environmental utility. The role of the Government is described and regional planning and coordination outlined. The public land program as well as on-farm improvement and assistance are discussed.


Abstract: This Committee was set up as the result of a meeting on 28 July 1980. Lists the objectives of the Committee. Its recommendations are summarized. They relate to priority situations, current Departmental salinity programmes, specific recommendations on programmes, liaison with Queensland Water Resources Commission, and coordination within the Department. Itemizes the 6 categories under which salinity in Queensland was considered. These categories were then rated by the Committee according to severity of occurrence and chance of solution. As
a result, report considers the following areas: Lockyer Valley Irrigation Area, Emerald Irrigation Area, Lower Burdekin, Brigalow Lands, and dryland salinity areas (saline seepage and scalded area's). For each area, gives situation statement, what needs to be done, what is being done, and recommendations.


**Keywords:** Pumping-Stations/ Irrigation-/ Boreholes-/ Foundations-

**Abstract:** Four additional boreholes were drilled on the proposed site of the Elliot Pump Station which is part of the Burdekin River Irrigation Project. The extra holes were needed because of the possible relocation of the station due to realignment of the Elliot Main Channel. The hole intersected alluvial sequence overlying volcanic bedrock. The level and quality of the bedrock varied, and, if the actual site of the pump station is to be more than 10 metres from an existing hole, further drilling is recommended.


**Keywords:** Dams-/ Building-Materials/ Building-and-Construction/ Embankments-/ Field-Studies/ Laboratory-Studies

**Abstract:** Stage II of the Burdekin Falls Dam in Queensland involves raising existing dams and construction of a small embankment saddle dam on the right bank. The findings of field and laboratory investigations for core material is presented, together with information on sand and gravel deposits investigated in stage I.


**Abstract:** The Emerald subsurface drainage project was undertaken to ensure the agricultural sustainability of the Emerald Irrigation Area. It involved installing 48km of subsurface drainage pipe and associated tailout pipe. Previously waterlogged and salinized land has been reclaimed in an energy efficient way, which requires little or no maintenance.


**Abstract:** This report investigates water resources of the Don and Dee Rivers area to determine the extent to which these could be developed to meet future demands in the area. Groundwater resources are nearly fully developed, and water quality problems are present. No major surface water storages exist in the area, but potential to develop some exists. However, the majority of potential storages would be costly to build. Of 7 possible sites, 2 offer the best potential for providing alternative supplies for groundwater users. These are Wyra damsite on the Dee River at AMTD 45.9km and AMTD 88.4km on the Don River.


**Abstract:** Commercial and recreational fisheries along the central Queensland coast are outlined, with emphasis on the Fitzroy River region. Fish biology and habitats are discussed and catchment management issues for fisheries resources are considered.


**Keywords:** abundance-/ actinides-/ alkali-metals/ Australasia-/ Australia-/ Bulloo-Embayment/


**Keywords:** Australasia-/ Australia-/ Queensland-Australia/ Rockhampton-Australia/ water-supply/ water,-ground-and-surface

**Abstract:** The area from the Fitzroy river at Rockhampton to the Razorback range, Queensland, was studied regarding stream alluvial deposits as possible sources of water supply. Detailed discussions of the sources are given in their order of importance.


**Keywords:** Australasia-/ Australia-/ Fitzroy-river-valley/ Queensland-Australia/ water-supply/ water,-ground-and-surface

**Abstract:** Recent alluvial deposits up to 70 to 80 feet in thickness and from 2 to 12 miles in width form the flood plain was due to a wide variation in quality. It is suggested that the highly saline or sulfate waters in lenticular suspended clay basins in good water-bearing beds can be effectively sealed off or neutralized, when they represent small seepage, by a high pumping rate.


**Keywords:** Regional-geology-Qld/ Stratigraphy-Qld/ Exploratory-wells/ Geophysical-surveys-Qld


**Keywords:** Regional-geology-Qld/ Structural-geology-Qld/ Mineralization-/ Geochemistry-/ Geochronology-/ Cambrian-/ Ordovician-/ Silurian-/ Devonian-/ Carboniferous-/ Permian-/ Cainozoic-/ Tertiary-/ Quaternary-/ Holocene-


**Keywords:** Regional-geology-Qld/ Stratigraphy-Qld/ Plutons-/ Radiometric-dating/ Geological-maps-Qld/ Palaeozoic-/ Cainozoic-/ SF5502 8257


**Keywords:** Palaeobotany/- Stratigraphic-drilling/ Megafossils/- Glossopteris/- Gymnospermae/- Permian/- SF5515/ SF5516 8650/ SF5516 8651/ SG5503 8548/ SG5503 8549/ SG5504 8648/ SG5504 8649/ SG5507 8546/ SG5507 8547/ SG5508 8546/ SG5508 8646

**Abstract:** Correlations with the Blair Athol Coal Measures.


**Abstract:** Gymnosperms and pteridophytes, typical Lower Gondwana (Permian) flora, paleoclimatologic implications (cool temperature).


**Keywords:** Ferricrete/- Weathering-profile/ Chemical-weathering/ Geomorphic-evolution/ Tertiary/- Quaternary/- SF5502 8157


**Keywords:** Tropical-regions/ Ferricrete/- Mesas/- Regolith/- Weathering/- Laterites/- Geochemistry/- Indicator-elements


**Abstract:** The Fitzroy Basin Water Allocation and Management Plan (WAMP) is being developed in consultation with the community. The plan will provide guidelines which will encourage more efficient, effective and ecologically sustainable use of water. However it is a complex river system in an often harsh, complex and highly variable environment. The Fitzroy River basin was chosen as the location for development of the initial Queensland WAMP since pressure for further development was imposing a need for a basin-wide strategy against which development proposals could be evaluated. It was intended that methodologies and techniques would be developed, reviewed and refined as the project unfolded. WAMP should be regarded as one of the suite of initiatives required to progress to sustainability under the umbrella of the Fitzroy Basin Strategy.


**Keywords:** Land/- Natural-Resources/ Environment/- Conservation/- Community-Participation/ Implementation/- Sustainable-Development/ Biological-Diversity/ Planning-

**Abstract:** A key principle in the Natural Heritage Trust (NHT) is to promote planning and implementation at a scale appropriate to address the underlying environment and natural resource management problems, rather than just managing the symptoms. This is best achieved by taking a whole landscape approach and integrating the common goals of sustainable agriculture and biodiversity conservation. The NHT promotes a focus on on-ground actions based on the best available information, the setting of priorities based on identification of the most urgent action, and the designing of activities which will deliver a range of outcomes. This paper sets out in general terms what the Commonwealth expects regional strategies should contain, but does not prescribe detail, as this is best left to the community.

**Keywords:** Gravity-anomalies/ Gravity-maps/ Seismic-profiles/ Seismic-reflection-surveys/ Seismic-refraction-surveys/ Seismic-surveys/ Structural-geology-Qld/ SF5515 8450/ SF5515 8550/ SF5516 8650/ SF5516 8750/ SF5516 8850

**Abstract:** The results provide information on the structure and minimum thickness of sediments in the area. The trough east of Comet Ridge contains at least 12,000 ft of gently downwarped sediments.


**Keywords:** Salinity-/ Salinity-Control

**Abstract:** Dryland salinity in Australia is a problem that continues to grow. At least 2 million hectares will be affected nationally by 2101. Research and development (R&D) has not provided solutions to dryland salinity, despite significant investment by national and State Governments. The National Dryland Salinity Program aims to make R&D more effective by focusing activity on five catchments across the nation where the biophysical elements of salinity can be integrated with the socioeconomic ones. Skills from across the nation are being coordinated to tackle knowledge constraints to managing salinity as part of the landscape. The program is managed by a consortium of State and Federal agencies, with the Murray-Darling Basin Commission, National Landcare Program and the Land and Water Resources Research and Development Corporation being the principal funders. Research and development in each focus catchment is overseen by a management committee of land users and stakeholders. It is hoped that the process will provide an opportunity for the management of salinity in the future to be in the context of the community better understanding the problem and the choices available to it.


**Keywords:** Catchment-Areas/ Total-Catchment-Management/ Decision-Theory/ Decision-Support-Systems/ Community-Participation/ MODSS-

**Abstract:** The development of a multiple objective decision support system (MODSS) to assist in the determination of natural resource management in the Cattle Creek catchment within the Mareeba-Dimbulah Irrigation Area is described. Parts of the catchment are very saline or waterlogged, placing irrigated agriculture and biodiversity at risk. The MODSS approach has facilitated the participation of stakeholders to decision making in the catchment and has identified a number of resource management options that are both scientifically valid and acceptable to the stakeholders.


**Keywords:** Decision-Theory/ Natural-Resources/ Environmental-Management/ Land-/ Water-Management/ Catchment-Areas/ Community-Participation/ Bodies (Corporate)/ MODSS-/ Resource-Management/ Land-Management

**Abstract:** The extent and rate of land and water degradation in Australia is a major environmental issue. Encouraging land managers to actively participate in the management of natural resources and to adopt improved land and water management practices is a concern of all governments in Australia. The delivery of results from a multiple objective decision support system (MODSS) developed to assist or support resource management in the Cattle Creek region is described. More importantly, it describes the involvement of stakeholders in the MODSS process and the events which have taken place in the catchment in response to the outcomes from the MODSS. The results from the MODSS are shown to have strengthened the effectiveness of the involvement of voluntary organizations in natural resource management and encouraged them to seek assistance through external funding bodies.

**Keywords:** Natural-Resources/ Catchment-Areas/ Irrigation-/ Groundwater-/ Salinity-/ Water-Table/ Environmental-Management/ Modelling (General)/ Community-Participation/ Decision-Support-Systems/ Resource-Management/ Land-Management/ Sustainable-Development

**Abstract:** The application of a multiple objective decision support system (MODSS) to assist in natural resource management processes in the Cattle Creek catchment in the Mareeba-Dimbula Irrigation Area is described. The area is at risk of rising water tables and saline groundwater which are threatening the viability of irrigated agriculture and downstream biodiversity. It is argued that the MODSS approach to decision making has improved community awareness of the emerging groundwater problems, and increased the validity of resource management options. The process is recommended for other catchment areas where natural resource management is required.


**Abstract:** Forestry programs in the Fitzroy River region are discussed. These include plantation production at Byfield and native forest production from forest reserves and other Crown lands. The natural resources management program includes catchment management advice and joint activities with the Queensland Department of Primary Industries. The recreational use of State forests is also managed cooperatively.


**Keywords:** Geological-logs/ Petrology-/ Sedimentary-geology/ Sedimentary-petrology/ Stratigraphy-Qld/ Triassic-/ SF5507


**Abstract:** Mining is a very significant land use in the Fitzroy River catchment, but is not a significant user of land or of water resources relative to other uses of these resources in the region. There is no substantive evidence that mining has caused any significant downward trends in water quality in the Fitzroy catchment, although agricultural development in the catchment has paralleled the expansion of mining in the region, so that trends in deteriorating water quality are attributable to the total change in land use in the catchment. One consequence of mining will probably be the presence of a series of large water storages and partially backfilled mining pits which will accumulate water, and could be significantly beneficial to adjoining land users. Mining is considered a valid, productive use of land.


**Abstract:** The effects of mining in the Fitzroy River catchment are discussed. The economic significance of mining is noted and rehabilitation of disturbed areas is described. Demands are made on water resources for coal washing and for urban communities. The effects on water quality are discussed.

**Keywords:** Coal-mining/ Environmental-management/ Mining-/ Legislation-/ Surface-mining/ Air-quality/ Water-management/ Mine-rehabilitation/ Revegetation-/ Research-and-development


**Abstract:** The vital role of water resources development in the urban, industrial and rural growth of central Queensland, particularly the Fitzroy and Boyne Basins, is examined. Construction of storages such as the Callide and Fairbairn Dams and the Fitzroy River barrage has enabled industrial, irrigation and urban water supply development within the catchments. Although current use allows spare capacity in both the Fitzroy and Boyne Basins, supply in some subcatchments is already fully allocated with the groundwater resource in some areas being over allocated. Existing water sources are likely to be adequate for at least two or three decades with considerable potential support for further economic growth of the region. Factors such as demand, social impacts, funding and financial performance are among those which will influence further development.


**Keywords:** Water-Quality (Natural-Waters)/ Alluvium-/ Groundwater-/ Recharge-/ Monitoring-/ Hydrology-/ Discharge (of-Natural-Waters)/ Geology-/ Ions-/ Drainage-/ Ash-Basin-Effluent

**Abstract:** Describes a study carried out during 1987-88 to monitor groundwater quality variation of the Callide Creek QLD alluvium between Callide Dam QLD and the Bilocola-Gladstone Rd. The main factors identified affecting water quality of the alluvium were: (i) drainage of water from surrounding rocks, (ii) recharge by water released from Callide Dam, (iii) recharge by effluent from Callide A ash dam. These 3 source waters had distinctive major ion composition and it was possible to identify mixtures of the different water types. Those results are examined and an assessment made of Callide A ash dam discharge effects on groundwater quality. Recommendations are made for future monitoring at a small number of key sites to check on any subsurface leakage from Callide A ash dam. The report provides a baseline for future comparisons.


**Abstract:** The Fitzroy River and its associated estuary support valuable commercial and recreational fisheries. Examination of catch figures for commercial and recreational fishing reveals very little in terms of trends due to incomplete data. Production figures from fisheries in the Fitzroy are not going to reflect the status of the catchment without data sets derived from surveys designed to give baseline information. However, it is too late to obtain data on the impacts of events which have already taken place.


**Keywords:** Catchment-Areas/ Tropical-Regions/ Land-Use/ Community-Participation/ Streams (in-Natural-Channels)/ Water-Quality (Natural-Waters)/ Water-Quality-Control/ Banks-/ Stabilization/- River-Users/ Total-Catchment-Management/ Land-Management/ Rivers-
**Abstract:** A pilot study of integrated catchment management in the Johnstone River catchment is described. The Johnstone River Catchment Coordinating Committee, representing key stakeholders, initiated research into a range of issues, including water quality and stream bank stability. Draft catchment management strategies are being prepared and requirements for successful integrated catchment management are noted.


**Abstract:** As part of an assessment of stream health in the catchment of the Fitzroy River, investigations were undertaken into the movement of sediments and nutrients within sections of the Emerald Irrigation Area at Fairbairn Dam, Crump Weir and Nogoa River. From these investigations, the impacts of tailwater recycling and drainage channels on sediment and nutrient levels in runoff from some of the irrigated agricultural areas are assessed. To prevent large influxes of sediments and nutrients into the streams, it is necessary either to prevent farm runoff waters from reaching the river systems or, by a variety of methods, to decrease the sediment and nutrient loads present in these waters prior to their entering the rivers.


**Keywords:** Dams-/ Concrete-/ Design-/ Hydrology-/ Foundations-/ Floods-and-Flooding/- Spillway-/ Outlets-/ Burdekin-River-Irrigation-Area

**Abstract:** Burdekin Falls Dam is the main storage for the Burdekin River Irrigation Project being constructed on the Burdekin River in North Queensland. The dam will create the largest storage in Queensland and will consist of a main concrete gravity dam across the river and 3 auxiliary dams. The paper describes the design of the main concrete gravity dam. The flood hydrology is briefly dealt with, the foundation conditions are described and design criteria are given for the stability of the gravity sections. No attempt has been made to provide a conventional energy dissipater but the simple horizontal apron downstream of the spillway will be provided with splitter piers to facilitate aeration of the discharging water during floods. The saddle dams are briefly described.


**Keywords:** Irrigation-/ Dams-/ Concrete-/ Gates-/ Building-and-Construction/ Spillway-/ Design-/ Outlets-/ Flood-Hydrographs/ Floods-and-Flooding/ Aeration-/ Reservoirs-

**Abstract:** Burdekin Falls Dam is the main storage for the Burdekin River Irrigation Project being constructed on the Burdekin River in North Queensland. The dam will create the largest storage in Queensland and will consist of a main concrete gravity dam across the river and 3 auxiliary saddle dams. The paper describes the design of the main concrete gravity dam and the 3 high capacity high head radial gates which make up the outlet works. The flood hydrology is briefly dealt with, the foundation conditions are described and design criteria are given for the stability of the gravity sections. No attempt has been made to provide a conventional energy dissipater but the simple horizontal apron downstream of the spillway will be provided with splitter piers to facilitate aeration of the discharging water during floods. The saddle dams are briefly described. Construction of the main dam commenced in March 1984, and completion is expected by the end of 1988.


**Abstract:** The natural resources of the Fitzroy River catchment in central Queensland are described. The slow rate of development and the current resource development surge are
discussed. It is concluded that an integrated natural resource strategic plan for the catchment is necessary.


**Keywords:** Seismicity/- Earthquakes/- Seismological-stations/ SE5514/ SE5515/ SF5503/ SF5504/ SF5508

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**Abstract:** Data were obtained on contour catchments at Capella varying from 8 to 16ha under different tillage and crop treatments, over a four year period. The response of runoff and peak runoff rate to the interactive effects of the independent variables was examined using multiple regression analysis. As expected the main factor affecting runoff volume was total rainfall, whilst peak runoff rate was mainly determined by rainfall intensity. The other variables had smaller, interactive effects. The major effects of the management practices were soil water deficit on total runoff and surface cover on peak runoff. The process of runoff generation is complex. Surface roughness and soil water deficit can be managed to minimize both total runoff and peak runoff rate. Maintenance of surface cover by reduced or zero tillage practices is the most stable and dependable approach during fallow, and early establishment of a growing crop will further decrease both runoff and runoff rate. Benefits from increasing surface roughness by cultivation are generally cancelled by the associated reduction in surface cover.


**Keywords:** Lava-flows/ EM-methods/ SF5511 8453


**Keywords:** damage-modelling/ flood-mitigation/ flood-hydrology/ flood-management/ Australia-/ Queensland-/ Rockhampton-/ Fitzroy-River

**Abstract:** A flood management study comprised the following elements: 1) consideration of flood mechanisms, flood hydrology and extreme floods; 2) flood damage assessment which includes flood damage modelling using the ANUFLOOD program for the estimation of direct flood damages for a range of flood levels; 3) appraisal of current flood management issues and options for future flood management including a range of structural and non-structural flood mitigation options, which were developed in conjunction with a program of community consultation. A hydraulic model of the floodplain was set up using MIKE-II which was subsequently used to determine the effects of options under consideration and the production of flood maps.


**Abstract:** The findings of a study commissioned by the Queensland Water Resources Commission into flood management at Rockhampton are reported. Flood characteristics and damage assessment are considered and management issues and options appraised.

**Keywords:** airborne-methods/ algorithms/ anomalies/ Australasia/ Australia/ Bull-Creek-Deposit/ data-processing/ dipole-moment/ electrical-field/ electromagnetic-methods/ geophysical-methods/ magnetic-field/ mineral-exploration/ models/ potential-deposits/ Queensland-Australia/ TEMPEST-

**Abstract:** An automated algorithm is described that models spatially discrete anomalies in airborne EM (AEM) data sets. After determining background conductivity models with layered-earth inversions from the EM data, identified EM anomalies are modelled with magnetic and electric dipoles buried inside a layered-earth. Magnetic dipoles are appropriate models for discrete, sheet-like conductors inside a resistive host, i.e. in scenarios where vortex currents dominate, whereas electric dipoles are expected to model well elongated structures excited by current channeling. The model parameters determined from each data segment include for magnetic dipole solutions: the target conductor position, depth, dip, size and conductance, and for electric dipoles: the position, depth and conductivity-area product. The method is fully automated with the dipole start models being determined by curve matching from digital look-up tables. Results from synthetic data indicate the efficiency and reliability of the method. Anomaly modelling of TEMPEST data acquired across the Bull Creek prospect, Queensland, Australia provides a sensible description of the main mineralisation. Other anomalies are interpreted as being caused by shallow structures channeling current, discrete minor conductors beneath the overburden and the lateral heterogeneity of the overburden.


**Keywords:** Geology/ Drilling/ Quarries/ Dams/ Scour-Prevention/ Rockfill/ Embankments-

**Abstract:** Kroombit Dam, to be built at AMTD 68.8km on Kroombit Creek, has been designed as an earth and rockfill embankment with a central overflow roller compacted concrete spillway. The proposed design requires 24261 cu m of riprap material and 202123 cu m of rockfill material in the embankments. Between Aug-May 1991, five potential solid rock quarry sites were investigated as sources of riprap and/or rockfill material. It is concluded that: (i) these sites are not suitable sources of rockfill or riprap, (ii) sufficient volume of suitable riprap can be quarried from the monzodiorite dyke at one of the sites investigated and, (iii) the fifth site needs further investigation.


**Abstract:** The uncleared tropical and subtropical tallgrass woodlands that occur across northern Australia from southeastern Queensland to northern Western Australia would have the potential to support increased livestock numbers if extensive clearing were implemented. But injudicious clearing leads to increased erosion and salinization. In this study a pasture production model was modified to develop a dynamic simulation model of competition for water between trees and native pasture. Results of experiments at three locations, Katherine NT, Charters Towers and Gayndah QLD, indicate that trees compete for water most strongly in shallow soils, when tree roots are shallow and when intraseasonal dry periods reduce the amount of water available for transpiration. Year to year variability in tree competition is high, depending on rainfall distribution in relation to growing season. The effects of competition for nitrogen, radiation, vapour pressure or deficit experienced by the understorey and spatial variability of resources have yet to be accounted for.

Abstract: Cattle grazing is the primary land use in the eucalyptus woodlands of northeastern Australia and high grazing pressures, particularly during the 1980s, reduced ground cover and altered species composition. The effects of these changes on runoff and soil loss in the Upper Burdekin River catchment were studied to determine the role of grazing management in these processes. Comparisons were made between grazed and enclosed areas, as well as between sites dominated by the naturalized stoloniferous grass, Bothriochloa pertusa, and by the native tussock grass, Heteropogon contortus. Grazing reduced projected foliage cover and grass basal area and increased the proportion of annual grasses and forbs. When grazing pressure was reduced and rainfall was greater than normal, grass cover increased and pasture was dominated by perennial grasses. The proportion of B. pertusa increased under both grazing and enclosure. The exclusion of grazing by domestic livestock resulted in more woody plant seedlings. Several runoff models were used to estimate runoff. Cover was the most important component for reducing both runoff and soil loss. Sheet erosion is greatly reduced by cover, whereas runoff was still relatively high at cover levels approaching 50%. At intermediate levels of cover, the opportunity for gully erosion may still be high despite the low amount of sheet erosion.


Keywords: Regolith-/ Clay-mineralogy/ Geochemistry-/ Geophysics-/ Geomorphic-evolution/ Sedimentary-geology/ Gold-deposits-Qld


Keywords: Geochemical-exploration-Qld / Geochemical-exploration-NSW/ Regolith-/ Geochemical-anomalies/ Weathering-/ Gold-deposits-Qld/ Gold-deposits-NSW/ Copper-deposits-Qld/ Copper-deposits-NSW/ Sulphides-/ Mineral-zoning


Keywords: alluvium-/ Australasia-/ Australia-/ Brahman-Deposit/ Campaspe-Formation/ Cenozoic-/ Charters-Towers-Australia/ clastic-rocks/ clastic-sediments/ ferruginous-composition/ geochemical-surveys/ geochemistry-/ gold-ores/ manganese-oxides/ metal-ores/ mineral-exploration/ mineralization-/ northeastern-Queensland/ oxides-/ pisoliths-/ quartz-veins/ Queensland-Australia/ regolith-/ sampling-/ saprolite-/ sediment-transport/ sedimentary-rocks/ sediments-/ surveys-/ Tertiary-/ veins-

Abstract: The regolith at the Brahman Au prospect, is characterized by the presence of ferruginous pisoliths above mottled transported sandstone (Campaspe Formation) which unconformably overlies residual clay and saprolitic granite. Within the profile, Au is laterally dispersed for up to several hundred metres at the top and bottom of the saprolite as well as in the surficial pisoliths. Arsenic, Cu and Pb contents are also elevated in the ferruginous pisoliths. Zones of lateral dispersion of Au with a zone of depletion beneath the surficial anomaly are similar to those commonly observed in the Yilgarn Craton of Western Australia. However, at Brahman, the Au-enriched pisolic unit and Au-depleted mottled zone are developed in transported material, i.e. Au has been hydromorphically dispersed into the overlying sediments. Manganese oxides and associated elements (Ce, Co, La and Zn) are well developed in the clay zone of the profile, but are also present in transported material suggesting that they are also dispersed late in the history of regolith development. Despite their probable development in transported material, the ferruginous pisoliths represent a good sampling medium. Orientation results suggest that low level Au, As, Cu and Pb halos at least 700X500 m are present even in
five metre composite samples that include a large component of non-ferruginous material. More intense anomalies with better signal-to-noise ratios would be expected with purer pisolitic samples which have not been diluted with depleted material. The development of such extensive hydromorphic dispersion over minor mineralization is encouraging for exploration within the Charters Towers region. Anomalous Th (+U) with the pisoliths suggest that airborne radiometrics may be a useful method to assist in the planning a regional pisolith sampling programme.


Keywords: Coal-exploration-Qld/ Coal-quality/ Coal-resources-Qld/ Drilling-/ Coal-fields/ SF5511


Keywords: Coal-exploration-Qld/ Drilling-/ Coal-analysis/ Geological-logs/ SF5511

Abstract: No quantitative estimate of coal resources made.


Keywords: Coal-exploration-Qld/ Stratigraphic-drilling/ Coal-quality/ Graphic-logs/ Geological-logs/ SF5503/ SF5507/ SF5511/ SF5512


Keywords: Seismic-refraction-surveys/ Economic-geology-Qld/ Geophysical-surveys-Qld/ Sapphire-/ Gravel-/ Gem-placer-deposits

Abstract: To assist geological mapping of alluvium and gem-bearing gravels.


Abstract: A groundwater flow model was developed for the Haughton-Burdekin delta, using a lumped parameter soil moisture behaviour model and an integrated finite difference groundwater flow model. These models were calibrated by modifying various model parameters until the simulated model behaviour matched measured or estimated data. The reliability of any model calibration rests on the level of the uncertainty of the available input data. The F distribution was used to assess the reliability of the calibration results.


Abstract: Models were developed for the interaction between rock structure and the swelling behaviour of expansive clays. Clay shales from the Bowen Basin and Newcastle Coal Measures were examined to determine the presence of interstratified illite/montmorillonite and montmorillonite. The very high pressures associated with the crystalline swelling of the montmorillonite phase in interstratified clay are sufficient to cause localized failure of the shale's tensile strength. The slaking and dispersion of clay shales in water reduces their strength to levels similar to clay rich soils. But, spoil pile instability associated with weak clay shales was found to be the result of low permeability. At the start of strip mining in the Bowen Basin, weathered clay shales were spoiled into water. The times calculated to ensure stability were well in excess of the time between spoil pile construction and coal removal. In the Newcastle Coal Measures floor heave and roof instability in mines are related to very weak montmorillonite rich claystone. Back analysis revealed ground control problems are related to low strength and deformation modulus of the claystone. Swelling due to water was of secondary importance.


Abstract: Recent studies using backscattered electron microscopy have demonstrated that the clay minerals in shales are often present as clay stacks which may range in size up to 150 mu m. Clay stacks have been identified in a wide range of shales and it is possible that they represent a typical mode of occurrence for clays in shales. The recognition of clay stacks has significant implications to the study of the engineering behaviour of shales. For example, their presence limits the application of soil-clay models to shales and, on a more fundamental scale, further complicates the interpretation of the clay content of shales. A set of shales from the Coal Measures of the Bowen Basin, Queensland, has been examined.


Keywords: Magnetic-anomalies/ Remanent-magnetism/ Gold-deposits-Qld/ Biotite-/ Magnetite-/ Hydrothermal-alteration/ TMI-maps/ Breccia-/ Permian-/ Carboniferous-/ SF5502 8157


Keywords: Queensland-/ ecological-implications/ pollution-/ salinity-/ dam-project/ Australia-

Abstract: Before agreeing to the project for a dam across Queensland's Burdekin River, the Australian federal government asked CSIRO and the Commonwealth Department of National Development and Energy to assess the ecological implications. Although no major obstacle could be identified, two hazards were noted, namely pollution and salinity. Over 20 years, the project will increase the area of irrigated land by 45 000 ha.


Keywords: Dams-/ Concrete-/ Building-and-Construction/ Hydraulics-/ Catchment-Areas/ Water-Supplies/ Spillway-

Abstract: Burdekin Falls Dam is the largest concrete gravity dam built in Australia in recent times. The dam, built on the Burdekin River QLD, contains 650000 cu m of concrete and will impound a storage of 1.86 million ML. A spillway section, over 500m long, will pass floods up to 64600cu m/s. Monoliths for the dam are of conventional design, but no energy dissipater is provided for the spillway because of the high quality of the rock foundation and the absence of tailwater. Concrete for the dam was a conventional mix with large aggregate. A novel feature of the construction method was the transport of the concrete from the batch plant to the forms by haul trucks. The haulage required the trucks to pass over new concrete, along the tops of the monoliths. Because of the bulk handling capacity of this method, construction proceeded rapidly.


Abstract: The observed salinity and hydrology behaviour on permeable soils in the Burdekin River irrigation area together with the predicted deep drainage figures, indicate that problems with shallow water tables and salinity will undoubtedly occur in the irrigation area. Water application management and technology on the more permeable soils will probably be insufficient to manage the rise in groundwater levels adequately and other measures such as conjunctive use and drainage of groundwater pumping may be required. It is strongly recommended that some additional validation of deep drainage estimates and additional data on the groundwater system behaviour be obtained.

**Keywords:** Groundwater-/ Hydrology-/ Salinity-/ Sodium-/ Irrigation-/ Recharge-/ Drainage-/ Salts-/ Transport-/ Water-Balance

**Abstract:** Reviews the broad groundwater hydrologic processes on the right bank of the lower Burdekin and their effect on native salinity and sodicity levels and estimates the potential changes likely under irrigation. Assesses the native hydrologic equilibrium, considering recharge and discharge areas. Irrigation substantially increases the water input and recharge of a region. There is a consequent adjustment to a new equilibrium. The 2 important aspects of the adjustment are groundwater recharge and salt movement and translocation. On the matter of groundwater recharge, predicts deep drainage loss under irrigation and discusses rainfall response of observation bores. Also discusses subcatchment discharge and historic indicators of salting. Calculates rough subcatchment water balances. Regarding salt movement and translocation, examines the aspects of salt balance, discharge areas, soil profile and sodicity.


**Keywords:** Dryland-/ Irrigation-/ Groundwater-/ Hydrogeology-/ Salinity-/ Dikes-/ Soil (Types-of)/ Recharge-

**Abstract:** Describes work at Fort Site QLD, aimed at understanding particular processes which will affect the region when it is irrigated soon. Points out the prevalence of dykes in the area which combined with local casual agents such as soil types, affect the hydrology and salinity of the area. Attention is drawn to the build up of ground- water levels and the downstream effects where water drains. The data shows that behavioural patterns of hydrology and salinity strongly differ between the period of maximum water recharge and the rest of the year, which has implications for irrigation management. Recommends 5 areas for further research on both regional and local levels.


**Keywords:** Salinity-/ Irrigation-/ Soil-Horizons/ Salts-/ Water-Table/ Modelling (General)/ Modelling (Hydrological)/ Recharge-

**Abstract:** Changes in salinity in areas under irrigation were determined at the Fort Site QLD. Salinity and hydrological models developed previously for the Lower Burdekin Right Bank are used to interpret these changes. It was found that during the period of maximum water recharge, water and salt movements differed from the rest of the year. The association of 2 soil profile classes with natural hydrological change in the landscape and the salt load quantity and mobility with irrigation were 2 aspects highlighted in the study.


**Abstract:** A prediction of likely deep drainage below the root zone is required for land assessment prior to irrigation development or for major land use changes. Because of the complexity of direct measurement methods, often qualitative assessments are made based on hydraulic conductivity or on soil morphology. Simple salt balance models which reflect soil hydraulic behaviour can be used to give quantitative preliminary estimates of deep drainage. A comparison of a simple salt balance model with the results from direct measurement of deep
drainage from a 50ha site using water table change methods is presented. The simple salt balance method compared favourably with other methods.

Shaw RJ, McShane TJ, Gardner EA. 1986. Predicted hydrology, salinity and sodicity changes under irrigation in the lower Burdekin right bank. Australian Salinity Newsletter; 14:96-7

**Abstract:** Historic features of salting have been identified in the Burdekin landscape. Using hydrologic parameters measured in earlier studies and salt balance calculations, estimates of the increase in deep drainage below the root zone under irrigation have been made. Associated salt movement out of the unsaturated zone to the groundwater has been quantitatively estimated as preliminary information for overall area management and drainage requirements. These preliminary predictions are being assessed in planned experiments.


**Abstract:** Drainage to control high watertables and salting on the right bank of the lower Burdekin River is examined. Drains have been found ineffective in control of waterlogging and salinity associated with a large on-farm dam in the area. Reasons for this relate to drain depth, spacing and outfall. Varying hydraulic conductivities and their locations are described. Consideration of soil and groundwater information for the lower right bank area identifies some key risk areas for salinity problems under irrigation development.


**Abstract:** Substantial rises in groundwater levels have occurred downslope of a large on-farm dam in the lower Burdekin region of north Queensland. Hydraulic heads of 1.2m above ground level have developed in some areas with extensive waterlogging and soil salting. The farmer installed 2 open drains to 2m depth which have proved largely ineffective in the control of waterlogging and salinity. Weathered and fractured granodiorite is acting as an aquifer to a depth of over 10m below ground level. The aquifer is confined in hydraulic conductivity with depth. This is consistent with the fractured granodiorite being the more effective aquifer. Measured flow rates in the 2 open drains accounted for 75% of the calculated dam leakage. Reasons for the inability of the 2 drains to control waterlogging and salinity problems are given. The relation of geological features to hydraulic conductivity and hydraulic head is discussed and the implications for drainage design are considered.


**Abstract:** The very diverse soils of the Fitzroy catchment are described. The effects of soil factors on land use are discussed.


**Keywords:** Gem-placer-deposits/ Sapphire-/ Mineral-exploration-Qld/ Drilling-/ SF5511 8452


**Keywords:** Catchment-Areas/ Indigenous-/ Vegetation-/ Animals-/ Water-Quality (Natural-Waters)/ Land-Clearing/ Salinity-/ Corridors-/ Wildlife-Conservation/ Habitat-/ Wetlands-/ Hydrology-/ Fires-/ Remnant-Vegetation/ Native-Vegetation/ Biological-Diversity
Abstract: Remnant patches of bushland containing populations of native plants and animals are valuable in catchment management. Areas of native vegetation ensure clean and pure water, as clearing leads to increased runoff, soil loss, turbidity in streams after rainfall, and nutrient loss from the soil into the streams causing algal blooms. Another consequence of the clearing of forests and other perennial native vegetation is that salts in the groundwater rise to the surface, the groundwater recharge rate increasing as does the total amount of runoff in a catchment. Remnant native stands and planted shelter belts can slow fire, reduce wind speed and spot fires. Biodiversity is supported by the conservation of native animals which need large areas of native vegetation in large blocks linked by corridors in catchment areas, with the diversity of habitat influencing the diversity and abundance of wildlife. Wetlands and swamps balance the hydrological cycle and need protection from drainage as part of overall catchment management.


Keywords: Rainfall-Runoff-Relationship/ Agricultural-Land/ Soil (Types-of)/ Clays-/ Erosion-/ Runoff-/ Sediment-/ Erosion-Control/ Sediment-Control/ Cultivation-/ Stubble-/ Cotton-/ Covering-/ Controlled-Traffic/ Rainfall-Simulation

Abstract: The efficacy of two management practices, surface cover retention or controlled traffic, for controlling runoff and soil erosion from cotton field furrows were examined on a black Vertisol in the Emerald Irrigation Area, under simulated storm rainfall. Increasing surface cover resulted in an increase in the rain required to initiate runoff, and runoff, soil loss and sediment concentration decreased with increasing cover. Controlled traffic also affected runoff and soil losses, with plots with no traffic having less loss than trafficked plots. However, controlled traffic was less effective than cover in reducing runoff and soil losses. A combined approach resulted in the least losses. The erosion processes were also strongly affected by hill-furrow geometry, with large soil losses occurring on bare hills with 50% slope, and only 12-24% transported from furrows (1% slope). The results indicate that if the quantity of crop residues is limited, placement in the furrow bottoms provides the greatest benefit. Where sufficient crop residues are available, overall cover should be maximized.


Abstract: Objectives of the project were to evaluate topographic analysis and physically based hydrology-erosion-deposition modelling of three- dimensional catchments to enable integration of land use process research with catchment scale hydrology and sediment yield responses. The approach taken was to evaluate these concepts by comparing model predictions against measured runoff and sediment yield for catchments, using parameter values derived independently from small scale process studies. The ANSWERS distributed parameter storm hydrograph model was used, with modifications, for hydrologic modelling. Catchment and process data from 2 sites, one near Pittsworth on cultivated self mulching black soils and the other near Emerald on native pasture woodland on Solidic duplex soils were examined. The erosion component of the CREAMS model was used to demonstrate the modelling of erosion in individual storms at the field scale. Potential applications of the hydrologic model are discussed. The ability to predict hydrology is an essential prerequisite to prediction of soil erosion and yield of sediment and other pollutant in runoff waters.


Keywords: Rainfall-Runoff-Relationship/ Agricultural-Land/ Soil (Types-of)/ Clays-/ Runoff-/ Runoff (Agricultural)/ Pesticides-/ Endosulphan-/ Pollution-Control (Environmental)/ Pollution-Control (Water)/ Cultivation-/ Stubble-/ Cotton-/ Covering-/ Controlled-Traffic/ Rainfall-Simulation
Abstract: The effects of on-ground cover, and wheel traffic on pesticide transport were measured on cotton hill-furrow systems in the Emerald Irrigation Area, under rainfall simulation. Concentrations of alpha, beta and total endosulfan in runoff decreased significantly with increasing cover of wheat stubble or cotton trash. The placement of the stubble either in furrows or over the entire plot did not influence the extent of decrease. Concentrations of endosulfan sulfate, trifluralin, and DDE also decreased with cover, but were affected by placement of the cover. Concentrations of prometryn in runoff were not influenced by cover. Controlling wheel traffic also reduced concentrations and losses, and enhanced the effects of cover, but did not prevent large pesticide losses from bare plots. The results are discussed in relation to best management practices.


Abstract: This paper is a preliminary analysis of the most important geomorphic structures and processes observed at open-cut minesites throughout the Bowen Basin (Queensland, Australia). A number of different landform types are created during open-cut coal mining operations. These may be modified by both natural geomorphic events and by reshaping processes that occur during rehabilitation. It is of importance in the development of a predictive capability about the long term behaviour of these types of landforms, and in order to design parameters for constructing such landforms, that geomorphic, physical, chemical and biological processes be identified and quantified in relation to the nature of landforms and the materials from which they have been constructed.


Abstract: Discusses salinity in forestry areas administered by the Queensland Department of Forestry. Particular reference is made to the Rockhampton district. The forests, mainly of hardwood and cypress pine, are described. Selective infrequent logging takes place at low intensity. Reports of salt affected areas are discussed. Isolated outbreaks associated with large scale clearing programmes were recorded at major coastal planting areas. It is current practice to exclude salt prone areas from clearing. Looks at the development of suitable mounding techniques which has been one of the major developments enabling planting of wet sites. Salinity problems in forestry nurseries are examined. Concludes with mention of aspects related to forestry land management such as hydrological balances, water quality, water table changes, spread or contraction of outbreaks, monitoring and revegetation.


Keywords: Regional-geology-Qld/ Historical-geology/ Structural-geology/ Volcanic-rocks/ Deltaic-environment/ Block-faults/ Tertiary/- SF5508 8755

Abstract: A study of the Cape Hillsborough Beds.


Keywords: EM-methods/ Frequency-domain/ Time-domain/ Ground-EM-methods/ Overburden-/ SF5502
Abstract: Two methods for modelling EM response of laterally varying overburdens lying above resistive rocks.


Keywords: Coal-mines/ Open-cut-mining/ Mine-rehabilitation/ Erosion-control/ Water-quality/ Revegetation/- Computer-simulation

Abstract: Research on mines in the Bowen Basin region.


Keywords: Coal-exploration-Qld/ Regional-geology-Qld/ Drilling-/ Geological-mapping-Qld/ Geological-logs/ Water-wells/ SF5511 8452

Abstract: Six sites revealed as indicators of potential coal resources.


Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Structural-geology-Qld/ Structural-analysis/ Stress-/ Strike-slip-faults/ SF5511 8553


Abstract: Hydrometric and hydrochemical monitoring have been carried out since 1988 at Birthday Creek catchment which supports relatively undisturbed rainforest. Approximately 40% of annual precipitation is lost as evaporation. The catchment soils are highly responsive to precipitation and results of the studies suggest that overland flow and shallow subsurface storm flow are dominant hydrological pathways during storm events. Nevertheless, the granitic bedrock forms a significant aquifer which sustains baseflows. Stream water is circumneutral (pH is 6.66) and the ionic composition is dominated by sodium and chloride ions. Alkalinity and base cation concentrations are low, reflecting the weathering history of the site. Nutrient concentrations are also low due to efficient forest nutrient cycling. Baseflow chemistry is spatially and temporally constant in the catchment, but stream water becomes increasingly dilute during rainstorms as overland flow and soil derived water provide the main sources of stream flow.


Keywords: Coal-resources/ Stratigraphy-Qld/ Stratigraphic-correlation/ Coal-seams/ Diamond-drilling/ Permian/- SF5516 8650/ SF5516 8651/ SG5504 8649


Keywords: Coal-exploration-Qld/ Coal-reserves/ Stratigraphy-Qld/ Coal-analysis/ Structural-geology/ Diamond-drilling/ Coal-seams/ Permian/- SF5516 8650/ SF5516 8651


Keywords: Coal-exploration-Qld/ Drilling-/ Core-logging/ Coal-resources/ Permian/- Triassic/- SF5512 8652/ SF5516 8651


**Keywords:** Catchment-Areas/ Land-Use/ Community-Participation/ Farms-and-Farming/ Finance/- Landcare/- Total-Catchment-Management

**Abstract:** The relationship between integrated catchment management (ICM) and Landcare has been complicated by many issues in the past. By working together and forming strong relationships, the two will come to grips and solve many of our land degradation problems. Strong ICM will lead to strong Landcare and vice versa. Landcare does not have the capacity to cope with issues as large as blue-green algae, water sharing, large scale riparian zone management and social restructuring needed to make communities more viable. In years to come Landcare groups will become catchment based instead of Shire based. These will tend to be smaller groups working under an ICM umbrella.


**Abstract:** Describes studies into an area of dryland salting near Thangool, central Queensland. The salting problem was attributed to areas of high water table where salt accumulated on or close to the soil surface. The investigations are presented in parts. The first part looks at the pattern of soil types, water analyses and crop performance in the area. The sequence and installation of drains, and monitoring of water levels and quality are also covered. The second part looks at the establishment of trees in the saline area in an attempt to reclaim it. Water table level measurements and water analyses were undertaken. The survival rates and the reasons for tree death are discussed. It is suggested, that not only salinity, but also high temperatures and a high water table at the time of planting contributed to high death rates. The third part looks at information from piezometer records and water analyses. Discussion centres on the topics: piezometer placement, water table levels, and patterns of change in electrical conductivity and water levels, and chemical analyses of water samples.


**Abstract:** In 1977 a problem area on a farm near Thangool was identified as one of dryland salting. Subsequent investigations indicated that water flowing from hills nearby is carried through gravel layers and relatively permeable softwood scrub soils until its flow is impeded by heavier textured brigalow clay soils. These act like a natural dam and unless water flow from the previously forested hill slopes is reduced the water table will rise at the interface between the soil types. This leads to salt accumulation at or close to the soil surface. Several drains were installed between 1978 and 1980 at the site and a piezometer network was laid from the hill slopes to the site in 1980 and 1981. Water levels and quality were monitored, the soil catena was described and in December 1984 various eucalypts were planted in the saline area with the intention of lowering the water table. By 1985 the drains had not markedly lowered the water table in the area of the tree study. Part IV of this series describes developments since 1984, namely the installation of another drain upslope and characterization of soil salinity across the site, including cation analyses. Distinct boundaries to areas of Rhodes grass, Chloris gayana, were found and these are discussed.

**Abstract:** The study was initiated in 1984 to find out whether trees could be grown to reclaim an area of dryland salting on a farm near Thangool. Experience with the first planting of eucalypts in Dec 1984 was documented to Mar 1985 by Standley and Cowie (1985). Subsequent drainage and characterization of salinity on the site are summarized in Part IV of these proceedings. By Apr 1985 it was realized that not only salinity, but also high water tables and summer temperatures, wildlife and insects were contributing to loss of the eucalypts. Further questions about planting time, planting method, damage by wildlife and choice of trees were asked. This paper summarizes experiences with different tree plantings from 1984 to 1987.


**Abstract:** Regional Australia is vital to the future growth and development of the nation. Central Queensland is arguably the richest region within Queensland and appears to be resisting forces which would undermine their social and economic existence. There is evidence that shifts from purely agricultural to other forms of enterprise are attempts to maintain community integrity and sustainability. This paradox of growth and decline can be explored within the Dawson Valley. The challenge for these communities will be to develop a unified approach which responds to resource and natural development in a way in which all communities ‘win’. Agreeing on the concept of ‘water’ as a resource common to all, a precious resource which must be cherished, provides the Dawson Valley with a central value which can be shared among all the communities of the catchment. The challenge ahead will be to ensure that the drive for development in the valley is tempered with the desire to maintain community cohesiveness.


**Keywords:** Basalt/- Lava-flows/ Regional-geology-Qld/ Field-excursions/ Cainozoic/- SF5502

Stephenson PJ. 1976. Sapphire and zircon in some basaltic rocks from Queensland, Australia.


**Keywords:** Mineralogy/- Sapphire/- Zircon/- Corundum/- Basalt/- Volcanic-rocks/ Cainozoic/- SD5513/ SF5515


**Keywords:** Regional-geology-Qld/ Igneous-petrology/ Rock-geochemistry/ Oligocene/- SF5504 8656/ SF5504 8756


**Keywords:** Basalt/- Structural-petrology/ Jointing/- Water-influx


**Keywords:** Gold-placer-deposits-Qld/ Gold-exploration-Qld/ Bulk-sampling/ Feasibility-studies/ Percussion-drilling/ SF5511 8452

**Abstract:** A programme which established uneconomic grades.


**Abstract:** At the request of the Chief Designing Engineer (CDE, 1982a and 1982b) the flood hydrology for Callide Dam was revised. All previous analyses for this damside had been based on natural catchment data with no allowances for the existence of the storage in the catchment. Recent studies carried out by Surface Water Branch Staff (Weeks and Stewart, 1981) have indicated that the introduction of storage into a catchment may result in an increase of the order of 10% in the design inflow flood peak. Callide Dam Stage I was commissioned in 1965 and it is now proposed to install gates as Stage II of construction. The capacity of Stage I is 57600ML while Stage II will increase this to 127000ML. Sufficient data were available to calibrate the flood model on data recorded during the life of Stage I of the project. Designs Branch requested the estimation of flood hydrographs of inflow into the full reservoir (Stage II) for annual exceedance probabilities of 1.0%, 0.2%, 0.1%, 0.01% and the probable maximum flood.


**Abstract:** The runoff routing method of flood estimation (Mein, Laurenson and McMahon, 1974), widely used in Australia, is described. It has been proposed that this method can be used to evaluate the effects of the introduction of a reservoir on design floods from a given catchment with only minor adjustments to the calibrated model. In this paper the model is fitted to two catchments in Queensland, for both pre and post dam construction situations. The model parameters determined for pre and post construction periods were not significantly different for either catchment analysed. This finding adds confidence to the use of pre dam construction parameters in post dam catchment design flood estimation.


**Abstract:** This preliminary report examines streamflow data recorded within the Burdekin River Basin in Queensland for inconsistencies. Four sub-basins are used in the analysis. The data from the Upper Burdekin sub-basin showed inconsistencies with respect to gauging stations 120107 and 120110 (Burdekin River at Blue Range and Mt Fullstop respectively). Analysis of data from the Sutton River sub-basin showed no significant inconsistency. The Bowen River sub-basin was divided into the Upper Broken River and middle Bowen River. In the upper Broken area major inconsistencies occurred with respect to the top two stations (120204 and 120294). In the middle Bowen inconsistencies were found in data from stations 120207 (Broken River at Urannah, 120214 (Broken River at damsite), and 120209 (Bowen River at 89.0km). The last sub-basin, lower Burdekin, had inconsistencies along the whole length. The number of inconsistent months detected compared with the total number of months of record for any station is small. The author concludes the majority of data recorded is of good quality.

Abstract: This paper presents a method for determining the inconsistencies in stream flow data and then moves on to apply multi-variate regression techniques to establish monthly time series of regional and local catchment rainfall/runoff efficiency. It is hypothesised that variations in subcatchment efficiency are related to regional efficiency. This hypothesis is tested in the Nogoa-Mackenzie Rivers sub-basin, and then the method is applied to the Fitzroy Basin as a whole, to lead to the evaluation of the records at 45 of the gauging stations in the Basin.


Keywords: Stream-flow/ Data-processing/ Stream-gauging


Keywords: Aerial-magnetic-surveys/ Magnetic-anomalies/ Computer-applications/ Data-processing/ Geophysical-interpretation/ Geophysical-data/ SF5502


Keywords: Mineral-exploration-Qld/ Gravity-surveys/ Gravity-interpretation/ SF5502 8157


Keywords: Dam-site-investigations/ Engineering-geophysics/ Seismic-refraction-surveys


Keywords: Magnetic-interpretation/ Aerial-magnetic-surveys/ Magnetic-susceptibility/ SF5507 8355


Keywords: Engineering-geophysics/ Seismic-refraction-surveys/ Site-investigations


Keywords: Gravity-surveys/ Gravity-interpretation/ Structural-geology-Qld/ SF5502 8157/ SF5502 8257


Abstract: Secondary soil salinity is a serious problem in the lower Burdekin region of north Queensland. Tree establishment on salt affected sites may be an important means of controlling salinity. An experiment to examine survival and early growth of Eucalyptus camaldulensis on a saline site was conducted. Plots of five trees were subjected to four establishment treatments.
Trees with organic mulch and tree shelter treatments had a greater survival than trees with plastic mulch and control treatment, particularly when salinity was higher. Both survival and early growth of E. camaldulensis was negatively correlated to salinity.


Abstract: Salinity is becoming a major problem in the lower Burdekin River due to over clearing of trees and excessive use of irrigation for sugarcane production. A trial to examine the suitabilities of 28 tree species for both non-saline and saline soils was carried out in a dry tropical area of northern Australia. Salinity greatly affected survival for some species and reduced tree growth for most species tested. Eucalyptus camaldulensis is suggested to be one of the most important species for land rehabilitation in the region.


Abstract: In the lower Burdekin region, some sugar cane land has been abandoned because of increasing soil salinity. The role of trees in secondary salinity control is widely recognized, however little research has been done on the morphological responses of plant species to salinity. The survival and growth of 15 species and provenances of Australian trees planted on a saline site in the dry, tropical north was examined. The survival and growth varied with salinity and species. Trees grown on the high salinity subsite had the lowest survival and poorest growth rate. It is suggested that species selection for utilization of saline sites should be made according to salinity, species salt tolerance and management objectives. Those species with an ability to maintain a relatively large crown and a high number of branches when subjected to salinity are most likely to be highly tolerant to salt.


Keywords: Volcanic-rocks/ Volcanism-/ Potassium-argon-dating/ Cainozoic-/ SF5507 8454/ SF5507 8455/ SF5507 8554/ SF5507 8555


Abstract: Coal in the south exposed to fresh-water conditions in early stages of formation, those in the north influenced by marine conditions.


Keywords: Total-Catchment-Management/ Catchment-Areas/ Natural-Resources/ Resource-Management/ Environmental-Management/ Sustainable-Development/ Community-Participation/ Planning-/ Policy-/ Landcare-/ Decision-Theory/ Bodies (Corporate)/ Sugar-Industry

Abstract: A brief history of Australian public policy and its administration in primary industry is presented. Major changes that have occurred in the last decade include: environmentally sustainable development becoming a focus for planning and implementing natural resource management (NRM); increased community demand for policy and planning input; decreased government resources for policy implementation; and institutional restructuring within government. Landcare and community oriented integrated catchment management (ICM) programs illustrate these changes. Specific challenges concern the effective vertical and horizontal integration of decision making among community, industry and government, and the
tension between long term aspirations and short term decision making. A tentative conceptual model for evaluating policy implementation is offered. Despite the problems associated with policy changes, environmental sustainability and changed government roles provide a major opportunity for the sugar industry. The concept of a 'green' sugar industry should provide a core platform for its operation in the next century.


**Keywords:** Gold-deposits-Qld/ Isotope-geochemistry/ Fluid-inclusions/ Hydrothermal-metasomatism/ Siderite-/ Carbon-isotopes/ Oxygen-isotopes/ Ore-genesis/ Structural-control/ Unconformity-/ Microprobe-analysis/ Chemical-analysis / Proterozoic-/ Tertiary-/ SF5511 8452


**Keywords:** Floodplains-/ Inland-Waters/ Land-Use/ Water-Use/ Riparian-Vegetation/ Trees-/ Land-Clearing/ Weeds-/ Waterlogged-/ Fires-/ Insect-/ Saline-Water-Intrusion/ Groundwater-Surface-Water-Relationship/ Aquatic-Macrophytes/ Water-Quality (Natural-Waters)/ Light-Penetration/ Nutrients-/ Turbidity-/ Contamination-/ Flow-Rates/ Reduction-/ Freshwater-/ Fish-/ Species (Biological)/ Biological-Diversity

**Abstract:** The Burdekin River floodplain is a highly modified environment. Stands of riparian trees have been reduced by clearing, weed competition, water logging, fire, increased insect attack and saline groundwater intrusion. The tree loss, nutrient loading, hydrological changes and reduction in grazing land use have led to increased exotic weeds. Vigorous floating aquatic weeds overgrown by exotic pasture grasses form semi submerged dense mats and the dark anoxic waters are ideal conditions for blue-green algal growth. Within the floodplain, water quality has deteriorated with low dissolved oxygen, high nutrient levels, turbidity and chemical contaminants. Flow regime changes for irrigation and aquifer recharge have made ephemeral systems permanent and water management structures have reduced aquatic connectivity. Freshwater fish abundance and community composition reflect these environmental changes.


**Keywords:** Coal-exploration-Qld/ Gravity-surveys/ Coal-fields/ Permian-/ SF5511 8452


**Keywords:** Block-faults/ Marine-geology/ Sea-floor-sediments/ Diagenesis-/ Tertiary-/ SF5504 8657/ SF5504 8757


**Abstract:** Salinization of toposequences of sedentary duplex soils and fringing alluvial clay plains has occurred where an hydraulic continuity of decomposing granodiorite exists. Gross disturbances of catchment water balances by clearing and/or sequences of heavy wet seasons, results in the development of an occluded aquifer in the decomposed rock, semi-confined beneath lower slope sodic duplex soils and alluvial plain black earths. Sufficiently high piezometric potentials develop to maintain a flux from the aquifer to near the soil surface, resulting in an upward displacement of in situ solum and decomposed rock salts. Surface soil salinization is restricted to the upper elevation of the occluded aquifer (about 1m above the plain) and extends onto the alluvial plain where 215cm clay overlies the aquifer (50 to 200m from the edge of the plain). This paper covers the results of investigations into the factors implicated in
saline seep development and summarizes our present understanding of the hydrology of these
toposequences.

In: Landscape, Soil and Water Salinity Regional Workshop, 14-16 May 1985, Rockhampton,
Proceedings. Queensland. Department of Primary Industries, Brisbane. Conference and
Workshop Series; QC85002;
Abstract: Describes a study with 2 aims: (i) to assess the effect of irrigation on soil salinity in
the Wowan area, and (ii) to predict the future effect of decreases in irrigation water quality on
soil salinity and cropping. Outlines the study methods. A brief survey of soils in the area was
undertaken initially. The results are presented. Then sampling sites were selected to cover
representative soils and a range of irrigation water qualities. Regarding the results, the quality of
the irrigation water at each site, and the electrical conductivity of the soils are shown and
discussed. Also shown and discussed are the proportions of calcium, magnesium and sodium for
all soils (proportions of cation exchange capacity) and irrigation waters. Derives soil drainage
values using the model of Rose et al (1979). Predicts future trends in soil salinity assuming worst
case conditions.

areas in coastal Northeastern Australia. Agriculture Ecosystems and Environment; 94(1):49-58
Keywords: Groundwater-quality:-vadose-zone/ Pollution
Abstract: Water containing high concentrations of nitrate is unfit for human consumption and, if
discharging to freshwater or marine habitats, can contribute to algal blooms and eutrophication.
Nitrate pollution of groundwaters in coastal Northeastern Australia is of particular concern
because of its proximity to environmentally sensitive areas (e.g. the Great Barrier Reef) and the
large number of people (in cities and rural areas) relying on groundwaters for drinking water.
This study determined the extent of nitrate contamination in groundwater in this region based on
information from 1454 wells, and examined the likely source of the nitrate by comparing < delta
><sup>15</sup>N values of groundwaters to those of possible industrial or organic nitrogen
contaminants. In wells where nitrate concentrations were elevated, and therefore, likely to be a
result of human activities, concentrations were subsequently monitored to provide an assessment
of temporal trends in nitrate concentrations. Overall, groundwaters were relatively free from
excessive nitrate contamination, with nitrate concentrations in only 3% of wells above the
maximum permissible limit for drinking water (50 mg/l). However, a further 11% had elevated
nitrate concentrations (< greater-than-or-equal-to >20 mg/l) with the greatest occurrence (14-21%
of wells affected) of elevated nitrate concentrations in the Burdekin, Mackay and Bundaberg
areas. These percentages are similar to those found in many other intensive agricultural areas.
Nitrate in approximately half of these wells was likely to have come directly from fertilizer.
Nitrate in only eight wells was likely to have come from organic sources, such as sewage, septic
or feedlot overflows. Nitrate in the remaining wells could not be attributed to a particular source.
Thus, improvement of nitrogen fertilizer management practices is a key activity in managing
groundwater nitrate concentrations. In the Burdekin and Mackay areas, there was no general trend
in groundwater nitrate concentrations over 2 years of monitoring of wells with initial nitrate
concentrations >20 mg/l. However, there was considerable variability within wells between
sampling times and further monitoring is required. In Bundaberg, nitrate concentrations in 40% of
wells significantly declined over 6 years (1993-1999) of regular monitoring. The results for this
area suggest that nitrogen fertilizer inputs during the monitoring period were not excessive
relative to the local aquifer's nitrogen balance. The opportunities for improved management of
nitrogen fertilizer in the study region are discussed.

(Eds.), Changes in Hydrology, Soil Fertility and Productivity of Brigalow Catchments Following
Clearing. Queensland. Department of Primary Industries, Biloela; 23p
Abstract: A non-steady solute mass balance model was used to calculate the rates of downward
soil water movement in 3 catchments with differing land uses. Soil sampling over 6 years
provided chloride data for the analysis. Downward movement of water was greater in the
catchment that had been cleared and cropped, than that which had been cleared and sown with
improved pastures. Water movement was least (approaching zero) in the uncleared catchment.
There were no consistent differences in leaching fluxes in different soil types within the
catchments. Most water movement occurred in both the cleared catchments immediately
following the period when catchments were cleared. This result was attributed to the lack of plant
cover following clearing, as it was not observed in the uncleared catchment. Overall, little water
moved below the root zone, and it is unlikely that water tables and associated dryland salting
would occur in any of the catchments. Leaching should cause soil chloride levels to decrease with
time at most sites, although this decrease could take many decades.

Thorburn PJ, Cowie BA, Hunter HM. 1986. Salinity of the irrigated soils of the Wowan area, Central
Queensland. Australian Salinity Newsletter; 14:84-5

**Abstract:** Marked increases in the salinity of some groundwaters in the Wowan area has occurred
since 1977 and there is concern about the future viability of irrigated agriculture. This 1983 study
had 2 aims: (i) to assess the effect of irrigation on soil salinity in the area and (ii) to predict the
future effect of decreases in irrigation water quality on soil salinity and cropping.

Thorburn PJ, Cowie BA, Lawrence PA. 1991. Effect of land development on groundwater recharge
determined from non-steady chloride profiles. Journal of Hydrology; 124:43-58

**Keywords:** Salinity-/ Land-Clearing/ Water-Table/ Groundwater-/ Recharge-/ Vegetation-/ Shrubs-/ Crops-/ Land (Grass-and-Pasture)/ Modelling (Hydrological)

**Abstract:** Brigalow (Acacia harpophylla) forest is the original vegetation in northeastern
Australia and much of the area has been cleared for crop and pasture production. The inherent
salinity of the subsoil and regolith of brigalow lands has raised fears about the potential for
widespread dryland salting. This study assesses the effect of clearing brigalow forest on the
amount of water movement below the root zone of these soils. Clearing had an initial effect on
groundwater recharge, but declined when crops and pastures were fully established. It was
concluded that clearing is unlikely to result in high water tables in these soils under pastures or
cropping systems with the average climatic conditions of this region.

Thorburn PJ, Rose CW. 1990. Interpretation of solute profile dynamics in irrigated soils, III: a simple
model of bypass flow in soils. Irrigation Science; 11(4):219-25

**Abstract:** Knowledge of the flux of water flowing through macropores in soils is required to
device management strategies for efficient fertilizer use and to prevent fast movement of solutes
and pollutants to groundwaters. Water and solute balances in soil profiles were used to develop a
simple model for assessing the magnitude of macropore flow. Fluxes of water bypassing the soil
matrix were calculated at 35 sites to be between 0 and 115mm/yr with the flux being lt 200mm/yr
at most sites. The maximum flux was three times the flux flowing through the soil matrix but only
one third of that infiltrating the soil. The flux of macropore flow was not simply related to soil
types or soil properties, although the highest fluxes did occur in cracking soils. A quantitative
method of using soil chloride profiles to indicate the occurrence (but not magnitude) of bypass
flux was also demonstrated. Both these quantitative and qualitative assessments of bypass flow
should assist in interpreting root zone hydrology in soils.

Thorburn PJ, Rose CW, Shaw RJ, Yule DF. 1990. Interpretation of solute profile dynamics in irrigated
soils, 1: mass balance approaches. Irrigation Science; 11(4):199-207

**Abstract:** A steady state leaching requirement (LR) model and a transient solute mass balance
model were applied to soil chloride data from 42 sites in Queensland to evaluate utility of the
models for assessing the impact of irrigation on soil salinity and leaching. Data covered a wide
range of soil types and irrigation management. The transient model was preferred for assessing
the effect of irrigation on soil salinity because of its ability to provide predictions of future soil
chloride levels under non-steady conditions and where leaching flux values are less than or
equal to 0.

Abstract: A simple field oriented convective-dispersive equation based model was applied to a wide range of soil types with different irrigation managements on eight sites in the Dee River Valley and Emerald Irrigation Area, using input data likely to be available on commercial farms. At five sites, including two spray irrigated vertisols, the model gave good predictions of measured soil profiles. At three sites, all flood irrigated vertisols, predicted soil chloride levels were lower than measured values. Differences were attributed to infiltration of irrigation water into cracks or to the effects of high water tables, processes not represented in the model. Application of the PEAK model provided useful information on root zone hydrology of all soils studied.


Keywords: Coal-exploration-Qld/ Rotary-drilling/ Geological-logs/ Geophysical-logs/ Coal-analysis/ Coal-resources-Qld/ SF5515/ SF5516/ SG5503/ SG5504

Abstract: Several seams of about 1 m thickness and one seam over 3 m thick at open-cut mineable depth over approximately 10 km.


Keywords: Coal-exploration-Qld/ Drilling/- Geological-logs/ Geophysical-logs/ Coal-analysis/ SF5515/ SF5516 8650/ SF5516 8850/ SG5504 8649


Keywords: Forests/- Forestry/- Natural-Resources/ Modelling (General)/ Data-Handling / Soil (Types-of)/ Distribution (Mathematical)/ Information-Storage-and-Retrieval/ Maps-and-Mapping/ Terrain-/ FERIS/- Geographic-Information-Systems/ Land-Resources

Abstract: Soil maps are an integral part of rural land management planning. Unfortunately, they are a complex form of coded information which can challenge the map user. This paper outlines some of the reasons why soil maps are not the simple information tools they first seem. Some mapping and soil survey concepts that are relevant to soil maps and which may detract from their apparent usefulness are discussed. More recent developments for soil mapping have focused on mapping of soil attributes, rather than soil types or associations. This approach relies on data storage and analysis through the use of geographic information systems.


Keywords: Soil (Types-of)/ Soil (Characteristics-of)/ Maps-and-Mapping/ Rural-Areas/ Survey-/ Data-Handling / Land-Management/ Geographic-Information-Systems/ Planning-

Abstract: Soil maps are an integral part of rural land management planning. Unfortunately, they are a complex form of coded information which can challenge the map user. This paper outlines some of the reasons why soil maps are not the simple information tools they first seem. Some mapping and soil survey concepts that are relevant to soil maps and which may detract from their apparent usefulness are discussed. More recent developments for soil mapping have focused on mapping of soil attributes, rather than soil types or associations. This approach relies on data storage and analysis through the use of geographic information systems.


Keywords: Floods-and-Flooding/ Distribution (Mathematical)/ Discharge/- Spillway/- Design-Data/ Pumping-Stations/ Building-and-Construction/ Dams-

Abstract: The Queensland Water Resources Commission Mechanical and Electrical Branch requested data for proposed pump stations at 54km and 59km and pump stations Millaroo ‘A’ and
Dalbeg 'A', both with and without Burdekin Falls Dam constructed. The author reviewed previous flood frequency analyses and found all but one similar. Peak discharge frequencies were calculated, flood heights in the lower Burdekin estimated and the effects of the Burdekin Falls Dam discussed.


**Abstract:** During 1974-84, Lake Buchanan and 7 peripheral pools usually contained water for only a few months each year, commencing in late summer. They ranged in salinity from 1 to 202g/l, their waters were dominated by sodium chloride and were generally alkaline. The fauna of 53 species included 3 halobionts, 18 halophilics and many salt tolerant freshwater forms, mainly insects. Overall, the fauna was distinctly Australian, but some prominent taxa found in southern salt lakes were absent and others were replaced by local endemics and tropical species. Past climatic cycles have probably influenced composition of the fauna.


**Abstract:** A survey of irrigators and the community attitudes to water allocation and trading in the Fitzroy catchment found that there was general agreement that water reform is necessary and that water rights should be separated from rights to land, and should be traded independently. There was also agreement that water entitlements would be more secure after reform, but there was considerable uncertainty about the reliability of water supplies after reform. Respondents considered that meeting natural flow requirements and ensuring equitable distribution of water was more important than maximizing farm incomes or taking account of the impacts on town and community. However, there is still a lack of understanding of the notion of water as a tradeable resource, and a consensus that the community is poorly informed about the reform processes. In terms of meeting environmental flow objectives, reductions in water entitlements that provided for the reversibility of habitat degradation ranked above options which involved no reduction in water entitlements to meet environmental requirements.


**Keywords:** Algal-Blooms/ Land-Use/ Runoff-/ Nutrients-/ Sediment-/ Streams (in-Natural-Channels)/ Pollution (Surface-Water)/ Water-Bodies/ Groundwater-/ Modelling (Hydrological)/ Pollution-Sources/ Nitrogen-/ Phosphorus-/ Rivers-

**Abstract:** Reduction of nutrient levels in water bodies is one of the strategies identified to reduce algal blooms. Diffuse sources (forest, pasture and cropped areas) are considered the dominant source of nutrient loads to the Murray-Darling Basin. In wet years they supply five times as much nitrogen (N) and phosphorus (P) as point sources. Implementing land management practices that minimize nutrient movement from diffuse sources would appear to be important for reducing algal blooms. This paper describes a project to quantify levels of sediment, N and P in surface runoff and rates of movement of nitrates and chlorides to groundwater. It also identifies the main mechanisms by which N and P move into streams and groundwater and the impact of land use/management on these mechanisms, for input into a water quality model. A spatial modelling framework is to be constructed to interactively link water quality, crop/pasture growth and other models with catchment geographic information systems (GIS) containing topography, soil type and land use, for scenario analyses and catchment management decision support applications.

October, 1980. The Committee, Brisbane; 15p

**Keywords:** Coal-resources/ Coking-coal / Coal-production

**Abstract:** The Bowen Basin corresponds with the boundaries of the Fitzroy Basin.


**Keywords:** Sedimentary-basins/ Stratigraphy-Qld/ Stratigraphic-trap/ Tectonics-/ Drilling-/ Natural-gas/ Discovery-wells/ Source-beds/ SF5515/ SF5516/ SG5503/ SG5504/ SG5507/ SG5508/ SG5511/ SG5512


**Keywords:** Industrial-materials/ Aggregates-/ Quarrying-/ Building-sands/ Gravel-/ Loams-/ SF5503 8456/ SF5503 8556/ SF5507 8455/ SF5507 8554/ SF5507 8555/ SF5508 8654/ SF5511 8553/ SF5512 8653

**Abstract:** Includes quarry rock, sand, gravel and loam.


**Keywords:** Construction-materials/ Sands-/ Gravel-/ Clays-/ SF5515 8550/ SF5516 8650/ SF5516 8850/ SG5504 8649/ SG5504 8848


**Keywords:** Species

**Abstract:** Ten Fitzroy River Turtles (Rheodytes leukops) were followed by radio telemetry near the type locality. Robust estimates of female home ranges (for>10 fixes) spanned a range that approximated the average distance from a riffle zone. Home range estimates (for all local fixes) averaged 2.4 ha by the minimum convex polygon method, 4.0 ha by a 90% core-weighted kernel method, and 417 m for the range span. A long distance excursion was recorded for a female that travelled 6.8 km downstream and eventually returned to the riffle zone after six months. Sixty-two percent of locations for females tracked in the 1997 dry season were in depths<1.1 m. Mean movement rate was 20 m/day (95% confidence interval 10-30 m/day, range 0-350 m/day). Mean distance to the closest riffle was 310 m (95% confidence interval 280-340 m, range 0-700 m). The findings raise conservation concern about loss of riffle habitats, which this endemic and vulnerable turtle was associated with throughout the year.


**Keywords:** Water-table/ Coastal-features/ Beaches-/ Tides-/ Seepage-/ Simulation-

**Abstract:** Simulating development and motion of the outcrop of a water table on sandy beaches.


**Keywords:** Water-quality/ Monitoring-/ Salinity
Uysal IT, Glikson M, Golding SD, Audsley F. 2000. The thermal history of the Bowen Basin, Queensland, Australia; vitrinite reflectance and clay mineralogy of Late Permian coal measures. Tectonophysics; 323;(1-2):105-29

Abstract: The thermal history of the Bowen Basin (Queensland, Australia) has been investigated using vitrinite reflectance data and clay mineralogy. Vitrinite reflectance data combined with a study of clay mineral reactions indicates that the maximum temperatures which induced organic maturation of the Bowen Basin coals and extensive clay mineralisation are not related to deep burial metamorphism during the latest Middle Triassic-earliest Late Triassic as previously believed. The results of the present study indicate that the development of a zone of high heat flow in the latest Late Triassic had a major control on the thermal history of the Bowen Basin. High palaeogeothermal gradients estimated in the northern Bowen Basin are interpreted to result from convective heat transfer during a hydrothermal event. Variable heat distributions due to localised fracture-enhanced permeable zones acting as hot reservoirs in the deeper part of the basin may have been responsible for some significant local thermal anomalies in the lower coal measures. The estimated palaeogeothermal gradients in the southern Bowen Basin also indicate high heat flow in the lower sections of the stratigraphy. Sections in the southern Bowen Basin, however, are believed to reflect a rock dominated semi-closed system with low water/rock ratio, where rocks are impervious to circulating fluids and thus heat transfer may have occurred by conduction. The correlation between vitrinite reflectance and clay mineralogy shows a delay in illitisation reaction relative to organic maturity for many illite/smectite (I/S) mixed-layer clays in the northern Bowen Basin. This phenomenon can be explained as a result of insufficient time for the completion of mineral reactions and a variable potassium supply in relatively impermeable rocks. The relationship between I/S expandability and vitrinite reflectance for the Bowen Basin data compared to basins with known tectonic regimes suggests a thermal history in a rift setting for the Bowen Basin. The effect of thin igneous intrusions on clay mineral reactions is very limited. Intensive illitisation due to heating of intrusions can only be observed in narrow zones immediately adjacent to intrusive bodies. This further demonstrates that mineral reactions are too slow to record the effect of extremely short heating duration, in contrast to organic maturity indicators. These differences between mineral and organic parameters aid in the identification of local contact metamorphic effects.


Abstract: Mineralogical studies were performed on authigenic clay minerals of mudrocks, sandstones, and bentonites from 38 boreholes in the Late Permian coal measures of the Bowen Basin. Clay-mineral separations of samples from the northern Bowen Basin consist mainly of (Reichweite, R) R = 1 and R> or =3 interstratified illite-smectite (I-S), chlorite, and kaolinite. In the southern Bowen Basin, samples from higher stratigraphic sections are characterized by randomly ordered (R = 0) I-S mixed layers, and kaolinite and chlorite in smaller amounts. Samples from the lower sections consist of (R> or =3) I-S, chlorite, chlorite-rich chlorite-smectite (C-S), and laumontite. Examination of the mineralogy and distribution of authigenic clay minerals from the Late Permian coal measures in the northern part of the Bowen Basin indicated that the presence of clay minerals is not systematically related to depth and clay occurrences do not occur regularly. These mineralogical variations of clay in volcaniclastic sediments are incompatible with thermal control. Variations in the rate of fluid flow and potassium supply owing to permeability exert major influences on clay-mineral paragenesis and the reaction of illitization. In more permeable zones (possibly faults or fracture zones), highly illitic clays with lath-shaped morphologies may have precipitated directly from potassium-rich fluids migrating from deeper parts of the basin. In addition, abundant chloride precipitated contemporaneously with illitic clays, which may have resulted from sufficient magnesium and iron occurring in the fluids as a result of dissolution of intermediate or mafic-rock fragments. At the same time, clay paragenesis with less illitic I-S, kaolinite, and minor chlorite occurs outside the channelized zones of high fluid flow, where a diffusive-flow regime may have predominated with lower ratios of the
activities of K (super +) and H (super +) (i.e., alpha (sub K+) /alpha (sub H+) ) in the solutions. In the southern Bowen Basin, depth-related changes in the distribution of clay minerals are evident and may be indicative of thermal control on clay-mineral reactions. Zeolites are present locally in the Late Permian volcanlastic rocks in the southern Bowen Basin, but not in the north. This is attributed to a low ratio of alpha (sub CO2) /alpha (sub H2O) (where alpha = activity) and/or more saline and alkaline solutions.

Abstract: Oxygen and hydrogen isotope analyses were carried out on authigenic clay minerals from Late Permian coal measures of the Bowen Basin (Australia). In the northern Bowen Basin, the oxygen isotope compositions of the mixed-layer illite/smectite show significant irregular variations with respect to depth, which parallel the changes in the extent of the illitisation reaction and are interpreted as reflecting changes in water/rock ratio in turn related to permeability. The delta (super 18) O and delta D values of illite-smectite and kaolinite in the northern Bowen Basin and the calculated fluid isotopic composition (delta (super 18) O = -3 per mil to +1 per mil; delta D = -70 per mil to -90 per mil) in equilibrium with these clays are considerably lower than those typically reported for deeply buried sedimentary basins. These stable isotope data, together with relatively high inferred palaeotemperatures (up to 235 degrees C) and abnormally high geothermal gradients are consistent with a hydrothermal origin for clay mineral formation in the northern Bowen Basin. The hydrothermal system is interpreted to be a result of the Late Triassic extensional tectonic regime, which developed in large parts of eastern Australia and affected the northern part of the Bowen Basin. In the southern Bowen Basin, by contrast, clays are more enriched in (super 18) O and deuterium, which is explained by lower temperatures (in the shallow coal measures) and a significant enrichment in the fluid isotopic composition (delta (super 18) O = -3.6 per mil to +5.6 per mil, delta D = -66 per mil to -35 per mil) under low water/rock ratio conditions, especially in deeper pelitic rocks.

Abstract: K-Ar and Rb-Sr isotopic studies were carried out on authigenic illitic clay minerals in Late Permian coal measures from the Bowen Basin (Australia), in order to determine the timing of maximum palaeotemperatures, which were responsible for coal maturation and coal seam gas generation. The results indicate two major thermal events affected the Bowen Basin region, at 205-215 and 140-155 Ma. The narrow range of age data from different size fractions, lithologies and stratigraphic depths indicates episodic, short-lived thermal events, rather than gradual temperature increase due to progressive burial as previously believed. The earlier, thermal event in the latest Triassic postdates maximum burial of the Bowen Basin strata, which occurred during the Middle to Late Triassic. The ages of 205-215 Ma correspond with the published evidence for regional Late Triassic extension in eastern Australia. The younger (140-155 Ma), thermal phase during the Late Jurassic-Early Cretaceous is related to the initial rifting and associated widespread igneous activities prior to break-up of Gondwana. The K-Ar dates in conjunction with vitrinite reflectance data as palaeotemperature indicators indicate that the younger thermal event occurred at lower temperatures than the earlier one, except in the shallow part of the southern Bowen Basin. This event is recorded exclusively in less illitic. R = O illite-smectite (I-S) mixed-layer samples mainly in the shallow part of the southern Bowen Basin (Baralaba Coal Measures). < copyright > 2001 Elsevier Science B.V. All rights reserved.

Abstract: The Queensland Department of Natural Resources (DNR) is responsible for developing environmental flow management strategies for stream flows within river basins. The DNR, through the Water Allocation and Management Planning (WAMP) initiative, have been developing new ways of determining environmental flow requirements and assessing different flow management strategies. The WAMP process adopts a 'whole of basin' approach to water resource planning and management. The use of key flow statistics and their benchmarking with other river systems represents a key step forward in understanding the relationship between flow regimes and the ecological and physical condition of river systems. The approach appears to be a useful tool for assessing the likely basin-wide impacts or benefits of making future water resource allocations or management decisions in the future.


Keywords: Coal-/Economic-geology-Qld/ Hydrogeology-/Igneous-rocks/ Palaeontology-/ Palaeozoic-/Petroleum-/Regional-geology-Qld/ Sedimentary-rocks/ Stratigraphy-Qld/ Structural-geology-Qld/ Tertiary-

Abstract: Contains detailed descriptions of all geological units in the area.


Keywords: Coal-fields/ Economic-geology-Qld/ Gemstones-/Gravity-anomalies/ Ground-water/ Geological-maps-Qld/ Explanatory-notes/ Hydrology-/ Palaeontology-/ Petrogenesis-/ Petrology-/Regional-geology-Qld/ Stratigraphy-Qld/ Structural-geology-Qld/ Water-wells/ Devonian-/Carboniferous-/Permian-/Tertiary-

Abstract: Three major tectonic units: S part Anakie Inlier; E part Drummond Basin; W part Bowen Basin. Mapped BMR/GSQ 1961 as part of systematic plan to map Bowen Basin in search for oil.


Keywords: Petroleum-exploration-Qld/ Gold-/ Copper-/Economic-geology-Qld/ Stratigraphy-Qld/ Structural-geology-Qld/ Water-wells/ Historical-geology/ Drainage (geomorphology)/ Ground-water/ Palaeontology-/ Petrogenesis-/ Coal-analysis/ Coal-fields/ Serpentinite-


Keywords: areal-geology/ Australasia-/Australia-/cartography-/Eromanga-Basin/ gamma-ray/ geological-exploration/ geophysical-methods/ geophysical-surveys/ Queensland-Australia/ radioactivity-methods/ surveys-

Abstract: Gamma-ray logs of many water-bores in the northern Eromanga basin enable good correlations to be made of the sub-surface Jurassic and Cretaceous sequence over a wide area. Lithological and thickness variations indicated by these correlations are inferred to be related to deeper structure. High radioactivity, associated with three argillaceous units within the Jurassic sequence, possibly indicates marine incursions. Also, the presence of glauconite and acritarchs suggests marine conditions during deposition of the three units. Correlation of the sub-surface Jurassic units with the exposed sequence is questionable. However, it is evident that only an attenuated sequence is preserved at the present basin margin, and that at the margin periods of non-deposition or erosion were common.

Keywords: Cretaceous-/ Geological-logs/ Lithologic-correlation/ Palynology-/ Regional-geology-Qld/ Stratigraphy-Qld/ SF5404/ SF5416/ SF5510/ SF5513/ SF5514


Keywords: Artificial-ground-water-recharge/ Unconfined-aquifers


Keywords: Ground-water-resources-Qld/ Ground-water-management/ Case-studies

Abstract: An agricultural economy relying on groundwater irrigation.


Abstract: Several types of digital models now form an integral part of the computational machinery available to a groundwater hydrologist for studying the behaviour of groundwater basin. The use of a regional groundwater flow model is demonstrated by its application to the aquifers of the Burdekin River Delta. The quality of the water pumped from the aquifers is important, as well as the quantity of water pumped. Of particular relevance in these coastal aquifers is the extent of seawater intrusion. Two types of saltwater intrusion models are explained and applied to the aquifers. The major problem in applying digital models to groundwater aquifers is the selection of parameters in the equations which will adequately represent the true aquifer parameters. Some recent developments in model calibration procedures are outlined and the relevance of error propagation studies is exemplified by application in the model.


Keywords: Mathematical-models/ Digital-simulation/ Ground-water/ Water-resources

Abstract: The objective of the project was to develop and verify a numerical model of the total groundwater system of the Burdekin Delta under existing natural and artificial recharge conditions, taking into account the groundwater-saline water interface near the coastline. The most efficient, and cheapest, type of model was considered to be the digital model. A number of digital models were developed to assist in evaluating the quantity and quality of water available from the Burdekin Delta aquifers.


Keywords: Modelling (General)/ Aquifers-/ Calibration-/ Recharge-/ Discharge (of-Natural-Waters)/ Mathematical-Analysis/ Groundwater-/ Digital-/ Conductance-/ Algorithm-/ Water-Management/ Coastal-Areas/ Water-Level

Abstract: Discusses the calibration of a digital model of the aquifers of the Burdekin River delta in north Queensland. A calibration algorithm was developed which uses the Newton-Raphson technique to minimize imbalances in water volumes on a node-by-node basis. In the Burdekin delta aquifers the recharge to and discharge from the aquifers must be considered as a variable to be adjusted in the calibration process along with the parameters of hydraulic conductivity and storage coefficient, because the data on recharge and discharge is insufficient to provide completely reliable estimates.

**Keywords:** Modelling (General)/ Aquifers-/ Recharge-/ Groundwater-/ Saline-Water-Intrusion/ Modelling (Hydrological)/ Groundwater-Flow/ Water-Management/ Streams (in-Natural-Channels)/ Water-Use/ Water-Level/ Finite-Difference-Techniques/ Deltas-/ Rivers-

**Abstract:** The initial development of a numerical model of an aquifer with intermittent recharge is described. The model is based on a finite difference solution of the partial differential equation for unsteady, two dimensional flow of groundwater. An alternating direction implicit method of solution, such as has commonly been used in heat flow and groundwater flow problems, has been adopted. The area of interest in the model is the Burdekin River Delta in the vicinity of Ayr and Home Hill in north Queensland. Preliminary means of dealing with salt water encroachment are considered, and the need to investigate sensitivity of the model to changes in aquifer parameters and flow data is discussed.


**Keywords:** Seismic-reflection-surveys/ Seismic-profiles/ Operations-report/ SF5512/ SF5515/ SF5516

**Abstract:** Seismic lines and shotpoint data.


**Keywords:** Total-Catchment-Management/ Natural-Resources/ Resource-Management/ Environmental-Management/ Catchment-Areas/ Community-Participation/ Bodies (Corporate)/ Policy-/ Planning-/ Information-Handling/ Case-Study/ Decision-Theory

**Abstract:** Integrated catchment management (ICM) is a significant investment in approaches to natural resource management by integrating community involvement, technical knowledge, organizational structure and policy objectives. Key issues and considerations for planning and managing the information needs and information provision to support community based integrated resource management are identified using a case study of the Herbert River ICM process. In Queensland, ICM is being implemented as a partnership between catchment communities, represented by Catchment Coordinating Committees (CCCs), and the Queensland Government. The key elements are that it is voluntary, community based, a partnership between all levels of government, industry and the community, processes are participative and consultative and decision making is strategic. The findings reported are relevant to other integrated resource management initiatives across Australia.


**Keywords:** Total-Catchment-Management/ Catchment-Areas/ Natural-Resources/ Resource-Management/ Environmental-Management/ Coastal-Areas/ Research-and-Development/ Decision-Theory/ Bodies (Corporate)/ Land-Use/ Information-Handling/ Community-Participation

**Abstract:** A brief analysis of the requirements for fostering mechanisms for the integration of recent and current research into decision making is undertaken, illustrated by some CSIRO Coastal Zone Program activities in north Queensland, particularly the development of a decision support environment for addressing the off-site impacts of land use changes and the development of the Herbert Resource Information Centre. This collaborative and community based resource is
aimed at improving the basis of decision making in natural resource and related management in the Herbert River catchment. Only by being prepared to invest in understanding the context of decision making and by finding novel ways of facilitating the uptake of past and future research by decision makers can scientists hope to have a significant and consistent impact on practice. This new role for research and development providers is highlighted in integrated natural resource management (NRM) at a catchment scale.


**Keywords:** Decision-Theory/ Catchment-Areas/ Streams (in-Natural-Channels)/ Natural-Resources/ Modelling (General)/ Computer-Programming/ Land-Management/ Total-Catchment-Management/ Decision-Support-Systems/ Rivers-

**Abstract:** Natural resource managers face a significant challenge in making decisions in the light of the potential off site impacts of man's activities. Decision support systems facilitate the incorporation of an integrated catchment management ethos into the activities of individual managers. A toolkit based approach, designed to provide access to a range of resources and flexible means of combining those resources to meet particular needs, is proposed. This toolkit will be developed through active partnership with users in order to accurately target user needs.


**Keywords:** Stratigraphic-drilling/ Reservoir-rock / Exploration-potential/ Petroleum-/ Well-logs/ SF5514 8250

**Abstract:** The second of two deep holes in eastern Galilee Basin.


**Keywords:** Trees-/ Salinity-Control/ Water-Table/ Water-Soil-Plant-Interactions/ Water-Use/ Hydrology-/ Land-Reclamation/ Vegetation-/ Tropical-Regions/ Transpiration-/ Casuarina-glauca/ Revegetation-

**Abstract:** The hydrological effect of Casuarina glauca trees established on a salt pan in East Barmoya QLD is described. The sap flow of a single tree was logged with the steady state heat balance technique at about 11L/day. The water table adjacent to the tree was depressed by about 130mm relative to that 10m from the tree, and demonstrated a diurnal oscillation of about 10mm, consistent with an evapotranspiration rate of 1mm/day. Infiltration was rapid in the vicinity of the tree, such that the water table rose quickly in the vicinity of the tree after rainfall events. The density of tree planting required to halt dryland salinity on this site was estimated, and a density trial was commenced with the aim of lowering the water table to enable the re-establishment of pasture communities between the rows in a form of agroforestry.


**Abstract:** The mining and export of coal is a major industry in Australia, and the Bowen Basin in Queensland holds a vast reserve of this commodity. The problem in extracting the coal from the ground is knowing the coal seam structure ahead of the mining process. If while mining a coal seam an unknown fault, unstable roof conditions or a gas pocket are encountered, they can lead not only to equipment damage and downtime, but risk of life to personnel. Currently, coal seams are mapped by borehole information, but these are expensive and lack detail. The industry needs to take advantage of the seismic method, which offers a cheap way of continuously imaging the subsurface. The use of 3-D reflection surveying is ideal in geologically complex areas since geology is three-dimensional in nature and modern processing and interpretation methods will allow subtle features to be mapped. The research will involve the processing, integration and
interpretation of a past 2-D seismic survey, RVSP, and well log information with a 3-D survey. Detailed analysis of the 3-D volume including seismic and trace attributes will be used to help identify subtle faulting along with possible coal bed methane gas pockets. Further processing and analysis of the data would then be required for fracture and stress detection. By combining RVSP, 2-D and 3-D seismic methods and borehole data, the merits of each method will be highlighted and a new insight into their use for similar work conducted in the future will be provided.

Keywords: Pests
Abstract: A series of experiments was undertaken to examine the effect of soil type on the spatial distribution of greyback canegrub in sugarcane in the Burdekin region of Queensland. These experiments examined spatial distribution at a district level as well as within individual fields, using both field and laboratory experiments. The studies concluded that soil type affected canegrub distribution both within fields and within the Burdekin district. However, the mechanisms affecting the distribution at each level were very different. At a regional or district level the preference of greyback canegrub for sandy delta-type soils over soil with higher clay content was hypothesised to be the result of preferential oviposition and improved larval survival in sandy soils over soils with a high clay content. At the field level, cane height was thought to be the primary reason for the patchy distribution of damage, with taller areas being damaged in preference to shorter areas. As all cane is planted or harvested at the same time in each field, differences in cane height between damaged and undamaged areas were thought to be the result of differences in soil type.

Abstract: The clays and other minerals in a succession of Late Permian coals of high-volatile bituminous to semi-anthracite rank have been identified, using low-temperature oxygen plasma ashing and X-ray diffraction, and evaluated to identify the relative roles in mineral matter formation of detrital input, early diagenesis in the peat swamp and late diagenesis associated with rank advance. Although well-ordered kaolinite of probable early diagenetic origin is abundant throughout the succession, the uppermost and lowermost seams of the sequence, regardless of rank, contain relatively abundant illite and/or interstratified illite/smectite, along with a small but significant proportion of chlorite. These clays are thought to be essentially of detrital origin, washed or blown into the peat deposit in relative abundance during the establishment and subsequent overwhelming of an extensive and long-lived swampy environment. Quartz is also abundant in the lower seams of the sequence, especially close to the regional sediment source area. Illite is unusually abundant in the topmost seam in both high- and low-rank parts of the succession, and thus appears to represent detrital input from a particular source material. Although significant changes are reported in the clays of the associated strata due to rank advance, the principal effect of rank advance on the minerals in the coal itself appears to be the development of an ammonium illite, and possibly some additional fine-grained chlorite, in the semi-anthracite material. Isolation within the organic matter of the coal is thought to have inhibited access for ions such as K (super +), which might otherwise have become involved in metamorphic reactions and given rise to mineralogical changes commonly found in non-coal sedimentary successions.

Abstract: In late December 1916, torrential rain over the comparatively small catchments of Wolfang and Sandy Creeks above Clermont, in Central Queensland, resulted in a ‘wall of water’ which swept away the low lying areas of the town. A study is made of the storm rainfall and the resulting runoff. Isohyetal maps and depth-area-duration curves have been produced for use in derivation of flood hydrographs of rare occurrence in inland Queensland.


Abstract: The results of a project conducted in the Emerald Irrigation Area, to assess the state of health of the Fitzroy River catchment, and to get a snapshot of the biology and chemistry within the system are briefly summarised. Levels of suspended solids, total nitrogen (N), and total phosphorus (P) were found to be high at times during the cotton season. A number of strategies to prevent large influxes of sediments and nutrients into the river system are suggested, including: recycling and storing tailwater, increasing ground cover, minimizing slopes and furrow lengths, allowing runoff waters to flow slowly through lengthy drainage channels, and keeping drainage channels clear of sediment deposits. Drainage channels and tailwater recycling in the Emerald Irrigation Area appear to have had some effect in reducing sediment and nutrient loads in the Nogoa River.


Abstract: Changes in pasture composition due to increased grazing pressure result in undesirable patch development and the increase in patchiness in turn affects the hydrology of these grazed catchments. The hydrology model THALES was used to simulate runoff for this pasture regime. Three different scenarios were analysed, variation in stocking rate represented by patch ratio, variation in patch location and variation in soils for two rainfall events. Experimental work was carried out at Narayen and Galloway Plains and THALES simulated observed runoff within reasonable agreement for a low intensity rainfall event. The model response was much more sensitive to high intensity rainfall, a response attributed to seasonal changes. The power of the model is reflected in its ability to simulate a broad range of field conditions and it has proved effective in simulating the runoff responses of two vastly different soils.


Keywords: Water-supply/ Site-investigations/ Weirs-


Keywords: Salinity-/ Salinity-Control/ Dryland-/ Catchment-Areas/ Rural-Areas/ Natural-Resources/ Remote-Sensing/ Recharge-/ Land-Use/ Community-Participation/ National-Dryland-Salinity-Program

Abstract: Salinity is a major threat to the resource base of many rural industries around Australia. A national dryland salinity program which supports specific State salinity management programs has been established jointly between the Commonwealth and State governments. The program aims at developing ways of approaching dryland salinity management through coordinating the various resources allocated to research, development and extension in integrated programs. It aims at developing the critical mass required to establish a comprehensive view of salinity management in five focus catchments, and at developing linkages and processes for extending the knowledge to other catchments around Australia through the State programs.
Priority projects include the development of information systems, the integration of remotely sensed and other information for production of salinity hazard, estimation of costs from dryland salinity, development of methods for valuing natural resources such as wetlands, identification of impediments to the adoption of salinity management options, and the development and application of methods for estimating recharge under a range of land use options.


**Keywords:** Salinity-Control/ Catchment-Areas/ River-Basin-Management/ Cost-Effectiveness/ Social-Conditions/ Technology-Transfer/ Land-Use/ Recharge-/ Vegetation-/ Total-Catchment-Management

**Abstract:** The current state of planning and the knowledge gaps for a salinity management program in each of five catchments was assessed. The catchments are the Kent River WA, the upper south east of South Australia, the upper Burdekin River QLD, the Loddon River VIC/Campaspe River VIC and the Liverpool Plains NSW. While big differences in the stage of planning for salinity management across the five catchments were found, common aspects were identified where knowledge and skills transfer could achieve some efficiencies and where opportunities for coordination exist at a national level. It is recommended that for each of the five catchments, a salinity management plan be developed on the principles and processes of integrated catchment management following the Victorian experience. It is also recommended that workshops on the economic assessment of salinity management options and the development and assessment of social impact and extension approaches be supported along with technical workshops.


**Keywords:** Ground-water/ Ground-water-recharge/ Mathematical-models/ Soil-mechanics


**Keywords:** Recharge-/ Pits-/ Artifical-/ Groundwater-Flow/ Deposition-/ Algae-/ Determination-/ Pressure-/ Instrumentation-/ Recharge-Basins/ Contents-/ Soil-Water-Systems/ Temperature-/ Diurnal-Variations

**Abstract:** Describes the results of a field study carried out in connection with artificial groundwater recharge from a recharge pit. The objective of the study was to measure those parameters which affect the passage of recharge water from the pit to the water table during a pattern of recharge cycles. Field instrumentation, design and installation of the equipment together with techniques for carrying out appropriate measurements are described. Transient soil water pressure, water content and temperature profiles are presented and results showing evidence of diurnal recharge fluctuations are discussed. It is concluded that cyclic changes in oxygen productivity, by algae present in the soil on the base of the pit, are responsible for this phenomenon.


**Keywords:** Social-History

**Abstract:** In the nineteenth century, engineers deformed and reshaped the natural environment in the name of progress, particularly in new settler societies like Australia. This article focuses on attempts, some experimental but all ultimately unsuccessful, to render Queensland's Fitzroy River suitable for large-scale shipping by constructing 'training' walls and dredging intensively. In addition to examining the motivations for these efforts and their environmental legacy, the paper argues that both engineers and men of commerce saw nature as 'untamed' and female and in need
of training or 'husbanding' through the application of modern technology, irrespective of the financial cost.

Keywords: Gold-exploration-Qld/ Epithermal-deposits/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-methods/ SF5502 8157

Keywords: Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Gold-exploration-Qld/ Epithermal-deposits/ Geophysical-methods/ SF5502 8157

Keywords: Geophysical-surveys/ Geophysical-methods/ Geological-maps-NSW/ Geological-maps-Qld/ Geophysical-maps/ Mapping-
Abstract: Airborne geophysical surveys cost effective pre-requisite for modern geological mapping programs.

Keywords: Salinity-/ Recorders-/ Water-Temperatures/ Conductance-/ Modelling (General)/ Recording-/ Conductivity-Temperature-Model
Abstract: A conductivity temperature recorder was installed in the Isaac River at Yatton. This instrument appeared to have operated fairly reliably since 1976, with some periods of missing data and some periods when the instrument reading did not agree with that recorded by hand.

Keywords: Stream-Flow/ Modelling (Hydrological)/ Dams-/ Groundwater-/ Streams (in-Natural-Channels)/ Water-Supplies (Industrial)/ Irrigation-Water/ Power-Generation/ Sacramento-Model/ Calcap-Power-Station/ Rivers-
Abstract: Callide Dam was built on the Callide Creek (a small tributary in the Fitzroy River basin in Central Queensland, near Biloela) in the late 1960s to provide water for Calcap Power Station, and for irrigation downstream in a conjunctive use scheme. This report, using streamflow data from 1926 to date, reassesses the operation of the surface and groundwater system. The Sacramento model was calibrated on the recorded data and used to estimate streamflow records from the historical rainfall data.

Abstract: The Burdekin River Irrigation Area is an important agricultural area of north Queensland. Irrigation is from natural stream flow supplemented by releases from Eungella Dam, sited far upstream on a small tributary. After development of a method of operating this water resource system for use in practice, a computer model was designed to simulate operation of this system and to allow a storage behaviour analysis of an historical period to calculate the yield of the system.

Abstract: Investigates the use of a simple auto-regressive moving average (ARMA) model of the rainfall/runoff process for the estimation of stream flow from rainfall. Reviews rainfall/runoff models of 2 types (i) conceptual model represented by the Sacramento Model and (ii) black box model represented by the ARMA approach. The research reported considers the use of a black box hydrologic model and investigates the use of the model on ungauged catchments. It was calibrated separately on 13 catchments of varying types and sizes throughout Queensland. The regional relationships developed were tested on a further 4 independent catchments. In conclusion, points to the importance of the development of a new and simple hydrologic model for ungauged catchments.


Abstract: Water quality in streams, estuaries and the Great Barrier Reef environment is endangered by water borne sediments and their nutrients, especially phosphorus (P). This study concentrates on the P content of soils to indicate the potential source of P supply to rivers in the Fitzroy River catchment. Geographic information techniques, rainfall isohyets and catchment boundaries were overlaid on a surface soil P map to obtain areal calculations. Identifying the P content of soils, types and areas is indicative of the need for preventative erosion measures and land management. The results of this study can be further developed by incorporation into more complex digital elevation and erosion models to give quantitative measurements of the major sources of P pollution in waterways.


Keywords: Potassium-argon-dating/ Volcanic-rocks/ Pleistocene-/ Cainozoic-/ SF5511/ SF5613/ SG5602 9348


Keywords: Stratigraphy-Qld/ Biostratigraphy-/ Marine-environment/ Limestone-

Abstract: Sedimentation in the Burdekin Formation is divided by a basement high into two areas.

Western JS, Crooks Michell Peacock Stewart Oceanics Australia Pty Ltd. 1983. Callide B power station environmental impact assessment for Queensland Electricity Generating Board. Queensland Electricity Generating Board, Brisbane; 228p

Keywords: Power-Generation/ Environment-/ Effects-/ Sociological-/ Water-Quality (Natural-Waters)/ Air-/ Quality-/ Concentration-/ Noise-/ Water-Supplies/ Land-Use/ Water-/ Biology-/ Vegetation-/ Soil-/ Geology-/ Topography-/ Water-Management/ Environmental-Impact-Assessment

Abstract: The report studies the anticipated impact of the new station alone, and in conjunction with the existing Callide A station, on the various environmental and social components of the region. The environmental impact assessment made of the proposed development defines and quantifies the effects of the development on the air quality using USEPA and WHO criteria,
computed concentrations from the existing power station, and ground level concentrations, and on the water quality, using existing surface runoff, groundwater, and water discharges. The effect of the intended water management scheme incorporating a zero discharge ash dam is outlined. Noise levels from construction and operation of the power station, the socio-economic status of Biloela, and agro-economic activities in the Callide Valley have also been considered.


Keywords: Regional-geology-Qld/ Stratigraphy-Qld/ Igneous-intrusions/ Structural-geology/ Petroleum-/ Bauxite-/ Antimony-/ Chromium-/ Ground-water/ Phosphates-/ Limestone-/ Coal-/ Gold-/ Iron-/ Copper-/ Silver-/ Tungsten-/ Devonian-/ Jurassic-


Keywords: Devonian-/ Palaeobotany-/ Palaeontology-/ Permian-/ Tertiary-/ Triassic-/ SF5507/ SF5511

Abstract: Collections described, specimens illustrated, and age determinations given.

Wickham AE. 1982. Clare Weir repairs. Queensland Division Technical Papers. Institution of Engineers, Australia, Queensland Division; 23(20):7-12

Keywords: Weirs-/ Failure-/ Design-/ Remedial-Action/ Concrete-/ Gravity-/ Modelling (Specific-Names-II)/ Floods-and-Flooding

Abstract: The partial failure of the Clare Weir, a mass concrete gravity weir founded on sand on the Burdekin River, is described. Investigation of the post-failure condition of the structure, design and planning for reconstruction and the implementation of a critical programme of work to ensure security before the following wet season are described. The role of hydraulic model testing in the design of the structure is referred to and a conclusion drawn on why the mode of failure was not predicted.


Keywords: Engineering-geology/ Construction-materials/ Water-storage/ Dams-/ Dam-site-investigations

Abstract: A mass concrete gravity structure, capable of enlargement.


Keywords: Australasia-/ Australia-/ Burdekin-Delta/ distribution-/ electrical-methods/ exploration-/ gamma-/ geologic-/ geophysical-methods/ geophysical-surveys/ gravity-methods/ ground-/ ground-water/ hydrogeologic-/ hydrogeology-/ isopach-/ magnetic-methods/ maps-/ north-/ Queensland-Australia/ radioactivity-/ radioactivity-methods/ salt-water-intrusion/ seismic-methods/ surveys-/ tracers-/ well Logging

**Keywords:** Ground-water-surveys / Geophysical-surveys-Qld/ Gravity-surveys/ Seismic-surveys/ Resistivity-surveys/ Gamma-gamma-logging/ Radioactive-tracers/ Lithology-/ Basement-depth-maps


**Keywords:** Deltaic-sediments/ Electrical-surveys/ Gravity-surveys/ Ground-water/ Hydrogeology-/ Salt-water-encroachment/ Seismic-surveys/ Structural-geology-Qld


**Keywords:** Bodies (Corporate)/ Legislation (on-Environment)/ Land (Grass-and-Pasture)/ Grazing-/ History-/ Cost-Effectiveness/ Land-Use/ Rangelands-/ Land-Management/ Sustainable-Development

**Abstract:** Change in land administration practices from exploitation of pastoral resources by domestic stock as its principal objective, to a position where administration is required to take a more holistic view of the management of rangelands for a wide range of uses is discussed. Although historically administration has been slow to react to changing operating environments, a varying degree of legislative and behavioural changes have occurred in response to a wide range of influences, including objective information on rangeland resources, complementary legislation affecting the use of these resources, new Government programs directed at improving land management, a developing awareness of the value of rangeland for purposes other than grazing domestic animals and the economic difficulties facing the grazing industries. Administrators themselves must define their objectives clearly in terms of the needs of all land users, within a framework of sustainable land use and this is best done within new networks and partnerships involving the relevant agencies and groups. Addressing the quality of the process in land administration and evaluation of administrative performance are areas needing urgent attention.


**Keywords:** Spectroscopy (Gamma-Ray)/ Remote-Sensing/ Maps-and-Mapping/ Rock-/ Geomorphology-/ Satellite-Imagery/ Geology-/ Geophysics-/ Vegetation-/ Databases-

**Abstract:** This study is a contribution to the National Geoscience Mapping Accord North Queensland Project which aims to produce second generation geophysical and geological maps of north Queensland to provide an up to date database for, amongst other things, a detailed resource assessment of the area. Reconnaissance regolith landform maps at a scale of 1: 250000 are being produced as part of the project, with this paper reporting on the Ebagoola 1:250000 sheet area. High resolution airborne gamma-ray data has proved invaluable for differentiating between regolith types based on their potassium, thorium and uranium signatures. The ability of the gamma-ray signal to see through the vegetation cover and as much as 40cm below the surface was a considerable advantage in north Queensland where other remote sensing data sets are hindered by the thick vegetation cover and where much of the underlying geology is masked by residual sandy soils. Image processing techniques were used to enhance the gamma-ray data and integrate it with Landsat TM data. This integrated imagery proved particularly useful for regolith mapping.

Development Final Report (Land and Water Resources Research and Development Corporation); VCE10; 83p

**Keywords:** Salinity-Control/ Catchment-Areas/ Research-and-Development/ Community-Participation/ Management-/ National-Dryland-Salinity-Program

**Abstract:** The National Dryland Salinity Research, Development and Extension Program aims to develop a coordinated approach to salinity management by concentrating efforts in five focus catchments and applying the knowledge and technologies to other catchments throughout Australia. The workshop objectives were to share community and agency experience in catchment management between states, update progress of major National Dryland Salinity Program (NDSP) projects in focus catchments, evaluate the effectiveness of the community perspective, planning and implementation process, and promote awareness of the NDSP.


**Keywords:** solodic-soils/ Burdekin-Valley/ Queensland-/ grey-brown/ clays-/ Ord-Irrigation-Area/ Western-Australia

**Abstract:** Solodic soils (Natrustalfs) of the Lower Burdekin Valley, Qld, and grey-brown clays (Chromusterts) of the Ord Irrigation Area, W.A., of varying rice cropping histories, were analysed before and after a flooding experiment. For the solodic soils rice growing leads to soils more favourable for further rice growing but less favourable for non-flooded crops; this effect was not shown for the grey-brown clay soils.


**Abstract:** This paper provides experimental data on the effect of tree clearing, the introduction of perennial Stylosanthes based pastures, and the use of native grasses on the water balance of a red earth soil near Charters Towers. The simulation models SWIM and PERFECT are used to extend the results and estimate recharge for this, and other soils in this tropical environment. The analysis illustrates that the soil/ climate interaction in the wet/dry tropics has similarity with the winter dominant rainfall zone, in that vegetation change can substantially increase deep drainage beyond the root zone. Salt distribution in the soil/landscapes of the Upper Burdekin catchment suggests that there is a salinity hazard should a significant shift to the water balance occur as a result of tree clearing. Therefore, indiscriminate tree clearing is a dangerous form of land management and should only proceed once the risks of dryland salinity have been evaluated and shown to be negligible. A strategy for tree retention which will minimize the risk of salinity in the long term is provided.


**Keywords:** Environmental-management/ Vegetation-/ Subsurface-drainage/ Salinity-surveys

**Abstract:** An urgent need exists to evaluate the long term risk of dryland salinity associated with tree clearing in the wet-dry tropics if the salinity problems that plague the winter dominant rainfall zone of southern Australia are to be avoided. Experimental data is provided on the effect of tree clearing, introduction of perennial Stylosanthes based pastures and the use of native grasses on the water balance of a red earth soil in the Upper Burdekin catchment. The water balance simulation models, SWIM and PERFECT are used to extend the results and estimate deep drainage for this and other soils in this tropical environment. Results indicate that indiscriminate tree clearing is a hazardous form of land management and should only proceed after the risks of dryland salinity have been evaluated and shown to be negligible.

Keywords: Agricultural-Areas/ Rural-Areas/ Sociology-/ Bodies (Corporate)/ Public-Opinion/ Environmental-Management/ Self-Help/ Community-Participation/ Land-Use/ Social-Conditions/ Sustainable-Development/ Land-Degradation/ Land-Management

Abstract: Since the 1980s, it has been recognized that significant areas of southwest Queensland are experiencing major economic, social and natural resources problems. These problems occur at a time when government and community attitudes toward the management and use of semi arid natural resources are undergoing profound change, with greater emphasis on resource sustainability and self reliance. As a result of extensive consultation and planning over three years, the Mulga Land Use Advisory Group began in 1991, with representation from rural industry, government departments, financial institutions and community groups. The group established the Land Degradation Voluntary Property Build-Up Scheme in 1992 to provide concessional rate loans to landholders for property build up and development. The working parties identified the interrelationship of economics, resource degradation and social problems and the need for integrated action. Property viability was seen as the key to ecologically sustainable use and development, with enhanced awareness, an extended regional Rural Assistance Scheme, natural resource management and integrated regional development contributing to a comprehensive adjustment and recovery program for the region.


Keywords: Cooling-Water-Discharge/ Blowdown-/ Streams (in-Natural-Channels)/ Power-Generation/ Water-Quality (Natural-Waters)/ Aquifers-/ Logging-/ Trace-Elements/ Water-Temperatures/ Effects-/ Waterlogged-/ Environmental-Impact-Assessment/ Rivers-

Abstract: Environmental studies undertaken in the Stanwell area indicate that cooling water discharged to local creeks will have no significant detrimental effect. Certain actions are required with respect to temperature reduction, ensuring cooling of the discharge on site (if blowdown is discharged from the hot side of the cooling tower), and the quality of the water reaching the aquifer in the Scrubby Creek area. Initial indications are that some trace elements may be a problem and further investigations are suggested. Discharge should have little detrimental effect on groundwater quality. However, low lying areas west of Gracemere Lagoon are expected to pond water as a result of higher aquifer levels, and waterlogging of irrigation land on Fairy Bower Road and Fitzroy Floodplain may occur using Scubby Creek or diversion channels as discharge outlets. Restriction of impact and ameliorative measures are anticipated with respect to temperature of the effluent, and quality of the water reaching the Fairy Bower Road area.


Keywords: Methane-drainage/ Longhole-drilling/ Coal-mines/ SF5503 8456/ SI5609 9029

Abstract: Greater drainage lead times are made possible.


Keywords: Aggregates-/ Clays-/ Gravel-/ Sands-/ Quarrying-/ SF5508

Abstract: Quarry aggregates, sand, clay and gravel from a variety of sources.


Keywords: Land (Grass-and-Pasture)/ Grazing-/ Tropical-Regions/ Fires-/ Land-Restoration/ Vegetation-/ Erosion-/ Sedimentation-/ Sociology-/ Seasons-/ Environmental-Management/ Land-Use/ Grazing-/ Land-Degradation/ Savannas-

Abstract: Changes and degradation of northern Australia's savannas range from loss of native grasses through irreversible weed invasion to sheet and gully erosion as a result of 100 years of grazing by sheep and cattle. Despite greater community awareness of environmental conservation, such degradation becomes a social issue only in more populated areas where water
supply dams may be at risk of sedimentation. Sustainable land systems and their cost effectiveness are discussed and a system of management of tropical tall grass savanna is described in which the grazing area is rotationally burned on an annual basis and stock are supplemented to overcome nutrient deficits. The paucity of long term savanna management research is deplored.


**Keywords**: Regional-geology-Qld/ Geological-mapping-Qld/ Structural-geology-Qld/ Work-programmes/ Permian-/ Cainozoic-/ SF5511/ SF5515

**Abstract**: Outline of GSQ regional mapping project for the southern part of the Anakie Inlier.


**Keywords**: Regional-geology-Qld/ Stratigraphy-Qld/ Metamorphism-/ Structural-geology-Qld/ Structural-analysis/ Rock-geochemistry/ Plutonic-rocks/ Volcanic-rocks/ Aerial-geophysical-surveys/ Magnetic-interpretation/ Radiometric-interpretation/ Economic-geology-Qld/ Mineral-deposits-Qld/ Gold-deposits-Qld/ Copper-deposits-Qld/ Radiometric-dating/ Geological-maps-Qld/ Bibliographies-/ Exploration-potential/ Palaeozoic-/ Devonian-/ Carboniferous-/ Permian-/ Cainozoic-


**Keywords**: Regional-geology-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Structural-geology-Qld/ Radiometric-dating/ Stratigraphy-Qld/ Mineral-occurrence/ Devonian-/ Permian-/ Cainozoic-


**Keywords**: Regional-geology-Qld/ Gold-deposits-Qld/ Base-metal-deposits-Qld/ Lead-/ Copper-mines/ Sapphire-/ Coal-deposits-Qld/ Exploration-potential/ Metallogenesis-/ Permian-/ Cainozoic-/ SF5515


**Keywords**: Structural-geology-Qld/ Fault-zone


**Keywords**: Floods-/ River-channels/ Morphology-

**Abstract**: The Burdekin Gorge of northeastern Australia lies within the seasonal tropics and is characterized by high discharge variability. Slackwater sediments and paleostage indicators in the gorge record seven large floods that have occurred during the past 1200 yrs. These floods range in magnitude from 11 000 to 30 000 m "SUP 3" s "SUP -1" and are characterized by large downstream variations in hydraulics. Downstream fluctuations help to explain the location of boulder bars, high flood levees, small-scale erosional features in the bedrock, and the formation
of inner channels. Boulder bars and flood levees form where shear stress and stream power decrease due to channel widening. Small-scale erosional features, such as potholes and troughs, are best developed at sites of channel constriction and associated increases in shear stress and stream power. The development of the inner channel appears to be controlled by complex interactions between bedrock lithology and structure, and by flow hydraulics.


**Keywords:** Floods-and-Flooding/ Sediment-/ Transport-/ Plumes-/ Currents-/ Reefs-/ Estuaries-

**Abstract:** The bulk of Burdekin River runoff occurs in a series of short-lived floods. River plumes are formed stretching northward initially, even in the presence of southward ocean currents. The river plumes tag the coastline and, only 250km north of the river mouth, reach the Barrier Reef (30km offshore). Fine river sediments also travel for such long distances. Once the river discharge ceases, the plume breaks up in patches. These patches are entrained by the reversing wind-driven low frequency longshore currents thereby sweeping several times alternately northward and southward through the Barrier Reef.


**Keywords:** Lagoons-/ Physical-properties/ Water-chemistry

**Abstract:** Movements of freshwater plumes.


**Keywords:** Floods-/ Continental-shelf/ Marine-sediments

**Abstract:** A study of the distribution of terrigenous sediments.


**Keywords:** Stratigraphy-Qld/ Palaeogeography-/ Palaeoenvironment-/ Structural-geology/ Devonian-/ Carboniferous-/ North-Queensland-Complexus

**Abstract:** Burdekin Shelf is proposed in place of Star or Burdekin Basin.


**Keywords:** Economic-geology-Qld/ Regional-geology-Qld/ Structural-geology-Qld/ Stratigraphy-Qld/ Geological-maps-Qld/ Historical-geology/ Palaeozoic-/ Cainozoic-
Y


**Keywords:** Anthozoa, Biostratigraphy, Systematic-palaeontology, Devonian-


**Keywords:** Rugose-coral, Systematic-palaeontology, Biostratigraphy, Devonian-


**Keywords:** Local-Government, Data-Handling, Catchment-Areas, Management, Planning, Total-Catchment-Management, Land-Management

**Abstract:** Experience gained in using technical information to help develop natural resource management strategies within a local government planning scheme has shown that much of the information sought through the integrated catchment management (ICM) process concentrated too much on establishing and understanding the problem. Too little attention was given to collecting information needed to assist with the development of useful and practical land management strategies related to the identified problems.


**Abstract:** There is a similarity between at-a-station hydraulic geometry and storage formulation in runoff routing models. A link between parameters in runoff routing models and those describing at-a-station hydraulic geometry is therefore proposed. The hypothesis was tested on two catchments in Queensland, Oxley Creek and the Isaac River. Testing examined whether at-a-station hydraulic geometry relations have similar parameters in different parts of the same catchment and whether parameters describing at-a-station relations can be used to predict observed hydrographs. The first test was passed convincingly. When parameters were used to predict the observed hydrographs, it was found that for Oxley Creek, the predicted hydrographs fitted observed hydrographs very well, while for the Isaac River, the hydrographs were underestimated by about 50%. Poor data quality and spatial heterogeneity in the storage-discharge relationship are among the possible sources of errors.


**Abstract:** High water tables and secondary salinization occur in the Emerald Irrigation Area, near a soil type interface between shallow and deep cracking clay soils. An experimental site was established in a typical area that had been tile drained in 1979. Three reclamation treatments (gypsum, deep ripping, and gypsum plus deep ripping) and a control were imposed in 1980 and the area was farmed commercially to barley (1980), cotton (1980-81) and cotton (1981-82). Groundwater levels were measured and groundwater samples and soil profile samples were collected and analyzed for salinity and sodicity. Yield of each crop was measured. Groundwater levels fluctuated in an annual cycle and depth from the soil surface had increased by 0.5 to 1.0m over pre-drainage levels. Groundwater quality was very saline and sodic in the soil type interface area and improved with distance from the soil type interface. Crop yields were generally related to soil and water salinity, sodicity and water table depth.

**Keywords:** Compaction-/ Crops-/ Subtropical-/ Soil (Characteristics-of)/ Soil-Management/ Soil-Organisms/ Water-Use/ Runoff-/ Erosion-/ Grazing-/ Land-Use/ Yield-/ Economics-

**Abstract:** Field experiments were designed at Biloela and Emerald to measure the effects of compaction on soil properties and crop performance and to compare mechanical and biological methods for rejuvenating compacted soil. Heavy compaction with a header reduced crop establishment, soil, water storage, crop dry matter, crop yield, water use efficiency and the abundance and diversity of the soil macrofauna, often increasing runoff and soil loss. At Biloela, residual effects on sorghum yield occurred 12 months after compaction. Stubble grazing on dry soil caused no change in soil properties or wheat crop yield, but caused adverse effects on soil properties and wheat yield on wet soils. The most effective compaction repair treatment was a three year pasture ley, which gave significantly higher grain yield than in the first two crops after pasture removal, however profit from the pasture ley was much lower than from continuously cropped treatments. Compaction repair by crop or pasture roots is recommended in preference to deep ripping, which is costly and delays cropping.

Z


**Keywords:** Natural-Resources-Management/ Resource-Conservation/ Resource-Management/ Sustainable-Development/ Policy-/ Planning-/ Efficiency-/ Determination-/ Methods-/ Systems-Analysis

**Abstract:** The aims of the project were to increase the understanding of the implications of complexity and uncertainty and the need for all involved in natural resources management to plan for and evaluate outcomes on a long-term basis, taking cultural, socio-economic and institutional issues into account. This fact sheet outlines the background, objectives, methodology, key findings and implications for key policy makers and community groups.


**Keywords:** Natural-Resource-Management/ Resource-Conservation/ Resource-Management/ Sustainable-Development/ Policy-/ Planning-/ Efficiency-/ Determination-/ Methods-/ Systems-Analysis

**Abstract:** A conceptual framework for natural resources management has been developed which accommodates the inherent complexities of interactions between natural and social systems. The framework is outcomes-based and recognises that a wide diversity of specific outcomes progress through a more or less ordered hierarchy of intermediate and longer term strategic outcomes which aim to deliver the ultimate goal of sustainable resource use. The framework can be used to develop appropriate instruments for evaluating natural resource management policy. The design of evaluation instruments does, however, require a carefully structured methodology and sequence of questions, and it is suggested that program logic be used to support evaluation design. A set of principles for effective natural resource management, and a set of principles for guiding their evaluation are described.


**Keywords:** Fossil-coral/ Biostratigraphy-/ Systematic-palaeontology/ Devonian-

**Keywords:** Gold-deposits-Qld/ Geochemical-dispersions/ Hydrothermal-alteration/ Geochemical-exploration-Qld/ Indicator-minerals/ Iron-/ Manganese-/ SF5511 8452


**Keywords:** Coal-exploration-Qld/ Coal-resources-Qld/ Drilling- / Regional-geology-Qld/ SF5516 8650/ SG5504 8649

**Abstract:** Drilling programmes indicate reserves of 1320m tonnes of non coking coal.
COMPANY REPORTS

A

Keywords: Petroleum-exploration-Qld/ Geophysics-/ Seismic-profiles/ Seismic-reflection-surveys/ Structure-contour-maps/ SF5515 8550/ SF5516 8650/ SG5503 8548/ SG5503 8549/ SG5504 8648/ SG5504 8649

Keywords: Petroleum-exploration-Qld/ Well-completion/ Drilling-/ Well-logs/ Porosity-/ Well-velocity-surveys/ Formation-tests/ Permeability-/ Water-analysis/ Gas-analysis/ Stratigraphy-Qld/ Geological-structures/ Stratigraphic-correlation/ SF5515 8550

Keywords: Gold-exploration-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Rotary-drilling/ Drill-cuttings-analysis/ Sample-location-maps/ SF5507 8355/ SF5507 8455

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Percussion-drilling/ RC-drilling/ Sample-location-maps/ Drill-hole-data/ SF5503 8457

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Lead-/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Tenement-maps/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Assay-value/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Grab-sampling/ Geochemical-interpretation/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Reconnaissance-/ Sample-location-maps/ Tenement-maps/ Whole-rock-analysis/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Base-maps/ Core-drilling/ Diamond-drilling/ Geochemical-exploration-Qld/ Mineral-resources-Qld/ Reconnaissance-/ Tenement-maps/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Aerial-geophysical-surveys/ Aerial-magnetic-surveys/ Assay-value/ Bulk-sampling/ Chemical-analysis/ Core-logs/ Drill-cuttings-analysis/ EM-surveys/ Geochemical-anomalies/ Geochemical-
Aberfoyle Resources Ltd, Aberfoyle Resources Ltd, Aberfoyle Resources Ltd, Aberfoyle Resources Ltd, Aberfoyle Resources Ltd.

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Assay-value/ Core-logs/Diamond-drilling/ Percussion-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Drill-cuttings-sampling/ Stream-sediment-sampling/ Geochemical-surveys-Qld/ EM-surveys/ Ground-magnetic-surveys/ Transient-EM-surveys/ Geological-maps-Qld/ Tenement-maps/ Leaching-/ Reconnaissance-/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ IP-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Assay-value/ Rotary-drilling/ Drill-cuttings-analysis/ Laboratory-tests/ Sample-location-maps/ Well-logs/ SF5507 8454

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Zinc-/ Lead-/ Silver-/ Gold-exploration-Qld/ Clay-sols-/ Assay-value/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Tenement-maps/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Gold-exploration-Qld/ Clays-/ Silver-/ Assay-value/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Tenement-maps/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Core-drilling/ EM-surveys/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ IP-surveys/ Mise-a-la-masse-surveys/ Percussion-drilling/ Rock-chip-sampling/ Rotary-drilling/ Sirotem-surveys/ Soil-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5502 8157

Keywords: Assay-value/ Bulk-sampling/ Chemical-analysis/ Drill-cuttings-analysis/ EM-surveys/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-interpretation/ Geophysical-logs/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Leaching-/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Silver-/ Percussion-drilling/ Radioactivity-surveys/

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Drill-core-analysis/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Geochemical-interpretation/ Geophysical-surveys-Qld/ Mise-a-la-masse-surveys/ Ground-magnetic-surveys/ Isotope-geochemistry/ Mineral-resources-Qld/ Tenement-maps/ Trenching-/ SF5502 8157

Keywords: Gold-exploration-Qld/ Percussion-drilling/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Stream-sediment-sampling/ Silurian-/ Devonian-/ SF5516 8851

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Antimony-/ Molybdenum-/ Arsenic-/ Bismuth-/ Aerial-photography/ Chemical-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Landsat-/ Petrology-/ Photointerpretation-/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stratigraphy-Qld/ Stream-sediment-sampling/ Structural-geology-Qld / Tenement-maps/ SF5515 8350/ SF5515 8351/ SF5515 8450/ SF5515 8451

Keywords: Aerial-magnetic-surveys/ Aerial-photography/ Assay-value/ Base-maps/ Breccia-/ Bulk-sampling/ Data-processing/ Drill-cuttings-analysis/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Landsat-/ Petrology-/ Photointerpretation-/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stratigraphy-Qld/ Stream-sediment-sampling/ Structural-geology/ Tenement-maps/ Topographic-surveys/ SF5515 8350/ SF5515 8351/ SF5515 8450/ SF5515 8451

Keywords: Gold-exploration-Qld/ Assay-value/ Auger-drilling/ Base-maps/ Bulk-sampling/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Photointerpretation-/ Pits-/ Rock-chip-sampling/ Soil-sampling/ SF5503 8356

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Reconnaissance-/ Geological-maps-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching- / Panning-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Laboratory-tests/ Sample-location-maps/ Soil-profiles/ Regolith-/ SF5503 8356

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Geological-mapping-Qld/ Tenement-maps/ Geophysical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geological-mapping-Qld/ Aerial-photography/ Photogeology-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ Cambrian-/ Ordovician-/ SF5507 8355

Keywords: Gold-exploration-Qld/ Landsat-/ Multispectral-imagery/ Thematic-mapper-surveys/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ SF5507 8355

Keywords: Gold-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ IP-surveys/ SF5507 8355

Keywords: Gold-exploration-Qld / Tenement-maps/ Geophysical-surveys-Qld/ Gravity-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Bulk-sampling/ Stream-sediment-sampling/ Assay-value/ Sample-location-maps/ SF5507 8354/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Tenement-maps/ Sample-location-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ SF5503 8356/ SF5503 8357

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Geological-mapping-Qld/ Tenement-maps/ Sample-location-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Bulk-sampling/ Leaching-/ Assay-value/ SF5503 8356/ SF5503 8456
Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Tenement-maps/ Sample-location-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Bulk-sampling/ Leaching-/ Assay-value/ SF5503 8356

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ RC-drilling/ Drill-cuttings-analysis / Laboratory-tests/ SF5508 8654

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Geological-mapping-Qld/ Photointerpretation-/ Geophysical-surveys-Qld/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Geochemical-interpretation/ Sample-location-maps/ SF5507 8355

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Photointerpretation-/ Geophysical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ RC-drilling/ SF5503 8356

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Geological-mapping-Qld/ Geological-maps-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Geochemical-interpretation/ Sample-location-maps/ SF5503 8356

Keywords: Gold-exploration-Qld/ Structural-geology-Qld/ Lineaments-/ Photogeology-/ Photointerpretation-/ Geophysical-surveys-Qld/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ SF5503 8456

Keywords: Gold-exploration-Qld/ Geological-logs/ Geological-maps-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Stream-sediment-sampling/ Rock-chip-sampling/ Grab-sampling/ Assay-value/ SF5508 8754

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Devonian-/ Carboniferous-/ SF5511 8352

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/
Magnetic-surveys/ Auger-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Soil-sampling/
Stream-sediment-sampling/ Leaching-/ Geophysical-interpretation/ SF5511 8352

Adam DPM, Aberfoyle Resources Ltd. 1988. Mount Coolon, six monthly progress report May 1988-
19773:10p
Keywords: Mineral-exploration-Qld/ Gold-/ Geochemical-exploration-Qld/ Stream-sediment-
sampling/ Bulk-sampling / Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-
magnetic-surveys/ Geophysical-interpretation/ Leaching-/ SF5507 8355

Adams DPM, Aberfoyle Resources Ltd. 1989. Durah Creek, final report including activities during the
Report; CR 20482:8p
Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-
radioactivity-surveys/ Geochemical-exploration-Qld/ BLEG-sampling/ Stream-sediment-
sampling/ Assay-value/ Remote-sensing/ Landsat-/ Reconnaissance-/ Image-interpretation/
Lineaments-/ SF5507 8355/ SF5507 8455

Adams DPM, Aberfoyle Resources Ltd. 1989. Funnel Creek, final report for the period ended 30/6/89.
maps
Keywords: Gold-exploration-Qld/ Silver-/ Geophysical-surveys-Qld/ Magnetic-surveys/ IP-
surveys/ Geochemical-exploration-Qld/ BLEG-sampling/ Rock-chip-sampling/ Stream-sediment-
sampling/ Core-sampling/ Panning-/ Assay-value/ Diamond-drilling/ Geological-logs/ Petrology-/ Geophysical-mapping-Qld/ Core-logs/ SF5508 8654/ SF5508 8754

Adams DPM, Aberfoyle Resources Ltd. 1989. Funnel Creek, six monthly progress report, August
19797:19p; 2 maps
Keywords: Mineral-exploration-Qld/ Gold-/ Geological-logs/ Assay-value/ Geochemical-
exploration-Qld/ Rock-chip-sampling/ Core-sampling/ Diamond-drilling/ SF5508 8654/ SF5508 8754

Adams DPM, Aberfoyle Resources Ltd. 1989. Mount Coolon, final report for the period ending
Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-
radioactivity-surveys/ Magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-
Qld/ BLEG-sampling/ Soil-sampling/ Stream-sediment-sampling/ Drill-cuttings-sampling/ Assay-
value/ Percussion-drilling/ Reconnaissance-/ Rotary-drilling/ SF5507 8355

Adams DPM, Aberfoyle Resources Ltd. 1989. Whynot, final report including activities during the
Report; CR 20471:10p
Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/
Geochemical-exploration-Qld/ BLEG-sampling/ Rock-chip-sampling/ Stream-sediment-
sampling/ Assay-value/ Reconnaissance-/ Photogeology-/ SF5507 8355/ SF5507 8455

Adams DPM, Aberfoyle Resources Ltd. 1988. Whynot, six monthly progress report May 1988-
Keywords: Mineral-exploration-Qld/ Gold-/ Geochemical-exploration-Qld/ Stream-sediment-
sampling/ Bulk-sampling/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-
magnetic-surveys/ Leaching-/ Geophysical-interpretation/ SF5507 8355
Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Magnetic-surveys/ Geochemical-exploration-Qld/ BLEG-sampling/ Rock-chip-sampling/ Soil-sampling/ Drill-cuttings-sampling/ Assay-value/ Percussion-drilling/ Rotary-drilling/ SF5502 8256

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Aerial-magnetic-surveys/ Aerial-photography/ Assay-value/ Base-maps/ Bulk-sampling/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Stream-sediment-sampling/ SF5502 8156

Keywords: Mineral-exploration-Qld / Geological-surveys/ Geophysical-surveys-Qld/ Radioactivity-surveys/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Photogeology-/ Water-sampling/ Stratigraphy-Qld/ Structural-geology-Qld/ Uranium-/ SF5510 8252/ SF5511 8352/ SF5514 8251/ SF5515 8351

Keywords: Petroleum-exploration-Qld/ Petroleum-resources/ Tertiary-/ Triassic-/ Permian-/ Carboniferous-/ Jurassic-/ Cretaceous-/ SE5416/ SE5513/ SF5400/ SF5501/ SF5502/ SF5503/ SF5504/ SF5507/ SF5508

Allen GE. 1978. Authority to Prospect 73C, Eastern Creek report on area not taken to lease. Mount Isa Mines Ltd; GSQ CR 6687:3p; bore logs, 1 plan
Keywords: Coal-exploration-Qld/ Igneous-intrusions/ Drilling-/ Permian-/ SF5507

Keywords: Coal-exploration-Qld/ Coal-analysis/ Well-logs/ Core-logging/ Electrical-well-logs/ Permian-/ Triassic-/ SF5507 8455

Keywords: Coal-exploration-Qld/ Regional-geology-Qld/ Geological-mapping-Qld/ Drilling-/ Well-logs/ Permian-/ Triassic-/ SF5503 8456

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Geological-logs/ Permian-/ SF5507 8554/ SF5507 8555

Keywords: Coal-exploration-Qld/ Well-logs/ Core-logging/ Geophysical-logs/ Coal-analysis/ SF5507 8455
Keywords: Coal-exploration-Qld/ Coal-analysis/ Geological-logs/ Permian-/ SF5516 8750/ SF5516 8751

Keywords: Composite-logs/ Core-logs/ Drilling-/ Formation-tests/ Lithology-/ Palaeontology-/ Palynology-/ Petroleum-exploration-Qld/ Petrology-/ Stratigraphy-Qld/ Structure-contour-maps/ Water-analysis/ Well-logs/ SF5514 8150
Abstract: No significant hydrocarbon shows. Total depth 2786 m, 23/6/65.

Keywords: Mesozoic-/ Palaeozoic-/ Petroleum-exploration-Qld/ Seismic-profiles/ Seismic-reflection-surveys/ Seismic-refraction-surveys/ Seismic-surveys/ Structural-geology-Qld/ Structure-contour-maps/ SF5514/ SF5515/ SG5502/ SG5503/ SG5506/ SG5507/ SG5511/ SG5515
Abstract: Two major anticlinal areas, with 12000 ft and 7000 ft sections.

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Coal-analysis/ Core-drilling/ Core-sampling/ Geological-logs/ Geophysical-logs/ Geophysical-surveys-Qld/ Graphic-logs/ Isopach-maps/ Seismic-surveys/ SF5516 8850/ SG5504 8849

Keywords: Gold-exploration-Qld/ Silver-/ Aerial-photography/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Percussion-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Cambrian-/ Ordovician-/ Carboniferous-/ SF5502 8056/ SF5502 8156/ SF5502 8257/ SF5506 8255

Keywords: Gold-exploration-Qld/ Silver-/ Epithermal-deposits/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Carboniferous-/ Tertiary-/ SF5502 8056/ SF5502 8156

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Percussion-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Trenching-/ Cambrian-/ Ordovician-/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Antimony-/ Percussion-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Trenching-/ Assay-value/ Laboratory-tests/ Cambrian-/ Ordovician-/ SF5502 8057

Amad NL. 1985. Homestead locality, Queensland, third six monthly report for the period 17/11/84 to
Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Seismic-refraction-surveys/ Seismic-surveys/ Seismographs-/ Structural-geology-Qld/ Structure-contour-maps/ SF5509 7853/ SF5509 7953/ SF5510 8053
Abstract: Closed structure of considerable extent mapped.

Keywords: Mesozoic-/ Palaeozoic-/ Petroleum-exploration-Qld/ Regional-geology-Qld/ Seismic-reflection-surveys/ Seismic-refraction-surveys/ Seismic-surveys/ Seismographs-/ Structural-geology-Qld/ Structure-contour-maps/ SF5408/ SF5501/ SF5506/ SF5509/ SF5510
Abstract: Regional Permian structure mapped, anomalies indicated.

Keywords: Mesozoic-/ Permian-/ Petroleum-exploration-Qld/ Regional-geology-Qld/ Seismic-reflection-surveys/ Seismic-refraction-surveys/ Seismic-surveys/ Seismographs-/ Structural-geology-Qld/ Structure-contour-maps/ SF5505/ SF5506/ SF5509/ SF5510
Abstract: Survey provided additional control in some anomalous areas.

Keywords: Isopach-maps/ Palaeozoic-/ Petroleum-exploration-Qld/ Regional-geology-Qld/ Seismic-reflection-surveys/ Seismic-refraction-surveys/ Seismic-surveys/ Seismographs-/ Structural-geology-Qld/ Structure-contour-maps/ SF5505/ SF5506/ SF5509/ SF5510
Abstract: Closure confirmed, Drummond Basin framework determined.
Abstract: Survey indicates closed structures, further work recommended to delineate these features.

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ Seismic-surveys/ Stratigraphic-drilling/ Devonian-/ Permian-/ Triassic-/ Jurassic-/ Cretaceous-/ SF5513 7950/ SF5513 7951/ SF5514 8050/ SG5502/ SG5506/ SG5507 8346/ SG5507 8347/ SG5510 8244/ SG5510 8245/ SG5511

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-surveys/ Radioactivity-logging/ Natural-gas/ Permian-/ Cretaceous-/ SF5513/ SF5514/ SG5502/ SG5506/ SG5507/ SG5510/ SG5511

Keywords: Petroleum-exploration-Qld/ Photogeology-/ Seismic-surveys/ Geological-mapping-Qld/ Devonian-/ Permian-/ Cretaceous-/ SF5408/ SF5411/ SF5412/ SF5413/ SF5415/ SF5514/ SG5502/ SG5506/ SG5507/ SG5510/ SG5511

Keywords: Petroleum-exploration-Qld/ Gravity-surveys/ Seismic-surveys/ Devonian-/ Permian-/ Cretaceous-/ SF5408/ SF5411/ SF5412/ SF5413/ SF5415/ SF5514/ SG5502/ SG5506/ SG5507/ SG5510/ SG5511

Keywords: Petroleum-exploration-Qld/ Stratigraphy-Qld/ Geological-structures/ Geothermal-gradients/ Seismic-interpretation/ SF5416 7551/ SF5416 7650/ SF5416 7651/ SF5515/ SG5404 7649/ SG5501 7748/ SG5501 7848/ SG5501 7948

Keywords: Composite-logs/ Core-logs/ Drilling-/ Lithology-/ Palynology-/ Petroleum-exploration-Qld/ Petrology-/ Regional-geology-Qld/ Stratigraphic-succession/ Stratigraphy-Qld/ Volcanic-rocks/ Well-logs/ Palaeozoic-/ Tertiary-/ SF5504 8657
Abstract: No significant hydrocarbon shows. Total depth 1295 m, 25/7/65.

Keywords: Isopach-maps/ Marine-geophysics/ Marine-petroleum-exploration-Qld/ Marine-seismic-surveys/ Navigation-/ Petroleum-exploration-Qld/ Seismic-surveys/ Seismic-velocity/ Seismographs-/ Structural-geology-Qld/ Structure-contour-maps/ SF5504/ SF5508
Abstract: Geological work required for seismic control of sedimentary trough.
Keywords: Petroleum-exploration-Qld/ Well-completion-report/ Drilling-/ Drill-core/ Drill-cuttings/ Well-logs/ Formation-tests/ Stratigraphy-Qld/ Palynology-/ Porosity-/ Permeability-/ Devonian-/ Carboniferous-/ Permian-/ Tertiary-/ SF5504 8657

Keywords: Aerial-magnetic-surveys/ Magnetic-anomalies/ Magnetic-maps/ Magnetic-surveys/ Palaeozoic-/ Petroleum-exploration-Qld/ Structural-geology-Qld/ SF5504/ SF5508
Abstract: Great variety of anomalies, complex geology suggested.

Keywords: Isopach-maps/ Petroleum-exploration-Qld/ Seismic-profiles/ Seismic-reflection-surveys/ Seismic-refraction-surveys/ Seismic-surveys/ Structural-geology-Qld/ Structure-contour-maps/ SF5504 8656/ SF5504 8657
Abstract: Further exploration should test stratigraphy of syncline.

Keywords: Basement-/ Bathymetry-/ Cainozoic-/ Geological-maps-Qld/ Marine-geophysics/ Marine-petroleum-exploration-Qld/ Marine-seismic-surveys/ Mesozoic-/ Permian-/ Petroleum-exploration-Qld/ Regional-geology-Qld/ Seismographs-/ Structural-geology-Qld/ Structure-contour-maps/ SF5508/ SF5512
Abstract: Limited thickness of sediments above igneous basement.

Keywords: Coal-seams / Gravity-surveys/ Drilling-/ Basalt-/ Tertiary-/ Permian-/ Triassic-/ SF5511 8352/ SF5511 8452

Keywords: Coal-exploration-Qld/ Drilling-/ Coal-reserves/ Composite-logs/ Permian-/ SF5515 8550
Abstract: Two holes indicate large inferred reserves of non-coking coal suitable for underground mining in Reids Dome Beds on northwestern edge of Denison Trough.

Keywords: Coal-exploration-Qld/ Gravity-anomalies/ Geophysical-surveys-Qld/ Gravity-surveys/ SF5511 8353/ SF5511 8452/ SF5511 8453

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ SF5511 8553

Keywords: Coal-exploration-Qld/ Coal-reserves/ Drilling-/ Stratigraphy-Qld/ Coal-analysis/
Well-logs/ SF5512 8652/ SF5516 8651
Abstract: Substantial reserves of non-coking coal established.

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-interpretation/ Seismic-reflection-surveys/ Structural-geology-Qld/ Stratigraphy-Qld/ Well-velocity-surveys/ Permian-/ Triassic-/ SF5512/ SF5516/ SG5504

Keywords: Mineral-exploration-Qld/ Dolomite (rock)/ Feasibility-studies/ Auger-drilling/ Laboratory-tests/ Photogeology-/ Geochemical-exploration-Qld/ Sampling-/ Volcanic-rocks/ Cainozoic-/ SF5511 8452

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Geological-logs/ Permian-/ SF5512 8652/ SF5512 8653/ SF5512 8752/ SF5512 8753/ SF5516 8751/ SF5516 8851

Archibald DC. 1981. Bombandy final report (oil shale). Energy Minerals Pty Ltd; Esso Australia Inc - Coal and Synthetic Fuels Department; GSQ CR 9716:3p; logs
Keywords: Mineral-exploration-Qld/ Geological-logs/ Oil-shale/ Tertiary-/ SF5512 8653

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Geological-logs/ Geophysical-logs/ Graphic-logs/ SF5512 8652/ SF5516 8651

Keywords: Mineral-exploration-Qld/ Gold-/ Geochemical-exploration-Qld/ Panning-/ Rock-chip-sampling/ Assay-value/ SF5503 8357

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Imagery-/ Landsat-/ Reconnaissance-/ Sampling-/ Thematic-mapper-surveys/ SF5503 8556/ SF5503 8557

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Geological-maps-Qld/ Geophysical-interpretation/ Imagery-/ Landsat-/ Reconnaissance-/ Sampling-/ Tenement-maps/ Thematic-mapper-surveys/ SF5503 8456/ SF5503 8556

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Geophysical-surveys-
Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Geological-maps-Qld/ Landsat/- Reconnaissance/- Sampling/- Tenement-maps/ Thematic-mapper-surveys/ SF5502 8557

Keywords: Base-metal-exploration-Qld/ Lead/- Zinc/- Copper/- Nickel/- Antimony/- Manganese/- Cobalt/- Arsenic/- Gold/- Reconnaissance/- Geological-mapping-Qld/ Geological-maps-Qld/ Tenement-maps/ Photointerpretation/- Geophysical-surveys-Qld/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Core-drilling/ Rotary-drilling/ Geochemical-interpretation/ Sample-location-maps/ SF5507 8454

Keywords: Mineral-exploration-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Data-processing/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Lineaments/- Photogeology/- Photointerpretation/- Tenement-maps/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Diamond-drilling/ Petrology/- Geological-logs/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Core-sampling/ Assay-value/ SF5511 8352/ SF5511 8353

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ SF5511 8352/ SF5511 8353

Keywords: Gold-exploration-Qld/ Reconnaissance/- Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Resistivity-surveys/ IP-surveys/ Surveying/- Percussion-drilling/ Petrology/- Geochemical-exploration-Qld/ Bulk-sampling/ Leaching/- Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Drill-cuttings-analysis/ Geophysical-interpretation/ SF5503 8457

Keywords: Mineral-exploration-Qld/ Gold/- Geological-mapping-Qld/ Geochemical-exploration-
Keywords: Petroleum-exploration-Qld/ Stratigraphy-Qld/ Geological-structures/ Permian-/ Triassic-/ Jurassic-/ Cretaceous-/ Tertiary-/ SF5511/ SF5512/ SF5516/ SG5503/ SG5504/ SG5508/ SG5601
Abstract: Several closures defined and possible leads located.

Keywords: Ground-water/ Isopach-maps/ Natural-gas/ Permian-/ Petroleum-exploration-Qld/ Regional-geology-Qld/ Seismic-profiles/ Seismic-reflection-surveys/ Seismic-surveys/ Seismographs-/ Structural-geology-Qld/ Structure-contour-maps/ Triassic-/ SF5515 8551/ SF5516 8650/ SF5516 8651/ SG5503 8549/ SG5504 8648/ SG5504 8649
Abstract: Includes report literature review.

Keywords: Petroleum-exploration-Qld/ Data-processing/ Seismic-interpretation/ Seismic-reflection-surveys/ Vibroseis-/ SF5515 8550/ SF5516 8650/ SG5503 8549/ SG5504 8649
Abstract: Several closures defined and possible leads located.

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Regional-geology-Qld/ Stratigraphy-Qld/ Seismic-surveys/ Seismic-reflection-surveys/ Structural-geology/ Natural-gas/ Permian-/ Triassic-/ SF5503/ SF5504/ SF5507/ SF5508/ SG5503/ SG5504/ SG5512

Keywords: Composite-logs/ Core-logs/ Drilling-/ Lithology-/ Palaeontology-/ Petroleum-exploration-Qld/ Petrology-/ Stratigraphic-succession/ Stratigraphy-Qld/ Well-logs/ Permian-/ Triassic-/ SF5516 8650
Abstract: More detail over the Cooroorah Anticline obtained in survey.

Keywords: Gravity-anomalies/ Gravity-maps/ Gravity-surveys/ Permian-/ Petroleum-exploration-Qld/ Structural-geology-Qld/ Triassic-/ SF5511 8552
Abstract: Further detailed seismic recommended on prospective areas.

Atkinson PR. 1980. Report on relinquished Authority to Prospect 244C, Queensland. Hancock
Prospecting Pty Ltd; Wright Prospecting Pty Ltd; GSQ CR 7834:15p; 3 plans
Keywords: Mineral-exploration-Qld/ Coal-analysis/ Water-analysis/ Costs/-/ Drill-holes/ Permian-/ SF5514 8151/ SF5514 8251

Keywords: Gold-exploration-Qld/ Assay-value/ Geochemical-exploration-Qld/ Auger-drilling/ Percussion-drilling/ Drill-cuttings-sampling/ Geological-logs/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Assay-value/ Bulk-sampling/ Geochemical-exploration-Qld/ Leaching-/ Metallurgy-/ Pits-/ RC-drilling/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stream-sediment-sampling/ Tailings-sampling/ Tenement-maps/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Assay-value/ Base-maps/ Bulk-sampling/ Leaching-/ RC-drilling/ Sample-location-maps/ Stream-sediment-sampling/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geochemical-exploration-Qld/ Assay-value/ Reconnaissance-/ RC-drilling/ Stream-sediment-sampling/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geochemical-exploration-Qld/ Reconnaissance-/ RC-drilling/ Stream-sediment-sampling/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Assaying-/ Bulk-sampling/ Drilling-/ Geochemical-exploration-Qld/ Leaching-/ Reconnaissance-/ RC-drilling/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geochemical-exploration-Qld/ Silver-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Assay-value/ Bulk-sampling/ Drill-cuttings-analysis/ Leaching-/ Photointerpretation-/ Remote-sensing/ Rock-chip-sampling/ Sample-location-maps/ Stream-sediment-sampling/ Tenement-maps/ SF5502 8157/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Molybdenum-/ Diamond-drilling/ Core-sampling/ Assay-value/ Permian-/ SF5503 8456

Austral Geo Prospectors Pty Ltd, Clutha Development Pty Ltd. 1968. Killarney May-July 1968, drill
Keywords: Coal-exploration-Qld/ Rotary-drilling/ Geological-logs/ Coal-analysis/ Permian-/ SF5512 8653

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Cross-sections/ Oil-shale/ Tertiary-/ SF5508 8655

Keywords: Mineral-exploration-Qld/ Magnesite-/ Assay-value/ Auger-drilling/ Base-maps/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Ore-reserves/ Reconnaissance-/ Rotary-drilling/ Sampling-/ SF5512 8852

Keywords: Mineral-exploration-Qld/ Magnesite-/ Base-maps/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Pits-/ Regional-geology-Qld/ Rotary-drilling/ Trenching-/ SF5512 8852

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Assay-value/ Magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Petrology-/ Grab-sampling/ RC-drilling/ Trenching-/ Geological-logs/ Percussion-drilling/ Drill-cuttings-sampling/ SF5511 8353

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ RC-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Leaching-/ Assay-value/ Cambrian-/ Ordovician-/ Devonian-/ Carboniferous-/ SF5507 8355

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Geochemical-interpretation/ Devonian-/ Carboniferous-/ SF5510 8252

Keywords: Gold-exploration-Qld/ Silver-/ Aerial-geophysical-surveys/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Auger-drilling/ Base-maps/ Data-processing/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Satellite-imagery/ Soil-sampling/ SF5511 8452/ SF5515 8451

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Palladium-/
Geophysical-surveys-Qld/ Aerial-geophysical-surveys/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Auger-drilling/ Bulk-sampling/ Geochemical-exploration-Qld/ Leaching-/ Soil-sampling/ Tenement-maps/ SF5511 8452/ SF5515 8451


Keywords: Base-metal-exploration-Qld/ Zinc-/ Copper-/ Gold-exploration-Qld/ Molybdenum-/ Silver-/ Arsenic-/ Assay-value/ Bulk-sampling/ Chemical-analysis/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Leaching-/ Reconnaissance-/ Rock-chip-sampling/ Rotary-drilling/ Sample-location-maps/ Soil-sampling/ Stream-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5507

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Arsenic-/ Bismuth-/ Assay-value/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ IP-surveys/ Percussion-drilling/ Regional-geology-Qld / Resistivity-surveys/ RC-drilling/ Rock-chip-sampling/ Topographic-surveys/ SF5502 8256

Keywords: Gold-exploration-Qld / Base-metal-exploration-Qld/ Zinc-/ Lead-/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ IP-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Trenching-/ Petrology-/ X-ray-diffraction/ Sample-location-maps/ SF5503 8356

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Antimony-/ Molybdenum-/ Arsenic-/ Aerial-photography/ Assay-value/ Base-maps/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Percussion-drilling/ Photogeological-maps/ Photogeology-/ Reconnaissance-/ Rotary-drilling/ Sample-location-maps/ Soil-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5507 8354/ SF5507 8355/ SF5507 8454

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Arsenic-/ Reconnaissance-/ Geological-mapping-Qld/ Geophysical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Percussion-drilling/ Core-logs/ Petrology-/ Sample-location-maps/ SF5507 8455

Keywords: Gold-exploration-Qld/ Aerial-geophysical-surveys/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ SF5507 8454/ SF5507 8455

Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geophysical-anomalies/ SF5507 8454


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Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Barium-/ Silver-/ Arsenic-/ Bismuth-/ Geological-mapping-Qld/ Reconnaissance-/ Geophysical-surveys-Qld/ IP-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ RC-drilling/ Sample-location-maps/ SF5507 8355/ SF5507 8455


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Bismuth-/ Silver-/ Molybdenum-/ Arsenic-/ Geological-mapping-Qld/ Reconnaissance-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Petrology-/ SF5507 8355/ SF5507 8455


Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Geological-maps/ Tenement-maps/ Geochemical-exploration-Qld/ Bulk-sampling/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Petrology-/ Geochemical-interpretation/ Sample-location-maps/ SF5507 8455


Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Geological-maps/ Tenement-maps/ Geochemical-exploration-Qld/ Bulk-sampling/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Petrology-/ Geochemical-interpretation/ Sample-location-maps/ SF5507 8455


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Assay-value/ Geochemical-exploration-Qld/ Bulk-sampling/ Geological-maps-Qld/ Ground-magnetic-surveys/ Laboratory-tests/ Leaching-/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Stream-sediment-sampling/ Tenement-maps/ SF5502 8256


Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Geophysical-interpretation/ SF5507 8354/ SF5507 8454


Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ RC-drilling/ SF5507 8355/ SF5507 8455


Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Assay-value/ Rotary-drilling/ Drill-cuttings-analysis/ Sample-
Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Rotary-drilling/ Drill-cuttings-analysis/ Sample-location-maps/ Geological-logs/ Cross-sections/ SF5507 8354/ SF5507 8454

Keywords: Gold-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ SF5507 8354/ SF5507 8454

Keywords: Gold-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ SF5507 8354/ SF5507 8454

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Aerial-magnetic-surveys/ Assay-value/ Geochemical-exploration-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Reconnaissance-/ Rock-chip-sampling/ Tenement-maps/ SF5502 8156

Keywords: Gold-exploration-Qld/ Arsenic-/ Silver-/ Geological-mapping-Qld/ Remote-sensing/ Landsat-/ Photogeology-/ Photointerpretation-/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Reinterpretation-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Petrology-/ SF5502 8256/ SF5506 8255

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Keywords: Mineral-exploration-Qld/ Molybdenum-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Diamond-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Core-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5507 8355

Keywords: Base-metal-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Rotary-drilling/ Diamond-drilling/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Trenching-/ Silurian-/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ SF5507 8554/ SF5508 8654/ SF5508 8655/ SF5511 8553/ SF5512 8653

Keywords: Base-metal-exploration-Qld/ Copper-/ Gold-exploration-Qld/ Molybdenum-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-
sampling/ Stream-sediment-sampling/ Petrology/- Low-grade-ores/ Ordovician/- Silurian/- Devonian/- Carboniferous/- SF5502 8256/ SF5502 8257


Barbour WR. 1981. Clarke Range, six monthly progress report and final report for period 17/12/80 to 15/6/81. Marathon Petroleum Australia Ltd; GSQ CR 9230:5p Keywords: Coal-exploration-Qld/ Rotary-drilling/ Geological-logs/ Geophysical-logs/ Photogeology/- Permian/- SF5503 8357/ SF5503 8457

Barclay CJ. 1976. Exmoor, six monthly progress report for period ended 5th February, 1976. Shell Development (Australia) Pty Ltd; GSQ CR 5543:7p; 69 logs, 2 plans Keywords: Coal-exploration-Qld/ Geological-mapping-Qld/ Percussion-drilling/ Core-drilling/ Permian/- SF5503 8556/ SF5507 8555

Barclay CJ. 1976. Final report, Authority to Prospect 163C - Exmoor. Shell Development (Australia) Pty Ltd; GSQ CR 5713:11p; bore logs, maps Keywords: Coal-exploration-Qld/ Igneous-intrusions/ Sills/- Drilling/- Well-logging/ SF5503 8556/ SF5507 8555

Barclay CJ. 1981. Relinquishment report 4/1/81. Shell Company of Australia Ltd; GSQ CR 9129 (A-C):17p Keywords: Coal-exploration-Qld/ Rotary-drilling/ Geological-logs/ Ground-water/ Geophysical-logs/ Permian/- SF5501 7956/ SF5502 8056

Barclay CJ. 1975. A to P 163C, Exmoor 100 sub block relinquishment report, 5 August, 1975. Shell Development (Australia) Pty Ltd; GSQ CR 5669:3p; 16 logs, map Keywords: Coal-exploration-Qld/ Igneous-intrusions/ Well-logging/ Wire-line-logging/ Drilling/- Permian/- SF5503/ SF5507


Keywords: Mineral-exploration-Qld/ Rotary-drilling/ Percussion-drilling/ Geophysical-logs/ Stratigraphy-Qld/ Shale-oil/ Coal-/ Permian-/ Belyando-Feature/ SF5514 8250

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Mineralization-/ Volcanogenic-deposits/ SF5503 8356/ SF5503 8357

Keywords: Gold-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ SF5502 8157

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Uranium-exploration-Qld/ Geophysical-surveys-Qld/ Ground-radioactivity-surveys/ Diamond-drilling/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Ordovician-/ Silurian-/ Devonian-/ SE5514/ SF5502

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Percussion-drilling/ RC-drilling/ Sample-location-maps/ Drill-hole-data/ Cross-sections/ SF5511 8353

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Percussion-drilling/ Rotary-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Soil-sampling/ Assay-value/ SF5511 8352 / SF5511 8353/ SF5515 8351

Keywords: Gold-exploration-Qld/ Remote-sensing/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Rotary-drilling/ Drill-cuttings-analysis/ Geological-logs/ SF5511 8353

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Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Magnetic-surveys/ Rotary-drilling/ Geological-logs/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Drill-cuttings-sampling/ Assay-value/ Reconnaissance-/ Geophysical-interpretation/ SF5502 8256/ SF5505 8257

Keywords: Mineral-exploration-Qld/ Reconnaissance-/ Geophysical-surveys-Qld/ Magnetic-surveys/ SF5502 8257/ SF5503 8357

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Arsenic-/ Reconnaissance-/ Drilling-/ Cambrian-/ Ordovician-/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Antimony-/ Silver-/ Geological-mapping-Qld/ Geological-logs/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Assay-value/ Reconnaissance-/ SF5502 8256/ SF5503 8356

Keywords: Gold-exploration-Qld/ Silver-/ RC-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Panning-/ Geochemical-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Drill-cuttings-sampling / Assay-value/ SF5502 8256/ SF5503 8356/ SF5506 8255

Keywords: Gold-exploration-Qld/ Epigenetic-deposits/ Reconnaissance-/ Geological-mapping-Qld/ Percussion-drilling/ Geological-logs/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Trenching-/ Assay-value/ Cambrian-/ Ordovician-/ SF5502 8157

Keywords: Aerial-magnetic-surveys/ Assay-value/ Data-processing/ Geochemical-exploration-Qld/ Geological-surveys-Qld/ Geophysical-interpretation/ Ground-magnetic-surveys/ Gold-exploration-Qld/ Regional-geology-Qld/ Rock-chip-sampling/ SF5502 8157 / SF5502 8257


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Keywords: Gold-exploration-Qld / Silver-/ Aerial-magnetic-surveys/ Assay-value/ Chemical-analysis/ Drill-cuttings-analysis/ Geochemical-anomalies/ Geochemical-exploration/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ IP-surveys/ Percussion-drilling/ Reconnaissance-/ Reinterpretation-/ Resistivity-surveys/ RC-drilling/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5503 8356/ SF5503 8456/ SF5507 8355/ SF5507 8455

Keywords: Gold-exploration-Qld/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ IP-surveys/ Resistivity-surveys/ Aerial-photography/ Assay-value/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Geological-mapping-Qld/ Geophysical-interpretation/ Photointerpretation-/ Reconnaissance-/ Regolith-/ RC-drilling/ Sample-location-maps/ Tenement-maps/ SF5503 8356/ SF5503 8456/ SF5507 8355/ SF5507 8455

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Leaching-/ Geophysical-surveys-Qld/ Seismic-surveys/ Assay-value/ Devonian-/ Carboniferous-/ SF5512 8852/ SF5516 8851

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Keywords: Gold-exploration-Qld/ RC-drilling / Geological-logs/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Drill-cuttings-sampling/ Assay-value/ Reconnaissance-/ SF5502 8256/ SF5503 8356/ SF5506 8255

Keywords: Gold-exploration-Qld/ Silver-/ Percussion-drilling/ RC-drilling/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Drill-cuttings-analysis/ Assay-value/ SF5502 8256/ SF5503 8356

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Geophysical-surveys/ Aerial-magnetic-surveys/ Rock-chip-sampling/ SF5510 8253/ SF5511 8352/ SF5511 8353/ SF5515 8351

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Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Electrical-IP-surveys/ Transient-EM-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Assay-value/ Percussion-drilling/ Diamond-drilling/ Core-sampling/ Drill-cuttings/ Trenching-/ Cambrian-/ Ordovician-/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Volcanogenic-deposits/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys / Aerial-radioactivity-surveys/ Electrical-IP-surveys/ EM-surveys/ Percussion-drilling/
Keywords: Base-metal-exploration-Qld/ Gold-exploration-Qld/ Silver-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ EM-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Cambrian-/ Ordovician-/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Geophysical-logs/ Diamond-drilling/ Percussion-drilling/ Rotary-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Cambrian-/ Ordovician-/ SF5502 8157

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Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Gold-exploration-Qld/ Volcanogenic-deposits/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Bulk-sampling/ Trenching-/ Assay-value/ Cambrian-/ Ordovician-/ SF5502 8157

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Keywords: Mineral-exploration-Qld/ Ground-water-surveys/ Electrical-well-logging/ Stratigraphy-Qld/ Sedimentary-geology/ Uranium-/ Devonian-/ Carboniferous-/ SF5514 8250/ SF5514 8251

Keywords: Mineral-exploration-Qld/ Ground-water-surveys/ Electrical-well-logging/ Stratigraphy-Qld/ Sedimentary-geology/ Uranium-/ Devonian-/ Carboniferous-/ SF5514 8251

Keywords: Mineral-exploration-Qld/ Sedimentary-ores/ Percussion-drilling/ Geochemical-exploration-Qld/ Petrology-/ Geophysical-logs/ Photogeology-/ Ground-water-sampling/ Uranium-/ Devonian-/ Carboniferous-/ SF5510 8252/ SF5514 8250/ SF5514 8251

Keywords: Mineral-exploration-Qld/ Sedimentary-ores/ Percussion-drilling/ Palynology-/ Ground-water-sampling/ Geochemical-exploration-Qld/ Uranium-/ Carboniferous-/ Permian-/ SF5510 8252/ SF5514 8250/ SF5514 8251

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Keywords: Mineral-exploration-Qld/ Ground-water-surveys/ Electrical-well-logging/ Stratigraphic-correlation/ Rock-chip-sampling/ Sedimentary-geology/ Uranium-/ Devonian-/ Carboniferous-/ SF5514 8250

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Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Magnetite-/ Titanium-/ Aerial-geophysical-surveys/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Base-maps/ Core-logs/ Diamond-drilling/ Drill-core-analysis/ Geochemical-exploration-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Gravity-surveys/ Ground-magnetic-surveys/ Topographic-surveys/ Laboratory-tests/ Magnetic-properties/ Metallogenesis-/ Petrology-/ Reinterpretation-/ Stream-sediment-sampling/ SF5508 8654/ SF5508 8655

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Keywords: Gold-exploration-Qld/ Diamond-drilling/ Petrology-/ Assay-value/ Cambrian-/ Ordovician-/ SF5502 8157

Keywords: Gold-exploration-Qld/ Assay-value/ Bulk-sampling/ Chemical-analysis/
Geochemical-anomalies/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Grab-
sampling/ Reconnaissance/- Rock-chip-sampling/ Sample-location-maps/ Sampling/- Soil-
sampling/ Stream-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5502 8257

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value/ Bulk-sampling/ Chemical-analysis/ Geochemical-anomalies/ Geochemical-exploration-
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Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Geophysical-surveys-Qld/ IP-surveys/ Ground-magnetic-surveys/ Petrology-/ Geological-mapping-Qld/ History-/ Diamond-drilling/ Geological-logs/ SE5514 8158/ SF5502 8157

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Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Magnetic-surveys/ Radioactivity-surveys/ Geophysical-surveys-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Petrology-/ Porphyry-copper-deposits/ Molybdenum-/ SF5503 8457

Keywords: Gold-exploration-Qld/ Photogeology-/ Geological-mapping-Qld/ Percussion-drilling/ RC-drilling/ Drill-cuttings-sampling/ Geological-logs/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Panning-/ Assay-value/ Permian-/ Triassic-/ SF5512 8753

Keywords: Gold-exploration-Qld/ Photointerpretation-/ Remote-sensing/ Image-interpretation/ Landsat-/ Geological-mapping-Qld/ Percussion-drilling/ Geological-logs/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Drill-cuttings-sampling/ Panning-/ Drill-cuttings-analysis/ Assay-value/ Devonian-/ Carboniferous-/ SF5512 8753

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Percussion-drilling/ Diamond-drilling/ Uranium-/ Phosphate-rock/ Devonian-/ Carboniferous-/ SF5511 8352/ SF5515 8351

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Keywords: Coal-exploration-Qld/ Stratigraphy-Qld/ Geological-mapping-Qld/ Structural-geology/ Well-logs/ Permian-/ Triassic-/ SF5516 8750/ SF5516 8751

Keywords: Coal-exploration-Qld/ Structural-geology-Qld/ Geological-logs/ Coal-analysis/ Permian-/ SF5516 8750/ SF5516 8751

Keywords: Gold-exploration-Qld/ Assay-value/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Radioactivity-surveys/ Gravity-surveys/ Geophysical-interpretation/ Aerial-photography/ Landsat-/ Photogeology-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Petrology-/ Geological-mapping-Qld/ Remote-sensing/ Photointerpretation-/ Thematic-mapper-surveys/ Image-interpretation/ X-ray-diffraction/ Base-maps/ SF5511 8353/ SF5511 8452/ SF5511 8453/ SF5511 8552/ SF5515 8451/ SF5515 8551

Keywords: Base-metal-exploration-Qld/ Mineral-exploration-Qld/ Gold-/ Geological-logs/ Leaching-/ Trenching-/ Geophysical-surveys-Qld/ Gravity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Assay-value/ Percussion-drilling/ Mineragraphy-/ SF5508 8654/ SF5508 8655

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Photointerpretation-/ Lineaments-/ Gold-/ Oil-shale/ Permian-/ Tertiary-/ SF5508 8654/ SF5508 8655

Keywords: Coal-exploration-Qld/ Ground-water-surveys/ Core-drilling/ Mine-planning/ Graphic-logs/ Engineering-geophysics/ Engineering-geology/ Mine-spoil-heaps / Shear-strength/ SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Maps-/ Graphic-logs/ SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Geophysics-/ Aquifers-/ Surveying-/ Sandstone-/ Radioactivity-logs/ Rotary-percussion-drilling/ SF5514 8151/ SF5514 8251

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Keywords: Mineral-exploration-Qld/ Drilling-/ Stratigraphy-Qld/ Assay-value/ Coal-analysis/ Petrology-/ Oil-shale/ Permian-/ SF5514 8151

Keywords: Mineral-exploration-Qld/ Drilling-/ Stratigraphy-Qld/ Oil-shale/ Assay-value/ Coal-/ Permian-/ SF5514 8151

Keywords: Mineral-exploration-Qld/ Rotary-drilling/ Logs-/ Oil-shale/ Permian-/ SF5514 8151

Keywords: Mineral-exploration-Qld/ Oil-shale/ Core-drilling/ Geological-logs/ Coal-analysis/ Permian-/ SF5514 8151

Keywords: Mineral-exploration-Qld/ Oil-shale/ Rotary-drilling/ Coal-seams/ Stratigraphy-Qld/ Permian-/ SF5514 8151

Keywords: Coal-exploration-Qld/ Coal-analysis/ Drilling-/ SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Coal-analysis/ Drilling-/ Geophysical-logs/ SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Coal-reserves/ Coal-analysis/ Engineering-geology/ Large-diameter-drilling/ Surveying-/ Rotary-drilling/ Wire-line-logging/ SF5514 8151

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Coal-analysis/ Hydrological-data/ Geophysical-logs/ Geomechanics-/ SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ SF5514 8151/
Keywords: Coal-exploration-Qld/ Geological-logs/ Drilling/- SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Drilling/- Drill-core/ Coal-analysis/ Pressure-measurement/ Engineering-geology/ Aquifers/- SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Surveying/- Coal-analysis/ Graphic-logs/ Ground-water/ Engineering-geology/ SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Drilling/- Coal-analysis/ Contour-maps/ SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Drilling/- Geological-maps-Qld/ Coal-analysis/ SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Drilling/- Geological-logs/ Geophysical-logs/ Coal-analysis/ Permian/- SF5514 8151

Keywords: Coal-exploration-Qld/ Geophysical-logs/ Coal-analysis/ Coal-reserves/ Geological-logs/ Drilling/- SF5514 8151/ SF5514 8252

Keywords: Coal-exploration-Qld/ Coal-analysis/ Geophysical-logs/ Rotary-drilling/ Well-logs/ SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Sandstone/- Siltstone/- Rotary-drilling/ Shale/- Percussion-drilling/ Geophysical-logs/ Clays/- Chemical-analysis/ Radioactivity-logs/ SF5514 8151/ SF5514 8251

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Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Gravity-surveys/ Gold-/ Permian-/ SF5511 8452/ SF5515 8451

Keywords: Coal-exploration-Qld/ Diamond-drilling/ Core-sampling/ Laboratory-tests/ Coal-seams/ Permian-/ SF5516 8650

Keywords: Gold-exploration-Qld/ Core-drilling/ Geophysical-surveys-Qld/ Gravity-surveys/ Magnetic-surveys/ Geophysics-/ SF5511 8452

Keywords: Mineral-exploration-Qld/ Gold-/ Uranium-/ Rotary-drilling/ Percussion-drilling/ Diamond-drilling/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ Palaeontology-/ SF5511 8452

Keywords: Mineral-exploration-Qld/ Chromite-/ Serpentinite-/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geophysics-/ Drilling-/ Geological-mapping-Qld/ SF5512 8852

Keywords: Base-metal-exploration-Qld/ Copper-/ Magnesite-/ Nickel-/ Zinc-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Assay-value/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Regional-geology-Qld/ Geological-mapping-Qld/ Drilling-/ Trenching-/ Devonian-/ Carboniferous-/ Permian-/ SF5512 8852/ SF5516 8851/ SF5609 8952/ SF5613 8951

Keywords: Mineral-exploration-Qld/ Rutile-/ Zircon-/ Ilmenite-/ Magnetite-/ Monazite-/ Beach-sands/ Heavy-minerals/ Geochemical-exploration-Qld/ Bulk-sampling/ Panning-/ Assay-value/ Geophysical-surveys-Qld/ Radioactivity-surveys/ Magnetic-surveys/ Auger-drilling/ Regional-
Keywords: Mineral-exploration-Qld/ Magnesite-/ Geochemical-exploration-Qld/ Rotary-drilling/ Drill-cuttings/ Sampling-/ Assay-value/ Permian-/ SF5512 8852

Keywords: Base-metal-exploration-Qld/ Nickel-/ Iron-/ Cobalt-/ Magnesite-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Bulk-sampling/ Drill-cuttings/ Rotary-drilling/ Assay-value/ Regional-geology-Qld/ Geological-mapping-Qld/ Devonian-/ Carboniferous-/ Permian-/ SF5512 8852/ SF5512 8853/ SF5516 8851/ SF5609 8952/ SF5613 8951/ SF5613 9051

Keywords: Base-metal-exploration-Qld/ Nickel-/ Assay-value/ Drilling-/ Rotary-drilling/ Percussion-drilling/ Lateritic-nickel-deposits/ Geochemical-exploration-Qld/ Sampling-/ SF5512 8852

Keywords: Base-metal-exploration-Qld/ Nickel-/ Copper-/ Zinc-/ Cobalt-/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Stream-sampling/ Assay-value/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Regional-geology-Qld/ Geological-mapping-Qld/ Petrology-/ Percussion-drilling/ Rotary-drilling/ Devonian-/ Carboniferous-/ Permian-/ SF5512 8852/ SF5512 8853/ SF5516 8851/ SF5609 8952/ SF5609 8953/ SF5613 8951

Keywords: Base-metal-exploration-Qld/ Nickel-/ Cobalt-/ Iron-/ Magnesium-/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Panning-/ Assay-value/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Percussion-drilling/ Regional-geology-Qld/ Geological-mapping-Qld/ Trenching-/ Pits-/ Petrology-/ Devonian-/ Carboniferous-/ Permian-/ SF5512 8852/ SF5512 8853/ SF5516 8851

Keywords: Mineral-exploration-Qld / Geological-mapping-Qld/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Diamond-drilling/ Rock-chip-sampling/ Trenching-/ Magnetic-surveys/ Gold-/ Copper-/ Devonian-/ Carboniferous-/ SF5508 8754

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Gravity-surveys/ Sampling-/ Mineshafts/ Gold-/ SF5511 8352/ SF5511 8452/ SF5511 8453

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Keywords: Mineral-exploration-Qld/ Gold-deposits/ Geological-mapping-Qld/ Gravity-surveys/ Diamond-drilling/ Well-logs/ SF5511 8452

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Diamond-drilling/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Cambrian-/ Ordovician-/ SF5502 8157

Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Photogeology-/ Cambrian-/ Devonian-/ Carboniferous-/ SF5502 8256/ SF5503 8356

Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geological-mapping-Qld/ Photogeology-/ Cambrian-/ Ordovician-/ SF5502 8256/ SF5503 8356

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Tin-/ Tungsten-/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Sample-location-maps/ Geophysical-surveys-Qld/ IP-surveys/ Magnetic-surveys/ Geochemical-exploration-Qld/ Regional-maps-Qld/ Regional-geology-Qld/ Assaying-/ Stratigraphy-Qld/ Diamond-drilling/ SF5512 8752/ SF5512 8852

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Magnetic-surveys/ Gravity-surveys/ Ultrabasic-rocks/ Chromite-/ Carboniferous-/ SF5512 8852/ SF5516 8851/ SF5609 8952/ SF5613 8951

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Gold-/ Devonian-/ Carboniferous-/ SF5508 8754/ SF5508 8755

Keywords: Mineral-exploration-Qld/ Diamond-drilling/ Chemical-analysis/ Geological-logs/ Gold-/ Devonian-/ Carboniferous-/ SF5508 8754/ SF5508 8755

Keywords: Mineral-exploration-Qld/ Drilling-/ Oil-shale/ Tertiary-/ SF5508 8754/ SF5508 8755

Keywords: Mineral-exploration-Qld/ Drilling-/ Oil-shale/ Tertiary-/ SF5512 8852/ SF5516 8851

Keywords: Mineral-exploration-Qld / Drilling-/ Oil-shale/ Tertiary-/ SF5502 8256/ SF5502 8257

Keywords: Mineral-exploration-Qld/ Drilling-/ Geological-logs/ Stratigraphy-Qld/ Oil-shale/ Cretaceous-/ SF5512 8852/ SF5512 8853

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ IP-surveys/ Sirotem-surveys/ Geophysical-interpretation/ Percussion-drilling/ Rotary-drilling/ RC-drilling/ Drill-cuttings-sampling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5511 8352/ SF5511 8353

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ IP-surveys/ Sirotem-surveys/ Geophysical-interpretation/ Percussion-drilling/ Rotary-drilling/ RC-drilling/ Drill-cuttings-sampling/ Well-logs/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5511 8352/ SF5511 8353

Keywords: Gold-exploration-Qld/ Regional-geology-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Assay-value/ Volcanic-rocks/ Permian-/ Tertiary-/ SF5515 8550/ SG5503 8549

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Aerial-photographs/ SF5516 8750/ SF5516 8850/ SG5504 8849

Keywords: Coal-exploration-Qld/ Coal-seams/ Geological-mapping-Qld/ Rotary-drilling/
Diamond-drilling/ Permian-/ SF5516 8750/ SF5516 8751/ SF5516 8850/ SG5504 8849

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Keywords: Petroleum-exploration-Qld/ Stratigraphy-Qld/ Cross-sections/ Structure-contour-maps/ Devonian-/ Tertiary-/ Carboniferous- Permian-/ Mesozoic-/ SE5416/ SE5513/ SF5404/ SF5501/ SF5502/ SF5503/ SF5504/ SF5507/ SF5508

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Petrology-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5511 8453/ SF5511 8454

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Vein-deposits/ Geophysical-surveys-Qld/ Aerial-magnetic-maps/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Percussion-drilling/ Drill-cuttings-sampling/ Cambrian-/ Ordovician-/ Devonian-/ Carboniferous-/ SF5511 8453

Keywords: Petroleum-exploration-Qld/ Coal-/ Core-drilling/ Geological-mapping-Qld/ Petroleum-potential/ Lithology-/ Stratigraphy-Qld/ Structural-geology-Qld/ SF5507 8454/ SF5507 8554/ SF5508 8654/ SF5511 8452/ SF5511 8453/ SF5511 8552/ SF5511 8553/ SF5512 8652

Keywords: Geophysical-surveys-Qld/ Aerial-EM-surveys/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Image-interpretation/ SF5511 8452
Abstract: Outlining the degree of correlation between known geology of the region and test results.

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Geological-logs/ Geophysical-logs/ Permian-/ SF5512 8652

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Assay-value/ Tertiary-/ SF5503 8456/ SF5507 8455

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Geochemical-sampling/ Gold-/ Tertiary-/ SF5501 7956/ SF5501 7957/ SF5502 8056/ SF5502 8057

Keywords: Mineral-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Base-metals/ Molybdenum-/ Geochemical-exploration-Qld/ Soil-sampling/ Percussion-drilling/ Rock-chip-sampling/ Geological-mapping-Qld/ Devonian-/ Carboniferous-/ SF5503 8356/ SF5507 8355

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Molybdenum-/ Geophysical-surveys-Qld/ IP-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Geological-mapping-Qld/ Regional-geology-Qld/ Percussion-drilling/ Carboniferous-/ SF5503 8356/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Radioactivity-surveys/ Electrical-IP-surveys/ Ground-magnetic-surveys/ Percussion-drilling/ Sampling-/ Assay-value/ Permian-/ SF5516 8850

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Keywords: Base-metal-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Stream-sediment-sampling/ Soil-sampling/ Geophysical-surveys-Qld/ IP-surveys/ Geophysical-mapping-Qld/ Percussion-drilling/ Diamond-drilling/ Geological-logs/ Ultrabasic-rocks/ Assay-value/ Igneous-intrusions/ SF5503 8457/ SF5503 8557

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Image-interpretation/ Landsat-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5508 8755

Keywords: Mineral-exploration-Qld/ Aerial-magnetic-surveys/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ SF5512

Keywords: Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Mineral-exploration-Qld/ SF5512

Keywords: Gold-exploration-Qld/ Diamond-exploration-Qld/ Zeolite-/ Reconnaissance-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Panning-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Laboratory-tests/ SF5511 8352
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Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-surveys/ Seismic-reflection-surveys/ Stratigraphy-Qld/ Seismic-interpretation/ Well-velocity-surveys/ Geophysical-equipment/ Permian-/ Triassic- / SF5512/ SF5516/ SG5504

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Keywords: Coal-exploration-Qld / Mining-leases/ Structural-geology/ Coal-fields/ Geological-logs/ Drilling-/ Coal-analysis/ Permian-/ Triassic- / SF5507 8454/ SF5507 8455/ SF5507 8554/ SF5507 8555/ SF5508 8654/ SF5511 8553

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Keywords: Petroleum-exploration-Qld/ Well-completion-report/ Well-drilling/ Drill-core/ Stratigraphy-Qld/ Well-logs/ Drill-cuttings/ Well-log-interpretation/ Methane-drainage/ Permian-/ SF5507 8554

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Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Gold-/ Bismuth-/ Iron-/ Manganese-/ Geochemical-exploration-Qld/ BLEG-sampling/ Rock-chip-sampling/ Stream-sampling/ Geophysical-interpretation/ Reconnaissance-/ Geochemical-anomalies/ Geochemical-interpretation/ SF5502 8157

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Petroleum-/ Geochemical-exploration-Qld/ Sampling-/ SF5512 8852/ SF5516 8851/ SF5609 8952

Keywords: Coal-exploration-Qld/ Coal-seams/ Drilling-/ Stratigraphy-Qld/ Geological-logs/
Economic-analysis/ Economic-geology-Qld/ Permian-/ SF5512 8752/ SF5516 8750/ SF5516 8751/ SF5516 8850/ SF5516 8851/ SG5504 8849

Keywords: Gold-exploration-Qld/ Silver-/ Diamond-drilling/ Mineragraphy-/ Geochemical-
exploration-Qld/ Sampling-/ Assay-value/ Permian-/ Triassic-/ SF5515 8550/ SF5515 8551/
SF5516 8650/ SF5516 8651

Keywords: Petroleum-exploration-Qld/ Regional-geology-Qld/ Stratigraphy-Qld/ Work-programmes/
Drilling-/ Seismic-interpretation/ Regional-geology-Qld/ Landsat-/ Geological-structures/ Pump-
tests/ Geophysical-surveys-Qld/ Resistivity-surveys/ Hydrogeology-/ Aquifers-/ Aquicludes-/ Precious-metals/ SF5515 8550/ SF5515 8551/ SF5516 8650/ SF5516 8651/ SG5503 8548/
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surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ Permian-/ Triassic-/ SF5513/ SF5514/
SG5502/ SG5506/ SG5507/ SG5510/ SG5511

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-
sampling/ Stream-sediment-sampling/ Drill-cuttings-sampling/ Assay-value/ Panning-/ RC-
drilling/ Geological-mapping-Qld/ SF5502 8256/ SF5503 8356/ SF5507 8355

Keywords: Petroleum-exploration-Qld/ Geological-structures/ Drilling-/ Stratigraphy-Qld/ Traps (petroleum)/ Work-programmes/ Seismic-surveys/ SF5506 8055

Keywords: Coal-exploration-Qld/ Core-drilling/ Rotary-drilling/ Coal-analysis / Geological-logs/
Geophysical-logs/ Graphic-logs/ Coal-reserves/ Feasibility-studies/ SF5512 8652

Keywords: Coal-exploration/ Core-drilling/ Rotary-drilling/ Coal-analysis/ Geological-logs/ Geophysical-logs/ Graphic-logs/ Mining-engineering/ Exploration-costs/ SF5512 8652

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Coal-preparation/ Drilling-/ Geological-logs/ Geophysical-logs/ Graphic-logs/ Igneous-intrusions/ SF5512 8652

Keywords: Gold-exploration-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Magnetic-surveys/ EM-surveys/ Assay-value/ VLF-EM-surveys/ Core-drilling/ Diamond-drilling/ Trenching-/ Drill-core-analysis/ Core-logs/ Geological-logs/ Core-sampling/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Assay-value/ Aerial-magnetic-surveys/ Magnetic-surveys/ VLF-EM-surveys/ Soil-sampling/ Magnetic-properties/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rotary-drilling/ Drill-cuttings-sampling/ Geological-logs/ Lineaments-/ Geological-mapping-Qld/ Photogeology-/ Percussion-drilling/ Diamond-drilling/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Gold-/ Silver-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Rock-chip-sampling/ Petrology-/ Diamond-drilling / SF5502 8257/ SF5503 8357

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Magnetic-surveys/ Ground-radioactivity-surveys/ Uranium-/ Carboniferous-/ SF5510 8252

Keywords: Mineral-exploration-Qld/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Aerial-radioactivity-surveys/ Rock-chip-sampling/ Soil-sampling/ Magnetic-surveys/ Aerial-magnetic-surveys/ Ground-radioactivity-surveys/ Petrology-/ Uranium-/ Devonian-/ Carboniferous-/ SF5510 8252/ SF5514 8251

Keywords: Mineral-exploration-Qld/ Uranium-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Petrology-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysics-/ SF5510 8252

Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/
Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Uranium-/ Devonian-/ Carboniferous-/ SF5510 8252/ SF5514 8251

Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Magnetic-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/

Keywords: Gold-exploration-Qld/ Assay-value/ Geophysical-surveys-Qld / Radioactivity-surveys/ Geophysical-interpretation/ Magnetic-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ SF5506 8255/ SF5507 8355

Keywords: Gold-exploration-Qld/ Sample-location-maps/ Percussion-drilling/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ SF5503 8356/ SF5503 8357

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Silver-/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Percussion-drilling/ Drill-cuttings-analysis/ Geochemical-interpretation/ Sample-location-maps/ SF5506 8255

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Coal-analysis/ Drilling-/ Geological-logs/ Geophysical-logs/ SF5516 8651/ SF5516 8751

Keywords: Coal-exploration-Qld/ Drilling-/ Faults-/ Coking-coal/ Noncoking-coal/ Permian-/ SF5516 8651/ SF5516 8751

Keywords: Coal-exploration-Qld/ Wire-line-logs/ Permian-/ SF5511 8553

Keywords: Coal-exploration-Qld/ Drilling-/ Subbituminous-coal/ Coal-seams/ Noncoking-coal/ Permian-/ SF5510 8152/ SF5510 8252
Keywords: Coal-exploration-Qld/ Drilling-/ Coal-/ Permian-/ Triassic-/ SF5506 8055

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Coal-reserves/ Carboniferous-/ Triassic-/ SF5506 8154

Keywords: Coal-exploration-Qld/ Subbituminous-coal/ Coal-seams/ Noncoking-coal/ Drill-holes/ Permian-/ SF5514 8151/ SF5514 8251

Keywords: Copper-exploration-Qld/ Assay-value/ History-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geological-mapping-Qld/ Devonian-/ SF5508 8654

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Volcanogenic-deposits/ Massive-sulphide-deposits/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Geological-mapping-Qld/ Devonian-/ Carboniferous-/ SF5512 8753

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Volcanogenic-deposits/ Massivesulphide-deposits/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Percussion-drilling/ Diamond-drilling/ Geological-mapping-Qld/ Trenching-/ SF5502 8057/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Percussion-drilling/ Diamond-drilling/ Auger-drilling/ Petrology-/ SF5502 8157

Keywords: Coal-exploration-Qld/ Drilling-/ Stratigraphy-Qld/ Coal-seams/ Regional-geology-Qld/ Coal-analysis/ Permian-/ SF5515 8550/ SF5515 8551/ SF5516 8650/ SF5516 8651/ SF5516 8750/ SF5516 8751/ SG5504 8649

Keywords: Base-metal-exploration-Qld/ Chromium-/ Nickel-/ Gold-exploration-Qld/ Asbestos-/ Magnetite-/ Petrology-/ Mineragraphy-/ Auger-drilling/ Diamond-drilling/ Core-sampling/ Drill-cuttings/ Assay-value/ Permian-/ SF5512 8852/ SF5609 8952


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SF5507 8355

Keywords: Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ IP-surveys/ Diamond-drilling/ Geological-mapping-Qld/ SF5503 8356

Keywords: Coal-exploration-Qld/ Resource-assessment/ Rotary-drilling/ Shaft-sinking/ SF5507 8554/ SF5507 8555

Keywords: Mineral-exploration-Qld/ Trenching/- Percussion-drilling/ Geochemical-anomalies/ Gossans/- Geochemical-exploration-Qld/ Sphalerite/- Lead/- Molybdenum/- SF5511 8452/ SF5511 8453

Keywords: Coal-exploration-Qld/ Drilling/- Coal-seams/ Stratigraphy-Qld/ Coal-analysis/ Permian/- SF5503 8456/ SF5507 8454/ SF5507 8455/ SF5511 8452/ SF5511 8552/ SF5511 8553

Keywords: Coal-exploration-Qld/ Geological-logs/ Core-drilling/ Permian/- SF5516 8650

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys / Base-maps/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld / Reconnaissance/- SF5503 8357/ SF5503 8456/ SF5503 8457

Keywords: Base-metal-exploration-Qld/ Copper/- Gold-exploration-Qld/ Aerial-geophysical-surveys/ Aerial-magnetic-surveys/ Assay-value/ Core-drilling/ Drill-core-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Gravity-surveys/ Ground-magnetic-surveys/ Mineragraphy/- Petrology/- Stratigraphic-drilling / Stratigraphy-Qld/ Structural-geology-Qld/ SF5503 8357/ SF5503 8456/ SF5503 8457

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Field-geology/ Geological-mapping-Qld/ Geophysical-interpretation/ SF5503 8357/ SF5503 8456/ SF5503 8457


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Keywords: Coal-exploration-Qld/ Drillline-/ Wire-line-logs/ Seismic-surveys/ SF5516 8650

Keywords: Coal-exploration-Qld/ Geological-logs/ Geophysical-logs/ Coal-analysis/ Drilling-/ SF5501 7956/ SF5502 8056

Keywords: Coal-exploration-Qld/ Geophysical-logs/ Geological-logs/ Drilling-/ SF5501 7956/ SF5502 8056

Keywords: Coal-exploration-Qld/ Drilling-/ Drill-hole-data/ Geological-logs/ Geophysical-logs/ SF5515 8550/ SF5515 8551

Keywords: Coal-exploration-Qld/ Open-cut-mining/ Coal-reserves/ Coal-resources-Qld/ Drilling-/ Economic-geology-Qld/ Coal-quality/ Coal-analysis/ Regional-geology-Qld/ Stratigraphy-Qld/ SF5515 8550/ SF5515 8551/ SF5516 8650/ SF5516 8651
Abstract: Large reserves of steaming coal along a 16 km strike length.

Keywords: Coal-exploration-Qld/ Coal-analysis/ Drilling-/ Igneous-intrusions/ Well-logs/ SF5503 8456/ SF5507 8455

Keywords: Coal-exploration-Qld/ Coal-analysis/ Basalt-/ Drilling-/ Geological-logs/ SF5507 8455

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Graphic-logs/ SF5507 8455

Keywords: Coal-exploration-Qld/ Basalt-/ Coal-analysis/ Cross-sections/ Drilling-/ Sediments-/ Well-logs/ SF5507 8455

Keywords: Coal-exploration-Qld/ Diamond-drilling/ Volcanic-rocks/ SF5507 8455

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Geophysical-surveys-Qld/ Geological-surveys/ Auger-drilling/ Geochemical-exploration-Qld/
Stream-sediment-sampling/ Soil-sampling/ Assay-value/ SE5514 8258/ SF5502 8057

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Magnetite/- Ore-reserve-
estimation/ Geophysical-surveys-Qld/ Aerial-gravity-surveys/ Aerial-magnetic-surveys/ Ground-
magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-
sampling/ Assaying/- Assay-value/ Diamond-drilling/ Core-logs/ Drill-core-analysis/
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Aerial-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-
sampling/ Soil-sampling/ Assay-value/ Permian/- Triassic/- SF5507 8554/ SF5508 8654/ SF5511
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surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-
sampling/ Assay-value/ Sample-location-maps/ SF5506 8255

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Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/
Sample-location-maps/ SF5506 8254/ SF5506 8255

Keywords: Drilling-/ Drill-core-analysis/ Porosity-/ Permeability-/ Permian-/ SF5515 8551

Keywords: Petroleum-exploration-Qld/ Stratigraphy-Qld/ Regional-surveys/ Gravity-maps/ Geological-structures/ Devonian-/ Carboniferous-/ SF5506 8155/ SF5506 8255/ SF5507 8354/
SF5507 8355/ SF5510 8252/ SF5510 8253/ SF5511 8352/ SF5513 8353/ SF5514 8251/ SF5515 8351

Keywords: Petroleum-exploration-Qld/ Exploratory-wells/ Stratigraphy-Qld/ Geophysical-surveys-Qld/ Seismic-surveys/ Structural-geology-Qld/ Tectonics-/ Devonian-/ Carboniferous-/ Triassic-/ SF5506 8155/ SF5506 8255/ SF5507 8354/ SF5507 8355/ SF5510 8252/ SF5510 8253/
SF5511 8352/ SF5511 8353/ SF5514 8250/ SF5514 8251/ SF5515 8350/ SF5515 8351

Keywords: Petroleum-exploration-Qld/ Seismic-interpretation/ Petroleum-potential/ Regional-geology-Qld/ Data-processing/ Stratigraphy-Qld/ Field-methods/ Seismic-profiles/ Seismic-
reflection-methods/ Geophysical-surveys-Qld/ Seismic-surveys/ Vibroseis-/ SF5515 8550/
SF5516 8650/ SG5503 8549/ SG5504 8649

Keywords: Mineral-exploration-Qld/ Gold-/ Assay-value/ Petrology-/ Trenching-/ Geophysical-
surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Magnetic-surveys/
Thematic-mapper-surveys/ Aerial-photography/ Remote-sensing/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Drill-cuttings-sampling/ Drill-cuttings-analysis/ RC-
drilling/ Geological-logs/ Geological-mapping-Qld/ SF5507 8355

Keywords: Gold-exploration-Qld/ Geological-logs/ Geochemical-exploration-Qld/ Bulk-
sampling/ Stream-sediment-sampling/ Core-sampling/ Devonian-/ Carboniferous-/ SF5503 8556

section
Keywords: Coal-exploration-Qld/ Geological-logs/ Geophysical-logs/ Drilling-/ Coal-analysis/
Coal-reserves/ Permian-/ SF5516 8650/ SG5504 8649

Keywords: Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ IP-surveys/ Petrology-/ Percussion-drilling/ Geological-mapping-Qld/ SF5511 8452


Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Grab-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Sample-location-maps/ SF5503 8457

Keywords: Gold-exploration-Qld/ Silver-/ Geological-maps-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Assay-value/ Rotary-drilling/ SF5503 8457

Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Bulk-sampling/ Leaching-/ SF5503 8457

Keywords: Gold-exploration-Qld/ Silver-/ Geological-mapping-Qld/ Geological-maps-Qld/ Stratigraphy-Qld/ Stratigraphy-Qld/ Tenement-maps/ Thematic-mapper-surveys/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Geochemical-anomalies/ SF5503 8457

Keywords: Gold-exploration-Qld/ Silver-/ Geological-mapping-Qld/ Geological-maps-Qld/ Stratigraphy-Qld/ Structural-geology-Qld/ Stratigraphy-Qld/ Tenement-maps/ Sample-location-maps/ Contour-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Thematic-mapper-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Bulk-sampling/ Leaching-/ Grab-sampling/ Assay-value/ Geophysical-anomalies/ SF5503 8457

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Stream-sediment-sampling/ Assay-value/ Geophysical-interpretation/ SF5512 8753/ SF5512 8853

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Reconnaissance-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assaying-/ Drilling-/ Trenching-/ SF5511 8353

Keywords: Mineral-exploration-Qld/ Aerial-geophysical-surveys/ Geochemical-exploration-Qld/
Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Percussion-drilling/ Petrology-/ RC-drilling/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stratigraphy-Qld/ Tenement-maps/ SF5511 8353

Keywords: Gold-exploration-Qld/ Molybdenum-/ Assay-value/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Percussion-drilling/ RC-drilling/ Stratigraphy-Qld/ Tenement-maps/ SF5511 8353

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geological-maps-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Assaying-/ Percussion-drilling/ Rotary-drilling/ RC-drilling/ SF5507 8354

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Assay-value/ Base-maps/ Core-drilling/ Percussion-drilling/ RC-drilling/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Grab-sampling/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Petrology-/ Tenement-maps/ Reconnaissance-/ Reinterpretation-/ Stratigraphy-Qld/ SF5507 8354


Keywords: Gold-exploration-Qld/ Landsat-/ Remote-sensing/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Thematic-mapper-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Geophysical-interpretation/ SF5503 8456/ SF5503 8457
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Landsat-/ Remote-sensing/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Thematic-mapper-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching/- Grab-sampling/ Stream-sediment-sampling/ Rock-chip-sampling/ Assay-value/ Image-interpretation/ SF5503 8457

Keywords: Gold-exploration-Qld/ Remote-sensing/ Landsat-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Thematic-mapper-surveys/ Percussion-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching/- Grab-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Drill-cuttings-analysis/ Assay-value/ Geophysical-interpretation/ SF5503 8457

Keywords: Gold-exploration-Qld/ Landsat- / Remote-sensing/ Thematic-mapper-surveys/ Image-interpretation/ Geophysical-surveys-Qld / Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Grab-sampling/ Assay-value/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ SF5503 8457

Keywords: Gold-exploration-Qld/ Silver-/ Remote-sensing/ Landsat-/ Geophysical-surveys-Qld / Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Thematic-mapper-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Leaching-/ Assay-value/ SF5503 8456/ SF5503 8556

Keywords: Gold-exploration-Qld/ Silver/- Thematic-mapper-surveys/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Stream-sediment-sampling/ Assay-value/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ SF5503 8456/ SF5503 8556

Keywords: Gold-exploration-Qld/ Landsat-/ Thematic-mapper-surveys/ Remote-sensing/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching/- Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Image-interpretation/ SF5503 8457

Keywords: Gold-exploration-Qld/ Landsat-/ Thematic-mapper-surveys/ Remote-sensing/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching/- Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Image-interpretation/ SF5503 8457


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Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Ground-magnetic-surveys/ Sirotom-surveys/ EM-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Stream-sediment-sampling/ Assay-value/ Sample-location-maps/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Sirotom-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Stream-sediment-sampling/ Rotary-drilling/ Sample-location-maps/ SF5502 8157

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Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Assay-value/ Magnetic-profiles/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Assay-value/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Drill-cuttings-analysis/ EM-profiles/ Geophysical-surveys-Qld/ EM-surveys/ Ground-magnetic-surveys/ Sirotom-surveys/ Geological-mapping-Qld/ Geological-maps-Qld/ Leaching-/ Percussion-drilling/ Rotary-core-barrel/ Sample-location-maps/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Reconnaissance-/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Laboratory-tests/ Sample-location-maps/ SF5508 8755

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Reconnaissance-/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ IP-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Auger-drilling/
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Auger-drilling/ Laboratory-tests/ Sample-location-maps/ SF5508 8655

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Silver-/ Zinc-/ Molybdenum-/ Reconnaissance-/ Base-maps/ Tenement-maps/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assaying-/ Assay-value/ Sample-location-maps/ SF5516 8851/ SF5613 8951

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Molybdenum-/ Silver-/ Magnesium-/ Reconnaissance-/ Stratigraphy-Qld/ Base-maps/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Geochemical-anomalies/ Geochemical-interpretation/ Sample-location-maps/ SF5516 8851/ SF5613 8951

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Molybdenum-/ Arsenic-/ Reconnaissance-/ Structural-geology-Qld/ Stratigraphy-Qld/ Base-maps/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-geophysical-surveys/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Geochemical-anomalies/ Sample-location-maps/ SF5516 8851/ SF5613 8951

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Molybdenum-/ Reconnaissance-/ Geological-mapping-Qld/ Structural-geology-Qld/ Stratigraphy-Qld/ Base-maps/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assaying-/ Assay-value/ RC-drilling/ Drill-cuttings-analysis/ Petrology-/ Geochemical-interpretation/ Sample-location-maps/ SF5516 8851/ SF5613 8951

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/
Keywords: Gold-exploration-Qld/ Grab-sampling / Geophysical-surveys-Qld/ Aerial-magnetic-maps/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Rock-chip-sampling/ Geochemical-exploration-Qld/ Bulk-sampling/ Stream-sediment-sampling/ Rock-chip-sampling/ Grab-sampling/ SF5503 8457

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Assay-value/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Stream-sediment-sampling/ Rock-chip-sampling/ Grab-sampling/ SF5503 8457

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Percussion-drilling/ RC-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Drill-cuttings-sampling/ Assay-value/ Permian-/ Triassic-/ SF5503 8456

Keywords: Gold-exploration-Qld/ Remote-sensing/ Satellite-imagery/ Geological-mapping-Qld/ Aerial-magnetic-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Magnetic-surveys/ Thematic-mapper-surveys/ Percussion-drilling/ Geological-logs / Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ Leaching-/ Grab-sampling/ Rock-chip-sampling/ Soil-sampling/ Drill-cuttings-sampling/ Assay-value/ Image-interpretation/ SF5503 8457

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Bulk-sampling/ Stream-sediment-sampling/ Leaching-/ Assay-value/ SF5503 8456

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Permian-/ Triassic-/ SF5508 8654/ SF5512 8653/ SF5512 8753

Keywords: Gold-exploration-Qld/ Bulk-sampling/ Assay-value/ Geophysical-surveys-Qld/ Stream-sediment-sampling/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ SF5508 8655/ SF5508 8755

Keywords: Coal-exploration-Qld/ Geological-logs/ Geophysical-logs/ Gravity-surveys/ Rotary-drilling/ SF5511 8352/ SF5511 8353

Keywords: Gold-exploration-Qld/ Platinum-/ Geophysical-surveys-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Bulk-sampling/ Leaching-/ Assay-value/ Geophysical-interpretation/ SF5516 8851/ SF5613 8951

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ SF5508 8655

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Bulk-sampling/ Leaching-/ Grab-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assaying-/ Geochemical-anomalies/ Sample-location-maps/ SF5508 8755

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Reconnaissance-/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Sample-location-maps/ SF5508 8755

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Leaching-/ Assay-value/ Geophysical-interpretation/ SF5512 8753/ SF5512 8853

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Grab-sampling/ Stream-sediment-sampling/ Assay-value/ Geophysical-interpretation/ SF5508 8755
Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ SF5512 8853

Keywords: Mineral-exploration-Qld/ Platinum-group-elements/ Magnesite-/ Tenement-maps/ Geochemical-exploration-Qld/ Assay-value/ Auger-drilling/ SF5512 8852

Company Report; CR 21458:10p
Keywords: Gold-exploration-Qld/ Magnesite-/ Platinum-/ Palladium-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geophysical-interpretation/ Reinterpretation-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ SF5512 8852

Keywords: Mineral-exploration-Qld/ Platinum-group-elements/ Magnesite-/ Reconnaissance-/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ SF5512 8852


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Zinc-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assaying-/ Core-drilling/ Diamond-drilling/ RC-drilling/ Core-logs/ Drill-core-analysis/ Drill-cuttings-analysis/ Petrology-/ Geochemical-anomalies/ Sample-location-maps/ SF5504 8656

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Reconnaissance-/ Image-interpretation/ Satellite-imagery/ Thematic-mapper-surveys/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Gravity-surveys/ Geophysical-interpretation/ SF5501 7957/ SF5502 8057

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Magnetic-surveys/ Thematic-mapper-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Leaching-/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ SF5503 8456/ SF5503 8457

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Radioactivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Carboniferous-/ Permian-/ Jurassic-/ Triassic-/ SF5508 8754

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Permian-/ SF5508 8755

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Permian-/ SF5508 8755

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching/- Grab-sampling/ Stream-sediment-sampling/ Assay-value/ Geophysical-interpretation/ SF5504 8656/ SF5504 8756

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Stratigraphy-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assaying-/ Assay-value/ Sample-location-maps/ Cainozoic-/ SF5504 8656

Keywords: Coal-exploration-Qld/ Field-geology/ Geological-mapping-Qld/ Gravity-surveys/ Petrology-/ Sampling-/ SF5511 8352

Keywords: Electrical-well-logs/ Petroleum-exploration-Qld/ Seismic-profiles/ Seismic-reflection-surveys/ Seismic-surveys/ Structural-geology-Qld/ Structure-contour-maps/ SF5512/ SF5513/ SF5516

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Abstract: Thickening of sediments eastwards from Longreach to 6000 ft.


Cuttler LG. 1981. Comet River, progress report for the period 5/11/80 to 5/5/81. Eastmet Explorations Pty Ltd; GSQ CR 9069:7p Keywords: Mineral-exploration-Qld/ Stratigraphy-Qld/ Photogeology-/ Oil-shale/ Tertiary-/ SF5515 8550/ SF5516 8650/ SG5503 8549/ SG5504 8649

Cuttler LG. 1981. Sandhurst Creek, progress report for the period 5/12/80 to 5/6/81. Eastmet
Cuttler LG. 1981. Springsure Creek, progress report for the period 5/12/80 to 5/6/81. Eastmet Explorations Pty Ltd; GSQ CR 9119:7p
Keywords: Mineral-exploration-Qld/ Oil-shale/ Assay-value/ Tertiary-/ SF5515 8550

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Assaying-/ Sedimentary-rocks/ Cainozoic-/ SF5515 8550/ SF5516 8650/ SG5503 8549/ SG5504 8649

Keywords: Mineral-exploration-Qld / Oil-shale/ Drilling-/ Geological-logs/ Assaying-/ Analysis-/ Sedimentary-rocks/ Cainozoic-/ SF5515 8550

Keywords: Mineral-exploration-Qld / Oil-shale/ Drilling-/ Geological-logs/ Assaying-/ Analysis-/ Sedimentary-rocks/ Cainozoic-/ SF5515 8550/ SF5516 8650

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Assay-value/ Base-maps/ Geochemical-exploration-Qld/ Bulk-sampling / Soil-sampling/ Geochemical-anomalies/ Geophysical-interpretation/ Image-interpretation / Leaching-/ Reconnaissance-/ Sample-location-maps/ Tenement-maps/ SF5507 8354/ SF5507 8454

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Assaying-/ Base-maps/ Drill-cuttings-analysis/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Soil-sampling/ Geophysical-interpretation/ Reconnaissance-/ RC-drilling/ Sample-location-maps/ Tenement-maps/ SF5511 8453/ SF5511 8553

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Molybdenum-/ Assay-value/ Drill-cuttings-analysis / Geochemical-anomalies/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ RC-drilling/ Sample-location-maps/ Tenement-maps/ SF5511 8352/ SF5511 8353

Keywords: Base-metal-exploration-Qld/ Copper-/ Gold-exploration-Qld/ Arsenic-/ Assay-value/ Base-maps/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Petrology-/ RC-drilling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5511 8352/ SF5511 8353

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Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Base-maps/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Imagery-/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Tenement-maps/ SF5515 8350/ SF5515 8351/ SF5515 8450/ SF5515 8451

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Data-processing/ Geophysical-interpretation/ Reconnaissance-/ Tenement-maps/ SF5511 8353/ SF5511 8453

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Assay-value/ Base-maps/ Core-drilling/ Drill-core-analysis/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Percussion-drilling/ Petrology-/ Reconnaissance-/ RC-drilling/ Sample-location-maps/ Tenement-maps/ SF5511 8352/ SF5511 8353

Keywords: Gold-exploration-Qld/ Assay-value/ Base-maps/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Drill-cuttings-analysis/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Image-interpretation/ Leaching-/ RC-drilling/ Tenement-maps/ SF5511 8352

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Assay-value/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Rock-chip-sampling/ Lineaments-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Trenching-/ Percussion-drilling/ Drill-cuttings-sampling/ Drill-cuttings-analysis/ SF5502 8557

Keywords: Gold-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Geochemical-exploration-Qld/ Percussion-drilling/ SF5503 8557

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Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Percussion-drilling/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Trenching-/ Granitic-rock/ Igneous-intrusions/ Permian-/ Cretaceous-/ SF5507 8554/ SF5508 8654/ SF5511 8553/ SF5512 8653

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Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Percussion-drilling/ Rotary-drilling/ RC-drilling/ Drill-cuttings-analysis/ Trenching-/ Petrology-/ Sample-location-maps/ Well-logs/ SF5502 8257

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Percussion-drilling/ Rotary-drilling/ Geological-logs/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Tailings-sampling/ Drill-cuttings-analysis/ Assay-value/ SF5502 8157

Keywords: Gold-exploration-Qld/ Landsat-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ SF5502 8057

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Assay-value/ Geological-mapping-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Well-logs/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Assay-value/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Soil-sampling/ Geochemical-exploration-Qld/ Bulk-sampling/ Reconnaissance-/ Rock-chip-sampling/ Geological-mapping-Qld/ Geochemical-interpretation/ SF5502 8257

Keywords: Coal-exploration-Qld/ Drilling-/ Permian-/ SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Well-logs/ Geophysical-logs/ Bibliographies-/ Permian-/ SF5514 8151/ SF5514 8251

Keywords: Gold-exploration-Qld/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Grab-sampling/ Soil-sampling/ Panning-/ Assay-value/ Petrology-/ Diamond-drilling/ Core-sampling/ Laboratory-tests/ Ordovician-/ Silurian-/ Devonian-/ SF5502 8157
Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Geophysical-surveys-Qld/ SP-surveys/ IP-surveys/ Transient-EM-surveys/ Magnetic-surveys/ Remote-sensing/ Landsat-/ Cambrian-/ Ordovician-/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-chemistry/ Ordovician-/ SF5502 8157

Keywords: Coal-exploration-Qld/ Well-logs/ Evaluation-/ SF5514 8151/ SF5514 8251

Keywords: Base-metal-exploration-Qld/ Copper-/ Percussion-drilling/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Chemical-analysis/ Ordovician-/ Silurian-/ SE5514 8258/ SF5502 8157

Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Copper-/ Lead-/ Zinc-/ Molybdenum-/ Base-metals/ Devonian-/ Carboniferous-/ SF5508 8754/ SF5508 8755

Keywords: Base-metal-exploration-Qld/ Assay-value/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Soil-sampling/ Regional-geology-Qld/ Structural-geology-Qld/ Geological-mapping-Qld/ Permian-/ SF5508 8754

Keywords: Base-metal-exploration-Qld/ Assay-value/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Soil-sampling/ Geological-mapping-Qld/ Percussion-
Keywords: Mineral-exploration-Qld/ Stratigraphy-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Resistivity-profiling/ Cross-sections/ Assay-value/ Oil-shale/ Tertiary-/ SF5516 8850/ SF5516 8851/ SF5613 8950/ SF5613 8951

Keywords: Mineral-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Analysis-/ Stratigraphy-Qld/ Oil-shale/ Tertiary-/ SF5516 8850/ SF5613 8950/ SG5601 8949/ SG5601 9048/ SG5601 9049

Keywords: Mineral-exploration-Qld/ Oil-shale/ Analysis-/ Geophysical-logs/ Geological-logs/ Drilling-/ Stratigraphy-Qld/ SF5516 8850/ SF5613 8950/ SG5601 8949/ SG5601 9048/ SG5601 9049

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geological-mapping-Qld/ Percussion-drilling/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ EM-surveys/ Geophysics-/ SF5502 8157

Keywords: Mineral-exploration-Qld/ Uranium-/ Vanadium-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Aerial-magnetic-surveys/ EM-surveys/ Geophysics-/ Geochemical-exploration-Qld/ Soil-sampling/ Geochemistry-/ Percussion-drilling/ SF5502 8057

Keywords: Gold-exploration-Qld / Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Petrology-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Geological-logs/ Aerial-photography/ RC-drilling/ Drill-cuts-sampling/ Trenching-/ SF5503 8356

Keywords: Uranium-exploration-Qld/ Geological-maps-Qld/ Structural-geology-Qld/ Stratigraphy-Qld/ Geophysical-logs/ Geochemical-exploration-Qld/ Percussion-drilling/ Rotary-drilling/ Petrology-/ Uranium-/ SF5514 8251

Keywords: Uranium-exploration-Qld/ Structural-geology-Qld/ Stratigraphy-Qld/ Photointerpretation-/ Geophysical-surveys-Qld/ Geophysical-logs/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Core-logs/ Petrology-/ SF5514 8251

Dawson AR, Robertson Research (Aust) Pty Ltd. 1980. Ironpot Creek, Drummond Basin, report on exploration for the six month period ended 9/2/80. Queensland. Department of Mines and
Energy. Company Report; CR 7826:15p; 5 maps
Keywords: Uranium-exploration-Qld/ Structural-geology-Qld/ Photointerpretation-/ Geophysical-surveys-Qld/ Gravity-surveys/ Geochemical-exploration-Qld/ Percussion-drilling/ Rotary-drilling/ SF5514 8250/ SF5514 8251

Keywords: Uranium-exploration-Qld/ Geochemical-exploration-Qld/ Percussion-drilling/ SF5514 8251

Keywords: Uranium-exploration-Qld/ Geochemical-exploration-Qld/ Percussion-drilling/ Rotary-drilling/ SF5514 8250/ SF5514 8251

Keywords: Gold-exploration-Qld/ Molybdenum-/ Geophysical-surveys-Qld/ IP-surveys/ Transient-EM-surveys/ Magnetic-surveys/ Cambrian-/ Ordovician-/ SF5511 8353

Keywords: Base-metal-exploration-Qld/ Copper-/ Zinc-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ EM-surveys/ Transient-EM-surveys/ IP-surveys/ Diamond-drilling/ Petrology-/ Mineralogy-/ Cambrian-/ Ordovician-/ Silurian-/ Devonian-/ SF5507 8355

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Diamond-drilling/ Drilling-/ Percussion-drilling/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ SF5512 8752

Dear JF. 1983. Herbert Creek, report on areas relinquished on 5th May, 1983 (oil shale). Peabody Australia Pty Ltd; Central Oil Shale Pty Ltd; Beloba Pty Ltd; GSQ CR 12138:6p; 10 logs, 2 maps
Keywords: Mineral-exploration-Qld/ Oil-shale/ Rotary-drilling/ Geological-logs/ Sedimentary-basins/ Tertiary-/ SF5512 8852/ SF5512 8853/ SF5609 8952

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Gold-/ Silver-/ Geological-mapping-Qld/ Structural-geology-Qld/ Diamond-drilling/ Mineralization-Qld/ SF5512 8752

Keywords: Copper-exploration-Qld/ Gold-exploration-Qld/ Silver-/ Geophysical-surveys-Qld/ Aerial-geophysical-surveys/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sampling/ Geological-mapping-Qld/
Geological-maps-Qld/ Reconnaissance-/ Tenement-maps/ Stratigraphy-Qld/ SF5512 8752

Keywords: Gold-exploration-Qld/ Porphyries-/ Regional-geology-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Granitic-rock/ Igneous-intrusions/ Permian-/ Triassic-/ Cretaceous-/ SF5503 8456/ SF5503 8556/ SF5507 8555

Keywords: Petroleum-exploration-Qld/ Electrical-well-logs/ Composite-logs/ Geophysical-logs/ Palynology-/ Seismic-interpretation/ Rotary-drilling/ Formation-tests/ SF5516 8742

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Permian-/ SF5512 8652/ SF5516 8651

Keywords: Mineral-exploration-Qld/ Sodium-carbonates/ Drilling-/ Well-tests/ Work-programmes/ Exploration-costs/ SF5516 8650

Keywords: Mineral-exploration-Qld/ Drilling-/ Well-tests/ Work-programmes/ Exploration-costs/ SF5516 8650

Keywords: Gold-exploration-Qld/ Lineaments-/ Geochemical-exploration-Qld/ Ground-water-sampling/ Thematic-mapper-surveys/ Remote-sensing/ Image-interpretation/ Multispectral-imagery/ Geochemical-interpretation/ SF5515 8550/ SG5503 8549

Keywords: Petroleum-exploration-Qld/ Well-completion-report/ Drilling-/ Well-logs/ Stratigraphy-Qld/ Palaeontology-/ Permian-/ SF5516 8651

Keywords: Mineral-exploration-Qld/ Mineral-sands/ Rutile-/ Zircon-/ Magnetite-/ Auger-drilling/ Drill-cuttings/ Sampling-/ Beach-sands/ Assay-value/ Holocene-/ SF5508 8754

Keywords: Coal-exploration-Qld/ Drilling-/ Regional-geology-Qld/ Reserves-/ Structural-geology-Qld/ SF5508 8645

268
Keywords: Geophysics-/ Gravity-surveys/ Drilling-/ Permian-/ SF5511 8452

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Silver-/ Arsenic-/ Bismuth-/ Assay-value/ Drill-cuttings-analysis/ Drilling-/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Percussion-drilling/ Rock-chip-sampling/ Sample-location-maps/ Structural-geology-Qld/ Tenement-maps/ SF5502 8256

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geological-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Laboratory-tests/ Mineraohraphy-/ Petrology-/ Sample-location-maps/ SF5507 8554/ SF5508 8654/ SF5511 8553/ SF5512 8653

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Core-logs/ Drill-cuttings-analysis/ Geochemical-anomalies/ Sample-location-maps/ SF5506 8254/ SF5507 8354/ SF5510 8253/ SF5511 8353

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geological-maps-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ Structural-geology-Qld/ SF5516 8850

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Assay-value/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Landsat-/ Rock-chip-sampling/ Sample-location-maps/ Tenement-maps/ SF5502 8356

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Assay-value/ Geochemical-exploration-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Landsat-/ Rock-chip-sampling/ Sample-location-maps/ Tenement-maps/ SF5502 8256

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Aerial-magnetic-surveys/ Assay-value/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Radioactivity-surveys/ Rock-chip-sampling/ Rotary-drilling/ Sample-location-maps/ Soil-sampling/ Tenement-maps/ SF5502 8156/ SF5502 8256

269
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Molybdenum-/ Silver-/ Arsenic-/ Barium-/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Rock-chip-sampling/ Soil-sampling/ SF5502 8256

Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Petrology-/ Sample-location-maps/ SF5503 8356

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assaying-/ Geochemical-anomalies/ Sample-location-maps/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assaying-/ Geochemical-anomalies/ Sample-location-maps/ SF5507 8354

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assaying-/ Geochemical-anomalies/ Sample-location-maps/ SF5507 8354

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Tin-/ Cobalt-/ Arsenic-/ Bismuth-/ Assay-value/ Core-logs/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Percussion-drilling/ Petrology-/ Rock-chip-sampling/ Rotary-drilling/ Sample-location-maps/ Soil-sampling/ SF5502 8256

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Arsenic-/ Assay-value/ Drill-cuttings-analysis/ Percussion-drilling/ RC-drilling/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ IP-surveys/ Reconnaissance-/ Tenement-maps/ SF5503 8356

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Arsenic-/ Reconnaissance-/ Geological-mapping-Qld/ Geological-maps-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Laboratory-tests/ Petrology-/ Sample-location-maps/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Arsenic-/ Reconnaissance-/ Geological-mapping-Qld/ Geological-maps-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Percussion-drilling/ RC-drilling/ Trenching-/ Laboratory-tests/ Geochemical-anoemalies/ Sample-location-maps/ SF5503 8356

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ Reinterpretation-/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Panning-/ Soil-sampling/ Assay-value/ Indicator-minerals/ SF5511 8352/ SF5511 8353

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ Reinterpretation-/ Regolith-/ SF5507 8454

Keywords: Diamond-exploration-Qld/ Kimberlite-/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Magnetic-properties/ Reinterpretation-/ Geochemical-exploration-Qld/ Panning-/ Soil-sampling/ Assay-value/ Indicator-minerals/ SF5511 8352/ SF5511 8353

Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps/ Sample-location-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Panning-/ Assay-value/ Reinterpretation-/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-
Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/
Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/
Rotary-drilling/ Drill-cuttings-analysis/ Laboratory-tests/ Sample-location-maps/ Well-logs/
SF5507 8354/ SF5507 8454

Queensland. Department of Resource Industries. Company Report; CR 22942:5p; 2 maps
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ 
Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Laboratory-tests/ Sample-location-maps/ SF5507 8355

Keywords: Gold-exploration-Qld/ Tenement-maps/ Sample-location-maps/ Geophysical-surveys-
Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/
Assay-value/ Geophysical-interpretation/ SF5502 8156/ SF5502 8256

Department of Resource Industries. Company Report; CR 22933:4p
Keywords: Gold-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-
surveys/ Geophysical-interpretation/ SF5502 8156/ SF5502 8256

Department of Mines and Energy. Company Report; CR 23429:12p; 7 maps
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ 
Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Assay-value/ Geochemical-exploration-Qld/
Bulk-sampling/ Geological-maps-Qld/ Geophysical-interpretation/ Ground-magnetic-surveys/
Laboratory-tests/ Leaching-/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/
Stream-sediment-sampling/ Tenement-maps/ SF5502 8256

Department of Resource Industries. Company Report; CR 23452:20p; 13 maps
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ 
Reconnaissance-/ Geological-mapping-Qld/ Geological-maps-Qld/ Tenement-maps/
Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ IP-surveys/
Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Laboratory-tests/
Sample-location-maps/ SF5507 8355/ SF5507 8455

Dominion Mining Ltd, Shepherd AM. 1994. Black Mountain, annual report for period from 8/10/92 to
maps
Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Assay-
value/ Auger-drilling/ Geophysical-exploration-Qld/ Geophysical-surveys-Qld/ Ground-
magnetic-surveys/ Percussion-drilling/ Rock-chip-sampling/ Rotary-drilling/ Sample-location-
maps/ Soil-sampling/ Stream-sediment-sampling/ Structural-geology-Qld/ Tenement-maps/
SF5507 8354/ SF5511 8353

Dominion Mining Ltd, Shepherd AM. 1994. Willesby, annual and final report 18/8/93 to 30/11/94.
Queensland. Department of Minerals and Energy. Company Report; CR 26143:9p; 6 maps
Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/
Geological-maps-Qld/ Geophysical-surveys-Qld/ Photogeological-maps / Photogeology-/ 
Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Structural-
Keywords: Gold-exploration-Qld/ Assay-value/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Arsenic-/ Percussion-drilling/ Rock-chip-sampling/ Rotary-drilling/ Soil-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5507 8354/ SF5511 8353


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Molybdenum-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Gossan-sampling/ Rock-chip-sampling/ Assay-value/ Cambrian-/ Ordovician-/ SF5511 8353

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Tin-/ Tungsten-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Gossan-sampling/ Assay-value/ Geological-mapping-Qld/ Devonian-/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Gossans-/ Assay-value/ Ground-magnetic-surveys/ Copper-/ Lead-/ Zinc-/ Silver-/ Base-metals/ Devonian-/ Carboniferous-/ SF5507 8454

Keywords: Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geophysics-/ Geological-mapping-Qld/ SF5511 8353

Keywords: Mineral-exploration-Qld/ Photogeology-/ Radiometric-anomalies/ Radioactivity-surveys/ Uranium-/ Devonian-/ Carboniferous-/ SF5506 8155/ SF5506 8254/ SF5506 8255

Keywords: Gold-exploration-Qld/ Silver-/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Low-grade-ores/ Disseminated-deposits/ Landsat-/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Panning-/ Assay-value/ Regional-geology-Qld/ Geological-mapping-Qld/ Devonian-/ Carboniferous-/ SF5512 8752
Drew MF. 1978. Hillalong seismic survey - Authority to Prospect 158C. CRA Exploration Pty Ltd; Mines Administration Pty Ltd; GSQ CR 6337, February:14p; 4 plates
Keywords: Coal-exploration-Qld/ Seismic-surveys/ Coal-fields/ Triassic-/ Permian-/ SF5507 8555

Driver RC. 1969. Bellambi coal project, Qld, final report on A to P 27C. Bellambi Coal Co Ltd; GSQ CR 2725:7p; 2 plans
Keywords: Coal-exploration-Qld/ Stratigraphy-Qld/ Coal-analysis/ Drilling-/ Permian-/ Triassic-/ SF5516 8650/ SF5516 8750

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Core-drilling/ Permian-/ SF5516 8651/ SF5516 8751

Keywords: Coal-exploration-Qld/ Coal-analysis/ Rotary-drilling/ Coal-reserves/ Core-drilling/ Geological-logs/ Permian-/ SF5515 8550/ SF5515 8551/ SF5516 8650/ SF5516 8651

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Core-drilling/ Coal-reserves/ Regional-geology-Qld/ Geological-logs/ Permian-/ SF5503 8456/ SF5507 8455

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geophysical-surveys-Qld/ Magnetic-surveys/ EM-surveys/ Soil-sampling/ Geochemistry-/ Geological-mapping-Qld/ SF5502 8057

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Stratigraphy-Qld/ Palynology-/ Core-drilling/ Oil-shale/ Literature-reviews/ Tertiary-/ SF5512 8652/ SF5512 8653

Dunn DLJ. 1981. Pasha, statutory six monthly report for period ending October 7th 1981 and final report (oil shale). Pacific Coal Pty Ltd; GSQ CR 9816:22p; 2 plans,
Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Drilling-/ Geological-logs/ Palynology-/ Petrology-/ Oil-shale/ Tertiary-/ SF5507 8454
Abstract: Includes a literature review.

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Arsenic-/ Reconnaissance-/ Geological-mapping-Qld/ Geological-maps-Qld/ Metallogenesis-/ Stratigraphy-Qld/ Aerial-photography/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assaying-/ Assay-value/ Percussion-drilling/ Core-logs/ Drill-cuttings-analysis/ Chemical-analysis/ Geochemical-anomalies/ Sample-location-maps/ SF5512 8752/ SF5512 8753

Edenborough SJ. 1977. Authority to Prospect no.158C =Mount Hillalong= geological report of operations for the fifth six monthly period ended 9th December, 1976. CRA Exploration Pty Ltd;
Edenborough SJ. 1977. Authority to Prospect no. 52C Capella geological report on area relinquished 31st May, 1977. Investigator Coal Exploration Pty Ltd; GSQ CR 6225:8p; 2 plates
Keywords: Coal-/ Coal-exploration-Qld/ Diamond-drilling/ Rotary-drilling/ Coal-analysis/ SF5515 8451/ SF5515 8551

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Permian-/ SF5515 8451

Edenborough SJ. 1981. North Rubyvale half yearly report of operations for the six monthly period ended 18/2/81. Blair Athol Coal Pty Ltd; GSQ CR 8652:1p; 1 plan
Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Permian-/ SF5515 8451

Keywords: Coal-exploration-Qld/ Drilling-/ Geophysical-logs/ Geological-logs/ Permian-/ SF5515 8451

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Geophysical-logs/ Permian-/ SF5515 8451

Edenborough SJ. 1978. A to P 158C, =Mt Hillalong= geological report of operation for the seventh six monthly period ended 9th December, 1977. CRA Exploration Pty Ltd; Investigator Coal Exploration Pty Ltd; GSQ CR 6336:4p;1 plan
Keywords: Coal-exploration-Qld/ Coal-fields/ Coal-analysis/ Well-logs/ Rotary-drilling/ Evaluation-/ Topographic-surveys/ Triassic-/ Permian-/ SF5507 8555

Edenborough SJ. 1977. A to P 204C =Mt Hillalong West= report for the six monthly period ending 11th October, 1977. CRA Exploration Pty Ltd; Investigator Coal Exploration Pty Ltd; GSQ CR 6253:4p; 1 plan
Keywords: Coal-exploration-Qld/ Coal-analysis/ Core-drilling/ Rotary-drilling/ Triassic-/ Permian-/ SF5507 8555

Keywords: Coal-analysis/ Well-logs/ Rotary-drilling/ SF5507/ SF5508

Keywords: Coal-exploration-Qld/ Geological-mapping-Qld/ Diamond-drilling/ Rotary-drilling/ Coal-analysis/ SF5507 8555

Keywords: Coal-exploration-Qld/ Drilling-/ Palynology-/ Geophysical-logs/ Geological-logs/ Coal-analysis/ Permian-/ SF5515 8451

Edenborough SJ, Pacific Coal Pty Ltd, Coal Cliff Collieries Pty Ltd, Arco Australia Ltd, Bundaberg

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Palynology-/ Coal-analysis/ Permian-/ SF5515 8451


Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-EM-surveys/ Magnetic-surveys/ IP-surveys/ Percussion-drilling/ Drill-cuttings-analysis/ Drill-cuttings-sampling/ Petrology-/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ Devonian-/ Carboniferous-/ SF5503 8356/ SF5507 8355/ SF5507 8454/ SF5507 8455


Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Core-sampling/ Assay-value/ Trenching-/ Geophysical-surveys-Qld/ Electrical-IP-surveys/ Percussion-drilling/ Diamond-drilling/ Devonian-/ Carboniferous-/ SF5508 8755


Keywords: Mineral-exploration-Qld/ Molybdenum-/ Tungsten-/ Geological-mapping-Qld/ Diamond-drilling/ Geochemical-exploration-Qld/ Geochemical-sampling/ Trenching-/ Assay-value/ Silurian-/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ SF5508 8755


Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Percussion-drilling/ Diamond-drilling/ Petrology-/ Lead-/ Zinc-/ Copper-/ Silver-/ Base-metals/ Devonian-/ Carboniferous-/ SF5507 8454


Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Permian-/ SF5511 8452


Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ IP-surveys/ Core-drilling/ RC-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Leaching-/ Trenching-/ Assay-value/ Geostatistics-/ Lineaments-/ SF5502 8257


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Assay-value/ Geochemical-exploration-Qld/ Percussion-drilling/ SF5503 8456/ SF5503 8556

Keywords: Petroleum-exploration-Qld/ Seismic-surveys/ Geological-structures/ Structure-contour-maps/ Stratigraphy-Qld/ Palynology-/ Permian-/ Cretaceous-/ SF5515 8550/ SG5503 8548/ SG5507 8546/ SG5508 8646/ SG5511 8545/ SG5512 8645/ SG5512 8745

Keywords: Mineral-exploration-Qld/ Gravity-surveys/ Stratigraphy-Qld/ Oil-shale/ Tertiary-/ SF5516 8850
Abstract: Includes a report literature review.

Keywords: Mineral-exploration-Qld/ Stratigraphy-Qld/ Gravity-anomalies/ Oil-shale/ Tertiary-/ SF5516 8850

Keywords: Base-metal-exploration-Qld/ Gold-/ Copper-/ Lead-/ Zinc-/ Tenement-maps/ Reconnaissance-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Photogeology-/ Assay-value/ Percussion-drilling/ Drill-cuttings-analysis/ Trenching-/ Laboratory-tests/ Sample-location-maps/ Spectroscopy-/ SF5503 8556

Keywords: Petroleum-exploration-Qld/ Coal-exploration-Qld/ Oil-shale/ Drilling-/ Gas-analysis/ Geothermal-surveys/ Methane-/ Stratigraphy-Qld/ SF5512/ SF5516/ SF5609/ SF5613/ SG5601/ SG5602

Keywords: Petroleum-exploration-Qld/ Methane-/ Coal-exploration-Qld/ Oil-shale/ Drilling-/ Gas-analysis/ Drill-cuttings/ Drilling-/ Formation-tests/ Gas-analysis/ Regional-geology-Qld/ Stratigraphic-correlation/ Stratigraphy-Qld/ Water-analysis/ Well-completion/ Well-log-interpretation/ Well-logs/ Core-photography/ SF5510 8053

Keywords: Coal-exploration-Qld/ Drilling-/ Core-drilling/ Core-sampling/ Rotary-drilling/ Coal-analysis/ SF5515 8550/ SF5515 8551/ SF5516 8650/ SF5516 8651

Keywords: Mineral-exploration-Qld/ Copper-/ Molybdenum-/ Diamond-drilling/ Carboniferous-/ SF5508 8655/ SF5508 8755

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Permian-/ SF5511 8452

Keywords: Base-metal-exploration-Qld/ Geophysical-exploration-Qld/ Soil-sampling/ Assay-value/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-EM-surveys/ Geological-
Keywords: Petroleum-exploration-Qld/ Geochemistry/-/ Ground-water/ Landsat/-/ Geophysical-surveys-Qld/ Structure-contour-maps/ Seismic-reflection-surveys/ Stratigraphy-Qld/ Palynology/-/ Source-beds/SF5416/ SF5513/ SF5514/ SG5405/ SG5501/ SG5502/ SG5505/ SG5506/ SG5507/ SG5509/ SG5510/ SG5511/ SG5515

Keywords: Petroleum-exploration-Qld/ Petroleum-reservoirs/ Source-beds/ Stratigraphic-correlation/ Seismic-interpretation/ Geological-structures/ Stratigraphy-Qld/ Maturation/-/ Regional-geology-Qld/ Petroleum-potential/ Organic-geochemistry/ SF5513 7950/ SF5514 8150/ SG5501/ SG5502 8148/ SG5506 8146/ SG5506 8246/ SG5507 8347/ SG5509/ SG5510/ SG5511/ SG5515 8542

Keywords: Mineral-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Geophysical-surveys-Qld/ Aerial-EM-surveys/ IP-surveys/ Aerial-magnetic-surveys/ Ground-EM-surveys/ Geological-mapping-Qld/ Diamond-drilling/ Volcanic-rocks/ History/- SF5502 8257

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Vibroseis/-/ Seismic-interpretation/ Field-methods/ Data-processing/ SF5416/ SF5514/ SG5404/ SG5501/ SG5502/ SG5505/ SG5506/ SG5509/ SG5510/ SG5511/ SG5515

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Aerial-photography/ Assay-value/ Core-drilling/ Core-sampling/ Diamond-drilling/ Drill-cuttings-sampling/ Geological-mapping-Qld/ Geophysical-surveys/ Magnetic-surveys/ Percussion-drilling/ Photogeology/-/ Reconnaissance/-/ RC-drilling/ Rock-chip-sampling/ Soil-sampling/ Trenching/- SF5502 8157


Keywords: Aerial-magnetic-maps/ Aerial-magnetic-surveys/ Magnetic-anomalies/ Magnetic-basement/ Magnetic-surveys/ Methods-/ Palaeozoic-/ Petroleum-exploration-Qld/ Structural-geology-Qld/ Structure-contour-maps/ SF5506/ SF5507/ SF5510/ SF5511
Abstract: Basement varies from 7,000 to 16,000 ft. Two elevated domes.

Keywords: Petroleum-exploration-Qld/ Regional-geology-Qld/ Seismic-profiles/ Seismic-refraction-surveys/ Seismic-surveys/ Seismographs-/ Structural-geology-Qld/ Structure-contour-maps/ SF5506/ SF5510
Abstract: Closed anticlinal feature for drill site 16 000 ft of sediments.

Keywords: Petroleum-exploration-Qld/ Regional-geology-Qld/ Seismic-reflection-surveys/ Seismic-surveys/ Seismographs-/ Structural-geology-Qld/ Structure-contour-maps/ Palaeozoic-/ Triassic-/ SF5509 7952/ SF5510 8052/ SF5510 8152
Abstract: Seismic work on structural nose recommended before drilling.

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Field-methods/ Seismic-interpretation/ Regional-geology-Qld/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ Jurassic-/ Cretaceous-/ SF5408/ SF5501/ SF5505/ SF5506/ SF5509/ SF5510

Keywords: Composite-logs/ Drilling-/ Lithology-/ Petroleum-exploration-Qld/ Regional-geology-Qld/ Stratigraphic-succession/ Stratigraphy-Qld/ Well-logs/ SF5510 8053
Abstract: Hydrocarbons in Permian rocks. Total depth 3406 m, 24/11/64.

Keywords: Gold-exploration-Qld/ Assay-value/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Percussion-drilling/ Soil-sampling/ RC-drilling/ Drill-cuttings-sampling/ Photointerpretation-/ Drill-cuttings-analysis/ SF5503 8356

Keywords: Gold-exploration-Qld/ Photointerpretation-/ Photogeology-/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Soil-sampling/ Assay-value/ SF5502 8257/ SF5503 8357

Keywords: Gold-exploration-Qld/ RC-drilling/ Geochemical-exploration-Qld/ Stream-sediment-
Abstract: Includes geological reconnaissance.

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Keywords: Petroleum-exploration-Qld/ Methane-/ Gas-analysis/ Drilling-/ Formation-tests/ Reservoir-stimulation/ Stratigraphy-Qld/ Well-logs/ Well-completion-report/ SF5508 8654

Keywords: Petroleum-exploration-Qld/ Methane-/ Gas-analysis/ Petrology-/ Drilling-/ Formation-tests/ Stratigraphy-Qld/ Stratigraphic-correlation/ Well-logs/ SF5511 8553

Keywords: Petroleum-exploration-Qld/ Methane-/ Gas-analysis/ Drilling-/ Petrology-/ Stratigraphic-correlation/ Stratigraphy-Qld/ Water-analysis/ Well-logs/ SF5508 8654

Keywords: Petroleum-exploration-Qld/ Methane-/ Coal-analysis/ Drill-core/ Drilling-/ Formation-tests/ Reservoir-stimulation/ Water-analysis/ Stratigraphy-Qld/ Well-logs/ Well-completion-report/ SF5511 8553

Keywords: Petroleum-exploration-Qld/ Methane-/ Coal-analysis/ Drilling-/ Formation-tests/ Stratigraphy-Qld/ Well-logs/ SF5507 8455

Keywords: Petroleum-exploration-Qld/ Methane-/ Formation-tests/ Drilling-/ Gas-analysis/ Reservoir-stimulation/ Stratigraphy-Qld/ Well-logs/ Well-completion-report/ SF5507 8455

Fander HW. 1973. Petrological logging and assay reports on cores from departmental diamond drill hole. AOG Minerals Pty Ltd; GSQ CR 4579:5p; logs
Keywords: Core-logging/ Assaying-/ Petrology-/ Diamond-drilling/ Copper-/ Lead-/ Zinc-/ Silver-/ Gold-/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Lead-/ Silver-/ Geophysical-surveys-Qld/ Magnetic-surveys/ IP-surveys / EM-surveys/ SF5503 8356/ SF5507 8355

Keywords: Gold-exploration-Qld/ Magnesite-/ Geological-mapping-Qld/ Aerial-magnetic-maps/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Rotary-drilling/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ Assay-value/ SF5512 8852

Keywords: Gold-exploration-Qld/ Aerial-photography/ Photointerpretation-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ RC-drilling/ Drill-cuttings-sampling/ Drill-cuttings-analysis / Geochemical-exploration-Qld/ Bulk-sampling/ Ground-water-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Geological-logs/ Reconnaissance-/ Devonian-/ Carboniferous-/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Lead-/ Zinc-/ Copper-/- Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geological-logs/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Permian-/ Devonian-/ SF5504 8656

Keywords: Copper-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ SF5502 8257

Keywords: Engineering-geology/ Core-drilling/ Quarrying-/ Rail-ballast/ Physical-tests/ Density-/ Los-Angeles-test/ Aggregates-/ Permian-/ Triassic-/ SF5508 8654

Keywords: Mineral-exploration-Qld/ Copper/- Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Statistics/- Photogeology/- Cambrian/- Geological-mapping-Qld/ Auger-drilling/ Drill-cuttings/ Trenching/- Pits-/ Devonian-/ SF5502 8257

Keywords: Mineral-exploration-Qld/ Rotary-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Drill-cuttings-sampling/ Geochemical-anomalies/ Assay-value/ Cambrian-/ Ordovician-/ SF5502


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Abstract: Existence of four structural highs verified.

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Permian-/ SF5512 8752

Keywords: Mineral-exploration-Qld/ Gold-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Assay-value/ Data-processing/ Petrology-/ Geochemical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Geological-mapping-Qld/ Image-interpretation/ SF5511 8353/ SF5511 8453


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Keywords: Mineral-exploration-Qld/ Aerial-magnetic-surveys/ Regional-geology-Qld/ Aerial-radioactivity-surveys/ Magnetic-anomalies/ Molybdenum-/ Copper-/ Gold-/ Base-metals/ Geophysical-surveys-Qld/ SF5502 8257/ SF5503 8357

Fraser N. 1976. Mt Farrenden, final report to Department of Mines, Queensland. Esso Australia Ltd; GSQ CR 5627:11p; 5 plans, 3 ref
Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Trenching-/ Geophysical-surveys-Qld/ IP-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Auger-drilling/ Rotary-percussion-drilling/ Copper-/ Lead-/ Zinc-/ Base-metals/ Silver-/ Cambrian-/ Ordovician-/ SF5502 8157

Keywords: Mineral-exploration-Qld/ Soil-sampling/ Assay-value/ Stream-sediment-sampling/ EM-surveys/ Rock-chip-sampling/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-anomalies/ Diamond-drilling/ Copper-/ Lead-/ Zinc-/ Molybdenum-/ Base-metals/ SF5502 8257

Keywords: Mineral-exploration-Qld/ Aerial-magnetic-surveys/ IP-surveys/ Resistivity-surveys/ Magnetic-surveys/ Gold-/ Base-metals/ Geophysical-surveys-Qld/ SF5516 8851/ SF5613 8951

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Rotary-drilling/ Percussion-drilling/ Diamond-drilling/ Geochemical-exploration-Qld/ Soil-sampling/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ IP-surveys/ SF5502 8057/ SF5502 8157

Keywords: Gold-exploration-Qld/ Gold-/ Geophysical-surveys-Qld/ IP-surveys/ Auger-drilling/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Soil-sampling/ Panning-/ Trenching-/ Assay-value/ Geological-logs/ Devonian-/ Carboniferous-/ Permian-/ SF5503 8556/ SF5503 8557

Keywords: Mineral-exploration-Qld/ Gold-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ IP-surveys/ Devonian-/ Carboniferous-/ SF5503 8556/ SF5503 8557

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ IP-surveys/ EM-surveys/ SF5503 8556/ SF5503 8557

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Tin-/ Trenching-/ Auger-drilling/ Geochemical-exploration-Qld/ Sampling-/ Assay-value/ Placer-deposits-Qld/ Cretaceous-/ SF5503 8556/ SF5503 8557
Fuller J. 1963. Queensland, application for subsidy, seismic surveys. Planet Exploration Co Pty Ltd; Alliance Oil Development Australia Ltd; GSQ CR 1194:3p; 4 maps Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-surveys/ Regional-geology-Qld/ Carboniferous-/ Permian-/ Triassic-/ Jurassic-/ Cretaceous-/ SF5513/ SF5514/ SG5502/ SG5503/ SG5507

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Keywords: Base-metal-exploration-Qld/ Lead-/ Zinc-/ Copper-/ Percussion-drilling/ Diamond-drilling/ Geological-mapping-Qld/ Petrology-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Trenching-/ SF5502 8057

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geophysical-surveys-Qld/ Magnetic-surveys/ Diamond-drilling/ Volcanogenic-deposits/ SF5502 8057

Keywords: Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Photogeology-/ Cambrian-/ Ordovician-/ Silurian-/ Devonian-/ SF5502 8056/ SF5502 8057

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Percussion-drilling/ Photogeology-/ Geophysical-surveys-Qld/ Aerial-surveys/ EM-surveys/ Geological-mapping-Qld/ SF5502 8057

Keywords: Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Cambrian-/ Ordovician-/ Silurian-/ Devonian-/ SF5502 8057

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geophysical-surveys-Qld/ EM-surveys/ Geophysics-/ Geological-mapping-Qld/ Photogeology-/ Percussion-drilling/ Diamond-drilling/ Geochemistry-/ SF5502 8057

Keywords: Gold-exploration-Qld/ Silver-/ Base-metal-exploration-Qld/ Copper-/ Diamond-drilling/ Permian-/ SF5512 8653

Keywords: Base-metals-exploration-Qld/ Arsenic-/ Copper-/ Zinc-/ Lead-/ Nickel-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ IP-surveys/ SP-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5508 8755

Keywords: Gold-exploration-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assaying-/ Assay-value/ Percussion-drilling/ Core-logs/ Drill-core-analysis/ Trenching-/ SF5502 8257

Keywords: Mineral-exploration-Qld/ Ilmenite-/ Titanium-/ Assay-value/ Base-maps/
Keywords: Mineral-exploration-Qld/ Ilmenite-/ Titanium-/ Assay-value/ Base-maps/
Geochemical-exploration-Qld/ Heavy-mineral-sampling/ Geophysical-interpretation/
Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Petrology-/ RC-drilling/ Reconnaissance-/ SF5512 8752

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/
Geophysical-interpretation/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geological-logs/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Trenching-/ Assay-value/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Assay-value/ Geophysical-interpretation/ SF5511 8353

Keywords: Gold-exploration-Qld/ Diamond-drilling/ Assay-value/ Geological-mapping-Qld/
SF5502 8257

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-geophysical-surveys/ Aerial-magnetic-surveys/ Aerial-photography/ Aerial-radioactivity-surveys/ Assay-value/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Image-interpretation/ Photogeology-/ Photointerpretation-/ Reconnaissance-/ Rock-chip-sampling/ Soil-sampling/ Tenement-maps/ Thematic-mapper-surveys/ SF5511 8353

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geological-maps-Qld/ Tenement-maps/
Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ SF5506 8255

Keywords: Base-metal-exploration-Qld/ Copper-/ Gold-exploration-Qld/ Silver-/ Aerial-geophysical-surveys/ Aerial-photography/ Assay-value/ Bulk-sampling/ Chemical-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Grab-sampling/ Laboratory-tests/ Lineaments-/
Reconnaissance-/ Remote-sensing/ Rock-chip-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Assay-value/ Base-maps/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Grab-sampling/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stream-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5507 8555

Keywords: Base-metal-exploration-Qld/ Copper-/ Gold-exploration-Qld/ Aerial-photography/ Assay-value/ Bulk-sampling/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Grab-sampling/ Image-interpretation/ Laboratory-tests/ Lineaments-/ Reconnaissance-/ Remote-sensing/ Rock-chip-sampling/ Sample-location-maps/ Stream-sediment-sampling/ Tenement-maps/ SF5502 8257

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Composite-logs/ Drilling-/ Geological-logs/ Geophysical-logs/ Graphic-logs/ SF5512 8652/ SF5516 8651

Keywords: Coal-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ Ground-magnetic-surveys/ Magnetic-surveys/ Radioactivity-surveys/ Exploration-potential/ Historical-geology/ Regional-geology-Qld/ Sedimentary-geology/ Stratigraphy-Qld/ SF5503 8357/ SF5503 8456/ SF5503 8457

Keywords: Coal-exploration-Qld/ Stratigraphy-Qld/ Palaeontology-/ Coal-seams/ Coal-analysis/ Geological-mapping-Qld/ Drilling-/ Permian-/ SF5516

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Coal-analysis/ Coal-resources-Qld/ Core-drilling/ Drilling-/ Geochemical-exploration-Qld/ Core-sampling/ Geological-logs/ Structural-geology-Qld/ SF5516 8751

Keywords: Mineral-exploration-Qld/ Gold-/ Assay-value/ RC-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Drill-cuttings-sampling/ Geological-logs/ SF5512 8753

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ RC-drilling/ Geological-logs/
Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5512 8753

Keywords: Gold-exploration-Qld/ Aerial-photography/ Assay-value/ Geochemical-exploration-Qld/ BLEG-sampling/ Grab-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Drill-cuttings-sampling/ Percussion-drilling/ RC-drilling/ Geological-logs/ Geological-mapping-Qld/ SF5511 8352/ SF5515 8351

Keywords: Mineral-exploration-Qld/ Sapphire-/ Sample-location-maps/ Geochemical-exploration-Qld/ Bulk-sampling/ Assay-value/ Regolith-/ SF5515 8351

Keywords: Gold-exploration-Qld/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance/- Devonian/- Carboniferous-/ SF5503 8356/ SF5506 8255/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ IP-surveys/ EM-surveys/ Diamond-drilling/ Molybdenite/-/ Cambrian/-/ Ordovician/- SF5511 8453

Keywords: Mineral-exploration-Qld/ Regional-geology-Qld/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ IP-surveys/ Magnetic-surveys/ Soil-sampling/ Molybdenum/-/ Zinc/- Manganese/-/ Tungsten/-/ Copper/-/ Lead/-/ Base-metals/ SF5511 8453

Keywords: Base-metal-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Geophysical-surveys-Qld/ IP-surveys/ Ground-magnetic-surveys/ Geological-mapping-Qld/ Auger-drilling/ Diamond-drilling/ SF5508 8654

Keywords: Copper-exploration-Qld/ Silver/-/ Percussion-drilling/ Geophysical-surveys-Qld/ IP-surveys/ SF5508 8654

Keywords: Base-metal-exploration-Qld/ Copper/-/ Lead/-/ Zinc/-/ Molybdenum/-/ Geophysical-surveys-Qld/ IP-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Geological-mapping-Qld/ Regional-geology-Qld/ Diamond-drilling/
Core-sampling/ Permian-/ SF5508 8654

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Molybdenum-/ Geological-mapping-Qld/ Percussion-drilling/ Mineralization-/ SF5508 8654

Keywords: Mineral-exploration-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Geophysical-surveys-Qld/ Diamond-drilling/ EM-surveys/ Stockwork-/ Molybdenum-/ Zinc-/ Manganese-/ Tourmaline-/ Magnetite-/ Devonian-/ Carboniferous-/ SF5511 8453

Keywords: Mineral-exploration-Qld/ Stockwork-/ Diamond-drilling/ Petrology-/ Molybdenum-/ Tin-/ Tungsten-/ Devonian-/ Carboniferous-/ SF5511 8453

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Diamond-drilling/ Auger-drilling/ Percussion-drilling/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ EM-surveys/ Gravity-surveys/ IP-surveys/ Magnetic-surveys/ SP-surveys/ SF5502 8057

Keywords: Uranium-exploration-Qld/ Geological-mapping-Qld/ Petrology-/ Geophysical-surveys-Qld/ Magnetic-surveys/ Trenching-/ Diamond-drilling/ SF5502 8057

Keywords: Base-metal-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Gravity-surveys/ Diamond-drilling/ Trenching-/ SF5502 8057

Keywords: Gold-exploration-Qld/ Silver-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ SF5507 8355

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Tenement-maps/ Imagery-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ Geophysical-interpretation/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Sapphire-/ Aerial-photography/ Bulk-sampling/ Drilling-/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Photointerpretation-/ Reconnaissance-/ Rotary-drilling/ Satellite-imagery/ Stratigraphy-Qld/ SF5515 8451

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Keywords: Gold-exploration-Qld/ Assay-value/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Geological-mapping-Qld/ Sample-location-maps/ Tenement-maps/ SF5503 8357/ SF5503 8457

Keywords: Mineral-exploration-Qld/ Gravity-surveys/ Gravity-anomalies/ Geological-logs/ Oil-shale/ Palaeozoic-/ Cainozoic-/ SF5508 8655

Keywords: Mineral-exploration-Qld/ Gravity-surveys/ Drilling-/ Geological-logs/ Oil-shale/ Assay-value/ Kerogen-/ Gas-analysis/ Drill-core-analysis/ Natural-gas/ Coal-/ Tertiary-/ SF5503 8557/ SF5504 8657

Keywords: Mineral-exploration-Qld/ Oil-shale/ Geophysical-surveys-Qld/ Gravity-surveys/ Drilling-/ Tertiary-/ SF5503 8557/ SF5504 8657

Keywords: Mineral-exploration-Qld/ Oil-shale/ Geophysical-surveys-Qld/ Gravity-surveys/ Drilling-/ Tertiary-/ SF5503 8557/ SF5504 8657

Keywords: Petroleum-exploration-Qld/ Natural-gas/ Drilling-/ Fractured-reservoirs/ Gas-production-tests/ Natural-gas-reserves/ Stratigraphic-correlation/ SF5512/ SF5516/ SF5609/ SF5613/ SG5601 9149/ SG5602

Keywords: Petroleum-exploration-Qld/ Gas-analysis/ Regional-geology-Qld/ Seismic-surveys/ SF5512 8752/ SF5512 8753/ SF5512 8852/ SF5512 8853/ SF5516 8850/ SF5516 8851/ SF5609 8952/ SF5609 8953/ SF5609 9052/ SF5609 9053/ SF5613/ SG5601/ SG5602

Keywords: Petroleum-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Geophysical-logs/ Reserves-/ Well-completion-report/ SF5512/ SF5516/ SF5609/ SF5613/ SG5601/ SG5602

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Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-surveys/ Seismic-reflection-surveys/ Well-velocity-surveys/ Seismic-refraction-method/ Drilling-/ Regional-


Keywords: Mineral-exploration-Qld/ Kaolin-/ Geochemical-exploration-Qld/ Rotary-drilling/ Core-logs/ Drill-core-analysis/ SF5502 8156/ SF5502 8256

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Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Photogeology-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Panning-/ Assay-value/ Gold-/ Tertiary-/ SF5502 8057/ SF5502 8157

Hall DN. 1981. Southern Cross final report to the Queensland Mines Department for those parts relinquished on 30 June 1981. Australian Anglo American Searches Ltd; GSQ CR 10090:3p; 3 plans
Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Gold-placer-deposits/ Photointerpretation-/ Sediments-/ Tertiary-/ SF5502 8057/ SF5502 8157

Hall DN. 1981. Southern Cross, report to the Department of Mines Queensland for the six month period ending 30th June 1981. Australian Anglo American Searches Pty Ltd; GSQ CR 9265:2p; 3 plans
Keywords: Mineral-exploration-Qld/ Photogeology-/ Geological-mapping-Qld/ Placer-deposits/ Gold-/ Tertiary-/ SF5502 8057/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Nickel-/ Zinc-/ Lead-/ Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Gravity-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Trenching-/ Assay-value/ Mineral-processing/ Devonian-/ Carboniferous-/ SF5512 8852/ SF5512 8853/ SF5516 8851/ SF5609 8952/ SF5609 8953/ SF5609 9052/ SF5613 8950/ SF5613 8951/ SF5613 9050/ SF5613 9051/ SF5613 9151

Keywords: Mineral-exploration-Qld/ Salt-/ Water-/ Salt-production/ Industrial-minerals/ Feasibility-studies/ Aquifers-/ Geophysical-surveys-Qld/ Gravity-surveys/ Seismic-surveys/ Geological-surveys/ Geophysical-logs/ Percussion-drilling/ Rotary-drilling/ Salinity-/ Geological-logs/ Porosity-/ Pump-tests/ Geochemical-exploration-Qld/ Geochemical-sampling/ SF5503 8557
Keywords: Mineral-exploration-Qld/ Oil-shale/ Chemical-analysis/ Shale-oil / Pyrolysis-/ X-ray-diffraction/ Petrology-/ Cretaceous-/ Tertiary-/ SF5403 7256/ SF5504 8756/ SF5613 9050/ SF5613 9150

Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ EM-surveys/ Percussion-drilling / Assay-value/ Petrology-/ Molybdenum-/ Tungsten-/ Devonian-/ Carboniferous-/ SF5507 8355/ SF5507 8455

Keywords: Mineral-exploration-Qld/ Radioactivity-surveys/ Regional-geology-Qld/ Geophysical-logs/ Sandstone-/ Geochemical-exploration-Qld/ Soil-sampling/ Sedimentary-rocks/ Percussion-drilling / Petrology-/ Uranium-/ Phosphates-/ Devonian-/ Carboniferous-/ SF5506 8352/ SF5506 8455

Keywords: Mineral-exploration-Qld/ Gold-/ Assay-value/ Geophysical-surveys-Qld/ IP-surveys/ EM-surveys/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Magnetic-surveys/ Geophysical-interpretation/ Core-drilling/ Percussion-drilling/ RC-drilling/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Geological-logs/ SF5511 8352/ SF5511 8353

Keywords: Mineral-exploration-Qld / Gold/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ IP-surveys/ Magnetic-surveys/ EM-surveys/ SF5511 8352/ SF5511 8353

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ IP-surveys/ Sirotem-surveys/ Geophysical-interpretation/ Mineragraphy-/ SF5511 8352/ SF5511 8353

Keywords: Coal-exploration-Qld/ Diamond-drilling/ Stratigraphy-Qld/ Sampling-/ Geological-logs/ Permian-/ SF5503 8456

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Keywords: Coal-exploration-Qld/ Basalt-/ Lineaments-/ Aerial-magnetic-surveys/ Permian-/ Triassic-/ Tertiary-/ SF5507 8454/ SF5507 8455/ SF5507 8554/ SF5507 8555

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Keywords: Petroleum-exploration-Qld/ Seismic-reflection-surveys/ Aerial-magnetic-surveys/ Devonian-/ Permian-/ Cretaceous-/ SF5408/ SF5411/ SF5412/ SF5415/ SF5513/ SF5514/ SF5502/ SG5506/ SG5507/ SG5510/ SG5511

Keywords: Petroleum-exploration-Qld/ Natural-gas/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysics-/ Photogeology-/ Stratigraphy-Qld/ SF5513/ SF5514/ SG5502/ SG5503/ SG5506/ SG5507/ SG5510

Keywords: Petroleum-exploration-Qld/ Natural-gas/ Geophysical-surveys-Qld/ Gravity-surveys/ Magnetic-surveys/ SF5513/ SF5514/ SF5515/ SG5502/ SG5503/ SG5506/ SG5507/ SG5510/ SG5511

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Keywords: Mineral-exploration-Qld/ Rock-chip-sampling/ Geochemical-exploration-Qld/ Analysis-/ Drill-core/ Copper-/ Molybdenum-/ Gold-/ Ordovician-/ Carboniferous-/ SF5502 8256/ SF5502 8257

Keywords: Structural-geology/ Structure-contour-maps/ Sedimentary-basins/ Seismic-surveys/ SE5403/ SE5404/ SE5414/ SE5415/ SE5416/ SF5407/ SF5408/ SF5411/ SF5412/ SF5416/ SF5501/ SF5505/ SF5506/ SF5509/ SF5513/ SF5515/ SF5514/ SF5515
Abstract: Maps based on seismic, drilling and mapping data.

Keywords: Base-metal-exploration-Qld/ Copper- / Geological-mapping-Qld/ Rotary-drilling/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5508/ SF5512

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Base-maps/ Geophysical-interpretation/ Reconnaissance-/ RC-drilling/ Rotary-drilling/ Geophysical-surveys-Qld/ SF5507 8354 / SF5511 8353
Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Volcanogenic-deposits/ Percussion-drilling/ Petrology-/ Cambrian-/ Ordovician-/ SF5502 8157/ SF5502 8257

Keywords: Petroleum-exploration-Qld/ Geological-structures/ Regional-geology-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Contour-maps/ SF5503 8557/ SF5504 8656/ SF5504 8657/ SF5504 8756/ SF5504 8757/ SF5508 8655/ SF5508 8754/ SF5508 8755/ SF5508 8854/ SF5508 8855

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Manganese-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geophysics-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Rock-chip-sampling/ Petrology-/ SF5502 8257/ SF5503 8357

Keywords: Base-metal-exploration-Qld/ Precious-metals / Oil-shale/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Assay-value/ Rotary-drilling/ Geological-logs/ Devonian-/ Carboniferous-/ Tertiary-/ SF5507 8355

Keywords: Petroleum-exploration-Qld/ Natural-gas/ Drainage-wells/ Methane-drainage/ Mine-gases/ Permian-/ SF5516 8650

Keywords: Petroleum-exploration-Qld/ Well-completion-report/ Drilling-/ Gas-wells/ Mine-gases/ Formation-tests/ Natural-gas/ Permian-/ SF5516 8850

Keywords: Mineral-exploration-Qld/ Drilling-/ Geological-logs/ Gravity-surveys/ Gravity-anomalies/ Petrology-/ Oil-shale/ Tertiary-/ SF5512 8852/ SF5516 8851

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Mineral-exploration-Qld/ Gold-/ Silver-/ Geophysical-surveys-Qld/ Vein-deposits/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Geological-mapping-Qld/ Percussion-drilling/ Diamond-drilling/ SF5502 8257

Keywords: Mineral-exploration-Qld/ Gold-/ Assay-value/ Leaching-/ Petrology-/ Geophysical-
surveys-Qld/ Magnetic-surveys/ RC-drilling/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Bulk-sampling/ Drill-cuttings-sampling/ Geological-logs/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Mineral-exploration-Qld/Gold/ Silver-/ Geophysical-surveys-Qld / Ground-magnetic-surveys/ IP-surveys/ EM-surveys/ Geological-mapping-Qld/ Petrology-/ Diamond-drilling/ Mineragraphy-/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ RC-drilling/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Rock-chip-sampling/ Assay-value/ Reconnaissance-/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Percussion-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Drill-cuttings-sampling/ Assay-value/ Cambrian-/ Ordovician-/ SF5515 8451

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Geological-logs/ Permian-/ SF5511 8352/ SF5511 8452/ SF5515 8450/ SF5515 8451/ SF5515 8550

Keywords: Coal-exploration-Qld/ Geological-logs/ Rotary-drilling/ Permian-/ SF5511 8352/ SF5511 8452/ SF5515 8450/ SF5515 8451

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Photointerpretation-/ Geochemical-exploration-Qld/ Bulk-sampling/ Panning-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Core-drilling/ Percussion-drilling/ Drill-core-analysis/ Drill-cuttings-analysis/ Trenching-/ Petrology-/ X-ray-diffraction/ Fluid-inclusions/ Geological-logs/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Geological-maps-Qld/ Structural-geology-Qld/ Tenement-maps/ Environmental-impact-surveys/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Percussion-drilling/ Rotary-drilling/ RC-drilling/ Drill-cuttings-analysis/ Trenching-/ Petrology-/ Geochemical-interpretation/ Well-logs/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Tenement-maps/ Geochemical-

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Tenement-maps/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Rotary-drilling/ Sample-location-maps/ Drill-hole-data/ SF5502 8257

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Keywords: Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ SF5511 8352

Keywords: Base-metal-exploration-Qld/ Copper-/ Gold-exploration-Qld/ Assay-value/ Base-maps/ Chemical-analysis/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-surveys-Qld/ IP-surveys/ Percussion-drilling/ Reconnaissance-/ Resistivity-surveys/ RC-drilling/ Soil-sampling/ SF5511 8452

Keywords: Gold-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Geochemical-mapping-Qld/ Ground-magnetic-surveys/ Leaching-/ Percussion-drilling/ Petrology-/ Tenement-maps/ SF5502 8256

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Silver-/ Aerial-geophysical-surveys/ Aerial-magnetic-surveys/ Aerial-photography/ Photointerpretation-/ Tenement-maps/ SF5502 8256/ SF5503 8356/ SF5503 8357

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Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Manganese-/ Assay-value/ Base-maps/ Chemical-analysis/ Drill-cuttings-analysis/ Geochemical-
exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ IP-surveys/ Percussion-drilling/ Remote-sensing/ RC-drilling/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ SF5511 8352/ SF5511 8452/ SF5515 8351

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Silver-/ Assay-value/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Percussion-drilling/ RC-drilling/ Soil-sampling/ Tenement-maps/ SF5503 8356/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geological-maps-Qld/ Tenement-maps/ Landsat-/ Image-interpretation/ Thematic-mapper-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ RC-drilling/ Drill-cuttings-analysis/ Petrology-/ Well-logs/ SF5503 8356/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geological-maps-Qld/ Tenement-maps/ Landsat-/ Image-interpretation/ Thematic-mapper-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ RC-drilling/ Drill-cuttings-analysis/ Petrology-/ Well-logs/ SF5503 8356/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ SF5502 8156/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ SF5502 8057/ SF5502 8156/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Lead-/ Zinc-/ Copper-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ SF5502 8056/ SF5502 8156/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Epigenetic-deposits/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ EM-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Trenching-/ Regional-geology-Qld/ Geological-mapping-Qld/ Petrology-/ Igneous-intrusions/ Cambrian-/ Ordovician-/ Carboniferous-/ Permian-/ SF5502 8157

Keywords: Gold-exploration-Qld/ Rotary-drilling/ Geochemical-exploration-Qld/ Soil-sampling/ Bulk-sampling/ Leaching/- Assay-value/ SF5506 8254

Keywords: Gold-exploration-Qld/ Silver-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Rotary-drilling/ Drill-cuttings-analysis/ SF5503 8557

Keywords: Drilling/- Well-logs/ Geochemistry/- Porphyry-copper-deposits/ Assay-value/ Soil-sampling/ Cretaceous- / SF5503 8456

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Historical-geology/ Porphyries-/ Copper-deposits-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Drill-cuttings-analysis/ Geological-mapping-Qld/ Percussion-drilling/ Petrology-/ SF5508 8655

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geophysical-surveys-Qld/ Radioactivity-surveys/ Geological-mapping-Qld/ Diamond-drilling/ Assaying-/ Petrology-/ SF5507 8454

Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps/ Photogeology/- Geophysical-surveys-Qld / IP-surveys/ Geophysical-interpretation/ SF5516 8851

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Placer-deposits-Qld/ Assaying-/ Geochemical-exploration-Qld/ Soil-sampling/ Geophysical-surveys-Qld / IP-surveys/ EM-surveys/ SF5503 8556/ SF5503 8557/ SF5504

Keywords: Coal-exploration-Qld/ Coal-seams/ Drilling/- Stratigraphy-Qld/ Coal-analysis/ Permain-/ SF5516 8651

Keywords: Petroleum-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Seismic-surveys/ Drilling/- Source-beds/ Permain-/ Triassic-/ SF5515 8550/ SF5516 8650/
Keywords: Petroleum-exploration-Qld/ Photogeology-/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Seismic-surveys/ Structure-contour-maps/ Permian-/ Triassic-/ SF5515/ SG5503/ SG5504/ SG5508

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Keywords: Mineral-exploration-Qld/ X-ray-diffraction/ Clay-minerals/ Lacustrine-sediments/ Tertiary-/ Quaternary-/ SF5506 8054/ SF5509 7952/ SF5613 9050/ SF5601 8949

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Lead-/ Zinc-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ EM-surveys/ Sirotom-surveys/ Percussion-drilling/ Rotary-drilling/ Drill-cuttings/ Sampling-/ Assay-value/ Cambrian-/ Ordovician-/ SF5502 8057

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Lead-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Cambrian-/ Ordovician-/ Devonian-/ Carboniferous-/ SF5506 8255/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Lead-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Radioactivity-surveys/ Cambrian-/ Ordovician-/ Devonian-/ Carboniferous-/ SF5506 8255/ SF5507 8355

Keywords: Geophysics-/ Direct-current-surveys/ Aquifers-/ Geophysical-anomalies/ Resistivity-profiling/ Seismic-profiles/ SF5511 8452

Keywords: Geophysical-logs/ Bed-rock/ Drilling-/ Schlumberger-array/ Geophysical-surveys-Qld/ Resistivity-surveys/ SF5508 8754/ SF5508 8755/ SF5512 8753/ SF5512 8852/ SF5512 8853/ SF5609 8952/ SF5613 8951/ SF5613 9051


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Hughes AR, CRA Exploration Pty Ltd. 1985. Monteagle, Clermont area, Queensland, report on investigations for the fourth six months of tenure and final report. Queensland. Geological Survey. Unpublished Report; GSQ CR 14035:20p; 30 maps Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Lead-/ Zinc-/ Copper-/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Geochemical-
cuttings-sampling/ Auger-drilling/ Trenching-/ SF5502 8157/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Gold-/ Lead-/ Zinc-/ Copper-/ Silver-/ Image-interpretation/ Landsat-/ Geophysical-surveys-Qld/ Thematic-mapper-surveys/ Geophysical-surveys/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Photogeology-/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Assay-value/ Percussion-drilling/ Drill-cuttings-analysis/ Laboratory-tests/ Petrology-/ SF5503 8357

Keywords: Gold-exploration-Qld/ Auger-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Drill-cuttings-analysis/ Trenching-/ Assay-value/ SF5502 8157

Keywords: Gold-exploration-Qld/ Assay-value/ Geological-exploration-Qld/ Bulk-sampling/ Leaching-/ Stream-sediment-sampling/ Rock-chip-sampling/ Soil-sampling/ RC-drilling/ Geological-logs/ Drill-cuttings-sampling/ Trenching-/ Geological-mapping-Qld/ Surveying-/ Image-interpretation/ Photogeology-/ Geophysical-interpretation/ SF5502 8256/ SF5503 8356/ SF5507 8355

Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Geochemical-exploration-Qld/ Assay-value/ RC-drilling/ Drill-cuttings-analysis / SF5502 8157

Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Geochemical-exploration-Qld/ Assaying-/ Assay-value/ Diamond-drilling/ Percussion-drilling/ Core-logs/ Petrology-/ SF5503 8356/ SF5503 8357

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ RC-drilling/ Pits-/ Petrology-/ Sample-location-maps/ Drill-hole-data/ SF5502 8257

Keywords: Gold-exploration-Qld/ Tenement-maps/ Sample-location-maps/ Auger-drilling/ Geochemical-exploration-Qld/ Assay-value/ Cross-sections/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Magnetic-surveys/ RC-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Panning-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Drill-cuttings-sampling/ Geological-mapping-Qld/ Fluid-inclusions/ Petrology-/ X-ray-diffraction/ SF5503 8356/ SF5503 8357
Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ Grab-sampling/ Rock-chip-sampling/ Geological-logs/ Reconnaissance-/ Photointerpretation-/ Assay-value/ SF5502 8256/ SF5502 8257

Keywords: Coal-petrology/ Coal-constituents/ Reflectivity-/ Fluorescence-/ Oil-shale/ Tertiary-/ SF5504 8657

Keywords: Organic-petrology/ Reflectivity-/ Oil-shale/ Permian-/ Tertiary-/ SF5507/ SF5514/ SG5507/ SG5615

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Keywords: Petroleum-exploration-Qld/ Petrology-/ X-ray-fluorescence-spectroscopy/ Kerogen-/ Vitritine-reflectance/ Alginite-/ Oil-shale/ Tertiary-/ SF5516 8850

Keywords: Gold-exploration-Qld/ Epigenetic-deposits/ Placer-deposits-Qld/ Deep-leads/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Bulk-sampling/ Grab-sampling/ Trenching-/ Tertiary-/ SF5503 8356
Abstract: Includes geological reconnaissance.

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Coal-deposits-Qld/ Core-drilling/ Drill-core/ Exploration-costs/ Geological-logs/ Geological-mapping-Qld/ Geophysical-logs/ Graphic-logs/ Stratigraphic-correlation/ Stratigraphy-Qld/ Wire-line-drilling/ Wire-line-logging/ SF5516 8650/ SF5516 8651

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Stratiform-deposits/ Volcanogenic-deposits/ Geological-mapping-Qld/ Auger-drilling/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ SF5507 8355

Keywords: Petroleum-exploration-Qld/ Methane-/ Data-processing/ Field-methods/ Maps-/ Geophysical-surveys-Qld/ Seismic-profiles/ Seismic-reflection-surveys/ Seismic-surveys/ Vibroseis-/ Seismic-interpretation/ SF5507 8554/ SF5511 8553

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Tertiary-/ SF5507
Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Analysis-/ Organic-petrology/ Tertiary-/ SF5503 8456/ SF5507 8455

Keywords: Mineral-exploration-Qld/ Oil-shale/ Tertiary-/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Tertiary-/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Ground-water/ Tertiary-/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Assay-value/ Organic-geochemistry/ Inorganic-chemistry/ Kaolin-/ Reserves-/ Shale-oil/ Recovery-/ Isopach-maps/ Stratigraphy-Qld/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Assay-value/ Aerial-geophysical-surveys/ Magnetic-surveys/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale/ Aerial-geophysical-surveys/ Magnetic-surveys/ SF5507 8355

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Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Aerial-magnetic-surveys/ Assay-value/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale / Geological-logs/ Drilling-/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale/ Shale-oil/ Drilling-/ Geological-logs/ Lacustrine-sediments/ SF5507 8355

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Landsat-/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Rock-chip-sampling/ Lineaments-/ Photogeology-/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Panning-/ Stream-sediment-sampling/ Photointerpretation-/ Assay-value/ SF5507 8355

Keywords: Mineral-exploration-Qld / Oil-shale/ Drilling-/ Oil-production-methods / Petroleum-chemistry/ SF5507 8355

Keywords: Gold-exploration-Qld/ Oil-shale/ Photointerpretation-/ Reconnaissance-/ Geophysical-interpretation/ SF5507 8355

Keywords: Gold-exploration-Qld/ Oil-shale/ Geological-maps-Qld/ Structural-geology-Qld/ Stratigraphy-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Geochemical-anomalies/ Geochemical-interpretation/ Sample-location-maps/ Regolith-/ SF5507 8355

Keywords: Gold-exploration-Qld/ Oil-shale/ Kaolin-/ Resource-assessment/ Cross-sections/ Geophysical-surveys-Qld/ Magnetic-surveys/ Shale-oil/ Recovery-/ Reserves-/ SF5507 8355

Keywords: Gold-exploration-Qld/ Magnetite-/ Placer-deposits-Qld/ Vein-deposits/ Metallurgy-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Percussion-drilling/ Rotary-drilling/ Mineral-processing/ Mineralogy-/ Laboratory-tests/ SF5502 8257
   Keywords: Gold-exploration-Qld/ Oil-shale/ Geophysical-surveys-Qld/ Magnetic-surveys/ Radioactivity-surveys/ Epithermal-deposits/ SF5507 8355

   Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ SF5507 8355

   Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Nickel-/ Iron-/ Cobalt-/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Rotary-drilling/ Assay-value/ Geological-mapping-Qld/ Regional-geology-Qld/ Permian-/ SF5516 8851

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   Company Report; CR 22931:5p; 1 map
   Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Landsat-/ Photogeology-/ Image-interpretation/ Thematic-mapper-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Grab-sampling/ Stream-sediment-sampling/ Laboratory-tests/ X-ray-diffraction/ Regolith-/ SF5507 8554/ SF5507 8555

   Keywords: Aerial-EM-surveys/ Aerial-magnetic-surveys/ Assay-value/ Bulk-sampling/ Geochemical-exploration-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Grab-sampling/ Laboratory-tests/ Leaching-/ Mineralogy-/ Petrology-/ Reconnaissance-/ Sample-location-maps/ Stream-sediment-sampling/ Tenement-maps/ SF5507 8554

   Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Molybdenum-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Diamond-drilling/ Core-logging/ SF5502 8157/ SF5502 8257

   Keywords: Petroleum-exploration-Qld/ Structural-geology/ Stratigraphic-trap/ Exploratory-wells/ Permian-/ Triassic-/ SF5507/ SF5511/ SF5512/ SF5514/ SF5515/ SG5502/ SG5503/ SG5507/ SG5511

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   Keywords: Mineral-exploration-Qld/ Regional-maps-Qld/ Geochemical-exploration-Qld/ Stream-
sediment-sampling/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ SF5502 8257

Keywords: Petroleum-exploration-Qld/ Seismic-interpretation/ Geological-structures/ Petroleum-potential/ Methane-/ Data-processing/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Geological-maps-Qld/ Permeability-/ Seismic-profiles/ Seismic-reflection-surveys/ SF5507 8455/ SF5507 8554/ SF5507 8555

Keywords: Petroleum-exploration-Qld/ Stratigraphy-Qld/ Source-beds/ Maturation-/ Devonian-/ Tertiary-/ SE5416/ SE5513/ SF5404/ SF5501/ SF5502/ SF5503/ SF5504/ SF5507/ SF5508

Keywords: Coal-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ Magnetic-surveys/ Pyrolysis-/ Regional-geology-Qld/ Rotary-drilling/ Geochemical-exploration-Qld/ Sampling-/ Surveying-/ Tenement-maps/ SF5507 8355

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Seismic-interpretation/ Field-methods/ Data-processing/ Stratigraphy-Qld/ Reflectivity-/ Permian-/ Triassic-/ SF5515 8550

Keywords: Base-metal-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Assay-value/ Geophysical-surveys-Qld/ IP-surveys/ Magnetic-surveys/ Percussion-drilling/ SF5502 8156/ SF5502 8157/ SF5502 8256/ SF5502 8257

Keywords: Mineral-exploration-Qld/ Lead-/ Zinc-/ Copper-/ Base-metals/ Silver-/ Geophysical-surveys-Qld/ Magnetic-surveys/ IP-surveys/ Geological-mapping-Qld/ Petrology-/ Drill-cuttings/ Sampling-/ Ordovician-/ Silurian-/ SF5502 8057/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Stratiform-deposits/ Volcanogenic-deposits/ Geophysical-surveys-Qld/ EM-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Geological-mapping-Qld/ Regional-geology-Qld/ Petrology-/ Mineragraphy-/ Diamond-drilling/ Percussion-drilling/ Trenching-/ Cambrian-/ Ordovician-/ SF5502 8157/ SF5502 8257
Keywords: Gold-exploration-Qld/ Silver-/ Geophysical-surveys-Qld/ Geological-mapping-Qld/ Structural-geology/ Geochemical-exploration-Qld/ Magnetic-surveys/ VLF-EM-surveys/ Percussion-drilling/ Petrology-/ Stream-sediment-sampling/ Soil-sampling/ Permian-/ Cretaceous-/ SF5503 8557

Keywords: Coal-exploration-Qld/ Geological-logs/ Geophysical-logs/ Coal-seams/ Coal-analysis/ Sulphur-/ Engineering-geology/ Feasibility-studies/ Permian-/ SF5515 8551

Keywords: Coal-exploration-Qld/ Coal-seams/ Geophysical-logs/ Geological-logs / Engineering-geology/ Coal-analysis/ Feasibility-studies/ Sulphur-/ SF5515 8551

Keywords: Coal-exploration-Qld/ Coal-analysis/ Rotary-drilling/ Core-drilling/ Permian-/ SF5511 8552/ SF5511 8553/ SF5512 8652/ SF5512 8653

Keywords: Coal-exploration-Qld/ Coal-analysis/ Geological-logs/ Rotary-drilling/ Core-drilling/ Permian-/ SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Stratigraphy-Qld/ Diamond-drilling/ Permian-/ SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld / Rotary-drilling/ Geological-mapping-Qld/ Coal-analysis/ Geological-logs/ Permian-/ SF5507 8455

Keywords: Base-metal-exploration-Qld/ Geological-mapping-Qld/ Chemical-analysis/ Geophysical-surveys-Qld/ IP-surveys/ Geophysics-/ Stratigraphy-Qld/ Geochemical-exploration-Qld/ Drilling-/ SF5502 8157


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Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Gold-exploration-Qld/ Silver-/ Stratabound-deposits/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geophysical-exploration-Qld/ Rock-chip-sampling/ Geological-mapping-Qld/ Regional-geology-Qld/ Cambrian-/ Ordovician-/ Silurian-/ Devonian-/ SF5507 8355

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Stratabound-deposits/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geophysical-exploration-Qld/ Rock-chip-sampling/ Geological-mapping-Qld/ Regional-geology-Qld/ Cambrian-/ Ordovician-/ Silurian-/ Devonian-/ SF5507 8355

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Seismic-refraction-method/ Methods-/ Regional-geology-Qld/ Permian-/ Triassic-/ SF5512 8652/ SF5512 8752/ SF5512 8852/ SF5516

Keywords: Mineral-exploration-Qld/ Chrysoprase-/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Grab-sampling/ RC-drilling/ SF5512 8852

Keywords: Mineral-exploration-Qld/ Chrysoprase-/ Reconnaissance-/ Tenement-maps/ Geochemical-exploration-Qld/ Rotary-drilling/ Sample-location-maps/ SF5512 8852

Keywords: Base-metal-exploration-Qld/ Copper-/ Geological-mapping-Qld/ Regional-geology-Qld/ Rotary-drilling/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Cambrian-/ Ordovician-/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Copper-/ Regional-geology-Qld/ Geological-mapping-Qld/ Auger-drilling/ Diamond-drilling/ Infrared-analysis/ Soil-sampling/ Assay-value/ Cambrian-/ Ordovician-/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Regional-geology-Qld/ Geological-mapping-Qld/ Diamond-drilling/ Exploration-/ History-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Laboratory-tests/ Assay-value/ Cambrian-/ Ordovician-/ SF5502 8257
Keywords: Base-metal-exploration-Qld/ Copper-/ Rotary-drilling/ Geochemical-exploration-Qld/ Geochemical-sampling/ Assay-value/ Cambrian-/ Ordovician-/ SF5502 8257
Abstract: Includes exploration history.

Keywords: Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ Geological-surveys/ Drilling-/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ SF5502 8257

Keywords: Copper-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Assay-value/ Auger-drilling/ Diamond-drilling/ Geological-mapping-Qld/ SF5502 8257

Keywords: Petroleum-exploration-Qld/ Stratigraphy-Qld/ Stratigraphic-correlation/ Geophysical-surveys-Qld/ Seismic-surveys/ Gravity-anomalies/ Structural-closure/ Geological-structures/ Devonian-/ Carboniferous-/ Triassic-/ Permian-/ Jurassic-/ Cretaceous-/ SF5514/ SG5414/ SG5501/ SG5506

Keywords: Mineral-exploration-Qld/ Molybdenum-/ Tungsten-/ Mineral-alteration/ Petrology-/ Mineralization-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Diamond-drilling/ SF5507 8355/ SF5507 8455

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Radioactivity-surveys/ Diamond-drilling/ Geochemical-exploration-Qld/ Soil-sampling/ Permian-/ Triassic-/ SF5511 8452
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Silver-/ Geophysical-surveys/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling / Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Indicator-minerals/ SF5507 8354
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Geological-logs/ Geochemical-exploration-Qld/ Bulk-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ Cambrian-/ Ordovician-/ Devonian-/ Carboniferous-/ SF5506 8154/ SF5506 8155/ SF5506 8254/ SF5506 8255
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Remote-sensing/ Image-interpretation/ Photointerpretation/- Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Soil-sampling/ Stream-sediment-sampling/ Leaching/- Assay-value/ Geophysical-interpretation/ SF5507 8354/ SF5507 8355
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Photointerpretation-/ Remote-sensing/ Photogeology-/ Photogeological-maps/ Percussion-drilling/ Rotary-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Drill-cuttings-sampling/ Leaching/- Drill-cuttings-analysis/ Assay-value/ Cambrian-/ Ordovician-/ SF5507 8454
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Rotary-drilling/ Geological-logs/ Geochemical-exploration-Qld/ Bulk-sampling/ Soil-sampling/ Drill-cuttings-sampling/ Assay-value/ Devonian-/ Carboniferous/- SF5507 8454
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Soil-sampling/ Stream-sediment-sampling/ Cambrian-/ Devonian-/ Carboniferous/- SF5507 8454/ SF5507 8455
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Percussion-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching/- Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Drill-cuttings-sampling/ Trenching/- Assay-value/ SF5503 8557
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Landsat/- Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Rotary-drilling/ Geochemical-exploration-Qld/ Soil-sampling/ Drill-cuttings-sampling/ Assay-value/ Devonian-/ Carboniferous/- SF5507 8454
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Landsat/- Remote-sensing/ Image-interpretation/ Thematic-mapper-surveys / Percussion-drilling/ Rotary-drilling/ Geological-logs/ Geochemical-exploration-Qld/ Soil-sampling/ Bulk-sampling/ Leaching/- Rock-chip-sampling/ Stream-sediment-
Abstract: Includes report literature review


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Keywords: Coal-exploration-Qld/ Coal-seams/ Coal-analysis/ Drilling/- Permian/- SF5516 8650/ SF5516 8750

Keywords: Coal-exploration-Qld/ Coal-analysis/ Coal-reserves/ Geological-mapping-Qld/ Rotary-drilling/ Permian/- SF5516 8651/ SF5516 8751

Keywords: Base-metal-exploration-Qld/ Copper-/ Nickel-/ Cobalt-/ Lead-/ Zinc-/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Geophysical-surveys-Qld/ Magnetic-surveys/ Regional-geology-Qld/ Geological-mapping-Qld/ Alluvium-/ Permian/- Triassic-/ Quaternary-/ SF5512 8752

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Molybdenum-/ Diamond-drilling/ Devonian-/ Carboniferous/- SF5507 8455

Keywords: Base-metal-exploration-Qld/ Copper-/ Molybdenum-/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Rock-chip-sampling/ Drill-cuttings-sampling/ Laboratory-tests/ Ordovician-/ Silurian/- SF5502/ SF5514

Keywords: Gold-exploration-Qld/ Rotary-percussion-drilling/ Drill-hole-logs/- SF5502 8257

Keywords: Base-metal-exploration-Qld/ Gold-/ Antimony-/ Assay-value/ History/- Geological-mapping-Qld/ Geochemical-exploration-Qld/ Sampling/- Rotary-percussion-drilling/ Trenching/- SF5502 8257

Keywords: Base-metal-exploration-Qld/ Copper-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Geological-mapping-Qld/ Regional-geology-Qld/ Petrology/- Diamond-drilling/ Devonian-/ Carboniferous/- Permian/- Triassic/- Quaternary/- SF5507 8554/ SF5508 8654/ SF5508 8655/ SF5511 8553/ SF5512 8653

Keywords: Gold-exploration-Qld/ Percussion-drilling/ Drill-cuttings-sampling/ Geochemical-
exploration-Qld/ Rock-chip-sampling/ Bulk-sampling/ Stream-sediment-sampling/ Trenching-/ Assay-value/ Reconnaissance-/ Devonian-/ Carboniferous-/ Permian-/ SF5503 8557

Keywords: Mineral-exploration-Qld/ Gold-/ Assay-value/ Petrology-/ Leaching-/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Bulk-sampling/ Rock-chip-sampling/ Drill-cuttings-sampling/ RC-drilling/ Percussion-drilling/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Lineaments-/ Geophysical-interpretation/ Photogeology-/ Geological-logs/ Landsat-/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Gold-/ Assay-value/ Photogeology-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Landsat-/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Leaching-/ Percussion-drilling/ RC-drilling/ Geological-logs/ Petrology-/ SF5507 8355/ SF5507 8455

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Keywords: Mineral-exploration-Qld/ Regional-geology-Qld/ Literature-reviews/ Oil-shale/ Tertiary-/ SF5512 8652/ SF5512 8752/ SF5512 8753

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Keywords: Mineral-exploration-Qld/ Regional-geology-Qld/ Literature-reviews/ Oil-shale/ Tertiary-/ SF5512 8653/ SF5512 8753

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Keywords: Mineral-exploration-Qld/ Regional-geology-Qld/ Literature-reviews/ Oil-shale/ Tertiary-/ SF5516 8750/ SF5516 8751/ SF5516 8850

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Keywords: Mineral-exploration-Qld/ Regional-geology-Qld/ Literature-reviews/ Oil-shale/ Tertiary-/ SF5512 8652/ SF5512 8752/ SF5516 8751

Khoo F. 1981. First half yearly geological report and final report. Linkfield Pty Ltd; GSQ CR 9554:8p
Keywords: Mineral-exploration-Qld/ Regional-geology-Qld/ Literature-reviews/ Oil-shale/ Tertiary-/ SF5516 8750

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Keywords: Mineral-exploration-Qld/ Regional-geology-Qld/ Literature-reviews/ Oil-shale/ Tertiary-/ SF5512 8652

Keywords: Gold-exploration-Qld/ Deep-leads/ Sedimentary-rocks/ Cambrian-/ Ordovician-/ Tertiary-/ SF5503 8356

Keywords: Mineral-exploration-Qld/ Stratigraphy-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Oil-shale/ Tertiary-/ SF5516 8750/ SG5504 8749
Abstract: Includes a report literature review.
Keywords: Coal-exploration-Qld/ Coal-analysis/ Drilling-/ Geological-logs/ Permian-/ SF5516 8650/ SF5516 8750

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Volcanogenic-deposits/ Geological-mapping-Qld/ Stratigraphy-Qld/ Petrology-/ Diamond-drilling/ Carboniferous-/ Permian-/ SF5503 8356

Keywords: Petroleum-exploration-Qld/ Seismic-interpretation/ Geological-structures/ Stratigraphy-Qld/ Field-methods/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Seismic-refraction-surveys/ Seismic-profiles/ SF5514 8050/ SF5514 8150

Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Radioactivity-surveys/ Photointerpretation-/ Uranium-/ Devonian-/ Carboniferous-/ SF5515 8351

Keywords: Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Radioactivity-surveys/ Aerial-photography/ Photointerpretation-/ Uranium-/ Devonian-/ Carboniferous-/ SF5515 8351

Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Radioactivity-surveys/ Photointerpretation-/ Uranium-/ Devonian-/ Carboniferous-/ SF5515 8351

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Keywords: Mineral-exploration-Qld/ Aerial-magnetic-surveys/ Radioactivity-surveys/ Geophysical-surveys-Qld/ Uranium-/ Devonian-/ Carboniferous-/ SF5515 8350/ SF5515 8351

Keywords: Mineral-exploration-Qld/ Geochemical-exploration-Qld/ Deep-leads/ Gold-placer-deposits/ Tertiary-/ Geochemical-sampling/ SF5503

Report; CR 23194:16p; 1 map
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Assay-value/
Geochemical-exploration-Qld/ Soil-sampling/ RC-drilling/ Rotary-core-barrel/ Sample-location-
maps/ Tenement-maps/ SF5502 8157/ SF5502 8257
Abstract: Includes report literature review

Keywords: Coal-exploration-Qld/ Geological-surveys/ Diamond-drilling/ Stratigraphic-
nomenclature/ Coal-seams/ Economic-geology-Qld/ Permian-/ SF5503 8556/ SF5507 8555

Keywords: Coal-exploration-Qld/ Drilling-/ Diamond-drilling/ Geological-logs/ Permian-/ SF5508 8654/ SF5512 8653

Keywords: Drilling-/ Coal-exploration-Qld/ Coal-analysis/ Permian-/ SF5511 8552/ SF5511 8553/ SF5512 8652

Keywords: Coal-exploration-Qld/ Stratigraphic-drilling/ Coal-analysis/ Permian-/ SF5507 8454/ SF5507 8455

Keywords: Mineral-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Base-metals/ Geophysical-surveys-
Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-
sampling/ Assay-value/ Statistics-/ Cambrian-/ Ordovician-/ SF5502 8056/ SF5502 8057

Keywords: Mineral-exploration-Qld/ Gold-/ Silver-/ Assay-value/ Leaching-/ Geochemical-
exploration-Qld/ Rock-chip-sampling/ Bulk-sampling/ Geophysical-surveys-Qld/ Aerial-
magnetic-surveys/ Photointerpretation-/ SF5507 8354/ SF5511 8353

Keywords: Mineral-exploration-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Geophysical-surveys-Qld/ Uranium-/ Devonian-/ Carboniferous-/ SF5511 8352/ SF5514 8251/ SF5515 8351

Keywords: Petroleum-exploration-Qld/ Drilling-/ Geophysical-surveys-Qld/ Seismic-surveys/
Gravity-surveys/ Exploration-costs/ Stratigraphy-Qld/ Structural-geology-Qld/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ Jurassic-/ Cretaceous-/ SF5513/ SF5514/ SG5502/ SG5503/ SG5507
Keywords: Gold-exploration-Qld/ Photogeology/- Reconnaissance/- Petrology/- Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Leaching/- Trenching/- Assay-value/ Cainozoic/- SF5515 8550
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Placer-deposits-Qld/ Reconnaissance/- Geological-mapping- Qld/ Geological-logs/ Mineralogy/- Geochemical-exploration-Qld/ Bulk-sampling/ Stream-sediment-sampling/ Panning/- Assay-value/ Pits/- Alluvium/- Cambrian/- Ordovician/- Quaternary/- SF5502 8257
Abstract: Includes report literature review

Keywords: Coal-exploration-Qld/ Field-geology/ Gravity-surveys/ SF5511 8452/ SF5511 8552/ SF5515 8551
Abstract: Includes report literature review

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Field-geology/ Gravity-surveys/ SF5511 8452/ SF5511 8552/ SF5515 8551

Keywords: Mineral-exploration-Qld/ Rock-chip-sampling/ Geological-logs/ Mineralogy/- Drill-cuttings-sampling/ X-ray-diffraction/ SF5503 8356/ SF5503 8357

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Photogeology/- Permian/- SF5516 8651/ SF5516 8751

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Core-drilling/ Cretaceous/- SF5512 8852/ SF5512 8853

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Data-processing/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Geological-mapping-Qld/ Geological-maps-Qld/ Interpretative-maps/ Petrology/- RC-drilling/ Rotary-core-barrel/ SF5502 8257

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Keywords: Petroleum-exploration-Qld/ Well-completion-report/ Well-drilling/ Drill-core/ Drill-cuttings/ Mud-logs/ Stratigraphy-Qld/ Stratigraphic-correlation/ Palynology-/ Well-logs/ Composite-logs/ Formation-tests/ Organic-geochemistry/ Devonian-/ Carboniferous-/ Permian-/ SF5506 8055

Keywords: Petroleum-exploration-Qld/ Natural-gas/ Drilling-/ Petroleum-reserves/ Stratigraphy-Qld/ Structural-geology-Qld/ SF5508 8755

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Silver-/ Gold-/ Geological-mapping-Qld/ Petrology-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Drilling-/ Mineralization-Qld/ SF5512 8752

Keywords: Mineral-exploration-Qld/ Heavy-minerals/ Regional-geology-Qld/ Placer-deposits-Qld/ Devonian-/ Carboniferous-/ Permian-/ Cretaceous-/ Tertiary-/ SE5510/ SE5515/ SF5504/ SF5508

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Keywords: Rotary-drilling/ Diamond-drilling/ Structural-geology/ Stratigraphy-Qld/ Coal-analysis/ Faulting-/ Folding-/ Coal-exploration-Qld/ SF5516 8850/ SG5504 8849

Keywords: Gold-exploration-Qld/ Remote-sensing/ Landsat-/ Geophysical-surveys-Qld/ Thematic-mapper-surveys/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ SF5503 8457

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Mineral-exploration-Qld/ Gold-/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Thematic-mapper-surveys/ Leaching-/ Landsat-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ Rock-chip-sampling/ Assay-value/ SF5503 8456/ SF5503 8556

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Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Thematic-mapper-surveys/ Landsat-/ Geochemical-exploration-Qld/ BLEG-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Remote-sensing/ SF5503 8456/ SF5503 8556/ SF5504/ SF5507 8455/ SF5507 8555/ SF5508

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Geological-logs/ Geophysical-logs/ Permian-/ SF5503 8456

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Permian-/ Triassic-/ SF5503 8456/ SF5503 8556
Abstract: Includes report literature review

Keywords: Copper-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/
Keywords: Base-metal-exploration-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Geophysical-surveys-Qld/ Magnetic-surveys/ SP-surveys/ Auger-drilling/ Diamond-drilling/ Drilling-/ Geological-mapping-Qld/ Logs-/ SF5507 8554

Keywords: Base-metal-exploration-Qld/ Copper-/ Molybdenum-/ Regional-geology-Qld/ Geological-mapping-Qld/ Petrology-/ Diamond-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Silurian-/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ SF5507 8555

Keywords: Base-metal-exploration-Qld/ Copper-/ Zinc-/ Molybdenum-/ Geological-mapping-Qld/ Diamond-drilling/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Ordovician-/ Silurian-/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ SE5513/ SF5507

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Vibroseis-/ Field-methods / SF5506 8054/ SF5506 8154/ SF5509 7852/ SF5509 7952/ SF5510 8153

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ SF5505/ SF5509/ SF5510/ SF5513/ SF5514

Keywords: Petroleum-exploration-Qld/ Formation-tests/ Gas-analysis/ Drill-core/ Drilling-/ Organic-geochemistry/ Porosity-/ Permeability-/ Geological-structures/ Palynology-/ Sidewall-sampling/ Stratigraphy-Qld/ Well-velocity-surveys/ Water-analysis/ Well-logs/ Stratigraphic-correlation/ Well-completion/ SF5505/ SF5506/ SF5509/ SF5510/ SF5513/ SF5514

Keywords: Petroleum-exploration-Qld/ Seismic-profiles/ Seismic-reflection-surveys/ Structure-contour-maps/ Vibroseis-/ SF5509/ SF5510

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Keywords: Petroleum-exploration-Qld/ Petroleum-reservoirs/ Source-beds/ Geological-structures/ Stratigraphy-Qld/ Traps (petroleum)/ Seismic-surveys/ Gravity-surveys/ Vitrinite-reflectance/ Drilling-/ SF5509/ SF5510/ SF5513/ SF5514
Abstract: Includes report literature review

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld / Seismic-reflection-surveys/ Seismic-interpretation/ SF5506/ SF5510 8053/ SF5510 8153/ SF5510 8253

Keywords: Petroleum-exploration-Qld/ Structure-contour-maps/ Seismic-profiles/ Seismic-surveys/ SF5505/ SF5506/ SF5507/ SF5509/ SF5510/ SF5511/ SF5513/ SF5514/ SF5515

Keywords: Petroleum-exploration-Qld/ Cross-sections/ Isopach-maps/ Seismic-profiles/ Seismic-surveys/ Structure-contour-maps/ SF5505 / SF5506/ SF5507/ SF5509/ SF5510/ SF5511/ SF5513/ SF5514/ SF5515

Keywords: Petroleum-exploration-Qld/ Regional-geology-Qld/ Stratigraphy-Qld/ Oil-wells/ Geophysical-logs/ Maturation-/ Vitrinite-reflectance/ Petroleum-potential/ SF5509/ SF5510/ SF5513/ SF5514

Keywords: Petroleum-exploration-Qld/ Drilling-/ Geological-structures/ Stratigraphy-Qld/ Seismic-surveys/ Stratigraphic-correlation/ SF5505/ SF5506/ SF5509/ SF5510/ SF5513/ SF5514

Keywords: Mineral-exploration-Qld/ Molybdenum-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Pits-/ Assay-value/ Tertiary-/ SF5507 8355/ SF5507 8455

Keywords: Mineral-exploration-Qld/ Gold-/ Assay-value/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Grab-sampling/ Rock-chip-sampling/ Soil-sampling/ Drill-cuttings-sampling/ Drill-cuttings-analysis/ Percussion-drilling/ Reconnaissance-/ Geological-mapping-Qld/ Trenching-/ SF5502 8157
Keywords: Gold-exploration-Qld/ Arsenic-/ Antimony-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ IP-surveys/ Geophysical-logs/ Stratigraphy-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ RC-drilling / Geochemical-interpretation/ Sample-location-maps/ SF5502 8057

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Cobalt-/ Gold-exploration-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Pulse-EM-surveys/ Geophysics-/ Percussion-drilling/ Rotary-drilling/ SF5502 8057/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Copper- / Lead-/ Zinc-/ Geophysical-surveys-Qld/ Pulse-EM-surveys/ Geophysics-/ Percussion-drilling/ Rotary-drilling/ SF5502 8057

Keywords: Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Radioactivity-surveys/ Electrical-surveys/ Geophysics-/ Percussion-drilling/ Trenching-/ Geochemical-exploration-Qld/ Soil-sampling/ Mineralization-Qld/ SF5502 8057/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Silver-/ Regional-geology-Qld/ Geological-mapping-Qld/ Oil-shale/ Assay-value/ Gravity-anomalies/ Tertiary-/ SF5504 8656/ SF5504 8657

Keywords: Mineral-exploration-Qld/ Drilling-/ Geological-logs/ Oil-shale/ Assay-value/ Gravity-anomalies/ Tertiary-/ SF5516 8850

Keywords: Mineral-exploration-Qld/ Geological-logs/ Oil-shale/ Assay-value/ Stratigraphy-Qld/ Tertiary-/ SF5516 8852/ SF5516 8752/ SF5516 8750/ SF5516 8751/ SF5516 8850/ SF5516 8851/ SG5504 8849

Keywords: Mineral-exploration-Qld/ Regional-geology-Qld/ Oil-shale/ Tertiary-/ SF5504 8656/ SF5504 8657
Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ Oil-shale/ Tertiary-/SF5512 8852/ SF5516 8851

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Chemical-analysis/ Stratigraphy-Qld/ Geological-logs/ Tertiary-/ SF5512 8652/ SF5512 8752/ SF5516 8751/ SF5516 8850/ SF5516 8851
Abstract: Includes report literature review

Keywords: Petroleum-exploration-Qld/ Seismic-surveys/ Geological-mapping-Qld/ Devonian-/Permian-/Cretaceous-/SF5514/ SG5502/ SG5506/ SG5507/ SG5510/ SG5511/ SH5513

Keywords: Petroleum-exploration-Qld/ Photogeology-/ Seismic-surveys/ Geological-mapping-Qld/ Devonian-/ Permian-/ Cretaceous-/ SF5408/ SF5411/ SF5412/ SF5413/ SF5415/ SF5514/ SG5502/ SG5506/ SG5507/ SG5510/ SG5511

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Transient-EM-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Trenching-/ SF5503 8556

Keywords: Mineral-exploration-Qld/ Uranium-/ Geological-mapping-Qld/ Structural-geology-Qld/ Photogeological-maps-Qld/ Photogeology-/ Aerial-photography/ Geophysical-surveys-Qld/ Gravity-surveys/ Stratigraphy-Qld/ SF5514 8250/ SF5515 8350/ SF5515 8450/ SG5502 8249/ SG5503 8349/ SG5503 8449

Keywords: Mineral-exploration-Qld/ Silver-/ Lead-/ Zinc-/ Copper-/ Base-metals/ Gold-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Assay-value/ Diamond-drilling/ Core-sampling/ Cambrian-/ Ordovician-/ SF5502 8057/ SF5502 8157/ SF5502 8257
Abstract: Exploration for Kuroko volcanogenic disseminated deposits includes geological reconnaissance.

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Keywords: Gold-exploration-Qld/ Kaolin-/ Remote-sensing/ Landsat-/ Image-interpretation/ Photogeology-/ Geophysical-surveys-Qld/ Thematic-mapper-surveys/ Aerial-magnetic-surveys/ Rotary-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-
sediment-sampling/ Bulk-sampling/ Leaching/-/ Grab-sampling/ Drill-cuttings-sampling/ Assay-value/ Mineralogy/-/ Geophysical-interpretation/ Lineaments/-/ Laboratory-tests/ SF5502 8256/ SF5506 8155/ SF5506 8255

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Soil-sampling/ Panning/-/ Assay-value/ Cambrian/-/ Ordovician/-/ SF5511 8352

Keywords: Mineral-exploration-Qld/ Drilling/-/ Geological-logs/ Geophysical-logs/ Stratigraphy-Qld/ Oil-shale/ Tertiary/-/ SF5516 8850/ SF5516 8851

Keywords: Gold-exploration-Qld/ Silver/-/ Geochemical-exploration-Qld/ Bulk-sampling/ Assay-value/ Trenching/-/ Laboratory-tests/ Regolith/-/ SF5502 8257
Abstract: Includes report literature review

Keywords: Petroleum-exploration-Qld/ Geological-structures/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Well-velocity-surveys/ SF5515 8550/ SF5516 8650/ SG5503 8548/ SG5503 8549/ SG5504 8648/ SG5504 8649

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Keywords: Coal-exploration-Qld/ Stratigraphy-Qld/ Structural-geology/ Lithology/-/ Geological-logs/ Drill-cuttings/ Permian/-/ SF5403/ SF5404/ SF5407/ SF5408/ SF5501/ SF5505/ SF5506/ SF5507/ SF5509/ SF5510/ SF5511

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Keywords: Coal-exploration-Qld/ Drilling/-/ Permian/-/ Triassic/-/ SF5503 8456/ SF5503 8556/ SF5507 8455/ SF5507 8555

Keywords: Drilling/-/ Lithology/-/ Structural-geology/ Coal-exploration-Qld/ Permian/-/ SF5516 8651

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Keywords: Petroleum-exploration-Qld/ Stratigraphic-drilling/ Drill-cuttings/ Stratigraphy-Qld/ Permian/-/ Triassic/-/ Tertiary/-/ SF5506 8055

Keywords: Petroleum-exploration-Qld/ Stratigraphy-Qld/ Geophysical-surveys-Qld/ Seismic-surveys/ Geological-structures/ General-geology/ Interpretation/-/ Oil-recovery/ Petroleum-migration/ Faults/-/ Grabens/-/ Palynology/-/ Devonian/-/ Carboniferous/-/ SF5506 8054/ SF5506 8055/ SF5506 8154/ SF5506 8155/ SF5506 8254/ SF5506 8255/ SF5510 8052/ SF5510 8053/ SF5510 8152/ SF5510 8153/ SF5510 8252/ SF5510 8253
Madre D. 1981. Duaringa, preliminary geological field survey and half yearly report for period ended 20/4/81 (oil shale). King Solomon Mining Co Pty Ltd; Oil Refining Exploration Pty Ltd; GSQ CR 9841:4p
   Keywords: Mineral-exploration-Qld/ Oil-shale/ Geological-mapping-Qld/ Tertiary-/ SF5516 8750/ SF5516 8850

   Keywords: Mineral-exploration-Qld/ Drilling-/ Geological-logs/ Oil-shale/ Tertiary-/ SF5516 8750/ SF5516 8850

   Keywords: Mineral-exploration-Qld/ Oil-shale/ Geological-logs/ Drilling-/ SF5516 8750/ SF5516 8850

   Keywords: Gold-exploration-Qld/ Placer-deposits-Qld/ Vein-deposits/ Reconnaissance-/ SF5503 8556

   Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Gravity-interpretation/ Seismic-interpretation/ Drilling-/ Cretaceous-/ Jurassic-/ Triassic-/ Permian-/ Devonian-/ Carboniferous-/ SF5513/ SF5514/ SG5502/ SG5506/ SG5507/ SG5510/ SG5511

   Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Leaching-/ Geological-logs/ Reconnaissance-/ SF5502 8257

   Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Seismic-interpretation/ Structural-geology-Qld/ Stratigraphy-Qld/ Jurassic-/ Triassic-/ Permian-/ Carboniferous-/ SF5408/ SF5411/ SF5412/ SF5415/ SF5513/ SF5514/ SG5502/ SG5506

   Keywords: Petroleum-exploration-Qld/ Drill-cuttings/ Drilling-/ Formation-tests/ Geological-structures/ Geothermal-gradients/ Permeability-/ Petroleum-potential/ Petroleum-reservoirs/ Porosity-/ Regional-geology-Qld/ Seismic-surveys/ Source-beds/ Stratigraphy-Qld/ Traps (petroleum)/ Well-completion-report/ Well-logs/ Well-velocity-surveys/ SF5506 8154
Keywords: Mesozoic-/ Permian-/ Petroleum-exploration-Qld/ Regional-geology-Qld/ Seismic-profiles/ Seismic-reflection-surveys/ Seismic-surveys/ Seismographs/- Stratigraphy-Qld/ Structural-geology-Qld/ Structure-contour-maps/ Velocity-logs/ SF5512/ SF5516/ SG5504/ SG5508
Abstract: Basin configuration outlined, drilling on possible trap.

Keywords: Mesozoic-/ Permian-/ Petroleum-exploration-Qld/ Seismic-reflection-surveys/ Seismic-surveys/ Seismographs-/ Stratigraphy-Qld/ Structural-geology-Qld/ Structure-contour-maps/ Subsurface-correlation/ SF5516/ SG5504/ SG5508
Abstract: Several structures outlined, more seismic required.

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Tenement-maps/ Ore-reserve-estimation/ Geochemical-exploration-Qld/ Soil-sampling/ Assaying-/ Assay-value/ Percussion-drilling/ SF5512 8752

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Geological-mapping-Qld/ Geological-maps-Qld/ Percussion-drilling/ Reconnaissance-/ Stratigraphy-Qld/ Structural-geology-Qld/ SF5512 8752

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Reconnaissance- / Geological-maps-Qld/ Geochemical-exploration-Qld/ Assay-value/ Percussion-drilling/ Drill-cuttings-analysis/ Laboratory-tests/ SF5507 8554/ SF5508 8654/ SF5511 8553
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Zinc-/ Silver-/ Geophysical-surveys-Qld/ Aerial-geophysical-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Chemical-analysis/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-interpretation/ Image-interpretation/ Imagery-/ Landsat-/ Lineaments-/ Metallogenesis-/ Reconnaissance-/ Tenement-maps/ X-ray-diffraction/ SF5512 8752
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Copper-/ Silver-/ Geophysical-surveys-Qld/ Aerial-geophysical-surveys/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Radioactivity-surveys/ Assaying-/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-interpretation/ Landsat-/ Leaching-/ Lineaments-/ Metallogenesis-/ Reconnaissance-/ Satellite-imagery/ Stratigraphy-Qld/ Tenement-maps/ SF5512 8752
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Geological-mapping-Qld/ Landsat-/ Percussion-drilling/ SF5512 8752
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Image-interpretation/ Lineaments-/ Satellite-imagery/ Tenement-maps/ SF5512 8742

Keywords: Mineral-exploration-Qld/ Porphyry-copper-deposits/ Mineral-alteration/ Breccia-/ Diamond-drilling/ Geochemical-exploration-Qld/ Stockwork-/ Soil-sampling/ Rock-chip-sampling/ Molybdenum-/ Copper-/ Petrology-/ Ordovician-/ SF5502 8257

Marlow NG. 1980. Relinquishment report, Authority to Prospect no.2115M - Mount Graham, Bowen mining district, Queensland. Occidental Minerals Corporation of Australia; Afmeco Pty Ltd; GSQ CR 7784:8p
Keywords: Mineral-exploration-Qld/ Sedimentary-environments/ Petrology-/ Sandstone-/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-radioactivity-surveys/ Uranium-/ Devonian-/ Carboniferous-/ SF5503 8356

Keywords: Uranium-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-radioactivity-surveys/ Radioactivity-surveys/ Geochemistry-/ Petrology-/ Sedimentary-environments/ Sandstone-/ SF5503 8336
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Silver-/ Aerial-photography/ Base-maps/ Geothermal-exploration-Qld/ Bulk-sampling / Geomorphology-/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Panning-/ Pits-/ Reconnaissance-/ Volumetric-analysis/ SF5503 8556

Keywords: Mineral-exploration-Qld/ Silver-/ Market-research/ Trenching-/ Vein-deposits/ Laterites-/ Gemstones-/ Chrysoprase-/ Nickel-/ Permian-/ Triassic-/ Tertiary-/ SF5512 8852

Keywords: Base-metal-exploration-Qld/ Molybdenum-/ Copper-/ Diamond-drilling/ Assay-value/ Cambrian-/ Ordovician-/ Silurian-/ Devonian- SF5502 8257

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Keywords: Base-metal-exploration-Qld/ Gold-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Assay-value/ Photogeology-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ IP-surveys/ Geological-surveys/ Geological-mapping-Qld/ Igneous-intrusions/ SF5503 8356

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Low-grade-ores/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Percussion-drilling/ Drill-cuttings/ Carboniferous-/ Permian-/ SF5503 8356

Keywords: Coal-exploration-Qld/ Drilling-/ Permian- / SF5514 8151/ SF5514 8251

Keywords: Gold-exploration-Qld/ Rotary-drilling/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Assay-value/ Cambrian-/ Ordovician-/ SF5511 8353

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Cambrian-/ Ordovician-/ Devonian-/ Carboniferous-/ SF5511 8352

Keywords: Gold-exploration-Qld/ Epigenetic-deposits/ Placer-deposits-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Auger-drilling/ Alluvium-/ Cambrian-/ Ordovician- / Quaternary-/ SF5511 8353

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ Assay-value/ Diamond-drilling/ Percussion-drilling/ Core-logs/ Drill-core-analysis/ Drill-cuttings-analysis/ SF5502 8157

Keywords: Gold-exploration-Qld/ Silver-/ Antimony-/ Percussion-drilling/ Cambrian-/ Ordovician-/ SF5502 8257

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Assay-value/ SF5507 8355
Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Assay-value/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale/ Assay-value/ Geological-logs/ Drilling-/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale/ Assay-value/ Geological-logs/ Cross-sections/ Drilling-/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale/ Rotary-drilling/ Geological-logs/ Tertiary-/ SF5503 8456/ SF5507 8455

McElroy CJ. 1981. Six monthly report for the period 14/11/80 to 14/5/81. International Mining Corporation NL; McElroy Bryan and Assoc Pty Ltd; GSQ CR 9182:2p
Keywords: Mineral-exploration-Qld/ Drilling-/ Geological-logs/ Oil-shale/ Tertiary-/ SF5507 8355

McElroy CJ. 1981. Six monthly report for the period 14/11/80 to 14/5/81. International Mining Corporation NL; McElroy Bryan and Assoc Pty Ltd; GSQ CR 9181:2p
Keywords: Mineral-exploration-Qld/ Drilling-/ Geological-logs/ Oil-shale/ Tertiary-/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Oil-shale/ Rotary-drilling/ Geological-logs/ Tertiary-/ SF5507 8455

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Geological-logs/ Assay-value/ Tertiary-/ SF5503 8456/ SF5507 8455

Keywords: Gold-exploration-Qld/ Molybdenum-/ Bismuth-/ Geological-mapping-Qld/ Base-maps/ Tenement-maps/ Reconnaissance-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ Data-processing/ Geophysical-interpretation/ Geochemical-exploration-Qld/ BLEG-sampling/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Percussion-drilling/ RC-drilling/ Core-logs/ Chemical-analysis/ Geochemical-anomalies/ Sample-location-maps/ Rehabilitation-/ SF5501 7956/ SF5502 8056/ SF5502 8057

Keywords: Mineral-exploration-Qld/ Gold-/ Assay-value/ Petrology-/ Geochemical-exploration-
Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Leaching-/ Assay-value/ SF5503 8456/ SF5503 8457

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Trenching-/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Drill-cuttings-analysis/ Geological-logs/ Percussion-drilling/ SF5502 8256/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Sample-location-maps/ SF5503 8357/ SF5503 8457

Keywords: Mineral-exploration-Qld/ Gold-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ Rock-chip-sampling/ Leaching-/ Assay-value/ Image-interpretation/ Geological-logs/ Remote-sensing/ Geophysical-surveys-Qld/ Thematic-mapper-surveys/ SF5507 8354/ SF5507 8355

Keywords: Coal-exploration-Qld/ Diamond-drilling/ Coal-seams/ Permian-/ SF5503 8456

Keywords: Mineral-exploration-Qld/ Zircon-/ Spinel-/ Sapphire-/ Aerial-photography/ Geochemical-exploration-Qld/ Heavy-mineral-sampling/ Mineral-resources-Qld/ Mineralogy-/ Photogeological-maps/ Photogeology-/ Photointerpretation-/ Reconnaissance-/ Sample-location-maps/ Volcanic-rocks/ Cainozoic-/ SF5515 8450/ SF5515 8451

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Resistivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Diamond-
drilling/ Geological-logs/ Mineralogy-/ Structural-geology-Qld/ SF5511 8353

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Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-
magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-
sediment-sampling/ Leaching-/ Assay-value/ Lineaments-/ Data-processing/ SF5511 8353/
SF5511 8453

Keywords: Gold-exploration-Qld/ Multispectral-imagery/ Image-interpretation/ Remote-sensing/
Thematic-mapper-surveys/ Geological-logs/ Geochemical-exploration-Qld/ Rock-chip-sampling/
Stream-sediment-sampling/ Grab-sampling/ Assay-value/ SF5507 8555/ SF5508 8655

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Qld/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/
Reconnaissance-/ Image-interpretation/ Multispectral-imagery/ Thematic-mapper-surveys/ SF5507 8555/
SF5511 8353

plates
Keywords: Gold-exploration-Qld/ Silver-/ Geochemical-exploration-Qld/ Geophysical-surveys-
Qld/ Resistivity-surveys/ IP-surveys/ Rock-chip-sampling/ Assay-value/ Diamond-drilling/
Trenching-/ Petrology-/ RC-drilling/ Geological-mapping/ SF5511 8353

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Abstract: Includes report literature review

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Percussion-drilling/ Drill-cuttings-analysis/ Assay-value/ Low-grade-ores/ Cambrian-/ Ordovician-/ SE5514 8058/ SF5502 8057

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/
Magnetic-surveys/ Radioactivity-surveys/ Percussion-drilling/ Rotary-drilling/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Panning-/ Assay-value/ Petrology-/ Reconnaissance-/ Cambrian-/ Ordovician-/ SE5514 8058/ SF5502 8057

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Petrology-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Grab-sampling/ Assay-value/ Cambrian-/ Ordovician-/ SE5514 8058/ SE5514 8158/ SF5502 8057

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Panning-/ Assay-value/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Petrology-/ Cambrian-/ Ordovician-/ SE5514 8058/ SE5514 8158/ SF5502 8057

Keywords: Gold-exploration-Qld/ Photointerpretation-/ Geological-mapping-Qld/ Rotary-drilling/ RC-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Drill-cuttings-analysis/ Trenching-/ Assay-value/ SF5511 8353

Keywords: Gold-exploration-Qld/ Diamond-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Petrology-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ SF5507 8354

Keywords: Gold-exploration-Qld/ Arsenic-/ Antimony-/ Silver-/ Geophysical-surveys-Qld/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Cambrian-/ Ordovician-/ Devonian-/ Carboniferous-/ SF5511 8352/ SF5511 8353

Keywords: Mineral-exploration-Qld/ Stratigraphic-wells/ Petrology-/ Trace-analysis/ Carboniferous-/ SF5507 8354

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Rotary-drilling/ Core-logs/ Geochemical-exploration-Qld/ Grab-sampling / Soil-sampling/ Drill-cuttings-analysis/ Assay-value/ SF5511 8352

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-surveys-Qld/ Reconnaissance-/ Tenement-maps/ SF5502 8056/ SF5502 8156/ SF5502 8157

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Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ RC-drilling/ Rotary-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Trenching-/ Drill-cuttings-analysis/ Assay-value/ SF5511 8352/ SF5511 8353

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Lead-/ Zinc-/ Copper-/ Stratigraphy-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assaying-/ Assay-value/ Percussion-drilling/ Rotary-drilling/ Trenching-/ SF5511 8353

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Silver-/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Reconnaissance-/ Rock-chip-sampling/ SF5502 8156/ SF5502 8157
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Drill-cuttings-sampling/ EM-surveys/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Gravity-surveys/ Percussion-drilling/ Petrology-/ RC-drilling/ Rock-chip-sampling/ Rotary-core-barrel/ Sirotem-surveys/ Soil-sampling/ SF5502 8056/ SF5502 8057/ SF5502 8156/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Silver-/ Geophysical-interpretation/ Reconnaissance-/ SF5502 8056/ SF5502 8156/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Silver-/ Geophysical-interpretation/ Reconnaissance-/ SF5502 8056/ SF5502 8156/ SF5502 8157

Keywords: Petroleum-exploration-Qld/ Organic-geochemistry/ Drill-core-analysis/ Gas-chromatography/ Source-beds/ Permian-/ SF5408/ SF5513/ SF5514
Keywords: Petroleum-exploration-Qld/ Seismic-interpretation/ Methane-/ Field-methods/ Seismic-profiles/ Seismic-reflection-surveys/ Vibroseis-/ SF5507 8455/ SF5507 8554/ SF5507 8555

Keywords: Petroleum-exploration-Qld/ Data-processing/ Field-methods/ Geophysical-surveys-Qld/ Maps-/ Methane-/ Seismic-profiles / Seismic-reflection-methods/ SF5507 8554

Keywords: Petroleum-exploration-Qld/ Coal-analysis/ Drill-core/ Drill-cuttings/ Drilling-/ Gas-analysis/ Methane-/ Permeability-/ Petrology-/ Stratigraphy-Qld/ Stress-measurement/ Well-completion / Well-logs/ SF5507 8554

Keywords: Petroleum-exploration-Qld/ Coal-analysis/ Drill-core/ Drill-cuttings/ Drilling-/ Gas-analysis/ Methane-/ Permeability-/ Petrology-/ Porosity-/ Stratigraphic-correlation/ Well-completion-report/ Well-logs/ SF5507 8554

Keywords: Petroleum-exploration-Qld / Coal-analysis/ Drilling-/ Formation-tests/ Gas-analysis/ Methane-/ Petrology-/ Stratigraphy-Qld/ Well-completion-report/ Well-logs/ SF5507 8554

Keywords: Petroleum-exploration-Qld/ Coal-analysis/ Drilling-/ Formation-tests/ Gas-analysis/ Methane-/ Petrology-/ Stratigraphy-Qld/ Well-completion-report/ Well-logs/ SF5507 8554

Keywords: Petroleum-exploration-Qld/ Well-drilling/ Stratigraphy-Qld/ Methane-/ Drill-core-analysis/ Drill-cuttings-sampling/ Formation-tests/ Gas-wells/ Petrology-/ Well-completion-report/ Well-logs/ Coal-analysis/ Hydraulic-fracturing/ Natural-gas-production/ SF5507 8554

Keywords: Petroleum-exploration-Qld/ Coal-analysis/ Drill-core/ Drill-cuttings/ Drilling-/ Formation-tests/ Gas-analysis/ Methane-/ Permeability-/ Petrology-/ Stratigraphy-Qld/ Stress-measurement/ Well-completion / Well-logs/ SF5507 8554

Keywords: Petroleum-exploration-Qld/ Well-drilling/ Stratigraphy-Qld/ Methane-/ Drill-core-
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analysis/ Hydraulic-fracturing/ Natural-gas-production/ SF5507 8554

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analysis/ Methane-/ Permeability-/ Porosity-/ Stratigraphic-correlation/ Well-completion-report/
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Keywords: Petroleum-exploration-Qld/ Coal-analysis/ Drill-core/ Drill-cuttings/ Drilling-/ Gas-
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Well-logs/ SF5511 8553

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completion/ Well-logs/ SF5507 8554

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Keywords: Petroleum-exploration-Qld/ Well-drilling/ Stratigraphy-Qld/ Methane-/ Drill-core-
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report/ Well-logs/ Coal-analysis/ SF5507 8554

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Methane-/ Petrology-/ Stratigraphy-Qld/ Well-completion/ SF5507 8455

Keywords: Petroleum-exploration-Qld/ Coal-analysis/ Drill-core/ Drill-cuttings/ Drilling-/ Gas-
analysis/ Methane-/ Permeability-/ Porosity-/ Stratigraphic-correlation/ Well-completion-report/
Well-logs/ SF5507 8554

Keywords: Petroleum-exploration-Qld/ Coal-analysis/ Drill-core/ Drill-cuttings/ Drilling-/ Gas-
analysis/ Methane-/ Permeability-/ Petrology-/ Stratigraphy-Qld/ Well-completion-report/ Well-
logs/ SF5511 8553

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Keywords: Petroleum-exploration-Qld/ Coal-analysis/ Drill-core/ Drill-cuttings/ Drilling-/ Formation-tests/ Gas-analysis/ Methane-/ Permeability-/ Porosity-/ Stratigraphic-correlation/ Well-completion-report/ Well-logs/ SF5507 8554

Keywords: Mineral-exploration-Qld/ Oil-shale/ Drilling-/ Chemical-analysis/ Tertiary-/ SF5516 8650

Keywords: Base-metal-exploration-Qld/ Copper-/ Gold-exploration-Qld/ Volcanogenic-deposits/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geological-mapping-Qld/ Diamond-drilling/ Core-sampling/ Assay-value/ Petrology-/ Cambrian-/ Ordovician-/ Silurian-/ Devonian-/ Carboniferous-/ SF5503 8357

Keywords: Base-metal-exploration-Qld/ Gold-exploration-Qld/ Low-grade-ores/ Volcanogenic-deposits/ Massive-sulphide-deposits/ Geophysical-surveys-Qld/ Magnetic-surveys/ IP-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Soil-sampling/ Assay-value/ Geological-mapping-Qld/ Regional-geology-Qld/ Petrology-/ Cambrian-/ Ordovician-/ Carboniferous-/ SF5503 8357

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Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Coal-analysis/ Cross-sections/ Cretaceous-/ SF5512 8852/ SF5512 8853

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Assay-value/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Percussion-drilling/ Reconnaissance-/ Tenement-maps/ SF5507 8554/ SF5508 8654/ SF5511 8553/ SF5512 8653
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Molybdenum-/ Silver-/ Arsenic-/ Bismuth-/ Assay-value/ Breccia-/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Grab-sampling/ Ground-magnetic-surveys/ Magnetic-properties/ Percussion-drilling/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ SF5502 8257
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Geological-maps-Qld/ Geophysical-
surveys-Qld/ Ground-magnetic-surveys/ Sirotem-surveys/ Geochemical-exploration-Qld/ Assay-value/ Percussion-drilling/ Trenching-/ SF5502 8257
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Copper-/ Zinc-/ Geological-maps-Qld/ Structural-geology-Qld/ Tenement-maps/ Sirotem-surveys/ Geophysical-logs/ Reinterpretation-/ Geochemical-exploration-Qld/ Assaying-/ Diamond-drilling/ Percussion-drilling/ Core-logs/ Drill-core-analysis/ Massive-sulphide-deposits/ SF5512 8852
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Bulk-sampling/ Data-processing/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Laboratory-tests/ Leaching-/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Stream-sediment-sampling/ Structural-geology-Qld/ Tenement-maps/ SF5503 8356/ SF5503 8357/ SF5503 8456/ SF5503 8457
Abstract: Includes report literature review

Keywords: Petroleum-exploration-Qld/ Methane-/ Drill-core/ Drill-cuttings/ Drilling-/ Coal-seams/ Stratigraphy-Qld/ Well-logs/ SF5515 8551

Keywords: Petroleum-exploration-Qld/ Methane-/ Drill-core/ Drill-cuttings/ Drilling-/ Well-logs/ Stratigraphy-Qld/ Geochemical-exploration-Qld/ Core-sampling/ Coal-seams/ SF5515 8551

Keywords: Petroleum-exploration-Qld/ Methane-/ Drill-core/ Drill-cuttings/ Drilling-/ Well-logs/ Stratigraphy-Qld/ Geochemical-exploration-Qld/ Core-sampling/ Coal-seams/ SF5515 8551

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Keywords: Coal-exploration-Qld/ Coal-analysis/ Drilling-/ Geological-logs/ Geophysical-logs/ SF5503 8456/ SF5507 8455

Keywords: Coal-exploration-Qld/ Coal-analysis/ Core-drilling/ Geological-logs/ Geophysical-logs / Rotary-drilling/ SF5503 8456/ SF5507 8455

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Keywords: Coal-exploration-Qld/ Coking-coal/ Coal-analysis/ Core-drilling/ Drilling-/ Gas-analysis/ Geological-logs/ Geophysical-logs/ Wire-line-logging/ SF5503 8456/ SF5507 8455

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Hydrology-/ Permian-/ SF5507 8455

Keywords: Coal-exploration-Qld/ Caesium-/ Coal-analysis/ Drilling-/ Geological-logs/ Geophysical-surveys-Qld/ Magnetic-surveys/ Resistivity-profiling/ Resistivity-surveys/ SF5503 8456/ SF5507 8455

Keywords: Petroleum-exploration-Qld/ Drilling-/ Methane-/ Stratigraphic-correlation/ Stratigraphy-Qld/ Well-completion-report/ Well-logs/ SF5515 8551

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Core-drilling/ Geological-logs/ Geophysical-logs/ Coal-analysis/ Permian-/ SF5503 8456/ SF5503 8556/ SF5507 8455/ SF5507 8555

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Core-drilling/ Geological-logs/ Coal-analysis/ Permian-/ SF5503 8456/ SF5503 8556/ SF5507 8455/ SF5507 8555

Keywords: Coal-exploration-Qld/ Core-drilling/ Rotary-drilling/ Geological-logs/ Geological-mapping-Qld/ Permian-/ SF5503 8456/ SF5503 8556/ SF5507 8455/ SF5507 8555

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Keywords: Coal-exploration-Qld/ Coking-coal/ Noncoking-coal/ Coal-analysis/ Core-drilling/ Geological-logs/ Igneous-intrusions/ Rotary-drilling/ SF5503 8455/ SF5507 8456

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Keywords: Coal-exploration-Qld/ Coal-gas/ Drilling-/ Geological-logs/ Geophysical-logs/ SF5503 8456

Keywords: Base-metal-exploration-Qld/ Lead-/ Zinc-/ Silver-/ Diamond-drilling/ Core-sampling/ Assay-value/ Petrology-/ SF5503 8356

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Trenching-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Panning-/ Grab-sampling/ Percussion-drilling/ Drill-cuttings-sampling/ Assay-value/ Geological-mapping-Qld/ Petrology-/ Geological-logs/ SF5503 8356

Keywords: Gold-exploration-Qld/ Percussion-drilling/ Assay-value/ Drill-cuttings-sampling/ Geological-logs/ Petrology-/ Reconnaissance-/ SF5503 8356

Keywords: Coal-exploration-Qld/ Coal-reserves/ Coal-analysis/ Structural-geology-Qld/ Geophysical-surveys-Qld/ Seismic-surveys/ Rotary-drilling/ Core-drilling/ Permian-/ SF5516 8750/ SF5516 8751

Keywords: Petroleum-exploration-Qld/ Well-completion-report/ Drilling-/ Drill-core/ Sidewall-sampling/ Well-logs/ Palynology-/ Stratigraphy-Qld/ Petrology-/ Permian-/ SF5516 8650

Keywords: Petroleum-exploration-Qld/ Well-completion-report/ Drilling-/ Well-logs/ Stratigraphy-Qld/ Permian-/ SF5516 8650

Keywords: Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Seismic-refraction-method/ Regional-geology-Qld/ Permian-/ Triassic-/ SF5515 8550/ SF5515 8551/ SF5516 8650/ SG5504 8649

Keywords: Petroleum-exploration-Qld/ Well-completion-report/ Drilling-/ Drill-core/ Well-logs/ Stratigraphy-Qld/ Permian-/ SF5511 8552

Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Magnetic-anomalies/ Silurian-/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ SF5507 8555/ SF5508 8655

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ EM-surveys/ IP-surveys/ Cambrian-/ Ordovician-/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ EM-surveys/ IP-surveys/ Cambrian-/ Ordovician-/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ EM-surveys/ IP-surveys/ Cambrian-/ Ordovician-/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Copper-/ Gold-exploration-Qld/ Antimony-/ Silver-/ Arsenic-/ Assay-value/ Bulk-sampling/ Core-logs/ Drill-cuttings-analysis/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geological-maps-Qld/ Leaching-/ Reconnaissance-/ RC-drilling/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5511 8453
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Reconnaissance-/ Geophysical-surveys-Qld/ Aerial-EM-surveys/ EM-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ RC-drilling/ Drill-cuttings-analysis/ Sample-location-maps/ Drill-hole-data/ Ground-water/ SF5502 8157
Abstract: Includes report literature review

Keywords: Coal-exploration-Qld/ Coal-analysis/ Rotary-drilling/ Core-drilling/  Wire-line-logs/ Permian-/ SF5516 8751

Keywords: Mineral-exploration-Qld/ Gold-/ Placer-deposits/ Diamond-drilling/ Core-sampling/ Assay-value/ Cambrian-/ Ordovician-/ SF5511 8452

Keywords: Base-metal-exploration-Qld/ Gold-/ Silver-/ Base-maps/ Tenement-maps / Imagery-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Reconnaissance-/ Data-processing/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ RC-drilling/ Rotary-drilling/ Petrology-/ Sample-location-maps/ SF5511 8453

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Tungsten-/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Panning-/ Trenching-/ Reconnaissance-/ SF5511 8352

Keywords: Coal-exploration-Qld/ Well-logs/ Rotary-drilling/ SF5516 8850/ SG5504 8849

Keywords: Base-metal-exploration-Qld/ Copper-/ Zinc-/ Nickel-/ Gold-exploration-Qld/ Silver-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Stream-sediment-sampling/ Regional-geology-Qld/ Geological-mapping-Qld/ Structural-geology-Qld/ Granitic-rock/ Igneous-intrusions/ Auger-drilling/ Permian-/ Triassic-/ Cretaceous-/ SF5507 8555

Keywords: Gold-exploration-Qld/ Copper-exploration-Qld/ Reconnaissance-/ Base-maps/ Tenement-maps/ Geochemical-exploration-Qld/ BLEG-sampling/ Soil-sampling/ Stream-sediment-sampling/ Rock-chip-sampling/ Assay-value/ Geophysical-surveys-Qld/ Surveying-/

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Auger-drilling/ Percussion-drilling/ Petrology-/ Sample-location-maps / SF5507 8554/ SF5511 8553

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Panning-/ Assay-value/ Low-grade-ores/ Literature-reviews/ Photogeology-/ Devonian-/ Carboniferous-/ Tertiary-/ SF5507 8355

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Photogeology-/ Devonian-/ Carboniferous-/ Tertiary-/ SF5503 8356/ SF5506 8255/ SF5507 8355

Keywords: Coal-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-EM-surveys/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Permian-/ SF5511 8452

Keywords: Petroleum-exploration-Qld/ Bouguer-anomaly-maps/ Drilling-/ Geomorphology-/ Geophysical-surveys-Qld/ Gravity-surveys/ Petroleum-potential/ Stratigraphy-Qld/ Structural-geology-Qld/ SF5509 7752/ SF5509 7852/ SF5509 7952/ SF5510/ SF5513 7751/ SF5513 7851/ SF5513 7951/ SF5514

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ Petroleum-geology/ Geography-/ Drilling-/ Petroleum-potential/ Lithology-/ Stratigraphy-Qld/ Structural-geology-Qld/ SF5516 8650/ SF5516 8750/ SG5504 8649/ SG5504 8748/ SG5504 8749/ SG5601

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Core-drilling/ Geological-logs/ Geophysical-logs/ Permian-/ SF5503 8456/ SF5503 8556/ SF5507 8455/ SF5507 8555

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Core-drilling/ Geological-logs/ Geophysical-logs / Permian-/ SF5503 8456/ SF5503 8556/ SF5507 8455/ SF5507 8555

Keywords: Coal-exploration-Qld/ Coal-analysis/ Core-drilling/ Geological-logs/ Geophysical-logs/ Rotary-drilling/ SF5503 8456/ SF5507 8455

Keywords: Coal-exploration-Qld/ Core-drilling/ Geophysical-surveys-Qld/ Electrical-surveys/ Geological-logs/ Geophysical-logs/ Geophysical-maps/ Rotary-drilling/ SF5503 8456/ SF5507 8455
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Keywords: Coal-exploration-Qld/ Rotary-drilling/ Core-drilling/ Geological-logs/ Permian-/ SF5507 8455

Keywords: Coal-analysis/ Coal-exploration-Qld/ Core-drilling/ Geological-logs/ Geophysical-logs/ Rotary-drilling/ SF5507 8455

Keywords: Coal-analysis/ Coal-exploration-Qld/ Core-drilling/ Geological-logs/ Regional-geology-Qld/ SF5507 8455

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Coal-analysis/ Permian-/ SF5503 8456/ SF5507 8455

Keywords: Coal-exploration-Qld/ Coking-coal/ Core-drilling/ Well-drilling/ Rotary-drilling/ SF5503 8456

Keywords: Coal-analysis/ Coal-exploration-Qld/ Drilling-/ Feasibility-studies/ Resistivity-surveys/ Underground-mining/ Water-analysis/ SF5507 8455

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Assay-value/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ IP-surveys/ Sample-location-maps/ Tenement-maps/ SF5502 8157
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Assay-value/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Geological-maps-Qld/ Geophysical-interpretation/ Laboratory-tests/ Leaching-/ Reconnaissance-/ Sample-location-maps/ Structural-geology-Qld/ Tenement-maps/ SF5502 8157

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Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Molybdenum-/ Silver-/ Arsenic-/ Assay-value/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Geochemical-interpretation/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ IP-surveys/ Leaching-/ Sample-location-maps/ SF5502 8157
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld / Base-metal-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Surveying-/ Base-maps/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-geophysical-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ IP-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ RC-drilling/ Drilling-/ Core-logs/ Isotope-geochemistry/ Petrology-/ Sample-location-maps/ SF5502 8057
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ Assay-value/ Atomic-absorption-spectroscopy/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Geophysical-interpretation/ Laboratory-tests/ Leaching-/ Photogeology-/ Reconnaissance-/ Sample-location-maps/ Spectroscopy-/ Tenement-maps/ X-ray-fluorescence-spectroscopy/ SF5502 8157
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Surveying-/ Base-maps/ Imagery-/ Geophysical-surveys-Qld/ Aerial-geophysical-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ IP-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ RC-drilling/ Sample-location-maps/ SF5502 8157
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Reconnaissance-/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Laboratory-tests/ Sample-location-maps/ SF5502 8157
Abstract: Includes report literature review


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Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Copper-/ Assay-value/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Soil-sampling/ Geological-mapping-Qld/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Percussion-drilling/ Core-logs/ Trenching-/ Geochemical-interpretation/ Sample-location-maps/ SF5502 8157

Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Silver-/ Arsenic-/ Molybdenum-/ Bismuth-/ Barium-/ Geological-mapping-Qld/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Percussion-drilling/ Core-logs/ Trenching-/ Geochemical-interpretation/ Sample-location-maps/ SF5502 8157

Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Arsenic-/ Silver-/ Geological-mapping-Qld/ Photogeology-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Geological-mapping-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Geological-interpretation/ Sample-location-maps/ SF5502 8157

Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Regolith-/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ SE5513 7958/ SE5514 8058/ SF5501 7957/ SF5502 8057

Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Core-drilling/ Geochemical-exploration-Qld/ RC-drilling/ Rotary-drilling/ Sampling-methods/ Soil-sampling/ SE5514 8158/ SF5502 8057/ SF5502 8157

Abstract: Includes report literature review


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Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Molybdenum-/ Arsenic-/ Bismuth-/ Aerial-magnetic-surveys/ Assay-value/ Base-maps/ Drill-core-analysis/ Geochemical-exploration-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Rehabilitation-/ RC-drilling/ SF5502 8057/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Copper-/ Gold-exploration-Qld/ Assay-value/ Base-maps/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Percussion-drilling/ Reconnaissance-/ RC-drilling/ SF5502 8057

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Assay-value/ RC-drilling/ SF5502 8057

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Keywords: Coal-exploration-Qld/ Noncoking-coal/ Coal-analysis/ Coal-preparation/ Core-drilling/ Geological-logs/ Geophysical-logs/ Graphic-logs/ Rotary-drilling/ Stratigraphic-correlation/ SF5516 8651
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Silver-/ Geochemical-exploration-Qld/ Assay-value/ Soil-sampling/ Rock-chip-sampling/ Geological-logging-Qld/ Diamond-drilling/ Petrology-/ Photogeology-/ Devonian-/ Carboniferous-/ Tertiary-/ SF5503 8356/ SF5506 8255/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Silver-/ Assay-value/ Bulk-sampling/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Grab-sampling/ Leaching-/
Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Grab-sampling/ Stream-sediment-sampling/ Assay-value/ SF5512 8752/ SF5512 8753

Keywords: Gold-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Assay-value/ Sample-location-maps/ SF5508 8655

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ SF5508 8754

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ SF5504 8656

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ SF5508 8654
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Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ BLEG-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ SF5508 8655

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ SF5508 8755

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ SF5508 8655

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ BLEG-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ SF5508 8655

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Resistivity-surveys/ IP-surveys/ Geochemical-exploration-Qld/ BLEG-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Sample-location-maps/ SF5504 8656

Keywords: Mineral-exploration-Qld/ Gold-/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Reconnaissance-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ Rock-chip-sampling/ SF5504 8656

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld / IP-surveys/ EM-surveys/ Aerial-magnetic-surveys/ SF5502
Keywords: Hydrogeology/ Aquifer-tests/ Ground-water/ Rotary-drilling/ Radioactivity-logging/ Aquifer-properties/ Water-chemistry/ Permian/ Triassic/ SF5516 8651

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Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Diamond-drilling/ Logs/ Silver/ Lead/ Zinc/ Devonian/ Carboniferous/ SF5503 8356

Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Drilling/ Geological-mapping-Qld/ Magnetic-surveys/ Evaluation/ IP-surveys/ Sulphide-minerals/ SF5502 8257

Keywords: Copper-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Trenching/ Geophysical-surveys-Qld/ Geological-mapping-Qld/ Percussion-drilling/ Diamond-drilling/ SE5515 8458/ SF5503 8357/ SF5503 8457

Keywords: Copper-exploration-Qld/ Mineral-exploration-Qld/ Molybdenum/ Assay-value/ Drilling/ Geophysical-surveys-Qld/ Geological-surveys/ Geological-mapping-Qld/ SF5502 8357/ SF5503 8358/ SF5503 8457

Keywords: Gold-exploration-Qld/ Rotary-drilling/ Geochemical-exploration-Qld/ Sampling/ SF5503 8356

Keywords: Coal-exploration-Qld/ Drilling/ Geological-logs/ Geophysical-logs/ Permian/ SF5501 7956/ SF5502 8056

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Geophysical-surveys-Qld/ Geophysical-logs/ Ground-water-surveys/ Permian/ SF5501 7956/ SF5502 8056

Keywords: Mineral-exploration-Qld/ Drilling/ Assay-value/ Copper/ Devonian/ Permian/ Carboniferous/ SF5508 8654

Keywords: Base-metal-exploration-Qld/ Copper/ Assaying/ Drilling/ SF5508 8654

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Trenching/-/ Diamond-drilling/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geological-mapping-Qld/ Petrology/-/ Cambrian/-/ Ordovician/-/ SF5511 8452


Keywords: Mineral-exploration-Qld/ Mineral-sands/ Drilling/- Sands/- Dunes/- Beach-sands / Chemical-analysis/ Geochemical-exploration-Qld/ Bulk-sampling/ Assay-value/ Feasibility-studies/ Fluorescence/- SE5515 8558/ SF5503 8557


Keywords: Gold-exploration-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Core-drilling/ Percussion-drilling/ Drill-cuttings-analysis/ Trenching/-/ Sample-location-maps/ Drill-hole-data/ SF5511 8353/ SF5511 8453


Keywords: Gold-exploration-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Core-drilling/ Percussion-drilling/ Drill-cuttings-analysis/ Trenching/-/ Sample-location-maps/ Drill-hole-data/ SF5511 8353/ SF5511 8453


Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ BLEG-sampling/ Grab-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Trenching/- Geochemical-anomalies/ Sample-location-maps/ SF5502 8257


Keywords: Gold-exploration-Qld/ Geological-mapping/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ BLEG-sampling/ Grab-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Trenching/- Geochemical-anomalies/ Sample-location-maps/ SF5502 8257


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Keywords: Gold-exploration-Qld/ Vein-deposits/ Geological-mapping-Qld/ RC-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Drill-cuttings-sampling/ Trenching/- Assay-value/ Devonian/- Carboniferous/- SF5503 8557

Keywords: Mineral-exploration-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/
Rock-chip-sampling/ Geochemical-exploration-Qld/ Soil-sampling/ Uranium-/ Carboniferous-/ SF5506 8255

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Gold-exploration-Qld/ Silver-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Geophysical-surveys-Qld/ IP-surveys/ EM-surveys/ Magnetic-surveys/ Geological-mapping-Qld/ Petrology-/ Cambrian-/ Ordovician-/ SF5502 8257/ SF5503 8357

Keywords: Mineral-exploration-Qld/ Gold-/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Leaching-/ Assay-value/ Petrology-/ SF5502 8256

Keywords: Mineral-exploration-Qld/ Greenstone-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Geophysical-surveys-Qld/ IP-surveys/ Magnetic-surveys/ Rotary-drilling/ Copper-/ Gold-/ Cambrian-/ Carboniferous-/ SF5511 8352/ SF5511 8452

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Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Magnetic-anomalies/ Assay-value/ Percussion-drilling/ Diamond-drilling/ Copper-/ Lead-/ Zinc-/ Base-metals/ Gold-/ Cambrian-/ Ordovician-/ SF5511 8452

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Diamond-drilling/ Petrology-/ Sample-location-maps/ SF5511 8352/ SF5511 8452

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Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Geophysical-surveys-Qld/ SF5512 8852/ SF5512 8853


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Keywords: Coal-exploration-Qld/ Drilling-/ Drill-cuttings/ Geological-logs/ SF5506 8154

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Drilling-/ Exploration-potential/ Geological-logs/ SF5515 8450/ SF5515 8550

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Lineaments-/ Photogeology-/ Photointerpretation-/ Geological-logs/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Permian-/ SF5516 8851

Keywords: Uranium-exploration-Qld/ Gold-exploration-Qld/ Thorium-/ Potassium-/ Potash- / Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Geochemical-interpretation/ Geological-mapping-Qld/ Geophysical-interpretation/ Sample-location-maps/ Tenement-maps/ SF5502 8256/ SF5503 8356/ SF5507 8355
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Rock-chip-sampling/ Tenement-maps/ SF5502 8256/ SF5503 8356/ SF5507 8355
Abstract: Includes report literature review

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Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Stream-sediment-sampling/ Tenement-maps/ SF5502 8256/ SF5503 8356
Abstract: Includes report literature review
Keywords: Uranium-exploration-Qld/ Potassium-/ Potash-/ Thorium-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Regional-geology-Qld/ Rock-chip-sampling/ Sample-location-maps/ Stream-sediment-sampling/ Tenement-maps/ SF5503 8356/ SF5507 8355
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Uranium-exploration-Qld/ Potassium-/ Potash-/ Thorium-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Geochemical-exploration-Qld/ Geophysical-interpretation/ SF5507 8356/ SF5507 8355
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Arsenic-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ Geochemical-exploration-Qld/ Assaying-/ Assay-value/ Percussion-drilling/ Core-logs/ Drill-cuttings-analysis/ SF5507 8354/ SF5511 8353

Keywords: Gold-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ SF5507 8354/ SF5511 8353

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geological-maps-Qld/ Structural-geology-Qld/ Tenement-maps/ Lineaments-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Grab-sampling/ Rock-chip-sampling/ Assay-value/ RC-drilling/ Drill-cuttings/ Laboratory-tests/ Sample-location-maps/ SF5507 8354/ SF5511 8353
Abstract: Includes report literature review

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radioactivity-surveys/ Gravity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Assaying-/ Assay-value/ Core-logs/ Air-drilling/ SF5507 8354/ SF5511 8353

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Arsenic-/ Iron-/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Assaying-/ Assay-value/ Core-drilling/ Core-logs/ Drill-cuttings/ SF5507 8354

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ SF5507 8354/ SF5511 8353

Keywords: Gold-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ SF5507 8354/ SF5511 8353
Abstract: Includes report literature review

Keywords: Coal-analysis/ Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ SF5507 8455

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ SF5511 8353/ SF5511 8453
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Assay-value/ Rock-chip-sampling/ Geochemical-exploration-Qld/ Panning-/ Mineral-resources/ Geological-logs/ Trenching-/ Petrology-/ SF5502 8257
Abstract: Includes report literature review

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Structural-geology/ Stratigraphy-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Geophysical-surveys-Qld/ Magnetic-surveys/ Copper-/ Cambrian-/ Ordovician-/ SF5511 8352/ SF5511 8452

Newton SJ. 1980. Report to the Mines Department, Queensland, for the six month period ending 31 December 1980. Australian Anglo American Searches Pty Ltd; GSQ CR 8449:5p; 5 maps
Keywords: Mineral-exploration-Qld/ Landsat-/ Photogeological-maps/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Gold-/ Tertiary-/ SF5502 8057/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geochemical-exploration-Qld/
Stream-sediment-sampling/ Soil-sampling/ Rock-chip-sampling/ Geophysical-surveys-Qld/ Magnetic-surveys/ Petrology-/ Carboniferous-/ SF5503 8356


Keyword: Mineral-exploration-Qld/ Uranium-/ Thorium-/ Gold-/ Sedimentary-ores/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Ground-radioactivity-surveys/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Photogeology-/ Stratigraphy-Qld/ Drilling-/ Devonian-/ Carboniferous-/ SF5502 8156/ SF5506 8155

Keyword: Mineral-exploration-Qld/ IP-surveys/ Gossans-/ Magnetic-surveys/ Andesite-/ Stream-sediment-sampling/ Shear-zone/ Geochemical-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Base-metals/ Carboniferous-/ SF5516 8851

Abstract: Includes report literature review

Keyword: Stratigraphic-drilling/ Geological-logs/ Composite-logs/ Well-logs/ Oil-shale/ Tertiary-/ SF5516 8751/ SF5516 8850
Abstract: Both holes encountered Tertiary sedimentary rocks in excess of 1150m.


Keyword: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Percussion-drilling/ Drill-cuttings-sampling/ Assay-value/ Petrology-/ SF5502 8257

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Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Tungsten-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Panning-/ Assay-value/ Trenching-/ SF5511 8352

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Panning-/ Rock-chip-sampling/ Stream-sediment-sampling/ Soil-sampling/ Trenching-/ Percussion-drilling/ Drill-cuttings-sampling/ Assay-value/ Geological-mapping-Qld/ Ground-magnetic-surveys/ SF5511 8352

Keywords: Gold-exploration-Qld/ Tungsten-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Trenching-/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Assay-value/ SF5511 8352

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Diamond-drilling/ RC-drilling/ Well-logs/ Geological-mapping-Qld/ Trenching-/ Rock-chip-sampling/ SF5511 8352

Keywords: Gold-exploration-Qld/ Tungsten-/ Geophysical-surveys-Qld/ Magnetic-surveys/ Soil-sampling/ Stream-sediment-sampling/ Rock-chip-sampling/ Assay-value/ Geochemical-exploration-Qld/ Trenching-/ Geological-mapping-Qld/ SF5511 8352

Keywords: Gold-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Geochemical-exploration-Qld/ Assay-value/ Diamond-drilling/ Geological-logs/ Percussion-drilling/ Trenching-/ Geological-mapping-Qld/ SF5511 8352

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Trenching-/ Cambrian-/ Ordovician-/ Devonian-/ Carboniferous-/ SF5511 8352

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Tin-/ Tungsten-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Panning-/ Trenching-/ Assay-value/ SF5511 8352/ SF5511 8452

Keywords: Mineral-exploration-Qld/ Soil-sampling/ Assay-value/ Magnetic-surveys/ Geochemical-exploration-Qld/ Trenching-/ Stream-sediment-sampling/ SF5511 8352
Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Geophysical-interpretation/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Assay-value/ Base-maps/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Percussion-drilling/ Reconnaissance-/ Rock-chip-sampling/ Soil-sampling/ SF5507 8554/ SF5508 8654/ SF5511 8553/ SF5512 8653
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Copper-/ Gold-exploration-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Percussion-drilling/ RC-drilling/ Rock-chip-sampling/ Tenement-maps/ SE5513 7858/ SE5513 7958 / SE5513 7959/ SE5514 8058/ SE5514 8059/ SE5514 8158/ SF5501 7957/ SF5501 7957/ SF5502 8057

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Assay-value/ Base-maps/ Core-drilling/ Core-logs/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Geophysical-interpretation/ Lineaments-/ Percussion-drilling/ RC-drilling/ Rock-chip-sampling/ Rotary-drilling/ Sample-location-maps/ Soil-sampling/ Tenement-maps/ SF5506 8254/ SF5510 8253 / SF5511 8353/ SF5511 8453

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Base-maps/ RC-drilling/ SE5513 7958/ SE5514 8058/ SF5501 7957/ SF5502 8057

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Silver-/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Image-interpretation/ Rehabilitation-/ RC-drilling/ Tenement-maps/ SF5501 7956/ SF5501 7957 / SF5502 8057

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Assay-value/ Geochemical-exploration-Qld/ Rotary-drilling/ Tenement-maps/ SF5502 8057/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Bismuth-/ Base-maps/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Aerial-magnetic-surveys/ IP-surveys/ Resistivity-surveys/ Thematic-mapper-surveys/ Isotope-geochemistry/ Landsat-/ Leaching-/ Radiometric-profiles/ RC-drilling/ Trenching-/ SF5503 8357

Abstract: Includes report literature review


Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Silver-/ Assay-value/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Rehabilitation-/ RC-drilling/ Tenement-maps/ SF5502 8057


Keywords: Mineral-exploration-Qld/ Gypsum-/ Auger-drilling/ Geochemical-exploration-Qld/ SF5506 8254/ SF5507 8354/ SF5510 8253/ SF5511 8353


Keywords: Copper-exploration-Qld/ Gold-exploration-Qld/ Molybdenum-/ Geological-mapping-Qld/ Diamond-drilling/ Geochemical-exploration-Qld/ Stream-sediment-sampling /SF5502 8157/ SF5502 8257/ SF5503 8357


Keywords: Mineral-exploration-Qld/ Clays-/ Market-research/ Ceramic-clay/ Brick-clay/ Regolith-/ SF5507 8554

Abstract: Includes report literature review


Keywords: Petroleum-exploration-Qld/ Well-completion/ Drilling-/ Drill-cuttings/ Permeability-/ Geophysical-logs/ Gas-wells/ Stratigraphy-Qld/ SF5507 8554


Keywords: Petroleum-exploration-Qld/ Methane-/ Well-completion/ Drilling-/ Drill-cuttings/ Drill-core/ Well-logs/ Gas-analysis/ Coal-analysis/ Reflectivity-/ Stratigraphy-Qld/ Gas-wells/ SF5507 8554


Keywords: Petroleum-exploration-Qld/ Methane-/ Well-completion/ Drilling-/ Drill-cuttings/ Well-logs/ Gas-wells/ Stratigraphy-Qld/ Geophysical-logs/ SF5507 8554


Keywords: Petroleum-exploration-Qld/ Methane-/ Well-completion/ Drilling-/ Drill-cuttings/ Gas-wells/ Stratigraphy-Qld/ Geophysical-logs/ Permeability-/ SF5511 8553
Keywords: Petroleum-exploration-Qld/ Methane-/ Well-completion/ Drilling-/ Drill-core/ Gas-wells/ Stratigraphy-Qld/ SF5511 8553

Keywords: Petroleum-exploration-Qld/ Methane-/ Well-completion/ Drilling-/ Drill-cuttings/ Well-logs/ Gas-wells/ Stratigraphy-Qld/ Geophysical-logs/ SF5507 8455

Keywords: Petroleum-exploration-Qld/ Methane-/ Well-completion/ Drilling-/ Drill-cuttings/ Well-logs/ Permeability-/ Stratigraphy-Qld/ Gas-wells/ Geophysical-logs/ SF5511 8553

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ BLEG-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ SF5502 8156/ SF5502 8256/ SF5506 8155/ SF5506 8255

Keywords: Gold-exploration-Qld/ Silver-/ Placer-deposits-Qld/ Vein-deposits/ Percussion-drilling/ Diamond-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Trenching-/ Assay-value/ Ore-reserves/ Cambrian-/ Ordovician-/ Silurian-/ Devonian-/ SF5502 8257

Keywords: Gold-exploration-Qld/ Silver-/ Geological-mapping-Qld/ IP-surveys/ IP-methods/ Percussion-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Bulk-sampling/ Trenching-/ Assay-value/ Ore-reserves/ Cambrian-/ Ordovician-/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ IP-surveys/ IP-methods/ Percussion-drilling/ Diamond-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Drill-cuttings-sampling/ Trenching-/ Assay-value/ Cambrian-/ Ordovician-/ SF5502 8257

Keywords: Gold-exploration-Qld/ Silver-/ Vein-deposits/ Geological-mapping-Qld/ Auger-
Keywords: Gold-exploration-Qld/ Silver-/ Vein-deposits/ Geological-mapping-Qld/ Percussion-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Trenching-/ Assay-value/ Cambrian-/ Ordovician-/ SF5502 8257

Keywords: Mineral-exploration-Qld/ Oil-shale/ Pyrolysis-/ Feasibility-studies/ Overburden-/ Rehabilitation-/ Production-engineering/ Tertiary-/ SF5504 8656/ SF5504 8657

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Coal-analysis/ Permian-/ SF5516 8651


Keywords: Petroleum-exploration-Qld/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Well-drilling/ Formation-tests/ Gas-analysis/ Gas-wells/ Geological-structures/ Geothermal-gradients/ Petroleum-reservoirs/ Porosity-/ Stratigraphy-Qld/ Water-analysis/ Well-log-interpretation/ Well-logs/ Geophysical-surveys-Qld/ Well-velocity-surveys/ Well-completion-report/ SF5515 8550

Keywords: Cross-sections/ Petroleum-exploration-Qld/ Regional-geology-Qld/ Seismic-reflection-surveys/ Seismic-refraction-surveys/ Seismic-surveys/ Stratigraphy-Qld/ Structural-geology-Qld/ Subsurface-correlation/ SF5513/ SF5514/ SG5502/ SG5503/ SG5507
Abstract: Depth to basement and its attitude were determined.

Keywords: Isopach-maps/ Mesozoic-/ Permian-/ Petroleum-exploration-Qld/ Regional-geology-Qld/ Seismic-reflection-surveys/ Seismic-surveys/ Structural-geology-Qld/ Subsurface-correlation/ SF5513/ SF5514/ SG5502/ SG5503/ SG5507
Abstract: Favourable drilling locations outlined.

Keywords: Mineral-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Tenement-maps/ Aerial-photography/ Landsat-/ Image-interpretation/ Photointerpretation-/ Geophysical-
surveys-Qld/ Gravity-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Percussion-drilling/ Core-logs/ SF5511 8352
Abstract: Includes: report literature review

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ Leaching-/ Soil-sampling/ Assay-value/ Rock-chip-sampling/ Aerial-magnetic-surveys/ Geophysical-surveys-Qld/ Geological-mapping-Qld/ Aerial-radioactivity-surveys/ SF5502 8157
Abstract: Includes: report literature review

Keywords: Gold-exploration-Qld/ Assay-value/ Geochemical-exploration-Qld/ Soil-sampling/ Percussion-drilling/ Trenching-/ Geological-logs/ Drill-cuttings-sampling/ Geological-mapping-Qld/ Drill-cuttings-analysis/ SF5502 8157
Abstract: Includes: report literature review

Keywords: Base-metal-exploration-Qld/ Copper-/ Zinc-/ Lead-/ Nickel-/ Silver-/ Gold-exploration-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ IP-surveys/ SP-surveys/ Devonian-/ Carboniferous-/ SF5502 8256/ SF5502 8257/ SF5503 8356/ SF5503 8357/ SF5503 8456/ SF5503 8457/ SF5506 8255/ SF5507 8355/ SF5507 8455

Keywords: Mineral-exploration-Qld/ Stratigraphy-Qld/ Oil-shale/ Tertiary-/ SF5507 8554

Keywords: Mineral-exploration-Qld/ Stratigraphy-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Oil-shale/ Tertiary-/ SF5502 8256/ SF5502 8257

Keywords: Mineral-exploration-Qld/ Phosphates-/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Ground-radioactivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Regional-geology-Qld / Geological-mapping-Qld/ Petrology-/ Sedimentary-ores/ Devonian-/ Carboniferous-/ SF5515 8350/ SF5515 8450/ SG5503 8349/ SG5503 8449

Osborne RJ. 1979. Mt Beaufort project 445 Qld. Urangesellschaft Australia Pty Ltd; GSQ CR 7238:14p
Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Geological-mapping-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Phosphatic-sediments/ Uranium-/ Devonian-/ Carboniferous-/ SF5514 8250/ SF5515 8350/ SG5502 8249/ SG5503 8349

Keywords: Gold-exploration-Qld/ Epithermal-deposits/ Hydrothermal-deposits/ Percussion-drilling/ Geochemical-exploration-Qld/ Drill-cuttings/ Core-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5516 8851/ SF5613 8950/ SF5613 8951

Keywords: Base-metal-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Soil-sampling/ Geophysical-surveys-Qld/ IP-surveys/ Assay-value/ Percussion-drilling/ Diamond-drilling/ Geological-mapping-Qld/ SF5503 8457/ SF5503 8557

Keywords: Mineral-exploration-Qld/ Molybdenum-/ Tungsten-/ Trace-analysis/ Mineralogy-/ Percussion-drilling/ Geophysics-/ Geophysical-surveys-Qld/ IP-surveys/ Geochemistry-/ Geochemical-exploration-Qld/ Soil-sampling/ SF5507 8455

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Assay-value/ Sample-location-maps/ SF5502 8057/ SF5502 8157
Abstract: Includes report literature review

Keywords: Petroleum-exploration-Qld/ Stratigraphy-Qld/ Petroleum-reservoirs/ Traps (petroleum)/ Seismic-interpretation/ Source-beds/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ SF5514/ SF5515 8350/ SF5515 8450/ SF5515 8451/ SG5502 / SG5503 8449

Keywords: Oil-shale/ Stratigraphic-drilling/ Carbonaceous-shale/ Geochemical-data/ Stratigraphy-Qld/ Stratigraphy-NSW/ Wire-line-logging/ Cretaceous-/ SF5513 7950/ SF5514 8050/ SG5502 8048/ SG5502 8049/ SG5502 8148/ SG5506 8146/ SG5506 8147/ SG5510 8145/ SH5408 7539
Abstract: Fifteen shallow holes as part of an oil shale investigation.

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Keywords: Mineral-exploration-Qld/ Dolomite (mineral)/ Assay-value/ Assaying-/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Metallurgy-/ Ore-reserves/ Percussion-drilling/ Petrology-/ RC-drilling/ Rock-chip-sampling/ SF5506 8254

Keywords: Coal-exploration-Qld/ Coal-analysis/ Coal-petrology/ Geological-logs/ Geophysical-logs/ Gravity-surveys/ Magnetic-surveys/ Palaeontology-/ Palynology-/ Petrology-/ Radioactivity-surveys/ Regional-geology-Qld/ Stratigraphic-correlation/ Stratigraphy-Qld/
Keywords: Coal-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ Radioactivity-surveys/ Coal-analysis/ Coal-petrology/ Well-drilling/ Geological-logs/ Geophysical-logs/ Palynology-/ SF5511 8353/ SF5511 8452/ SF5511 8453

Keywords: Coal-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Coal-analysis/ Coal-petrology/ Drilling-/ Geophysical-logs/ Palynology-/ Petrology-/ Reviews-/ SF5511 8353/ SF5511 8452/ SF5511 8453

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Biostratigraphy-/ Coal-analysis/ Coal-deposits-Qld/ Coal-petrology/ Coal-preparation/ Coal-resources-Qld/ Well-drilling/ Core-drilling/ Drill-core-analysis/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Rotary-drilling/ Geological-logs/ Geological-mapping-Qld/ Geophysical-logs/ Geophysical-surveys-Qld/ Gravity-surveys/ Magnetic-surveys/ Radioactivity-surveys/ Regional-surveys-Qld/ Palynology-/ Petrology-/ Resource-assessment/ SF5511 8353/ SF5511 8452/ SF5511 8453

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Coal-analysis/ Coal-deposits-Qld/ Core-drilling/ Drill-core-analysis/ Well-drilling/ Rotary-drilling/ Exploration-potential/ Geological-logs/ Geophysical-logs/ Palynology-/ Geophysical-surveys-Qld/ Regional-surveys-Qld/ Resource-assessment/ SF5511 8353/ SF5511 8452/ SF5511 8453

Keywords: Coal-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ Radioactivity-surveys/ Coal-analysis/ Well-drilling/ Geological-logs/ Geophysical-logs/ Palynology-/ Petrology-/ Resource-assessment/ SF5511 8353/ SF5511 8452/ SF5511 8453

Keywords: Coal-exploration-Qld/ Exploration-potential/ Field-geology/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ Magnetic-surveys/ Photointerpretation-/ Regional-geology-Qld/ Regional-surveys/ Core-drilling/ Core-sampling/ Drill-core/ Drill-cuttings/ Wire-line-drilling/ Geological-logs/ Geophysical-logs/ Graphic-logs/ Sedimentary-geology/ Coal-deposits-Qld/ SF5511 8353/ SF5511 8452/ SF5511 8453

Keywords: Coal-exploration-Qld/ Coal-analysis/ Coal-resources-Qld/ Core-drilling / Geological-logs/ Geophysical-logs/ Rotary-drilling/ SF5515 8451

Abstract: Includes report literature review


Pacific Coal Pty Ltd, Wilton JR. 1996. Winchester South final report incorporating final relinquishment for the period ending 2/10/97. Queensland. Department of Mines and Energy. Company Report; CR 28723:5p; 1 map Keywords: Coal-exploration-Qld/ Drilling-/ SF5511 8553


Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Percussion-drilling/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Drill-cuttings-sampling/ Assay-value/ Geological-logs/ Cambrian-/ Ordovician-/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Reconnaissance-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Cambrian-/ Ordovician-/ SF5502 8057
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Percussion-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Drill-cuttings-sampling/ Trenching-/ Assay-value/ Cambrian-/Ordovician-/ SF5502 8157

Keywords: Mineral-exploration-Qld/ Remote-sensing/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ Base-maps/ Geophysical-interpretation/ SF5502 8056/ SF5502 8156/ SF5502 8157/ SF5502 8256/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Cambrian-/Ordovician-/ Silurian-/ Devonian-/ SF5502 8057

Keywords: Aerial-magnetic-surveys/ Aerial-photography/ Geophysical-surveys-Qld/ Gold-exploration-Qld/ Topographic-maps/ Silver-/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/Silver-/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Assaying-/ Assay-value/ Drill-cuttings-analysis/ Petrology-/ Geochemical-interpretation/ SF5507 8554/ SF5508 8654/ SF5511
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geological-mapping-Qld/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Bulk-sampling/ Leaching-/ Assay-value/ Reinterpretation-/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Surveying-/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ RC-drilling/ Drill-cuttings-analysis / Sample-location-maps/ Contour-maps/ Geological-logs/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ RC-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Bulk-sampling/ Leaching-/ Assay-value/ Indicator-minerals/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Remote-sensing/ Photointerpretation-/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ Resistivity-surveys/ Percussion-drilling/ Core-drilling/ Petrology-/ Geochemical-exploration-Qld/ Drill-core-analysis/ Drill-cuttings-analysis/ Assay-value/ Geophysical-interpretation/ Magnetic-susceptibility/ SF5502 8056
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assaying-/ Assay-value/ Isotope-geochemistry/ Sample-location-maps/ SF5502 8057
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Geological-mapping-Qld/ SF5502 8057/ SF5502 8157
Abstract: Includes report literature review

Pan Australian Mining Ltd, Morrison RJ. 1990. Livingstone, final and relinquishment report for the
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ RC-drilling/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Assay-value/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Surveying-/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ IP-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ RC-drilling/ Drill-cuttings-analysis/ Drill-hole-data/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Stream-sediment-sampling/ Cambrian-/ Ordovician-/ SF5502 8057

Keywords: Gold-exploration-Qld/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Cambrian-/ Ordovician-/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Bulk-sampling/ Rock-chip-sampling/ Leaching-/ Stream-sediment-sampling/ Trenching-/ Assay-value/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ SF5502 8056
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Percussion-drilling/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Drill-cuttings-sampling/ Trenching-/ Assay-value/ SF5502 8157
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Trenching-/ Assay-value/ SF5502 8157
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Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Assay-value/ Base-maps/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Geochemical-interpretation/ SF5508 8754
Abstract: Includes report literature review

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Resistivity-surveys/ Sirotem-surveys/ IP-surveys/ Data-processing/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching/- Stream-sediment-sampling/ Assaying/- Assay-value/ RC-drilling/ Core-logs/ Drill-cuttings-analysis/ Petrology/- Geochemical-anomalies/ Geochemical-interpretation/ Sample-location-maps/ SF5502 8257/ SF5503 8357/ SF5503 8457/ SF5503 8557
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Copper/- Lead/- Zinc/- Gold-exploration-Qld/ Silver/- Barium/- Assay-value/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Petrology/- RC-drilling/ Sample-location-maps/ Stream-sediment-sampling/ Tenement-maps/ SF5502 8057/ SF5502 8157
Abstract: Includes report literature review

Keywords: Coal-exploration-Qld/ Coal-resources/ Core-logging/ Drilling/- Permian/- SF5516 8650/ SF5516 8651/ SF5516 8750/ SF5516 8751

Keywords: Gold-exploration-Qld/ Assay-value/ Base-maps/ Geochemical-exploration-Qld/ Bulk-sampling/ Drill-cuttings-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Leaching/- Panning/- Reconnaissance/- RC-drilling/ SF5508 8654/ SF5508 8754/ SF5512 8653/ SF5512 8752/ SF5512 8753

Keywords: Gold-exploration-Qld/ Silver/- Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ Sirotem-surveys/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Soil-sampling/
Keywords: Gold-exploration-Qld/ Base-metals/ Geological-maps-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ BLEG-sampling/ Soil-sampling/ Diamond-drilling/ Core-logs/
Drill-core-analysis/ Sample-location-maps/ SF5502 8256

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Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ Seismic-surveys/ Regional-geology-Qld/ Stratigraphy-Qld/ Photo-geology/- Drilling/- Cretaceous-/ Jurassic-/ Triassic-/ Permian-/ Carboniferous/- Devonian/- SF5513/ SF5514/ SG5502/ SG5506/
SG5507/ SG5510/ SG5511

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SF5515 8550/ SF5516 8650/ SF5516 8651/ SG5503 8549/ SG5504 8649

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Regional-maps-Qld/ SF5512 8852/ SF5512 8853/ SF5609 8952/ SF5609 8953

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Petrology/- Diamond-drilling/ SF5508 8755

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Keywords: Coal-exploration-Qld/ Coal-analysis/ Coal-resources-Qld/ Core-logs/ Core-drilling/ Permian-/ SF5507 8554/ SF5507 8555/ SF5508 8654/ SF5508 8655

Keywords: Coal-exploration-Qld/ Coal-petrology/ Geological-mapping-Qld/ Core-drilling/ Permian-/ SF5507 8555/ SF5508 8655

Keywords: Coal-exploration-Qld/ Coal-analysis/ Noncoking-coal/ Geological-logs/ Rotary-drilling/ Palynology-/ Permian-/ SF5511 8453

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Drilling-/ Geological-logs/ Geophysical-logs/ Graphic-logs/ SF5507 8554

Keywords: Petroleum-exploration-Qld/ Stratigraphy-Qld/ Drilling-/ Electrical-well-logging/ Resistivity-logging/ Radioactivity-logging/ Caliper-logging/ Velocity-logging/ Dipmeter-logs/ Sidewall-sampling/ Formation-tests/ Well-completion-report/ Natural-gas/ Devonian-/ Carboniferous-/ SF5510 8053

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Keywords: Gold-exploration-Qld/ Placer-deposits-Qld/ Geophysical-surveys-Qld/ IP-surveys/ Percussion-drilling/ Diamond-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Assay-value/ Pits-/ Alluvium-/ Cambrian-/ Ordovician-/ Quaternary-/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Copper-/ Gold-exploration-Qld/ Aerial-magnetic-surveys/ Assay-value/ Bulk-sampling/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Leaching-/ Reconnaissance-/ Sample-location-maps/ Soil-sampling/ SF5507 8354/ SF5511 8353
Abstract: Includes report literature review

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Keywords: Coal-exploration-Qld/ Core-drilling/ Field-geology/ Geological-logs/ Geological-mapping-Qld/ Geophysical-logs/ Rotary-drilling/ SF5516 8651

Keywords: Mineral-exploration-Qld/ Gold-/ Assay-value/ Trenching-/ Geophysical-surveys-Qld/ Magnetic-surveys/ IP-surveys/ EM-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Grab-sampling/ Rock-chip-sampling/ Soil-sampling/ Geological-mapping-Qld/ Reconnaissance-/ SF5503 8457/ SF5503 8557

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Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5515 8450/ SG5503 8349/ SG5503 8449
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Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Percussion-drilling/ Geological-logs/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Leaching-/ Drill-cuttings-sampling/ Assay-value/ SF5508 8754/ SF5508 8755

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Base-metal-exploration-Qld/ Tungsten-/ Panning-/ Geophysical-surveys-Qld/ Magnetic-surveys/ Rock-chip-sampling/ Assay-value/ Soil-sampling/ Geological-mapping-Qld/ Surveying-/ SF5511 8352

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Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Leaching-/ Panning-/ Trenching-/ Assay-value/ SF5511 8352/ SF5511 8353
Abstract: Includes report literature review

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Keywords: Petroleum-exploration-Qld/ Methane-/ Coal-analysis/ Drill-core/ Drill-cuttings/ Drilling-/ Formation-tests/ Gas-analysis/ Permeability-/ Stress-measurement/ Petrology-/ Well-logs/ Stratigraphy-Qld/ Well-completion-report/ SF5507 8554

Keywords: Petroleum-exploration-Qld/ Methane-/ Coal-analysis/ Drill-core/ Drill-cuttings/ Drilling-/ Formation-tests/ Gas-analysis/ Permeability-/ Stress-measurement/ Petrology-/ Well-logs/ Stratigraphy-Qld/ Well-completion-report/ SF5507 8554

Keywords: Petroleum-exploration-Qld/ Methane-/ Coal-analysis/ Drill-core/ Drill-cuttings/ Drilling-/ Formation-tests/ Gas-analysis/ Permeability-/ Stress-measurement/ Petrology-/ Well-logs/ Stratigraphy-Qld/ Well-completion-report/ SF5507 8554

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Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Metallogenesis-/ Base-maps/ Tenement-maps/ Remote-sensing/ Aerial-photography/ Landsat-/ Lineaments-/ Photogeology-/ Photointerpretation-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Data-processing/ Geochemical-exploration/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ X-ray-diffraction/ Geochemical-anomalies/ Geochemical-interpretation/ Sample-location-maps/ SF5507 8355
Abstract: Includes report literature review

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Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Reconnaissance-/ Geological-maps-Qld/ Photogeology-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Laboratory-tests/ SF5507 8355
Abstract: Includes report literature review

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Abstract: Includes report literature review

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Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Laboratory-tests/ SF5507 8355/ SF5507 8455
Abstract: Includes report literature review

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Aerial-radioactivity-surveys/ Reinterpretation-/ SF5507 8355
Abstract: Includes report literature review

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Abstract: Includes report literature review

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Keywords: Base-metal-exploration-Qld/ Silver-/ Rotary-drilling/ Percussion-drilling/ Diamond-drilling/ Drill-core-analysis/ Geochemical-exploration-Qld/ Sampling-/ Assay-value/ SF5502 8257

Keywords: Mineral-exploration-Qld/ Silver-/ Copper-/ Lead-/ Zinc-/ Base-metals/ Antimony-/ Porphries-/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Geological-mapping-Qld/ Petrology-/ Diamond-drilling/ Rotary-drilling/ Exploration-potential/ Silurian-/ SF5502 8256/ SF5502 8257

Keywords: Mineral-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Base-metals/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Assay-value / Geological-mapping-Qld/ Diamond-drilling/ Rotary-drilling/ Core-sampling/ Devonian-/ SF5502 8256

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Aerial-EM-surveys/ Aerial-magnetic-surveys/ Assay-value/ Chemical-analysis/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stratigraphy-Qld/ Tenement-maps/ Transient-EM-surveys/ SF5502 8057/ SF5502 8157/ SF5502 8257
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Aerial-EM-surveys/ Aerial-magnetic-surveys/ Assay-value/ Drill-cuttings-analysis/ Drill-hole-data/ EM-surveys/ Geochemical-exploration-Qld/ Geological-maps-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Laboratory-tests/ Reconnaissance-/ RC-drilling/ Rock-chip-sampling/ Sample-location-maps / Tenement-maps/ SF5502 8057/ SF5502 8157/ SF5502 8257
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Reconnaissance-/ Geological-maps-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Diamond-drilling/ Percussion-drilling/ Drill-core-analysis/ Drill-cuttings-analysis/ Sample-location-maps/ SF5502 8157/ SF5502 8257
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Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Assay-value/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ IP-surveys/ Resistivity-surveys/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stream-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5503 8556/ SF5507 8555
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Assay-value/ EM-surveys/ Geochemical-exploration-Qld/ Geological-maps-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ RC-drilling/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stratigraphy-Qld / Tenement-maps/ SF5502 8157/ SF5502 8257
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Geophysical-surveys-Qld/ Aerial-EM-surveys/ Aerial-magnetic-surveys/ EM-surveys/ Ground-magnetic-surveys/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Grab-sampling/ Soil-sampling/ Geological-mapping-Qld/ Geological-maps/ Percussion-drilling/ RC-drilling / Reconnaissance-/ SF5502 8157

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Keywords: Gold-exploration-Qld/ Arsenic-/ Aerial-EM-surveys/ Aerial-magnetic-surveys/
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Geological-mapping-Qld/ Geophysical-surveys-Qld/ Leaching-/ Panning-/ Reconnaissance-/ Rotary-drilling/ Sample-location-maps/ Soil-sampling/ Tenement-maps/ SF5507 8354/ SF5511 8353
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Assay-value/ Chemical-analysis/ Core-drilling/ Diamond-drilling/ Geochemical-exploration-Qld/ RC-drilling/ Tenement-maps/ SF5506 8254/ SF5507 8354
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Base-maps/ Geophysical-surveys-Qld/ EM-surveys/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geological-maps-Qld/ Ground-magnetic-surveys/ IP-surveys/ Petrology-/ Regional-geology-Qld/ Rock-chip-sampling/ Soil-sampling/ SF5502 8157/ SF5502 8257

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Keywords: Gold-exploration-Qld/ Tungsten-/ Geological-mapping-Qld/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ EM-surveys/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Panning-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Percussion-drilling/ Drill-cuttings-analysis/ Trenching-/ Indicator-minerals/ Geochemical-anomalies/ Sample-location-maps/ SF5511 8352

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Tenement-maps/ Photogeological-maps/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Auger-drilling/ Petrology-/ Sample-location-maps/ SF5506 8254/ SF5507 8354/ SF5510 8253/ SF5511 8353

Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ RC-drilling/ Drill-cuttings-analysis/ Laboratory-tests/ Sample-location-maps/
SF5511 8352

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Assay-value/ Bulk-sampling/ Drainage (dewatering)/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-surveys-Qld/ Heavy-minerals/ Laboratory-tests/ Leaching-/ Mineral-concentrates/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stream-sediment-sampling/ Tenement-maps/ Trenching-/ SF5511 8352

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Arsenic-/ Assay-value/ Geochemical-anomalies/ Geochemical-exploration/ Geochemical-interpretation/ Geological-mapping-Qld/ Percussion-drilling/ Reconnaissance-/ RC-drilling/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Surveying-/ Tenement-maps/ SF5511 8352/ SF5511 8452
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Assay-value/ Bulk-sampling/ Geochemical-exploration-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Leaching-/ Reconnaissance-/ Rock-chip-sampling/ Soil-sampling/ Tenement-maps/ SF5506 8254/ SF5506 8255/ SF5507 8354/ SF5507 8355
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Tenement-maps/ SF5507 8354/ SF5507 8355
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Assay-value/ Base-maps/ Geochemical-exploration-Qld/ Geological-maps-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5502 8256
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Assay-value/ Base-maps/ Geochemical-exploration-Qld/ Geological-maps-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Reconnaissance-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5502 8256
Abstract: Includes report literature review

Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Assay-value/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Lineaments-/ Reconnaissance-/ Rock-chip-sampling/ Rotary-drilling/ Sample-location-maps/ Soil-sampling/ Tenement-maps/ SF5502 8156

Abstract: Includes report literature review

Keywords: Coal-exploration-Qld/ Coking-coal/ Core-drilling/ Field-geology/ Geophysical-surveys-Qld/ Regional-geology-Qld/ SF5507 8554

Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Stream-sediment-sampling/ Assay-value/ Laboratory-tests/ Sample-location-maps/ SE5515 8358/ SF5503 8357
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Gravity-surveys/ SF5503 8356
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geophysical-surveys/ Aerial-magnetic-
surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ RC-drilling/ Drill-cuttings-analysis/ SF5511 8453

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Assay-value/ RC-drilling/ Drill-cuttings-analysis/ Petrology-/ Sample-location-maps/ SF5507 8354/ SF5507 8355
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Tenement-maps/ Geophysical-surveys-Qld / Aerial-magnetic-surveys/ Geophysical-interpretation/ SF5507 8354/ SF5507 8355
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Drilling-/ Geophysical-surveys-Qld/ Petrology- / Aerial-magnetic-surveys/ Magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Rotary-drilling/ Stream-sediment-sampling/ Assay-value/ Geological-mapping-Qld/ SF5502 8156/ SF5502 8256/ SF5506 8155/ SF5506 8255
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Sample-location-maps/ SF5502 8156/ SF5502 8256/ SF5506 8155/ SF5506 8255
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Reconnaissance-/ Remote-sensing/ Landsat-/ Imagery-/ Image-interpretation/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Reinterpretation-/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sampling/ Stream-sediment-sampling / Assaying-/ Assay-value/ Petrology-/ Sample-location-maps/ SF5502 8257
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Reconnaissance-/ Geological-maps-Qld/ Tenement-maps/ Photogeology-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ Geophysical-interpretation/ Laboratory-tests/ Sample-location-maps/ SF5503 8357
Abstract: Includes report literature review

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Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geological-maps-Qld/ Tenement-maps/ Photogeology-/ Imagery-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ Sirotom-surveys/ IP-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Core-drilling/ Drill-core-analysis/ Trenching-/ Laboratory-tests/ Petrology-/ Sample-location-maps/ SF5502 8257/ SF5503 8357
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Bismuth-/ Arsenic-/ Geophysical-surveys-Qld/ IP-surveys/ Geochemical-exploration-Qld/ Assaying-/ Assay-value/ Diamond-drilling/ RC-drilling/ Core-logs/ Drill-core-analysis/ Drill-cuttings-sampling/ Petrology-/ SF5502 8257

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ IP-surveys/ Data-processing/ SF5502 8157
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Geological-maps-Qld/ Tenement-maps/ Landsat-/ Photogeology-/ Imagery-/ Image-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Geochemical-interpretation/ Sample-location-maps/ SF5503 8356
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ SF5503 8357

Keywords: Gold-exploration-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-interpretation/ SE5514 8258/ SE5515 8358/ SF5502 8257
Abstract: Includes report literature review
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Reconnaissance-/ Remote-sensing/ Aerial-photography/ Landsat-/ Photogeology-/ Photogeological-maps/ Photointerpretation-/ Geophysical-surveys-Qld/ Aerial-gravity-surveys/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Reinterpretation-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Petrology-/ Sample-location-maps/ SF5502 8257/ SF5503 8357
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Data-processing/ SF5503 8357
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Reconnaissance-/ Tenement-maps/ Remote-sensing/ Imagery-/ Image-interpretation/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Soil-sampling/ Stream-sampling/ Assaying-/ Geochemical-anomalies/ Sample-location-maps/ SE5515 8358/ SF5502 8257
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Imagery-/ Image-interpretation/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Soil-sampling/ SF5511 8353
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Imagery-/ Image-interpretation/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Soil-sampling/ SF5511 8352/ SF5511 8353
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Gold-exploration-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Laboratory-tests/ Petrology-/ Reconnaissance-/ RC-drilling/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Tenement-maps/ Well-logs/ SF5506 8254/ SF5510 8253/ SF5511 8352/ SF5511 8353/ SF5515 8351
Abstract: Includes report literature review

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Keywords: Gold-exploration-Qld/ Reconnaissance-/ Imagery-/ Image-interpretation/
Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ RC-drilling/ SF5511 8352/ SF5511 8353
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Base-maps/ Tenement-maps/ Aerial-photography/ Lineaments-/ Image-interpretation/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assaying-/ Assay-value/ Percussion-drilling/ Rotary-drilling/ Core-logs/ Drill-cuttings/ Geochemical-anomalies/ Geochemical-interpretation/ Sample-location-maps/ SF5511 8352/ SF5511 8353
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Imagery-/ Image-interpretation/
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Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Reconnaissance-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Auger-drilling/ Laboratory-tests/ Image-interpretation/ Data-processing/ SF5511 8352
Abstract: Includes report literature review

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Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Imagery-/ Image-interpretation/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Radioactivity-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sampling/ Assaying-/ Assay-value/ Sample-location-maps/ SF5511 8352/ SF5515 8351

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Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Silver-/ Tenement-maps/ Image-interpretation/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Data-processing/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assaying-/ Assay-value/ Rotary-drilling/ RC-drilling/ Drill-cuttings-analysis/ Petrology-/ Sample-location-maps/ SF5511 8352/ SF5511 8353/ SF5515 8351
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Arsenic-/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Assaying-/ Core-logs/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Image-interpretation/ Petrology-/ Reconnaissance-/ Reinterpretation-/ RC-drilling/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Tenement-maps/ SF5506 8254/ SF5511 8352/ SF5511 8353/ SF5511 8453/ SF5515 8351
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Imagery-/ Image-interpretation/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Radioactivity-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Soil-sampling / SF5511 8352/ SF5515 8351
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geological-maps-Qld/ Landsat-/ Photogeology-/ Image-interpretation/ Thematic-mapper-surveys/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Radioactivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Laboratory-tests/ SF5503 8357
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Tenement-maps/ Landsat-/ Photogeology-/ Image-interpretation/ Thematic-mapper-surveys/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ SF5503 8356
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Silver-/
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Aerial-photography/ Landsat-/ Image-interpretation/ Photogeology-/ Geophysical-surveys-Qld/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Petrology-/ Sample-location-maps/ SF5503 8357
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Geological-maps-Qld/ Tenement-maps/ Aerial-photography/ Landsat-/ Imagery-/ Photointerpretation-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Sample-location-maps/ SF5502 8257
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Silver-/ Reconnaissance-/ Geological-mapping-Qld/ Geological-maps-Qld/ Tenement-maps/ Remote-sensing/ Aerial-photography / Landsat-/ Photogeology-/ Imagery-/ Image-interpretation/ Photointerpretation-/ Geophysical-surveys-Qld/ Aerial-geophysical-surveys/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sampling/ Stream-sediment-sampling / Assaying-/ Geochemical-anomalies/ Geochemical-interpretation/ Sample-location-maps/ SF5503 8356
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Base-maps/ Tenement-maps/ Remote-
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Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Base-maps/ Tenement-maps/ Remote-sensing/ Aerial-photography/ Landsat-/ Imagery-/ Image-interpretation/ Photointerpretation-/ Satellite-imagery/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sampling/ Assaying-/ Assay-value/ SF5502 8257/ SF5503 8357
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geological-mapping-Qld/ Geological-maps-Qld/ Remote-sensing/ Landsat-/ Imagery-/ Image-interpretation/ Photointerpretation-/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assaying-/ Assay-value/ Sample-location-maps/ SF5502 8257
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld / Data-processing/ Geological-maps-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Image-interpretation/ Reconnaissance-/ Tenement-maps/ SF5502 8256
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Geological-maps-Qld/ Tenement-maps/ Aerial-photography/ Landsat-/ Imagery-/ Image-interpretation/ Photointerpretation-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ IP-surveys/ EM-surveys/ Data-processing/ Geophysical-interpretation/ Geophysical-logs/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Diamond-drilling/ RC-drilling/
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Assay-value/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-exploration-Qld/ Geophysical-interpretation/ Radiometric-profiles/ RC-drilling/ Tenement-maps/
SF5511 8353/ SF5511 8453
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Core-drilling/ RC-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Market-research/ Radiometric-profiles/ Tenement-maps/ SF5506 8254/
SF5510 8253/ SF5511 8353

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Geological-mapping-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Rotary-drilling/ Core-logs/ Drill-core-analysis/ Geochemical-anomalies / Sample-location-maps/ SF5502 8156
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-photography/ Assay-value/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Landsat-/ Photointerpretation-/ Reinterpretation- / RC-drilling/ Tenement-maps/ SF5503 8456/ SF5507 8455
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Aerial-magnetic-surveys/ Assay-value/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Image-interpretation/ Lineaments-/ Photointerpretation-/ Radiometric-profiles/ Regolith-/ Rock-chip-sampling/ Sample-location-maps/ Satellite-imagery/ Tenement-maps/ SF5502 8256/ SF5502 8257
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Aerial-photography/ Assay-value/ Base-maps/ Bulk-sampling/ Chemical-analysis/ Drill-cuttings-analysis/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Landforms-/ Landsat-/ Reconnaissance-/ Regolith-/ RC-drilling/ Rock-chip-sampling/ Rotary-drilling/ Sample-location-maps/ Soil-
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Base-maps/ Tenement-maps/ Topographic-surveys/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ Data-processing/ Reinterpretation-/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Stream-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Rotary-drilling/ RC-drilling/ Core-logs/ Drill-cuttings-sampling/ Chemical-analysis/ Geochemical-anomalies/ Sample-location-maps/ SF5502 8156/ SF5502 8157/ SF5502 8256/ SF5502 8257
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Silver-/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assaying-/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Radiometric-profiles/ RC-drilling/ Tenement-maps/ SF5511 8352/ SF5511 8353/ SF5511 8452/ SF5511 8453
Abstract: Includes report literature review

Keywords: Mineral-exploration-Qld/ Geochemical-exploration-Qld/ Diamond-drilling/ Rock-chip-sampling/ Petrology-/ Copper-/ Lead-/ Zinc-/ Base-metals/ Devonian-/ Carboniferous-/ SF5507 8454

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Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Seismic-interpretation/ Stratigraphy-Qld/ Structural-geology-Qld/ Seismic-refraction-method/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ Jurassic-/ Cretaceous-/ SF5403 / SF5404/ SF5407/ SF5408/ SF5501/ SF5505/ SF5506/ SF5507/ SF5509/ SF5510/ SF5511

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Leaching-/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ SF5504 8657

Keywords: Mineral-exploration-Qld/ Gold-/ Assay-value/ Reconnaissance-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ Rock-chip-sampling/ Grab-sampling/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Leaching-/ SF5508 8754

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Sample-location-maps/ SF5504 8656


Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Grab-sampling/ Bulk-sampling/ Assay-value/ Reconnaissance-/ Devonian-/ Carboniferous-/ Permian-/ SF5504 8656

Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ BLEG-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Percussion-drilling/ Drill-cuttings-analysis/ Sample-location-maps/ SF5504 8656


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-exploration-Qld/ Bulk-sampling/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5508 8654

Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ BLEG-sampling/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Geochemical-anomalies/ Sample-location-maps/ SF5504 8656


Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ BLEG-sampling/ Grab-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ SF5504 8656


Keywords: Mineral-exploration-Qld/ Gold-/ Arsenic-/ Assay-value/ Reconnaissance-/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Leaching-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Grab-sampling/ Bulk-sampling/
SF5504 8656

Keywords: Coal-exploration-Qld/ Stratigraphy-Qld/ Drilling-/ Geological-logs/ Permian-/ Triassic-/ SF5515 8550/ SF5515 8551

Keywords: Mineral-exploration-Qld/ Platinum-group-elements/ Chromite-/ Magnesite-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Geological-logs/ Geological-mapping-Qld/ SF5503 8557

Keywords: Mineral-exploration-Qld/ Gold-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Panning-/ Placer-deposits-Qld/ Assay-value/ SF5502 8256/ SF5503 8356/ SF5503 8456/ SF5506 8255/ SF5507 8355

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Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Sampling-/ Assay-value/ Gold-placer-deposits-Qld/ Regional-geology-Qld/ Photogeology-/ Tertiary-/ Quaternary-/ SF5503 8356

Keywords: Coal-exploration-Qld/ Core-drilling/ Drill-cuttings/ Geological-logs/ Graphic-logs/ Gravity-surveys/ Isopach-maps/ Pump-tests/ Stratigraphy-Qld/ SF5511 8452/ SF5511 8552/ SF5515 8451/ SF5515 8551

Keywords: Coal-exploration-Qld/ Coal-analysis/ Core-drilling/ Permian-/ SF5516 8650

Keywords: Coal-exploration-Qld/ Diamond-drilling/ Well-logs/ Coal-analysis/ SF5515 8451/ SF5515 8551

Keywords: Mineral-exploration-Qld/ Drilling-/ Geological-logs/ Ground-water/ Stratigraphy-Qld/ Coal-analysis/ Structural-geology/ Coal-exploration-Qld/ Permian-/ SF5515 8551

Keywords: Coal-exploration-Qld/ Geological-mapping-Qld/ Core-drilling/ Drill-cuttings/ Rotary-drilling/ Coal-analysis/ Coal-preparation/ Geological-logs/ Geophysical-logs/ Graphic-logs/ Sedimentary-geology/ Stratigraphic-correlation / SF5507 8455

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Keywords: Mineral-resources-Qld/ Regional-geology-Qld/ Mining-/ Coal-/ Hydrocarbons-/ Metalliferous-minerals/ Non-metalliferous-minerals/ Industrial-materials/ Ordovician-/ Mesozoic-/ Cainozoic-/ Quaternary-/ SF5507/ SF5508/ SF5511/ SF5512/ SF5515/ SF5516/ SF5609/ SF5614/ SG5502/ SG5503/ SG5504/ SG5507/ SG5508/ SG5512/ SG5601/ SG5605/ SG5609


Keywords: Base-metal-exploration-Qld/ Assay-value/ Core-logs/ Diamond-drilling/ Drill-core-analysis/ Geochemical-exploration-Qld/ Geochemical-interpretation/ Geological-maps-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Gravity-surveys/ Ground-magnetic-surveys/ Laboratory-tests/ Petrology-/ Reconnaissance-/ Sample-location-maps/ Sirotem-surveys/ Soil-sampling/ Structural-geology-Qld/ Tenement-maps/ SF5512 8852/ SF5609 8952/ SF5613 8951

Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Assay-value/ Chemical-analysis/ Diamond-drilling/ Drill-core-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Mineralogy-/ Percussion-drilling/ Petrology-/ Reconnaissance-/ Regional-geology-Qld/ RC-drilling/ Rockchip-sampling/ Rotary-drilling/ Sample-location-maps/ Soil-sampling/ Trenching-/ SF5516 8850/ SF5516 8851/ SF5613 8950/ SF5613 8951

Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Assay-value/ Data-processing/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Metallogenesis-/ Reconnaissance-/ Regional-geology-Qld/ Sample-location-maps/ Stream-sediment-sampling/ SF5512 8752/ SF5512 8852/ SF5516 8850/ SF5516 8851/ SF5609 8952/ SF5613 8950/ SF5613 8951/ SG5601 8949

Abstract: Includes report literature review


Keywords: Base-metal-exploration-Qld/ Copper-/ Gold-exploration-Qld/ Base-maps-Qld/ Drillcuttings-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Metallogenesis-/ Percussion-drilling/ Radioactivity-surveys/ Reconnaissance-/ RC-drilling/ Rockchip-sampling/ Sample-location-maps/ Soil-sampling/ SF5512 8751/ SF5516 8851

Abstract: Includes report literature review


Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Iron-/ Cobalt-/ Magnesium-/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Sirotem-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Assaying-/ Assay-value/ Diamond-drilling/ Percussion-drilling/ Core-logs/ SF5512 8852

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Zinc-/ Silver-/ Magnetite-/ Aerial-magnetic-surveys/ Aerial-photography/ Assay-value/ Bulk-sampling/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Imagery-/ Landsat-/ Leaching-/ Percussion-drilling/ Petrology-/ Radioactivity-surveys/ Reconnaissance-/ Remote-sensing/ RC-drilling/ Rock-chip-sampling/ Sample-location-maps / Soil-sampling/ Stratigraphy-Qld/ Stream-sediment-sampling/ SF5512 8852/ SF5512 8853/ SF5516 8850/ SF5516 8851/ SF5609 8952/ SF5613 8950/ SF5613 8951/ SF5613 9050/ SF5613 9051/ SG5504 8849/ SG5601 8949/ SG5601 9049

Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Percussion-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Drill-cuttings-sampling/ Assay-value/ Permian-/ Tertiary-/ SF5515 8450/ SF5515 8550/ SG5503 8549


Keywords: Gold-exploration-Qld/ Magnesite-/ Rotary-drilling/ Geological-logs/ Permian-/ SF5512 8852/ SF5609 8952


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Magnetite-/ Silver-/ Assay-value/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Geological-logs/ Geophysical-surveys-Qld/ Magnetic-surveys/ Sirotem-surveys/ EM-surveys/ Petrology-/ Rotary-drilling / SF5512 8852/ SF5609 8952

Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Magnesite-/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Geological-logs/ Geophysical-surveys-Qld/ Magnetic-surveys/ Sirotem-surveys/ Transient-EM-surveys/ Magnetic-properties/ Percussion-drilling/ SF5512 8852/ SF5609 8952


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Magnesite-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ Ground-radiactivity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Permian-/ SF5512 8852/ SF5512 8853


Keywords: Mineral-exploration-Qld/ Magnesite-/ Assay-value/ Auger-drilling/ Geochemical-
exploration-Qld/ Drill-cuttings-sampling/ Rock-chip-sampling/ Large-diameter-drilling/ Rotary-drilling/ Trenching-/ SF5512 8852/ SF5609 8952

Keywords: Gold-exploration-Qld/ Magnesite-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Magnetic-surveys/ Radioactivity-surveys/ Sirotem-surveys/ Transient-EM-surveys/ Assay-value/ Geochemical-exploration-Qld/ Bulk-sampling/ Drill-cuttings-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Geological-logs/ Laboratory-tests/ Leaching-/ Magnetic-properties/ Rotary-drilling/ SF5512 8852/ SF5609 8952

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Magnesite-/ Magnetite-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Thematic-mapper-surveys/ Chemical-analysis/ Data-processing/ Imagery-/ Landsat-/ Remote-sensing/ Metallogenesis-/ Reconnaissance-/ Structural-geology-Qld/ Reinterpretation-/ Satellite-imagery/ Stratigraphy-Qld/ SF5512 8852/ SF5512 8853/ SF5516 8851/ SF5609 8952/ SF5613 8950/ SF5613 9051/ SF5613 9050/ SG5504 8849/ SG5601 8949
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Copper-/ Zinc-/ Silver-/ Cobalt-/ Geophysical-surveys-Qld/ Magnetic-surveys/ Transient-EM-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Core-drilling/ Diamond-drilling/ Percussion-drilling/ Geological-logs/ Drill-cuttings-sampling/ Core-sampling/ Geological-mapping-Qld/ Sirotem-surveys/ Core-logs/ SF5512 8852

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Magnesite-/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Rock-chip-sampling/ Assay-value/ Geophysical-surveys-Qld/ EM-surveys/ Sirotem-surveys/ Geological-logs/ Magnetic-surveys/ Laboratory-tests/ Rotary-drilling/ SF5512 8852

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Volcanic-rocks/ Permian-/ Tertiary-/ SF5515 8550/ SG5503 8449/ SG5503 8549

Keywords: Base-metal-exploration-Qld/ Nickel-/ Copper-/ Iron-/ Assay-value/ Assaying-/ Core-drilling/ Geochemical-exploration-Qld/ Grab-sampling/ Reconnaissance-/ Rock-chip-sampling/ SF5512 8852/ SF5516 8851/ SF5613 8951
Abstract: Includes report literature review

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Abstract: Includes report literature review


Quinton RS. 1978. Geological report on A to P no. 204C. =Mt Hillalong West= relinquished 22nd December, 1977. CRA Exploration Pty Ltd; GSQ CR 6409:10p; 1 plan Keywords: Geological-mapping-Qld/ Regional-geology-Qld/ Rotary-drilling/ Stratigraphy-Qld/ Coal-/ Coal-exploration-Qld/ Topographic-surveys/ Permian-/ Triassic-/ SF5507 8555

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402
Keywords: Gold-exploration-Qld/ Drill-cuttings-sampling/ Photogeology-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Well-logs/ Geological-mapping-Qld/ Percussion-drilling/ SF5502 8157
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Silver-/ Low-grade-ores/ Porphyries-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Auger-drilling/ Devonian-/ Carboniferous-/ SF5507 8555

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Molybdenum-/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Aerial-photography/ Assay-value/ Data-processing/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Geological-mapping-Qld/ Geophysical-interpretation/ Sample-location-maps/ Tenement-maps/ SF5502 8256/ SF5503 8356

Keywords: Base-metal-exploration-Qld/ Copper-/ Zinc-/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Sirotem-surveys/ Reinterpretation-/ Geochemical-exploration-Qld/ Assay-value/ Diamond-drilling/ Drill-core-analysis/ SF5512 8852
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Arsenic-/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ RC-drilling/ Soil-sampling/ Tenement-maps/ SF5502 8057/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Gold-exploration-Qld/ Silver-/ Aerial-magnetic-surveys/ Data-processing/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ IP-surveys/ RC-drilling/ SF5502 8057/ SF5502 8157

Keywords: Base-metal-exploration-Qld/ Mineral-exploration-Qld/ Gold-/ Silver-/ Geological-mapping-Qld/ Reconnaissance-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ SF5515 8350
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Photogeological-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Gold-/ Assay-value/ Photointerpretation-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Leaching-/ Aerial-photographs/ Photogeology-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ Rock-chip-sampling/ Grab-sampling/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-photography/ Geochemical-exploration-Qld/ BLEG-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Soil-sampling/ Assay-value/ Geological-mapping-Qld/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Leaching-/ Geological-mapping-Qld/ Photointerpretation-/ SE5514 8158/ SF5502 8157

Keywords: Mineral-exploration-Qld/ Gold-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Surveying-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Soil-sampling/ Bulk-sampling/ Reconnaissance-/ Aerial-photography/ Leaching-/ Assay-value/ SF5502 8057/ SF5502 8157

Keywords: Mineral-exploration-Qld/ Gold-/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Leaching-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-photography/ SF5502 8057/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-photography/ Geochemical-exploration-Qld/ BLEG-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ SF5502 8057/ SF5502 8157

Keywords: Gold-exploration-Qld/ Regional-geology-Qld/ Gold-placer-deposits/ Trenching-/ SF5503 8356/ SF5507 8355
Keywords: Gold-exploration-Qld/ Regional-geology-Qld / Placer-deposits-Qld/ SF5503 8356/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Lead-/ Zinc-/ Copper-/ Silver-/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Drill-cuttings/ Assay-value/ Trenching-/ Percussion-drilling/ Cambrian-/ Ordovician-/ SF5502 8157

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Breccia-pipes/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ EM-surveys/ Geochemical-exploration-Qld/ Panning-/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Trenching-/ Assay-value/ Regional-geology-Qld / Geological-mapping-Qld/ Petrology-/ Granitic-rock/ Igneous-intrusions/ Cambrian-/ Ordovician-/ SF5502 8157
Abstract: Includes geological reconnaissance.

Keywords: Petroleum-exploration-Qld/ Drill-cuttings/ Drilling-/ Biostratigraphy-/ Formation-tests/ Gas-analysis/ Geological-structures/ Palynology-/ Geochemical-exploration-Qld/ Sidewall-sampling/ Water-analysis/ Stratigraphy-Qld/ Well-log-interpretation/ Well-logs/ Geophysical-surveys-Qld/ Well-velocity-surveys/ SF5515 8550

Keywords: Sapphire-/ Stratigraphy-Qld/ Ore-genesis/ Regional-geology-Qld/ Basalt-/ Tertiary-/ SF5515 8350/ SF5515 8351/ SF5515 8450/ SF5515 8451
Abstract: Released from basalt by weathering and now incorporated into a complex sequence of sediments.

Keywords: Seismic-reflection-surveys/ Seismic-refraction-method/ SF5515/ SF5516
Abstract: Existence of Comet Ridge and sediment filled troughs on each side of it confirmed. Eastern and western margins of central part of Basin defined.

Keywords: Stratigraphy-Qld/ Diamond-drilling/ Structural-geology/ Photogeology-/ Mineral-exploration-Qld/ Coal-/ Anthracite-/ SF5508 8654/ SF5512 8653

Robins FG. 1981. Lotus Creek, exploratory drilling, final report, oil shale. Western Coal and Uranium NL.; Metramar Minerals Limited; Energy Minerals Pty Ltd; GSQ CR 9942:10p
Keywords: Mineral-exploration-Qld/ Rotary-drilling/ Geological-logs/ Geophysical-logs/ Regional-geology-Qld/ Stratigraphy-Qld/ Oil-shale/ Assay-value/ Geological-structures/ Tertiary-/ SF5512 8653/ SF5512 8753

405
Keywords: Mineral-exploration-Qld/ Regional-geology-Qld/ Stratigraphy-Qld/ Literature-reviews/ Oil-shale/ Palaeozoic-/ Tertiary-/ SF5512 8853/ SF5609 8953

Robins FG. 1982. Wallamaine, Togara, relinquishment report (oil shale) (report no.945, Project no.1728). Wallamaine Ltd; Robertson Research (Aust) Pty Ltd; GSQ CR 10445:17p; 2 maps
Keywords: Mineral-exploration-Qld/ Analysis-/ Geological-logs / Oil-shale/ Tertiary-/ SF5516 8650/ SG5504 8649

Keywords: Base-metal-exploration-Qld/ Copper-/ Molybdenum-/ Geological-mapping-Qld/ Auger-drilling/ Drill-cuttings-sampling/ Geochemical-exploration-Qld/ Devonian-/ Carboniferous-/ SF5503 8457

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Core-drilling/ Coal-analysis/ Tertiary-/ Quaternary-/ SF5503 8557/ SF5504 8657

Abstract: Includes report literature review

Keywords: Petroleum-exploration-Qld/ Aerial-magnetic-surveys/ Data-processing/ Drilling-/ Field-methods/ Geological-structures/ Gravity-surveys/ Maps-/ Petroleum-reservoirs/ Regional-geology-Qld/ Seismic-interpretation/ Seismic-profiles/ Seismic-surveys/ Source-beds/ Stratigraphy-Qld/ Vibroseis-/ Water-wells/ SF5513 7750/ SF5513 7851/ SF5513 7950/ SF5514 8050/ SF5514 8150

Keywords: Petroleum-exploration-Qld/ Drilling-/ Geological-structures/ Regional-geology-Qld/ SF5513/ SF5514

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Marine-seismic-surveys/ Sparker-sound-source/ Field-methods/ Cretaceous-/ SF5512 8853

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Geological-mapping-
Keywords: Gold-exploration-Qld/ Assay-value/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Reconnaissance-/ Rock-chip-sampling/ Soil-sampling/ Stratigraphy-Qld/ Stream-sediment-sampling/ Tenement-maps/ SF5507 8355
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Assay-value/ Data-processing/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Rock-chip-sampling/ Stratigraphy-Qld/ Tenement-maps/ SF5507 8355
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Assay-value/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ Aerial-magnetic-surveys/ Assay-value/ Base-maps/ Metallogenesis-/ Radioactivity-surveys/ Rock-chip-sampling/ Stratigraphy-Qld/ Stream-sediment-sampling/ Structural-geology-Qld/ Tenement-maps/ SF5506 8254/ SF5506 8255/ SF5507 8355
Abstract: Includes report literature review

Abstract: Includes report literature review

Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Copper-/ Molybdenum-/ Arsenic-/ Antimony-/ Geochemical-mapping-Qld/ Geological-maps-Qld/ Indicator-minerals/ Leaching-/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Ground-water-sampling/ Percussion-drilling/ Drill-core-analysis/ Petrology-/ SF5511 8353

Ross Mining NL, Lawton JJ. 1989. Hill 266, six monthly progress report for the period ending
Keywords: Gold-exploration-Qld/ Assay-value/ Metallurgy-/ Geophysical-surveys-Qld/
Magnetic-surveys/ Trenching-/ IP-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/
Diamond-drilling/ Percussion-drilling/ RC-drilling/ Geological-mapping-Qld/ Drill-cuttings-
sampling/ Drill-cuttings-analysis/ Geological-logs/ SF5511 8353
Abstract: Includes report literature review

Ross Mining NL, Lawton JJ. 1988. Hill 266, six monthly progress report for the period ending
maps
Keywords: Gold-exploration-Qld/ Vein-deposits/ Metallurgy-/ Aerial-photography/
Photogeology-/ Assay-value/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Drill-cuttings-
sampling/ Diamond-drilling/ RC-drilling/ Geological-logs/ Core-sampling/ Geological-mapping/
Trenching-/ Surveying-/ Photogrammetry-/ SF5511 8353
Abstract: Includes report literature review

Ross Mining NL, Lawton JJ. 1992. Six monthly and annual progress report for the period ending
Keywords: Gold-exploration-Qld/ Tenement-maps/ Ground-water-sampling/ Percussion-drilling/
Core-logs / Laboratory-tests/ SF5511 8353
Abstract: Includes report literature review

Ross Mining NL, Lawton JJ. 1992. Six monthly and annual progress report for the period ending
Keywords: Gold-exploration-Qld/ Tenement-maps/ Geochemical-exploration-Qld/  Ground-
water-sampling/ Percussion-drilling/ Core-logs/ Laboratory-tests/ SF5511 8353
Abstract: Includes report literature review

Mines and Energy. Company Report; CR 27846:8p; map
Keywords: Gold-exploration-Qld/ Aerial-geophysical-surveys/ Aerial-photography/ Assay-value/
Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-
interpretation/ Geophysical-surveys-Qld/ Lineaments-/ Photogeology-/ Rock-chip-sampling/ Stratigraphy-Qld/ Stream-sampling/ Structural-geology-Qld/ Tenement-maps/ SF5507 8355
Abstract: Includes report literature review

Ross Mining NL, Seed M. 1996. Saint Anns, final report. Queensland. Department of Mines and
Energy. Company Report; CR 28427:4p; 3 maps
Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Geophysical-interpretation/
Geophysical-surveys-Qld/ Reconnaissance-/ Sample-location-maps/ Stratigraphy-Qld/ Tenement-
maps/ SF5506 8254/ SF5507 8354
Abstract: Includes report literature review

Queensland. Department of Mines and Energy. Company Report; CR 29115:11p; 1 map, 18
sections
Keywords: Gold-exploration-Qld/ Assay-value/ Chemical-analysis/ Drill-cuttings-analysis/
Geochemical-anomalies/ Geochemical-exploration-Qld/ Leaching-/ Percussion-drilling/
Reconnaissance-/ RC-drilling/ Rock-chip-sampling/ Soil-sampling/ Tenement-maps/ SF5511 8453
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Nickel-/ Copper-/ Zinc-/ Geochemical-exploration-Qld/
Keywords: Base-metal-exploration-Qld/ Nickel-/ Zinc-/ Copper-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Soil-sampling/ Trenching-/ Percussion-drilling/ Assay-value/ Laboratory-tests/ Devonian-/ Carboniferous-/ Permian-/ SF5512 8852/ SF5516 8851/ SF5609 8952/ SF5609 9052/ SF5613 8951/ SF5613 9051

Russell RT. 1965. Report on chemical analysis for phosphate Proserpine No.1 Well, Mackay sedimentary basin. Mines Exploration Pty Ltd; GSQ CR 1717:2p; 1 map
Keywords: Mineral-exploration-NSW/ Phosphates-/ Core-sampling/ Drill-cuttings/ Laboratory-tests/ Cainozoic-/ SF5504 8657

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ Field-methods/ Cretaceous-/ Jurassic-/ Triassic-/ Permian-/ Carboniferous-/ Devonian-/ SF5513/ SF5514/ SG5501/ SG5502

Keywords: Gold-exploration-Qld/ Geophysical-interpretation/ Percussion-drilling/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Rock-chip-sampling/ Drill-cuttings-sampling/ Core-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5503 8356

Keywords: Gold-exploration-Qld/ Percussion-drilling/ Geological-logs/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ Trenching-/ Assay-value/ Drill-cuttings-sampling/ Placer-deposits-Qld/ SF5502 8157/ SF5502 8257

S

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Silver-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ SF5503 8556/ SF5503 8557
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Magnetic-surveys/ Geophysical-interpretation/ SF5503 8556/ SF5503 8557
Abstract: Includes report literature review

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Keywords: Mineral-exploration-Qld/ Regional-geology-Qld/ Geological-logs/ Drilling-/ Oil-shale/ Permian-/ SF5514 8151/ SF5514 8251
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Keywords: Mineral-exploration-Qld/ Drilling-/ Geological-logs/ Analysis-/ Reserves-/ Stratigraphy-Qld/ Oil-shale/ Permian-/ SF5514 8151

Keywords: Mineral-exploration-Qld/ Oil-shale/ Cross-sections/ Carbonaceous-shale/ Drilling-/ Zone-of-weathering/ SF5514 8151/ SF5514 8251

Keywords: Uranium-exploration-Qld/ Oil-shale/ Torbanite-/ Vanadium-/ Assaying-/ Geological-logs/ Reserves-/ Drilling-/ Cross-sections/ SF5514 8151/ SF5514 8251

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Permian-/ SF5507 8554/ SF5507 8555

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Petrology-/ Palynology-/ Feasibility-studies/ Geological-mapping-Qld/ Placer-deposits-Qld/ Trenching-/ Tertiary-/ SF5503 8356

Keywords: Petroleum-exploration-Qld/ Methane-/ Data-processing/ Maps-/ Geophysical-surveys-Qld/ Seismic-interpretaion/ Seismic-profiles/ Seismic-reflection-surveys/ Seismic-surveys/ Vibroseis-/ SF5516 8650/ SG5504 8649

Keywords: Petroleum-exploration-Qld/ Discovery-wells/ Drill-cuttings/ Drilling-/ Formation-tests/ Gas-analysis/ Gas-wells/ Geological-structures/ Progress-reports/ Sidewall-sampling/ Stratigraphy-Qld/ Water-analysis/ Well-logs/ Well-velocity-surveys/ SF5515 8550

Keywords: Petroleum-exploration-Qld/ Drill-cuttings/ Drilling-/ Formation-tests/ Gas-analysis/ Gas-wells/ Geological-structures/ Progress-reports/ Sidewall-sampling/ Stratigraphy-Qld/ Structure-contour-maps/ Water-analysis/ Well-completion/ Well-logs/ Well-velocity-surveys/ SF5515 8550

Keywords: Base-metal-exploration-Qld/ Copper-/ Zinc-/ Iron-ores/ Borax-/ Calcium-/ Potassium/
Potash-/ Magnesium-/ Manganese-/ Sodium-/ Phosphorus-/ Sulphur-/ Assay-value/ Bulk-
sampling/ Core-drilling/ Core-logs/ Geochemical-exploration-Qld/ Petrology-/ SF5512 8852

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Rock-chip-sampling/ Diamond-drilling/ Laboratory-tests/ SF5512 8852

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Keywords: Coal-exploration-Qld/ Noncoking-coal/ Geophysical-surveys-Qld/ Seismic-surveys/
Surveying-/ SF5516 8650

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Keywords: Coal-exploration-Qld/ Coal-resources-Qld/ Core-drilling/ Geochemical-exploration-
Qld/ Core-sampling/ Geological-logs/ Geophysical-logs/ Isopach-maps/ Rotary-drilling/
Structure-contour-maps/ SF5515 8551

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Surveying-/ SF5516 8650

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Surveying-/ SF5516 8650

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Keywords: Gold-exploration-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ RC-drilling/
Drill-cuttings-analysis/ SF5511 8352/ SF5515 8351

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Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Assay-value/ RC-drilling/ Drill-
cuttings-sampling/ Cambrian-/ Ordovician-/ SF5502 8157

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Keywords: Gold-exploration-Qld/ Percussion-drilling/ Cambrian-/ Ordovician-/ SF5502 8157
Keywords: Gold-exploration-Qld/ Silver-/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Arsenic-/ Geological-mapping-Qld/ Aerial-photography/ Photogeological-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ RC-drilling/ Geological-logs/ Geochemical-exploration-Qld/ Bulk-sampling/ Panning-/ Rock-chip-sampling/ Stream-sediment-sampling/ Drill-cuttings-sampling/ Assay-value/ Reconnaissance-/ Cambrian-/ Ordovician-/ SF5502 8056/ SF5502 8057/ SF5502 8156/ SF5502 8256/ SF5502 8257

Keywords: Coal-exploration-Qld/ Coking-coal/ Coal-analysis/ Drilling-/ Core-drilling/ Rotary-drilling/ Geological-logs/ Geophysical-logs/ SF5507 8455

Keywords: Coal-exploration-Qld/ Surveying-/ Drilling-/ Geological-logs/ Geophysical-logs/ Water-analysis / Coal-analysis/ Anthracite-/ SF5512 8653

Keywords: Coal-exploration-Qld/ Coal-analysis/ Geological-logs/ Stratigraphic-correlation/ Graphic-logs/ Anthracite-/ SF5507 8554/ SF5508 8654/ SF5511 8553/ SF5512 8653

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Zinc-/ Molybdenum-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ Soil-sampling/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Regional-geology-Qld/ Geological-mapping-Qld/ Petrology-/ Cambrian-/ Ordovician-/ SF5507 8355

Keywords: Mineral-exploration-Qld/ Magnetite-/ Uranium-/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ SF5507 8355

Keywords: Petroleum-exploration-Qld/ Data-processing/ Seismic-interpretation/ Seismic-reflection-methods/ Vibroseis-/ Geophysical-surveys-Qld/ Seismic-surveys/ SF5515 8550/ SF5515 8551/ SG5504 8649

Keywords: Mineral-exploration-Qld/ Gold-/ Assay-value/ Photogeology-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Bulk-sampling/ Leaching-/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geophysical-interpretation/ Reconnaissance-/ SF5507 8354/ SF5507 8355
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Keywords: Mineral-exploration-Qld/ Copper-/ Gold-/ Silver-/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Panning-/ Rock-chip-sampling/ Soil-sampling/ Diamond-drilling/ Core-sampling/ Petrology-/ Trenching-/ Assay-value/ Devonian-/ Carboniferous-/ SF5503 8457/ SF5503 8557

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geophysical-surveys-Qld / Gravity-surveys/ Granitic-rock/ Permian-/ Triassic-/ Jurassic-/ Cretaceous-/ SF5507 8554/ SF5508 8654/ SF5511 8553/ SF5512 8653


Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Vibroseis-/ Seismic-interpretation/ Field-methods/ Data-processing/ Devonian-/ Carboniferous-/ Permian-/ SF5502 8056/ SF5502 8156

Keywords: Petroleum-exploration-Qld/ Stratigraphy-Qld/ Regional-geology-Qld/ Petroleum-reservoirs/ Petroleum-migration/ Petroleum-genesis/ Geophysical-surveys-Qld/ Seismic-profiles/ Gravity-surveys/ Maturation-/ Geological-structures/ Devonian-/ Carboniferous-/ SF5501 7956/ SF5502 8056/ SF5502 8156/ SF5503 8356

Keywords: Petroleum-exploration-Qld/ Well-drilling/ Work-programmes/ Source-beds/ Geophysical-surveys-Qld/ Well-velocity-surveys/ Seismic-interpretation/ Stratigraphy-Qld/ Stratigraphic-correlation/ Stratigraphic-wells/ Regional-geology-Qld/ Maturation-/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ SF5501 7956/ SF5502 8056/ SF5502 8156/ SF5502 8256/ SF5503 8356


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Department of Mines and Energy. Company Report; CR 7297:5p
Keywords: Coal-exploration-Qld/ Drilling-/ Geophysical-logs/ Geological-logs/ SF5501/ SF5502

Keywords: Coal-exploration-Qld/ Geophysical-surveys-Qld/ Drilling-/ Wire-line-logs/ Coal-analysis/ SF5501/ SF5502

Keywords: Coal-exploration-Qld/ Geophysical-logs/ Geological-logs/ Drilling-/ Coal-analysis/ SF5501 7956/ SF5502 8056

Keywords: Coal-exploration-Qld/ Coal-mining/ Drilling-/ Well-logs/ Feasibility-studies/ SF5510 8152/ SF5510 8252

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Arsenic-/ Gold-exploration-Qld/ Molybdenum-/ Antimony-/ Assay-value/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Geochemical-interpretation/ Geological-mapping-Qld/ Geological-maps-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Percussion-drilling/ Rotary-drilling/ Photogeological-maps/ Photogeology-/ Remote-sensing/ Reconnaissance-/ Sample-location-maps/ Tenement-maps/ SF5507 8354/ SF5507 8355/ SF5507 8454/ SF5507 8455

Keywords: Gold-exploration-Qld/ Silver-/ Base-maps/ Assay-value/ Geochemical-exploration-Qld/ Sampling-/ Rock-chip-sampling/ Reinterpretation-/ Data-processing/ Geochemical-interpretation/ Geological-maps-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Sample-location-maps/ Photointerpretation-/ Tenement-maps/ Reconnaissance-/ SF5507 8354/ SF5507 8355/ SF5507 8454/ SF5507 8455

Keywords: Auger-drilling/ Sapphire-/ Work-programmes/ Gemstones-/ SF5515 8451

Keywords: Petroleum-exploration-Qld/ Natural-gas/ Geophysical-surveys-Qld/ Seismic-surveys/ Stratigraphic-trap/ SF5403/ SF5404/ SF5407/ SF5408/ SF5501/ SF5505/ SF5506/ SF5507/ SF5509/SF5510/ SF5511

Keywords: Coal-exploration-Qld/ Coal-resources/ Coal-quality/ Underground-mining / Drilling-/ SF5515 8551
Abstract: Recoverable reserves of 476 million tonnes.
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Lead-/ Zinc-/ Silver-/ Placer-deposits-Qld/ Geochemical-exploration-Qld/ Panning-/ Rock-chip-sampling/ Assay-value/ SF5502 8256/ SF5503 8356/ SF5506 8255/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Vein-deposits/ Placer-deposits-Qld/ Geochemical-exploration-Qld/ Panning-/ Percussion-drilling/ SF5503 8356

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geophysical-interpretation/ Aerial-photography/ Geochemical-exploration-Qld/ BLEG-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ SF5502 8057

Keywords: Mineral-exploration-Qld/ Gold-/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Geophysical-interpretation/ SF5502 8057

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Nickel-/ Molybdenum-/ Cobalt-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Assay-value/ Geological-mapping-Qld/ Cambrian-/ Ordovician-/ Devonian-/ Tertiary-/ SF5511 8452/ SF5511 8453/ SF5511 8552/ SF5511 8553

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Molybdenum-/ Iron-/ Silver-/ Arsenic-/ Bismuth-/ Chemical-analysis/ Geophysical-surveys-Qld/ EM-surveys/ Ground-magnetic-surveys/ IP-surveys/ Sirotem-surveys/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Geological-mapping-Qld/ Percussion-drilling/ Reconnaissance-/ RC-drilling/ Sample-location-maps/ Tenement-maps/ SF5503 8356/ SF5507 8355
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Zinc-/ Copper-/ Lead-/ Gold-exploration-Qld/ Tourmaline-/ Malachite-/ Molybdenum-/ Galena-/ Chalcopyrite-/ Arsenic-/ Bismuth-/ Assay-value/ Base-maps/ Bulk-sampling/ Drill-cuttings-analysis/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Leaching-/ Percussion-drilling/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stream-sediment-sampling/ Tenement-maps/ SF5503 8356/ SF5507 8355
Abstract: Includes report literature review
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Arsenic-/ Assay-value/ Geophysical-surveys-Qld/ EM-surveys/ Ground-magnetic-surveys/ IP-surveys/ Resistivity-surveys/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Geological-mapping-Qld/ Percussion-drilling/ RC-drilling/ Sample-location-maps/ Tenement-maps/ SF5503 8356
Abstract: Includes report literature review

Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Lead-/ Copper-/ Zinc-/ Molybdenum-/ Arsenic-/ Bismuth-/ Assay-value/ Bulk-sampling/ Drill-cuttings-analysis/ Drilling-/ EM-surveys/ Geochemical-anomalies/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ IP-surveys/ Leaching-/ Percussion-drilling/ Reconnaissance-/ Resistivity-surveys/ Rock-chip-sampling/ Sample-location-maps/ Soil-sampling/ Stratigraphy-Qld/ Stream-sediment-sampling/ Tenement-maps/ SF5503 8356
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Assay-value/ Auger-drilling/ Bulk-sampling/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Leaching-/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Stream-sediment-sampling/ Structural-geology-Qld/ SF5507 8355
Abstract: Includes report literature review

Sons of Gwalia NL, Cooper IS. 1991. Percy Douglas Range, Mount Magnus, joint annual report for periods ending 18/12/91 (EPM 7558) and 14/1/92 (EPM 7611) and final report. Queensland. Department of Minerals and Energy. Company Report; CR 23156:10p; 26 maps
Keywords: Gold-exploration-Qld/ Assay-value/ Auger-drilling/ Bulk-sampling/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Leaching-/ Reconnaissance-/ Rock-chip-sampling/ Sample-location-maps/ Stream-sediment-sampling/ Structural-geology-Qld/ SF5507 8355
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Reconnaissance-/ Geophysical-surveys-Qld/ Aerial-geophysical-surveys/ Ground-magnetic-surveys/ EM-surveys/ Geochemical-exploration-Qld/ Assay-value/ Rotary-drilling/ Drill-cuttings-analysis/ Geological-logs/ SF5502 8157

Abstract: Includes report literature review

Sorby LA. 1979. Relinquishment report. Houston Oil and Minerals Australia Inc; GSQ CR 7348:3p; 1 map
Keywords: Petroleum-exploration-Qld/ Drilling-/ Methane-drainage/ Gas-wells/ Reservoir-stimulation/ Natural-gas/ Permian-/ SF5512/ SF5516/ SG5504/ SG5508/ SG5601/ SG5605/ SG5609

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Petrology-/ Coal-analysis/ SF5511 8553
Abstract: Bore logs and basic drilling and analytical data.

Keywords: Coal-resources-Qld/ Coal-exploration-Qld/ Drilling-/ Geological-surveys-Qld/ Coal-analysis/ Coal-reserves/ Coal-petrology/ Coal-preparation/ Noncoking-coal/ Coking-coal/ Permian-/ SF5511 8553
Abstract: An exploratory drilling programme of 265 holes indicates in situ measured reserves of 276 mt.

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geological-mapping-Qld/ Structural-geology-Qld/ Landsat-/ Photogeology-/ Image-interpretation/ Thematic-mapper-surveys/ Geophysical-surveys-Qld/ Aerial-gravity-surveys/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Assay-value/ SF5511/ SF5515 8451/ SF5515 8551
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Grab-sampling/ Rock-chip-sampling/ Assaying-/ Assay-value/ RC-drilling/ Core-logs/ Petrology-/ SF5511 8353/ SF5511 8452/ SF5511 8453/ SF5515 8451/ SF5515 8551
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Nickel-/ Cobalt-/ Iron-/ Geochemical-exploration-Qld/ Rotary-drilling/ Drill-cuttings/ Soil-sampling/ Assay-value/ Pits-/ Trenching-/ Regional-geology-Qld/ Geological-mapping-Qld/ Structural-geology-Qld/ Laboratory-tests/ Permian-/ SF5512 8852

Spielvogel LN. 1963. Ravenswood area, north Queensland, progress report. North Broken Hill Ltd; GSQ CR 1096:5p; 5 maps
Keywords: Mineral-exploration-Qld/ Copper-/ Molybdenum-/ Aerial-photography/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Assay-value/ Geological-mapping-
Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Stratigraphy-Qld/ Coal-exploration-Qld/ Permian- Triassic- / SF5515 8450/ SF5515 8551

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Coal-reserves/ Permian- Triassic- / SF5516 8650

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Coal-reserves/ Permian- Triassic- / SF5516 8650

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Permian- Triassic- / SF5516 8750

Keywords: Coal-exploration-Qld/ Coal-resources/ Drilling-/ Coal-quality/ Coal-properties/ Geological-logs/ Geophysical-logs/ Coal-analysis/ SF5515 8550/ SF5515 8551
Abstract: Basic exploration data, comprising geological and geophysical logs and coal analyses.
Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ VLF-EM-surveys/ Carboniferous-/ Permian-/ SF5503 8557

Starkey LJ. 1967. Area 2 Mount Flora, central Qld, aeromagnetic survey. Planet Metals Ltd; Australian Mining and Engineering Geophysics Pty Ltd; GSQ CR 2388:10p; 5 maps
Keywords: Mineral-exploration-Qld/ Magnetite-/ Magnetic-minerals/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Permian-/ Triassic-/ SF5507 8554

Starkey LJ. 1967. Mirani area 1, central Queensland, aeromagnetic survey. Planet Metals Ltd; Australian Mining and Engineering Geophysics Pty Ltd; GSQ CR 2389:6p; 5 maps
Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Permian-/ Triassic-/ SF5507 8554

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld / Transient-EM-surveys/ IP-surveys/ Magnetic-surveys/ Ordovician-/ Devonian-/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Regional-geology-Qld/ Geological-mapping-Qld/ Ordovician-/ Silurian-/ Devonian-/ SF5502 8256/ SF5502 8257/ SF5503 8356

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Permian-/ SF5516 8651

Keywords: Gold-exploration-Qld/ Alluvium-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Resistivity-surveys/ Drilling-/ Assay-value/ Quaternary-/ SF5511 8352/ SF5511 8452

Keywords: Gold-exploration-Qld/ Photogeology-/ Placer-deposits-Qld/ Pilot-plants/ Large-diameter-drilling/ SF5511 8452

Keywords: Gold-exploration-Qld/ Alluvium-/ Placer-deposits-Qld/ Rotary-drilling/ Large-diameter-drilling/ Assay-value/ Quaternary-/ SF5511 8452

Keywords: Coal-exploration-Qld/ Geological-logs/ Geophysical-logs/ Drilling-/ Coal-analysis/ Coal-resources-Qld/ Jurassic-/ SF5503 8556

Keywords: Gold-exploration-Qld/ Photogeological-maps/ Assay-value/ Geochemical-exploration-Qld/ RC-drilling/ Drill-cuttings-sampling/ Geological-mapping-Qld/ Regional-maps/ Rock-chip-sampling/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Lead-/ Zinc-/ Copper-/ Silver-/ Volcanogenic-deposits/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Ground-magnetic-surveys/ EM-surveys/ Cambrian-/ Ordovician-/ SF5502 8057

Keywords: Base-metal-exploration-Qld/ Gold-exploration-Qld/ Tin-/ Arsenic-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Assay-value/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Petrology-/ Cambrian-/ Ordovician-/ SF5507 8355

Sugden W. 1975. (A) geological report on a reconnaissance for gypsum in Mistake Creek area of the Belyando Headwaters; (B) period 31/3/75 to 30/6/75; (C) period 1/1/0/75 to 31/12/75. Steine Mining Company; North Australia Cement Ltd; GSQ CR 5706 (A-C):22p; 1 map, 3 plans
Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Auger-drilling/ Pits-/ Sampling-/ Gypsum-/ Cainozoic-/ SF5506 8254/ SF5507 8354/ SF5510 8253/ SF5511 8353

Keywords: Gold-exploration-Qld/ Silver-/ Copper-/ Geological-mapping-Qld/ Reconnaissance-/ Tenement-maps/ Geochemical-exploration-Qld/ BLEG-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Diamond-drilling/ RC-drilling/ Drill-cuttings-analysis/ Laboratory-tests/ Sample-location-maps/ SF5512 8753

Keywords: Drilling-/ Stratigraphic-correlation/ Petroleum-exploration-Qld / Well-completion-report/ SF5509/ SF5510

Keywords: Base-metals-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Molybdenum-/ Nickel-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Assay-value/
Diamond-drilling/ Geological-mapping-Qld/ Devonian-/ Carboniferous-/ Permian-/ Cretaceous-/ SF5503 8456/ SF5503 8457/ SF5503 8556/ SF5503 8557/ SF5504 8656/ SF5504 8657/ SF5507 8455/ SF5507 8555/ SF5508 8655

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Molybdenum-/ Nickel-/ Porphyry-copper-deposits/ Geophysical-surveys-Qld/ EM-surveys/ IP-surveys/ SP-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Diamond-drilling/ Geological-mapping-Qld/ Devonian-/ Carboniferous-/ Permian-/ Cretaceous-/ SF5503 8456/ SF5503 8457/ SF5503 8556/ SF5503 8557/ SF5504 8656/ SF5504 8657/ SF5507 8455/ SF5507 8555/ SF5508 8655
Abstract: Exploration for porphyry copper-molybdenum deposits.

Keywords: Petroleum-exploration-Qld/ Seismic-interpretation/ Geological-structures/ Petroleum-potential/ Regional-geology-Qld/ Data-processing/ Stratigraphy-Qld/ Field-methods/ Seismic-profiles/ Seismic-reflection-methods/ Geophysical-surveys-Qld/ Seismic-surveys/ Vibroseis-/ SF5515 8550/ SG5503 8549/ SG5504 8648/ SG5504 8649/ SG5507 8546/ SG5507 8547/ SG5508 8646/ SG5508 8647

Keywords: Base-metal-exploration-Qld/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Assay-value/ Percussion-drilling/ Granite- rock/ SF5503 8556

Keywords: Mineral-exploration-Qld/ Geochemical-exploration-Qld/ Geochemical-sampling/ Trenching-/ Percussion-drilling/ Molybdenum-/ Lead-/ Zinc-/ SF5511 8452/ SF5511 8453

Keywords: Mineral-exploration-Qld/ Geochemical-exploration-Qld/ Trenching-/ Percussion-drilling/ Geochemical-anomalies/ Lead-/ Zinc-/ Molybdenum-/ SF5511 8452/ SF5511 8453

Keywords: Base-metal-exploration-Qld/ Lead-/ Zinc-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Radioactivity-surveys/ Aerial-surveys/ Geophysics-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ SF5511 8453

Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Magnetic-surveys/ Soil-sampling/ Trenching-/ Percussion-drilling/ Lead-/ Zinc-/ Copper-/ Silver-/ SF5511 8452/ SF5511 8453
Keywords: Mineral-exploration-Qld/ Soil-sampling/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Magnetic-surveys/ Percussion-drilling/ Gossans-/ Radioactivity-surveys/ Petrology-/ Assaying-/ Copper-/ Lead-/ Zinc-/ Molybdenum-/ Mineral-sands/ SF5511 8452 / SF5511 8453

Syvret JN. 1969. Devlin Pocket, Collinsville area, final report. Uranium Consolidated NL; GSQ CR 5583:2p; 1 plan
Keywords: Mineral-exploration-Qld/ Diamond-drilling/ Geological-logs/ Assay-value/ Copper-/ Lead-/ Zinc-/ Base-metals/ Permian-/ SF5503 8456

Keywords: Mineral-exploration-Qld/ Sapphire-/ Large-diameter-drilling/ Geological-logs/ Geochemical-exploration-Qld/ Bulk-sampling/ Trenching-/ Assay-value/ Alluvium-/ SF5515 8451

Keywords: Mineral-exploration-Qld/ Magnesite-/ Geochemical-exploration-Qld/ Trenching-/ Assay-value/ Percussion-drilling/ Photogeology-/ Permian-/ SF5512 8852

Keywords: Mineral-exploration-Qld/ Uranium-/ Phosphates-/ Geological-mapping- QldGeophysical-logs/ Percussion-drilling/ Resistivity-logging/ SF5511 8352/ SF5515 8351

Keywords: Petroleum-exploration-Qld/ Well-completion-report/ Drilling-/ Drill-core/ Sidewall-sampling/ Drill-cuttings / Well-logs/ Stratigraphy-Qld/ Porosity-/ Permeability-/ Permian-/ SF5503 8456

Keywords: Coal-exploration-Qld/ Coal-analysis/ Rotary-drilling/ Geological-logs/ Graphic-logs/ Cretaceous-/ SF5512 8852/ SF5512 8853

Keywords: Gravity-surveys/ Magnetic-surveys/ Petroleum-exploration-Qld/ Seismic-profiles/ Seismic-reflection-surveys/ Seismic-refraction-surveys/ Seismic-surveys/ Seismographs-/ Structural-geology-Qld/ Structure-contour-maps/ Permian-/ Triassic-/ SF5507 8554/ SF5507 8555

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Keywords: Mineral-exploration-Qld/ Drilling-/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Assaying-/ Rock-chip-sampling/ Soil-sampling/ Copper-/ Lead-/ Zinc-/
Molybdenum- Base-metals/ Silurian- Devonian- SF5502 8257

Keywords: Base-metal-exploration-Qld/ Copper-/ Magnetite-/ Geological-mapping-Qld/ Regional-geology-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Rotary-drilling/ Diamond-drilling/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Silurian-/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ SF5508 8654/ SF5508 8655

Keywords: Base-metal-exploration-Qld/ Copper-/ Zinc-/ Nickel-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Rotary-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Soil-sampling/ Trenching-/ Assay-value/ Silurian-/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/ SF5508 8655

Abstract: Includes exploration history.

Keywords: Coal-exploration-Qld/ Drilling-/ Geophysical-surveys-Qld/ Wire-line-logs/ Laboratory-tests/ Permian-/ SF5510 8152/ SF5510 8252

Keywords: Coal-exploration-Qld/ Rotary-drilling/ Core-drilling/ Coal-analysis/ Geophysical-logs/ Cretaceous-/ SF5512 8852/ SF5512 8853

Keywords: Coal-exploration-Qld/ Sedimentary-geology/ Structural-geology-Qld/ Core-drilling/ Permian-/ SF5510 8252

Keywords: Ground-magnetic-surveys/ Coal-fields/ Profiling-/ Faults-/ Igneous-intrusions/ SF5508 8654

Keywords: Mineral-exploration-Qld/ Kaolin-/ Clays-/ Drilling-/ Sampling-/ Laboratory-tests/ Chemical-analysis/ Feasibility-studies/ Permian-/ SF5515 8550

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Vibroseis-/ Seismic-interpretation/ Field-methods/ Data-processing/ Permian-/ Triassic-/ SF5515 8550/ SG5503 8549

Keywords: Petroleum-exploration-Qld/ Stratigraphy-Qld/ Stratigraphic-correlation/ Drilling-/ Well-logs/ Porosity-/ Permeability-/ Organic-geochemistry/ Geological-structures/ Permian-/ Triassic-/ SF5515/ SG5503/ SG5504/ SG5508/ SG5512/ SG5605/ SG5609/ SG5613

Keywords: Petroleum-exploration-Qld/ Vibroseis-/ Seismic-reflection-surveys/ Field-methods / Operations-report/ Permian-/ Triassic-/ SF5515 8550

Keywords: Petroleum-exploration-Qld/ Geophysical-surveys-Qld/ Seismic-reflection-surveys/ Vibroseis-/ Seismic-interpretation/ Field-methods/ Data-processing/ Permian-/ Triassic-/ SF5515 8550/ SG5503 8549

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Nickel-/ Arsenic-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Assay-value/ Geological-mapping-Qld/ Percussion-drilling/ Drill-cuttings/ Photogeology-/ Cambrian-/ Ordovician-/ SF5511 8352

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Zinc-/ Lead-/ Copper-/ Silver-/ Assay-value/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Rock-chip-sampling/ Geological-logs/ Geological-mapping-Qld/ RC-drilling/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ SF5502 8057
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Reinterpretation-/ SF5502 8157
Abstract: Includes report literature review
Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Diamond-drilling/ Core-logs/ Drill-core-analysis/ Petrology-/ X-ray-diffraction/ Fluid-inclusions/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Assay-value/ Bulk-sampling/ Drill-cuttings-sampling/ EM-surveys/ Geological-logs/ Geophysical-surveys-Qld/ IP-surveys/ Soil-sampling/ Arsenic-/ SF5502 8057

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ SF5502 8057

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Trenching-/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Grab-sampling/ Bulk-sampling/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Stream-sediment-sampling/ RC-drilling/ Petrology-/ Percussion-drilling/ Reconnaissance-/ Geological-mapping-Qld/ Rotary-drilling/ Drill-cuttings-analysis/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Percussion-drilling/ Petrology-/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Geochemical-interpretation/ SF5501 7957/ SF5502 8057
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Percussion-drilling/ RC-drilling/ Geological-logs/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Bulk-sampling/ Leaching-/ Stream-sediment-sampling/ Drill-cuttings-sampling/ Assay-value/ SF5503 8557

Keywords: Coal-exploration-Qld/ Geological-logs/ Rotary-drilling/ Permian-/ SF5503 8556/ SF5507 8554/ SF5507 8555/ SF5511 8553/ SF5512 8653

Keywords: Base-metal-exploration-Qld/ Oil-shale/ Gold-exploration-Qld/ Chemical-analysis/ Percussion-drilling/ Diamond-drilling/ Tertiary-/ Devonian-/ Carboniferous-/ SF5507 8355

Keywords: Coal-exploration-Qld/ Drilling-/ Coal-quality/ Coal-reserves/ SF5515 8550

425
Abstract: In situ reserves of 335 million tonnes of low rank coal.
Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Electrical-IP-surveys/ Magnetic-surveys/ Percussion-drilling/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Trenching-/ Assay-value/ Permian-/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Diamond-drilling/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ RC-drilling/ Rock-chip-sampling/ Soil-sampling/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Base-maps/ Percussion-drilling/ Rotary-drilling/ Geological-logs/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Drill-cuttings-sampling/ Drill-cuttings-analysis/ Panning-/ Assay-value/ Cambrian-/ Ordovician-/ SF5503 8356
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Assay-value/ Drill-cuttings-sampling/ Geochemical-exploration-Qld/ Geological-logs/ Geological-mapping-Qld/ Percussion-drilling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Aerial-magnetic-surveys/ Assay-value/ Drill-cuttings-analysis/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Geophysical-interpretation/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Image-analysis/ Image-interpretation/ Imagery-/ Metallurgy-/ RC-drilling/ Rock-chip-sampling/ Surveying-/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Assay-value/ Drill-cuttings-sampling/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Percussion-drilling/ RC-drilling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Surveying-/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Geological-mapping-Qld/
Percussion-drilling/ Rock-chip-sampling/ Rotary-drilling/ Soil-sampling/ Stream-sediment-sampling/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Assay-value / Drill-cuttings-sampling/ Geochemical-exploration-Qld/ Geological-logs/ RC-drilling/ Soil-sampling/ SF5502 8157/ SF5502 8257

Keywords: Petroleum-exploration-Qld/ Regional-geology-Qld/ Seismic-reflection-surveys/ Seismic-surveys/ Seismographs-/ Structural-geology-Qld/ Permian-/ Triassic-/ SF5516 8750/ SG5504 8749
Abstract: Drill test recommended. Two closed features indicated in complex area.

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Coal-analysis/ Core-drilling/ Geochemical-exploration-Qld/ Core-sampling/ Drilling-/ Geological-logs/ Geophysical-logs/ SF5516 8850/ SG5504 8849

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Lithology-/ Sedimentary-geology/ Stratigraphy-Qld/ SE5514 8058/ SE5514 8158/ SF5502 8057/ SF5502 8157

Keywords: Coal-exploration-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ SE5514 8058/ SE5514 8158/ SF5502 8057/ SF5502 8157

Keywords: Petroleum-exploration-Qld/ Methane-/ Coal-analysis/ Coal-petrology/ Drill-core-analysis/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Well-drilling/ Petroleum-potential/ Regional-geology-Qld/ Stratigraphic-correlation/ Stratigraphy-Qld/ Well-logs/ Work-programmes/ SF5510 8052

Keywords: Base-metal-exploration-Qld/ Nickel-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Soil-sampling/ Rock-chip-sampling/ Gossan-sampling/ Geological-mapping-Qld/ Structural-geology-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Trenching-/ SF5511 8352

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Nickel-/ Chromium-/ Arsenic-/ Rotary-percussion-drilling/ Drill-cuttings/ Sampling-/ Assay-value/ Geological-mapping-Qld/ Cambrian-/ Ordovician-/ SF5511 8352

Keywords: Coal-exploration-Qld/ Well-logs/ Stratigraphy-Qld/ Coal-analysis/ SF5516 8650/ SF5516 8651

Keywords: Coal-exploration-Qld/ Coking-coal/ Drilling-/ Coal-analysis/ SF5516 8650

Keywords: Copper-exploration-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ IP-surveys/ Diamond-drilling/ SF5511 8452

Keywords: Mineral-exploration-Qld/ Copper-/ Zinc-/ Stratiform-deposits/ Sulphide-deposits/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ VLF-EM-surveys/ IP-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Assay-value/ Auger-drilling/ Drill-cuttings/ Cambrian-/ Ordovician/- SF5511 8352/ SF5511 8452/ SF5515 8351/ SF5515 8451
Abstract: Exploration for stratiform massive sulphide deposits.

Keywords: Mineral-exploration-Qld/ Copper-/ Zinc-/ Stratiform-deposits/ Sulphide-deposits/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ VLF-EM-surveys/ IP-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Geological-mapping-Qld/ Cambrian-/ Ordovician/- SF5511 8352/ SF5511 8452/ SF5515 8351/ SF5515 8451
Abstract: Exploration for stratiform massive sulphide deposits.

Keywords: Base-metal-exploration-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Auger-drilling/ Assay-value/ Geophysical-surveys-Qld/ Magnetic-surveys/ IP-surveys/ Petrology-/ Geological-mapping-Qld/ SF5511 8452/ SF5515 8452

Keywords: Coal-exploration-Qld/ Coking-coal/ Stratigraphy-Qld/ Structural-geology-Qld/ Drilling/- SF5516 8650/ SF5516 8651

Keywords: Base-metal-exploration-Qld/ Gold-/ Tenement-maps/ Photogeology-/ Photogeological-maps/ Stratigraphy-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Assay-value/ Geochemical-anomalies/ Sample-location-maps/ SF5507 8454

Keywords: Gold-exploration-Qld/ Data-processing/ Geochemical-exploration-Qld/ Geophysical-
Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps/ Landsat-/ Lineaments-/ Image-interpretation/ Geophysical-surveys-Qld/ Thematic-mapper-surveys/ Aerial-magnetic-surveys/ Gravity-surveys/ Geophysical-interpretation/ Bouguer-anomaly-maps/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geological-maps/ Tenement-maps / Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Grab-sampling/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Trenching-/ Laboratory-tests/ Geochemical-interpretation/ Sample-location-maps/ SF5502 8256/ SF5502 8257
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Reconnaissance-/ Geological-mapping-Qld/ Geological-maps-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Rock-chip-sampling/ Soil-sampling/ Assaying-/ Assay-value/ RC-drilling/ Petrology-/ Geochemical-anomalies/ Geochemical-interpretation/ Sample-location-maps/ SF5503 8356
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geological-maps-Qld/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Grab-sampling / Soil-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Rotary-drilling/ Core-logs/ Chemical-analysis/ Petrology-/ Sample-location-maps/ SF5502 8256/ SF5502 8257
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geological-maps-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Bulk-sampling / Leaching-/ Rock-chip-sampling/ Soil-sampling / Assay-value/ Percussion-drilling/ Drill-cuttings-analysis/ Laboratory-tests/ Geochemical-interpretation/ Sample-location-maps/ Photography-/ Well-logs/ SF5511 8453
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Reconnaissance-/ Geological-mapping-Qld/ Geological-maps-Qld/ Aerial-photography/ Photointerpretation-/ Geochemical-exploration-Qld/ Bulk-sampling/ Leaching-/ Grab-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Rotary-drilling/ Core-logs/ Pits-/ SF5502 8256
Abstract: Includes report literature review

Keywords: Coal-exploration-Qld/ Coal-analysis/ Geological-logs/ Core-drilling/ Rotary-drilling/ Permian-/ SF5503 8456

Keywords: Base-metal-exploration-Qld/ Phosphates-/ Copper-/ Nickel-/ Zinc-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Assay-value/ Geological-mapping-Qld/ Silurian-/ SF5512 8852/ SF5516 8851/ SF5609 8952/ SF5609 9052/ SF5613 8951/ SF5613 9051

Keywords: Base-metal-exploration-Qld/ Copper-/ Zinc-/ Nickel-/ Geochemical-exploration-Qld/ Panning-/ Stream-sediment-sampling/ Assay-value/ Geological-mapping-Qld/ Devonian-/ Carboniferous-/ Permian-/ SF5512 8852/ SF5512 8853/ SF5516 8851/ SF5609 8952/ SF5609 8953/ SF5613 8951

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Core-drilling/ Geophysical-surveys-Qld/ Structural-geology-Qld/ SF5502 8157/ SF5502 8257

Keywords: Gold-exploration-Qld/ Landsat-/ Geological-mapping-Qld/ Percussion-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Drill-cuttings-sampling/ Assay-value/ Rhyolite-/ Igneous-intrusions/ Permian-/ Triassic-/ SF5503 8457

Keywords: Gold-exploration-Qld/ Breccia-pipes/ Epithermal-deposits/ Geological-mapping-Qld/ Percussion-drilling/ Petrology-/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Soil-sampling/ Drill-cuttings-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5508 8754/ SF5512 8753

Keywords: Gold-exploration-Qld/ Photogeology-/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Percussion-drilling/ SF5508 8754/ SF5512 8753

Walker P, Eastmet Ltd, Arpedco Pty Ltd. 1983. Mt Coolon, relinquishment report part of A to P,
Keywords: Gold-exploration-Qld/ Silver-/ Base-metal-exploration-Qld/ Geochemical- exploration-Qld/ Rock-chip-sampling/ Assay-value/ Petrology-/ Devonian-/ Tertiary-/ SF5507 8355


Abstract: Low rank coal suitable for power generation.

Keywords: Mineral-exploration-Qld/ IP-surveys/ Magnetic-surveys/ Geochemical-exploration-Qld/ Geochemical-sampling/ Diamond-drilling/ Geophysical-surveys-Qld/ SF5507

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Base-maps/ Topographic-maps/ Aerial-photography/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Reinterpretation-/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Rotary-drilling/ RC-drilling/ Landforms-/ SF5502 8157

Keywords: Coal-exploration-Qld/ Biostratigraphy-/ Coal-analysis/ Drilling-/ Geological-logs/ Palynology-/ SF5511 8352

Keywords: Geophysical-surveys-Qld/ Gravity-surveys/ Seismic-traverses/ Sedimentary-structures/ Gravity-anomalies/ Palaeozoic-/ SF5501/ SF5505/ SF5506/ SF5509/ SF5510

Keywords: Petroleum-exploration-Qld/ Wire-line-logging/ Anomalies-/ Petroleum-occurrence/ Formation-tests/ Porosity-/ Analysis-/ SF5510 8053

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Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Magnetic-IP-method/ EM-surveys/ Gold-/ Silver-/ Molybdenum-/ Devonian-/ Carboniferous-/ SF5503 8356

Keywords: Mineral-exploration-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Petrology-/ Diamond-drilling/ Copper-/ Lead-/ Zinc-/ Base-metals/ Devonian-/ Carboniferous-/ SF5507 8454

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Diamond-drilling/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Petrology-/ Geological-mapping-Qld/ SF5507 8454

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Lead-/ Silver-/ Molybdenum-/ Geochemical-exploration-Qld/ Geochemical-sampling/ Geophysical-surveys-Qld/ Magnetic-IP-
surveys/ EM-surveys/ Geological-structures/ Regional-geology-Qld/ Gossans-/ Stratigraphy-Qld/ SF5503 8356

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Bulk-sampling/ Panning-/ Trenching-/ Regolith-/ Devonian-/ Carboniferous-/ Tertiary-/ Quaternary-/ SF5503 8356

Keywords: Gold-exploration-Qld/ Trenching-/ Placer-deposits-Qld/ Lateritization-/ Sampling-/ Tertiary-/ Quaternary-/ SF5503 8356

Keywords: Mineral-exploration-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-IP-method/ Silver-/ Copper-/ Lead-/ Zinc-/ Gold-/ Bismuth-/ Base-metals/ Devonian-/ Carboniferous-/ SF5503 8356/ SF5507 8355

Keywords: Gold-exploration-Qld/ Assay-value/ Base-maps/ Bulk-sampling/ Geochemical-exploration-Qld/ Geological-mapping-Qld/ Leaching-/ Percussion-drilling/ RC-drilling/ Sample-location-maps/ Soil-sampling/ Stream-sediment-sampling/ SF5502 8157

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Keywords: Coal-exploration-Qld/ Gravity-surveys/ Gravity-anomalies/ Geological-logs/ Drilling-/ Permian-/ SF5515 8451

Keywords: Gold-exploration-Qld/ Regional-geology-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5506 8254/ SF5507 8354

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Tenement-maps / Sample-location-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Sirotom-surveys/ IP-surveys/ Percussion-drilling/ RC-drilling/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Trenching-/ Tailings-sampling/ Geophysical-interpretation/ Reinterpretation-/ X-ray-diffraction/ Cross-sections/ SE5514 8058/ SE5514 8158/ SF5502 8057/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Resistivity-surveys/ IP-surveys/ Geophysical-interpretation/ Reinterpretation-/ Geochemical-exploration-Qld/ Rock-chip-
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Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Magnetic-surveys/ IP-surveys/ Sirotem-surveys/ Percussion-drilling/ Geological-logs/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Geophysical-interpretation/ Assay-value/ SF5511 8352/ SF5511 8353


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Aerial-geophysical-surveys/ Aerial-magnetic-surveys/ Base-maps/ Geological-maps-Qld/ Geophysical-surveys-Qld/ Gravity-surveys/ Metallogenesis-/ Reconnaissance-/ Stratigraphy-Qld/ SF5502 6957/ SF5502 7057

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Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Devonian-/ Carboniferous-/ SF5511 8352/ SF5511 8353


Keywords: Gold-exploration-Qld/ Tenement-maps-Qld/ Geochemical-exploration-Qld/ Diamond-drilling/ Percussion-drilling/ Core-logs/ Drill-hole-data/ SF5502 8157


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geophysical-surveys-Qld/ Aerial-radioactivity-surveys/ Aerial-magnetic-surveys/ Geophysical-interpretation/ Rock-chip-sampling/ Geochemical-exploration-Qld/ Soil-sampling/ Grab-sampling/ Assay-value/ Stream-sediment-sampling/ Percussion-drilling/ Well-logs/ SE5514 8058/ SE5514 8158/ SF5502 8057/ SF5502 8157


Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Reconnaissance-/ Cambrian-/ Ordovician-/ SE5514 8158/ SF5502 8157

Abstract: Includes report literature review


Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Stream-sediment-sampling/ Vein-deposits/ Geophysical-surveys-Qld/ Magnetic-surveys/
Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Assay-value/ Magnetic-surveys/ Geochemical-exploration-Qld/ RC-drilling/ IP-surveys/ Rock-chip-sampling/ Soil-sampling/ Percussion-drilling/ Stream-sediment-sampling/ Geological-logs/ Drill-cuttings-sampling/ Drill-cuttings-analysis/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Soil-sampling/ IP-surveys/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Assay-value/ Rock-chip-sampling/ Grab-sampling/ Percussion-drilling/ Geological-logs/ Stream-sediment-sampling/ RC-drilling/ Diamond-drilling/ Geological-mapping-Qld/ SF5502 8157

Keywords: Gold-exploration-Qld/ Regional-geology-Qld/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Grab-sampling/ Assay-value/ Volcanic-rocks/ Permian-/ Triassic-/ Tertiary-/ SF5515 8450/ SF5515 8550/ SG5503 8449/ SG5503 8549

Keywords: Gold-exploration-Qld/ Geological-maps-Qld/ Tenement-maps/ Sample-location-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Assay-value/ SF5506 8254/ SF5506 8255
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Stratigraphy-Qld/ Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ IP-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ RC-drilling/ Drill-cuttings-analysis/ Sample-location-maps/ Cross-sections/ SF5503 8356/ SF5506 8254/ SF5506 8255/ SF5507 8354/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Tin-/ Geochemical-exploration-Qld/ Grab-sampling/ Soil-sampling/ Stream-sediment-sampling/ Drill-cuttings/ Assay-value/ Geophysical-surveys-Qld/ Ground-magnetic-surveys/ Electrical-IP-surveys/ Diamond-drilling/ Percussion-drilling/ Trenching-/ Granitic-rock/ Ordovician-/ Silurian-/ Devonian-/ Carboniferous-/ SE5510 8060/ SF5506 8054

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Keywords: Mineral-exploration-Qld/ Lithology-/ Diamond-drilling/ Assay-value/ Copper-/ Gold-/ Devonian-/ Carboniferous-/ SF5507 8655

Keywords: Coal-exploration-Qld/ Coal-analysis/ Coal-resources-Qld/ Drilling-/ Core-drilling/ Core-logging/ Geological-mapping-Qld/ Palaeontology-/ Structural-geology-Qld/ Stratigraphy-Qld/ SF5507 8554/ SF5508 8654/ SF5511 8553/ SF5512 8653

Keywords: Coal-exploration-Qld/ Geophysical-logs/ Geological-logs/ Coal-analysis/ Drilling-/ Coal-reserves/ Geophysical-surveys-Qld/ Gravity-surveys/ Seismic-surveys/ SF5511 8452/ SF5515 8451

Keywords: Mineral-exploration-Qld/ Sapphire-/ Geological-mapping-Qld/ Photointerpretation-/ SF5515 8450

Keywords: Mineral-exploration-Qld/ Sapphire-/ Geological-mapping-Qld/ Photogeology-/ SF5515 8451

Keywords: Mineral-exploration-Qld/ Sapphire-/ Geological-mapping-Qld/ Photogeology-/ Photointerpretation-/ SF5515 8450

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ SF5507 8554/ SF5508 8654/ SF5511 8553/ SF5512 8653

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Diamond-drilling/ Geochemical-exploration-Qld/ Stream-sediment-sampling/ Rock-chip-sampling/ Core-sampling/ Trenching-/ Drill-core-analysis/ Assay-value/ SF5511 8352

Keywords: Gold-exploration-Qld/ Diamond-drilling/ Assay-value/ Carboniferous-/ SF5507 8355
Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Economic-geology-Qld / Trenching-/ Placer-deposits-Qld/ Mineralization-Qld/ Geochemical-exploration-Qld/ Sampling-/ SF5511 8352

Keywords: Petroleum-exploration-Qld/ Stratigraphy-Qld/ Sedimentary-geology/ Sedimentary-environments/ reefs-/ Limestone-/ Ordovician-/ Carboniferous-/ SF5503

Keywords: Petroleum-exploration-Qld/ Regional-geology-Qld/ Geophysical-surveys-Qld/ Geological-surveys/ Grabens-/ Island-arcs/ Tertiary-/ SF5504/ SF5508

Keywords: Petroleum-exploration-Qld/ Regional-geology-Qld/ Reconnaissance-/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geological-mapping-Qld/ SF5503/ SF5504/ SF5508/ SF5512/ SF5601/ SF5605/ SF5609

Keywords: Base-metal-exploration-Qld/ Copper-/ Nickel-/ Silver-/ Sapphire-/ Gem-placer-deposits-Qld/ Geological-mapping-Qld/ Drilling-/ SF5515 8450

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Reconnaissance-/ Percussion-drilling/ RC-drilling/ Geological-logs/ Drill-cuttings-sampling/ Geochemical-exploration-Qld/ Assay-value/ Cambrian-/ Ordovician-/ SF5502 8156/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Percussion-drilling/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Rock-chip-sampling/ Assay-value/ SE5514 8058/ SE5514 8158/ SF5502 8057/ SF5502 8157

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Radioactivity-surveys/ Geochemical-exploration-Qld/ Soil-sampling/ Grab-sampling/ Stream-sediment-sampling/ Assay-value/ Cambrian-/ Ordovician-/ Devonian-/ Carboniferous-/ SF5506 8254/ SF5506 8255

Keywords: Gold-exploration-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Rock-chip-sampling/ Assay-value/ Percussion-drilling/ Drill-cuttings-analysis/ X-ray-analysis/ Petrology-/
Geological-logs/SE5514 8058/SE5514 8158/SF5502 8057/SF5502 8157

Keywords: Mineral-exploration-Qld/ Rare-earth-elements/ Zirconium-/ Niobium-/ Tantalum-/Magmatic-deposits/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/Gravity-surveys/ Radioactivity-surveys/ Petrology-/ Geochemical-exploration-Qld/ Geochemical-sampling/ Assay-value/ Syenite-/ Igneous-intrusions/ Permian-/ Cretaceous-/ Tertiary-/ SF5512 8752

Keywords: Mineral-exploration-Qld/ Rare-earth-minerals/ Niobium-/ Zirconium-/ Tantalum-/Beryllium-/ Hydrothermal-deposits/ Epigenetic-deposits/ Petrology-/ Geophysical-surveys-Qld/Gravity-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Volcanic-plugs/ Permian-/ Cretaceous-/ Tertiary-/ SF5512 8752

Department of Mines and Energy. Company Report; CR 23031:18p; 13 maps, 9 sections
Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Gold-/ Silver-/ Assay-value/Geological-maps-Qld/ Tenement-maps/ Geochemical-exploration-Qld/ BLEG-sampling/ Rockchip-sampling/ Stream-sediment-sampling/ Panning-/ RC-drilling/ Drill-cuttings-analysis/
Trenching-/ Laboratory-tests/ Sample-location-maps/ SF5507 8555

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Gold-exploration-Qld/
Geological-mapping-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemicalexploration-Qld/ Stream-sediment-sampling/ Cambrian-/ Ordovician-/ SF5502 8057

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geological-mapping-Qld/ Aerial-photography/ Imagery-/ Photointerpretation-/ Thematic-mapper-surveys/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Gravity-surveys/ Geophysical-interpretation/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Assaying-/ Assay-value/ Geochemical-anomalies/ Geochemical-interpretation/ Sample-location-maps/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Geological-mapping-Qld/ Tenement-maps/ Photointerpretation-/ Thematic-mapper-surveys/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Aerial-radioactivity-surveys/ Gravity-surveys/ Geophysical-interpretation/Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/
Assay-value/ Sample-location-maps/ SF5507 8355

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/Tenement-maps/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/
Gravity-surveys/ IP-surveys/ Geochemical-exploration-Qld/ Bulk-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Sample-location-maps/ Geophysical-profiles/ SF5507 8355
Abstract: Includes report literature review

Keywords: Gold-exploration-Qld / Tenement-maps / Sample-location-maps / Geophysical-surveys-Qld/ Aerial-magnetic-surveys / Gravity-surveys / Geochemical-exploration-Qld / Stream-sediment-sampling / Bulk-sampling / Leaching- / Assay-value / SF5507 8354 / SF5507 8355 / SF5507 8454

Keywords: Petroleum-exploration-Qld/ Seismic-surveys/ Drilling- / Stratigraphy-Qld/ Structure-contour-maps/ Permian- / Cretaceous- / SF5515 / SG5503 / SG5508 / SG5511 / SG5512

Keywords: Mineral-exploration-Qld/ Sodium-carbonates / Stratigraphic-correlation / Regional-geology-Qld/ Structure-contour-maps/ Infrared-mapping/ Lithology-/ Geological-logs/ Permian- / Triassic- / SF5515 8550 / SF5515 8551 / SF5516 8650 / SF5516 8651

Keywords: Mineral-exploration-Qld/ Sodium-carbonates / Stratigraphy-Qld/ Stratigraphic-correlation/ Logging- / Chemical-analysis/ Well-tests/ Permian- / Triassic- / SF5516 8650

Keywords: Gold-exploration-Qld/ Silver-/ Stratigraphy-Qld/ Stratigraphic-succession/ Regional-geology-Qld/ Geological-logs/ Structure-contour-maps/ Infrared-mapping/ Photomicrography-/ Ground-water-quality/ Dissolved-gas/ Permian- / Triassic- / SF5515 8550 / SF5516 8650 / SG5504 8649

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper- / Lead- / Zinc- / Geochemical-exploration-Qld/ Grab-sampling/ Soil-sampling/ Regional-geology-Qld/ Geological-mapping-Qld/ Petrology-/ Percussion-drilling/ Drill-cuttings / Trenching- / Granitic-rock/ Cambrian- / Ordovician-/ Silurian- / SE5514 8058 / SE5514 8158 / SF5502 8157

Keywords: Gold-exploration-Qld/ Geological-mapping-Qld/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Stream-sediment-sampling/ Soil-sampling/ Trenching-/ Assay-value/ Rotary-drilling/ Cambrian- / Ordovician- / SE5514 8058 / SE5514 8158 / SF5502 8157

Keywords: Palynology- / Stratigraphic-drilling / Stratigraphy-Qld/ Permian- / SF5515 8550

Keywords: Mineral-exploration-Qld/ Stratigraphy-Qld/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Resistivity-surveys/ Radioactivity-surveys/ Uranium-/ Gold-/ Cambrian-/ Ordovician-/ SF5511 8452
Abstract: Includes bibliography and seismic refraction data

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Geophysical-logs/ Permian-/ SF5515 8450/ SF5515 8550/ SG5503 8549

Keywords: Geophysical-surveys-Qld/ Seismic-surveys/ Vibroseis-/ Permian-/ SF5515 8550

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Keywords: Mineral-exploration-Qld/ Geological-mapping-Qld/ Stream-sediment-sampling/ IP-surveys/ Diamond-drilling/ Copper-/ Permian-/ Cretaceous-/ SF5507 8554/ SF5508 8654

Keywords: Copper-exploration-Qld/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Grab-samples/ Assay-value/ Trenching-/ Geophysical-surveys-Qld/ IP-surveys/ Ground-magnetic-surveys/ VLF-EM-surveys/ History-/ Panning-/ Ore-reserve-estimation/ Diamond-drilling/ Geological-logs/ Geological-mapping-Qld/ Petrology-/ SF5508 8654

Keywords: Gold-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ BLEG-sampling/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Percussion-drilling/ Trenching-/ Geological-mapping-Qld/ SE5514 8158/ SF5502 8157

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Abstract: Includes report literature review

Keywords: Gold-exploration-Qld/ Metallurgy-/ Geochemical-exploration-Qld/ Soil-sampling/ Stream-sediment-sampling/ Assay-value/ Percussion-drilling/ RC-drilling/ Trenching-/ SF5502 8157

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Keywords: Mineral-exploration-Qld/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Permian-/ SF5507 8554/ SF5507 8555/ SF5508 8654/ SF5508 8655

X

Keywords: Gold-exploration-Qld/ Silver-/ Geological-mapping-Qld/ RC-drilling/ Geochemical-exploration-Qld/ Bulk-sampling/ Rock-chip-sampling/ Stream-sediment-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5503 8557
Abstract: Includes report literature review

Y

Keywords: Coal-exploration-Qld/ Anthracite-/ Drilling-/ Exploration-potential/ Geological-logs/ SF5516 8751

Keywords: Coal-exploration-Qld/ Drilling-/ Geological-logs/ Percussion-drilling/ Rotary-drilling/ SF5516 8650

Keywords: Coal-exploration-Qld/ Noncoking-coal/ Coal-analysis/ Coal-resources-Qld/ Geological-logs/ Graphic-logs/ Sample-location-maps/ SF5504 8849
Abstract: Includes report literature review

Keywords: Coal-exploration-Qld/ Anthracite-/ Drilling-/ Geological-logs/ Geological-mapping-Qld/ Rotary-drilling/ Structural-geology-Qld/ SF5516 8651
Abstract: Includes report literature review

Keywords: Base-metal-exploration-Qld/ Copper-/ Molybdenum-/ Geological-mapping-Qld/ Geophysical-surveys-Qld/ Electrical-IP-surveys/ SP-surveys/ Magnetic-surveys/ Diamond-drilling/ Geochemical-exploration-Qld/ Geochemical-sampling/ Trenching-/ Assay-value/ Anomalies-/ Cambrian-/ Ordovician-/ Silurian-/ Devonian-/ Carboniferous-/ Permian-/ Triassic-/
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Keywords: Mineral-exploration-Qld/ Silver-/ Lead-/ Zinc-/ Copper-/ Base-metals/ Geological-mapping-Qld/ Volcanogenic-deposits/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ Cambrian-/ Ordovician-/ SF5502 8157/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Volcanogenic-deposits/ Geophysical-surveys-Qld/ Magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Cambrian-/ Ordovician-/ SF5502 8157/ SF5502 8257

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Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Silver-/ Geophysical-surveys-Qld/ Volcanogenic-deposits/ Aerial-magnetic-surveys/ Ground-magnetic-surveys/ EM-surveys/ Cambrian-/ Ordovician-/ SF5502 8157

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Keywords: Base-metal-exploration-Qld/ Copper-/ Lead-/ Zinc-/ Gold-exploration-Qld/ Silver-/ Stratiform-deposits/ Volcanogenic-deposits/ Geophysical-surveys-Qld/ Aerial-magnetic-surveys/ Geochemical-exploration-Qld/ Rock-chip-sampling/ Soil-sampling/ Regional-geology-Qld/ Geological-mapping-Qld/ Cambrian-/ Ordovician-/ SF5502 8157/ SF5502 8257

Keywords: Base-metal-exploration-Qld/ Copper-/ Molybdenum-/ Diamond-drilling/ Porphyry-copper-deposits/ Granitic-rock/ Igneous-intrusions/ Devonian-/ Carboniferous-/ Cretaceous-/ SF5503 8457

Keywords: Base-metal-exploration-Qld/ Copper-/ Zinc-/ Lead-/ Mineral-exploration-Qld/ Molybdenum-/ Trace-analysis/ Petrology-/ Geochemical-exploration-Qld/ Geophysical-surveys-Qld/ Magnetic-surveys/ Porphyries-/ Copper-deposits-Qld/ SF5503 8457

Keywords: Gold-exploration-Qld/ Base-metal-exploration-Qld/ Copper-/ Molybdenum-/ Silver-/
Diamond-drilling/ Geochemical-exploration-Qld/ Core-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5503 8457

Keywords: Base-metal-exploration-Qld/ Copper-/ Molybdenum-/ Auger-drilling/ Geochemical-exploration-Qld/ Drill-cuttings-sampling/ Assay-value/ Devonian-/ Carboniferous-/ SF5503 8457

Keywords: Regional-geology-Qld/ Coal-exploration-Qld/ Drilling-/ Permian-/ Triassic-/ SF5515 8550/ SF5516 8650/ SG5503 8549/ SG5504 8649