

Introduction

- 1.1 The House of Representatives Standing Committee on Industry and Resources received its reference on 23 May 2002 from the Minister for Industry, Tourism and Resources, the Hon Ian Macfarlane MP, to inquire into resources exploration impediments (see page xii for the inquiry Terms of Reference).
- 1.2 The Committee adopted a broad interpretation of the Terms of Reference to embrace not only the issues specified in the Terms but other relevant issues that it deemed as being significant impediments, now or in the future, to the discovery of resources (minerals and petroleum) in Australia.

Interpretation of the Terms of Reference

The Resources Industry

- 1.3 The resources industry consists of the minerals sector and the petroleum sector. The minerals sector includes metallic, non-metallic and industrial minerals, gemstones, and certain energy minerals including coal and uranium. The petroleum sector includes crude oil, condensate, natural gas, sales gas, methane, liquefied petroleum gas (LPG), liquefied natural gas (LNG), ethane, and carbon dioxide.

Resources Exploration

- 1.4 The Committee has adopted the Australian Bureau of Statistics (ABS) definition of resources exploration for the purposes of this inquiry:

[Resources exploration] activity involves searching for concentrations of naturally occurring solid, liquid or gaseous materials and includes new field wildcat and stratigraphical and extension/appraisal wells and mineral appraisals intended to delineate or greatly extend the limits of known deposits by geological, geophysical, geochemical, drilling or other methods. This includes drilling of boreholes, construction of shafts and adits primarily for exploration purposes but excludes activity of a developmental or production nature. Exploration for water is excluded.¹

1.5 Exploration is undertaken in a series of steps to build or confirm predictions of where minerals deposits or petroleum accumulations might be. Exploration typically includes some or all of the following stages:

- researching, collating and reinterpreting existing geological data and undertaking preliminary conceptual studies;
- acquiring an exploration title, by lodgement or bidding, and obtaining the appropriate Native Title, environmental and cultural heritage clearances;
- undertaking geological, geochemical and geophysical surveying; and
- drilling and logging cores or wells, bulk sampling and quality testing to determine the feasibility of full scale production.

1.6 Following successful exploration, development finance is arranged and production facilities are built. These latter steps are not exploration although the boundary between exploration and production can be blurred if, for instance, a pilot plant is built. In reality, successful exploration is part of a continuum of activity extending from ore discovery to product delivery.

Brownfields and Greenfields Exploration

1.7 There are two kinds of resources exploration activity: “greenfields” and “brownfields”. These terms are widely used, generally understood but loosely defined and can mean different things in small or global companies.²

1.8 The terms greenfields exploration and brownfields exploration were coined by the petroleum exploration sector. In general terms greenfields

1 Australian Bureau of Statistics, *Mineral and Petroleum Exploration Australia, March Quarter 2003, Catalogue # 8412.0*, p. 24. An adit is a horizontal opening.

2 Geoscience Australia, “Greenfields or Grassroots?: A Discussion Paper”, *Exhibit No. 53*.

petroleum exploration refers to work undertaken in remote locations that are unexplored or incompletely explored. It is high risk exploration, generally in frontier basins where hydrocarbons have not been previously recorded in drill holes.

- 1.9 In recent years the minerals sector has adopted the terms to differentiate high risk remote exploration activity from near-mine exploration activity. Brownfields exploration is that undertaken close to an operating mine with the objective of extending its operating life and taking advantage of the established infrastructure.³
- 1.10 In a variation on the theme, the South Australian Government described an exploration spectrum from pre-competitive exploration (high risk/low cost); to grassroots exploration; to advanced exploration; to brownfields exploration (low risk/high cost).⁴
- 1.11 The objective of discovering *new* resources and the assignment of a high *risk* rating are the common features linking the application of the greenfields term to both minerals and petroleum sectors. Greenfields exploration, thus, has the goal of establishing a new mine requiring new infrastructure, regardless of it being in an established mining field or in a remote location.
- 1.12 The Committee drew on these different definitions to formulate an activity based definition of greenfields exploration as:

Early stage or grassroots work embracing prospecting, geoscientific surveys, drilling, sample collection and testing, but excluding work of brownfields nature, pit and shaft sinking and bulk sampling.

Conduct of the inquiry

- 1.13 The inquiry was advertised in national and regional newspapers in early June 2002. The Committee also wrote to over three hundred potentially interested parties seeking submissions and promoted the inquiry via the House of Representatives website.

3 Adelaide Resources Limited, *Submission No. 114*, p. 1631; Bowler, John (Chair) (2002) *Ministerial inquiry into Greenfields Exploration in Western Australia*, p. 18, Western Australian Government.

4 South Australian Government, *Submission No. 118*, p. 1654.

- 1.14 One hundred and twenty submissions and fifty-nine exhibits were received and accepted by the Committee and, except for confidential items, are listed at Appendix A and Appendix B respectively. Ten public hearings were held across Australia and a list of the witnesses and organisations represented at these hearings is at Appendix C. In addition the Committee received several private briefings.
- 1.15 Inspections of an exploration project targeting nickel laterite mineralisation and a gold project were conducted in Kalgoorlie, Western Australia in October 2003.

Scope of the Inquiry

- 1.16 The Terms of Reference required the Committee to investigate impediments to minerals and petroleum exploration and not to impediments to mining itself. Accordingly the Inquiry did not include such matters as mine development, ore production, ore beneficiation, product marketing and shipment.
- 1.17 Similarly, the Committee limited its consideration of major issues such as employment, infrastructure and economic activity, and education strictly to their relevance to the exploration function. For those few issues where there is no clear dividing line between the exploration and development functions, the Committee took a broader view rather than a narrower view.
- 1.18 The Committee notes that there are many technical distinctions between the science of the discovery of “mineral” deposits and “petroleum” accumulations, respectively. It also notes that exploration professionals generally specialise in one or other sector, but not both. The Committee is mindful that much of the specialist material in submissions and witness evidence tended to be sector-specific, and was not intended to reflect the situation across the resources industry generally.

Structure of the Report

- 1.19 The Committee structured its report generally following the sequence of a routine resources exploration program. Throughout the report there are cross linkages to the items specified in the Terms of Reference as well as to additional issues that were raised in submissions and in evidence at public hearings. The report is structured as follows:

- Chapter 2 addresses Australia’s perceived resources endowment, the known inventory and the current draw-down trends;
- Chapter 3 addresses industry and corporate structure and taxation issues, corporate and individual taxation issues including depreciation regimes, capital raising schemes via the flow-through share approach and other mechanisms, and resource rent tax and resources royalties;
- Chapter 4 addresses pre-competitive geoscience data acquisition;
- Chapter 5 addresses geoscience research and education;
- Chapter 6 addresses the allocation and regulatory management of resources tenements principally concerning off-shore petroleum issues, and some state based tenement issues relating to onshore tenements.
- Chapter 7 discusses land access issues including Native Title and cultural heritage;
- Chapter 8 canvasses environment approvals issues including cross-jurisdictional matters; and
- Chapter 9 captures a number of lifestyle and community issues, including regional development, relationships with Indigenous communities and lifestyle dynamics affecting resources industry professionals.
- In Chapter 10 the Committee concludes that the exploration industry can have a bright future.

1.20 Any reference in this report to “state” governments implicitly includes the Northern Territory government.



