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October 25, 2006

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FINANCIAL

file number: 67066-00001

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Securities and Exchange Commission
Division of Corporation Finance
Office of International Corporation Finance
450 Fifth Street, N.W.
Washington, D.C. 20549-0302 U.S.A.



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OCT 31 2006

THOMSON
FINANCIAL



SUPPL

Dear Sirs and Mesdames:

Re: **SXR URANIUM ONE INC. - (SEC File No. 82-04831)**
Furnishing of Information pursuant to Rule 12g3-2(b) Exemption

In connection with the exemption from registration pursuant to Rule 12g3-2(b) of the *Securities Exchange Act of 1934*, we furnish on behalf of our client, sxr Uranium One Inc. (the "Company"), a copy of the documents listed below which have recently been publicly filed in Canada.

1. An Independent Technical Report dated June 1, 2006 and amended August 31, 2006 (filed on SEDAR on September 15, 2006) on the Modder East Gold Project, located near Springs, Gauteng Province, Republic of South Africa, together with consent letters of the authors of the Report;
2. Notice dated September 18, 2006 Declaring Intention to be Qualified under National Instrument 44-101 - Short Form Prospectus Distributions of the Canadian Securities Administrators;
3. News Releases disseminated September 11, 18, 19, 25 & 29 and October 2, 6 & 11, 2006;
4. The Company's Amended Charter of the Audit Committee of the Board of Directors filed on SEDAR on October 2, 2006 (which supersedes the charter previously furnished with a copy of the Company's 2005 Annual Information Form dated March 31, 2006);
5. Summary of a Feasibility Study dated July, 2006 (filed on SEDAR on October 4, 2006) on the Honeymoon Uranium Project, located in South Australia, together with consent letters of the authors of the Report;
6. Material Change Report dated October 13, 2006 with respect to the South African Department of Minerals and Energy granting a new order mining right for the Dominion Uranium Project under the Mineral and Petroleum Resources Development Act 2002; and

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del
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7. Material Change Report dated October 13, 2006 with respect to an agreement to sell to a syndicate of underwriters led by BMO Capital Markets, on a bought deal basis, 18,100,000 common shares from the Company and sell to the public at a price of Cdn\$8.30 per common share, representing an aggregate amount of Cdn\$150,230,000.

My contact particulars are on the top of the first page of this letter should you have a questions or concerns with regard to this information. It would be appreciated if you would acknowledge receipt of this letter and enclosures on the enclosed copy of this letter and return it by fax it to the writer.

Yours truly,

DAVIS & COMPANY LLP

Per:



Nancy Charles, Paralegal
Securities & Corporate Finance
NAC/nac

cc: sxr Uranium One Inc.

from the office of: Nancy Charles
direct tel: 604.643.6424
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ncharles@davis.ca

October 25, 2006

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Page 2 of 2

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Yours truly,

DAVIS & COMPANY LLP

Per:

Nancy Charles, Paralegal
Securities & Corporate Finance
NAC/nac

cc: sxr Uranium One Inc.

*Receipt of the enclosed acknowledged
this _____ day of _____ 200__.*

(Signature)

**AN INDEPENDENT TECHNICAL REPORT
ON THE MODDER EAST GOLD PROJECT,
LOCATED NEAR SPRINGS, GAUTENG PROVINCE,
REPUBLIC OF SOUTH AFRICA**

Prepared for:

sxr URANIUM ONE INC.

AFLEASE GOLD LIMITED

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NI43-101 TR ME final
Project: 365238

1 June 2006
Amended on 31 August 2006

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**AN INDEPENDENT TECHNICAL REPORT ON THE MODDER EAST GOLD PROJECT
OF AFLEASE GOLD LIMITED, REPUBLIC OF SOUTH AFRICA**

1 EXECUTIVE SUMMARY

1.1 Introduction

The Modder East Project (the "Project") forms part of the mineral assets of Alease Gold Limited ("Alease Gold") in Southern Africa. Alease Gold is a public company listed on the JSE Securities Exchange (South Africa) Limited ("JSE"), with a level one ADR listing in New York. Alease Gold was formed in January 2006 following the merger of certain assets (Modder East, UC Prospect, New Kleinfontein, Turnbridge and Holfontein Projects) of the previous Alease Gold & Uranium Resources Limited ("Alease") and the assets (Spaarwater and Ventersburg Projects) of Sub Nigel Gold Mining Company Limited ("SNGM"). srx Uranium One Inc ("Uranium One"), a company listed on the Toronto Stock Exchange ("TSX") and the JSE, owns approximately 75% of Alease Gold.

This Independent Technical Report ("ITR") deals only with the Project. Reference to any of Alease Gold's other assets (New Kleinfontein, Turnbridge and Holfontein) in the vicinity of the Project will only occur if it is necessary for the discussion in the text or where omission could result in the discussion being misinterpreted.

SRK Consulting (Pty) Ltd ("SRK") prepared an ITR on the Eastern Mining Assets of Alease Gold and Uranium Resources Limited ("Alease") dated 1 September 2005 (as amended on 20 October 2005) (referred to as the "SRK October 2005 ITR") in connection with the December 2005 acquisition of all of the shares of Alease by Southern Cross Resources Inc. pursuant to a scheme of arrangement between the two companies under the South African *Companies Act*. Following this acquisition, Alease became a wholly-owned subsidiary of Southern Cross Resources Inc., which changed its name to srx Uranium One Inc ("Uranium One"). The SRK October 2005 ITR was filed on the Canadian Securities Administrators System for Electronic Document Analysis and Retrieval ("SEDAR") in October 2005.

This ITR is addressed to Uranium One and Alease Gold and was prepared in support of the disclosure made by Uranium One on 16 August 2006 regarding the completion by Alease Gold of a feasibility study (the "Study") for the Project in May 2006. This ITR has been prepared according to the reporting requirements of the National Instrument 43-101- *Standards of Disclosure for Mineral Projects* ("NI43-101") of the Canadian Securities Administrators and Form 43-101F1 (the "Form"). With respect to the Project, this ITR supercedes the SRK October 2005 ITR, except as cross-referenced herein.

1.2 Location

The Project area covers some 4,000ha and is situated at Latitude 26° 15'S, Longitude 28° 20'E on the East Rand in the Gauteng Province of South Africa, approximately 30km to the east of Johannesburg, at an elevation of approximately 1620m AMSL. The UC Prospect area is situated immediately south west of the Modder East area.

1.3 Ownership

Alease Gold is able to mine at the Project in terms of the existing mining licence ML15/2004, which is valid until 29 April 2009. Alease has advised SRK that it is compiling an application for conversion of its old order mining right to a new order mining right in terms of the *Minerals and Petroleum Resources Development Act No 28 of 2004* ("MPRDA") and expects to submit that application before the end of 2006. The new order mining right, once granted, will be valid for the period specified in the right, which may not exceed 30 years, but can be extended.

The surface rights necessary to start construction of the surface infrastructure and mine access have been secured.

Aflease Gold has entered into an agreement with Micawber 400 (Pty) Ltd ("Micawber"), a company owned by historically disadvantaged South Africans, whereby Aflease Gold will sell to Micawber a 26% interest in both the assets and liabilities of its East Rand mining/exploration properties (comprising Modder East/UC Prospect, Turnbridge, New Kleinfontein, Spaarwater and Holfontein projects). This agreement is still subject to shareholder approval. Once approved, this will enable Aflease Gold to comply with the Black Economic Empowerment ("BEE") requirements of the MPRDA.

1.4 History and Geological Setting

The Project is the amalgamation of the old Modder East Mine and a portion of the old Modder "B" mining title area which was initially registered in 1908 and ceased production in 1956. The Modder East Mine was initially incorporated in July 1917 and production began in 1920. By 1933, the milling rate reached 1 million tonnes per year, with mining occurring principally from the Main Reef. In 1962 the mine was closed and most of the surface infrastructure was partly reclaimed.

During the 1980s, a small reclamation mining operation was carried out at Modder East by Modder "B" Gold Mines, a reorganised subsidiary of Modder "B" Gold Holding Ltd.

Grootvlei Mines (Pty) Ltd ("Grootvlei") has mined 117,000 tonnes of Black Reef ore from the UC Prospect, adjacent to Modder East to the west, under tribute from New Kleinfontein Gold Claims (Pty) Ltd, a wholly-owned subsidiary of Aflease Gold.

The East Rand basin of the Witwatersrand Basin has been mined for gold, hosted within narrow tabular quartz-pebble conglomerate units, termed reefs. The reef units are generally developed immediately above major unconformity surfaces that have been formed during basin development. The reef units are interpreted to represent fluvial deposits. The overlying Transvaal Supergroup may unconformably cut down into the upper Witwatersrand stratigraphy; the basal formation of the Transvaal consists of the Black Reef Quartzite Formation that hosts the Black Reef. The Black Reef is a quartz-pebble conglomerate unit that may contain significant gold mineralisation, particularly where it overlies Witwatersrand gold-bearing reef units or has eroded such units. In the Project, the Black Reef is developed as three distinct facies types. The Buckshot Leader Pyrite Zone ("BPLZ") consists of coarse-grained pyrite clasts and quartz-pebbles within a narrow (20cm-60cm) wide tabular layer. This is underlain by the Blanket Facies, a low-grade sandy unit that caps the Channel Facies. The Channel Facies consists of quartzites and pebbly quartzites that are deposited within channels incised into the older Witwatersrand quartzites. In addition to the Black Reef, the UK9a, a Kimberley, Reef has also been intersected by several of the drill holes that have sampled the Black Reef.

1.5 Project Description

The Project consists of the Modder East and UC Prospect areas, where the Black Reef and the UK9a Kimberley Reef have been identified and sampled and a Mineral Resource estimate has subsequently been developed. Aflease Gold has completed the Study on the Project and the results are presented in this ITR.

Aflease Gold plans to exploit the Black Reef at depths of 300m and UK9a Kimberley Reef at depths of between 300 and 530m below surface. The mining method selected will be a combination of trackless (off reef) and conventional mining (on reef) with the mining infrastructure placed in the footwall of the two reefs. Access to the orebody will be by a trackless decline from surface accessing the footwall of both reef horizons. Additionally a vertical shaft will be sunk and used to transport personnel in and out of the mine. The mine will be ventilated by two exhaust fans situated on two separate ventilation raise

bore holes. These fans will cause air to be drawn into the mine via the decline and vertical shaft which form both intake airways.

Support of the development and stopes is mainly based on a rigid pillar system which will protect the surface from any impact from mining.

The Total Probable Mineral Reserves are 6.68Mt at an average grade of 5.00g/t. The Black Reef and Blanket Facies reefs will be mined simultaneously. The life of the project at a depletion rate of 70ktpm of Run of Mine ("RoM") and some 10ktpm of waste development is expected to be more than 10 years producing more than 30,000kg of gold.

1.6 Mineral Resource and Mineral Reserve Estimation

Aflease Gold has undertaken a diamond drilling program on the Project area. From this sampling base, a Mineral Resource estimate has been prepared by consultants employed by Aflease Gold. These estimates have been based on a three dimensional block model with grades interpolated using geostatistical methods.

The Mineral Resource statement for the Project as audited by SRK is presented in Table 1.1. The Mineral Resources were classified according to the SAMREC Code and SRK certifies that these would be identical in terms of the CIM standards. This is the same statement as disclosed by Uranium One in a News Release dated 13 February 2006 and filed on its website.

Table 1.1: Modder East Project – SRK Audited Mineral Resource Statement, 31 December 2005

MINERAL RESOURCES				
	Tonnage (Mt)	Cut-off Grade (cmg/t)	Au Grade (g/t)	Contained Gold (Moz)
Indicated				
Black Reef (BPLZ) + BF ⁽¹⁾	5.72	167	6.07	1.12
Channel Facies	15.20	379	1.32	0.65
Kimberley UK9a Reef	1.35	199	5.47	0.24
Kimberley UK5a Reef	-			
Total Indicated Resources ⁽²⁾	22.27		2.79	2.00
Inferred				
Black Reef (BPLZ) + BF ⁽¹⁾	0.47	167	3.31	0.05
Channel Facies + BF	-			
Kimberley UK9a Reef	2.50	199	5.00	0.40
Kimberley UK5a Reef	9.70	496	1.82	0.57
Total Inferred	12.67		2.50	1.02

1 BF – Blanket Facies

2 Reported inclusive of Mineral Reserves

The modifying factors for the conversion of Mineral Resources to Mineral Reserves, as estimated by Aflease Gold and its consultants in the Study, are considered by SRK to be reasonable. The resultant Mineral Reserves for the Project consist of contiguous zones of gold mineralisation delineated in the geological model and are presented in Table 1.2.

Table 1.2: Modder East Project – Audited Mineral Reserve Statement, 1 June 2006.

MINERAL RESERVES ⁽¹⁾			
	Tonnage (Mt)	Au Grade ⁽²⁾ (g/t)	Contained Gold (Moz)
Probable			
BPLZ Mining	5.26	5.28	0.89
Kimberley UK9a Reef	1.42	3.97	0.18
Total Probable Reserves	6.68	5.00	1.07
Total in LoM Plan	6.68	5.00	1.07

1 Mineral Reserves included in Mineral Resources.

2 Gold price of US\$430/oz (equivalent to R89,653/kg) and mining cut-off grade of 2.75g/t for the BPLZ and 3.49g/t for the UK9a.

1.6.1 Reconciliation of Reserve Statements

In its News Release of 13 February 2006, Uranium One had presented Probable Mineral Reserves for the Project of 10.1Mt at an average grade of 4.02g/t. SRK is satisfied that the reduction in Mineral Reserves between that presented in the 13 February 2006 News Release and in this ITR is reasonable and is based on a different mining philosophy which incorporates greater confidence in the geological block model, modifying factors, the level of accuracy of the Study and engineering assumptions made.

1.7 Status of Development and Operations

Aflease Gold decided to fast track the Project and commenced with the initial phase of construction for the Project on 18 May 2006. The US\$3.04million programme includes the following aspects:

- Site clearing and box cut excavation;
- Selection of basic services and surface infrastructure;
- Purchase of trackless development equipment;
- Selection and training of workers.

SRK has reviewed the technical-economic assumptions in the Study and incorporated these, adjusted where appropriate, into a financial model ("FM"). Using a discounted cash flow technique, SRK has determined a value for the Project on a standalone basis based on the Net Present Value ("NPV") of the project cash flows in the FM. The key results from the FM for the life-of-mine ("LoM") (refer to Table 19.9) and NPV analysis are summarised in Table 1.3. All capital and operating costs for the Project were determined in South African Rands ("ZAR") and converted to US Dollars at an exchange rate of ZAR6.585=US\$1.00, the rate ruling at 1 June 2006. All costs presented in this ITR are quoted in US Dollar terms.

Table 1.3: Modder East Project – Summary Financial Results

Description	Unit	LoM Total Value
Revenue	(US\$m)	684.1
Operating Cost	(US\$m)	(287.9)
Capital Expenditure (LoM)	(US\$m)	(121.0)
NPV @ 8% real discount	(US\$m)	74.0
Average LoM operating cost	(US\$/oz)	217
Internal Rate of Return (IRR)	(%)	31%

First production of ore from stoping is planned to occur in October 2008, with the steady state of 70ktpm reached in 2010. The Probable Mineral Reserves support a LoM of 10 years.

1.8 Pay back

It is estimated that the Project should achieve a payback within 4.5 years from the start of decline development and construction. Project payback is expected to be less than 2 years from the start of on-reef development.

The project also benefits from the tax shield provided by the assessed tax loss and unredeemed capital in Aflease Gold.

1.9 Mine Life

A mine life of some 10 years is indicated from the stated reserves.

1.10 Effective Date

The Effective Date of this Technical Report is 1 June 2006, which is also the date at which the valuation for the Project is determined. The Mineral Resource and Mineral Reserve Statements in this report are given as at 31 December 2005 and 1 June 2006 respectively.

1.11 Conclusions and Recommendations

The main conclusions arising from SRK's review are:

- SRK is unaware of any aspect of the sampling procedure that might materially affect the resultant grades of samples recovered from exploration. In the opinion of SRK, the sampling method and approach is appropriate for the purpose of estimating Mineral Resources.
- SRK is satisfied that all procedures are conducted according to industry standard practices. SRK is of the opinion that the quality of the current exploration database for the Project is sufficient to allow reasonable interpretation of the lateral continuity of the gold-bearing reefs. SRK is satisfied that the sample security procedures are adequate.
- the data quality is sufficient to support a Mineral Resource estimate.
- the modelling methodology as described is reasonable and the classification applied is valid, especially when the continuity of mineralisation between diamond drill holes on the adjacent mining areas are considered.
- SRK is satisfied that sufficient work in the mine design and mining capital infrastructure has been done to give confidence at a nominal level of accuracy of -10% +15%. A contingency of 10% has been applied to all capital items in the Study, which is reasonable.
- the selection of the mining method and infrastructure access proposal is appropriate for the size and depth of the Mineral Reserves.
- the average operating cost for the LoM of the Project is US\$30.80/t of ore milled. Conversion of the capitalised development costs into an operating cost increases the average LoM cost to US\$34.29/t, which while on the low side is reasonable in comparison to similar narrow-reef operations
- no fatal flaws in the mine design, ventilation and rock engineering aspects have been identified in the review that could materially impact on the implementation of the project.
- SRK concurs that the recommended stope face and permanent support specifications are feasible and can be refined once mining has started and the required support resistances can be determined. Safety factors for the pillar layout and panel span are generally acceptable.
- the support recommendations for the open cut and decline design are based on empirical relationships and will need to be re-evaluated by sound ongoing examination of rock conditions during development.
- based on the testwork results and Petrex experience, the recoveries to be used for evaluation purposes should be 88% and 95% for BPLZ and UK9a respectively.

SRK has presented a number of recommendations, with the main ones summarised here:

- sets of pulp rejects be routinely analysed at an umpire laboratory to provide an independent verification of the sample grades;

- additional quality assurance and quality control measures designed to improve the accountability and safeguard of assaying data. In particular, SRK recommends that core sample blanks are inserted within each reef intersection samples and that approximately 10% of random sample pulps are submitted with control samples to an umpire laboratory for re-assaying;
- confirmatory grind sensitivity test work is warranted at different grind sizes before final design;
- as the design grind of 80% passing 90micron may exceed the performance of single SAG mill, additional comminution work be done before the final selection of the SAG mill design;
- confirmatory test work on additional variability samples is recommended to ensure that all gravity and non-gravity gold material is leached in cyanide.

2 INTRODUCTION AND TERMS OF REFERENCE

2.1 Introduction

Aflease Gold Limited ("Aflease Gold") is a South African gold resource company, which has a primary listing on the JSE Securities Exchange (South Africa) Limited, Johannesburg, South Africa ("JSE") under the share code "AFO" and a level one ADR listing in New York under the code "AFSGY". Aflease Gold was formed in January 2006 following the merger of certain assets (Modder East, UC Prospect, New Kleinfontein, Turnbridge and Holfontein Projects) of the previous Aflease Gold & Uranium Resources Limited ("Aflease") and the assets (Spaarwater and Ventersburg Projects) of Sub Nigel Gold Mining Company Limited ("SNGM"). srx Uranium One Inc ("Uranium One") is a public company incorporated in Canada that was formed by the acquisition of Aflease by Southern Cross Resources Inc. ("Southern Cross") in December 2005. Following this acquisition, Aflease became a wholly-owned subsidiary of Southern Cross, which changed its name to srx Uranium One Inc ("Uranium One"). Its shares are authorised for trading on the Toronto Stock Exchange (the "TSX") and the JSE Securities Exchange (South Africa) Limited (the "JSE"), under the share code "SXR". Uranium One owns approximately 75% of Aflease Gold.

Uranium One announced on 17 May 2006 that Aflease Gold had decided to commence with the initial phase of construction on the Modder East Gold Project (the "Project") that is situated on the East Rand of the Gauteng Province of South Africa, approximately 30km to the east of Johannesburg. The Project consists of the Modder East and UC Prospect areas, where the Black Reef and the UK9a Kimberley Reef have been identified and sampled and Mineral Resource and Mineral Reserve estimates have been developed.

Aflease Gold is engaged in the exploration and development of gold resource properties in South Africa and Namibia. Aflease Gold's principal gold assets in South Africa are the Modder East, Spaarwater and Ventersburg Projects.

Aflease Gold has entered into an agreement with Micawber 400 (Proprietary) Limited ("Micawber"), a company owned by historically disadvantaged South Africans ("HDSA's"), whereby Aflease Gold will sell to Micawber an undivided 26% interest in both the assets and liabilities of its East Rand mining/exploration properties (comprising Modder East/UC Prospect, Turnbridge, New Kleinfontein, NKMC, Spaarwater and Holfontein projects). The parties also agreed to contribute their respective interests in these assets to a joint venture ("JV") and to fund the development and operation of those assets in accordance with their proportionate joint venture interests. In terms of a Management and Skills Transfer Agreement with the JV, Aflease Gold will undertake the management of the business and the JV, market and distribute the product(s) produced by the JV and assist in the transfer of skills to the HDSA's. The purchase price payable for the 26% share will be the lower of the net present value ("NPV") of the Business, or the 30-day weighted average traded share price of the Aflease Gold shares prior to the date Aflease Gold is notified that Micawber will start repaying the purchase price. The purchase price will be held as a loan account in the records of Aflease Gold and will attract interest at international lending market rates. The loan to Micawber, plus accrued interest, will be repayable by Micawber as a first charge against the profits to which Micawber will be entitled out of the JV.

The agreements with Micawber, which are still subject to shareholder approval, will provide Aflease Gold with a Black Economic Empowerment ("BEE") partner in compliance with the requirements of the *Broad-Based Socio-Economic Empowerment Charter for the South African Mining Industry*, developed in terms of section 100 of the *Minerals and Petroleum Resources Development Act No 28 of 2002* ("MPRDA").

This Independent Technical Report ("ITR") deals only with the Project. Reference to any of Aflease Gold's other assets (New Kleinfontein, Turnbridge and Holfontein) in the vicinity of the Project will

only occur if it is necessary for the discussion in the text or where omission could result in the discussion being misinterpreted. Reference to the Spaarwater and Ventersburg projects is not relevant as these properties are 12km and some 300km respectively away from the Project and involve gold-bearing reefs that are different to those being considered at the Project.

SRK Consulting (South Africa) (Pty) Limited ("SRK") prepared an ITR on the Eastern Mining Assets of Aflase dated 1 September 2005 (as amended on 20 October 2005) (referred to as the "SRK October 2005 ITR") in support of the acquisition of Aflase by Southern Cross pursuant to a scheme of arrangement between the two companies under the South African *Companies Act*. The SRK October 2005 ITR was filed on the Canadian Securities Administrators System for Electronic Document Analysis and Retrieval ("SEDAR") in October 2005. In order to make this report as concise as possible, the reader will be referred to the SRK October 2005 ITR for information that has not changed since October 2005.

This ITR is addressed to Uranium One and Aflase Gold and was prepared in support of the disclosure made by Uranium One on 16 August 2006 regarding the completion by Aflase Gold of a feasibility study (the "Study") for the Project in May 2006. This ITR has been prepared according to the reporting requirements of the National Instrument 43-101- *Standards of Disclosure for Mineral Projects* ("NI43-101") of the Canadian Securities Administrators and Form 43-101F1 (the "Form"). With respect to the Project, this ITR supercedes the SRK October 2005 ITR, except as cross-referenced herein.

2.2 Qualifications of SRK

SRK is part of the SRK Group that comprises 500 staff, offering expertise in a wide range of resource engineering disciplines. The SRK Group's independence is ensured by the fact that it holds no equity in any project. This permits the SRK Group to provide its clients with conflict-free and objective recommendations on crucial judgement issues. The SRK Group has a demonstrated track record in undertaking independent assessments of resources and reserves, project evaluations and audits, ITRs and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies and financial institutions worldwide. The SRK Group has also worked with a large number of major international mining companies and their projects, providing mining industry consultancy service inputs. SRK also has specific experience in commissions of this nature.

This ITR has been prepared based on a technical and economic review by a team of consultants sourced from SRK's offices in South Africa and Canada over a three-month period. These consultants are specialists in the fields of geology, resource and reserve estimation and classification, underground and open-pit mining, rock engineering, metallurgical processing, smelting, hydrogeology and hydrology, tailings management, infrastructure, environmental management and mineral economics.

Neither SRK nor any of its employees and associates employed in the preparation of this report has any significant beneficial interest in Aflase or in the assets of Aflase. SRK will be paid a fee for this work in accordance with normal professional consulting practice. The payment of this fee is not contingent upon the conclusions or opinions expressed in this report.

The individuals who have provided input to this ITR, who are listed below, have extensive experience in the mining industry and are members in good standing of appropriate professional institutions.

- John Cowan, PrSciNat, FWISA, MIWASA, MSAACE, BSc(Hons), PCE, GDE Environment
- Michael Harley, PrSciNat, MSAIMM, MAusIMM, PhD Geology, Mineral Resources
- Mark Wanless, PrSciNat, BSc(Hons) Review of Mineral Resources
- Jean-Francois Couture, PGeo, FGAC, PhD Mineral Resources, Internal Review
- Alan Naismith, FSAIMM, FSAIRE, MSc(Eng), MBA Rock Engineering
- Frank von Glehn, BSc(Hons), MSc(Eng) Ventilation
- Wally Waldeck, PrEng, FSAIMM, AMAMMSA, BSc(Eng), MBA Mining, Mineral Reserves
- Carel Roode, PrEng, MSAIMM, MMMASA, BSc(Hons), BCom Metallurgy, Process Plant
- Ken Stanford, PrTech, TMSAICE, NatDip(T4) Tailings
- Andrew McDonald, CEng, FSAIMM, MIMMM, MSc, MBL Tenure, Financials, Valuation, Report Compilation

The Qualified Person with overall responsibility for the reporting of Mineral Resources in this ITR is Mr M Wanless PrSciNat (SACNASP) BSc(Hons) who is a Senior Geologist with SRK. Mr Wanless is a mining geologist with 10 years experience in the mining industry and has been responsible for reporting on Mineral Resources on various gold properties in Southern Africa during the past five years. The review and reporting on the Mineral Resources in this ITR was undertaken by Dr M_Harley PrSciNat (SACNASP) MSAIMM, MAusIMM, PhD, whilst he was a partner of SRK up to the end of June 2006. Dr Harley is a mining geologist with 15 years experience in the mining industry and has been responsible for the reporting of Mineral Resources on various properties in Southern Africa and internationally during the past five years.

The Qualified Person with overall responsibility for the reporting of Mineral Reserves and the compilation of this ITR is Mr. HG (Wally) Waldeck, PrEng (ECSA), FSAIMM, BSc(Eng), MBA, who is a partner of SRK. Mr. Waldeck is a mining engineer with 34 years experience in the mining industry and has supervised numerous due-diligence reviews and various technical studies in Southern Africa and internationally during the past five years.

2.3 Terms of Reference

SRK was required to prepare an ITR for the Project according to the requirements of NI43-101 in support of the disclosure made by Uranium One on 16 August 2006 regarding the completion by Alease Gold of a feasibility study (the "Study") for the Project in May 2006. The work involved an assessment of the following aspects of the Project:

- Recent exploration work in the Project area by Alease Gold;
- Audit revised mineral resource and mineral reserve estimates;
- Audit engineering design and economic assessment of the Project as set out in the Study;
- Exploration potential and recommendations for additional work.

2.4 Purpose of Technical Report

This ITR is prepared in support of the disclosure made by Uranium One on 16 August 2006 regarding the completion by Alease Gold of a feasibility study (the "Study") for the Project in May 2006. It has been prepared in accordance with the requirements of NI43-101 and the Form, and conforms to the generally accepted "Exploration Best Practices" and "Estimation of Mineral Resources and Mineral Reserves Best Practices" Guidelines of the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM").

2.5 Site Visit

The Project is located within 30km east of Johannesburg and is readily accessible. SRK staff members Michael Harley and Jean-Francois Couture visited the Project site on 14 July 2005. During this visit, active drilling on the property was observed. In addition, the site of the drill hole core logging and sampling was visited and these practices were observed. In the same site visit, the data compilation and verification techniques employed for the Modder East project were observed.

Mark Wanless visited the Project site on Friday 18 August 2006. Although no active drilling was underway, drill hole locations were visited and checked against drill location plans. In addition, the storage, logging and sampling of the drill core was examined.

Wally Waldeck personally inspected the Modder East property during site visits conducted on 12 April 2005 and 18 May 2006.

2.6 Sources of Information

Details of data/information used to prepare the ITR are listed here:

- Modder East Gold Project – Bankable Feasibility Study, prepared for Alease Gold Limited, Report 29938-01, Turgis Consulting, 19 May 2006.
- Final 2005 Mineral Resource Summary Statement for Modder East Project, Camden Geoserve, 5 January 2006.
- News Release – Increase in Resources and reserves at the Modder east Project, South Africa. sxr Uranium One, 13 February 2006, filed on its website.
- News Release – Alease Gold Commences Construction at Modder East. sxr Uranium One, 17 May 2006, filed on its website.
- An Independent Technical Report on the Eastern Mining Assets of Alease Gold & Uranium Resources Limited, Report “NI43-101 v15 final Eastern Assets 20oct05.doc”, SRK Consulting, 20 October 2005.
- An Independent Competent Person’s Report for the Proposed Black Economic Empowerment Deal of Alease Gold Limited, Report “SA355633 afgold f-study bee cpr, SRK Consulting, 30 June 2006”.
- Business Plan and Operating Budget for 2006, Alease Gold, January 2006.
- Exploration Budget for 2006 to 2008, Alease Gold, January 2006.

3 DISCLAIMER

SRK's opinion is effective 1 June 2006 and is based on information provided by Aflease Gold throughout the course of SRK's investigations, which in turn reflect various technical and economic conditions prevailing at the time of writing. These conditions can change significantly over relatively short periods of time and as such the information and opinions contained in this report may be subject to change.

The achievability of life-of-mine ("LoM") plans is neither warranted nor guaranteed by SRK. The LoM Plan is necessarily based on economic assumptions, many of which are beyond the control of Aflease Gold. Future cash flows and profits derived from the LoM Plan are inherently uncertain and actual results may differ from those presented.

This report includes technical information, which requires subsequent calculations to derive subtotals, totals and weighted averages. Such calculations may involve a degree of rounding and consequently introduce an error. Where such errors occur, SRK does not consider them to be material.

3.1 Limitations and Reliance on Information

This ITR is dependent upon technical, financial and legal input. The technical information as provided to and taken in good faith by SRK has been independently verified by SRK as follows:

- A review and assessment was conducted of all material technical issues likely to influence the future performance of the Project, which included the following:
 - Inspection visits to the Project site during 2005 and 2006;
 - A review of the 2006 feasibility study documentation with respect to the Project;
 - A review of exploration work and revisions to resource estimates completed up to December 2005;
 - Discussion and enquiry with key personnel based at the Aflease Gold corporate offices;
 - A review and, where considered appropriate by SRK, modification of Aflease Gold's estimates and its classification of Mineral Resources and Mineral Reserves as at 31 December 2005;
 - A review of the LoM plan and supporting documentation for the Project and, where considered appropriate by SRK, modification of Aflease Gold's plans and the associated technical and economic parameters, including assumptions regarding future operating costs, capital expenditures and commodity production of the Project for the LoM,
 - An examination of historical information and results made available by Aflease in respect of its previous operations in support of, in particular, the forecasts contained in the LoM plans for the Project; and
- SRK satisfied itself that such information is both appropriate and valid for the economic modelling as reported herein. SRK considers that with respect to all material technical and economic matters it has undertaken sufficient investigations to ensure compliance, both in terms of level of investigation and level of disclosure. For the purposes of review, SRK has performed sufficient validation and verification procedures deemed necessary to place an appropriate level of reliance on such information.

3.1.1 Financial Reliance (Aflase)

In consideration of all financial aspects relating to the Project, SRK has placed reliance on Mr Jean Nortier, Chief Financial Officer of Uranium One that the following information for Aflase Gold is accurate as at 1 June 2006:

- Gold price in US Dollars ("US\$");
- Inflation forecasts in respect of the United States Consumer Price Index ("CPI") and South African CPI;
- US\$ to South African Rand ("ZAR") exchange rate;
- Unredeemed capital balances;
- Assessed losses;
- Opening balances for debtors, creditors and stores;
- Working capital and taxation logic; and
- Balance sheet items, specifically cash on hand, debt and mark to market value of derivative instruments (currency and commodity hedges).

3.1.2 Legal Reliance

In consideration of all legal aspects relating to the economic modelling of the Project, SRK has placed reliance on information provided by Mr Arthur Kearney of Uranium One and a legal due-diligence report prepared under the direction of Mr Michael Harrison BCom. LLB, a Director of Harrison Attorneys (the "Legal Due Diligence Report"). SRK has also relied on plans which were compiled by Mr P Jooste, a mining surveyor registered with PLATO, from Surveyor-General data in support of Aflase Gold's prospecting right and mining applications. PLATO, the South African Council for Professional and Technical Surveyors, is a statutory body that registers professional surveyors.

4 PROPERTY DESCRIPTION AND LOCATION OF THE MODDER EAST PROJECT

4.1 Property Description and Location

The Project area is situated at Latitude 26° 15'S, Longitude 28° 20'E on the East Rand in the Gauteng Province of South Africa, approximately 30km to the east of Johannesburg and south of the N12 highway to Witbank (Figures 4.1 and 4.2). The Project covers an area of some 3,989 hectares of largely agricultural land, with the Daveyton township at the far northern end of the property and Cowles Dam at the southern end. The UC Prospect area is situated immediately south west of the Modder East area (Figure 4.2).

4.2 South African Regulatory Environment

The regulatory environment in South Africa within which the Project must be operated is summarised below.

4.2.1 Constitution of the Republic of South Africa Act (Act No. 108 of 1996)

The Bill of Rights (Section 24) in the Constitution of the Republic of South Africa (Act No. 108 of 1996) states that 'Every Citizen has the right:

- to an environment that is not harmful to their health or well-being.
- to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:
 - Prevent pollution and ecological degradation.
 - Promote conservation.
 - Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development'.

The Bill of Rights is the highest law in South Africa and forms the basis of the environmental legislation within the country.

4.2.2 South African Law: The Minerals and Petroleum Resources Development Act

The MPRDA was promulgated by the South African Parliament in July 2002 and came into effect on 1 May 2004.

Prior to 1 May 2004, mineral rights in South Africa were held privately or in some instances by the State. With the enactment of the MPRDA, all mineral rights are vested in the State. Transitional provisions in the MPRDA allow mining companies to convert their existing 'old order' rights to 'new order' rights. The transitional provisions contemplate three categories of old order rights:

- (a) unused old order rights, which are mineral rights in respect of which no prospecting permit or mining authorisation had been issued under the former *Minerals Act No 50 of 1991* (South Africa) (the "Minerals Act") or, where such an issue had occurred, no prospecting or mining activities had taken place as of 1 May 2004;
- (b) old order prospecting rights, which are rights to prospect in respect of which a prospecting permit had been issued under the Minerals Act and prospecting had taken place prior to 1 May 2004; and
- (c) old order mining rights, which are rights to mine in respect of which a mining authorisation had been issued under the Minerals Act and mining had taken place.

Holders of unused old order rights were required to apply for prospecting or mining rights under the MPRDA within one year of 1 May 2004, i.e. before 30 April 2005.

Under the MPRDA, old order prospecting rights and old order mining rights and the related permits and authorisations granted under the Minerals Act will continue to be valid for the period granted under that legislation, subject to a maximum period of two years, in the case of old order prospecting rights, and five years, in the case of old order mining rights. To continue thereafter with prospecting or mining operations, holders of old order prospecting and mining rights are required to apply within these periods to convert their rights to the 'new order' prospecting and mining rights provided for by the MPRDA.

In terms of the MPRDA, prospecting rights will initially be granted for a maximum period of five years, and can be renewed once upon application for a further period of up to three years. Mining rights will be valid for a maximum period of 30 years and can be renewed on application for further periods, each of which may not exceed 30 years. Provision is made for the granting of retention permits in circumstances where prospecting has been completed but mining is not commercially viable, which will have a maximum term of three years and which are not renewable. A wide range of factors and principles, including proposals relating to black economic empowerment and social responsibility and evidence of an applicant's ability to conduct mining optimally, will be pre-requisites for the approval of such applications.

4.2.3 The Mining Charter

In accordance with the provisions of the MPRDA, the Mining Charter was signed on 12 October 2002 by the South African Minister of Minerals and Energy, representatives of the South African mining industry and the South African National Union of Mineworkers. The Mining Charter embraces a range of criteria against which prospecting and mining right applications and conversion applications will be considered. These criteria include issues such as human resources development, employment equity, procurement, community and rural development and ownership of mining assets by HDSA's. On the issue of ownership, the Mining Charter requires that mining companies achieve 15% HDSA ownership of mining assets by 1 May 2009 and 26% HDSA ownership of mining assets by 1 May 2014. The Mining Charter envisages that transactions directed at achieving the required HDSA status will take place in a transparent manner and at fair market value.

Applications for the conversion of old order rights are assessed against a "scorecard" promulgated by the DME. The scorecard covers human resources development, employment equity, migrant labour, mine community and rural development, housing and living conditions, ownership and joint ventures, beneficiation and reporting. The scorecard does not indicate the relative significance of each item nor does it provide a particular score which an applicant must achieve to be in compliance with the Mining Charter and be granted new rights under the MPRDA (except with respect to HDSA ownership).

4.2.4 South African Law: The Royalty Bill

The South African government released a "Royalty Bill" for comment on 10 March 2003. Under the proposed terms of the Royalty Bill, royalties of 3% of revenue from the sale of gold would be payable. Mining companies have been lobbying with government for the royalty to be based on profits, saying a royalty on sales would put marginal mines out of business. The Royalty Bill was referred back to the South African Parliament for review.

Initial proposals provided for the royalties to commence as soon as companies had met the strictures of the Mining Charter. The Minister subsequently indicated that the royalty would not be expected to take effect until the transitional period for conversion of mining rights under the MPRDA had expired, i.e. 1 May 2009.

SRK understands that a revised version of the Bill is due for release shortly.

4.2.5 Environmental Legislation

Key environmental legislation, which is applicable to the South African mining industry, is as follows:

- **National Environmental Management Act (107 of 1998) ("NEMA") as regulated by the Department of Environmental Affairs and Tourism ("DEAT") and relevant Provincial departments of environment.** This over-arches South African environmental legislation and lays down basic environmental principles including: Duty of Care, Polluter Pays & Sustainability.
- **MPRDA as regulated by the DME.** The MPRDA replaces the *Minerals Act*, 1991 and makes provision for equitable access to, and sustainable development of, South Africa's mineral and petroleum resources. Regulations under the MPRDA set out the procedures for undertaking environmental impact assessments ("EIA") and for developing environmental management programmes ("EMPs") for the construction, operation and closure of mines. The EMP contains the environmental conditions of authorisation for the development, operation and closure of a mine. Existing mines should have an approved environmental management program report ("EMPR") in terms of the Minerals Act, and the MPRDA makes provisions for transitional arrangements. A mine must convert old order mining rights to new order mining rights by the 30 April 2009. A key requirement for new mines or for the conversion process is the need for a social and labour plan ("SLP"), a mine works plan ("MWP"), proof of technical and financial competence as well as an approved EMP.
- **Mine Health and Safety Act (Act 29 of 1996) as regulated by the DME** This Act deals with the protection of the health and safety of persons in the mining industry but has some implications for environmental issues due to the need for environmental health monitoring within mine operations.
- **National Water Act (36 of 1998) ("NWA") as regulated by the Department of Water Affairs and Forestry ("DWAF").** Chapter 4 stipulates that water uses (abstraction, storage, waste disposal, discharge, removal of underground water and alteration to watercourses) must be licensed. As with the MPRDA, there are transitional arrangements to enable permits under the former 1956 Water Act to be converted into water use licences. The Act also has requirements relating to pollution control, protection of water resources (specifically for the mining industry, there is Regulation 704 that is designed specifically to protect both surface and sub-surface water resources), dam safety (for dams with a capacity greater than 50 000 m³ and a dam wall greater than 5m) and water use tariffs.
- **Atmospheric Pollution Prevention Act (45 of 1965) ("APPA") as regulated by DEAT.** This Act allows for emissions from scheduled processes to be controlled by means of a registration certificate. Examples of such processes are smelters, furnaces, acid plants or roasters. The Act is outdated and will be replaced shortly when the National Environmental Management: Air Quality Act (39 of 2004) is brought into force. The new Act will allow for the setting of ambient air quality standards and more onerous emissions standards for identified scheduled processes.
- **Environment Conservation Act (73 of 1989) ("ECA") as regulated by the DEAT, DWAF and relevant Provincial departments.** Part V of the ECA states that listed activities cannot be undertaken without an environmental authorisation. The process to obtain approval includes public involvement, and if necessary, an EIA. In most cases this is not applicable as it is covered by the MPRDA; however, this must be agreed with the relevant authorities. Section 24 of NEMA, and associated new regulations, will shortly replace these provisions. Currently, mining is a listed activity in the draft regulations and, as such, new operations or expansions of existing operations would need to comply. The ECA (Section 20) also requires waste disposal sites to be permitted.

- **National Heritage Resources Act (25 of 1999) as regulated by South African Heritage Resource Agency ("SAHRA") or relevant Provincial departments where established.** This Act controls sites of archaeological or cultural significance. Such sites must be investigated and, if necessary, protected for the nation. Procedures for the relocation of graves are also given.
- **Hazardous Substances Act (15 of 1973) as regulated by the Department of Health.** This Act controls the declaration of hazardous substances and control of declared substances. It allows for regulations relating to the manufacturing, modification, importation, storage, transportation and disposal of any grouped hazardous substance.
- **ECA, Forest Act (84 of 1998), Provincial Nature Conservation Acts and other Ordinances as regulated by Provincial conservation authorities.** These Acts ensure protection of certain species of animals and plants. Permissions to move protected species are required in certain cases.
- **National Nuclear Regulator Act of 1999 as regulated by the National Nuclear Regulator ("NNR").** Certificates of Registration are required for radiation sources above a certain threshold. In particular from an environmental perspective, the Act specifies the need for a public hazard assessment to determine conservatively the risks to members of the public.

An approved EMP certifies that all the legislative requirements at the date when a prospecting or mining right is granted, have been met or adequately provided for, and ongoing compliance will be monitored in terms of the approved EMP.

Environmental liability provisioning in the South African mining industry is a requirement of the MPRDA and must be agreed with the relevant regulatory authorities (mainly DME and DWAF). Annual contributions are made to an environmental trust fund, which provides for the estimated costs of pollution control and rehabilitation. The South African Revenue Service approves such annual contributions to the trust fund and requires that the annual contributions be estimated on the basis of the remaining liability over the expected remaining life of the operation. Additional bank guarantees may be required at the start of operations and can be used to offset provision in the trust fund. Alternative measures such as insurance can be negotiated with the DME.

4.3 Project: Current Status

4.3.1 Mining Authorisations and Mining Leases

SRK has placed reliance on the Legal Due Diligence Report and information provided by Mr A Kearney of Uranium One that Aflease Gold has the right to mine and extract gold from the properties that constitute the Project. The nature and extent of these rights as extracted from the Legal Due Diligence Report and information provided by Aflease Gold are summarised in Table 4.1 and also shown in Figure 4.2.

Aflease Gold has advised SRK that it is not aware of any land claims that may have been registered against the Project.

Table 4.1: Modder East Project – Mining Right status

Property Name/No.	Property Area (ha)	Mineral Rights	Rights by Virtue of
Modder East Rights situated on farms: Klipfontein 70IR, Modder East 72IR, Cloverfield 75IR, Modderfontein 76IR and Welgedacht 74IR, Gauteng Region			
	3,989.2093	5930 unnumbered precious metal claims	Licences 2775 and 2781; Plan RMT No M112/87 together with RMT No M1/2001; and Deed of Transfer 29/2002 ^{(1), (2), (3), (4)}
Mining Authorisation			
Mining Licence ML 15/2004 valid to 29/04/2009 ⁽¹⁾			
UC Prospect (Tribute) Rights situated on farms: Gedult 123IR, Gauteng Region			
	Included in Modder East	895 unnumbered precious metal claims	Licence 2737; Plan RMT No M25/82 together with RMT No M1/2001, and Deed of Transfer 29/2002 ^{(1), (2), (4) (5)}
Mining Authorisation			
Mining Licence ML 15/2004 valid to 29/04/09 ⁽¹⁾			
Total rights area	3,989.2093		

- (1) A survey plan forms part of the various licences, deed of transfer or mining licence/authorisation.
 (2) The Rights are subject to Mortgage Bond 8/2003 in favour of Nedbank for R75million (US\$11.4million). The bond is held collectively over the Modder East, UC Prospect and Turnbridge Rights.
 (3) Alease advised that to the best of its knowledge, the State is not the common law mineral rights holder and accordingly the State royalty is not payable (section 47(1) of the Act).
 (4) Alease advised that there are no surface right permits granted over the Modder East Rights that may affect Alease's right to mine.
 (5) Grootvlei Proprietary Mines Limited had the right to mine for a period of 21 months from 27 January 2004 a specific section ("Grootvlei contract area") of the UC Prospect Tribute area.

Mining Right: Alease Gold is able to mine on the Modder East and UC Prospect properties in terms of the existing mining licence ML15/2004, which is valid until 29 April 2009 (see Figure 4.2). Alease Gold has advised SRK that it is compiling the application for a new order mining right in terms of the MPRDA and will submit this prior to expiry of the mining licence. Once accepted by the Regional Manager of the DME, Alease will have 180 days to conduct an Environmental Impact Assessment ("EIA") and compile an environmental management plan ("EMP"). The mining right comes into effect on the date the EMP is approved in terms of Section 39(4) of the MPRDA. The mining right, when granted, will be valid for the period specified in the right, which may not exceed 30 years, but can be extended.

Surface Rights: SRK understands that Alease Gold through its wholly owned subsidiary New Kleinfontein Gold Claims (Pty) Ltd ("NKGC"), as the holder of precious claims, is allowed to utilise the surface of the property for all activities necessary to prospect and mine for the precious metals in and on the property. Nevertheless, Alease Gold informed SRK that it signed an agreement with the Ekurhuleni Council at the end of March 2006 to lease 433.7918ha of Cloverfield RE 75IR needed for infrastructure and operations for a period of 9 years and 11 months, which can be renewed for the same period.

Royalty: Alease will be liable to pay royalties to the State if the Royalty Bill is promulgated in its present form. The draft Bill had proposed a royalty of 3% of the revenue derived from gold sales. SRK has incorporated this into the financial model ("FM") used to evaluate the Project from 1 May 2009. There are no other royalties payable.

Existing environmental liabilities: There are historical environmental liabilities associated with Alease's operations within its licence area. Alease has an environmental rehabilitation fund which has been set up to address identified liabilities. Any shortfalls in the fund relative to the liabilities would be provided for from operating cashflows from the Modder East project. A more detailed discussion on this is presented in Section 19.4.

Permits required: Alease Gold has an approved EMPR in terms of Section 39(1) of the previous Minerals Act. Now that the Modder East feasibility study has been completed, Alease Gold is busy compiling an amendment to the EMPR for submission to the DME. SRK understands that Alease Gold is operating under a temporary water use licence ("WUL"), which is valid to 22 August 2006, and that Alease Gold plans to submit its application for a permanent WUL before this date. Existing budget provisions for this work are considered adequate.

4.3.2 UC Prospect Area and Tribute Mining Arrangement

Aflease Gold's wholly-owned subsidiary, NKGC, owns the mineral rights to the area known as UC Prospect ("UCP"). This area is adjacent to Modder East to the southwest. Grootvlei Mines (Pty) Ltd ("Grootvlei") has a mining authorisation over UCP and has historically mined the UCP area under tribute from NKGC. On 13 February 2004, NKGC and Grootvlei entered into an agreement in terms of which, *inter alia*:

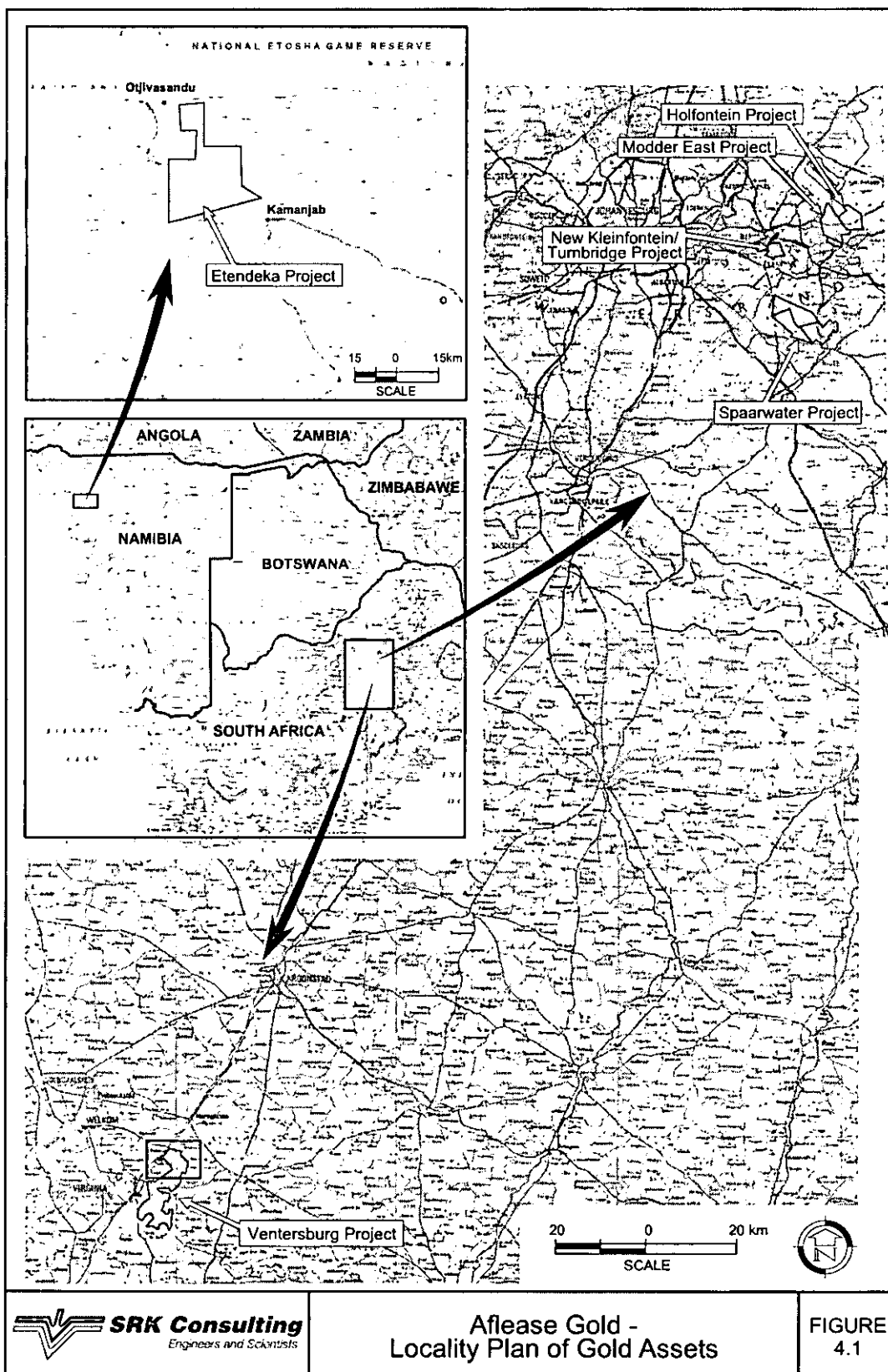
- the tribute arrangement was terminated;
- NKGC granted Grootvlei approval in terms of the MPRDA to complete the mining of a certain pre-developed area in UCP. Grootvlei was allowed to mine approximately 117,000 tonnes of Black Reef gold bearing ore in terms of the agreement;
- Upon completion of the mining of the agreed pre-developed area within UCP, Grootvlei would abandon all mining activities in the UCP area; and
- Grootvlei would abandon its mining authorisation over the UCP area and support any application by NKGC in terms of its application for a mining authorisation over UCP.

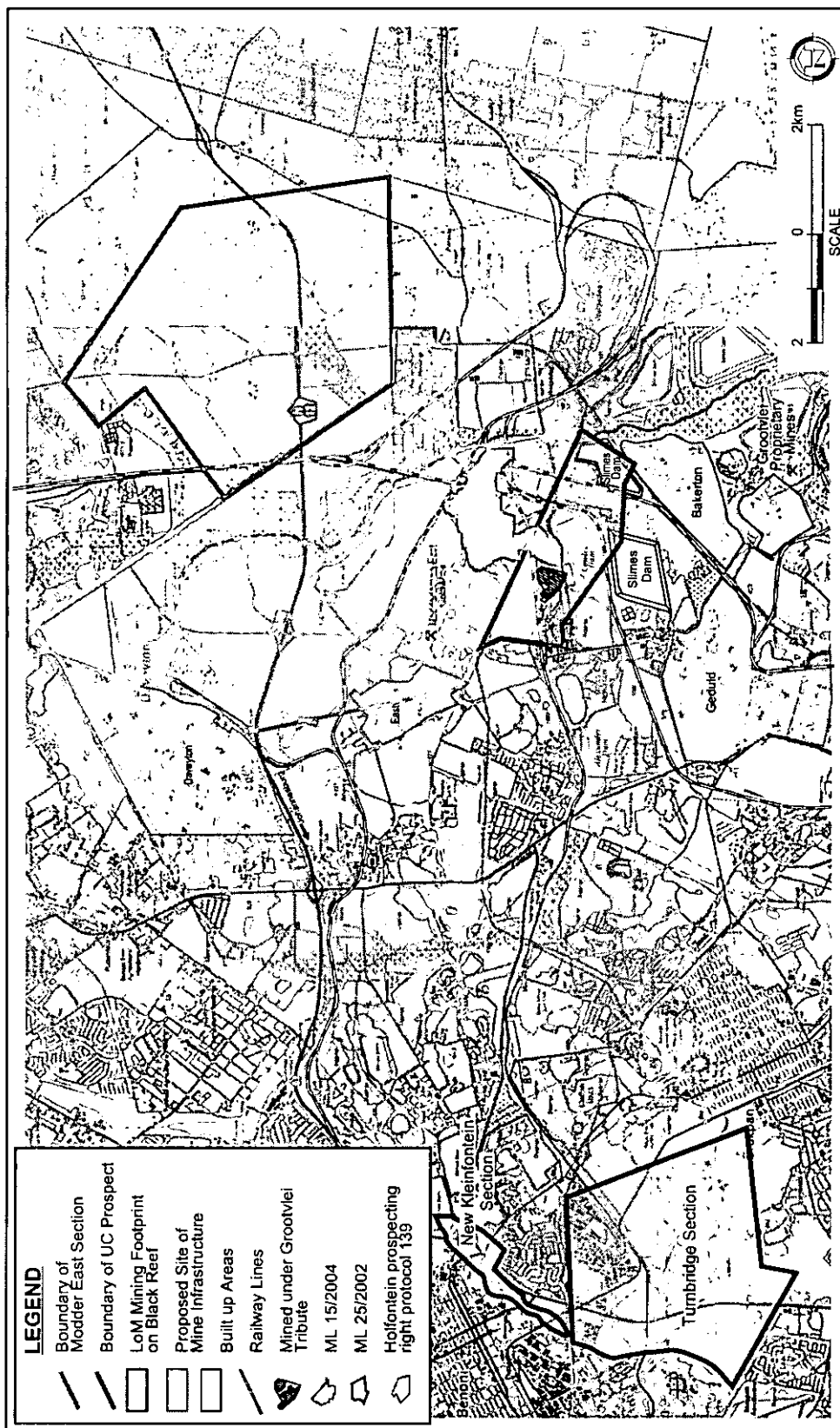
Aflease Gold advised SRK that Grootvlei had completed the mining of the 117,000 tonnes of Black Reef gold-bearing ore by late 2005 and is busy with vamping operations in the mined area.

4.3.3 Sufficiency of Rights

With the exception of the EMP Amendment and the WUL, SRK is satisfied that Aflease has all the permits necessary to conduct mining operations at the Project. Aflease Gold has an approved EMPR and a mining licence that is valid until 29 April 2009.

Aflease Gold plans to construct the processing plant, tailings dam and waste disposal site on ground previously disturbed by mining. Aflease Gold holds surface rights to this area that are sufficient to accommodate the envisaged operations.





5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Modder East and UC Prospect are contiguous properties located in the East Rand area, east of the City of Johannesburg.

5.1 Accessibility

See the SRK October 2005 ITR.

5.2 Climate

See the SRK October 2005 ITR.

5.3 Local Resources

See the SRK October 2005 ITR.

5.4 Infrastructure

See the SRK October 2005 ITR.

An established power network exists in the area and the Study assumed a 22kV supply would be available from Eskom within 2km of the site. An installed electrical capacity of 35MVA is planned.

5.5 Physiography

The topography consists of subdued landscape with gentle rolling undulations in the surface (Figure 5.1). The area is extensively cultivated, predominantly for maize farming.



Figure 5.1: Typical farming landscape on Modder East Project from drilling station DD47
Top - view looking northeast; Bottom - view looking southwest.

6 HISTORY

6.1 Brief History of Aflease Gold

Aflease Gold, a public company listed on the JSE, was formed in January 2006 following the merger of certain assets of Aflease and those of SNGM. Aflease Gold (formerly The Afrikander Lease Limited) was incorporated in 1921 for the purpose of conducting gold mining operations in the Rietkuil goldfields near Klerksdorp, west of Johannesburg. Anglo American Corporation held a majority equity interest in the company until divestment to minority shareholders in 1998.

In 1984, SNGM was incorporated as a company and acquired the Sub Nigel Gold Mine from Gold Fields of South Africa in the vicinity of Nigel, southeast of Johannesburg. SNGM operated the Sub Nigel mine from 1987 for five years before it was placed in care and maintenance in 1992.

During the second quarter of 2003, Aflease completed the acquisition of 100% of New Kleinfontein Gold Mining Company (including the Modder East, UC Prospect, New Kleinfontein and Turnbridge Projects, and New Kleinfontein Gold Claims (Pty) Ltd).

A brief history of the company development of Aflease Gold is shown in Table 6.1.

Table 6.1: Aflease Gold – Brief History

Date	Event
December 1921	Aflease incorporated as a company in South Africa
April 1957	The Afrikander Leases Ltd lists on the JSE
1984	Sub Nigel Gold Mining Company incorporated as a company and lists on the JSE
February 2003	The Afrikander Lease Limited acquires 100% of New Kleinfontein Gold Mining Company (Pty) Ltd
February 2005	The Afrikander Lease Limited changed its name to Aflease Gold & Uranium Resources Ltd
January 2006	Certain assets of Aflease and those of SNGM merged to form Aflease Gold.
June 2006	Aflease Gold announces details of BEE transaction for approval by Aflease Gold shareholders.

6.2 History of Mining in the Project Area

Gold was discovered in the East Rand area in the late 1800's and mining operations have continued there for over 110 years.

The Project is the amalgamation of the old Modder East Mine and a portion of the old Modder "B" mining title area which was initially registered in 1908 and ceased production in 1956. The Modder East Mine was incorporated in July 1917 and production began in 1920. By 1933, the milling rate reached 1 million tonnes per year, with mining occurring principally from the Main Reef. In 1962 the mine was closed and most of the surface infrastructure was partly reclaimed.

During the 1980s, a small reclamation mining operation was carried out at Modder East by Modder "B" Gold Mines, a reorganised subsidiary of Modder "B" Gold Holding Ltd.

The UC Prospect property, which is contiguous with the southern boundary of Modder East (Figure 4.2), was initially registered in the name of Union Corporation (Prospecting) South Africa which was subsequently amalgamated into Gencor South Africa Limited ("Gencor"). This property was successively held by Grootvlei Proprietary Mines Ltd, Harmony Gold Mines and Petmin before being transferred to New Kleinfontein Gold Mining Co.

The Holfontein project area is contiguous with and due east of the Project (Figure 4.2 and Figure 6.1). The Holfontein (TCL) Gold Mining Company Ltd, a subsidiary of the Transvaal Consolidated Lands & Exploration Company Ltd, was started on the farm Holfontein No. 1, situated directly to the north of Welgedacht and east of the Project. It is unclear when the Holfontein gold mine started, but a share

sector of the farm and a small amount of development was carried out on the Nigel Reef. The results were not encouraging, as Holfontein was shown to lie at the northern end of a barren zone which stretches southwards to the eastern part of Marievale (Figure 6.1). A number of boreholes were drilled, but showed poor results.

The Welgedacht mine immediately to the south of Holfontein operated between 1948 and 1956, producing 12,699kg (0.4Moz) gold from 3.0Mt of ore at an average grade of 4.2g/t from the Nigel Reef. Reports suggest that there may have been some potential for payable ore within the Kimberley Reefs in the western part of the Welgedacht property.

6.3 Historical Resource Statements

There are a number of historical resource estimates for the Project that have appeared in the public domain during the past three years, as shown in Tables 6.2, 6.3 and 6.4. The resource estimates in Tables 6.3 and 6.4 were audited and signed-off by SRK and were classified according to the SAMREC Code.

Table 6.2: Modder East Project – Mineral Resource Statement at 16 May 2003 (Camden-Smith, 2003)

MINERAL RESOURCES			
	Tonnage (kt)	Au Grade (g/t)	Contained Gold (koz)
Measured			
Black Reef	1,340	7.7	331
Total Measured Resources	1,340	7.7	331
Inferred			
Black Reef	1,400	7.0	315
Total Inferred	1,400	7.0	315

Table 6.3: Modder East Project –Audited Mineral Resource Statement at 1 January 2004 (Waldeck and Harley, 2004)

MINERAL RESOURCES			
	Tonnage (kt)	Au Grade (g/t)	Contained Gold (koz)
Indicated			
Black Reef	4,611	6.5	964
Total Indicated Resources	4,611	6.5	964
Inferred			
Black Reef			
Total Inferred			

**Table 6.4: Modder East Project –Audited Mineral Resource Statement at 1 July 2005
(Waldeck and Harley, 2005; Waldeck, Harley and Couture, 2005)**

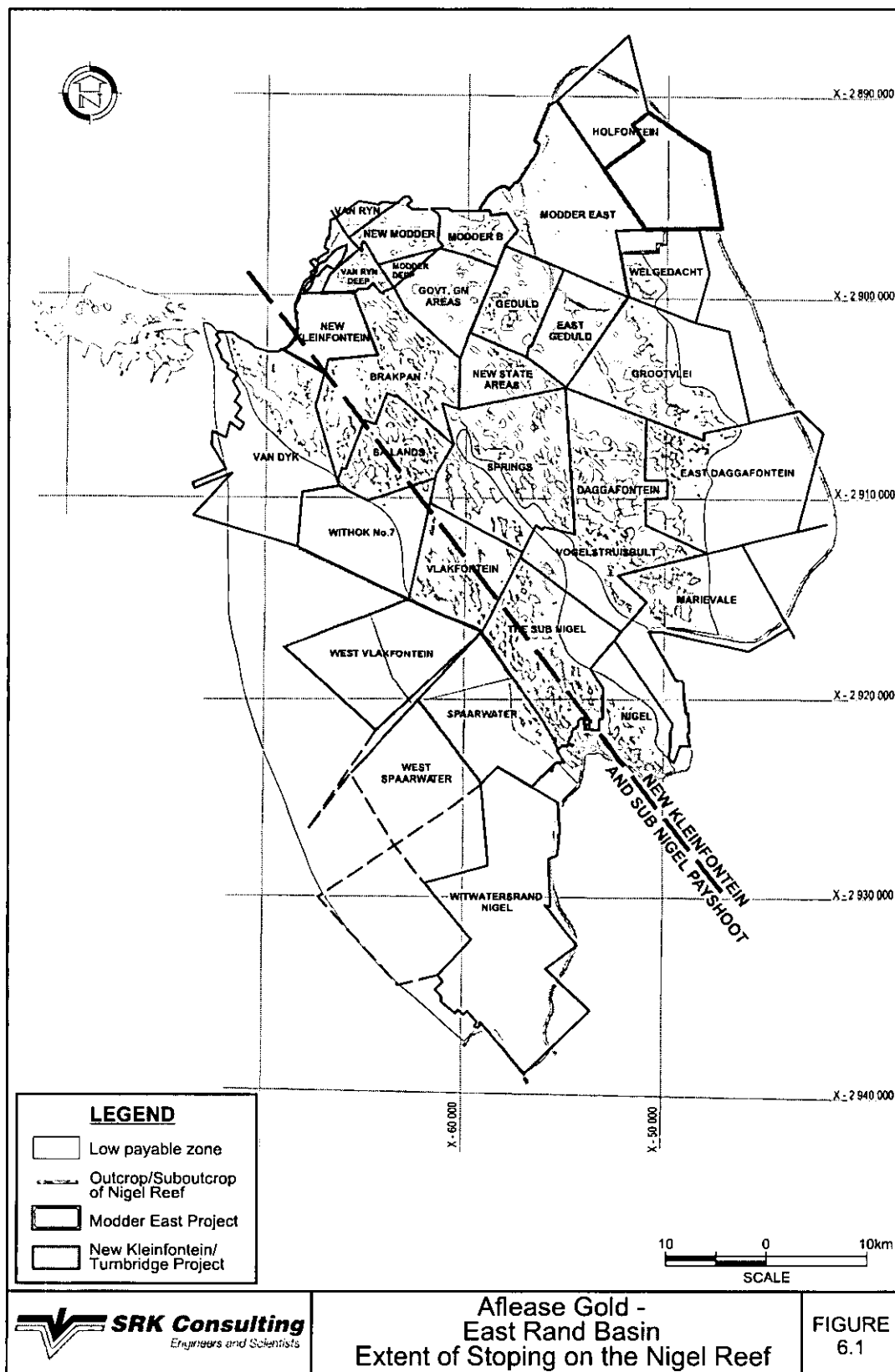
MINERAL RESOURCES				
	Tonnage	Cut-off Grade	Au Grade	Contained Gold
	(kt)	(cmg/t)	(g/t)	(koz)
Indicated				
Black Reef (BPLZ)	3,556	57	9.5	1,080
Blanket Facies Reef	3,573	60	0.4	47
Channel Facies Reef	9,885	307	1.7	537
Kimberley UK9a Reef				
Total Indicated Resources	17,014	203	3.0	1,665
Inferred				
Black Reef (BPLZ)				
Blanket Facies Reef				
Channel Facies Reef				
Kimberley UK9a Reef	4,922	100	5.2	829
Total Inferred	4,922	100	5.2	829

There are no other public domain historical Mineral Resource statements that SRK considers to be relevant to the present ITR. Those estimates that may have been undertaken predate the existing Mineral Resource reporting codes.

6.4 Historical Production

From information provided by Alease Gold, it appears that the only Black Reef ore mined within the Project area is the 117,000 tonnes mined by Grootvlei in terms of the Tribute Agreement up to October 2005.

No detailed production statistics or records of underground work on the old Modder East Mine can be located. With some 40 years of mining and a milling rate reaching 1 million tonnes per year in 1933, some 30 to 40 million tonnes of gold-bearing ore principally from the Main Reef could have been mined within the Project area (see Figure 6.1).



7 GEOLOGICAL SETTING

7.1 Regional Setting - Witwatersrand Basin and Black Reef Quartzite

Gold mineralisation within the Witwatersrand Supergroup is restricted to narrow (0.1m-2m thick), laterally extensive (500m-15,000m) quartz-pebble conglomerate units developed within the predominantly sedimentary fill that has accumulated within the Archaean basin. The greatest concentration of gold is located within the upper stratigraphic division of the Witwatersrand basin, namely the Central Rand Group. Lesser gold mineralisation has been identified within the lower West Rand Group. In addition, gold mineralisation has also been identified and extracted from the younger Black Reef, that unconformably overlies the Witwatersrand Supergroup.

The Witwatersrand Supergroup is comprised of a 6km thick succession of predominantly arenaceous and rudaceous sedimentary rocks of the Central Rand Group, and argillaceous sedimentary rocks of the underlying West Rand Group. The Witwatersrand basin within which these sedimentary rocks are preserved extends laterally for some 300km east-northeast and 150km south-southeast. The sedimentary rocks generally dip at shallow angles towards the centre of the basin though locally this may vary. The sediments crop out south of Johannesburg but further to the west, south and east are overlain by up to 4km of Archaean, Proterozoic and Mesozoic volcanic and sedimentary rocks. The Witwatersrand Supergroup is considered to be in the order of 2,700 to 3,100 million years old (see Figure 7.1 for the simplified geology of the Witwatersrand basin). Orebodies exploited within the basin consist predominantly of narrow (0.1-2m thick) quartz-pebble conglomerate units that frequently display significant lateral continuity within local gold mining districts.

The Witwatersrand Supergroup is overlain by the Ventersdorp Supergroup, a sequence of rift-related lavas that were extruded in immediate post-Witwatersrand times. The Ventersdorp Supergroup is, in turn, overlain by the Transvaal Supergroup, a sedimentary sequence that is dominated by dolomites within the lower stratigraphic succession, and shales and sandstones in the upper elevations. The Black Reef Quartzite Formation lies at the base of the Transvaal Supergroup and consists of an up to 20m thick succession of alternating quartzite and shale; a quartz-pebble conglomerate unit, termed the Black Reef, may be present at the base of this formation. The Black Reef Quartzite Formation is developed above a major unconformity surface, which transgresses the underlying Ventersdorp and Witwatersrand stratigraphy.

7.2 Project Geology

The Project is located in the East Rand Basin, which lies in the northeastern quadrant of the Witwatersrand Basin. The geological structure of the basin is relatively simple, and has a much smaller impact on mining operations than in other areas of the Witwatersrand Basin.

Basement rocks in the East Rand Basin are comprised of Archaean granitoids and schists and these are unconformably overlain by the Witwatersrand Supergroup. Most gold mineralisation within the East Rand is hosted in relatively thin conglomerate beds or reefs in the uppermost portions of the Central Rand Group, principally within the Main Reef located at the base of the Central Rand Group. Locally, the Main Reef has also been referred to as the Nigel Reef.

The Main Reef is a laterally extensive, quartz-pebble conglomerate, which is present in up to three separate conglomerate bands, each up to a 1m in thickness, separated by narrow quartzite partings. In general, however, the Main Reef consists of a clast-supported conglomerate unit ranging between 20cm and 1.2m in thickness. Gold mineralisation is also found in the Black Reef quartzites at the base of the Transvaal Supergroup.

7.3 Stratigraphy

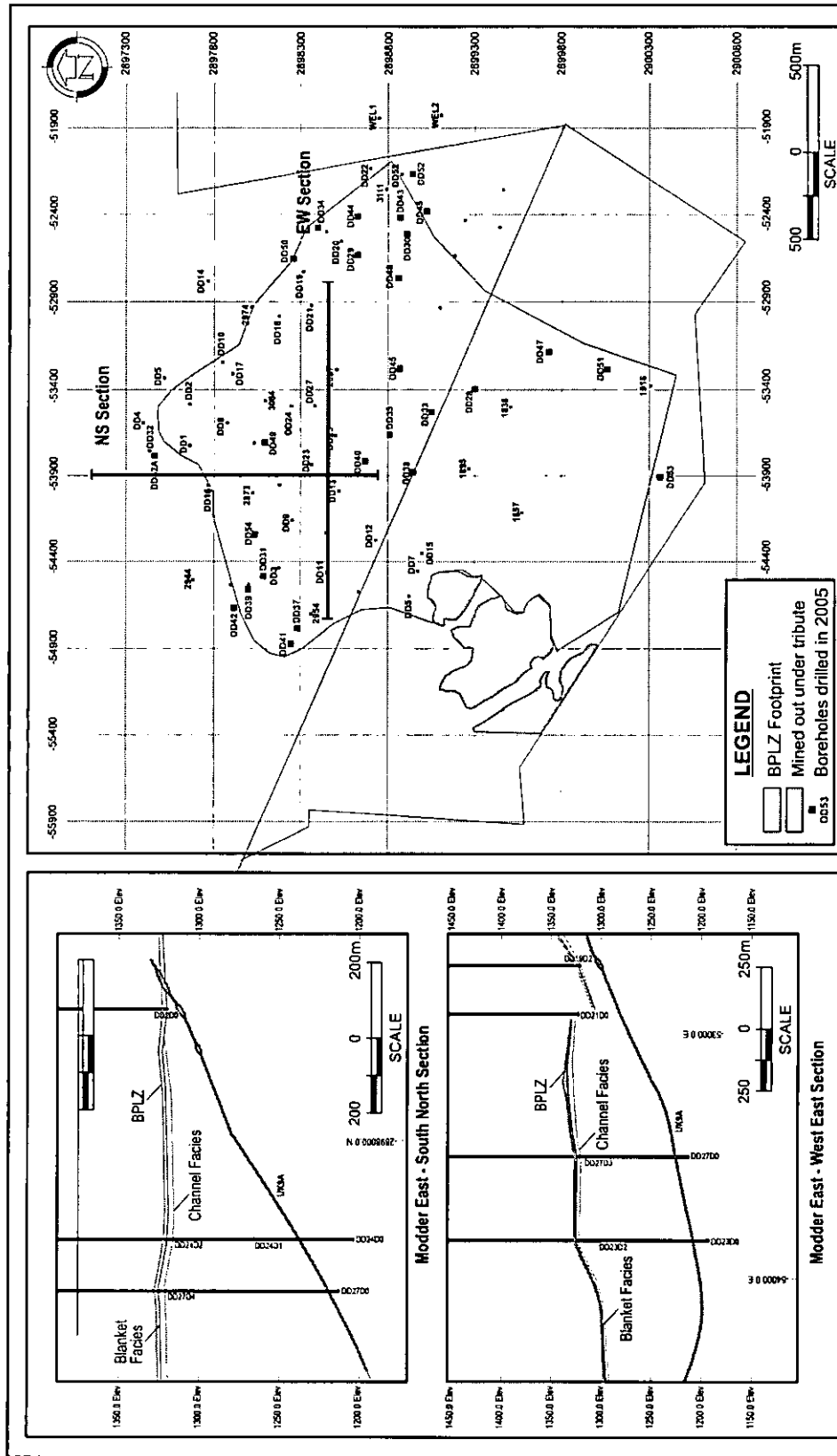
The major economic horizons in the area are, in order from youngest to oldest, the Black Reef, the Kimberley Reefs, and the Main Reef. The Kimberley Reefs consist of a number of discrete quartz-pebble conglomerate units preserved within the upper parts of the Central Rand Group. Kimberley reefs which have been exploited include the UK3, UK9a or May Reef, UK9b, UK9c, MK2, and MK1. The Black Reef at the base of the overlying Transvaal Supergroup is significantly younger than the reefs in the Central Rand Group. The general stratigraphy of the East Rand basin is shown in Figure 7.2.

7.4 Structural Geology

The East Rand Basin is separated from the Central Rand by an anticline, known as the 'Boksburg Gap'. East of Boksburg, north-northwest-south-southeast trending synclines and anticlines are developed within the Witwatersrand stratigraphy. These structures have played an important role in the depositional history and distribution of the gold bearing conglomerates in the area. The Vogels fault is a significant left lateral strike-slip fault with a horizontal displacement of approximately 1,000m. Payshoots within displaced Witwatersrand gold-bearing reef units can be traced across the fault. In comparison to other portions of the Witwatersrand basin, the East Rand basin has had a relatively simple structural history. The Johannesburg Subgroup in the East Rand comprises predominantly quartz arenite and conglomerates, which occur at the base and the top of sedimentary successions. The Main Reef occurs at the interface of the Central Rand Group and the lower West Rand Group. Overlying the Johannesburg Subgroup is the Turffontein Subgroup. The most significant economic unit in this package is the UK9a Reef, which occurs in the upper, coarser part of the succession.

The geological structure of the Black Reef in the Modder East area is thought to be relatively simple, with shallow dips to the west dominating, and there is little evidence for large scale faulting in the exploration area. A fault with a 10m downthrow to the east has been interpreted from drilling. The fault trends northwest-southeast, following the regional fault pattern. A number of northwest trending Pilanesburg age dykes intrude along the regional faults. The footprint of the Black Reef target and drillholes are shown in Figure 7.3.

The boundaries of the resource defined for the Black Reef at the Project follow a palaeo-"shoreline" to the north, northeast and northwest. North of the interpreted shoreline feature, the Black Reef is absent and barren quartzite of the Black Reef Quartzite formation sits unconformably on Witwatersrand stratigraphy. Gold grades decrease to the south and east away from the arcuate shoreline feature and resources are delineated on the basis of a cut-off applied. The resource delimited on Modder East is a direct extension of the Black Reef that is currently being mined by Petrex (Pty) Limited ("Petrex") at the Grootvlei mine to the southwest of the Project and which was previously mined by Petrex within the southern part of the UC Prospect. Drilling has indicated the presence of Black Reef Channel Facies targets in the northern and central part of the Project area.



SRK Consulting
Engineers and Scientists

Aflease Gold - Modder East Project

BPLZ Footprint, Borehole Positions and NS/EW Projection Sections

FIGURE 7.3

8 DEPOSIT TYPES

In common with other parts of the Witwatersrand basin, the stratigraphic succession developed within the East Rand basin is characterised by the presence of well defined sedimentological units and unconformity boundaries. Auriferous quartz-pebble conglomerate units are often found associated with these surfaces.

Orebodies exploited within the Witwatersrand basin consist predominantly of narrow (0.1-2m thick) quartz-pebble conglomerate units that frequently display significant lateral continuity within local gold mining districts.

The principal target at the Project is the Black Reef. The Black Reef in the area dips relatively shallowly to the south at up to 4° and unconformably overlies Witwatersrand sedimentary rocks which dip at around 12° to the south. Three distinct facies have been noted in the Black Reef at the Project. The basal Channel Facies occurs in incised channels cut into the underlying Witwatersrand Supergroup rocks, and is thought by some geologists to have derived most of its gold content from reworking of eroded Kimberley and Main Reef conglomerates. The channels tend to be narrow, with steep channel edges, and can be locally very deep. The channels are frequently developed on older dykes, faults or more easily weathered formations and contain exceptionally high grade mineralisation in places. The Blanket Facies, a largely barren, gritty quartzite unit, overlies the Channel Facies, or lies directly on Witwatersrand sediments where the Channel Facies is not developed. The Buckshot Pyrite Leader Zone facies ("BPLZ") occurs above the Blanket Facies, and consists of well-packed, generally porous buckshot pyrite, interlaminated with clean quartzite and occasional graphite stringers. The Black Reef is overlain by the Malmani Subgroup which consists predominantly of dolomite. Figure 7.3 displays north-south and east-west sections through the Project.

The Main Reef has historically been the most extensively exploited reef in the East Rand basin. The conglomerate is typically well sorted, and comprised mainly vein quartz pebbles with abundant pyrite within the conglomerate matrix.

Adjacent to Modder East, the UK9a is being developed within the Grootvlei Gold Mine, approximately 700m below surface. The UK9a has a dip of 6° to 12° with the mineralisation being restricted to sedimentary channel features preserved within Witwatersrand rocks. The channels range from several tens of metres to hundreds of metres in width. On Modder East, the UK9a Reef has been drilled and evaluated between 290m and 530m below surface. It is possible that future close-spaced drilling from UK9a stopes may result in the delineation of similar channels on other Kimberley Reef horizons. The UK9c Reef, for example, is 15m to 20m below the UK9a Reef and is a robust, large-pebbled conglomerate band approximately 1.0m thick. The UK9b Reef contains low gold values, but the UK9c Reef has been stoped in scattered areas throughout the Project area. The proximity to the Black Reef will reduce the cost of accessing the Kimberley Reefs. The UK9c unit could be economic where it is in contact with the underlying MK1 Reef. The MK1 Reef normally lies 5m to 10m below the UK9. It is usually poorly developed, but higher gold grades exist in conglomerates and in heavy mineral stringers. These conditions exist in places in the Project area, but the mineralisation is erratically developed making prediction of payable areas difficult.

9 MINERALISATION

A number of auriferous conglomerates have been mined in the area. The major units mined are from youngest to oldest – the Black Reef, Kimberley Reefs (UK3, UK9a, UK9b, UK9c, MK2 MK1) and the Main Reef.

The distribution of mineralisation within the Black Reef is considered to be controlled by sedimentological processes with the average grade of the Black Reef Leader Pyrite Zone systematically decreasing towards the southeast away from the “shoreline” feature. The known behaviour of the trend contributed significantly to the distribution of drillholes in the Modder East Project area. Gold mineralisation in the BPLZ is hosted within the Buckshot layers, either in the pyritic buckshots themselves or in the matrix.

Gold mineralisation in the Blanket Facies is erratic, with no clear consistently mineralised horizons. The economic potential of this facies is limited due to the erratic nature of the gold distribution and the low grades returned from samples taken in this horizon.

Black Reef channels carry highly erratic gold mineralisation in deposits of varying width, depth and extent. The gold mineralisation is nuggety, and locally concentrated within small-scale sedimentary features preserved within incised channels.

The Main Reef has well defined pay shoots oriented roughly north-west to south-east and these features are interpreted to be a result of channelised flow within an alluvial depositional environment associated with a braided fan system. The channel thickness varies from a single pebble layer to up to three metres. The conglomerate is typically well sorted, and comprises mainly vein quartz pebbles. The New Kleinfontein project area is located in the proximal portion of the major pay shoot (Figure 6.1), while the Turnbridge area straddles the margin of the pay shoot, and extends further south into a more distal environment.

In the adjoining Grootvlei property, gold mineralisation within the UK9a is restricted to sedimentary channel features preserved within the mineralised environment.

10 EXPLORATION

Exploration work relevant for the present ITR includes work carried out since 1993 on the Modder East and adjacent UC Prospect properties by Gencor and subsequently by New Kleinfontein Gold Mining Company ("NKGM") and Aflase Gold. Prior to that period, extensive exploration work and mining have been carried out in the area, primarily focussing on the Main Reef and Kimberley Reef horizons.

Exploration work relevant to the ITR includes work carried out since 1993 on the Modder East and adjacent UC Prospect properties by Gencor and subsequently by New Kleinfontein Gold Mining Company ("NKGM") and Aflase Gold. Prior to that period, extensive exploration work and mining was carried out in the area, primarily focussing on the Main Reef and Kimberley Reef horizons.

Exploration work on the Project included a review of available historical records, surface diamond drilling and geological modelling. The work undertaken at the Project on behalf of Aflase Gold was carried out by an independent geoscience contractor, Camden Geoserve CC ("Camden Geoserve"). The principal of Camden Geoserve, Mr Peter Camden-Smith has been responsible for the management and execution of the recent exploration drilling program carried out on the property. The responsibilities of Camden Geoserve included logging, sampling, submission of samples to the analytical facility and the database management for the storage of the sample data.

During the second quarter of 2003, exploration drilling at the Project yielded encouraging results. In light of these results, all exploration efforts were focussed on the Modder East and adjoining UC Prospect properties. In December 2003 an initial resource model was reviewed by SRK and engineering design studies were initiated.

In September 2004, Aflase Gold resumed drilling at Modder East in order to infill and expand the previously delineated gold mineralisation in the Black Reef. By December 2004 seven additional boreholes (DD22-DD28) had been completed and drilling continued throughout 2005. At the time SRK visited the project on 14 July 2005, two drill rigs were active, drilling boreholes DD47 and DD48. By December 2005, boreholes DD49 to DD52 had been completed and these drillhole results were included in the resource estimate.

Potential exists for an extension of the orebody to the southeast of the currently defined resource envelope. Higher grades to the south could lead to an extension of the orebody in that direction. Additionally, previous drilling has indicated the presence of Black Reef Channel Facies targets in the northern and central part of the mine area.

Adjacent to Modder East, the UK9a is being developed within the Grootvlei Gold Mine, approximately 700m below surface. The UK9a has a dip of 6° to 12° with the mineralisation being restricted to sedimentary channel features preserved within Witwatersrand rocks. The channels range from several tens of metres to hundreds of metres in width. On Modder East, the UK9a Reef has been drilled and evaluated between 290m and 530m below surface. It is possible that future close-spaced drilling from UK9a stopes may result in the delineation of similar channels on other Kimberley reef horizons. The UK9c Reef, for example, is 15m to 20m below the UK9a Reef and is a robust, large-pebbled conglomerate band approximately 1.0m thick. The UK9b Reef contains low gold values, but the UK9c Reef has been stoped in scattered areas throughout the Project area. The proximity to the Black Reef will reduce the cost of accessing the Kimberley Reefs. The UK9c unit could be economic where it is in contact with the underlying MK1 Reef. The MK1 Reef normally lies 5m to 10m below the UK9. It is usually poorly developed, but higher gold grades exist in conglomerates and in heavy mineral stringers. These conditions exist in places in the Project area, but the mineralisation is erratically developed making prediction of payable areas difficult.

The Main Reef has been the most important gold producer in the East Rand Gold Field. It is proposed

that should future Main Reef mining be deemed economic at Modder East, underground access could be possible from the refurbishment of a number of existing adits and shafts

A development schedule plan from the previous owners exists and is currently being evaluated. It is proposed that in 2006 the Main Reef Mineral Resources of the Modder East property will be tabulated and included in the resource inventory. The present resource declaration includes no Main Reef Mineral Resources. As part of the routine on-mine exploration, 25 diamond drill holes have been planned for the forthcoming year. Including deflection drilling it represents 7,625m of drilling. A supplementary programme totalling some 11,850m of diamond drilling has been designed to explore the potential eastern extension of the BPLZ and UK9a Reefs.

Aflease Gold advised SRK that it is busy drilling for the UK9a Reefs from the underground workings within the Grootvlei Tribute area.

11 DRILLING

At the time this report was prepared, a total of 69 core boreholes had been drilled on the Modder East and UC Prospect properties by Gencor (14 holes), Harmony (3 holes), NKGM (3 holes) and Aflase Gold (49 holes). A total of 343 deflections have been developed within the 52 holes completed by NKGM and Aflase Gold. Drilling is ongoing.

Although current exploration efforts have focused primarily on the Black Reef, all boreholes have been drilled through the underlying Kimberley reefs.

11.1 Historical Drilling

11.1.1 Gencor Drilling (1990's)

In 1993, Gencor (now Gold Fields Ltd) drilled 14 diamond core holes on the UC Prospect and the southern portion of the Modder East area to investigate the Kimberley Reefs and the Black Reef to the northeast of Grootvlei Gold Mine. Boreholes drilled by Gencor were BQ-size (36.4mm diameter core) vertical holes. Seven of the boreholes intersected the Black Reef at relatively shallow depths (200-250m below surface) with gold grades varying between 1.4 and 31.2g/t gold over widths varying between 20 to 60cm. Several holes also intersected gold mineralisation in the underlying UK9a Reef of the Kimberley group.

Detailed drilling procedures used by Gencor in 1993 were not available for review. SRK is of the opinion that the Gencor drillhole data are reliable. Gencor was a large mining company active in South Africa prior to its merger with Gold Fields in the late 1990's. SRK has previously worked with Gencor data and has found the quality of work and analyses to be high. The sampling information from the Gencor drillholes was available as composite data over geologically identified reef widths, whilst the subsequent New Kleinfontein and Aflase sampling data are documented as individual samples taken across the geologically defined reef units. Despite these differences, the geology of the reef units is considered to be sufficiently distinctive to be confident that the Gencor drillholes were sampled in a manner that does not differ significantly from that employed during the subsequent Aflase drilling.

Old Gencor maps show that several other boreholes were drilled in the area before the Gencor period. Unfortunately, the original drilling records have been lost and are not available. This includes three boreholes drilled near the boundary between Modder East and UC Prospect by Harmony Gold Mine in 1994 and which apparently did not intersect the Black Reef at the anticipated stratigraphic level.

11.1.2 NKGM/Aflase Drilling (2000 to 2004)

In 2001, NKGM drilled three boreholes (DD1-DD3) with two deflections each to verify the Gencor results and to investigate the Black Reef and underlying Kimberley Reefs. The three boreholes returned similar grades over similar thicknesses and confirmed the potential of the Black Reef as an attractive shallow exploration target. A further 18 core holes (DD4-DD21) were drilled in 2002-2003 to investigate the lateral continuity of the Black Reef away from the previous drilling. This drilling confirmed the lateral continuity of the Black Reef, with several boreholes returning gold accumulations in excess of 1,500cmg/t gold.

Boreholes drilled by NKGM and Aflase Gold are drilled using wireline BQ-size core barrels. Deflections were developed from the mother holes using narrow-walled TBW core barrels in order to extract a slightly larger sample. Generally, three deflections were drilled when the mother hole intersected the Black and Kimberley Reefs. All diamond holes were drilled vertically from surface.

Drilling was conducted under the supervision of appropriately qualified geologists and followed strict field and environmental procedures to ensure safe drilling and proper management of all drilling

wastes. Drilling sites were photographed before, during and after drilling. Much of the drilling was carried out under the auspices of an independent geoscience contractor, Camden Geoserve. All borehole core analyses were carried out at Anglo American Research Laboratories ("AARL"), an accredited institution. SRK reviewed the drillhole management and other procedures whilst the project was run by NKGm and again recently. In SRK's opinion, the NKGm data are equivalent to the subsequent Alease Gold data by virtue of the continuity of personnel and procedures.

After the completion of the mother hole and each deflection drilled by Alease Gold, the downhole deviation is determined using a Reflex "multishot" downhole survey instrument taking readings at approximately 10 metre intervals. Each borehole collar is initially positioned using a handheld GPS unit and on completion of drilling all borehole collars are surveyed by an appropriately qualified land surveyor using differential GPS positioning equipment. This provides collar survey data to an accuracy of less than one centimetre. Upon the completion of drilling, each borehole is plugged with cement above the deflections and the borehole collar is capped with cement and labelled with a metal engraved flag. The sites have been thoroughly cleaned to remove evidence of drilling.

In all drill holes, sedimentological logging identifies the inclination of the mineralisation relative to the drill hole axis and the true mineralisation width is derived from the sampled width via a trigonometric correction. The dip of the mineralisation is shallow, meaning that the correction from sampled width to true width is small (less than 5%).

All drillholes are logged and the inclination of the mineralisation relative to the drillhole axis determined. The true width of the mineralisation width is derived from the sampled width via a trigonometric correction. Given that the dip of the mineralisation is shallow, the correction from sampled width to true width is small (less than 5%).

The drilling pattern has been established based on the interpreted geometry of the Black Reef palaeo-surface. Drilling was initially conducted at a spacing of between 500 and 800 metres. Subsequent infill drilling was carried out at approximately 200 metre spacing. Given the experience gained by Petrex whilst mining the Black Reef in the southern UC Prospect area, this pattern is considered sufficient to interpret the lateral continuity of the gold-bearing conglomerate units.

11.2 Alease Gold Drilling - 2005

The standard drilling procedure used by Alease Gold for the Project is to use diamond core drilling techniques, and for the "mother hole" to be drilled into the BPLZ and the underlying Kimberley Reefs. The core size used is BQ. The drilling of two deflections is standard on the BPLZ and if the UK9a is identified within the mother hole, two deflections are also developed on the UK9a. The deflections are drilled using TBW core barrels. A down hole multishot borehole survey is then carried out at 10 metre intervals giving data on both the mother hole and the drillhole deflections. The drill collar is initially laid out using hand-held GPS instrumentation. On finalisation of drilling, the collar is surveyed by a registered surveyor on contract to Alease Gold, using differential GPS equipment.

These methods are consistent with those used by Alease Gold during previous drilling programmes.

12 SAMPLING METHOD AND APPROACH

In testing the auriferous conglomerates, the surface drilling sampling approach is to drill as closely as possible to a right angle to the targeted reefs and obtain several intercepts of each reef by drilling subsequent deflections from each hole. This is a standard sampling approach for surface drilling in the Witwatersrand basin area.

Core recovered from drilling is carefully placed in metal trays and logged in the field; cores have been stored adjacent to the drill rig during this procedure. Once the mineralised stratigraphy has been visually identified, the core has been marked by an appropriately qualified geologist for splitting and sampling and immediately taken to the Petrex core yard where it has been split by the geologists of Camden Geoserve and immediately transported to a property supervised by Camden Geoserve. Sampling of the BPLZ includes 2cm of the hangingwall and footwall strata (including the Blanket facies of the footwall) to ensure that this unit is appropriately sampled, since it is the highest grade unit. Sampling lengths range from 10cm to 50cm, with the longest samples distributed within the Channel facies.

Assay samples are taken from half core sawed lengthwise with a diamond saw. Sampling intervals are designed to provide several individual assay samples across each reef, including adjacent barren quartzite units. Additional assay samples are taken where appropriate as determined by the geologist. Assay sample lengths honour geological boundaries and vary between 0.2 and 1.0 metres, averaging typically 25-35 centimetres in length. This is consistent with industry practice in the area.

A unique sample number is assigned to each sample. Dips of geological contacts are measured relative to the core axis and these data are recorded to enable a true sample width to be estimated for each sample. The sample is then split along its length using a diamond saw. Samples are cut from one side of the split core, with sample intervals controlled primarily by the geology. Samples are bagged using heavy-duty plastic bags that are used only once and sent to the assay laboratory.

The core recovery protocol over the sampled economic horizon must be such that the recovered core, when sampled, is 'representative' of the unit for grade evaluation. Should core losses be judged to be unacceptable, additional deflections may be drilled from the mother hole in order to recover acceptable sample material. Three representative intersections for sampling were normally required from each diamond drill hole.

Immediately after splitting of the cores, the core trays containing the mineralised intervals are transported to the offices of Camden Geoserve, which is also the residence of the geoscience contractor responsible for the management of the drill program. SRK observed core stored at this facility; the facility is walled and provides adequate security to prevent tampering with the drill core samples. The core is reviewed for consistency and recovery. Core description includes detailed information about core recovery, geology, lithology, sedimentology, mineralogy and structural features. Additional care is taken to collect subtle features such as dip of contacts within each auriferous reef. Beginning in 2005, core description also includes rock quality determination ("RQD"). The split core is photographed before sampling. Assay samples are placed in single-use plastic bags and organized in batches which are delivered to the AARL Laboratory facilities for assaying by staff of Camden Geoserve.

After sampling, the remaining half core is replaced in the core box and kept at the Camden Geoserve office until the analytical results are received. On receipt of the analytical results, any potential queries arising are addressed to the laboratory. On acceptance of analytical results, the core boxes containing the mineralised intercepts are transferred to the Spaarwater Project area for archiving.

SRK is unaware of any aspect of the sampling procedure that might materially affect the resultant grades of samples recovered from exploration. In the opinion of SRK, the sampling method and approach is appropriate for the purpose of estimating Mineral Resources.

13 SAMPLE PREPARATION, ANALYSES AND SECURITY

The assay samples collected by Gencor were assayed at the Gencor Laboratories using conventional fire assay procedures; however, documentation detailing the sample preparation and assaying procedures employed in the analyses of samples from these drill holes is not available for review.

Assay samples collected since 2001 by NKMC and Aflease Gold were assayed at the Anglo American Research Laboratories ("AARL"; SANAS and ISO 17025 accreditations) located in Ormonde in south-central Johannesburg. Gold is assayed by conventional fire assay on 50g aliquots with inductively coupled plasma optical emission spectroscopy (ICP-OES) finish.

Between 2001 and early 2005 (boreholes DD-1 to DD-46), no external quality control samples were included with assay samples submitted for assaying. Aflease Gold and its predecessors relied on the internal quality control measures set up by the AARL laboratory, which included inserting sample blanks and certified reference material samples with each batch of samples and performing repeat fire assays from the same pulp.

Beginning in July 2005 on the recommendation of SRK, Aflease is implementing additional quality control measures including insertion of external core sample blanks within each reef intersection samples and submitting random pulps (with control samples) recovered from the primary laboratory to an umpire laboratory for check assaying. In addition, a random collection of approximately 10% of the previous sample pulps will be re-assayed at an umpire laboratory, with suitable standard reference materials also inserted within the sample stream.

Between February 2004 and July 2005, Aflease delivered approximately 3,000 drill core samples to AARL for gold analyses. AARL have inserted samples of two certified reference material standards within each sample batch to monitor accuracy of grades determined. A total of 134 determinations of the certified reference material SARM 54 are recorded within the AARL laboratory returns and 136 determinations of SARM 53 are recorded. In addition, 62 blank quartz samples were added within the sample stream; all of these determinations report gold grades less than 0.02g/t Au. There are some instances of aberrant values within the returns for SARM 53, but in general SRK is of the opinion that the performance of the laboratory is acceptable with respect to analytical accuracy and that there is no evidence of long-term drifts within the data.

A total of 396 replicate sample values, representing samples split from the prepared pulp are also reported within the AARL returns. SRK took all laboratory returns from February 2004 until July 2005 and created a set of quality control charts to examine the analytical quality as monitored through the AARL internal procedures (presented in the SRK October 2005 ITR). This analysis revealed that 90% of the data where the grade is above 0.4g/t show a precision (measured as an absolute relative deviation) of $\pm 14\%$ or less. Low grade results close to the detection limit were excluded from the analysis. In the opinion of SRK, the sampling, preparation of samples, security of samples and analytical procedures employed are of sufficient quality for use of the results in the estimation of Mineral Resources.

14 DATA VERIFICATION

14.1.1 Verifications by Aflease Gold

Exploration work at Modder East is conducted by Camden Geoserve, an independent geological contractor, on behalf of Aflease. This same contractor was used by NKMC. Records of historical work conducted by Gencor were verified for consistency by Camden Geoserve against original drilling logs.

Drilling and sampling information are initially recorded on paper and are subsequently transferred to Microsoft Excel spreadsheets by Camden Geoserve personnel. Assay results are monitored for consistency and manually input into the electronic database. Camden Geoserve conducts routine visual verifications and electronic data are thoroughly validated. Information for each borehole is collated into hardcopy binders that are properly archived and easily available.

A subset of duplicate samples of those assayed at AARL was sent to the SANAS-accredited SGS Lakefield Laboratories for check assay in December 2003. A total of 66 duplicate assay values derived from this program were provided to SRK for analysis. The low grade samples show a good correlation, but there is a greater degree of scatter at higher grades, indicating the presence of coarse gold particles in the samples. When a significant outlier value (112g/t) is removed from the dataset, the two datasets show good agreement, with a difference of 0.1g/t in average value between them. The presence of coarse gold in the reef might introduce a high degree of scatter in the duplicate sample values, especially if the sample aliquots submitted for assay are relatively small. The presence of such extreme values suggests that an analysis of the data to determine the effect of capping certain outlier values may be merited.

SRK recommends that sets of pulp rejects be routinely analysed at an umpire laboratory to provide an independent verification of the sample grades.

14.1.2 Verifications by SRK

In 2003 staff of SRK visited the New Kleinfontein site offices where drill hole core from the Modder East property was being logged. The logging and sampling procedures were discussed and intersections of drill holes through the BPLZ of the Black Reef were examined.

Staff of SRK also visited the Project on July 15, 2005 when active drilling was taking place. SRK met with Camden Geoserve personnel to review project data and procedures taken during drilling and in the management of exploration data.

SRK inspected two active drilling sites (DD47 and DD48). Drilling is conducted under appropriate safety conditions and sound environmental management as required by drilling permits. SRK also visited an abandoned drilling site (DD40). The site was properly reclaimed and the borehole collar was capped and properly identified.

SRK reviewed with Camden Geoserve the Aflease Gold drilling, core handling, description and sampling procedures. SRK is satisfied that all procedures are conducted according to industry standard practices. SRK is of the opinion that the quality of the current exploration database for the Project is sufficient to allow reasonable interpretation of the lateral continuity of the gold-bearing reefs. SRK is satisfied that the sample security procedures are adequate - mineralised intersections are kept at the residence of the principal geoscience contractor until the assay results are obtained.

In the opinion of SRK, the sampling and assaying data acquired since 2001 is considered of sufficient quality for the purpose of resource estimation. SRK recommends additional quality assurance and quality control measures designed to improve the accountability and integrity of assay data. In particular, SRK recommends that core sample blanks are inserted within reef intersection samples and that approximately 10% of random sample pulps are submitted with control samples to an umpire laboratory for re-assaying.

15 ADJACENT PROPERTIES

The following discussion has been extracted from a "Technical Report on Mining Assets Petrex (Pty) Limited, East Rand District, South Africa" compiled by Mr W Crowl of Gustavson Associates LLC dated 22 March 2005 for Bema Gold Corporation ("Bema") and filed on SEDAR. This report provided the status of the Petrex operations and its Mineral Resources and Mineral Reserves as at 31 December 2004.

The Petrex operations are located west, south and southeast of the Project (see Figure 15.1). The facilities include several operating underground mines, several dormant open pit mines and a processing plant with all accompanying infrastructure. The properties comprise approximately 31,450ha in three large packages – Consolidated Modderfontein Mines 1979 Ltd ("Cons Modder"), Nigel Gold Mining Co (Pty) Ltd ("Nigel") and The Grootvlei Proprietary Mines Ltd ("Grootvlei").

Annual production from the Petrex operations for the period 2nd half 2001 to end 2004 from surface and underground sources is summarised in Table 15.1.

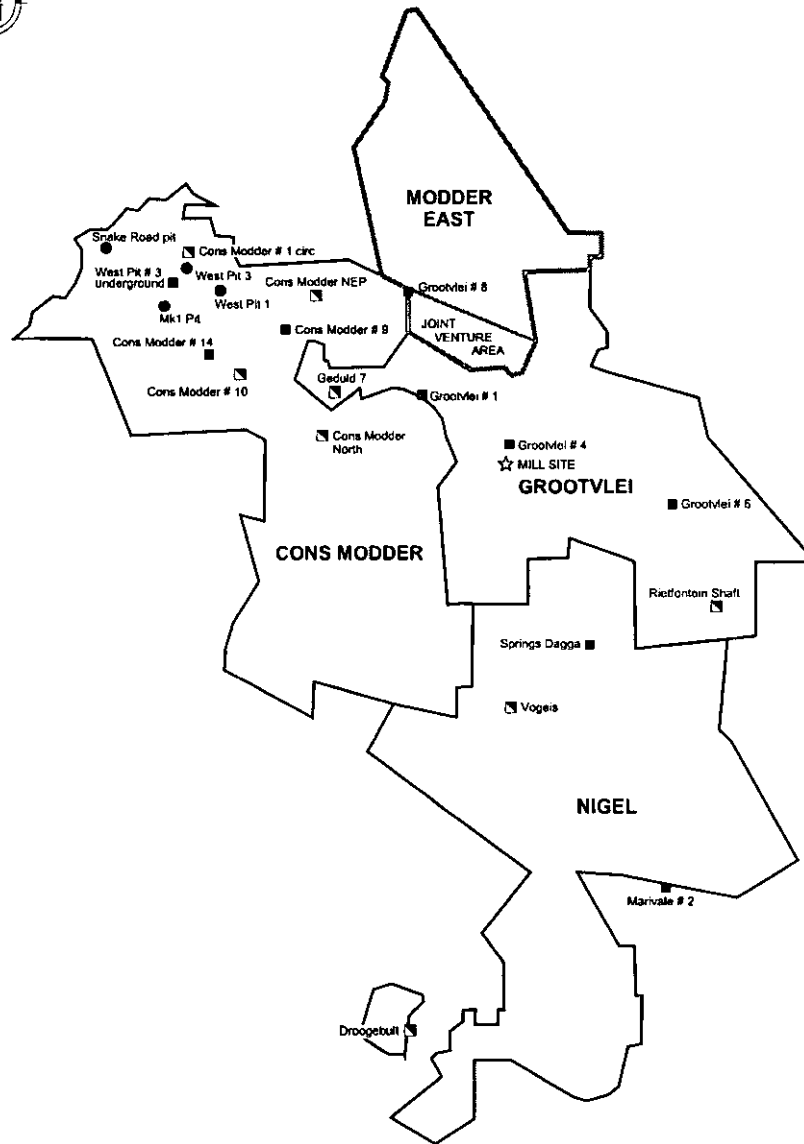
Table 15.1: Adjacent Properties – Historical Production from Petrex

Production Period	RoM ore (kt)	Mill feed gold head grade (g/t)	Gold produced (koz)
2 nd Half 2001	737	2.89	68.5
2002	1,662	2.93	135.2
2003	1,844	2.74	140.5
2004	1,863	2.65	146.2

The total Measured and Indicated Mineral Resources on the Black Reef, Kimberley Reef and Main Reef (exclusive of Mineral Reserves) were estimated at 27.3Mt grading 3.8g/t Au. The total Inferred Mineral Resource was estimated at 16.3Mt grading 3.9g/t Au. Proven and Probable Mineral Reserves on the Black Reef, Kimberley Reef and Main Reef from the underground mines total 6.0Mt at an average grade of 4.4g/t Au.

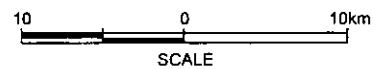
The mining operations of Petrex are undertaken via eight underground shafts. By the end of 2004, operations in the four open pits had ceased and Petrex had focused its attention on the underground resources. The process plant has a capacity of 185,000tpm. Gold production for 2005 was projected to be some 173,000oz, with a metallurgical recovery of 94%.

The profitability of the Petrex operations is most sensitive to changes in the ZAR:US\$ exchange rate, gold price and operating cost. At the ZAR:US\$ exchange rate and gold price ruling in March 2005, the profitability of the operation would have been at risk without the currency and gold hedges Bema had in place.



LEGEND

- Active shaft
- ▣ Inactive shaft
- Open pit target areas
- ☆ Mill site



16 MINERAL PROCESSING AND METALLURGICAL TESTING

This section includes discussion and comment on the mineral processing and metallurgical testing aspects associated with the Project.

16.1 Sample Selection

A test work programme was undertaken by Mintek to support the plant design in two stages:

- A bulk sample from each of the Black Reef and UK9a Kimberley Reef from Grootvlei Mine No. 8 Shaft operated by Petrex (Pty) Ltd ("Petrex");
- Variability tests on selected intervals from 18 drillhole core samples from Modder East.

In mid-2005, access to the ore on the Modder East property for collecting bulk samples was not possible. Bulk samples were taken from the adjacent Grootvlei property. The location of the bulk samples taken from Grootvlei is not clear. However, SRK was informed by Aflase Gold that the ore samples represent typical metallurgical characteristics of Black Reef and UK9a ore zones being processed at Grootvlei Mine in 2005. In addition, Aflase Gold believes that the ore samples from Grootvlei should be reasonably representative of what can be expected from Modder East.

16.2 Comminution Test work

CIL leaching of Black Reef displays a trend of decreasing tails for a decreasing grind size. Tails appear to level off inside the range of 75 to 90micron and drops again at 53micron. This may be related to mineral liberation from sulphide species at the finer sizes, with free milling gold being released at coarser sizes. As there is little difference in tails grade between 80% minus 75 and 90micron, a grind size of 80% minus 90micron was selected for Black Reef ore design purposes. This corresponds to a tails grade of 0.34 g/t or 86.4% CIL gold extraction.

The results for Kimberly Reef are in complete contrast to Black Reef. The reef appears to be completely grind insensitive in the test series 80% minus 53 to 150micron, returning a uniform tails grade of 0.08 g/t or 95% CIL gold extraction.

16.3 Metallurgical Recovery

16.3.1 Bottle Roll Dissolution Tests

Bottle roll dissolution tests were conducted on the two bulk samples extracted from operating Black Reef stopes on Grootvlei. Fifteen channel samples were cut down the total stope width including both mineralised reef and waste. Interpretation of the results was complicated because sample head grades ranged from 3g/t to 35g/t, with most being higher than anticipated plant feed grades. The following observations are however of relevance:

- The results confirm the presence of very strong preg robbers in the Black Reef ore, with average dissolution of 97% in the presence of new activated carbon and 69% in the absence of activated carbon.
- There is no obvious relationship between head and residue grade and significantly more work would be required to determine such a relationship with any confidence. On average though a final residue of 0.33g/t was observed.
- In view of the anticipated plant feed grade, samples with head grades below 8g/t were separated out. In the presence of new activated carbon, these yielded an average head and residue grade of 4.27g/t and 0.33g/t for an average recovery of 92%.
- Operating experience at Petrex indicates that actual plant recovery on Black Reef is approximately

98% of that found in laboratory bottle roll tests, with an indicated plant recovery of 88%. This is probably due to the inability of partly fouled plant carbon to counter the effect of preg robbers to the same extent as new carbon used in laboratory testing.

16.3.2 Diagnostic Leach Tests

Multi-stage diagnostic leach tests were conducted by Mintek on two composite 300kg bulk samples from the BPLZ facies of the Black Reef and the UK9a Reef. The procedure involved the sequential solubilising of minerals associated with gold, commencing with the least stable, and then extracting the associated gold by cyanidation/CIL. The free and exposed gold was quantified by direct cyanidation. A second sample was leached in the presence of carbon (CIL) to establish gold that is preg-robbed (by difference). The CIL residue was then subjected to a series of oxidative pre-treatments using progressively HCl, HNO₃ and roasting, followed by CIL to quantify respectively gold associated with oxides (e.g. hematite, calcite, dolomite), gold associated with the more stable sulphides (e.g. pyrite, arsenopyrite) and gold associated with carbonaceous minerals (e.g. kerogen). The remaining undissolved gold was assumed to be locked in the gangue minerals.

The Black Reef and UK9a Reef samples had head grades of 2.75g/t and 4.16g/t respectively. Both samples were milled to a grind specification of 80% passing 75micron. The gold mineral associations determined by the sequential leach procedure for the two samples are shown in Table 16.1.

Table 16.1: Diagnostic Leach Test Results

Association	Black Reef		Kimberley Reef	
	Gold grade (g/t)	Gold distribution (%)	Gold grade (g/t)	Gold distribution (%)
Gold available to direct cyanidation	2.39	87.05	4.08	98.11
Gold that is preg-robbed (CIL)	0.06	2.24	0.00	0.00
Gold associated with HCl digestible minerals	0.00	0.00	0.00	0.02
Gold associated with HNO ₃ digestible minerals	0.23	8.50	0.00	0.01
Gold associated with carbonaceous matter	0.03	1.04	0.00	0.00
Gold associated with quartz (balance)	0.03	1.17	0.08	1.86
Total	2.75	100.00	4.16	100.00

On the Black Reef gold extraction by direct cyanide leaching was reasonably high at 87.05%, with 2.24% being attributed to preg-robbing. The majority of remaining gold (8.5%) is associated with stable sulphides such as pyrite and arsenopyrite. Only 1.04% of the gold was associated with carbonaceous minerals. The remainder appeared to be associated with inert gangue minerals. The nitric acid digest consumed about 21% of the total mass, which is associated with the sulphides component.

With the Kimberly Reef 98.11% of the total gold proved to be cyanide extractable with only very minor association with sulphides, carbonates and iron minerals. The remainder (1.86%) of the gold was associated with inert minerals such as silicates.

The results indicate that with the use of CIL processing, some 89.29% of the gold in the Black Reef and 98.11% of the gold in the UK9a Reef should be recoverable.

Given that the preg-robbing behaviour for the bulk sample amounted to 2.24% of the total gold feed, it can be surmised that higher levels of organic carbon would result in even greater losses without the presence of activated carbon in the leach circuit. Erring on the side of caution, Aflase Gold decided to adopt a fully CIL circuit rather than risk a CIS (Carbon-in-Solution) arrangement.

16.3.3 Gravity Concentration Tests

Sub samples of each ore type (composite 30kg samples from the Black Reef and the UK9a Reef) milled at 80% passing 150micron were subjected to gravity concentration using a laboratory scale batch Knelson concentrator. For Black Reef ore, 14.4% of the total gold reported to the final concentrate.

- Average gold recovery to gravity concentrate was 69.2%, compared with 63.5% for the Kimberley Reef bulk sample;
- CIL gold extraction from gravity tailings averaged 17.8%. This was low due to the high gravity recoveries;
- Overall gold extraction averaged 87%. This is substantially lower than the Kimberley bulk sample result, which indicated an overall recovery of 97% to 98% could be achieved.

16.4 Process Plant

16.4.1 Process Description

The Modder East project envisages the construction of a new carbon in leach ("CIL") plant on the East Rand to process Black Reef and Kimberley ores. The Modder East plant will comprise a single stage semi autogenous (SAG) mill, operating in closed circuit, with hydrocyclones, CIL adsorption, elution, electrowinning and smelting. High abrasivity of the ore favours low charge milling with as few stages of crushing as possible. The schematic flowsheet is shown in Figure 16.1.

The plant will have a design capacity of 70ktpm to match LoM requirements.

16.4.2 Plant Operating Cost

Plant operating costs have been estimated in 1 January 2006 terms at US\$6.09/t for Black Reef ore and US\$5.17/t for Kimberley Reef ore. Apart from the additional complement for sick/leave cover, the operating costs are considered to be appropriate for the proposed scale of operation. The plant cost includes the refining charge payable to Rand Refineries.

16.4.3 Plant Capital Cost

The capital cost of the Modder East Plant in February 2006 terms has been estimated at US\$19.2million at a nominal level of accuracy of $\pm 15\%$, and is due to be constructed and commissioned over 24 months from mid 2007 to mid 2009. This capital cost incorporates cost savings in the design at the request of Aflase Gold by using steel frame pre-fabricated clad buildings. The capital estimate excludes EPCM costs and contingencies, which are accounted for separately. Considering that new equipment will be utilised, the cost estimate is seen to be reasonable.

The Study assumed that reagent supply will be metred across to the plant distribution tanks in the required concentrations from an independent facility operated on a build-own-operate-transfer ("BOOT") basis. As the Study has not established if such BOOT suppliers exist, it would be prudent to incorporate reagent make-up facilities in the capital cost estimate until the BOOT reagent supply can be confirmed. This additional capital cost is likely to be small.

16.4.4 Plant Manpower

The manpower complement for the plant is shown to 56 people, which compares well with other similar instrumented plants. To cater for leave and sick relief allowance, Aflase Gold increased the labour rates by 15%, which is equivalent to the complement being increased to around 64.

16.4.5 Sampling, Analysis and Gold Accounting

Metal accounting procedures for the Project have not been finalised but determination of head grade will be as problematic as incurred at most South African gold mines due to the difficulty of taking

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representative samples from the coarse SAG mill feed. The inclusion of gravity concentration in the milling circuit will also preclude the use of thickened pulp as a direct measure of plant feed grade. Typically in such instances the head grade is back calculated from the pulp grade plus gravity gold recovered.

A sample preparation laboratory will be located at the plant site to process and prepare plant samples. The analytical service will be outsourced to an external assay laboratory on the East Rand.

16.4.6 Gold Lock Up

Being a new plant, in-plant gold inventory will accumulate on start up and this will only be released with plant closure. This will fluctuate during operation but typically might average 100kg at the envisaged scale and mode of operation.

Traditionally on final closure and clean up, South African plants have yielded between 0.04% and 0.40% of the total gold produced through the plant during its life. Due to the relatively short life of the Project this is considered to be immaterial and has not been considered.

17 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

17.1 Introduction

This section summarises the resource estimation and classification methodologies used by Aflase Gold and its consultants. Where appropriate, comments are expressed by SRK regarding the reasonableness of these estimates in support of the audited Mineral Resource and Mineral Reserve Statements prepared by SRK for this Project.

17.2 Reporting Requirements

The Mineral Resource estimates for the Project have been prepared by Aflase Gold and its independent consultants in accordance to the SAMREC¹ reporting Code, as required by Section 12 Regulations of the JSE. SRK presents the Mineral Resource and Mineral Reserve statements in this ITR in accordance with the SAMREC Code. SRK further declares that the terminology as stated in the SAMREC Code is materially similar to the CIM Standards² mandated by NI43-101, and that the Mineral Resources and Mineral Reserves would be identical, if issued in accordance with CIM Standards.

17.3 Mineral Resource Estimation Methodology

Mr. C.J. Muller, BSc PrSciNat, an independent resource geologist on contract to Aflase Gold, compiled the latest Mineral Resource estimate for Modder East. SRK has not re-estimated the resource but has reviewed the data and methods used by Mr Muller (as presented in Camden-Smith and Muller, 2006).

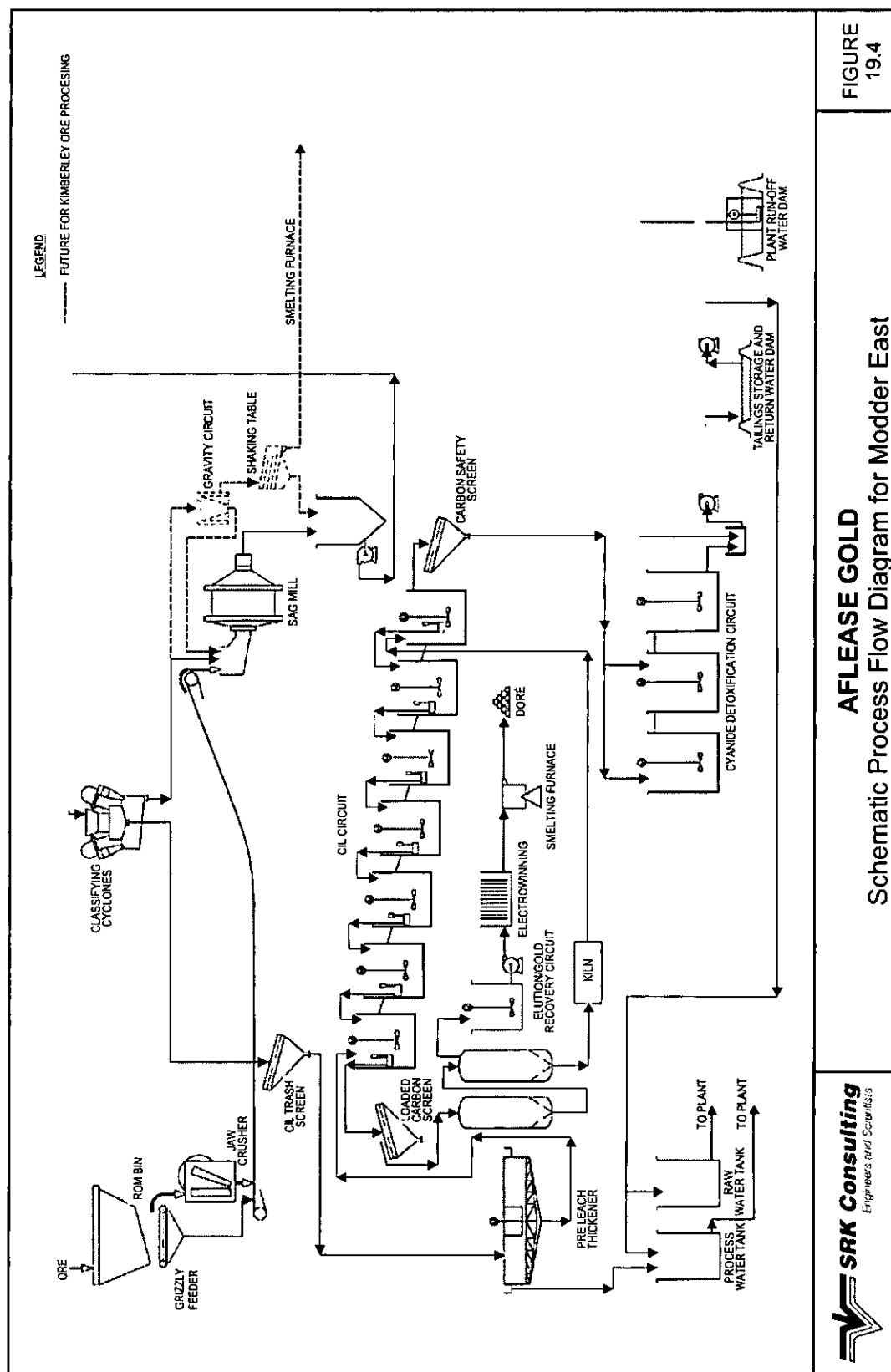
17.3.1 Data Quality and Quantity

A number of drilling programs have been completed on Modder East, targeting the Black Reef and to a lesser extent the UK9a Reef. Normal drilling procedure is for the "mother hole" to be drilled using a BQ size core barrel into the BPLZ and the Kimberley Reef zone. The drilling of two deflections is standard on the BPLZ and two to four deflections on the UK9a. Deflections are drilled using a TBW size core barrel. A down the hole multishot borehole survey is then carried out at 6 metre intervals giving data on both the mother hole and the drillhole deflections. Gencor completed 14 drill holes in the area before 1993, while Harmony drilled three holes in 1994. The positions of these holes are shown in Figure 7.3. Also shown are the positions of the drill holes DD1 to DD52 completed between 2001 and 2005:

- Phase 1: 3 boreholes DD1 to DD3 (June 2001 – August 2001);
- Phase 2: 18 boreholes, DD4 to DD21 (October 2002 – December 2003);
- Phase 3: 7 boreholes, DD22 to DD28 (September 2004 – February 2005);
- Phase 4: 23 boreholes, DD29 to DD52 (February to December 2005).

1 South African Code for Reporting of Mineral Resources and Mineral Reserves, prepared by the SAMREC Working Group on the Compilation of the Main South African Code with Additions by the Coal Subcommittee and the Diamond Subcommittee.

2 CIM Standards on Mineral Resources and Reserves Definitions and Guidelines ("CIM Standards") adopted by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Council on 20 August 2000, or amended or supplemented from time to time.



The results of the latest drilling, specifically on the BPLZ of the Black Reef and the UK9a Reef, together with the reinterpretation of all drilling completed to date, has increased the resource base substantially from that included in the 2005 Mineral Resource estimate.

The Gencor drill holes (14 holes in the 2873 – 3111 series) were analysed at Gencor's Springs Laboratory. The Harmony holes (3 holes prefixed with GVP) intersected waste on the Black Reef Contact representing a palaeo-high with no Black Reef developed. The NKGm samples (Boreholes DD1 – DD28) were all sent to AARL and were fire assayed using a 50g aliquot and an atomic absorption finish. Aflease Gold has continued to make use of AARL for the analysis of drill core from the Project. The insertion of blanks and quality control standards in each sample batch for quality control purposes is part of the laboratories standard procedures and the mine staff did not submit any independent quality-control samples. The database results from DD1-DD22 have not been reviewed to examine data transcription issues (all assay data are provided electronically), but these data are entered by hand into the drill hole database. The staff entering the data does pay particular attention to the link between sample grade and lithology; quartzites are generally low-grade or barren, whilst samples in which the presence of pebbles is recorded typically display higher grades. The quality control results of drill holes DD22-DD52 have been examined in detail. In addition to their own standard reference materials, quality control procedures at the laboratory include the analyses of replicate samples, prepared within the laboratory and representing approximately 10% of the samples received. In addition, AARL participates in a variety of inter laboratory cross checks. SRK has obtained all AARL laboratory certificates for samples analysed between February 2004 and present. These certificates contain all duplicate analysis data, as well as laboratory returns for certified standard reference materials, SARM 53 and SARM 54 respectively. In addition a set of internal quartz blanks are also recorded in the data. SRK has prepared standard charts to explore the analytical quality for this subset of the total Modder East data. SARM 54 is a low grade standard (certified value is 0.21 g/t) and the lab returns (total of 134 assays) for this material range between 0.16 and 0.25g/t, with an average of 0.21g/t. Within the chart, values sorted on date of submission, using the laboratory sequence numbers do not show any persistent trends of value with time. SARM 53 is a higher grade standard (certified value is 3.99g/t). The laboratory returns for this standard include two anomalously low values (both 1.87g/t). Exclusion of these two values yields a data set of 134 samples, with a range of 3.58g/t to 4.35g/t and an average of 3.86g/t. The implication of this is that values around 4g/t may be understated by approximately 4%. A plot examining reproducibility within the paired data (original assay and laboratory duplicate) shows that 90% of the pairs report an absolute relative deviation of 14% or less. SRK is of the opinion that the data quality is sufficient to support a Mineral Resource estimate.

A subset of samples assayed at AARL was sent to SGS-L for check assay. A total of 66 duplicate assay values were provided to SRK for analysis. A scatter plot of the values reveals that the Lakefield values are on average higher than the AARL values. Samples with low grades show relatively good agreement, and the scatter increases with grade. A plot of the Half Absolute Relative Difference reveals that many of the samples with large grade differences are high-grade samples. This implicates the presence of coarse gold in the reef, which when using small sample aliquots such as are typical for fire assay, can significantly affect the grade of a sample by their chance presence or absence. A quantile-quantile plot, which compares the ranked sample values from each laboratory, regardless of pairing by sample, shows that the cumulative histograms of the 66 assays from the two laboratories are very similar in shape. A notable exception is one sample from Lakefield with a grade of 112g/t. This is far greater than the next highest sample in the dataset at 40g/t. The average value of the Lakefield data is over a gram per tonne higher than the AARL data, however, if the sample with a grade of 112g/t is removed, the average values of the two datasets differ by only 0.1g/t. The presence of coarse gold in the reef might introduce a high degree of scatter in the duplicate sample values, especially if the sample

aliquots submitted for assay are relatively small. The presence of such extreme values suggests that an analysis of the data to determine the effect of capping certain outlier values may be merited.

For the most recent Mineral Resource estimation study completed by Charles Muller, the data were acquired from Aflease Gold in the form of Excel spreadsheets. The data from the 14 holes drilled by Gencor did not contain the original individual sample values, but were presented as full reef composite values. These boreholes were used only for the evaluation of the BPLZ where the mineralised zone is on average only 43cm thick. Only 5 of the 14 holes contained a composite sample value for this facies. For the Channel and Blanket Facies, individual drillhole samples were composited to a 1m length. The BPLZ facies was evaluated as a full reef composite.

The BPLZ estimate is based on 52 diamond drill holes developed by Aflease Gold. Of these drill holes, there are 36 reef intersections that have been included within the estimate. In addition, 14 diamond drill holes previously developed by Gencor were included in the estimate; the data files contain eight BPLZ intersections. In addition, extensive mining of the BPLZ has taken place on the Petrex Property to the south of Modder East and also within parts of the UC Prospect area. Underground channel sample data from the UC Prospect have been included within this estimate; 238 declustered values have been retained for the estimate. These data are not explicitly described within the documentation associated with the Modder East Mineral Resource estimate and appear to have been declustered (i.e. averaged) within 50m x 50m squares.

In addition to the Black Reef, Aflease Gold has also delineated Mineral Resources on the UK9a and the UK5a within the footwall of the Black Reef. The UK9a is a narrow channel reef, with intersections commonly characterised by the presence of kerogen, either as lamina partings or as flyspeck carbon within the conglomerate reef unit. A dataset consisting of 171,000 underground channel samples within stoping and development on the Grootvlei Mine immediately south of the Modder East project area is available as an analogue to the payshoot that is considered to have been intersected on Modder East. These data show a complex distribution of grades within a channel complex that trends in a north-westerly direction.

A total of 39 boreholes were used to calculate a resource estimate for the UK9a unit. Twenty of these holes were newly drilled and have not previously been included in a resource estimate. Seven holes were available to evaluate the UK5a unit.

SRK is satisfied that the assay data are of sufficiently good quality for use in Mineral Resource estimation.

17.3.2 Mineralisation Definition and Resource Estimation – Black Reef

Previous modelling of the orebody in December 2004 considered two separate facies types (BPLZ and Blanket Facies) that were later combined into one single model. Modelling in May 2005 considered three distinct reef types (BPLZ, Blanket Facies and Channel Facies) where samples from the Channel Facies and Blanket Facies were composited to a 1m interval. Based on examination of histograms and probability plots, no anomalous grade values were identified that were considered to require cutting or capping of grades.

There have been some relatively minor changes to the estimation approach used for this estimate. Where the BPLZ channel width is less than 1m, the reef width has been composited to a minimum 1m width, through the inclusion of underlying Blanket Facies material. The Blanket Facies is a low grade sandy unit that is interlaminated between the BPLZ and the Channel Facies. Previous estimates reported the results of these three facies units separately, whereas this current estimate seeks to combine units in a manner akin to the way in which they would likely be mined. It seems logical to

consider that the BPLZ would be mined and that the excess stope-width, where required, would be located within the underlying Blanket Facies material.

A triangulated surface model was constructed describing the upper and lower contact surfaces for each of the facies units. For each facies unit, the pairs of surfaces (i.e. upper and lower contact) were then filled with model blocks that have been clipped to the wireframe in order to represent the volume of this reef facies. These seam models (one for each reef facies) were then regularised to 200m x 200m x 1m before grade estimation. Each block within the 200m x 200m x 1m block model records the proportion or volume of each reef facies contained within each block.

Variography has been based on the full reef composites and work reported by Lavery on an adjacent property has been included within the interpretation of the variograms derived from the present data set. Close-spaced underground channel data were available from the adjacent property to the south of the area being modelled. The BPLZ has been subdivided into three distinct domains (Figure 17.1-A) based primarily on interpretation of the metal accumulation and channel width distributions as indicated by the drill hole data. In addition, it is well demonstrated from the Petrex property that the BPLZ accumulation and grade distributions are spatially related to the position relative to the western margin of BPLZ development, a feature colloquially referred to as the "shoreline". At the shoreline, the BPLZ cuts out and the hangingwall quartzites overly the BPLZ footwall directly. However, where the BPLZ is developed immediately adjacent to the shoreline feature, the metal accumulation and grade is typically high and decreases systematically towards the east, away from the shoreline feature. The drilling data available within the BPLZ unit on Modder East supports this spatial grade behaviour.

The variograms were assumed to consist of a pair of nested spherical structures. The drill data spacing at Modder East is too widespread to allow the short-range structure to be determined experimentally. Variograms from Grootvlei Mine have been documented and reference to this information by Mr Muller was included in the derivation of the variogram structure for the Black Reef facies units in the Modder East project. All variograms (i.e. BPLZ, Channel Facies and Blanket Facies) were assumed to have a relative nugget effect of 55% and for the first structure sill to have a relative variance of 25%. In addition, the first range structure was assumed to have a range of 30m.

Estimates were developed using Simple Kriging with a local mean value, deemed the most appropriate estimation technique for the widely spaced data used in the estimation of the Black Reef facies units. The block size used for the estimation was 100m x 100m and the metal accumulation and channel width data were interpolated using Simple Kriging. A density (specific gravity) of 2.8 was assigned to the BPLZ facies and 2.7 to both the Channel and Blanket Facies. Local mean values were assigned to blocks using a larger search neighbourhood of 400m x 400m. A minimum of 12 samples were required to be located within the search neighbourhood to allow the assignment of the local mean. If the sample set located within the search neighborhood was less than this, the average value applicable for the entire domain was used as the mean within Simple Kriging. The kriging was undertaken using a search neighbourhood that was slightly larger than the variogram ranges and soft domain boundaries were also defined, such that data immediately outside a domain may contribute to the estimation of blocks on the margins of that domain. Once the block estimates were developed, a post-processing operation was run to estimate the proportion of each block, expressed in terms of smallest mining units ("SMU's") that might be accessible above a defined cut-off grade. This process makes use of a two-parameter lognormal model and is in effect a lognormal shortcut. In deriving the dispersion variance of the SMUs, the theoretical log-dispersion variance of the Panels (i.e. the 100m x 100m blocks) was estimated from the point data variogram and account was also taken of the kriging variance of the estimated average panel grade. The log-dispersion variance of the SMUs was also derived from the variogram model and the information effect was derived from an estimate of an SMU using data that were assumed to be available at the time of exploitation. This process permits the estimation of the

recoverable component of a Mineral Resource (recoverable over a cut-off grade) on the assumption that the variogram models are correct and that the operation can realistically undertake selective mining using the SMU geometry that has been included within the estimation of the resources. For the BPLZ, the SMU that was used was 20m x 30m. Realistically, this SMU dimension is probably slightly too small, given the nature of the BPLZ and the intended mining method. This said, SRK considers that the impact of changing the SMU dimension is within the limits of uncertainty on the global resource values.

The Channel Facies consist of a sequence of pyrite-rich quartzites, pebbly quartzites and conglomerates that are approximately 3m in thickness and are separated from the overlying BPLZ by the Blanket Facies, a zone of quartzites that are ostensibly barren and have an average thickness of approximately 1m over the Modder East project area. The Channel Facies material is erosional into its footwall and estimates have been developed for the Channel Facies over much of the footprint of the mineralised BPLZ that has been delineated. In the March 2005 estimate, the Channel Facies was estimated using a three-dimensional block model with 1m high cells. This current estimate uses a seam-approach, in which the block height is reflective of the modelled width of the mineralisation. Within the geological model, the thickness of the Channel Facies ranges from approximately 0.8m to a maximum of 5.4m, with an average thickness of 2.8m. Coupled with the overlying Blanket Facies material that has not been incorporated with the BPLZ, the average mineralised width for the combined Channel Facies and Blanket Facies is approximately 3.8m. The Channel Facies has been subdivided into four domains (Figure 17.1-B) on the basis of metal accumulation and channel width data. Within the Channel Facies, the estimate is a genuine three dimensional estimate of grade into 1m high blocks using 1m sample composites, so no problems are anticipated in this estimate.

17.3.3 Mineralisation Definition and Resource Estimation – UK9a

A total of 39 holes were used to estimate the resource for the UK9a. Twenty of these are newly drilled holes that have not participated in previous resource estimates. The UK9a has been subdivided into five distinct domains (Figure 5.3) based primarily on interpretation of the metal accumulation and channel width distributions as indicated by the drill hole data and the interpreted payshoot.

A composite gold grade and channel width was interpolated using an Inverse Distance Cubed weighting process within the inferred UK9a channel feature. The block model was two dimensional with a block size of 100m x 100m. The interpolated channel width and an SG of 2.7 were used for the estimation of the in situ tonnage within the channel features. For the conversion from the in-situ estimate to a mineral resource, a 1m stope width was applied and external dilution included within this mining cut was added to the channel tonnes. In addition, a cut-off of 199cm.g/t cut-off was applied.

The underground channel sample dataset from Grootvlei Mine was used to develop well-informed directional variograms from the larger set and these variograms were then rescaled to the variances observed within the drill hole data set on Modder East. Typical Kimberley Reef is present as channelised reef, with comparatively narrow zones of relatively high grade material surrounded by significantly lower grade reef. Within the channel feature itself, a complex internal geometry may be found, with very narrow high grade shoots and zones located as lens-like bodies within the channel. The size, shape and abundance of these features may significantly affect the average grade of the mineralised channel. Being small (generally several metres to perhaps tens of metres in width), these features are generally very incompletely sampled within surface drill holes and ultimately lead to significant difficulties in deriving realistic Mineral Resource estimates from relatively wide-spaced surface drilling data.

SRK recommends that Aflease Gold considers the development of a minimum of 7 additional drill

holes within the Indicated Mineral Resource area to confirm the lateral extent of the mineralised channel and to confirm the internal continuity of this mineralised material.

17.3.4 Mineralisation Definition and Resource Estimation – UK5a

The UK5a has also been sampled by diamond drilling within the UC Prospect area. A basal unit of conglomerate within the UK5 package has been identified with an average grade of approximately 1.5g/t and a mineralised width of approximately 3m. Seven diamond drill holes have intersected the UK5a and an Inferred Mineral Resource has been developed from these data, using the variogram models developed from the UK9a as analogues for the estimation of the UK5a. Estimates have been developed within 100m x 100m blocks and in keeping with the approach used for the UK9a, BPLZ and Channel Facies, a lognormal shortcut approach has been used to report estimated Mineral Resources above a cut-off 496cm.g/t.

17.3.5 Classification

No specific numerical rules have been applied for the classification of the Mineral Resources. It is stated that the classification of a Mineral Resource is a function of the confidence of the estimate, including confidence in drilling, sampling, geological understanding, geostatistical relationships etc. Africase Gold has listed the following aspects or parameters as important factors for consideration in resource classification:

- Sampling: Quality assurance and quality control.
- Geological confidence.
- Number of samples used to estimate a specific block.
- Kriged Variance.
- Distance to nearest sample.
- Lower Confidence Limit (blocks)
- Kriging Efficiency.
- Deviation from the lower 90% confidence limit (data distribution within resource area considered for classification)

Using the criteria listed above, the bulk of the Black Reef resource at Modder East has been classified as an Indicated Mineral Resource. Based on the criteria above Inferred Mineral Resources could be delineated adjacent to but beyond the Indicated Resources. However, resources tabled were restricted to the areas close to sample (drilling) information.

The area of the UK9a that could be considered classifiable as an Indicated Mineral Resource is restricted to the Domain 1 area (Figure 17.1-C).

SRK is of the opinion that the modelling methodology as described is reasonable and the classification applied is valid, especially when the continuity of mineralisation between diamond drill holes on the adjacent mining areas are considered.

The SAMREC Code and the Canadian Institute of Mining Metallurgy and Petroleum CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines both recognise the use of definitions of Mineral Resources and Mineral Reserves. Furthermore, both codes make use of the definitions of "Measured", "Indicated" and "Inferred" Mineral Resources in decreasing geological confidence, reproduced in section 25 (Appendix).

Comparison of the two codes reveals significant aspects of similarity:

- Both recognise the role of a "Qualified Person" (CIMM 2000) and a "Competent Person" (SAMREC) who is appropriately experienced and is a member of a recognised professional association.
- In terms of the definitions there are close similarities between the two codes, within SAMREC only Measured and Indicated Mineral Resources can be converted to Proven and Probable Mineral Reserves, analogous with the CIMM 2000 Code.

Accordingly, SRK certifies that the SAMREC Mineral Resource statement would be identical to one stated in terms of the CIMM 2000 definitions and guidelines and the CIM Standards.

17.3.6 Grade Reconciliation

Descriptive sample statistics were presented for each facies within each domain. The resource statement, however, has tabled a mean grade value for each facies, each at a different cut-off value. It is thus not possible to reconcile mean sample values vs. mean grade estimates for the Black Reef.

17.3.7 Impact of environmental, legal and socio-economic issues

SRK is of the opinion that there are no known issues of an environmental, permitting, legal, title, taxation, socio-economic, marketing or political nature, or other relevant issues which could impact on the resource estimates presented in this ITR. Underground mining methods will have a negligible impact on the surface and appropriate provision has been made for the safe disposal and rehabilitation of waste and tailings.

17.3.8 Impact of mining, metallurgical and infrastructure factors

SRK considers that the conversion of mineral resources into ore reserves has taken appropriate account of the potential influence of mining and metallurgical factors on the estimates presented. Mining methods and metallurgical processes are well-tested and have been used in the South African gold mining industry for many years. Infrastructure has been positioned so as to avoid the possible sterilisation of resources.

17.3.9 Audited Mineral Resource Statement

Table 17.1 reflects the SRK Audited Mineral Resources for the Project as at 31 December 2005. This is consistent with the News Release issued by Uranium One dated 13 February 2006 and filed on its website. Mineral Resources were classified according to the SAMREC Code by Dr. Mike Harley, an appropriately Qualified Person. SRK is satisfied that the Mineral Resources for the Project are appropriately estimated and classified. SRK further certifies that this statement under the CIM Standards would be identical.

The mine modifying factors used to convert the mineral resources to mineral reserves for Modder East (Table 17.1) are discussed in Section 17.4. The Mineral Resources are quoted inclusive of the Mineral Reserves.

The BPLZ has been modelled at a minimum mining width of 1m. Aflease Gold has stated an intention to reduce stoping widths on the BPLZ to values approaching 80cm. SRK considers that it is preferable to use a stope width of 1m for the purposes of reporting the Mineral Resources until such time that the validity of a significantly narrower width has been demonstrated by mining practices.

Table 17.1: Modder East Project – SRK Audited Mineral Resource Statement, 31 December 2005

MINERAL RESOURCES				
	Tonnage (Mt)	Cut-off Grade (cmg/t)	Au Grade (g/t)	Contained Gold (Moz)
Indicated				
Black Reef (BPLZ) + BF ⁽¹⁾	5.72	167	6.07	1.12
Channel Facies	15.20	379	1.32	0.65
Kimberley UK9a Reef	1.35	199	5.47	0.24
Kimberley UK5a Reef	-			
Total Indicated Resources ⁽²⁾	22.27		2.79	2.00
Inferred				
Black Reef (BPLZ) + BF ⁽¹⁾	0.47	167	3.31	0.05
Channel Facies + BF	-			
Kimberley UK9a Reef	2.50	199	5.00	0.40
Kimberley UK5a Reef	9.70	496	1.82	0.57
Total Inferred	12.67		2.50	1.02

1 BF – Blanket Facies

2 Reported inclusive of Mineral Reserves

17.4 Conversion of Mineral Resources into Mineral Reserves

17.4.1 Modifying Factors

Mineral Reserves were estimated by converting Indicated Mineral Resources using the modifying factors set out below. The Mineral Reserves consist of contiguous zones of gold mineralisation delineated in the geological model, while isolated areas were not included. The following modifying parameters or factors for the Black Reef and UK9a zones were used for the estimation of Mineral Reserves for the Project:

- BPLZ Resource width 100cm
- UK9a Resource Width 100cm
- Trammings width 108cm
- Gold price ZAR89,653 per kg;
- Mining operating costs US\$29.31/t on BPLZ and Blanket Facies, and US\$33.56/t for UK9a Kimberley Reef
- Minor Geological Losses 5%
- Gold Losses 10%

A number of calculations were done to determine the *in situ* pay limit grade for the various mining methods. The calculations assumed a gold price of US\$430/oz and an exchange rate of US\$1.00:ZAR6.49. The equivalent SA Rand gold price is ZAR89,653/kg. The operating costs that were applied depend on the mining method. Together with the modifying factors, the pay limit grades were calculated as being:

- Narrow reef mining on BPLZ horizon: 2.75g/t.
- UK9a (Kimberley Reef) mining: 3.49g/t.

In addition, marginal pay limit grades were calculated using the same criteria as above in the calculations with the exception of the operating cost. The operating cost was reduced by an amount for mine development to determine a marginal operating cost which was then used in the marginal pay limit grade calculation. The marginal pay limit grades calculated are:

- Narrow reef mining on BPLZ horizon: 1.68g/t.
- UK9a (Kimberley Reef) mining: 2.24g/t.

17.4.2 Audited Mineral Reserve Statement

Using the above modifying factors the Total Probable Ore Reserves were estimated as 6.68Mt, at an average grade of 5.0g/t, as shown in Table 17.2. These Reserves are taken as at 1 June 2006, coincident with the Effective date of this ITR and the valuation date for the Project.

Table 17.2: Modder East Project – Audited Mineral Reserve Statement, 1 June 2006.

MINERAL RESERVES ⁽¹⁾	Tonnage (Mt)	Au Grade ⁽²⁾ (g/t)	Contained Gold (Moz)
Probable			
BPLZ Mining	5.26	5.28	0.89
Kimberley UK9a Reef	1.42	3.97	0.18
Total Reserves	6.68	5.00	1.07
Total in LoM Plan	6.68	5.00	1.07

1 Mineral reserves included in Mineral Resources.

2 Gold price of US\$430/oz (equivalent to R89,653/kg) and mining cut-off grade of 2.75g/t for the BPLZ and 3.49g/t for the UK9a.

17.4.3 Reconciliation of Reserve Statements

In the News Release of 13 February 2006, Uranium One had presented Probable Mineral Reserves of 10.1Mt at an average grade of 4.02g/t. As these differ from the figures presented in Table 17.2, it is necessary to examine the reasons for the change:

- The figures presented in the 13 February 2006 News Release had been derived from an expanded mine plan to incorporate the Channel Facies material (Heyl and Pooley, 2006), which in turn was based on earlier mine development studies compiled to a pre-feasibility study level of accuracy (Wilson, Kotze and Pooley, 2004; Wilson, Kotze and Pooley, 2005);
- The modifying factors used to convert Mineral Resources to Mineral Reserves had been consistently applied in the three studies and were seen to be reasonable;
- Mining of the Channel Facies had included a limited proportion of the Blanket Facies which immediately overlies the Channel Facies material;
- Mining of the Channel Facies material was premised on simultaneous extraction with the BPLZ ore, whereby the BPLZ carried the cost of the mine infrastructure necessary to access the ore. The mine plan incorporating the Channel Facies only followed this assumption in part and had not been optimised, resulting in Channel Facies material remaining that was not adequately supported by the mining of BPLZ ore and became uneconomic under the economic assumptions used;
- In the Study completed in May 2006, the Channel Facies (and part of the Blanket Facies) was excluded from the LoM plan;
- In the Study, higher pay limit grades had been applied to the modifying factors for conversion of Mineral Resources to Mineral Reserves than previously used;
- The Study had developed a LoM production schedule that included some 0.45Mt of material that had been classified as Inferred Resources, since the blocks containing this material were contiguous to Reserve blocks in the block model. SRK has excluded this material from Table 17.2 and the valuation presented in section 19.10;
- The Mineral Reserves in Table 17.2 relate to a LoM plan from a feasibility study which has a higher level of accuracy and confidence than that derived from a pre-feasibility study.

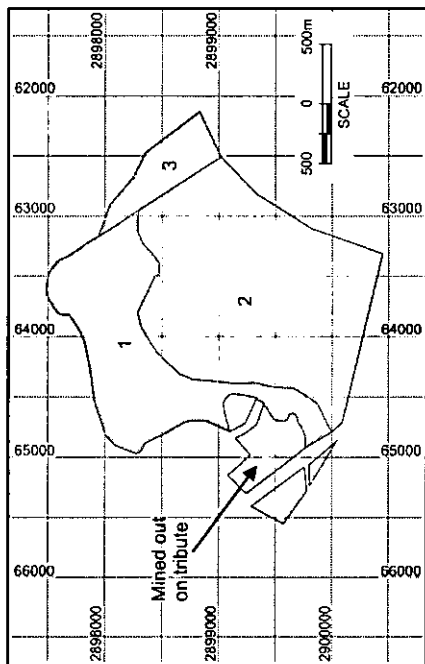
For completeness, the Mineral Reserve estimate as given in the 13 February 2006 News Release is shown in Table 17.3.

Table 17.3: Modder East Project –Mineral Reserve Statement, 31 December 2005.

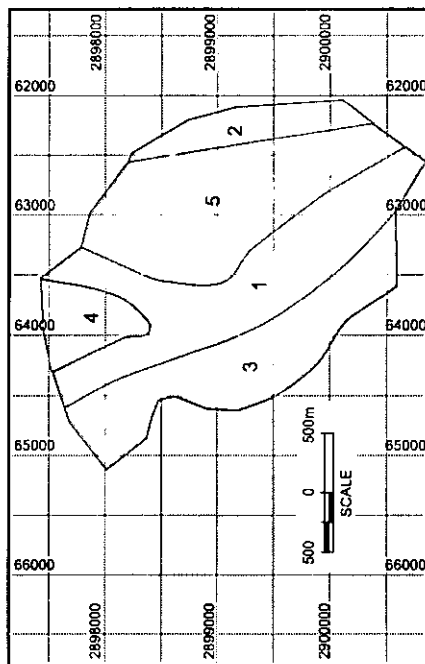
MINERAL RESERVES ⁽¹⁾	Tonnage (Mt)	Au Grade (g/t)	Contained Gold (Moz)
Probable			
BPLZ and Blanket Facies	6.31	4.83	0.98
Channel Facies	2.47	1.92	0.15
Kimberley UK9a Reef	1.29	4.10	0.17
Total Reserves	10.07	4.02	1.30

¹ Mineral reserves included in Mineral Resources.

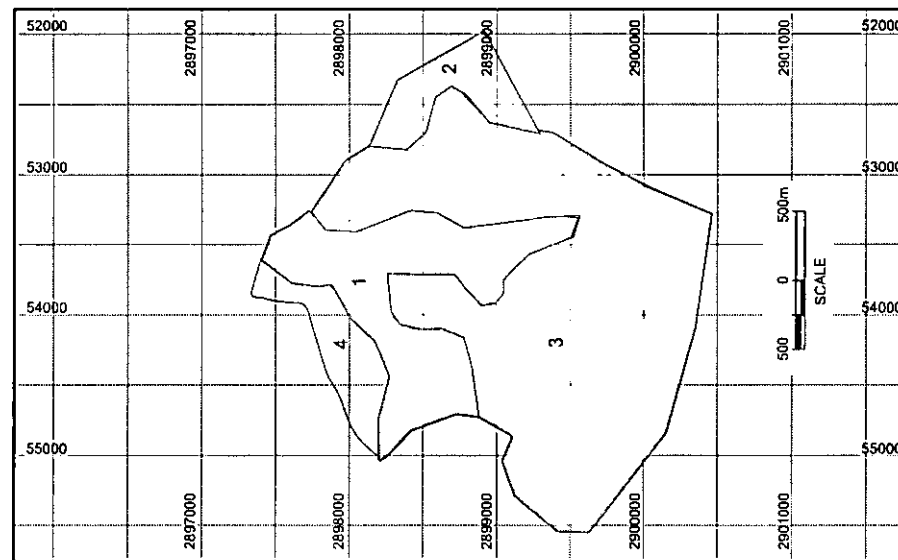
SRK is satisfied that the reduction in Mineral Reserves between that presented in the 13 February 2006 News Release and in this ITR is reasonable and is based on greater confidence in the geological block model, modifying factors, the level of accuracy of the Study and engineering assumptions made.



A: BPLZ



C: UK9a



B: Channel Facies



Aflease Gold -
Identified domains on BPLZ, Channel Facies and UK9a

FIGURE
17.1

18 OTHER RELEVANT DATA AND INFORMATION

SRK is not aware of any relevant data or information that are not already presented in this report.

19 ADDITIONAL REQUIREMENTS FOR DEVELOPMENT OF PRODUCTION PROPERTIES

This section includes discussion and comment on the mining engineering-related aspects of the LoM plan associated with the Project as presented in the Study by Aflease Gold and its consultants.

SRK has determined that the study completed on the Project satisfies the definition of a feasibility study as set out in the NI43-101. This study has established the underground mining and mineral processing methods and includes reasonable assumptions of technical, engineering, operating and economic factors in support of a financial analysis. Accordingly, SRK has treated the Project as a development property for purposes of reporting in this ITR.

19.1 Mining Operations

19.1.1 Project Description

The Project proposes to exploit a Witwatersrand-type orebody on the shallow dipping Black Reef at depths of 300m and the UK9a Kimberley Reef below the Black Reef formation. The Total Probable Mineral Reserves are 6.68Mt at an average grade of 5.00g/t. The Black Reef and Blanket Facies reefs will be mined simultaneously.

The BPLZ is approximately 300m below surface ("mbs") and the inclination varies between flat and shallow dipping at 4°. The reef is relatively undisturbed with minimal geological structures encountered during exploration. The gold is concentrated along a depositional shoreline on the northern edge of the orebody with grades dropping off as the distance increases from this shoreline in a southerly direction. The BPLZ is underlain by Blanket Facies and Channel Facies. Though some Blanket Facies will be mined with the extraction of the BPLZ neither the Blanket Facies nor Channel Facies of the Black Reef formation was considered as a mining target in the Study.

The UK9a unconformably underlies the Black Reef formation and sub-crops against the base of the Black Reef. The sub-crop is approximately 300mbs and dips at approximately 6° to 12° to the south. The UK9a has been evaluated to a depth of 530mbs on the property. The reef is highly channelised and distinct pay shoots are easily discernable. Though some geological structure has been identified by exploration drilling it is not significant and does not impact mining significantly.

At the concept and pre-feasibility study phases of this project considerable work was done in selecting an appropriate mining method for the BPLZ orebody. The mining methods considered for the BPLZ at Modder East were discussed at length in studies completed in January 2004 and March 2005. At that time, only the Black Reef was considered as a mining target.

A review of this work has confirmed the conclusion previously reached that conventional narrow reef methods supported by a trackless footwall infrastructure are the most suitable for this mining situation.

In order to mine the BPLZ and UK9a Reef horizons it has been proposed that a combination of conventional and mechanised mining be employed. Access to the orebody will be by a trackless decline from surface accessing the footwall of both reef horizons. This decline will be used as a roadway for vehicles to transport rock and materials in and out of the mine. Additionally a vertical shaft will be sunk and used to transport personnel in and out of the mine and to provide additional ventilation air. The vertical shaft is considered to be the second access as required by South African law.

Support of the development and stopes is mainly based on a rigid pillar system which will protect the surface from any impact from mining and ensure safe and stable workings. Rockbolts and timber props will also be used where appropriate.

The mine will be ventilated by two exhaust fans situated on two separate ventilation raise bore holes.

These fans will cause air to be drawn into the mine via the decline and vertical shaft which form both intake airways.

Access will be by trackless decline with a footwall haulage layout providing access to the reef (see Figure 19.1). The UK9a Reef is accessed by extending the Decline Ramp in the footwall.

The life of the project at a depletion rate of 70ktpm of Run of Mine ("RoM") and some 10ktpm of waste development is expected to be more than 10 years producing more than 30,000kg of gold.

19.1.2 Description of the Primary Access System

The selection of the primary access system to the BPLZ Reef horizon some 300m below surface was made by conducting a trade off study of the main options during the pre-feasibility study stage. This was followed up in January 2006 by a second trade off study between shaft hoisting and decline trucking. Both studies demonstrated clearly the preference for the decline trucking option in terms of capital costs, operating costs and time to commence production.

Access with a single trackless ramp offers greater flexibility and less waste development metres than with conventional shaft and horizontal tracked haulage. The ramp system also offers earlier access to the high-grade ore, future access to the Kimberley reefs, and the ability to track the reef horizon, which varies in elevation by about 50m over the mining area of interest.

Trade off studies and a truck simulation exercise indicated the cost benefits of using 50-tonne trucks. The length of the decline at a 9° dip to the footwall development 20 m below the reef horizon is 2,032m and to the chutes below the silos 2,460m. At a steady state production rate of 80,000tpm of ore and waste, the 50-tonne haul truck provides cost benefits over other smaller units.

The decline cross section was made 5.0m wide x 5.3m high, to cater for the tonnage and ventilation requirements. The cross section allows for a 0.3m road bed, twin 1,050mm ventilation ducts during the development phase and the Toro 50-tonne haul truck. The surface box cut for the access decline portal will be extensive to cater for the depth of the overburden and incompetent rocks. The depth to the footwall of the decline excavation at the brow position has been designed to 32.5m below surface.

A 5m finished diameter shaft will be sunk from surface to -320m. The vertical shaft will be used to provide downcast ventilation, man access, and all services necessary for mining such as telephone, signal and power cables, pumping, compressed air, service water, drinking water and drain columns.

The shaft will be equipped with rope guides, fixed at the bottom of the shaft and tensioned in the headgear. Spearpoint guides will be installed in the bank area and at the bottom of the shaft. Crash beams will be installed in the headgear and at the bottom of the shaft.

To avoid congestion of traffic in the ramp, rock-hauling operations will be scheduled with material requirements, equipment and personnel movement.

To avoid damage to the pipes, suspension of all service columns and power cables should not be below the upper impact line of any mobile equipment.

Capital costs have been estimated at the appropriate level with the back up of budget quotes from major equipment suppliers.

19.1.3 Rock Engineering Aspects

Modder East and UC prospect areas are located on the East Rand, north of the town Springs and south of the N12 Witbank highway. The location of the proposed mining area with respect to surface infrastructure (including roads, rail lines, surface dams and watercourses) is illustrated in Figure 4.2. The design of the underground pillar and stoping layout is such that neither pillar failure, significant

convergence nor extensive panel collapse is expected. In addition, it is likely that ground contained in fault losses will contribute to regional stability. No significant surface subsidence in the vicinity of any surface structures, particularly the Spoornet railway lines, is anticipated.

The shaft pillar has been sized at 36m x 36m which should be sufficient to maintain vertical strain and induced vertical stress within generally accepted limits.

SRK undertook a preliminary geotechnical assessment of the expected ground conditions based on the drill core from DD 28 deflection 6. Using Laubscher's rock mass ratings and Barton's Q system of rock mass classification, the rock mass can be described as fair to very good. Facies variations within both reef packets can be expected to influence rock mass quality and the possibility of poorer quality ground existing in some areas cannot be precluded. Identification of and management of changes in ground conditions will be undertaken as part of the normal mining process.

The Safety Factor for the pillar layout and panel span varies with depth and rock mass strength as shown in Table 19.1. Safety factors are generally acceptable.

Table 19.1: Summary of Pillar Design Calculations – Modder East

Parameter	BPLZ	Kimberley	Kimberley
Depth below surface	300m	300m	500m
Stoping Width	0.9m	0.9m	0.9m
Design Rock Mass Strength	62MPa	77MPa	77MPa
Panel Width	25m	25m	25m
Pillar Size (L x W)	6m x 4m	6m x 4m	6m x 4m
Effective pillar width	4.8m	4.8m	4.8m
Holing size	2.0m	2.0m	2.0m
Extraction percentage	89.7	89.7	89.7
Pillar stress	78MPa	78MPa	130MPa
Pillar Strength	147MPa	182MPa	182MPa
Factor of Safety	1.9	2.3	1.4

It is expected that pillar strengths will vary due to factors such as lithological changes that will effect material strength, facies changes that will effect the mining height and mining practice that could result in undersize (or oversize) pillars. With the high extraction percentage planned, (approximately 90%), small changes in pillar geometry or strength could rapidly reduce pillar strength and safety factor to unacceptable levels. A system to monitor pillar condition should be incorporated into the Code of Practice to give adequate warning of any pillar instability.

The planned panel spans of 25m for the BPLZ have been verified by the preliminary geotechnical investigation done by SRK. Where adverse geological features are intersected, additional stope support or in-stope pillars may be required to ensure local stability of the affected stope area.

SRK concurs that the recommended stope face and permanent support specifications are feasible and can be refined once mining has started and the required support resistances can be determined.

A comprehensive geotechnical investigation of the portal site has been undertaken to minimise the risk of encountering sink holes within the dolomite formations. The support recommendations for the open cut and decline design require a high level of rock engineering input, as these are critical excavations to the success of the mining operation. The support designs are based on empirical relationships and must be justified by sound ongoing examination of rock conditions during development. No foreseen problems are expected. SRK concurs with the tendon support design method for the decline, passing bays, excavation intersections and footwall development. The Study has made provision for the use of shotcrete in areas of poorer quality ground.

The mine study proposed a Y-legged ore pass design, with a 60° angle between the Y legs, for handling ore from reef horizon to the footwall tramming. The proposed design should remain stable for the life

of the ore pass. Possible failure of the wedge between the two ore passes could occur, due to scaling of the ore passes, poor ground conditions or abnormal geological structures. Inclusion of multiple ore passes per raise line in the DFS mitigates against any risk such failure could introduce.

Where the Black Reef is overlain by dolomites, the risk of water inundation must remain a risk to mining and demands constant vigilance notwithstanding that the boreholes drilled for valuation purposes did not intersect large quantities of water. In mitigation, it was reported that mines in the East Rand Basin in the area of Modder East, have been dewatered to 750m, depressing the local water table to below the mining elevation of the Black Reef.

Footwall development shows a line of in-stope grid pillars directly above the footwall drive. Although the planned middling is 25m, stress concentration on the footwall drive may result in scaling under poor ground conditions and monitoring of the design performance is recommended. Pre-stressed stick support is considered adequate for support within the stope. The support design criteria will be regularly evaluated against the Code of Practice for the mine and revised as necessary.

19.1.4 Mining Method Description

The mining method selected for the BPLZ stoping is conventional narrow reef mining as practiced widely in the South African gold mining industry. Though the mining will be serviced by a trackless footwall infrastructure, all access to the reef horizon and all on-reef excavations will be mined in a conventional manner (Figure 19.2-A).

A plan showing the area to be stoped on the BPLZ horizon is given in Figure 19.2-B.

Each stoping panel is 29m wide in the direction of advance including a 4m pillar. This provides a maximum span of 25m as stipulated by the rock engineering design. The ASG is planned at 1.5m wide and 2m high. The remaining 23.5m of the panel is planned at a stope width of 1.0m. The strike length allowed for each panel is 90m including the raise development and ledging sections. Panels will be mined in a strike direction with the ASG leading by at least 2 m.

The mining method used on the UK9a reef will be very similar to that used on the BPLZ reef horizon. The most significant difference in the two reefs is that the UK9a reef dips at between 6° and 12°. Access to the stopes will be via a travelling way developed at an inclination of 34° from the UK9a footwall haulage (Figure 19.3-A). On the uppermost level of the UK9a mining, a vent raise will be developed to hole into the BPLZ reef horizon. All return ventilation from the UK9a mining will pass through this ventilation raise and be returned to the exhaust ventilation shaft to surface via the old workings on the BPLZ horizon. A single ore pass will service each raise line. Back lengths are nominally 232m but due to the size and shape of some of the identified mining blocks some raises are as long as 300m long. A maximum of six panels will be worked per raise line at any one time, resulting in a maximum of three panels being blasted per shift.

A plan showing the extent of stoping on the UK9a reef horizon is given in Figure 19.3-B.

19.1.5 Development

The underground infrastructure for access to the stopes for men and material and for transport of rock will be positioned in the footwall of the reef. In both the BPLZ and the UK9a reefs the footwall infrastructure will be positioned 25m vertically below the reef horizon. This allows the stope ore passes to accommodate one full shift's expected production. The footwall infrastructure is designed for trackless diesel powered trucking as well as men and material transport.

On the BPLZ footwall elevation the layout will consist of a footwall haulage running West and East from the tip positions. The footwall haulage will be 5m wide by 5m high. Loading cross cuts will run

North and South from the footwall haulage to the extremities of the orebody (Figure 19.1). Loading cross cuts are 4.0m wide by 4.5m high. Truck loading boxes will be located in the loading cross cuts to control the loading of ore from the stope ore passes into the trucks. Material bays will be established at the entrance to each raise line from the loading cross cuts. A travelling way of 3m wide by 2.5m high will lead from the material bay to the stope above. This layout is made possible by the very flat dip of the BPLZ reef.

A tipping arrangement will be established on the footwall below the BPLZ. Trucks moving ore and waste from the stopes and development ends will discharge into tips here. An ore and a waste silo which each can contain 2,300 tonnes will be established below the BPLZ footwall drive. Trucks hauling rock to surface are filled from the loading chutes below the silos.

To access the UK9a stopes, footwall haulages will be developed West and East from the central access decline. The material bays and stope loading boxes will be located in the footwall haulages. The strike length of the mining blocks on the UK9a reef will be limited, with each footwall haulage servicing a maximum of three stopes. The positioning of loading boxes in the footwall haulages will not be expected to cause excessive congestion.

19.1.6 Ventilation

There are no regulations in South Africa at present regarding the minimum quantity of air to be delivered, but good practice is to provide at least $0.06\text{m}^3/\text{s}$ per rated kW at the point of use. This quantity is required when the equipment is operating, irrespective whether the equipment is working hard or idling.

For normal mine development, the Study makes provision for a dilution quantity of $0.075\text{m}^3/\text{s}$ per rated kW. For decline development, where a dedicated end is served by the diesel equipment, a dilution factor of $0.06\text{m}^3/\text{s}$ per rated kW at the point of use is defined. These overall dilution factors are acceptable. Mine standards will ensure that more equipment than allocated in the design is not allowed into these areas. Ongoing occupational hygiene and ventilation monitoring will also ensure that more air can be delivered to areas if pollutant criteria are exceeded. Proposed ducting will be able to carry additional air, but additional fans may be required, depending on delivery distances.

The Study determined that a minimum mine flow of $400\text{m}^3/\text{s}$ is required (based on a minimum face velocity of 0.5 m/s). This is acceptable, provided that mechanised development headings are allocated sufficient air for pollutant dilution. If the diameter of upcast bored holes is increased, more air could be circulated at reduced main fan pressures, but a detailed economic analysis would be required to evaluate raise bore costs vs. fan capital and operating costs.

Using costs given in the Study, about US\$0.3million provision has been made for secondary ventilation capital equipment (fans, ducting, ancillaries) for development of the declines, footwall drives and haulages. The amounts specified are reasonable.

The operating cost schedules allow for replacement of ducting in headings at a rate of 1.6m per month. With high standards of duct maintenance this could be feasible. In addition, provision is made for a certain amount of recovery in the costing.

The trucking operation and logistics services are in intake airways. This is considered a moderate risk, although the vertical shaft will act as an auxiliary intake airway.

Special operating procedures should be compiled for the handling of fires in the decline and footwall haulages.

19.1.7 Mine Planning

The development crew consists of 3 teams with an appropriate trackless fleet that have the capacity to advance 252m per month while mining multiple ends or 222m while mining a single end. In the priority decline development, the advance rate is planned at 98m per month, supplemented by muck bays at 60m per month, totalling 178m per month. On completion of the decline, the number of available development ends increases with the footwall development and the maximum advance rate per month on any end reduces to 84m per month.

It is intended that in each raise line, consisting of 16 panels with 8 on either side of the raise, 12 panels will be worked at any one time. This is to allow for spare faces for crews to move to should any face be stopped or encounter geological problems such as a fault or dyke. Mining of 6 panels per shift for 2 shifts per day also reduces the amount of activity in a particular raise, reducing congestion in the handling of rock and material. Factors used to determine face advance and tonnes produced are shown in Table 19.2.

Table 19.2: Calculation of Face and Tonnes Produced per Month Advance per Panel

Calculation Parameter	Value
Hole length (m)	1.00
Angle (degrees)	70
Advance per blast (m)	0.85
Blast efficiency	70%
Days per month	30
Face advance per month (m)	18.0
Tons per blast	66
Average tons per day	45.6
Tonnes produced per month	1357

Each panel can be expected to produce 1,357tpm.

19.1.8 Production Scheduling

The production was scheduled for the LoM using the Mine 2-4D Scheduling package.

The decline development was based on using trackless mining equipment. The advance rates detailed in Section 19.1.7 are based on bench marking with other similar projects as well as calculated productivities.

Once the decline reaches the BPLZ footwall position and footwall development commences, the advance rates per end used in the mine schedule are 80m per month.

Travelling ways, stope ore passes, raises and advance strike gullies will all be developed using conventional hand held rock drills and air legs. The advance rate used in the schedule is 30m per month for travelling ways, 50m per month for raises and 20m per month for ore passes. Key milestones in the development schedule are:

- Month 3: Complete box cut excavation.
- Month 20: Decline reaches BPLZ footwall elevation.
- Month 30: Decline reaches first UK9a footwall drive position.
- Month 33: Shaft commissioned.
- Month 38: Silos and truck loading arrangement completed.

First ore production is achieved in month 25 from reef development. Ledging commences in month 30. Full production of 70ktpm is reached in month 57 of the project. Full production is maintained for

some 6 years after which production tails off for the last two to three years of the mine's life. Production profiles of the ore milled and the gold recovered by reef type are shown in Figure 19.4 and Figure 19.5 respectively.

The split of ore produced from the two reef horizons is not constant throughout the life of the mine, but BPLZ ore makes up 76% of the total reserve.

19.1.9 Manpower

The Study has determined that the labour complement required for the Project at steady-state production is 1,377 personnel (Table 19.3).

Table 19.3: Summary of Labour Complement at Steady-state production (month 57)

Labour Summary	Complement at Steady-state
Stoping	950
Development Opex	36
Development Capex	111
Logistics	51
Mining supervision	14
Engineering (mining)	93
Engineering (Plant)	16
Metallurgical process	39
Technical services	22
Administration and Finance	40
Management	5
Total Labour Complement	1,377

SRK was advised that the total production complement on the mine in Table 19.3 excludes any leave or relief provision, although the team composition has taken sick absenteeism into account. Aflase Gold accommodated this in the Study by increasing the labour rates by 8%. These adjusted labour rates were higher than the aggregate labour rates paid by neighbouring mines in the East Rand, but can be considered low in the range of salaries paid in the industry.

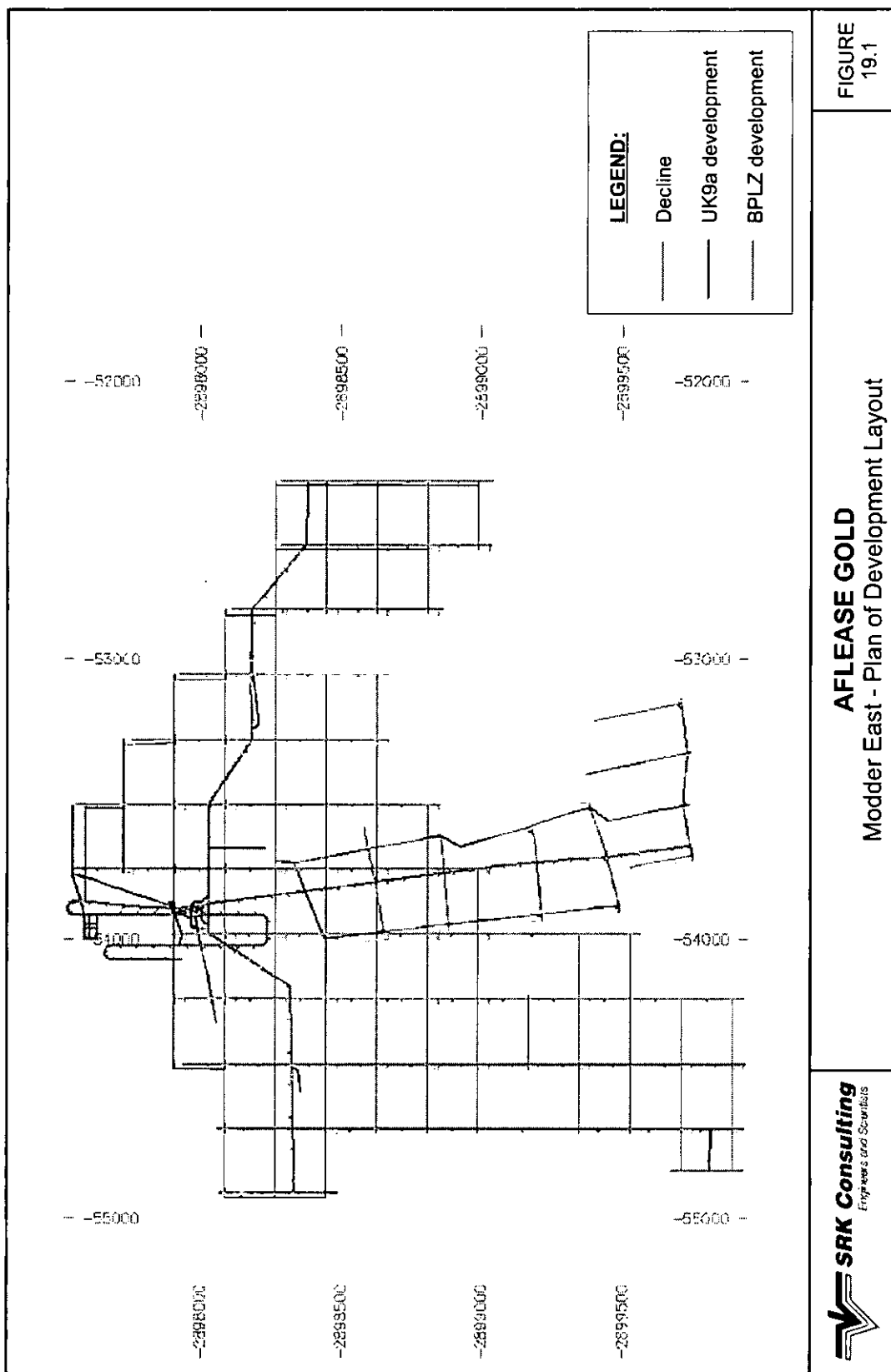
19.1.10 SRK Comments

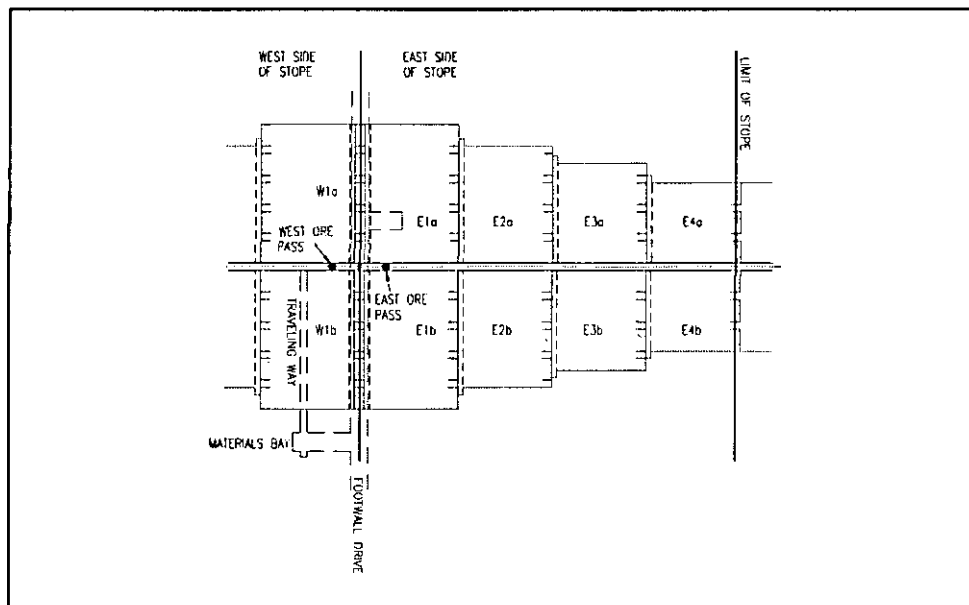
The selection of the mining method and infrastructure access proposal is appropriate for the size and depth of the Mineral Reserves.

The average operating cost for the LoM is US\$30.80/t, which appears low when benchmarked against the costs of similar narrow reef mines. It is understood that all waste development has been capitalised over the LoM, which accounts for the lower operating cost.

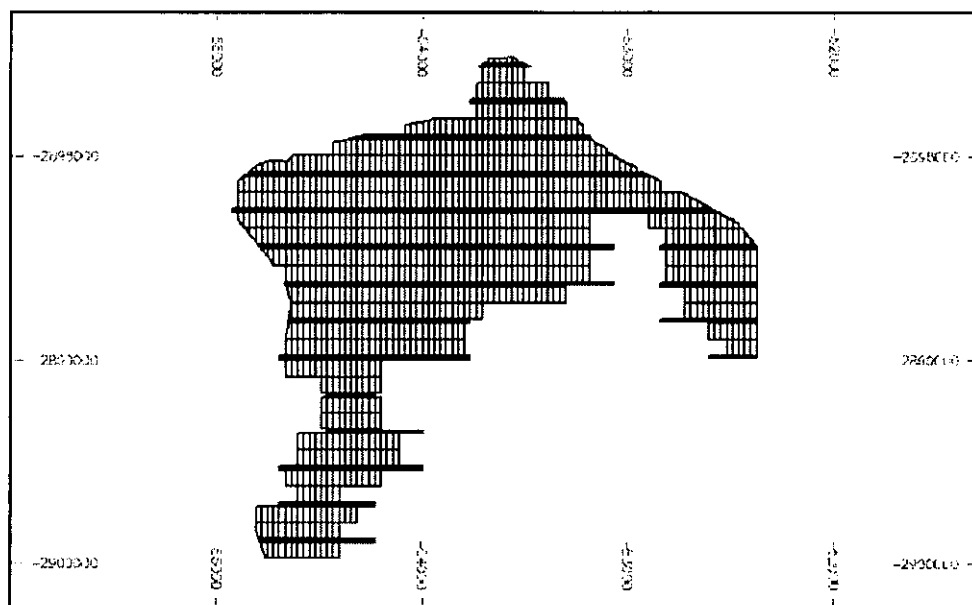
No fatal flaws in the mine design, ventilation and rock engineering aspects have been identified in the review that could materially impact on the implementation of the project. The support recommendations for the open cut and decline design must be justified by sound geotechnical investigation of the rock mass properties, although no foreseen problems are expected.

Plant and equipment required to achieve the forecast rates of mining are included in the capital estimates discussed in Section 19.4.

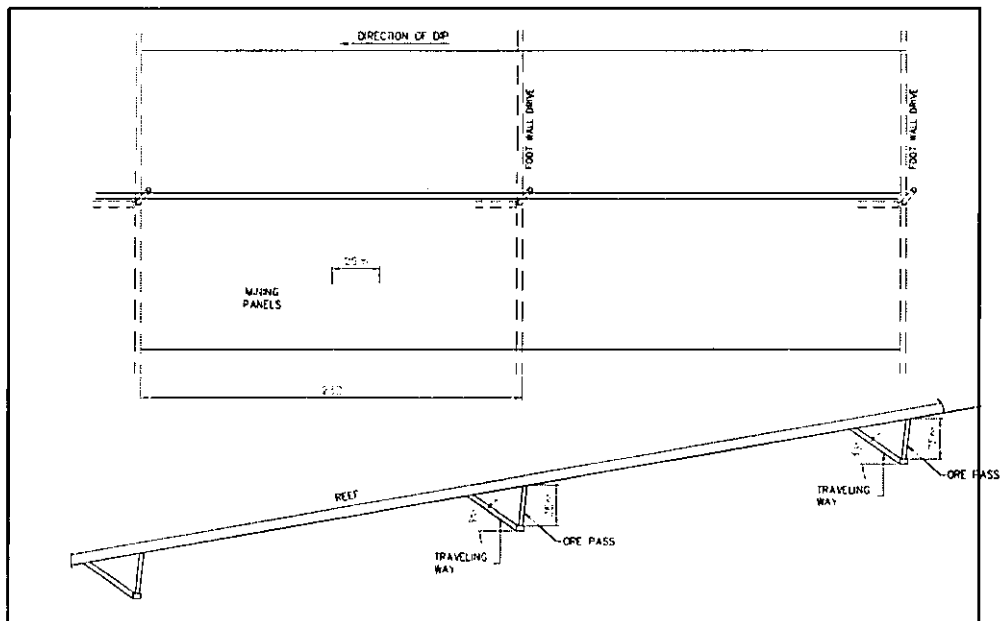




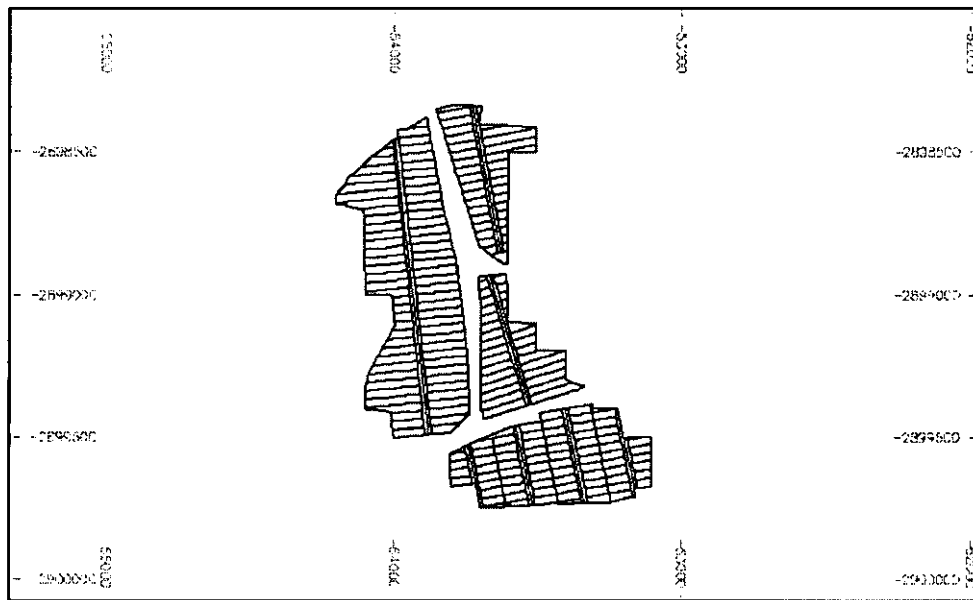
A: Sketch Illustrating BPLZ Stope Operation



B: Extent of Mining on the BPLZ



A: Sketch Illustrating UK9a Stope Operation



B: Extent of Mining on the UK9a

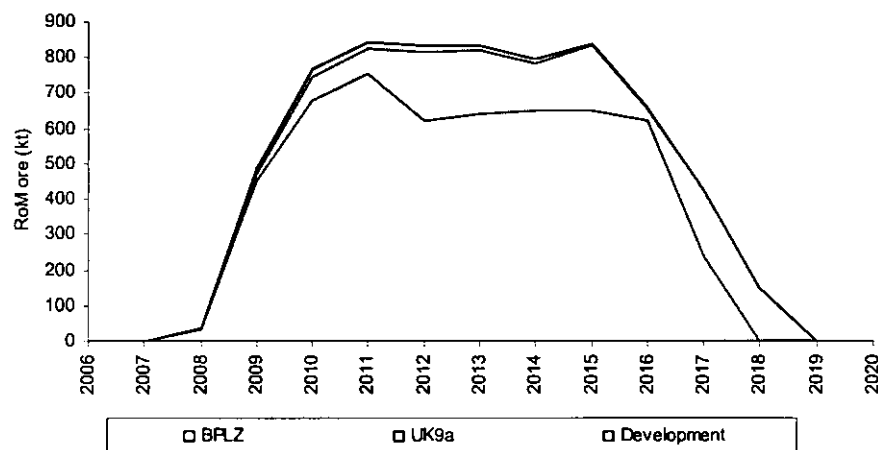


Figure 19.4: Production profile – ore milled by reef type

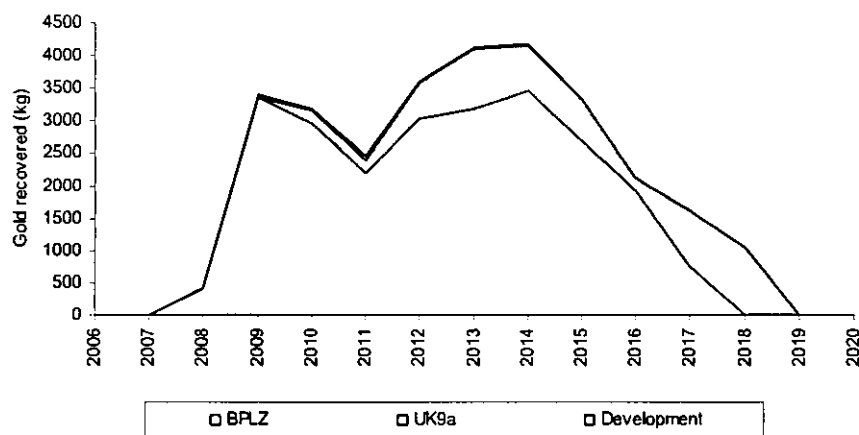


Figure 19.5: Production profile – recovered gold by reef type

19.2 Recoverability

Limited bottle roll dissolution tests were conducted on channel samples extracted from operating Black Reef stopes on the adjacent Grootvlei No. 8 Shaft operated by Petrex. Diagnostic leach and gravity concentration tests were conducted on bulk samples of Black Reef and UK9a Reef ores. Variability metallurgical testwork was conducted on 8 Black Reef samples, 6 Channel Facies samples and 4 UK9a Kimberley Reef samples. Based on the testwork results and Petrex experience, the recoveries to be used for evaluation purposes should be 88% and 95% for BPLZ and UK9a respectively.

19.3 Tailings Disposal

The following summarises all the findings regarding the tailings dam facility ("TDF") for the Project.

Several options were examined to site the TDF. The selected site for the TDF lies within the boundaries of the mineral rights area that Aflease Gold owns presently and is on the site of an old reclaimed tailings dam immediately northwest of the planned mining footprint (see Figure 4.2). The zone of influence of the TDF could impact on the Enstra factory site and Cowles Dam to the south, but

will not extend as far as the Blesbokspruit wetlands and bird sanctuary to the east.

The tailings product will be deposited using the ring paddock system conventionally employed on South African gold mines, utilising an upstream deposition method of construction.

The TDF has been designed according to the following parameters:

- The deposition rate will be 70ktpm,
- The maximum supported rate of rise (RoR) of 2.5m/yr,
- The maximum height of the dam will be approximately 20m,
- The expected LoM is 15 years,
- The footprint of the TDF will cover an area of approximately 62ha,
- The outer slopes will not exceed 1:3,
- The berm slopes will be restricted to less than 1:1.5,
- The decanting system should be sufficient to drawdown the 1:50yr storm in 72 hours,
- The freeboard from the penstock intake point to the perimeter berm should be 1.2m.

The description of the conceptual engineering for the TDF corresponds to a typical arrangement for gold tailings disposal and meets the actual regulations of safety and stability, in terms of slope geometry, gravity decanting facilities, under-drainage, and rate of raise. SRK believes though that the installation of the piping for the berm drains is impractical and should be revisited. The return water dam will be lined with a compacted clay layer to prevent seepage of contaminated water into the ground. The post-closure monitoring included by SRK (Section 19.4.5) should cater for 5 years of aftercare costs related to the TDF.

The capital cost of US\$2.6million is an order of magnitude estimate and appears to be on the low side. SRK could find no provision for return water pumping requirements, but understands that the capital costs of the pumphouse infrastructure are included in the plant capital estimate.

The monthly operational cost of US\$0.12/t covers the labour and supervision for a normal operation of a gold tailings facility. SRK believes this figure is on the low side, but reasonable.

The operational strategy for water management is to maximise recovery of water from the tailings dam. Reclaimed water in the decant water pond will be intermittently pumped by the decant water pump to the process water tank at the plant on an as needed basis, so as to maintain the pond level within set limits. It is expected that about 50% of the process water in the slurry arriving at the TDF can be returned to the plant.

The description of the conceptual engineering for the TDF for the Project corresponds to a typical arrangement for gold tailings disposal and meets the actual regulations of safety and stability, in terms of slope geometry, decanting facilities, under-drainage, and rate of raise. SRK is satisfied that the proposed design will work and accommodate the 10 year LoM plan.

19.4 Environmental Considerations

19.4.1 Introduction

The following section includes discussion and comment on the environmental management aspects of the Project. Specifically, detail and comment is included on the status of the environmental issues, environmental legislation and authorisations (see Section 4.2.5), environmental management systems and environmental liabilities associated with the Project.

The proposed Modder East operations near Benoni in Gauteng are located in an area which has been historically mined for gold and therefore disturbance in the form of old headgear, mine buildings and mine residue deposits is apparent. It is proposed that the majority of infrastructure needed for this

operation be located on the site of the reprocessed old ERGO tailings dam. The site is located immediately to the west of the Blesbokspruit, which downstream forms part of a Ramsar Wetland Site (of international importance) and drains to the Vaal River, which supplies domestic water to Gauteng as well as parts of the Free State, Mpumalanga and North West Provinces.

19.4.2 Environmental and Social Policy and Management

As part of the Study for the Project, some detail is provided on how Alease Gold plans to implement environmental and social management on site. Environmental operating costs associated with monitoring, outside services and analyses have been estimated to be US\$0.06million per year, as from January 2009 onwards. In addition, an annual provision for SLP initiatives to cover *inter alia* human resources development, HIV/AIDS awareness and management of downscaling, of US\$0.1million has been included in the operating costs. These amounts are seen to be reasonable.

19.4.3 Compliance with Legislation, Authorisations and Internal Requirements

To date there are no internal requirements, therefore the only obligations are those required by the South African government. Although Modder East has an approved EMPR in terms of Section 39(1) of the Minerals Act, the EMPR is based on a mining process that will not be implemented, as the approach to the Project has changed. Alease Gold is in the process of compiling the necessary documentation in support of an application for conversion of its old order mining right to a new order mining right in terms of the MPRDA. The documentation needed for this application includes:

- the development of a SLP per section 46 of Regulation 527;
- an environmental scoping report as per section 49 of Regulation 527;
- an EIA report as per section 50 of Regulation 527;
- an EMP that complies with sections 51, 53, 54, 55 and 62 of Regulation 527;
- a water use licence application ("WULA").

Although none of the above conversion documentation has been submitted to the authorities, Alease Gold has advised SRK that they are in various stages of completion. Alease Gold envisages that the final EMP document and the WULA can be submitted to the DME in August 2006.

Within the proposed budget for work to be completed during 2006, provision of some US\$0.2million has been made for the EMP, EMPR amendment, WULA and groundwater studies. This amount is considered adequate for the necessary work.

19.4.4 Key Environmental Issues (liabilities and risks)

Key issues are discussed below. A number of potential impacts listed below have been identified in the EMPR but these are considered to be adequately controlled or of a low significance so are not discussed further. Radiation issues are not covered by the EMPR, but Alease Gold will be addressing these in the amendment. It is assumed that radiation issues are not expected to be a problem at this site. However, this will need to be confirmed in writing with the NNR.

Environmental findings are at a baseline level of investigation, so classification of environmental impacts cannot be finalised at this stage. Environmental studies conducted to date include assessments of surface and ground water, air quality, soil pollution, land use capabilities, ecology, heritage/archaeology, noise, waste management and blasting. These studies are still in progress and input into the EIA and EMPR documents still has to be compiled.

- **Historical liabilities:** It is not clear in the documentation reviewed, what the situation is with respect to the pre-existing environmental liabilities resulting from historical mining activities in the area. No significant information has been seen on the residual contamination of the soils and sediments associated with the footprint of the reprocessed ERGO tailings dam, which will become the footprint for the new tailings dam, return water dam and waste rock dump. However, a detailed groundwater study has been completed based on existing boreholes and data as well as a number of new boreholes. The groundwater regime has been modelled, yielding predictions of groundwater movement and quality through all phases of mining and closure. The investigation concludes that groundwater contamination from the future Modder East operations should not exceed historical contamination levels in the footprint area, and provides recommendations to minimise impacts on surrounding features including the Blesbokspruit, Cowles Dam and Grootfontein Mine. These conclusions and recommendations are seen as reasonable. It is understood that other studies defining the historical liabilities will be undertaken during 2006 and are included in the budgets indicated above.
- **Ground water management:** Ground water flow and containment movement during mining and post closure will be influenced by a number of dykes and faults. Linkages with the Cowles dam and the Blesbokspruit are expected along these features and the upper aquifer. Water authorities regard this upper aquifer in the Chuniespoort dolomites as highly important for the base flow contribution to the Blesbokspruit. The impact of potential surface contamination activities is not expected to exceed the remnant ground water contamination in the old Ergo tailings dam footprint. As only shallow mining is envisaged, extensive dewatering may not be required in the earlier stages of mining, but in the final 6 years of mining (in the potentially wetter areas), inflows of between 6 and 11 Ml/d may be expected, mainly from Cowles Dam.
- **Pollution potential of mine residues:** The pollution potential of the mine residues (waste rock and tailings) has been estimated as part of the tailings dam design. Geochemical analyses have shown that there is potential for acid drainage from the mine over the long term. However, if the mine floods quickly after closure, oxidation of the pyrite will be limited. In addition, alkaline water from the dolomites should minimise the generation of acid water, but will result in the elevation of dissolved sulfate concentrations. As there are known ground water users in the area, the appropriate mitigation measures should be included in the mine residue deposit design and EMPR, and effective management plans detailed in the EMP. At present there is no plan to introduce cyanide detoxification systems on the assumption that cyanide concentrations in waste process streams will be controlled naturally by photolysis, which may or may not prove effective.
- **Compliance with Regulation 704:** There are no specific references to Regulation 704 in the EMPR. There is a need to get conceptual water management measures agreed in the EMPR and then provide the detail in the water use licence application. Compliance with Regulation 704 is not considered a fatal flaw providing the relevant design engineers take into account its requirements.
- **Cultural:** An African cemetery is located on the northern edge of the project area. Aflease Gold intends to fence off the cemetery and leave it totally intact and undisturbed, allowing access to the communities to the west and preventing disturbance from the mine infrastructure to the east. SRK understands that consideration was being given to using the historical shaft infrastructure located just to the south of the N12. Due to its age (expected to be over 60 years old), the site is considered of historical importance and any disturbance to the buildings may require approval from the Provincial Heritage Resource Agency. Clarification on this issue will need to be obtained during the EMPR amendment/ update process.
- **Closure planning:** A conceptual closure plan is presented in the Study, which takes into account the key aspects that will require rehabilitation on closure of the mine.

19.4.5 Decommissioning and closure liabilities

The environmental costs relating to decommissioning are described in the Study and take into account the waste rock dump, processing plant, tailings dam, shafts, associated buildings and related surface infrastructure. There is no detailed breakdown with rates so the value of US\$1.95million cannot be evaluated in detail, but appears sufficient for the items listed. Gold recovery and sale of infrastructure should mean that the cost of plant demolition is negligible or even profitable. However, DME guidelines do not allow for salvage value to be included unless an agreement in writing can be shown with a reputable salvage contractor.

The post closure monitoring has not been included in the cost provision. Using the annual environmental operating cost of US\$0.06million set out in the Study, SRK has added a provision to cover monitoring costs for 5 years post closure of US\$0.3million.

19.4.6 Financial Provisions

The operational and rehabilitation budgets and budgets provided for additional studies or EMPR amendments appear generally adequate, although SRK could find no specific provision for five-yearly revisions to closure costs/plans and groundwater model. If these revisions have been omitted, the impact on the costs is likely to be less than US\$0.2million over the LoM. The closure estimate for the Project as defined in the Study is reasonable, although it has not allowed for post closure environmental monitoring for five years.

To date closure liability provision has been handled by a trust fund at NKMC (New Kleinfontein Mining Co Rehabilitation Trust – IT 3475/95) and a number of bank guarantees for the Project, with a total value of US\$0.18million. In future, additional amounts will have to be added to this to cover the estimated closure liabilities shown in Table 19.4.

The expected operational, capital and closure costs for Modder East are summarised in Table 19.4.

Table 19.4: Expected operational, capital and closure costs for Modder East

Activities	Cost provision (US\$'000s as at 2006)
Operational costs per annum	
Proposed operational budget from 2009 (environmental)	59
Annual provision for SLP initiatives	100
Ongoing capital costs	
EMPR update, specialist studies and water use licence application	137
Closure liability	
Liability as determined by Study	1,950
SRK estimated additional liability (post closure monitoring)	296
Total estimated closure liability	2,246
Provision for closure at end of life of mine in Trust Fund	186
Outstanding provision to be funded over life of mine	2,060

19.5 Capital Costs

Table 19.5 gives the projected capital expenditure estimates for the Modder East project in 1 January 2006 real money terms, split into project and sustaining capital requirements. Capital costs have been estimated at the appropriate level with the back up of budgetary quotes from major equipment suppliers. The costs were estimated in South African Rands ("ZAR") and converted to US Dollars at ZAR6.585=US\$1.00. Capital cost estimates for the electrical supply assume a mix of new and second hand switchgear and transformers. SRK is satisfied that sufficient work in the mine design and mining capital infrastructure has been done to give confidence at a nominal level of accuracy of -10% +15%. A contingency of 10% has been applied to all capital items in the Study, which is reasonable.

The provision for environmental closure included in the Study capital budget has been removed, as it is treated differently in this ITR.

The CIL plant is rated at 70ktpm. SRK has adjusted the ongoing capital provision to be 3% of operating cost excluding labour in any given year less any identified capital.

Table 19.5: Modder East Project: Capital Expenditure Estimates

Capital Item	Units	Project Capital	Ongoing Capital	Total Capital requirements
Surface engineering	(US\$'000)	15,155	626	15,781
Capital Development	(US\$'000)	34,885	1,441	36,327
Mining equipment	(US\$'000)	8,857	366	9,223
Replacement equip	(US\$'000)	0	2,743	2,743
Shaft sinking	(US\$'000)	9,037	373	9,410
Underground engineering	(US\$'000)	1,890	78	1,968
Process Plant	(US\$'000)	19,242	795	20,037
Tailings dam	(US\$'000)	2,565	0	2,565
Preproduction costs	(US\$'000)	5,984	0	5,984
Environmental (Initial Sum)	(US\$'000)	346	0	346
Design	(US\$'000)	1,422	0	1,422
Contingencies	(US\$'000)	8,461	53	8,513
Total Modder East	(US\$'000)	107,844	6,476	114,320

The capital estimate for the plant is based on the use of new equipment and is considered to be realistic.

As construction costs for tailings dams are very sensitive to the footprint of the impoundment, location from plant, land rights, and other site related issues, the costing presented is based on the assumption that a new facility will be constructed within the available area.

19.6 Operating Costs

19.6.1 Mining

The operating costs have been prepared using zero-based costing techniques, assuming reasonable consumable consumption levels. The ratio of development to stoping is roughly in line with industry norms. SRK was advised that the total complement on the mine is 1,377, of which 56 are plant personnel. This excludes any leave or relief provision, although Aflease Gold has catered for this by increasing the base labour rates by about 8%.

The average LoM operating cost for all mining is US\$20.87/t, which appears low when benchmarked against the costs of similar narrow reef mines. Aflease Gold advised SRK that all development costs were treated as capital expenditure in the DFS. If the total development cost after start of plant production is converted to a cost per tonne of ore mined, the average LoM mining cost would increase by US\$3.49/t to US\$24.36/t, which appears reasonable.

19.6.2 Processing Plant

Operating costs for the Modder East Plant (Table 19.6) were developed as part of the Study. Operating costs estimates were determined using zero-based costing techniques, assuming reasonable consumable consumption levels and are in 1 January 2006 money terms.

Table 19.6: Modder East – Process Plant Operating Cost Estimate

Component	Unit Cost (US\$/t)	
	BPLZ	UK9a
Salaries & Wages	1.08	1.08
Stores & Materials	3.36	2.46
Maintenance	0.40	0.40
Power	1.01	0.98
Other	0.24	0.24
Total Modder East Plant Cost	6.09	5.16

19.6.3 Total Operating Cost

The average operating cost for the LoM of the Project is US\$30.80/t of ore milled. Conversion of the capitalised development costs into an operating cost increases the average LoM cost to US\$34.29/t, which while on the low side is reasonable in comparison to similar narrow-reef operations.

19.7 Markets

Forecasting the gold price has historically been notoriously difficult. Many analysts have ascribed the significant increase in the gold price since 2003 to a weakening dollar while there is a school of thought whose assessment it is that gold is in a significant bull-run.

Aflease Gold is currently a development company, and will not produce significant gold until the Project is commissioned in 2009. The Project will not have a significant impact on global and South Africa's annual gold production and so will have no impact on the dollar gold price.

Aflease Gold requested SRK to use a real gold price of US\$629/oz and a real exchange rate of ZAR6.585=US\$1.00, being the gold price and exchange rate ruling at 1 June 2006, as the base case for valuation purposes (Table 19.7). Assumed inflation rates for the USA and South Africa are also shown in Table 19.7.

Table 19.7: Macro-Economic and Commodity Price Assumptions

	Macro-Economic Data			Gold price (Real)	
	(ZAR: US\$) (Real)	(RSA CPI) (%)	(USA CPI) (%)	US\$/oz	ZAR/kg
Base Case	6.585	6.00%	2.00%	629	133,167

19.8 Contracts

The sale of gold to the Rand Refinery Limited ("RRL") is handled according to standard practice in South Africa. Aflease Gold and RRL operate according to a non-member agreement, i.e. an agreement for a company that is not a member of the Chamber of Mines of South Africa. RRL smelts and refines the gold according to an agreed set of charges. RRL then sells the gold and associated silver on behalf of the mining company on the international bullion market, for which a realisation charge is levied (essentially a marketing fee).

SRK understands that Aflease Gold has not entered into any hedging or forward sales contracts or arrangements for the sale of the gold produced.

19.9 Taxes

In South Africa, mining companies are taxed in accordance with the definitions of mining and non-mining income. The non-mining income of the Project will be taxed at a rate of 38%. The South African mining tax rate formula is expressed as: $y = a - (b/x)$, where "y" represents the rate of mining tax and "x" is the ratio between taxable income and taxable revenue from gold mining expressed as a

percentage. The "a" and "b" factors for the Project are 37 and 185 respectively.

South African mineral royalties (see Section 4.4.3 on the Royalty Bill) have not yet been formalised in terms of when and if operations located in South Africa would be liable and what percentage of net revenue would be payable should the royalties become law. The royalty for gold of 3% presented in the draft bill would in any event not become due until the expiry of the transitional arrangements. SRK has incorporated the royalty into the FM from 1 May 2009.

The Secondary Tax on Companies ("STC") is calculated at 12.5% of the value of dividends paid out to shareholders. This tax has been excluded from the projections in the FM.

19.10 Economic Analysis

19.10.1 Introduction

The following section presents discussion and comment on the methodology used to generate the FM for the Project and a sensitivity analysis of financial projections against various parameters considered material to this project.

19.10.2 Basis of the Economic Analysis of the Project

SRK has developed a FM for the Project that is based on annual cashflow projections ending 31 December, with technical and economic parameters stated in 1 January 2006 money terms. In generating the FM for the Project, SRK has:

- Incorporated the macro-economic and gold price assumptions as set out in Table 19.7;
- Relied upon Alease Gold for all accounting inputs with respect to unredeemed capital, assessed tax loss, debtors, creditors and stores as required for the generation of the FM (Table 19.8);
- Relied upon Alease Gold that the calculation of nominal cash flows is in accordance with the fiscal regime within which it operates and are accurately reflected in the FM;
- Included any potential new order mineral royalties which may be applied to the Project with effect from 1 May 2009;
- Reported a DCF valuation, dated 1 June 2006 for the Base Case LoM plan;
- Performed sensitivity analyses to ascertain the impact of discount factors, commodity prices, grade, total working costs and capital expenditures on the DCF valuation for the Base Case for the Project (see Tables 19.10 to 19.13);
- Not included any salvage value for plant and equipment on cessation of operations;
- Not incorporated the Secondary Tax on Companies ("STC") into the projections.

Table 19.8: Taxation and Working Capital Input Parameters as at 1 June 2006

Tax Entity	Units	Unredeemed Capital	Assessed Losses
Alease Gold	(US\$m)	5.1	2.2
Working capital		Trading days	Take-on balances (US\$m)
Debtors	(days)	30	0.4
Creditors	(days)	30	0.7
Stores	(days)	30	0.0

At the time of writing no indication of the sensitivity of the Mineral Reserve or LoM plans to commodity prices was available. The impacts on the valuation for the Project can be assessed through the sensitivity tables provided.

19.10.3 Post-Tax – Pre-Finance Cash Flows

Table 19.9 presents the post-tax pre-finance nominal cash flows for the Project in US\$ terms, which reflects the LoM plan that is based only on the Probable Mineral Reserves. Note that this table is not representative of financial statements as may be customary for determining the consolidated cash flow positions for companies. Further, no account is taken of movements in working capital at the Aflase Gold level, or deferrals of tax liabilities between accounting periods, as may be the case in the generation of such financial statements. Each period reflects the financial year from 1 January to 31 December. The valuation for the Project is derived from the reported cash flows commencing 1 June 2006.

Table 19.9: Modder East Project - Financial Model in Nominal US Dollar Terms

Financial Year	Units	2006 ⁽¹⁾	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Project Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Mining															
RoM Tonnage	(kt)	6,680	0	0	36	491	767	845	834	832	840	837	661	431	153
Head Grade	(g/t)	5.0	0.0	13.6	8.0	4.8	3.3	4.9	5.6	6.0	4.5	3.7	4.1	7.1	0.0
Contained Gold	(koz)	1,074	0	0	16	126	117	90	132	149	152	122	78	57	35
Processing															
Feed Tonnage	(kt)	6,680	0	0	0	527	767	840	813	840	813	837	661	431	153
Feed Grade	(g/t)	5.0	0.0	0.0	0.0	8.4	4.8	3.3	4.9	5.6	6.0	4.5	3.7	4.1	7.1
Feed Metal	(koz)	1,073	0	0	0	142	117	89	128	150	156	121	78	57	35
Metallurgical Recovery	(%)	88%	0%	0%	87%	87%	88%	88%	88%	88%	88%	88%	88%	91%	95%
Recovered Gold	(koz)	948	0	0	0	123	102	78	112	133	138	107	69	52	33
Saleable Metal	(koz)	948	0	0	0	123	102	78	112	133	138	107	69	52	33
Sales															
Gold	(koz)	948	0	0	0	123	102	78	112	133	138	107	69	52	33
Commodity Prices															
Gold Price	(US\$/oz)	721	629	642	654	667	681	694	708	723	737	752	767	782	798
Macro Economics															
Exchange Rates	(US\$/ZAR)	6.59	6.84	7.11	7.39	7.68	7.98	8.29	8.62	8.96	9.31	9.67	10.05	10.45	10.86
USA PPI	(%)	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Financial - Nominal															
Sales Revenue	(US\$m)	684.1	-	-	82.3	69.8	54.4	79.7	96.1	101.6	80.6	52.6	40.5	26.5	-
Total Working Costs	(US\$m)	(287.9)	-	(0.2)	(24.4)	(28.5)	(28.3)	(33.3)	(33.9)	(33.9)	(32.1)	(30.2)	(26.3)	(17.6)	0.9
Mining	(US\$m)	(161.4)	-	-	(9.9)	(16.0)	(18.0)	(18.1)	(18.5)	(18.8)	(19.4)	(19.5)	(15.7)	(7.4)	-
Processing	(US\$m)	(49.5)	-	-	(3.6)	(5.1)	(5.6)	(5.4)	(5.7)	(5.8)	(5.9)	(6.0)	(4.7)	(1.7)	-
Overheads	(US\$m)	(25.2)	-	-	(2.1)	(2.7)	(2.8)	(2.8)	(2.9)	(2.9)	(3.0)	(3.0)	(2.4)	(0.8)	-
Environmental	(US\$m)	(3.3)	-	(0.2)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	-
Mineral Royalty	(US\$m)	(31.2)	-	-	(2.9)	(2.6)	(2.2)	(3.4)	(4.3)	(4.9)	(4.1)	(2.8)	(2.3)	(1.6)	-
Terminal Benefits	(US\$m)	(15.2)	-	-	(0.1)	(1.3)	(0.9)	(1.3)	(0.9)	(0.8)	(1.1)	(0.8)	(1.5)	(6.5)	-
Change Working Capital	(US\$m)	(2.1)	-	-	(5.5)	(0.5)	1.3	(1.9)	(1.3)	(0.4)	1.7	2.2	0.6	0.7	0.9
Operating Profit	(US\$m)	396.2	-	(0.2)	57.9	41.3	26.1	46.4	62.3	67.7	48.4	22.3	14.2	8.9	0.9
Tax Deductible Allowances	(US\$m)	(121.0)	(10.4)	(21.6)	(15.6)	(10.2)	(4.9)	(6.4)	(5.5)	(3.4)	(1.1)	(1.1)	(1.0)	(0.2)	-
Tax Liability	(US\$m)	(88.9)	-	-	-	-	(4.7)	(13.3)	(19.2)	(21.9)	(16.0)	(6.9)	(4.1)	(2.7)	-
Capital Expenditure	(US\$m)	(121.0)	(10.4)	(21.6)	(15.6)	(10.2)	(4.9)	(6.4)	(5.5)	(3.4)	(1.1)	(1.1)	(1.0)	(0.2)	-
Project	(US\$m)	(113.5)	(10.4)	(21.6)	(15.3)	(9.8)	(4.4)	(4.5)	(5.0)	(1.1)	(0.6)	(0.6)	(0.6)	(0.2)	-
Ongoing	(US\$m)	(7.5)	-	-	(0.3)	(0.4)	(0.5)	(1.9)	(0.5)	(2.3)	(0.5)	(0.5)	(0.4)	(0.0)	-
Final Net Free Cash - Nominal	(US\$m)	186.3	(10.4)	(21.6)	42.2	31.1	16.5	26.7	37.5	42.4	31.3	14.3	9.1	6.0	0.9
Final Net Free Cash - Real	(US\$m)	156.9	(10.4)	(21.2)	39.8	28.7	14.9	23.7	32.7	36.2	26.2	11.8	7.3	4.7	0.7
Reporting Statistics - Real															
Cash Operating Costs	(US\$/oz)	231	0	0	0	122	229	318	221	185	177	233	354	382	396

1 Seven months June to December 2006.

2 Includes a provision for separation benefits during the LoM of some US\$13million, which should be excluded from the calculation of unit operating cost.

19.10.4 Sensitivity Analyses

The following tables present the Net Present Values ("NPV") of the real cash flows as derived from the FM (summarised in Tables 19.9) for the Project. In summary they include the following:

- The variation in NPV with discount factors (Table 19.10);
- The variation in NPV based on single parameter sensitivities (Table 19.11). The sensitivity of the project to changes in gold price or head grade can be seen in the variation of revenue in Table 19.10 and in Table 19.13. The sensitivity to variations in operating cost and capital expenditure is also presented;
- The variation in NPV based on twin (revenue and operating expenditure) sensitivities (Table 19.12);
- The variation in NPV based on twin (gold price and exchange rate) sensitivities (Table 19.13).

Table 19.10: Modder East Project: variation of Real NPV with discount factors

Discount Factor (%)	NPV (US\$m)
0%	156.9
2%	130.2
4%	108.0
6%	89.5
8%	74.0
10%	61.0
12%	49.9

Table 19.11: Modder East Project: Real NPV – single parameter sensitivity

Sensitivity Range – Revenue	-30%	-20%	-10%	0%	10%	20%	30%
Sensitivity Range - Working Costs	-15%	-10%	-5%	0%	5%	10%	15%
Sensitivity Range – Capital	-15%	-10%	-5%	0%	5%	10%	15%
Currency	(US\$m)	(US\$m)	(US\$m)	(US\$m)	(US\$m)	(US\$m)	(US\$m)
Variation in NPV at 0% DCF							
Revenue	37.7	77.8	117.5	156.9	196.7	235.3	273.9
Total Working Costs	204.8	189.2	172.5	156.9	141.3	124.9	109.1
Capital	178.9	172.0	165.1	156.9	149.9	141.9	134.9
Variation in NPV at 8% DCF							
Revenue	3.7	27.6	51.0	74.0	97.2	119.3	141.5
Total Working Costs	100.8	92.2	82.7	74.0	65.3	56.1	47.2
Capital	92.8	86.9	80.9	74.0	67.9	61.1	54.7

Table 19.12: Modder East Project: Real NPV sensitivity – varying twin parameter at 8% discount

NPV (US\$m)		Revenue Sensitivity						
		-30%	-20%	-10%	0%	10%	20%	30%
TWC Sensitivity	-15%	18.0	41.5	64.7	87.3	110.1	132.2	154.4
	-10%	13.5	37.1	60.3	82.7	105.8	127.9	150.1
	-5%	8.9	32.7	55.4	78.4	101.5	123.6	145.8
	0%	3.7	27.6	51.0	74.0	97.2	119.3	141.5
	5%	(1.2)	23.1	46.6	69.7	92.9	115.0	137.2
	10%	(6.2)	18.6	42.1	65.3	88.6	110.7	132.9
	15%	(11.3)	13.9	37.7	61.0	83.9	106.4	128.6

Table 19.13: Modder East: Real NPV sensitivity – varying twin parameter at 8% discount

NPV (US\$m)			Gold Price Sensitivity								
			503	535	566	598	629	660	692	723	755
			-20.0%	-15.0%	-10.0%	-5.0%	0.0%	5.0%	10.0%	15.0%	20.0%
Exchange Rate Sensitivity	5.597	-15.0%	2.8	14.8	25.9	37.6	48.5	59.4	70.9	81.6	92.3
	5.927	-10.0%	13.3	24.4	36.1	47.0	57.9	69.3	80.0	90.7	102.3
	6.256	-5.0%	21.9	33.6	44.4	55.3	66.7	77.4	88.3	99.7	110.3
	6.585	0.0%	29.9	41.1	52.0	63.3	74.0	85.0	96.2	106.8	117.4
	6.914	5.0%	37.0	47.9	59.2	70.0	80.9	92.1	102.7	113.3	123.9
	7.244	10.0%	43.2	54.6	65.3	76.1	87.4	98.0	108.6	119.2	129.8
	7.573	15.0%	48.9	60.1	70.8	82.2	92.8	103.4	114.0	124.6	135.2

19.11 Payback

It is estimated that the Project should achieve a payback within 4.5 years from the start of decline development and construction. Project payback is expected to be less than 2 years from the start of on-reef development.

The project also benefits from the tax shield provided by the assessed tax loss and unredeemed capital in Aflase Gold.

19.12 Mine Life

A mine life of some 10 years is indicated from the stated reserves.

19.12.1 Inclusion of Inferred Resources

It is common in the normal practice of mining that certain blocks of ground classified as Inferred Resources may be mined along with reserve blocks to maintain continuity in mining and mining layouts. In the LoM plan developed in the Study, some 0.46Mt of Inferred Resources were included in the mine plan. If these Inferred Resources were included in the FM, the NPV at a discount rate of 8% would increase to US\$81.8million, an increase of US\$7.8million.

20 INTERPRETATION AND CONCLUSIONS

20.1 Interpretation

The Project (comprising the contiguous Modder East and UC Prospect properties) is located in the East Rand Basin, which forms part of the north eastern quadrant of the Witwatersrand Basin. The major gold-bearing horizons in the area are, in order from youngest to oldest, the Black Reef, the Kimberley Reefs and the Main Reef. The Kimberley Reefs and the Main Reef consist of a number of discrete auriferous quartz-pebble conglomerate units hosted within the upper and lower sections of the Central Rand Group, respectively. The Black Reef occurs at the base of the overlying Transvaal Supergroup and is significantly younger than the reefs in the Central Rand Group.

20.1.1 Geology

The gold mineralisation is intimately associated with thin auriferous quartz-pebble conglomerate units and typically defines very extensive roughly tabular orebodies with pronounced linear, trough-like (channel) high grade shoots the geometry of which is controlled by primary sedimentological features. The gold mineralisation consists of free milling gold and is typically very erratic and nuggetty.

At the Project, recent and ongoing surface exploration drilling has delineated significant gold mineralisation associated with the Black Reef and the UK9a and UK5a horizons of the Kimberley Reefs. The principal target is the Black Reef, which dips relatively shallowly to the south between flat and 4° and unconformably overlies the Kimberley Reefs dipping south at 6° to 12°. It is speculated that part of the gold in the Black Reef is derived from the erosion of older Kimberley Reefs and Main Reef conglomerate units. The boundaries of the auriferous Black Reef define a crescent-shaped "shoreline" feature on the erosion surface of the underlying Kimberley Reefs. North of that shoreline the Black Reef consists of barren quartzite.

20.1.2 Drilling

Aflease Gold is currently evaluating the Main Reef occurrences of the Modder East property with an aim to include these in the resource inventory at the end of 2006. The present resource declaration includes no Main Reef Mineral Resources. As part of the routine on-mine exploration, 25 diamond drill holes have been planned for the forthcoming year. A supplementary diamond drilling programme has been designed to explore the potential eastern extension of the BPLZ and UK9a Reefs.

Aflease Gold advised SRK that it is busy drilling for the UK9a Reefs from the underground workings within the Grootvlei Tribute area.

20.1.3 Mineral Resource Estimation

Mineral resources delineated on the Project by surface drilling represent the northeast extension of auriferous zones presently mined on an adjacent property by Petrex. Since 1993, a total of 69 boreholes tested the Black Reef and underlying Kimberley Reefs on the Modder East and UC Prospect properties. Fifty two of the holes have been drilled by NKGm and subsequently Aflease Gold. Drilling is ongoing. In 2005, Mineral Resources were estimated by Aflease Gold and its consultants for the Black Reef and the underlying UK9a Reef. The mineral resource models were created using a three-dimensional block model approach and gold grades were interpolated using simple kriging and inverse distance functions for the Black Reef and UK9a Reef, respectively.

Variography has been based on the full reef composites and work reported by Lavery on an adjacent property has been included within the interpretation of the variograms derived from the present data set. Close-spaced underground channel data were available from the adjacent property to the south of the area being modelled. The BPLZ has been subdivided into three distinct domains based primarily on

interpretation of the metal accumulation and channel width distributions as indicated by the drill hole data. In addition, it is well demonstrated from the Petrex property that the BPLZ accumulation and grade distributions are spatially related to the position relative to the western margin of BPLZ development, a feature colloquially referred to as the "shoreline". At the shoreline, the BPLZ cuts out and the hangingwall quartzites overly the BPLZ footwall directly, however where the BPLZ is developed immediately adjacent to the shoreline feature, the metal accumulation and grade is typically high and decreases systematically towards the east, away from the shoreline feature. The drilling data available within the BPLZ unit on Modder East supports this spatial grade behaviour.

The area of the UK9a that could be considered classifiable as an Indicated Mineral Resource is restricted to the Domain 1 area (see Figure 17.1-C).

SRK is of the opinion that the modelling methodology as described is reasonable and the classification applied is valid, especially when the continuity of mineralisation between diamond drill holes on the adjacent mining areas are considered.

20.1.4 Mineral Processing and Metallurgical Testing

Limited bottle roll dissolution tests were conducted on channel samples extracted from operating Black Reef stopes on the adjacent Grootvlei No. 8 Shaft operated by Petrex. Diagnostic leach and gravity concentration tests were conducted on bulk samples of Black Reef and UK9a Reef ores. Variability metallurgical testwork was conducted on 8 Black Reef samples, 6 Channel Facies samples and 4 UK9a Kimberley Reef samples.

True representation of the gold extraction on the variability Modder East samples was not possible as the gravity midding produced was totally consumed in the assay and not recombined with the tails for cyanide leaching. Confirmatory test work on additional variability samples is recommended to ensure that all gravity and non-gravity gold material is leached in cyanide.

Only limited information from 6 variability samples on the Channel Facies is available. More confirmatory metallurgical testwork to assess the gold recovery on this ore should be considered.

20.1.5 Mineral Resources and Mineral Reserves

The Mineral Resource statement for the Project as audited by SRK is presented in Table 20.1. SRK certifies that the SAMREC Mineral Resource statement would be identical to one stated in terms of the CIMM 2000 definitions and guidelines and the CIM Standards.

Table 20.1: Modder East Project – SRK Audited Mineral Resource Statement, 31 December 2005

MINERAL RESOURCES				
	Tonnage (Mt)	Cut-off Grade (cmg/t)	Au Grade (g/t)	Contained Gold (Moz)
Indicated				
Black Reef (BPLZ) + BF ⁽¹⁾	5.72	167	6.07	1.12
Channel Facies	15.20	379	1.32	0.65
Kimberley UK9a Reef	1.35	199	5.47	0.24
Kimberley UK5a Reef	-			
Total Indicated Resources ⁽²⁾	22.27		2.79	2.00
Inferred				
Black Reef (BPLZ) + BF ⁽¹⁾	0.47	167	3.31	0.05
Channel Facies + BF	-			
Kimberley UK9a Reef	2.50	199	5.00	0.40
Kimberley UK5a Reef	9.70	496	1.82	0.57
Total Inferred	12.67		2.50	1.02

1 BF – Blanket Facies

2 Reported inclusive of Mineral Reserves

The modifying factors for the conversion of Mineral Resources to Mineral Reserves, as estimated by Afrase Gold and its consultants in the Study, are considered by SRK to be reasonable. The resultant Mineral Reserves for the Project consist of contiguous zones of gold mineralisation delineated in the geological model and are shown in Table 20.2.

Table 20.2: Modder East Project – Audited Mineral Reserve Statement, 1 June 2006.

MINERAL RESERVES ⁽¹⁾	Tonnage (Mt)	Au Grade ⁽²⁾ (g/t)	Contained Gold (Moz)
Probable			
BPLZ Mining	5.26	5.28	0.89
Kimberley UK9a Reef	1.42	3.97	0.18
Total Reserves	6.68	5.00	1.07
Total in LoM Plan	6.68	5.00	1.07

1 Mineral reserves included in Mineral Resources.

2 Gold price of US\$430/oz (equivalent to R89,653/kg) and mining cut-off grade of 2.75g/t for the BPLZ and 3.49g/t for the UK9a.

In its News Release of 13 February 2006, Uranium One had presented Probable Mineral Reserves for the Project of 10.1Mt at an average grade of 4.02g/t. SRK is satisfied that the reduction in Mineral Reserves between that presented in the 13 February 2006 News Release and this ITR is reasonable and is based on a different mining philosophy which incorporates greater confidence in the geological block model, modifying factors, the level of accuracy of the Study and engineering assumptions made.

20.1.6 Mining

In order to mine the BPLZ and UK9a Reef horizons, a combination of conventional and mechanised mining is proposed - conventional narrow reef methods supported by a trackless footwall infrastructure are suitable for this mining situation. Access to the orebody will be by a trackless decline from surface accessing the footwall of both reef horizons. This decline will be used as a roadway for vehicles to transport rock and materials in and out of the mine. Additionally a vertical shaft will be sunk and used to transport personnel in and out of the mine and to provide additional ventilation air. The vertical shaft is considered to be the second access as required by South African law.

Support of the development and stopes is mainly based on a rigid pillar system which will protect the surface from any impact from mining. Rockbolts and timber props will also be used where appropriate.

The trucking operation and all logistics services are in intake airways. This is considered a moderate risk, although the vertical shaft will act as an auxiliary intake airway.

First ore production is achieved in month 25 from reef development. Ledging commences in month 30. Full production of 70ktpm is reached in month 57 of the project. Full production is maintained for some 6 years after which production tails off for the last two to three years of the mine's life. The BPLZ ore makes up 76% of the total reserve.

The average mining operating cost for the LoM is US\$20.87/t, which assumes that all waste development has been capitalised over the LoM.

The support recommendations for the open cut and decline design must be justified by sound geotechnical investigation of the rock mass properties, although no foreseen problems are expected.

20.1.7 Environment

The proposed Modder East operations near are located in an area which has been historically mined for gold and therefore disturbance in the form of old headgear, mine buildings and mine residue deposits is apparent. The majority of infrastructure needed for the operation will be located on the site of a reprocessed tailings dam. The site is located immediately to the west of the Blesbokspruit, which

downstream forms part of a Ramsar Wetland Site and drains to the Vaal River.

Although Modder East has an approved EMPR in terms of Section 39(1) of the Minerals Act, the EMPR is based on a mining process that will not be implemented, as the approach to the Project has changed. Aflease Gold is in the process of compiling the necessary documentation in support of an application for conversion of its old order mining right to a new order mining right in terms of the MPRDA. Aflease Gold envisages that these can be submitted to the DME shortly.

To date closure liability provision has been handled by a trust fund at NKMC and a number of bank guarantees for the Project, with a total value of US\$0.18million. Additional amounts will be added to this during the LoM to cover the estimated closure liabilities.

20.1.8 Economic Analysis

SRK has reviewed the technical-economic assumptions in the Study and incorporated these, adjusted where appropriate, into a financial model ("FM"). Using a discounted cash flow technique, SRK has determined a value for the Project on a standalone basis based on the Net Present Value ("NPV") of the project cash flows in the FM. The key results from the FM for the LoM (refer Table 19.9) and NPV analysis (refer Table 19.10) are summarised in Table 20.3. All capital and operating costs for the Project were determined in ZAR and converted to US Dollars at an exchange rate of ZAR6.585=US\$1.00, the rate ruling at 1 June 2006.

Table 20.3: Modder East Project – Summary Financial Results

Description	Unit	LoM Total Value
Revenue	(US\$m)	684.1
Operating Cost	(US\$m)	(287.9)
Capital Expenditure (LoM)	(US\$m)	(121.0)
NPV @ 8% real discount	(US\$m)	74.0
Average LoM operating cost	(US\$/oz)	217
Internal Rate of Return (IRR)	(%)	31%

Aflease Gold decided to fast track the Project and commenced with the initial phase of construction for the Project on 18 May 2006. First production of ore is planned to occur in January 2009, with the steady state of 70ktpm reached in 2010. The Probable Mineral Reserves support a LoM of 10 years.

The Project is able to achieve a payback within four and a half years from the start of decline development and construction.

20.2 Conclusions

20.2.1 Sampling Method

SRK is unaware of any aspect of the sampling procedure that might materially affect the resultant grades of samples recovered from exploration. In the opinion of SRK, the sampling method and approach is appropriate for the purpose of estimating Mineral Resources.

20.2.2 Data Verification

SRK is satisfied that all procedures are conducted according to industry standard practices. SRK is of the opinion that the quality of the current exploration database for the Project is sufficient to allow reasonable interpretation of the lateral continuity of the gold-bearing reefs. SRK is satisfied that the sample security procedures are adequate.

In the opinion of SRK, the sampling and assaying data acquired since 2001 is considered of sufficient quality for the purpose of resource estimation.

20.2.3 Data quality

SRK is of the opinion that the data quality is sufficient to support a Mineral Resource estimate.

20.2.4 Mineralisation Definition & Resource Estimation

SRK is of the opinion that the modelling methodology as described is reasonable and the classification applied is valid, especially when the continuity of mineralisation between diamond drill holes on the adjacent mining areas are considered.

Comparison of the CIMM 2000 Code and the SAMREC Code reveals significant aspects of similarity.

20.2.5 Mining

The selection of the mining method and infrastructure access proposal is appropriate for the size and depth of the Mineral Reserves.

The average operating cost for the LoM is US\$20.87/t, which appears low when benchmarked against the costs of similar narrow reef mines. It is understood that all waste development has been capitalised over the LoM, which accounts for the lower operating cost.

No fatal flaws in the mine design, ventilation and rock engineering aspects have been identified in the review that could materially impact on the implementation of the project.

20.2.6 Mineral Processing

Grind sensitivity tests were not performed on the variability samples, due to the small sample masses available.

Based on the testwork results and Petrex experience, the recoveries to be used for evaluation purposes should be 88% and 95% for BPLZ and UK9a respectively.

The capital cost estimate of US\$19.2million for the Modder East Plant excludes EPCM costs and contingencies and is seen to be reasonable.

Plant operating costs of US\$6.09/t for Black Reef ore and US\$5.17/t for Kimberley Reef ore are considered to be appropriate for the proposed scale of operation.

20.2.7 Environment

The operational and rehabilitation budgets and budgets provided for additional studies or EMPR amendments appear generally adequate. The closure estimate for the Project as defined in the DFS is reasonable, although it has not allowed for post closure environmental monitoring for five years.

20.2.8 Economic Analysis

Based on the cash flows as developed in the FM, the Project should yield a NPV at 8% discount of US\$74.0million and a payback within 4.5 years from start of construction, from a mine life of some ten years.

20.2.9 Risks and Opportunities

There are a number of risks and/or opportunities that may impact on the cash flows as presented in Section 19. The impact of one or a combination of risks and opportunities occurring cannot be specifically quantified to present a meaningful assessment. SRK has, however, provided sensitivity tables for single parameters that cover the anticipated range of accuracy in respect of commodity prices, operating expenditures and capital expenditure projections.

The Project is subject to certain inherent risks, which apply to some degree to all participants of the South African mining industry. These include:

- **Commodity Price Fluctuations:** These may be influenced by supply and demand for jewellery, views on availability and price of crude oil, the relative strength of the US Dollar and rumours regarding gold sales by central banks;
- **Exchange Rate Fluctuations:** Specifically related to the relative strength of the US dollar, the currency in which commodity prices are generally quoted. Since 2002, the ZAR appreciated significantly against the US dollar and traded in a relatively tight range for 2004 and 2005. During the past 4 – 6 months, US\$:ZAR exchange rate has showed some volatility, ranging between 5.80 and 7.30 ZAR:US\$;
- **Inflation Rate Fluctuations:** The South African Reserve Bank has adopted an inflation-targeting approach to monetary policy, which should see certain stability in inflation and interest rates during the short term;
- **Country Risk:** Specific country risk including political and economic stability in the long-term;
- **Legislative Risk:** changes to future legislation (tenure, mining activity, labour, health and safety and environmental) within South Africa;
- **Exploration risk:** Resulting from the elapsed time between discovery of deposits, development of economic feasibility studies to bankable standards and associated uncertainty of outcome;
- **Environmental Liability Risk:** The inability of the project to fund its environmental liabilities from estimated operating cash flows, should operations cease prior to the stated LoM; and
- **Mining Risks:** Specifically, Mineral Reserve estimate risks, uninsured risks, industrial accidents, labour disputes, unanticipated ground water conditions, human resource management, health and safety performance (including the impact of HIV/AIDS).
- **Exploration Opportunities:** the opportunity to increase the Mineral Resource base through the actions of ongoing exploration exists.

In addition to those stated above, the Project is subject to certain specific risks and opportunities, which independently may not be considered to have a material impact but in combination may do so. These are as follows:

Risks:

- Historical liabilities at the sites and the social and labour trust fund requirements of the MRPDA may be underestimated, but these can be managed during the life of the operations;
- Further testwork on additional variability samples is required to confirm that the metallurgical recovery used to evaluate the Project can be realised;
- Approvals from the DME and DWAF could be delayed due to insufficient technical information or non-conformance with current EMPRs/permits.

Opportunities:

- Should the economic potential of the UK5a Kimberley Reef and the Main Reef, which lie below the Black Reef at the Project, and extensions to the Black Reef deposits be established, this could extend the life of the operation.

20.2.10 General

The cash flow projections for the Project at the date hereof are contingent upon the current and anticipated performance of operational management, as well as the expected achievement of the operating parameters as provided to and reviewed by SRK and set out in this ITR. It should be understood that unforeseen developments might affect our opinion, or the reasonableness of any assumptions or basis used.

The FM includes forward-looking statements that are not historical facts. These forward-looking statements are necessarily estimates and involve a number of risks and uncertainties that could cause actual results to differ. SRK notes the sensitivity of the FM to both macro-economic and commodity price forecasts.

Notwithstanding the aforementioned comments, SRK considers that at the time of compilation, the cash flow projections are appropriate and technically and economically achievable. However, it must be noted that the projections rely on existing management to implement and sustain recent initiatives to ensure that the projected cash flows are realised within the anticipated timeframe. The views expressed by SRK in this ITR have been based on the fundamental assumption that the required management resources and pro-active management skills to access the capital necessary to achieve the LoM plan projections for the Mining Assets are sustained.

SRK has conducted a comprehensive review and assessment of all material issues likely to influence the future operations of the Project. The LoM plans for the Project, as provided to and taken in good faith by SRK, have been reviewed in detail for appropriateness, reasonableness and viability. Where material differences were found, these were discussed with Aflease Gold and adjusted where considered appropriate. SRK considers that the resulting technical and economic parameters are based on sound reasoning, engineering judgement and technically achievable plans, within the context of the risks associated with the South African mining industry.

21 RECOMMENDATIONS

Based on the review of the Project, SRK presents a number of recommendations, as set out below.

21.1 General

As part of ongoing quality assurance efforts, Aflease Gold should document the current procedures used to collect exploration data, including, drilling, surveying, core handling, description and sampling and assaying. Quality control measures should also be documented and quality control data should be continuously collected, diligently reviewed and compiled for future auditing.

21.2 Modder East Project

Exploration drilling is ongoing at the Project and SRK considers that, whilst such drilling will increase the confidence in the Mineral Resources and is justified, it is unlikely to significantly change the average grades of the Mineral Resource estimates within the current footprint of the Mineral Resource. At the recommendation of SRK, Aflease Gold has modified the analytical quality control measures to improve the reliability of assaying data. At the conclusion of the current program, a representative suite of sample pulps should be re-assayed at an umpire laboratory.

21.2.1 Data Verification

SRK recommends that sets of pulp rejects be routinely analysed at an umpire laboratory to provide an independent verification of the sample grades.

SRK recommends additional quality assurance and quality control measures designed to improve the accountability and safeguard of assaying data. In particular, core sample blanks should be inserted within each set of reef intersection samples and that approximately 10% of random sample pulps are submitted with control samples to an umpire laboratory for re-assaying.

21.2.2 Rock Engineering

The support recommendations for the open cut and decline design must be justified by sound geotechnical investigation of the rock mass properties, although no foreseen problems are expected.

Although the planned middling is 25m, SRK is concerned that excessive stress concentration on the footwall drive may result in scaling under poor ground conditions and monitoring of the design performance is recommended.

21.2.3 Ventilation

Special operating procedures should be compiled for the handling of fires in the decline and footwall haulages.

21.2.4 Mineral Processing

Grind sensitivity tests were not performed on the variability samples, due to the small sample masses available. Confirmatory test work is warranted at different grind sizes before final design.

As the design grind of 80% passing 90 micron may exceed the performance of a single SAG mill, Bateman recommended that additional comminution work be done before the final selection of the SAG mill design. SRK agrees with this approach.

Confirmatory test work on additional variability samples is recommended to ensure that all gravity and non-gravity gold material is leached in cyanide.

21.2.5 Environment

There is no detailed breakdown of the environmental costs relating to decommissioning, so the value of US\$1.95million cannot be accurately evaluated, but appears sufficient for the items listed.

Using the annual environmental operating cost set out in the Study, SRK added a provision to cover monitoring costs for 5 years post closure of US\$0.3million. This figure should be confirmed.

22 **DATE**

The Effective Date of this ITR is 1 June 2006.

23 REFERENCES

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24 CERTIFICATES OF QUALIFICATIONS AND CONSENTS

CERTIFICATE AND CONSENT

To accompany the report dated 1 June 2006 and entitled "Independent Technical Report on the Modder East Gold Project, located near Springs, Gauteng Province, Republic of South Africa"

I, Herbert G Waldeck, hereby certify that:

- 1) I am a Partner and Principal Mining Engineer with the firm SRK Consulting (South Africa) (Pty) Limited ("SRK") with an office at SRK House, 265 Oxford Road, Illovo, Johannesburg 2196, South Africa;
- 2) I am a graduate of the University of Pretoria with a BSc in Mining Engineering in 1971. I obtained a MBA from the University of Potchefstroom in 1975. I have practised my profession continuously since 1972;
- 3) I was awarded a Mine Manager's Certificate of Competency (Metalliferous) in 1974 and have been registered as a Professional Engineer with the Engineering Council of South Africa (Registration No 910077) since 1991. I am a Fellow of the South African Institute of Mining and Metallurgy and an Associate Member of the Association of Mine Managers of South Africa;
- 4) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Modder East Gold Project or securities in Uranium One or Aflase Gold;
- 5) as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;
- 6) I have read National Instrument 43-101 and Form 43-101F1 and by reason of my education and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of National Instrument 43-101. This technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 7) I, as a Qualified Person, am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
- 8) I have co-authored this report;
- 9) I have personally inspected the Modder East property located in the Gauteng Province during site visits conducted on 12 April 2005 and May 2006;
- 10) SRK was retained by Aflase Gold to prepare an Independent Technical Report for the Modder East Gold Project in accordance with National Instrument 43-101. The preceding report is based on our review of project files and information provided by Aflase Gold and discussions with personnel of Aflase Gold;
- 11) I hereby consent to use of this report and our name for public filing with any Provincial regulatory authority. I confirm that I have read Uranium One's press release dated 16 August 2006 of a completed feasibility study on the Modder East Project in South Africa, and that such press release fairly and accurately represents the information in this report.

Johannesburg, South Africa
31 August 2006


Herbert G Waldeck Pr.Eng.
Partner & Principal Mining Engineer
SRK Consulting

CERTIFICATE AND CONSENT

To accompany the report dated 1 June 2006 and entitled "Independent Technical Report on the Modder East Gold Project, located near Springs, Gauteng Province, Republic of South Africa"

I, Mark Wanless, hereby certify that:

- 1) I am a Senior Geologist with the firm SRK Consulting (South Africa) (Pty) Limited ("SRK") with an office at SRK House, 265 Oxford Road, Illovo, Johannesburg 2196, South Africa;
- 2) I am a graduate of the University of Cape Town with a BSc Honours in Geology in 1995. I have practised my profession continuously since 1996;
- 3) I am registered as a Professional Natural Scientist with the South African Council of Natural and Applied Scientists (Registration No 400178/05);
- 4) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Modder East Gold Project or securities in Uranium One or Alease Gold;
- 5) as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;
- 6) I have read National Instrument 43-101 and Form 43-101F1 and by reason of my education and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of National Instrument 43-101. This technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 7) I, as a Qualified Person, am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
- 8) I have reviewed the reporting of the disclosure included in this report that was compiled by Dr Mike Harley, while he was a Partner with SRK, and concur with the disclosure made;
- 9) I personally inspected the Modder East property located in the Gauteng Province in August 2006.
- 10) SRK was retained by Alease Gold to prepare an Independent Technical Report for the Modder East Gold Project in accordance with National Instrument 43-101. The preceding report is based on our review of project files and information provided by Alease Gold and discussions with personnel of Alease Gold;
- 11) I hereby consent to use of this report and our name for public filing with any Provincial regulatory authority. I confirm that I have read Uranium One's press release dated 16 August 2006 of a completed feasibility study on the Modder East Project in South Africa, and that such press release fairly and accurately represents the information in this report.

Johannesburg, South Africa
31 August 2006



Mark Wanless Pr.Sci.Nat.
Senior Geologist
SRK Consulting

CERTIFICATE AND CONSENT

To accompany the report dated 1 June 2006 and entitled "Independent Technical Report on the Modder East Gold project, located near Springs, Gauteng Province, Republic of South Africa"

I, Michael Harley, hereby certify that:

- 1) I was a Partner and Principal Geologist/Geostatistician with the firm SRK Consulting (South Africa) (Pty) Limited ("SRK") with an office at SRK House, 265 Oxford Road, Illovo, Johannesburg 2196, South Africa, up to 30 June 2006;
- 2) I am a graduate of the University of Witwatersrand with a BSc Honours in Geology in 1988. I obtained a PhD from the University of Witwatersrand in 1993. In 1997 I completed a specialist geostatistical course "Cycle Formation Specialisee en Geostatistique" at the Ecole Nationale Supérieur des Mines de Paris. I have practised my profession continuously since 1989;
- 3) I am registered as a Professional Natural Scientist with the South African Council of Natural and Applied Scientists (Registration No 400114/01). I am a Member of the South African Institute of Mining and Metallurgy, the Australasian Institute of Mining and Metallurgy and the Geostatistical Association of South Africa;
- 4) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Modder East Gold Project or securities in Uranium One or Aflease Gold;
- 5) as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;
- 6) I have read National Instrument 43-101 and Form 43-101F1 and by reason of my education and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of National Instrument 43-101. This technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 7) I, as a Qualified Person, am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
- 8) I performed the geological and resource estimation review and sign-off and co-authored this report, while I was a Partner with SRK;
- 9) I personally inspected the Modder East property located in the Gauteng Province on 14 July 2005.
- 10) SRK was retained by Aflease Gold to prepare an Independent Technical Report for the Modder East Gold Project in accordance with National Instrument 43-101. The preceding report is based on our review of project files and information provided by Aflease Gold and discussions with personnel of Aflease Gold;
- 11) I hereby consent to use of this report and our name for public filing with any Provincial regulatory authority. I confirm that I have read Uranium One's press release dated 16 August 2006 of a completed feasibility study on the Modder East Project in South Africa, and that such press release fairly and accurately represents the information in this report.



Johannesburg, South Africa
31 August 2006

Michael Harley PrSciNat.
Partner & Principal Geologist/Geostatistician
SRK Consulting

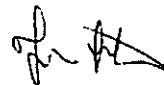
CERTIFICATE AND CONSENT

To accompany the report dated 1 June 2006 and entitled "Independent Technical Report on the Modder East Gold project, located near Springs, Gauteng Province, Republic of South Africa"

I, Jean-Francois Couture, hereby certify that:

- 1) I am a Principal Geologist with the firm Steffen Robertson and Kirsten (Canada) Inc. ("SRK") with an office at Suite 1000, 25 Adelaide Street East, Toronto, Canada;
- 2) I am a graduate of the Université Laval in Quebec City with a BSc Geology in 1982. I obtained a MSc.A in Earth Sciences and a PhD in Mineral Resources from Université du Québec à Chicoutimi in 1986 and 1994, respectively. I have practised my profession continuously since 1982;
- 3) I am a Professional Geoscientist registered with the Association of Professional Geoscientists of the province of Ontario (APGO#0197);
- 4) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Modder East Gold Project or securities in Uranium One or Alease Gold;
- 5) as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;
- 6) I have read National Instrument 43-101 and Form 43-101F1 and by reason of my education and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of National Instrument 43-101. This technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 7) I, as a Qualified Person, am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
- 8) I co-authored the 2005 ITR from which relevant sections were incorporated into this report. I have reviewed the reporting of the additional disclosure included in this report;
- 9) I have personally inspected the Modder East property located in the Gauteng Province on 14 July 2005.
- 10) SRK was retained by Alease Gold to prepare an Independent Technical Report for the Modder East Gold Project in accordance with National Instrument 43-101. The preceding report is based on our review of project files and information provided by Alease Gold and discussions with personnel of Alease Gold;
- 11) I hereby consent to use of this report and our name for public filing with any Provincial regulatory authority. I confirm that I have read Uranium One's press release dated 16 August 2006 of a completed feasibility study on the Modder East Project in South Africa, and that such press release fairly and accurately represents the information in this report.

Toronto, Canada
31 August 2006



Jean-Francois Couture P.Geo.
Principal Geologist
SRK Consulting

25 APPENDIX – COMPARISON OF CIMM AND SAMREC RESOURCE DEFINITIONS

The relevant Mineral Resource definitions from the CIMM 2000 Code and SAMREC are presented below. The CIMM 2000 definition is presented first, followed by the corresponding italicised SAMREC definition.

- An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.
- *An 'Inferred Mineral Resource' is that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that may be limited or of uncertain quality and reliability.*
- An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.
- *An 'Indicated Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.*
- A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.
- *A 'Measured Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity.*

GLOSSARY, ABBREVIATIONS AND UNITS

GLOSSARY

Aeromagnetic	a geophysical technique of exploring an area by measuring the magnetic intensity of the rock from an aircraft.
Andesite	A gray, fine-grained volcanic rock, chiefly plagioclase and feldspar.
Anticline	a fold with strata sloping downward on both sides from a common crest.
Archean	Of or belonging to the earlier of the two divisions of Precambrian time, from approximately 3.8 to 2.5 billion years ago, marked by an atmosphere with little free oxygen, the formation of the first rocks and oceans, and the development of unicellular life.
arenaceous	Sandy or consisting largely of sand; of the nature of sand; easily disintegrating into sand; friable; as, arenaceous limestone.
Arenite	A general name for sedimentary rocks composed of sand-sized fragments irrespective of composition; e.g., sandstone, graywacke, arkose, and calcarenite.
Arsenopyrite	A silver-white to gray arsenic ore, essentially FeAsS.
Assay	the chemical analysis of ore samples to determine their metal content.
Chromite	an iron bearing chromium oxide mineral
Cobaltite	A rare silver-white to gray mineral, cobalt sulfarsenide, CoAsS, that is a cobalt ore and is used in ceramics.
Detrital	Disintegrated or eroded matter.
Dip	inclination of geological features from the horizontal.
Dolerite	Any dark, igneous rock composed chiefly of silicates of iron and magnesium with some feldspar.
Dyke	thick, tabular vertical or near-vertical bodies of igneous rock formed by magmatic injection into planar zones of weakness such as faults or fractures.
Epigenetic	Change in the mineral content of a rock because of outside influences.
Fire Assay	the assaying of metallic ores by methods requiring the use of furnace heat.
Flame AA	an instrumental technique for determining the metal content in a sample by measuring the absorption of light at specific wavelengths by atoms of particular metals.
Footwall	The underlying side of a stope or mineralised body.
Fuchsite	Fuchsite is a dark green variety of muscovite, the green colour is the result of chromium impurities.
Geozone	an area defined by geological characteristics.
Graben	a depression between geological faults.
Hangingwall	the overlying side of a mineralised body or stope.
Igneous	derived from molten rock that originated beneath the earth's surface and solidifies at or near the earth's surface.
Indicated Mineral Resource	that portion of a Mineral Resource for which quantity and quality are estimated with a lower degree of certainty than for a Measured Mineral Resource. The sites used for inspection, sampling, and measurement are too widely or inappropriately spaced to enable the material or its continuity to be defined or its grade throughout to be established.

Inferred Mineral Resource	that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that may be limited, or of uncertain quality and reliability.
Kaapvaal Craton	the ancient proto-continental crystalline basement of South Africa.
Kriging	an interpolation method that minimises the estimation error in the determination of a mineral resource.
Lenticular	convex on both sides.
Leucoxene	A nearly opaque white mineral, in part identical with titanite, observed in some igneous rocks as the result of the alteration of titanite iron.
Lutites	Fine grained sedimentary rocks; siltstones or mudstones.
Measured Mineral Resource	that portion of a Mineral Resource for which the tonnage or volume is calculated from dimensions revealed in outcrops, pits, trenches, drill-holes, or mine workings, supported where appropriate by other exploration techniques. The sites used for inspection, sampling and measurement are so spaced that the geological character, continuity, grades and nature of the material are so well defined that the physical character, size, shape, quality and mineral content are established with a high degree of certainty.
Mesozoic	Of, belonging to, or designating the era of geologic time that includes the Triassic, Jurassic, and Cretaceous periods and is characterized by the development of flying reptiles, birds, and flowering plants and by the appearance and extinction of dinosaurs.
Metamorphism	The process by which rocks are altered in composition, texture, or internal structure by extreme heat, pressure, and the introduction of new chemical substances.
Mineral Reserve	the economically mineable material derived from a Measured and/or Indicated Mineral Resource. It is inclusive of diluting materials and allows for losses that may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction is reasonably justified.
Mineral Resource	a concentration [or occurrence] of material of economic interest in or on the Earth's crust in such a form, quality, and quantity that there are reasonable and realistic prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics of a Mineral Resource are known, estimated from specific geological knowledge, or interpreted from a well constrained and portrayed geological model.
Oligomictic	One type of clast, usually stable, usually quartz.
Overburden	Material overlying a useful mineral deposit.
Overturned	Said of a fold, or the limb of a fold, that has tilted beyond the perpendicular. The sequence of strata thus appears reversed.

Pericline	A general term for a fold in which the dip of the beds has a central orientation; beds dipping away from a center form a dome, and beds dipping toward a center form a basin.
Polymictic	Contain an assortment of different kinds of clasts.
Porphyry	Rock containing relatively large conspicuous crystals, especially feldspar, in a fine-grained igneous matrix.
Prill	The button of metal from an assay.
Proterozoic	Of or relating to the later of the two divisions of Precambrian time, from approximately 2.5 billion to 570 million years ago, marked by the buildup of oxygen and the appearance of the first multicellular eukaryotic life forms
Pyrite	Common iron sulphide mineral
Pyrrhotite	common iron sulphide mineral.
Reef	a precious metal bearing stratiform tabular mineralised body.
Resource	a tonnage or volume of rock or mineralisation or other material of intrinsic economic interest, the grades, limits and other appropriate characteristics of which are known with a specified degree of knowledge.
RoM	Run-of-Mine.
Rudite	A general name used for consolidated sedimentary rocks composed of rounded or angular fragments coarser than sand (granules, pebbles, cobbles, boulders, or gravel or rubble); e.g., conglomerate, breccia, and calcirudite.
SAMREC Code	South African Code for reporting of Mineral Resources and Mineral Reserves.
Sichel t	an estimator that is generally used for estimating the average grade of an ore-body where the distribution of the element sought is lognormal.
Sill	an approximately horizontal sheet of igneous rock intruded between older rock beds.
Spinel	A hard, variously coloured mineral with composition $MgAl_2O_4$, having usually octahedral crystals and occurring in igneous and carbonate rocks. The red variety is valued as a gem and is sometimes confused with ruby.
Stope	underground excavation created by mining.
Stripping Ratio	ratio of waste to ore in an open pit operation
Synform	A fold in rocks in which the rock layers dip inward from both sides toward the axis.
Syngenetic	formed at the same time.
Tailings	Refuse or dross remaining after ore has been processed.
Unconformities	A surface between successive strata representing a missing interval in the geologic record of time and produced either by an interruption in deposition or by the erosion of depositionally continuous strata followed by renewed deposition.
Uraninite	A complex brownish-black mineral, UO_2 , forming the chief ore of uranium and containing variable amounts of radium, lead, thorium, and other elements. It is isomorphous with <i>thorianite</i> .
Variogram	a measure of the average variance between sample locations as a function of sample separation.

ABBREVIATIONS

AARL	Anglo American Research Laboratories.
AAS	Atomic Absorption Spectrometry
Ag	chemical symbol for silver.
Au	chemical symbol for gold.
BEE	Black Economic Empowerment.
ITR	Competent Persons' Report.
DCF	Discounted Cash Flow.
DD	Diamond Drilling.
DEAT	Department of Environmental Affairs and Tourism.
DME	Department of Minerals and Energy.
DMS	Dense Media Separation.
DTM	Digital Terrain Model.
DWAF	Department of Water Affairs and Forestry.
ECA	Environmental Conservation Act.
EMP	Environmental Management Programme.
EMPR	Environmental Management Programme Report.
EMS	Environmental Management System
EP	Exploration Properties.
EPCM	Engineering Procurement and Construction Management.
EW	Electrowinning
FAG	Fully Autogenous Grinding
Fe	chemical symbol for iron.
FM	Financial Models.
FoG	fall of Ground.
HCL	Hydrochloric Acid.
HDSA	Historically Disadvantaged South Africans.
HF	Hydrofluoric Acid
JSE	JSE Securities Exchange South Africa.
LoM	Life-of-Mine.
MCF	Mine Call Factor.
MPRDA	Mineral and Petroleum Resources Development Act.
NAV	Net Asset Value.
NPV	Net Present Value.
NWA	National Water Act.
Opex	Operating Expenditure.
PPT	Precipitation.
P&G's	Preliminary and Generals.
RAB	Rotary Air Blast Drilling.
RC	Reverse Circulation Drilling.
RMR	Rock Mass Rating
RoM	Run of Mine.
RQD	Rock-Quality-Density.
RWD	Return Water Dam.
SACNASP	South African Council for Natural Scientific Professions.
SARS	South African Revenue Services.

SHE	Safety Health and Environment.
SRK	Steffen, Robertson and Kirsten (South Africa) (Pty) Limited.
SRK Group	SRK Global Limited.
TEC	Total Employees Costed.
TEM	Technical-economic models.
TEP's	Technical-economic projections.
TS	Transvaal Sequence
TWC	Total Working Cost
WACC	Weighted Average Cost of Capital
WUL	Water Use Licence.
WULA	Water Use Licence Application.

UNITS

cm	a centimetre.
cmg/t	a centimetre-gramme per metric tonne – metal accumulation over channel width.
g	grammes.
Ga	a thousand million years.
g/t	grammes per metric tonne – metal concentration.
ha	a hectare.
kg	a kilogramme.
kg/m	kilogrammes per metre of core length
kg/t	kilogrammes per metric tonne
klb	a thousand pounds
km	a kilometre.
koz	a thousand ounces.
kt	a thousand metric tonnes.
ktpm	a thousand tonnes per month
m	a metre.
ML/d	a million litres per day
Moz	a million ounces
MPa	a million pascals
Mt	a million metric tonnes.
MWh	a million Watt-hours
oz	a fine troy ounce equalling 31.10348 grammes.
R, ZAR	South African Rand.
Rm, ZARm, Rmillion	a million Rand
t	a metric tonne.
tph	tonnes per hour.
tm ⁻³	density measured as metric tonnes per cubic metre.
US\$	United States Dollar.
US\$m, US\$million	a million US Dollars.
°	degrees.
°C	degrees Centigrade.
'	minutes.
%	percentage.



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CERTIFICATE AND CONSENT

Ontario Securities Commission
New Brunswick Securities Commission
Toronto Stock Exchange

Dear Sirs/Mesdames

Re: sxr Uranium One Inc. Independent Technical Report on the Modder East Gold Project, located near Springs, Gauteng Province, Republic of South Africa

I refer to the press release of sxr Uranium One Inc. dated 16 August 2006 (the "Press Release") and the technical report entitled "An Independent Technical Report on the Modder East Gold Project, Located near Springs, Gauteng Province, Republic of South Africa" dated 1 June 2006, as amended on 31 August 2006 (the "Technical Report").

I hereby consent to the public filing of this Technical Report with any stock exchange or securities regulatory authority to which this consent is addressed and to extracts from, or a summary of, the Technical Report as included in the Press Release. I further consent to the publication and use of this Technical Report by sxr Uranium One and Aflease Gold Limited on their websites or in connection with its business.

I certify that I have read the Press Release disclosing the completion of a feasibility study for the Modder East Gold Project in South Africa, and that such Press Release fairly and accurately represents the information in the Technical Report that supports the disclosure in the Press Release.

Dated the 31st day of August 2006.

Mark Wanless PrSciNat, BSc(Hons)
Senior Geologist

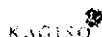
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Corporate Shareholder: Kagiso Enterprises (Pty) Ltd

SRK Consulting (South Africa) (Pty) Ltd



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HG (Wally) Waldeck PrEng, FSAIMM, AMAMMSA, BSc(Eng), MBA
Partner and Principal Mining Engineer

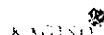
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I was a Partner and Principal Geologist/Geostatistician with SRK up to 30 June 2006 and compiled the geological and resource sections of the Technical Report. I certify that I have read the Press Release disclosing the completion of a feasibility study for the Modder East Gold Project in South Africa, and that such Press Release fairly and accurately represents the information in the Technical Report that supports the disclosure in the Press Release.

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M Harley, PrSciNat MSAIMM, MAusIMM, PhD

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Issuer: SXR URANIUM ONE INC.
12g3-2(b) Registration Exemption
SEC File No. 82-04831

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Dated the 31st day of August 2006.

Jean-Francois Couture, Ph.D. P.Geo
Principal Geologist

ME-consent-JFC

**NOTICE
DECLARING INTENTION TO BE QUALIFIED UNDER
NATIONAL INSTRUMENT 44-101 SHORT FORM PROSPECTUS DISTRIBUTIONS
("NI 44-101")**

September 18, 2006

To: Ontario Securities Commission
British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission
Manitoba Securities Commission
Autorité des marchés financiers
New Brunswick Securities Commission
Nova Scotia Securities Commission
Prince Edward Island Securities Office
Securities Commission of Newfoundland and Labrador

sxr UraniumOne Inc. (the "**Issuer**") intends to be qualified to file a short form prospectus under NI 44-101. The Issuer acknowledges that it must satisfy all applicable qualification criteria prior to filing a preliminary short form prospectus. This notice does not evidence the Issuer's intent to file a short form prospectus, to enter into any particular financing or transaction or to become a reporting issuer in any jurisdiction. This notice will remain in effect until withdrawn by the Issuer.

SXR URANIUM ONE INC.

By: "*Jean Nortier*"

Name: Jean Nortier

Title: Chief Financial Officer

News release via Canada NewsWire, Toronto 416-863-9350

Attention Business Editors:
Uranium One Publishes Technical Report on Dominion Project

Trading Symbol: SXR - Toronto Stock Exchange, Johannesburg Stock Exchange

TORONTO and JOHANNESBURG, South Africa, Sept. 11 /CNW/ - sxr Uranium One Inc. (TSX and JSE: SXR) announced today that it has filed on SEDAR (www.sedar.com) an independent Technical Report prepared by SRK Consulting in accordance with NI 43-101 which summarizes the feasibility study conducted by Turgis Consulting (Pty) Ltd. on its Dominion Uranium Project located near Klerksdorp, South Africa. The results of the feasibility study were announced by the Corporation on July 28, 2006.

The Technical Report can be accessed on SEDAR (www.sedar.com) and is also being made available on Uranium One's website at www.uranium1.com

About sxr Uranium One

sxr Uranium One Inc. is a Canadian uranium and gold resource company with a primary listing on the Toronto Stock Exchange and a secondary listing on the Johannesburg Stock Exchange. The Corporation owns the Dominion Reefs Uranium Mine in South Africa and the Honeymoon Uranium Project in South Australia, as well as a number of exploration projects. The Corporation holds an approximate 71% interest in Aflease Gold Limited, which owns the Modder East gold project in South Africa. Through a joint venture with Pitchstone Exploration Ltd., the Corporation is also engaged in uranium exploration activities in the Athabasca Basin of Saskatchewan.

Cautionary Statement

No stock exchange, securities commission or other regulatory authority has approved or disapproved the information contained herein.

This News Release includes certain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 and "forward-looking information" within the meaning of applicable Canadian legislation. All statements other than statements of historical fact included in this release including, without limitation, statements regarding potential mineralization and reserves and future plans and objectives of Uranium One, are forward-looking statements (or forward-looking information) that involve various risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. Important factors could cause actual results to differ materially from Uranium One's expectations. Such factors include, among others, the actual results of exploration activities, actual results of reclamation activities, the estimation or realization of mineral reserves and resources, the timing and amount of estimated future production, costs of production, capital expenditures, costs and timing of the development of new deposits, availability of capital required to place Uranium One's properties into production, conclusions of economic evaluations, changes in project parameters as plans continue to be refined, future prices of commodities, possible variations in ore grade or recovery rates, failure of plant, equipment or processes to operate as anticipated, accidents, labour disputes and other risks of the mining industry, delays in obtaining governmental approvals, permits or financing or in the completion of development or construction activities, Uranium One's hedging practices, currency fluctuations, title disputes or claims limitations on insurance coverage, as well as those factors discussed under "Risk Factors" in Uranium One's Annual Information Form and Management's Discussion and Analysis as filed with securities regulatory authorities in Canada. Although Uranium One has attempted to identify important factors that could cause actual results to differ materially, there may be other factors that cause results not to be as anticipated, estimated or

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To receive the Corporation's news releases by email, please register on Uranium One's website - www.uranium1.com

%SEDAR: 00005203E

/For further information: Neal Froneman, Chief Executive Officer, Tel: + 27 11 482 3605; Chris Sattler, Vice President, Investor Relations, Tel: (416) 350 3657/

(SXR.)

CO: sxr Uranium One Inc.

CNW 14:38e 02-OCT-06

News release via Canada NewsWire, Toronto 416-863-9350

Attention Business Editors:
Technical Report Filed on Modder East Gold Project

Trading Symbol: SXR - Toronto Stock Exchange, Johannesburg Stock Exchange

TORONTO, ON, and JOHANNESBURG, South Africa, Sept. 18 /CNW/ - sxr Uranium One Inc. (TSX and JSE: SXR) announced today that it has filed on SEDAR (www.sedar.com) an independent technical report prepared by SRK Consulting in accordance with NI 43-101 which summarizes the feasibility study conducted by Turgis Consulting (Pty) Ltd. on the Modder East gold project of its Aflase Gold subsidiary located near Springs, South Africa. The results of the feasibility study were announced by the Corporation on August 16, 2006.

The technical report can be accessed on SEDAR (www.sedar.com) and is also being made available on Uranium One's website at www.uranium1.com.

About sxr Uranium One

sxr Uranium One Inc. is a Canadian uranium and gold resource company with a primary listing on the Toronto Stock Exchange and a secondary listing on the JSE Limited (the Johannesburg stock exchange). The Corporation owns the Dominion Uranium Project in South Africa and the Honeymoon Uranium Project in South Australia, as well as a number of exploration projects. The Corporation holds an approximate 71% interest in Aflase Gold Limited, which owns the Modder East gold project in South Africa. Through a joint venture with Pitchstone Exploration Ltd., the Corporation is also engaged in uranium exploration activities in the Athabasca Basin of Saskatchewan.

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/For further information: Neal Froneman, Chief Executive Officer, Tel: + 27 11 482 3605; Chris Sattler, Vice President, Investor Relations, Tel: (416) 350-3657/

(SXR.)

CO: sxr Uranium One Inc.

CNW 14:33e 02-OCT-06

News release via Canada NewsWire, Toronto 416-863-9350

Attention Business Editors:

sxr Uranium One Inc. - Plant Commissioning Commences at Dominion Uranium Project

Trading Symbol: SXR - Toronto Stock Exchange, Johannesburg Stock Exchange

TORONTO, and JOHANNESBURG, Sept. 19 /CNW/ - sxr Uranium One Inc. ("Uranium One" or the "Corporation") (TSX and JSE: SXR) is pleased to announce that plant commissioning has commenced at the Dominion Uranium Project, one quarter ahead of the Corporation's previously anticipated schedule.

Plant substations and transformers were energized on August 31, 2006. The boiler is currently being commissioned and a program of commissioning the remaining plant equipment is underway. Construction of the thickeners is being completed and the first autoclave has been delivered ahead of schedule.

The crushing circuit is currently operational and will be integrated into the uranium processing circuit. The existing gold carbon in leach plant has been treating ore from Bonanza South and producing gold on a batch basis throughout 2006.

The workforce at Dominion now totals 1,300 employees with an additional 700 contractor employees engaged in construction of the plant. Recruitment and training of staff to man the plant on a permanent basis is underway.

Neal Froneman, CEO of Uranium One, commented:

"Dominion is moving smoothly towards start-up of production. The commencement of plant commissioning is a significant milestone and I am pleased to see that the team has been able to meet this milestone one quarter ahead of schedule. We remain confident that we are well on track to achieve our objective of hot commissioning in the first quarter of 2007."

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(SXR.)

CO: sxr Uranium One Inc.

CNW 16:05e 19-SEP-06

News release via Canada NewsWire, Toronto 416-863-9350

Attention Business Editors:

Uranium One Reports Exploration Results at the Dominion Uranium Project

TORONTO, and JOHANNESBURG, SOUTH AFRICA, Sept. 25 /CNW/ - sxr Uranium One Inc. is pleased to provide an update on the results of its resource delineation and exploration activities at the Dominion Uranium Project in South Africa for the period from April 15 to September 8, 2006.

Prior to April 15, 2006, Uranium One completed drill programs comprising some 105 BQ and NQ calibre drill holes, totalling 27,779 metres of drilling, including 2,534 metres of deflections. This drilling focused primarily on defining the shallow (less than 500 metres) resource in the Rietkuil 1 and Dominion 1 and 2 areas. The results of these drill programs were reflected in the revised Dominion resource estimate announced by the Company on June 14, 2006 and described in more detail in an independent technical report prepared by SRK Consulting and filed on SEDAR on July 24, 2006 (also available on the Company's website at www.uranium1.com).

During the period from April 15 to September 8, 2006, drilling activities focused on the delineation of additional resources in the down-dip extension of known ore-shoots in the Rietkuil 1 and Dominion 1 and 2 decline areas and the identification of new ore-shoots in the remaining target area. The drilling strategy is to drill steeply plunging (-90 degrees) boreholes in order to intersect interpreted uranium-bearing reefs as close as possible to a right angle. During this period, a total of 78 boreholes (32,585 metres) have been drilled, 40 at Rietkuil and 38 at Dominion. Assay values from 21 of these boreholes have been received; assay results from 44 boreholes are pending and are expected by the end of October. Thirteen boreholes consisted either of faulted reef intersections (not sampled) or areas of no reef development.

Assay results for six of the Rietkuil ore-shoot boreholes (9 reef intersections) have indicated Upper Reef values ranging between 0.79 kg/tonne (over 160 cm composite width) to 2.18 kg/tonne (over 100 cm composite width). At Dominion, assay results for four boreholes (6 reef intersections) drilled in the ore-shoot have indicated Upper Reef values ranging between 0.40 kg/tonne and 0.81 kg/tonne (both over 160 cm composite width). These results confirm the Company's modelling and grade predictions. In addition, previously defined geological domains have been refined and extrapolated based on the new drilling information.

Drilling in this period also commenced in a new area (Dominion 3), located approximately 3 km north of the Dominion 2 decline. Drilling at Dominion 3 is aimed at determining the resource potential associated with a possible new decline. In this area, a thick sedimentary sequence (attaining thicknesses of 15 m), containing well developed Lower, Middle and Upper Reef is present. Initial assay results have been encouraging, with three Lower Reef intersections from 2 boreholes, and 1 borehole containing faulted Lower Reef, showing values ranging between 0.12 kg/tonne and 4.67 kg/tonne (over 100 cm composite width) and five Upper Reef intersections in the same 3 boreholes showing grades ranging from 0.25 kg/tonne (over 144 cm composite width) to 0.45 kg/tonne (over 160 cm composite width). In light of these results, the Company intends to continue with drilling in the Dominion 3 area to further assess the resource potential.

Since April 15, 2006, the number of diamond drill rigs on site has increased to 23; of these, 17 are currently dedicated to the Dominion and Rietkuil sections. Drilling at the Dominion Uranium Project is currently proceeding at the rate of approximately 7,500 metres per month, with a further 20,000 metres of drilling scheduled for the remainder of 2006. Drilling to year end will continue to focus on delineating the down-dip extensions of identified ore-shoots, as well as further exploration in the Dominion 3 area.

A map of the drill hole locations and a table of drill results for the drilling completed during the April 15 to September 8, 2006 period are also available on the Corporation's website.

Quality Assurance and Quality Control

The Dominion Uranium Project drilling program is being carried out under the direction of Mr. M.H.G. Heyns, Pr.Sci.Nat. (SACNASP), MSAIMM, MGSSA, Vice President, Geology and Exploration, srx Uranium One Inc., and Dr. R.A. Stewart, Pr.Sci.Nat. (SACNASP), MGSSA, Regional Exploration Manager, srx Uranium One Inc., both qualified persons for the purposes of NI 43-101. Exploration data is acquired by the Corporation and its consultants under strict quality assurance and quality control protocols. Half-core assay samples are collected by appropriately qualified personnel. Samples are prepared at an onsite preparation facility managed by Superlabs Ltd. and are assayed at the Set Point Laboratory located in Johannesburg, South Africa, which is accredited under SANAS and ISO/IEC 17025. Gold assays are performed using conventional fire assay procedures with an inductively coupled plasma optical-emission spectroscopic ("ICP-OES") finish on 50g aliquots, and uranium assays are performed using x-ray fluorescence spectrometry on a pressed powder pellet or a borate fusion disc. Quality control procedures follow industry standard protocols and include the use of blind control samples.

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Investors are cautioned not to assume that all or any part of the mineral deposits in the measured and indicated resource categories will ever be converted into reserves. In addition, "inferred resources" have a great amount of uncertainty as to their existence and economic and legal feasibility. It cannot be assumed that all or any part of an inferred mineral resource will be ever be upgraded to a higher category. Under Canadian rules, estimates of inferred mineral resources may not form the basis of feasibility or pre-feasibility studies or economic studies except for preliminary assessments as defined under NI 43-101. Investors are cautioned not to assume that all or any part of an inferred resource exists or is economically or legally mineable.

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%SEDAR: 00005203E

/For further information: Neal Froneman, Chief Executive Officer, Tel: + 27 11 482 3605; Chris Sattler, Vice President, Investor Relations, Tel: (416) 350-3657/

(SXR.)

CO: sxr Uranium One Inc.

CNW 14:30e 25-SEP-06

News release via Canada NewsWire, Toronto 416-863-9350

Attention Business Editors:

Uranium One Announces Receipt of Environmental Licence for Honeymoon

Trading Symbol: SXR - Toronto Stock Exchange, Johannesburg Stock Exchange

TORONTO, ON, and JOHANNESBURG, South Africa, Sept. 29 /CNW/ - sxr Uranium One Inc. (Uranium One) is pleased to announce that the Environment Protection Authority of Southern Australia has issued the final licence required under the Radiation Protection and Control Act (1982) for commercial uranium mining operations at its Honeymoon Project.

The Project currently has an approved Environmental Impact Statement, Mining Lease and uranium export licence.

Work on construction of the Honeymoon in-situ leach uranium mine, Australia's fourth uranium mine, will commence before the end of this year, and production is due to begin in 2008.

Uranium One's President and CEO, Neal Froneman commented:

"We are pleased to have been issued this licence from the Environment Protection Authority. This is another milestone in the development of the Honeymoon Project and we look forward to advancing towards commencement of production early in 2008."

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(SXR.)

CO: sxx Uranium One Inc.

CNW 11:11e 29-SEP-06

News release via Canada NewsWire, Toronto 416-863-9350

Attention Business Editors:
Uranium One Files Amended Audit Committee Charter

Trading Symbol: SXR - Toronto Stock Exchange, Johannesburg Stock Exchange

TORONTO and JOHANNESBURG, Oct. 2 /CNW/ - Uranium One announced today that it has amended its audit committee charter as a result of comments received from the Ontario Securities Commission during the Company's recent continuous disclosure review. The amended audit committee charter, which more closely conforms to the applicable requirements of MI 52-110, supersedes the charter attached to the Company's annual information form for the year ended December 31, 2005. A copy of the amended charter will be filed on SEDAR and will be made available on the Company's website at www.uranium1.com.

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(SXR.)

CO: sxr Uranium One Inc.

CNW 09:28e 02-OCT-06

News release via Canada NewsWire, Toronto 416-863-9350

Attention Business Editors:
Uranium One Publishes Technical Report on Honeymoon

Trading Symbol: SXR - Toronto Stock Exchange, Johannesburg Stock Exchange

TORONTO, Ontario and JOHANNESBURG, South Africa, Oct. 6 /CNW/ - sxr
Uranium One Inc. announced today that it has filed on SEDAR (www.sedar.com) an independent Technical Report prepared by Mayfield Engineering Pty Ltd. and Aker Kvaerner Australia in accordance with NI 43-101 on its Honeymoon In-Situ Leach Uranium Project located in South Australia. The results of the feasibility study were announced by the Corporation on August 29, 2006.

The Technical Report can be accessed on SEDAR (www.sedar.com) and is also being made available on Uranium One's website at www.uranium1.com

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There can be no assurance that such statements will prove to be accurate

as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. Uranium One does not undertake to update any forward-looking statements that are included herein, except in accordance with applicable securities laws.

To receive the Corporation's news releases by email, please register on Uranium One's website - www.uranium1.com

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(SXR.)

CO: sxr Uranium One Inc.

CNW 09:15e 06-OCT-06

News release via Canada NewsWire, Toronto 416-863-9350

Attention Business Editors:

Uranium One Granted New Order Mining Right and Additional, Adjacent
Prospecting Rights for its Dominion Uranium Project

Trading Symbol: SXR - Toronto Stock Exchange, Johannesburg Stock
Exchange

TORONTO and JOHANNESBURG, South Africa, Oct. 11 /CNW/ - sxr Uranium One Inc. ("Uranium One" or the "Company") is pleased to announce that the South African Department of Minerals and Energy ("DME") has granted Uranium One a new order mining right for the Dominion Uranium Project under the Mineral and Petroleum Resources Development Act 2002.

The mining right has been granted for an initial period of 30 years. The area covered by the mining right comprises approximately 14,000 hectares, incorporates all the resources covered by the current prospecting right, and includes all areas in the Dominion mine plan. The Company continues to hold old order mining rights over a further area of approximately 1,400 hectares adjacent to the Dominion project.

Uranium One has also been formally notified by the DME that additional, exclusive prospecting rights in excess of 14,000 hectares have also been granted to the Company. These prospecting rights cover a natural extension to the Company's Dominion Uranium Project.

Neal Froneman, President and CEO of Uranium One, commented:

"We are extremely pleased to have reached this milestone and to have received the mining right which is a major legislative requirement to our commencing production at Dominion on schedule, and to complete the transformation of Uranium One from a development stage company into a focused uranium producer.

Uranium One would like to thank the employees of the Department of Minerals and Energy of South Africa, with whom the Company has been working to secure the new order mining right, for this positive outcome. It is clear that the Government of South Africa is supportive of its domestic uranium industry and Uranium One is proud to be positioned to become the major player in this sector.

With the approval of the mining right we are now well placed to become the pre-eminent South African uranium producer, benefiting not only our shareholders, but also our employees and, through our broad based empowerment structure, the local communities in which we will operate."

About sxr Uranium One

sxr Uranium One Inc. is a Canadian uranium and gold resource company with a primary listing on the Toronto Stock Exchange and a secondary listing on the JSE Limited (the Johannesburg stock exchange). The Corporation owns the Dominion Uranium Project in South Africa and the Honeymoon Uranium Project in South Australia, as well as a number of exploration projects. The Corporation holds an approximate 71% interest in Alease Gold Limited, which owns the Modder East gold project in South Africa. Through a joint venture with Pitchstone Exploration Ltd., the Corporation is also engaged in uranium exploration activities in the Athabasca Basin of Saskatchewan.

Cautionary Statement

No stock exchange, securities commission or other regulatory authority has approved or disapproved the information contained herein.

This News Release includes certain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 and "forward-looking information" within the meaning of applicable Canadian legislation. All statements other than statements of historical fact included in this release including, without limitation, statements regarding future plans and objectives of Uranium One and the timing of commencement of

construction activities, are forward-looking statements (or forward-looking information) that involve various risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. Important factors could cause actual results to differ materially from Uranium One's expectations. Such factors include, among others, the actual results of exploration activities, actual results of reclamation activities, the estimation or realization of mineral reserves and resources, the timing and amount of estimated future production, costs of production, capital expenditures, costs and timing of the development of new deposits, availability of capital required to place Uranium One's properties into production, conclusions of economic evaluations, changes in project parameters as plans continue to be refined, future prices of commodities, possible variations in ore grade or recovery rates, failure of plant, equipment or processes to operate as anticipated, accidents, labour disputes and other risks of the mining industry, delays in obtaining governmental approvals, permits or financing or in the completion of development or construction activities, Uranium One's hedging practices, currency fluctuations, title disputes or claims limitations on insurance coverage, as well as those factors discussed under "Risk Factors" in Uranium One's Annual Information Form and Management's Discussion and Analysis as filed with securities regulatory authorities in Canada. Although Uranium One has attempted to identify important factors that could cause actual results to differ materially, there may be other factors that cause results not to be as anticipated, estimated or intended.

There can be no assurance that such statements will prove to be accurate as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. Uranium One does not undertake to update any forward-looking statements that are included herein, except in accordance with applicable securities laws.

Investors are cautioned not to assume that all or any part of the mineral deposits in the measured and indicated resource categories will ever be converted into reserves. In addition, "inferred resources" have a great amount of uncertainty as to their existence and economic and legal feasibility. It cannot be assumed that all or any part of an inferred mineral resource will be ever be upgraded to a higher category. Under Canadian rules, estimates of inferred mineral resources may not form the basis of feasibility or pre-feasibility studies or economic studies except for preliminary assessments as defined under NI 43-101. Investors are cautioned not to assume that all or any part of an inferred resource exists or is economically or legally mineable.

To receive the Corporation's news releases by email, please register on Uranium One's website - www.uranium1.com
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(SXR.)

CO: sxr Uranium One Inc.

CNW 09:30e 11-OCT-06

News release via Canada NewsWire, Toronto 416-863-9350

Attention Business Editors:
Aflase Gold Shareholders Approve BEE Structure

Trading Symbol: SXR - Toronto Stock Exchange, Johannesburg Stock Exchange

TORONTO, and JOHANNESBURG, South Africa, Oct. 11 /CNW/ - sxr Uranium One Inc. today announced that all special and ordinary resolutions were adopted at a General Meeting of shareholders of its majority-owned Aflase Gold subsidiary, which was held in Johannesburg.

Amongst the resolutions, shareholders approved the proposed Black Economic Empowerment (BEE) structure for Aflase Gold's South African assets. The approved BEE structure is similar to that which Uranium One implemented with respect to its assets, and will cover all of Aflase Gold's South African assets, including the Modder East Gold Project.

The BEE structure provides for 26% participation by historically disadvantaged South Africans in the South African assets of Aflase Gold. Under the terms of the approved BEE structure, Aflase Gold will be paid for the stake it is selling and will receive market related compensation.

Neal Froneman, CEO and President of Uranium One and CEO of Aflase Gold commented:

"Our shareholders have given their full support to these two BEE transactions, which will ensure broad-based participation by historically disadvantaged South Africans, with thousands of ordinary people standing to benefit. As we develop Aflase Gold into a producer of gold, this will bring benefits both for our shareholders and our BEE partners."

About Aflase Gold

Aflase Gold is a South African gold resource company listed on the JSE Limited (the Johannesburg stock exchange). The company owns the Modder East Gold Project, currently under construction, as well as the Sub Nigel, New Kleinfontein, Turnbridge and the Holfontein Gold Projects, all on the East Rand; the Ventersburg Gold Project in the Free State gold field; and the Etendeka Gold Project in Namibia. Aflase Gold was formed in January 2006 through the reverse takeover of Sub Nigel Gold Mining Company by New Kleinfontein Mining Company, a wholly-owned subsidiary of sxr Uranium One Inc. The company is currently owned as to approximately 71% by sxr Uranium One and has a market capitalization in excess of R1billion.

About sxr Uranium One

sxr Uranium One Inc. is a Canadian uranium and gold resource company with a primary listing on the Toronto Stock Exchange and a secondary listing on the JSE Limited. The Corporation owns the Dominion Uranium Project in South Africa and the Honeymoon Uranium Project in South Australia, and is actively pursuing growth opportunities in the uranium sector in the western United States. The Corporation holds an approximate 71% interest in Aflase Gold Limited, which owns the Modder East gold project in South Africa. Through a joint venture with Pitchstone Exploration Ltd., the Corporation is also engaged in uranium exploration activities in the Athabasca Basin of Saskatchewan.

Cautionary Statement

Statements in this release that are not historical facts are "forward-looking statements" involving known and unknown risk and uncertainties which are beyond the ability of the Corporation to control or predict and which could cause actual events or results to differ materially from those anticipated in such forward-looking statements.

No stock exchange, securities commission or other regulatory authority has approved or disapproved the information contained herein. To receive the Corporation's news releases by email, please register on Uranium One's website

at www.uranium1.com

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(SXR.)

CO: sxr Uranium One Inc.

CNW 12:04e 11-OCT-06

PRESS RELEASE

SXR URANIUM ONE INC. – NEW ISSUE

SXR Uranium One Inc. ("SXR") has today entered into an agreement to sell to a syndicate of underwriters led by BMO Capital Markets, on a bought deal basis, 18,100,000 Common Shares from the Company and sell to the public at a price of \$8.30 per Common Share, representing an aggregate amount of \$150,230,000. SXR has granted the Underwriters an over-allotment option to purchase additional Common Shares up to 15% of the purchased Common Shares at the same price, exercisable by the Underwriters for a period of 30 days from Closing. Closing is expected on or about October 31, 2006.

The securities offered have not been registered under the U.S. Securities Act of 1933, as amended, and may not be offered or sold in the United States absent registration or an applicable exemption from the registration requirements. This press release shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of the securities in any State in which such offer, solicitation or sale would be unlawful.

Not for distribution to U.S. news wire services or dissemination in the United States.

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NOTE TO READER

Further to the press release of SXR Uranium One Inc. dated October 2, 2006, attached is the amended audit committee charter which supersedes the charter attached to the Company's annual information form for the year ended December 31, 2005.

October 2, 2006

SXR Uranium One Inc.

Charter of the Audit Committee of the Board of Directors

1. General

1.1 The Audit Committee (the "**Committee**") assists the Board of Directors in its oversight role with respect to the quality and integrity of the Corporation's financial statements, the performance, qualifications and independence of the Corporation's independent auditors, the performance of the Corporation's internal audit function and the Corporation's compliance with legal and regulatory requirements.

1.2 The Committee shall have the resources and authority appropriate to discharge fully its functions, duties and responsibilities, including the authority to (i) select, retain, terminate and approve the fees of, and other terms of retention of, special or independent counsel, accountants, auditors or other experts and advisers, and (ii) communicate directly with the internal and independent auditors, as it deems necessary or appropriate in connection with its functions, duties and responsibilities without seeking approval of the Board or management. The Committee will have unrestricted access to management, employees and information it believes will be relevant to the proper discharge of its functions, duties and responsibilities.

1.3 Each member of the Committee will be "independent" and "financially literate" for the purposes of *Multilateral Instrument 52-110 - Audit Committees*, as amended from time to time ("**MI 52-110**"), and will satisfy such other applicable criteria for independence and financial expertise as may be contained in the laws, rules, regulations and listing requirements to which the Corporation is subject and the applicable Corporate Governance Guidelines of the Board.

1.4 No Director may serve as a member of the Committee if such Director serves on the audit committees of more than two other public companies unless the Board determines that such service would not impair the ability of the Director to effectively serve on the Committee, and discloses this determination in the Corporation's annual proxy circular and statement.

1.5 No member of the Committee may receive directly or indirectly any consulting, advisory or other compensatory fees or other payments from the Corporation other than (a) annual retainer and meeting fees, which may be received in cash, common shares or deferred stock units, and stock options or any other in-kind consideration ordinarily payable to non-employee Directors for serving as a Director and a chair or member of any committee of the Board and (b) other regular benefits that other non-employee Directors receive.

1.6 The Committee will operate under the guidelines applicable to all committees of Board as set out in the Corporate Governance Guidelines of the Board of Directors.

1.7 To the extent that this Charter sets out responsibilities and duties that are in addition to the requirements of MI 52-110, such responsibilities and duties are guidelines, rather than inflexible rules, and the Committee will adopt such additional procedures and standards from time to time as it deems appropriate to help fulfill its responsibilities. Nothing in this Charter is intended to expand applicable standards of liability under statutory or regulatory requirements for directors of the Corporation.

2. Meetings

2.1 The Committee will meet at least quarterly with each of management and the independent auditors, with management not present for an allotted part of the meeting. As part of its job to foster open communication, the Committee will meet periodically with management and the internal accountants in separate executive sessions to discuss any matters that the Committee or each of these groups believe should be discussed privately.

2.2 The Committee may request that any directors, officers or other employees of the Company, or any other persons whose advice and counsel are sought by the Committee, attend any meeting of the Committee to provide such pertinent information as the Committee requests. The independent auditors will be entitled to attend each meeting of the Committee at the Corporation's expense. The Committee may exclude from its meetings any person it deems appropriate.

3. Responsibilities and Duties

3.1 In carrying out its responsibilities and duties, the Committee shall:

Independent Auditors

- (1) Have the sole authority to recommend the appointment of the independent auditors and, subject to the nomination of such independent auditors by the Board and the approval thereof by the shareholders, appoint, retain and oversee the work of the independent auditors, and approve the audit fees and other significant compensation to be paid to the independent auditors.
- (2) Pre-approve, or adopt appropriate procedures to pre-approve, all audit and permitted non-audit services to be provided by the independent auditors. Pre-approval of non-audit services is satisfied if:
 - (a) the aggregate amount of non-audit services not pre-approved is expected to constitute no more than 5% of total fees paid by the Corporation and its subsidiaries to the independent auditors during the fiscal year in which the services are provided;
 - (b) the Corporation or subsidiary did not recognize services as non-audit at the time of the engagement; and
 - (c) the services are promptly brought to the Committee's attention and approved prior to completion of the audit.
- (3) Ensure disclosure of any specific policies or procedures adopted by the Committee to satisfy pre-approval requirements for non-audit services by the Corporation's independent auditors.
- (4) On a periodic basis and at least annually, review and discuss with the independent auditors all significant relationships the auditors have with the Corporation in order to satisfy itself that the auditors are independent of management. Identify and review the types of non-audit services or mandates that it considers incompatible with the principles underlying the independence of the auditors and approve and provide for disclosure of any material non-audit services provided to the Corporation by the independent auditors.

- (5) Review and approve the independent auditors' audit plan and engagement letter. Discuss and approve audit scope, staffing, locations, reliance upon management and internal audit and general audit approach.
- (6) At least annually obtain and review a report from the independent auditors a report describing their internal quality control procedures, any material issues raised by their most recent internal quality control review or by any inquiry or investigation within the preceding five years by governmental or professional authorities, including the Canadian Public Accountability Board, respecting one or more audits carried out by the firm, any steps taken to deal with any such issues, and all relationships between the independent auditors and the Corporation including non-audit services.
- (7) Periodically consult with the independent auditors out of the presence of management about significant risks or exposures, internal controls and other steps management has taken to control such risks, and the fullness and accuracy of the Corporation's financial statements. Particular emphasis should be given to the adequacy of internal controls to expose any payments, transaction or procedures which might be deemed illegal or otherwise improper.
- (8) Prior to releasing the year-end earnings, discuss the results of the audit with the independent auditors, including matters required to be communicated to audit committees in accordance with the standards established by the Canadian Institute of Chartered Accountants.
- (9) Following completion of the annual audit, review separately with each of management and the independent auditors any significant difficulties encountered during the course of the audit, including any restrictions on the scope of work or access to required information or significant disagreements with management and the adequacy of the Corporation's internal controls and any special audit steps adopted in light of material control deficiencies.
- (10) Oversee the work of the independent auditors engaged for the purpose of preparing or issuing an audit report or performing other audit, review or attest services for the Corporation, including the resolution of disagreements between management and the independent auditors regarding financial reporting.
- (11) Review the performance of the independent auditors and approve any proposed discharge and replacement of the independent auditors when circumstances warrant.
- (12) Arrange for the independent auditors to be available to the Committee and the full Board as needed. Ensure that the independent auditors report directly to the Committee and are made accountable to the Committee and the Board, as representatives of the shareholders to whom the auditors are ultimately responsible.
- (13) Review and approve hiring policies regarding partners, employees and former partners and employees of the past and present independent auditors.

Review Procedures

- (14) Review with management and the independent auditors the Corporation's interim financial statements and interim management's discussion and analysis and interim earnings press releases prior to filing or otherwise publicly disclosing this information, and report thereon to the Board.

- (15) Review the Corporation's annual audited financial statements and the notes thereto, management's discussion and analysis of financial condition and results of operations and related documents and annual earnings press releases prior to filing or otherwise publicly disclosing this information, and make recommendations to the Board with respect to their approval.
- (16) Review the draft annual report, annual information form and such other financial information as may be required by the Corporation to be prepared under applicable legislation and make recommendations to the Board with respect to their approval.
- (17) Ensure that adequate procedures are in place for the review of the Corporation's public disclosure of financial information extracted or derived from the Corporation's financial statements, as well as review any financial information and earnings guidance provided to analysts and rating agencies, and periodically assess the adequacy of those procedures.
- (18) Review with management prior to distribution news releases or other disclosures containing material financial information that has not been previously reviewed in accordance with the procedures described in this charter.
- (19) Periodically and in any event at least annually review the process that management has in place to fulfill the role of the internal audit function.
- (20) Ensure that management has in place a process to ensure adherence to the Corporation's Confidentiality, Disclosure and Insider Policy and Complaints (Whistleblower) Policy.
- (21) Review at least quarterly or more frequently as circumstances dictate capital and exploration spending in relation to approved budgets.

Financial Reporting Processes/Process Improvements

- (22) In consultation with the independent auditors and management, review the quality, integrity and appropriateness of the Corporation's accounting policies and financial reporting processes and internal controls, including a review of the independent auditors' written comments to management regarding these matters, if any, and management's responses to comments, both internal and external. Review the confirmation of compliance with the Corporation's policies on controls over financial reporting.
- (23) Review the principal risks of the businesses of the Corporation and its subsidiaries, associates and joint venturers as identified by management and oversee the implementation and operation of appropriate systems to identify, evaluate and manage such risks, as they affect the Corporation's financial reporting and application of this charter.
- (24) Establish and maintain regular and separate systems of reporting to the Committee by each of management and the independent auditors regarding any significant judgments made in management's preparation of the financial statements and the view of each as to the appropriateness of such judgments.
- (25) Periodically review and discuss with management and the independent auditors the significance of emerging regulatory and accounting standards and initiatives for the financial reporting of the Corporation.

- (26) Review with the independent auditors and management the extent to which changes or improvements in financial or accounting practices, as approved by the Committee, have subsequently been implemented.

Internal Controls and Legal Compliance

- (27) Review and assess any reports prepared or caused to be prepared by management regarding internal controls and discuss with management its response, including the status of previous reviews.
- (28) At least quarterly, review with the Corporation's counsel any legal matters that could have a significant impact on the Corporation's financial statements, the Corporation's compliance with applicable laws and regulations and inquiries received from regulatory or governmental agencies.
- (29) Ensure management has established a system to monitor compliance with the Corporation's Code of Business Conduct and Ethics.
- (30) Establish procedures for the receipt, retention and treatment of complaints received by the Corporation regarding accounting, internal accounting controls or auditing matters and the confidential, anonymous submission by employees of concerns regarding questionable accounting or auditing matters.
- (31) Review management's reports on directors' and officers' related party transactions and conflicts of interest, if any.

General

- (32) Periodically review financial and accounting personnel succession planning within the Corporation and its major subsidiaries.
- (33) Perform any other activities consistent with this Charter, the Corporation's by-laws and governing law as the Committee or the Board deems necessary or appropriate.

4. Other Matters

4.1 Annual Assessment. At least annually, the Committee shall review its own performance and reassess the adequacy of this Charter in such manner as it deems appropriate, and report the results thereof, including any recommendations for change, to the Board.

The Committee's role, as described in this Charter, is an important part of monitoring the quality and integrity of the Corporation's financial reporting. This role does not replace the responsibility of the Corporation's management for the preparation and presentation of financial statements in accordance with generally accepted accounting principles, for significant accounting estimates and judgments and for ensuring compliance by the Corporation with applicable laws relating to its financial reporting. Nor does the role of the Committee detract from the responsibility of the auditors to plan and conduct an audit in accordance with Canadian generally accepted auditing standards or from the fact that the independent auditors are ultimately responsible to the Board of Directors and the Committee as representatives of the shareholders.



Summary of Feasibility Study

Honeymoon Uranium Project

South Australia

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Project Number MI7232

July 2006



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Use of Report

This report was prepared for sxr Uranium One Inc. and its wholly owned subsidiary Southern Cross Resources Australia Pty Ltd., ("Client") by Mayfield Engineering Pty Ltd., ("Mayfield") pursuant to the contract agreement ("Agreement") between the Client and Mayfield.

The report is based in part on information and data provided to Mayfield by the Client and/or third parties. Mayfield represents that it exercised reasonable care in the preparation of this report and that the report complies with published industry standards for such reports, to the extent such published industry standards exist and are applicable.

Any discussion of legal issues contained in this report merely reflects technical analysis of Mayfield and does not constitute legal opinions or the advice of legal counsel.

The report is in two parts:

Part 1 – contains pages 1 to 64. The index for Part 1 is prior to page 1.

Part 2 – contains pages 65 to 146. The index for Part 2 is prior to page 65.

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This report, the Summary of Feasibility Study (FS) of the Honeymoon Uranium Project, is compiled for srx Uranium One Inc. and its wholly owned Australian subsidiary Southern Cross Resources Australia Pty Ltd in accordance with the guidelines set forth under National Instrument 43-101 for the submission of technical reports on mining properties. Mineral resource classifications contained herein conform to standards prescribed by NI 43-101 and the JORC Code 2004. All currency amounts are expressed in Australian dollars (AUD) except where noted.

Capital and operating cost estimates are provided in this report. Financial modelling and economic analyses based on these costs have been provided by Southern Cross Resources.

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Climatic conditions in the region are described as semi-arid, with mean annual rainfall of 200mm. Mean maximum temperatures exceed 30°C in the summer months; in cooler months, mean maximums are near 20°C with minimums often below zero.

The Honeymoon Uranium Project consists of the following Mining Lease (ML), Exploration Licences (ELs) and Miscellaneous Purpose Licences (MPLs) shown in Table 1-1 and Figure 1-1.

Table 1-1 Honeymoon Uranium Project Summary of Tenure

Tenure ID/Name	Area (ha)	Date Granted	Expiry Date
ML 6109 – Honeymoon	1,000	February 8, 2002	February 7, 2023
EL 2937 – Yarramba	45,200	April 29, 2002	April 28, 2007
EL 3017 - South Eagle	37,900	September 26, 2002	September 25, 2006*
MPL 64 – Honeymoon	250	June 7, 2002	June 6, 2009
MPL 15 – Honeymoon	249.75	June 8, 1981	May 25, 2012

* Note: An application has been filed for the renewal of EL 3017 South Eagle.

All of the Honeymoon tenures listed above are 100% held by Southern Cross Resources Australia Pty Ltd (Southern Cross Resources), a wholly-owned subsidiary of srx Uranium One Inc. ML 6109 was issued on February 8, 2002 following approval of the Project's Environmental Impact Statement, the issuance of its Export Licence and the conclusion in February 2002 of an agreement with Adnyamathanha No. 1 Native Title Claimants. The latter agreement authorises uranium mining operations on land which is subject to native title claims. Under the Adnyamathanha Agreement, an amount equal to 1.5% of the total value of uranium yellowcake product recovered from ML 6109 is payable by Southern Cross Resources to the claimants.

Production of uranium from the property is also subject to a statutory royalty of 2.5% of the mine gate value of the minerals mined. The mine gate value of the product is the market value determined by the price paid by a genuine purchaser at arm's length or the price quoted or obtained on any market recognised by the Minister at the time of delivery to the converter minus transport costs.

The Yarramba Palaeovalley in which Honeymoon is located was incised into Willyama basement on the eastern flank of the Benagerie Ridge in the Curnamona Region. It is up to 6 km wide and hosts a confined aggrading fluvial system comprising 40-50 m of upward fining sequences of interbedded sand, silt and clay. Palynological analysis of core has determined this to be Eocene Eyre Formation (Rowett, 1990). Average depth to the top of Eyre Formation is 90 m. The braided basal unit, which contains the majority of the mineralization at Honeymoon, appears to be layercake with laterally-extensive tabular clast-supported, poorly sorted, angular quartz sand and gravel, with humic matter and minor pyrite. The middle and upper units are more clay-rich with a labyrinth of compartmentalized meandering channel sands, well preserved overbank facies and clay wedges (Dyson, 2006).

Disconformably overlying the Eocene is an approximately 75 m thick succession of lacustrine sediments of Miocene-Pliocene Namba Formation. These are dominated by organic-rich clays that provide a thick impervious seal to underlying Eyre Formation aquifers. The whole is capped by unconsolidated Quaternary terrestrial units. Static groundwater level at Honeymoon is approximately 50m below ground level and naturally flows at 10-15 metres per year. The highly permeable basal aquifer is very saline at approximately 20,000 ppm

total dissolved solids (TDS), whereas the upper aquifer is less so at around 11,000 ppm TDS.

Significant uranium mineralization at Honeymoon is restricted to the basal sand and occurs over approximately 1 km east-west. The majority of mineralization is located near the confluence with a major tributary entering the Yarramba Palaeovalley from the south and also associated with a topographic high in the channel floor. The uranium is thought to derive from a granite body immediately to the south. Sediment fill appears to be dominantly mechanically transported granite detritus with some pelite fragments. The deposit is generally of the 'sediment-hosted' or 'sandstone uranium' type but lacking clear roll-front morphology and displaying apparently structurally influenced distributional trends.

Uranium mineralization occurs in highly permeable (porosities commonly >30%) unconsolidated and saturated sands, which are sealed below impervious clay horizons. This physical configuration in association with extremely fine grained, acid soluble uranium mineralogy of uraninite, coffinite and uranium phosphates (Ashley, 2006) suggests amenability to ISL mining. Potentially economic mineralization extends over an area of 900 x 450 m at 1.7 m average thickness in up to five superposed levels – circa 3 m cumulative. It occurs in reduced, pyritic and organic rich zones and also at the contact between sand and clay layers appearing to be mostly flat lying, with no classical crescent shaped rollover zones identified.

The mineral resource estimate was prepared by K F Bampton MSc, MAusIMM, MAIG prior to and independently of the remainder of this study, with an effective date of May 17, 2006.

The Honeymoon deposit contains an indicated mineral resource of 1.2 million tonnes at 0.24% U₃O₈ containing some 2900 tonnes (6.5 million lbs) of U₃O₈. Field tests have shown that the mineralization is amenable to in-situ leaching with an oxidizing solution of dilute sulphuric acid.

Table 1-2 Honeymoon Uranium Project - Indicated Mineral Resources

Sand Package	Ore t	Grade %	t U ₃ O ₈	lb U ₃ O ₈	Thickness	GT
EBS-5	89,000	0.13	120	260,000	1.4	0.18
EBS-4	45,000	0.17	77	170,000	1.2	0.20
EBS-3	140,000	0.37	530	1,170,000	1.4	0.51
EBS-2	410,000	0.28	1,100	2,500,000	1.7	0.47
EBS-1	530,000	0.20	1,100	2,400,000	2.1	0.43
Total	1,200,000 tonnes	0.24 % U₃O₈	2,900 t U₃O₈	6.5 million lb	1.7 m thick	0.42 m% GT

Note: Mineral resources that are not mineral reserves do not have demonstrated economic viability.

Based on recent drilling data, the Honeymoon deposit is recognized as five separate mineralized sand packages, separated by laterally extensive clay seams. The lower sands are interpreted as being more permeable than the upper sands. Due to the differences in permeability, the sands cannot be mined as a single unit. Where wells intersect both the upper and lower mineralized sands, the lower more permeable sands will have to be mined first. This can be achieved by setting wellscreens over the interval of the lower sands and leaching the sands with recirculating acid leach liquors. When mining of the lower sands is

complete, the wellscreens in the bottom of the well will have to be plugged and the upper sand interval screened to allow the upper sands to be leached. This technique, which is more costly than leaching the sands as a single unit, has been successfully employed at the Beverley in-situ uranium mine.

The basic wellfield design will be based on '7-spot' patterns, which consist of six injection wells arranged in a 20 - 60 m hexagon, with a centrally located production well. Local variations in pattern size may occur on wellfield margins and where low-permeability ore zones require closer-spaced patterns. Approximately 30 production wells will need to be in operation at any one time within the wellfield to meet the process plant design feed requirements. The selected production rate is 400 tpa U_3O_8 equivalent, giving a project life of between 6 - 7 years. The production plan is designed to bring the wellfield on-line in two stages during the first year, while eliminating problems expected in the wellfield and process plant and optimizing the process plant operating parameters. The production during the first year is assumed to be 75 % of design.

The process plant will utilise solvent extraction technology to recover uranium from the pregnant leach solution (PLS). The uranium product will consist predominantly of uranium peroxide ($UO_4 \cdot xH_2O$) and will be precipitated from aqueous strip solution from solvent extraction. The uranium product will be de-watered and dried prior to packaging for transport. A simplified flow sheet for the process is shown in Figure 1-2.

The uranium processing facility will comprise the following sections:

- Pregnant Leach Solution (PLS) Handling and Storage
- Solvent Extraction (SX) including scrubbing and stripping
- Barren Leach Solution (BLS) Handling and Regeneration
- Iron Thickening, Dissolution and Crud Handling
- Uranium Precipitation
- Uranium Product De-watering, Drying and Packaging
- Reagents, Receival, Storage and Dosing
- services: power, water, air supply and distribution, plant controls.

The wellfield and PLS pond will be operated to maintain the desired flow into the plant. The average PLS flow will be 654 t/h over 8410 hours per year. The wellfield and the solvent extraction sections of the process plant through to iron thickening will be operated continuously, twenty-four hours a day, seven days per week. Uranium precipitation will be operated on a batch basis, albeit sequentially, over twenty-four hours per day, seven days per week.

The yellowcake de-watering circuit which includes uranium product slurry handling, centrifuging and product drying, will operate seven days per week. Normal operation will be continuous, but the equipment installed will be capable of processing over a shorter campaign each day. Uranium product drumming operations will be performed on dayshift only, seven days per week, for a period of approximately two hours per day.

Process development work and test plant operation have been carried out to confirm the process flowsheet and for the recovery numbers used in this study report. The study has assessed specific risks associated with the process selection for recovering uranium, and in producing dried yellowcake at impurity levels acceptable to the uranium converters.

Honeymoon Uranium Simplified Flow Sheet

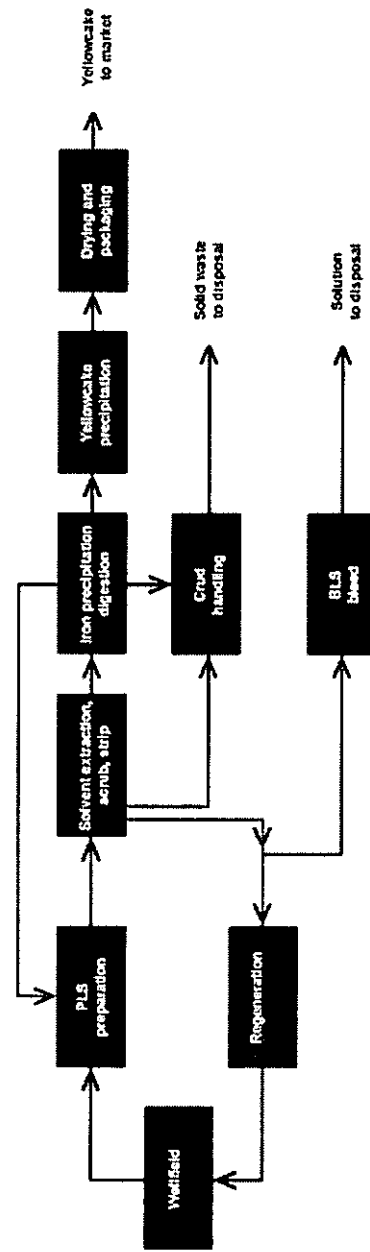


Figure 1-2 Honeymoon Uranium – Simplified Process Flowsheet

The processing facilities will generate solid, liquid and gaseous low level radioactive wastes. Solid and liquid radioactive wastes will be retained and managed on site. A monitoring program will prevent other materials and equipment from leaving the site until they have a clearance certificate showing that the surface radioactive contamination is below the limits set by the appropriate authority. Gaseous and airborne emissions will be controlled to levels which will not present a hazard to employees or the general public.

The contaminated waste waters from the mining process will be reinjected into the aquifer which contains the ore body. The waters in this aquifer are heavily saline and contain relatively high levels of radionuclides. They are unsuitable for human consumption, animal consumption and have no agricultural use. The addition of the waste streams to the waters of this aquifer will have no significant environmental impact.

For the project to proceed, a licence to mine and mill radioactive ore must be obtained and several documents relating to environmental regulation must be submitted and approved by the regulatory authorities. An application to Mine and Mill has been lodged with the South Australian Government Authorities accompanied by a Radioactive Waste Management Plan (RWMP) and a Radiation Management Plan (RMP). Additional documents currently in preparation include an Environmental Monitoring and Management Plan (EMMP) and a Mining and Rehabilitation Program (MARP).

In-situ leaching results in only minor surface disruption. Rehabilitation programs at the Honeymoon site have demonstrated that once the mining project has been completed, the disrupted areas can be revegetated and returned to their original condition with little difficulty. At the conclusion of the Honeymoon project, all surface structures will be demolished and either removed from the site or buried on site in appropriately designed disposal pits. The surface that has been disrupted by the project will be revegetated and returned to its original condition.

A financial model for the project with an annual production of 400 tpa U₃O₈ equivalent was prepared by sxr Uranium One Inc. Key production and financial parameters are summarised in Table 1-3. (Note: All values are in US\$). The project has a life of approximately seven years including the initial construction period. The actual mine life is between five and six years. The payback period of the project capital is estimated to be approximately 2.9 years from the commencement of the project.

Table 1-3 Honeymoon Uranium Project – Financial and Production Data \$USmillions

	Total	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Production ('000 lbs)	4476		660	882	882	882	882	285
Gross Sales	187		28.3	37.0	36.7	36.7	36.7	11.2
less: Royalties	(8.2)		(1.2)	(1.6)	(1.6)	(1.6)	(1.6)	(0.5)
Net Sales	178.5	0.0	27.0	35.4	35.1	35.1	35.1	10.7
Total Op Costs	(63.3)	(2.7)	(11.5)	(11.2)	(11.2)	(11.0)	(10.7)	(5.0)
Operating Cash Flow	115.2	(2.7)	15.5	24.2	23.9	24.1	24.5	5.7
less: Income tax	(17.2)	0.0	0.0	(0.9)	(5.4)	(5.4)	(5.5)	0.0
Project Cash Flow	98.0	(2.7)	15.5	23.4	18.5	18.7	18.9	5.7
Capital inflow								
Capital expenditure	(35.9)	(35.9)	0.0	0.0	0.0	0.0	0.0	0.0
CASH FLOW AFTER CAPEX	62.1	(38.6)	15.5	23.4	18.5	18.7	18.9	5.7
FORECAST CASH BALANCE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Opening cash balance		0.0	(38.6)	(23.0)	0.3	18.9	37.5	56.4
+ Project cash flow		(2.7)	15.5	23.4	18.5	18.7	18.9	5.7
- Capital expenditure		(35.9)	0.0	0.0	0.0	0.0	0.0	0.0
Closing Cash Balance		(38.6)	(23.0)	0.3	18.9	37.5	56.4	62.1

(sxr Uranium Ore Inc, 2006)

All amounts in \$USmillions, commodity price of US\$46.50 per lb flat over life of project; AUD \$1 = US \$0.75

The economic analysis which is based on a 70% recovery of uranium, being the worldwide yardstick level for ISL uranium mines, from an indicated mineral resource containing 2900 tonne of uranium oxide shows that the project has a NPV of US\$37.7 million at an 8% discount rate and an IRR of 40%. This analysis applies the project's current contract position and assumes a flat US\$46.50 per pound over the life of the project. While the Honeymoon ore shows greater than 90% recovery in laboratory leaching tests, a 70% recovery in a commercial operation cannot be assumed without qualifications, which include adequate control of gypsum precipitation and possible need to reduce well spacing to improve solution passage through the mineralized areas. Field leach trials, which did not investigate the effects of well spacing or the impact of gypsum precipitation, provided mixed results. Three of the five patterns tested showed unsatisfactory performance. Improved performance can be expected when the effects of these variables are understood.

The qualifications result from the following conclusions, drawn from an examination of the laboratory and field test data obtained for the Honeymoon uranium deposit (P Bush, 2006):

- the uranium values in core samples can be readily leached into an acidified oxidizing solution provided contact can be made between the solution and the uranium values
- the uranium values in core samples can be readily leached into an acidified oxidizing solution provided the flow of the solution can be contained to maintain contact with uranium values

- the uranium values in large in-situ samples can be leached into an acidified oxidizing solution
- gypsum precipitation will reduce the efficiency of leach operations at increased sulphate concentrations because of the saturated nature of the ground water in the aquifer
- the high calcium and sulphate concentrations in the ground water result in the precipitation of gypsum in the leach system
- control of the ease with which gypsum precipitates will be important in any commercial operation
- the performance of leach patterns is likely to vary under similar leaching conditions
- a recovery of 70% of the uranium resource at an average solution grade of 75 mg U₃O₈/L can be achieved if contact between solution and mineral is successful
- further analysis of the geology of the field leach trial area is justified to examine the installation of the field in relation to revised geological interpretation of the deposit
- in order to obtain a uranium recovery of 70% at an average grade of 75 mg U₃O₈/L it may be necessary to reduce the well spacing to improve solution passage through mineralized areas
- continued refinement of the resource estimate will have the effect of identifying non-recoverable uranium with the expectation of increased recovery from a reduced resource
- the data available do not support an operating recovery of 70% at a grade of 75 mg U₃O₈/L without qualifications as given above.

The capital cost estimate, based on the designs presented in this Report, has a predicted accuracy of $\pm 15\%$ and is summarised in Table 1-4. All costs are expressed in 2nd quarter 2006 AUD with no allowance for escalation, interest or financing during construction. The budget prices for major items identified in this study have been sourced in Australia; however during the execution of the project, international and regional sources of equipment and bulk materials will be investigated. The operating costs for the project are summarised in Table 1-5.

Table 1-4 Honeymoon Uranium Project – Capital Cost Summary AUD

Direct Capital	AUD \$ Value
General	1,168,840
Leach Liquor Handling	3,360,770
Solvent Extraction	8,376,580
Precipitation	2,582,914
Yellowcake Drying	3,241,225
Reagents Storage	3,184,342
Plant Services	3,501,256
Wellfield Control Centres	2,680,542
Power Supply	1,903,317
Infrastructure	1,476,801
Total Direct Capital	31,476,587
Indirect Costs	
EPCM Labour	3,049,715
Commissioning Labour	227,457
EPCM/Commissioning Expenses	692,910
Construction Camp (Hire and Operate)	518,854
Insurances	289,195
Construction Contingency	516,000
Design Contingency	245,574
Total Indirect Costs	5,539,705
Total Direct and Indirect Costs	37,016,292
Owner's Costs (by owner, no EPCM included)	
Project Management/Legals/Consultants	433,200
Working capital	Excluded
First Fill Reagents	1,090,644
Spares	340,000
Power Supply to Site	5,150,000
Access roads	1,865,462
Motor Vehicles and Sundry Equipment	1,914,400
Total Value Owner's Costs	10,793,707
Total Project Value	47,809,998

Table 1-5 Honeymoon Uranium Project – Life of Mine Operating Costs AUD

Life of Mine Operation Costs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	AUD
Description								
Salaries and Wages	653,200	3,919,200	3,919,200	3,919,200	3,919,200	3,919,200	1,959,600	22,208,800
Office Costs	347,300	1,074,800	1,074,800	1,074,800	1,074,800	1,074,800	638,300	6,359,300
Wellfield Costs	2,037,200	4,668,200	3,445,100	3,469,000	3,237,700	2,760,600	168,300	19,786,100
Treatment Plant Costs	251,300	3,060,300	3,685,200	3,685,200	3,685,200	3,685,200	1,128,900	19,181,300
Camp Costs	91,100	702,100	702,100	702,100	702,100	702,100	351,000	3,952,600
Power Costs	203,700	1,222,400	1,222,400	1,222,400	1,222,400	1,222,400	611,200	6,926,900
Site Access Maintenance	15,500	93,300	93,300	93,300	93,300	93,300	46,600	528,600
Product Shipping Costs	0	525,100	646,700	646,700	646,700	646,700	171,400	3,283,300
Contracts	9,300	111,000	111,000	111,000	111,000	111,000	55,500	619,800
Closure Costs							1,500,000	1,500,000
Total	3,608,600	15,376,400	14,899,800	14,923,700	14,692,400	14,215,300	6,630,800	84,346,700

The Honeymoon site accommodation camp and messing facilities for permanent employees will be designed to cater for a total of 50 permanent employees and eight contractors, with the capacity to cater for an additional 12 contractors and visitors. A temporary camp will be constructed for accommodation and messing of construction personnel. Table 1-6 indicates the staffing requirements for operation of the mine.

Table 1-6 Honeymoon Uranium Project – Workforce

Area	Salary and Wages
Geology	3
Wellfield	10
Processing	30
OH&S/Radiation	2
Administration	5
Total	50

It has been assumed that the project will be executed under an Engineering, Procurement and Construction Management (EPCM) contract for the processing facilities where a single engineering and construction company would undertake the project on a cost reimbursable basis.

A comprehensive Occupational Health and Safety Program will be implemented by the EPCM contractor, in liaison with Southern Cross Resources' Occupational Health and Safety Team. The construction effort will be conducted in a safe manner, ensuring the health and safety of the workforce, and ensuring it is consistent with Southern Cross Resources' safety program.

The following summary project schedule, Figure 1-3, is based on implementation of the project following approval of the feasibility study and award of the EPCM contract. The objective of the engineering phase will be to ensure that the preliminary designs and concepts developed during the study stage are successfully translated into documentation that will facilitate the construction and commissioning of the Honeymoon Project on time and on budget, with due respect to constructability, operability and maintainability. The engineering for the project will be performed in two phases, a basic engineering phase and the detail engineering phase. The basic engineering phase of the work will commence in the selected Engineer's office with the object of freezing the process flowsheets, piping and instrumentation diagrams, general arrangement drawings, design criteria, specifications and equipment sizing.

The initial procurement activity will focus on the "long lead" equipment and will track the manufacturing and delivery schedules to the Honeymoon site. The time from project approval to Mechanical Completion is approximately 72 weeks. The critical delivery item will be the uranium product dryer at 32 weeks delivery. The longest lead item will be the crud centrifuge, at 52 weeks delivery, which will not be needed during commissioning but only after many days of plant operation and consequent build up of crud.

Honeymoon Uranium Project Summary of Feasibility Study 400 TPA U₃O₈ Equivalent

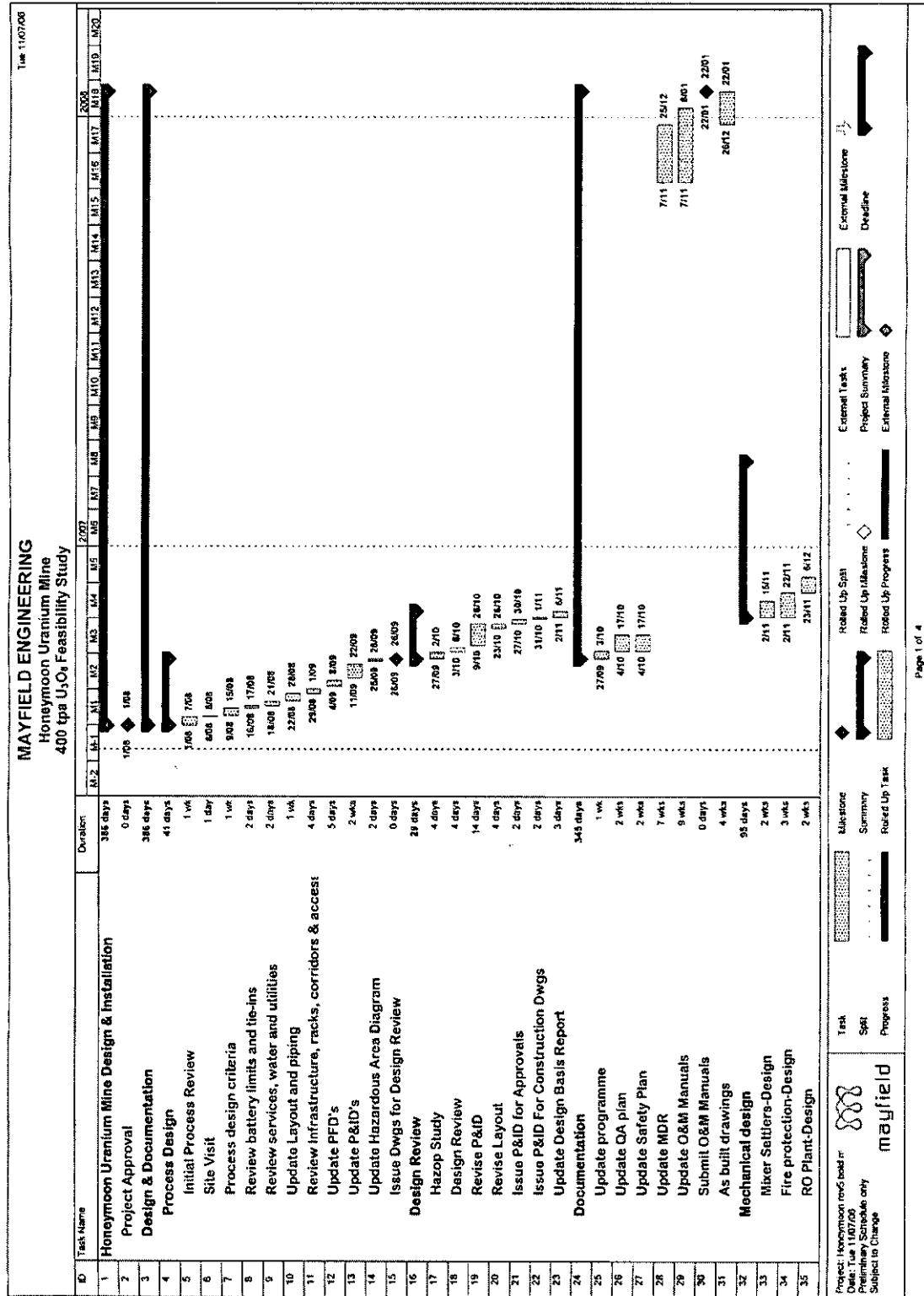
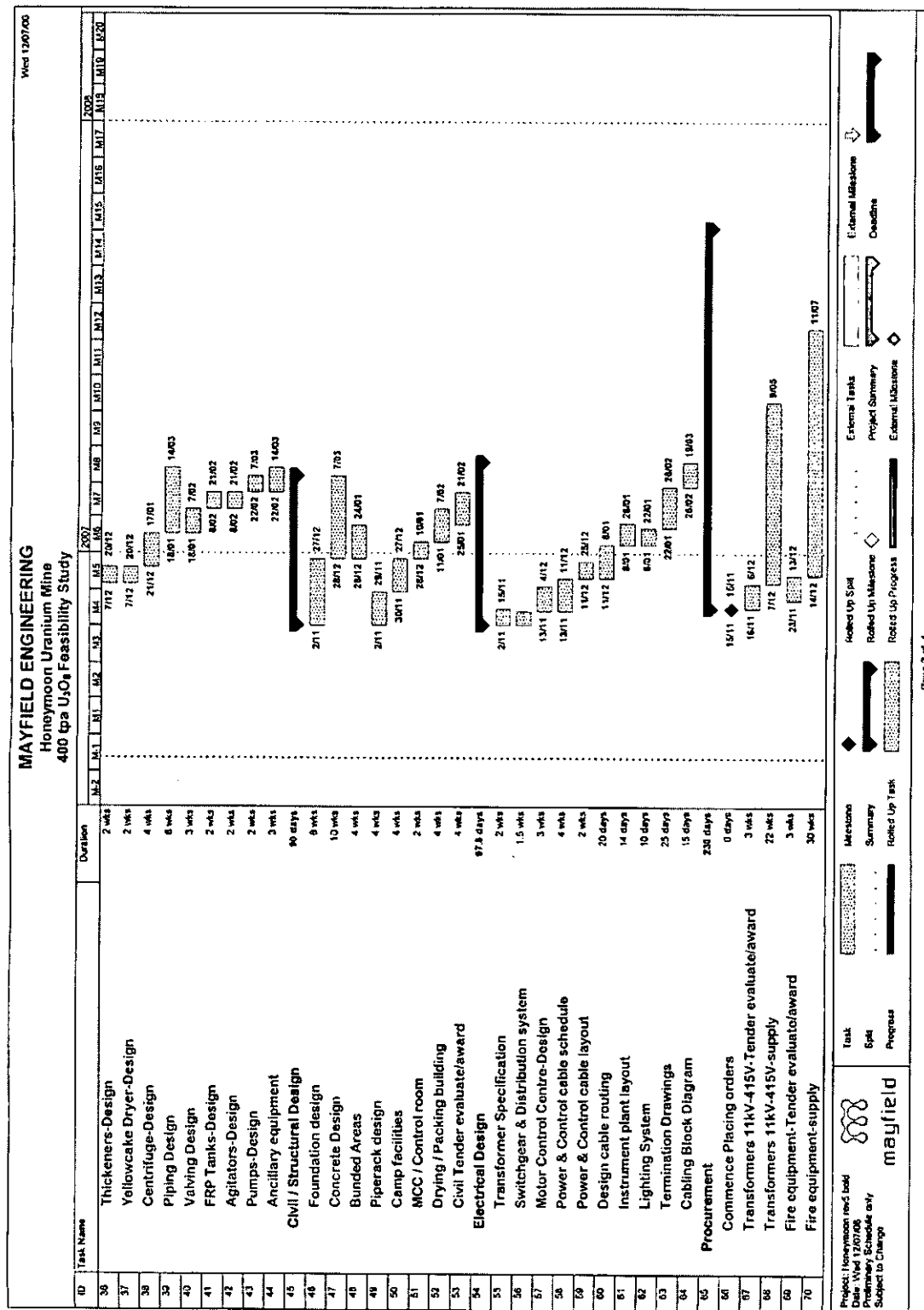


Figure 1-3 Summary Project Schedule



Honeymoon Uranium Project Summary of Feasibility Study 400 TPA U₃O₈ Equivalent

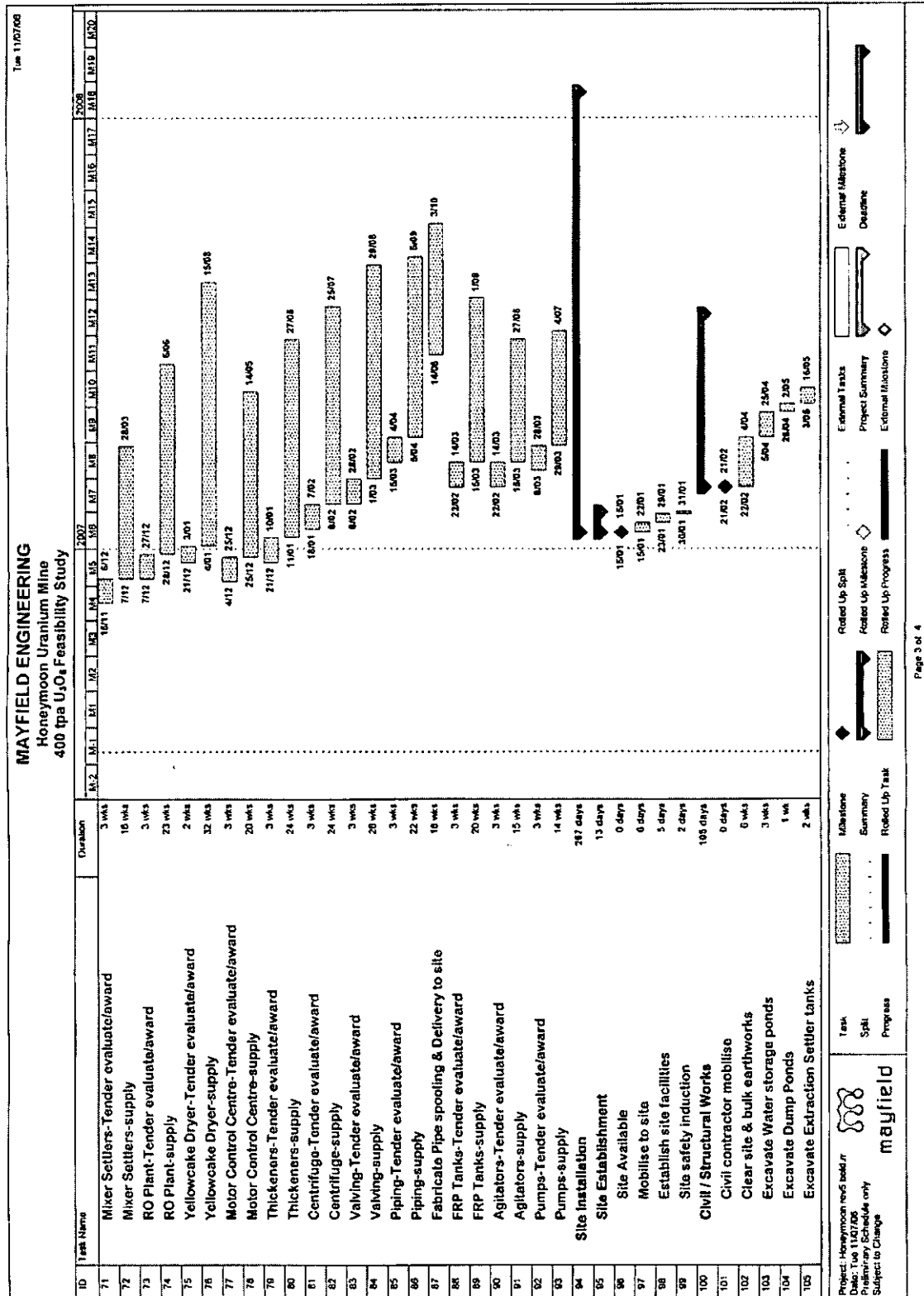


Figure 1-5 Summary Project Schedule

Honeymoon Uranium Project Summary of Feasibility Study 400 TPA U₃O₈ Equivalent

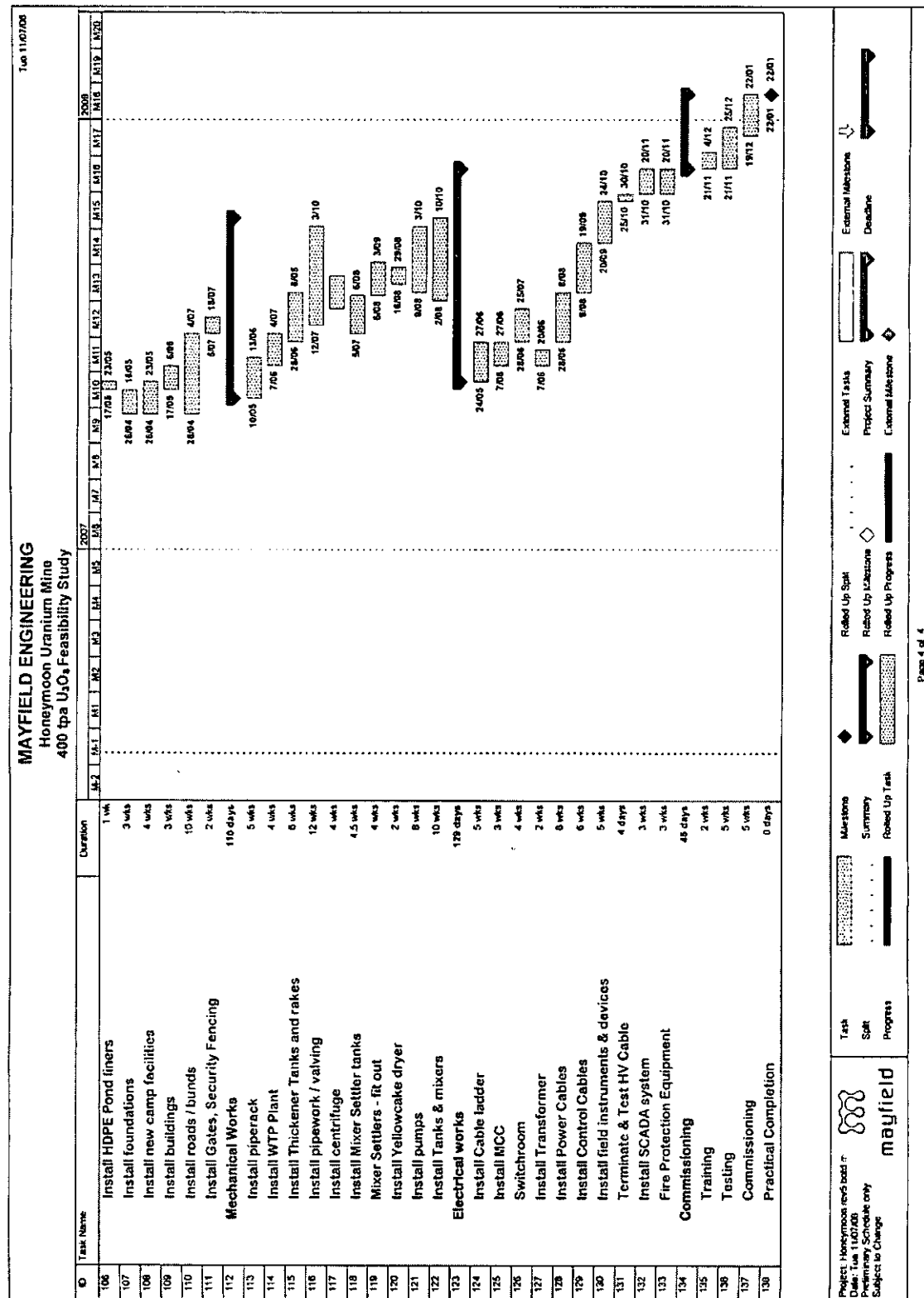


Figure 1-6 Summary Project Schedule

In order to meet the schedule, the process design must commence immediately, to ensure documents are ready for the HAZOP study. The HAZOP study needs to be completed prior to the commencement of the mechanical, structural and electrical design to ensure appropriate specifications and selection of materials. Immediately after project approval by Southern Cross Resources, work must commence on the EPCM phase Plan of Operations to ensure that it is submitted and approved before the commencement of site works.

Some staging of the design works will be required due to the need to establish some infrastructure early in the pre-development phase, i.e. the camp and sewage treatment plant. It is also desirable that the access road upgrade be completed before the commencement of the main construction activities.

Commissioning of the process plant and hand-over to operations personnel is assumed to occur within 5 weeks of mechanical completion. After this time, Southern Cross Resources will ramp up production to design throughput.

2 Introduction

2.1 General

Southern Cross Resources has commissioned Mayfield Engineering Pty Limited (Mayfield) to prepare a technical report relating to the Honeymoon In-situ Leach Uranium Project. The report is produced to confirm the financial feasibility of the project.

The project location is in South Australia. The outline of the Mining Lease and the location of the Honeymoon Uranium deposit are shown in Figure 1-1.

2.2 Resources Used

This report is based on a Feasibility Study prepared by Mayfield and Aker Kvaerner which relies on reports and information provided by other consultants as noted in Section 3.

The feasibility study was managed by Mayfield. Wellfield design information was provided by Southern Cross Resources; the process design for the uranium extraction plant was provided by Aker Kvaerner based on test data provided by Southern Cross Resources; and the drying and packing plant design was provided by Adelaide Control Engineering (ACE). Mineral resource estimates were provided by K. F. Bampton.

Capital costs for the extraction plant were developed by Mayfield while costs for the drying and packing plant were provided by ACE. Quotes for the capital costs of the wellfield equipment were obtained from vendors by Southern Cross Resources and were validated by Mayfield. Owners costs were also provided by Southern Cross Resources based where possible on third party estimates and, where appropriate, were validated by Mayfield.

Leaching and wellfield performance were assessed by P. Bush from test data provided by Southern Cross Resources.

Operating costs were estimated by Mayfield using input from Aker Kvaerner, ACE and Southern Cross Resources. Workforce schedules were provided by Southern Cross Resources. All cost data were provided by third parties.

Financial modeling was carried out by Southern Cross Resources using models which were validated by Ernst and Young.

The experts responsible for the respective sections of the report are listed in Section 3 with their qualifications.

2.3 Capital and Operating Costs

The capital and operating cost estimates used in the Feasibility Study are based on a production rate of 400 t/a U₃O₈ equivalent.

Capital cost estimates are expressed in second quarter 2006 AUD dollars with no allowance for escalation, interest or financing during construction. Budgetary quotations were solicited for all wellfield and processing equipment and major electrical and control equipment. Commodity pricing for earthworks, concrete, steel and architectural work has been obtained from local contractors. The capital cost estimate, based on the designs presented in the Feasibility Study Report, has a predicted accuracy of $\pm 15\%$.

Wellfield, processing and administration operating cost estimates were developed for the life of the project and include operating, labour, fuel, replacement parts, operating supplies, maintenance labour and supplies, plant consumables and power.

2.4 Terms of Reference

This report summarises the results of a detailed feasibility study on the Honeymoon Uranium Project undertaken by Mayfield and Aker Kvaerner. The feasibility study was commissioned by Southern Cross Resources in February 2006 and was subject to an Agreement between Mayfield and Southern Cross Resources. srx Uranium One Inc. issued a press release to announce the results of the feasibility study. This report has been produced to summarise the feasibility study and support the disclosure of the feasibility study made by srx Uranium One Inc., as required by the Canadian regulatory authorities under National Instrument 43-101, - *Standards of Disclosure for Mineral Projects*.

Southern Cross Resources agrees that, except to the extent specifically stated in the Agreement, Mayfield is not responsible for confirming the accuracy of information and data supplied by third parties or by Southern Cross Resources regarding geology, mineral resource estimate, wellfield and financial modeling and that Mayfield does not attest to or assume responsibility for the accuracy of such data. The recommendations and opinions contained in this report assume that unknown, unforeseeable, or unavoidable events, which may adversely affect the cost, progress scheduling or ultimate success of the Project will not occur.

2.5 Site Visits

A site visit was conducted on February 22, 2006 by a Joint Mayfield/Aker Kvaerner team consisting of the authors of this report i.e. Study Manager, Victor Absolon, Lead Process Engineer, Peter Bartsch, and Principal Engineer, Colin Bazeley. The purpose of the trip was to gain familiarity with the geography of the property and potential sites for project components. Dr. Phil Bush (wellfield extraction) was employed as an independent consultant by Southern Cross Resources during the field leach trials in 1998 - 2000 and visited the site during this time. Ken Bampton (geology and mineral resources estimate) has previously visited the site.

2.6 Findings

The feasibility study assumes that 70% of the Honeymoon uranium resource will be recovered by in-situ leaching. While this is consistent with experience in the industry it cannot be assumed for the Honeymoon Project without qualifications, which include the adequate control of gypsum precipitation and a possible need to reduce well spacing to improve solution passage through the mineralized areas.

The process design for the uranium recovery plant is satisfactory. Some further work may be needed on handling cruds and precipitates which will be formed in the process plant.

An economic analysis based on 70% recovery of uranium from an indicated mineral resource containing 2900 tonnes of U₃O₈ shows that the project has a NPV of \$US37.7 million at an 8% discount rate and an IRR of 40% at a U₃O₈ price of \$US46.50 per pound over the life of the project.

3 Reliance on Other Experts

This report is based on a Feasibility Study prepared by Mayfield and Aker Kvaerner which relies on reports and information provided by other consultants as noted in Section 2.2.

The respective experts, their qualifications and areas of responsibilities are summarized in Table 3-1.

The work of Aker Kvaerner, ACE, Country Energy and Dr. Phil Bush has not been audited by Mayfield Engineering. Southern Cross Resources' input was validated by Mayfield with the exception of the Geology mineral resource estimate, wellfield and financial modelling.

Table 3-1 Summary of Experts and Responsibilities

Experts	Site Visit	Responsibility for Report Content
Independent Experts		
Peter Bartsch, B. App. Sci.	Visited	Metallurgical and process design for SX plant
Vic Absolon, MSc, MBA, FAusIMM(CP Met), MMICA	Visited	Study coordination and operating costs
Colin Bazeley, BSc Mech.Eng	Visited	Study engineering and capital costs
Glenn Jobling, B.E (Elec) Eng. MIE Aust (CP Eng)	Visited	Uranium drying and packaging – process and engineering design and costing
Dr. Phil Bush, MBA, PhD, FAusIMM (CP Met), MMICA	Visited	Uranium recovery from wellfield
Ken Bampton, MSc, MAusIMM, MAIG	No current visit	Geology and mineral resource estimate
Southern Cross Resources		
Dean Roberts	Visited	Wellfield costs (supplied by Thompson Drilling, Complete Piping Systems)
Dean Roberts	Visited	Electrical power line, environmental and access costs (supplied by Country Energy)
Brian Lancaster	Visited	Project manning schedules Owner's costs
Leigh Curyer	Visited	Marketing studies Financial modelling (reviewed by Ernst and Young)

4 Property Description and Location

4.1 Location

The Honeymoon Uranium Project is located on arid plains approximately 400 km northeast of Adelaide, South Australia. The Honeymoon Uranium Project is based on a series of Tertiary sediment-hosted uranium deposits located in northeast South Australia, approximately 75 kilometres northwest of Broken Hill, New South Wales.

The location is considered to be remote. The project site does not have ready access to power or water supplies. It is 60 km from the nearest paved road and 70 km from the nearest settlement. At present the site is provided with power from on-site diesel generators, water from an on-site desalination plant and contains basic accommodation for up to 30 people.

The Honeymoon Uranium Project consists of the following Mining Lease (ML), Exploration Licences (ELs) and Miscellaneous Purpose Licences (MPLs) shown in Table 4-1.

The Honeymoon deposit is on Mining Lease 6109 which is located by coordinates in GDA 94, Zone 54 as shown in fig 4.1. The coordinates are:

1. 466882mE
6488887m N
2. 472294mE
6488902mN
3. 473202mE
6486898mN
4. 468555mE
6486891mN
5. 468552mE
6487391mN
6. 466895mE
6487386mN

The mineralized zones comprising five sand packages, are shown in figures 17.2 to 17.5. The figures are referenced to GDA 94, Zone 54.

An application has been filed for the renewal of EL 3017 South Eagle.

Table 4-1 Honeymoon Uranium Project Summary of Tenure

Tenure ID/Name	Area (ha)	Date Granted	Expiry Date
ML 6109 – Honeymoon	1,000	February 8, 2002	February 7, 2023
EL 2937 – Yarramba	45,200	April 29, 2002	April 28, 2007
EL 3017 - South Eagle	37,900	September 26, 2002	September 25, 2006
MPL 64 – Honeymoon	250	June 7, 2002	June 6, 2009
MPL 15 – Honeymoon	249.75	June 8, 1981	May 25, 2012

An Exploration Licence (EL) under the Mining Act 1971 (South Australia) may be granted by the relevant South Australian Government Minister (the Minister), on a discretionary basis,

for a term (including any renewals) of up to 5 years. An EL allows for large-scale exploration to be conducted and generally has a maximum area of 1,000 km².

A Mining Lease (ML) confers the exclusive right upon the holder to conduct mining operations and recover and sell the minerals specified in the lease. The maximum term for which a ML may be granted is 21 years, but it may be renewed if conditions of the lease have been complied with.

A Miscellaneous Purposes Licence (MPL) may be granted for purposes relating to the carrying on of any business in support of the effective conduct of mining operations, including establishing and operating a plant for the treatment of ore, disposing of overburden or waste produced from mining operations and for any other purpose ancillary to mining operations. These may be granted for a term of 21 years and may be renewed for a further term of 21 years. The owner of land over which a Miscellaneous Purposes Licence is granted, is entitled to compensation for the loss of use of the land caused by the grant.

All of the Honeymoon tenures listed above are 100% held by Southern Cross Resources Australia Pty Ltd, a wholly-owned subsidiary of srx Uranium One Inc. ML 6109 was issued on February 8, 2002 following approval of the Project's Environmental Impact Statement, the issuance of its Export Licence and the conclusion in February 2002 of an agreement with Adnyamathanha No. 1 Native Title Claimants. The latter agreement authorises uranium mining operations on land which is subject to native title claims. Under the Adnyamathanha Agreement, an amount equal to 1.5% of the mine gate value of uranium yellowcake product recovered from ML 6109 is payable by Southern Cross Resources Australia Pty Ltd, to the claimants.

Production of uranium from the property is also subject to a statutory royalty of 2.5% of the mine gate value of the output produced. The mine gate value of the output produced is the market value determined by the price paid by a genuine purchaser at arm's length or the price quoted or obtained on any market, recognised by the Minister at the time of delivery to the converter, minus transportation costs.

4.2 Ownership

Southern Cross Resources Australia Pty Ltd is the Australian subsidiary of srx Uranium One Inc., a Canadian company which has approximately 111 million issued shares of common stock which are listed on the Toronto and Johannesburg stock exchanges. The company is engaged in the acquisition, exploration and development of deposits for the production of low-cost uranium.

The parent company has interests in the Republic of South Africa (RSA), Canada and South Australia. The RSA interests include an operating gold mine, along with gold and uranium deposits which are under development. Uranium production from the RSA properties is scheduled to begin in 2007. The Canadian interests include uranium exploration properties in the Athabasca region of Saskatchewan.

In South Australia, the company owns 100% of the Honeymoon property located on Mining Lease Number 6109 situated on Pastoral Block 1121 and Section 1417 OOH Curnomona. The property is located approximately 75 km north-west of Broken Hill. Refer to Figure 1-1.

Southern Cross Resources also owns a 100% interest in all Tertiary-age uranium on the 452 square kilometre Exploration Licence 2937 property, owns 100% of the 19 square kilometre Goulds Dam property and has a 100% interest in all minerals on the 334 square kilometre Exploration Licence 2956 surrounding Goulds Dam.

The Mining Lease 6109 provides for a royalty of 2.5% of the value of the minerals obtained from the lease to be paid to the State of South Australia. The value of the minerals is

defined as the ex-mine gate value that fairly represents the market value of the minerals at the time that the minerals leave the lease.

The Native Title Mining Agreement with the Adnyamathanha Traditional Lands Association provides for a royalty of 1.5% of the ex-mine gate value of the minerals obtained from the lease to be paid to the Adnyamathanha Trust.

An agreement which purports to provide for a royalty of 1% of the value of minerals obtained from the lease to be paid to Mineral Properties Pty Ltd is being reviewed by sxr Uranium One. For the purposes of this study it is accepted as a valid royalty.

4.3 Environmental Liabilities

In Australia, all potential uranium mining operations are required to go through extensive environmental assessments via an Environmental Impact Statement process before the Commonwealth government will give export approval for the product and before the relevant State government will issue a Mining Lease.

4.3.1 The Environmental Impact Statement (EIS) Process

On 11 August 1997, the Commonwealth Minister for Resources and Energy designated Southern Cross Resources as the proponent for the Honeymoon Proposal under the Environmental Protection (Impact of Proposals) Act (the EPIP Act). The proposal was subject to joint assessment by the relevant Commonwealth and South Australian Government Departments. Planning SA took the lead role in the joint assessment process in close consultation with Environment Australia.

An Environmental Impact Statement was prepared for the Honeymoon Uranium Project and released for public and government department comment on 7 June 2000. The eight-week comment period expired on 2 August 2000. Submissions were received from 1,346 members of the public and 16 government departments.

A Response Document, containing the written responses to points raised in submissions, was completed by Southern Cross Resources and was released to the public and government agencies on 22 November 2000. Following the submission of this document, the South Australian and Commonwealth Government Departments prepared an Assessment Report which detailed conditions to be placed on the project as part of the requirements for the granting of Mining Leases.

On 20 November 2001, the Minister for the Environment and Heritage announced that "the proposed Honeymoon uranium mine is environmentally acceptable, provided the mine operates under stringent environmental controls and provided that additional measures recommended to the Minister for Industry, Science and Resources, in accordance with the EPIP Act, are implemented".

The Minister for Industry, Science and Resources announced on 23 November 2001 that he had accepted the recommendation of the Minister for the Environment and Heritage and was issuing a Permission to Export that incorporated conditions based on these recommendations. The Permission to Export authorises exports of uranium from Honeymoon for five years commencing 1 January 2002, subject to compliance with the specified conditions. This Permission to Export is renewable.

These two recommendations formed the basis for Southern Cross Resources receiving Commonwealth environmental approval for the Honeymoon Uranium Project. The South Australian Minister for Minerals and Energy approved a proposal to grant a Mineral Lease over Mineral Claims and Retention Leases held by Southern Cross Resources for a period of twenty-one years, thereby authorising operation of the Project subject to Regulations of the Mining Act, 1971, and the special conditions attached.

A Native Title Agreement was concluded and signed with the Adnyamathanha people on 1 February 2002. This followed the signing of a similar agreement with the Kuyani people in 1998. With the finalisation and subsequent registration of these agreements, the South Australian Government granted Southern Cross Resources a Mining Lease for Honeymoon on 8 February 2002.

4.3.2 Environmental Management and Regulation

For the project to proceed, three documents relating to environmental regulation must be submitted and approved by the regulatory authorities, and a licence to mine and mill radioactive ore must be obtained. These documents include an Environmental Monitoring and Management Plan (EMMP), a Mining and Rehabilitation Program (MARF) and Radioactive Waste Management Plan (RWMP) and each is described in the following Section 4.4 Permits Required to conduct Work.

4.3.3 Residual Impacts

In-situ leaching results in only minor surface disruption. Rehabilitation programs at the Honeymoon site have demonstrated that once the mining project has been completed, the disrupted areas can be revegetated and returned to their original condition with little difficulty.

At the conclusion of the Honeymoon project, all surface structures will be demolished and either removed from the site or buried on site in appropriately designed disposal pits. The surface that has been disrupted by the project will be revegetated and returned to its original condition.

The contaminated waste waters from the mining process will be reinjected into the aquifer which contains the ore body. The waters in this aquifer are heavily saline and contain relatively high levels of radio nuclides. They are unsuitable for human consumption, animal consumption and have no agricultural use. The addition of the waste streams to the waters of this aquifer will have no significant impact.

4.4 Permits Required to Conduct Work

4.4.1 Historical Licences

The Honeymoon property is described in the Mining Lease – Mineral Lease 6109 as “all those lands containing 1000 hectares or thereabouts and situate Pastoral Block 1121 and Section 1417 OOH Curnamona in the State of South Australia more particularly described and delineated on the plan annexed hereto and Marked ‘A’”. (This Annexure ‘A’ is reproduced as Figure 4-1. Mining Lease - Mineral Lease 6109 which covers the Honeymoon project area was granted on 27 February 2002). It has a term of 21 years. This document gives the Company the right to conduct mining operations on the lease, to obtain the resulting uranium minerals for its own use and to sell and dispose of the minerals.

Permitting and approval processes associated with the project – granting of the exploration and mining tenements, exploration activities, operation of the Field Leach Trial, and preparation of the guidelines for the EIS and the EIS– involved various South Australian and Commonwealth government agencies.

South Australian Government Agencies include:

- Primary Industries and Resources SA (PIRSA)
- Planning SA, Department for Transport, Urban Planning and the Arts
- Radiation Protection Branch, Department of Human Services (formerly the South Australian Health Commission)
- Department for Administration and Information Services

Commonwealth Agencies include:

- Department of Industry, Science and Resources
- Australian Safeguards and Nonproliferation Office, Commonwealth Department of Foreign Affairs and Trade
- Environment Australia, Commonwealth Department of the Environment, Sport and the Territories

Since late 1997, Southern Cross Resources has kept relevant agencies informed of progress on the project and officers from various agencies have made a number of visits to Honeymoon. Commonwealth agencies have been advised of aspects of the approvals’ process, through the Environmental Assessment Branch of Planning SA within the South Australian Department for Transport, Urban Planning and the Arts.

4.4.2 Export Licence

Southern Cross Resources Australia Pty Ltd holds export licence number MEP/402/URAN/001X issued by the Minister for Industry, Science and Resources on 24 November 2001. The licence expires on 1 January 2007. In the ordinary course of events this licence is renewable.

Under the Customs (Prohibited Exports) Regulations (pursuant to the Customs Act 1901), exports of uranium can be made under the licence granted by the Minister. This is conditional upon contracts of sale, which must be approved by the Uranium Industry Section of the Energy Minerals Branch, Coal and Minerals Industries Division of the Department of Industry, Science and Resources.

4.4.3 Licence to Mine and Mill Radioactive Ores

The company has a licence to mine and mill radioactive ore on a restricted non-commercial basis. It has recently applied for a commercial licence to mine and mill radioactive ores. A licence can be applied for at any time and is subject to the company continuing to comply with the codes of practice which regulate radiation protection. SXR has every expectation that this license will be granted.

4.4.4 Transport of Dangerous Goods

The company is required to have a Transport Management Plan approved. This is to ensure that the requirements of the Code of Practice for the Safe Transport of Radioactive Material are met and to ensure that obligations under the Nuclear Non-Proliferation (Safeguards) Act 1987 are met. A Transport Management Plan has been drafted and is currently being reviewed by the relevant regulatory authorities.

4.4.5 Environmental Management and Monitoring Plan (EMMP)

The requirement for an EMMP arises from the EIS process. It is specifically required as a condition of the granting of the export licence and is also required under the terms of the Mining Lease that covers the Honeymoon project area. An EMMP has been drafted and is currently being reviewed by the regulatory authorities. The EMMP is required to cover various environmental aspects of the Honeymoon project, involving several regulatory authorities. The EMMP is cross referenced in the RWMP to demonstrate compliance with the various relevant State and Commonwealth requirements. EMMP requirements concerning the surface environment, are covered by the Mining and Rehabilitation Program (MARF). Full descriptions of the existing environment and the proposed mining operation are contained in the MARF.

ANNEXURE 'A'

OUT OF HUNDREDS (CURNAMONA)

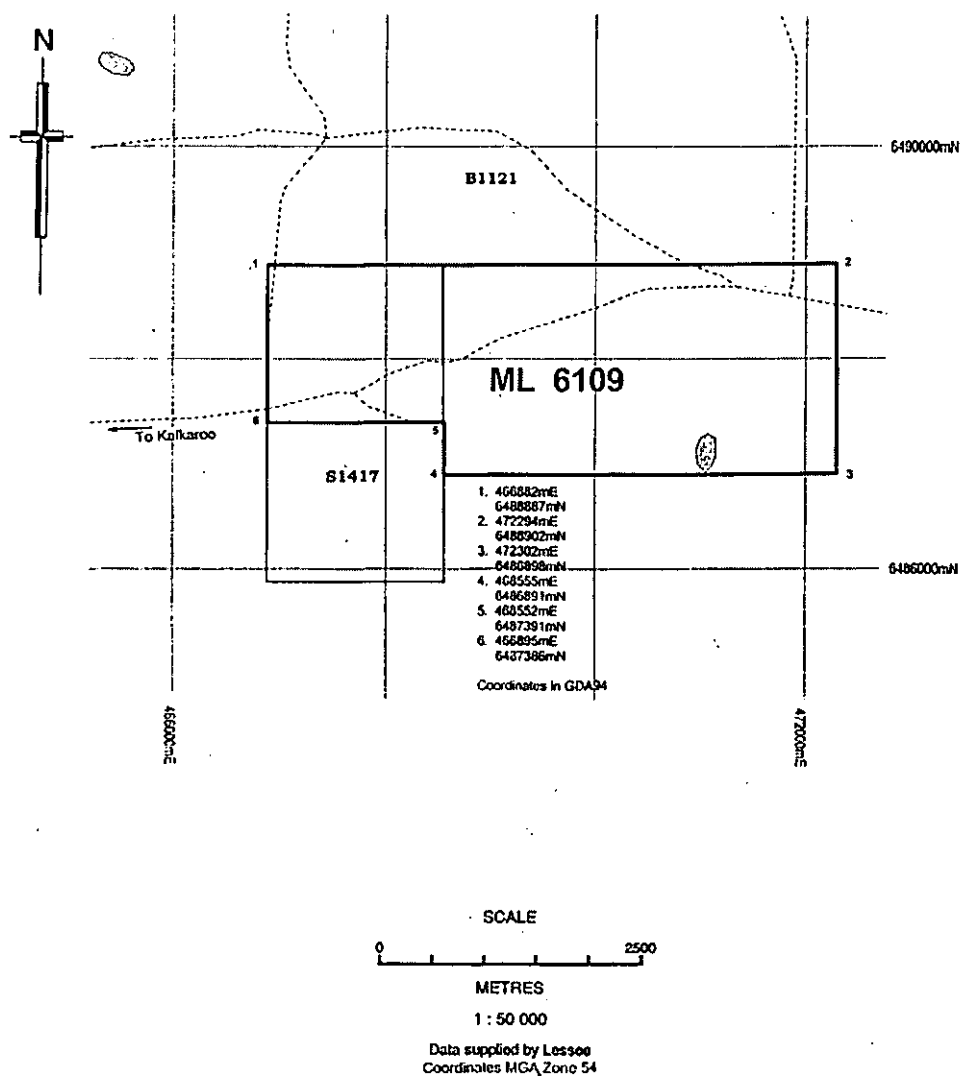


Figure 4-1 Annexure 'A' to Mineral Lease 6109

4.4.6 Mining and Rehabilitation Program (MARF)

Under the provisions of the South Australian Mining Act, a MARF must be prepared and approved by PIRSA for all new mining operations in South Australia. The purpose of the document is to provide a comprehensive description of the existing environment and the proposed operation to satisfy stakeholders that all of the risks have been identified and will be adequately controlled. A MARF has been drafted and is currently being reviewed by officers of PIRSA.

4.4.7 Radioactive Waste Management Plan (RWMP)

A Radioactive Waste Management Plan (RWMP) has been prepared to meet licence conditions under the Radiation Protection and Control Act 1983 for the Honeymoon project. The document has been designed to meet the requirements of the Code of Practice and Safety Guide on Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing (2005). It has been submitted in draft form to the South Australian EPA and is currently being reviewed by EPA officers.

The Guide to the Code recommends that the RWMP be developed in conjunction with an Environmental Management and Monitoring Plan (EMMP). In this instance the requirement for an (EMMP) arises from approvals given under the EIS process. It is anticipated that the RWMP document will be modified as the project progresses and more is learned about the effectiveness of the proposed waste management plans. In particular, the plans for the final site clearance, rehabilitation and monitoring are expected to be determined in greater detail once operating experience is available.

4.4.8 Radiation Management Plan (RMP)

A Radiation Management Plan (RMP) is required to meet the requirements of the Code of Practice and Safety Guide on Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing (2005), as well as requirements of Mining Lease 6109, and requirements placed on the project by the EIS process. The plan is primarily concerned with the protection of employees from radiation exposure. As such, it is influenced by plant design and layout. A Radiation Management Plan has been drafted for the Honeymoon project and submitted to the EPA. It will be revised once the plant design is complete and will then be submitted for approval.

4.4.9 Native Title Agreements

Two indigenous groups have claims in the Honeymoon area, the Adnyamathanha and the Kuyani. Native Title Agreements have been concluded and were signed with the Kuyani people in 1998 and with the Adnyamathanha people in 2002. These agreements, have been registered with the South Australian Government.

4.4.10 Permit to Possess Nuclear Materials

Pursuant to the Nuclear Non-Proliferation (Safeguards) Act 1987 (Commonwealth), the Nuclear Materials Accountant, on behalf of the Director of Safeguards, Australian Safeguards Office, Commonwealth Department of Foreign Affairs and Trade, issued to Southern Cross Resources, a Permit to Possess Nuclear Material. Variation of the permit, which is still in effect, will be required for the proposed commercial operation to allow for larger quantities of uranium product to be held on site.

4.4.11 Licence to Keep Dangerous Substances

A Licence to Keep a Dangerous Substance, namely sulphuric acid, hydrochloric acid and caustic soda, was issued for the Field Leach Trial under the Dangerous Substances Act and Occupational Health Safety and Welfare Act, by the Department for Industrial Affairs (now Department for Administrative and Information Services), South Australia. The Licence is renewable on an annual basis and will be required for the life of the project.

4.4.12 Wells

All wells for the Honeymoon Project are classified as water wells under the Water Resources Act 1997 (SA). Permits are required for all holes drilled for disposal wells, water bores and monitor wells.

4.4.13 Permit and Approval Status

The current status of the various permits and approvals for the Honeymoon Uranium Project are shown in Table 4-2 and Table 4-3.

Table 4-2 Current Permits

Permit No.	Department	Permit	Expiry Date
PN146	Department of Foreign Affairs & Trade – Australian Safeguards & Non-Proliferation Office	Permit to Possess Nuclear Material	30.03.08
PP/8822101	Department for Administrative & Information Services – Workplace Services	Licence to Keep a Dangerous Substance – Corrosive Substances	30.04.07
PP/8822102	Department for Administrative & Information Services – Workplace Services	Annual Licence for Petroleum Product – Flammable Gas	01.04.07
30240	Australian Taxation Office Concessional Spirits Group	Approval to take delivery of Concessional Spirit (Methanol)	09.01.11 Renewed
LM3	Department of Human Services Environmental Health Branch, Radiation Section	Licence to Mine & Mill Uranium Ore (FLT only)	09.02.06 Renewed
	Radiation Protection Branch	Registration of Irradiating Apparatus	

Table 4-3 Current Approvals

Licence No.	Department	Approval	Expiry / Approval Date
MEP/402/URAN/001X	Senator the Hon Robert Hill Leader of the Government in the Senate Minister for the Environment & Heritage	Approval of EIS	Approved 20.11.01
	Senator the Hon Nick Minchin Minister for Industry, Science & Resources	Issue of Export Licence 23.11.01	Expires 01.01.07
ML6109	Hon Wayne Matthew MP Minister for Minerals & Energy	Mining Lease 6109 08.02.01	Expires 07.02.23
	Native Title – Kuyani	Consultative Agreement	Dated 15.01.99
	Native Title – Adnyamathanha	Native Title Mining Agreement	Dated 03.02.02
	Radiation Protection Division Environment Protection Authority	Construction of Test Pits for calibrating a PFN borehole logging tool	Dated 02.10.03

There are a number of additional approvals required in order for the Honeymoon Uranium Mine to proceed into commercial production of U₃O₈ and these are summarised in Table 4-4.

Table 4-4 Additional Approvals Required Prior to Commercial Operation

Department	Approval Required
Department of Foreign Affairs & Trade – Australian Safeguards & Non-Proliferation Office (ASNO)	Permit to Possess Nuclear Material – Variation of the current permit required to allow for larger quantities of uranium product to be held on site.
Primary Industries and Resources South Australia (PIRSA)	Use of declared equipment – graders, excavators, cranes etc for construction and site works, will require approval under the Mining Act.
	Approval of Environmental Monitoring & Management Plan (EMMP).
	Approval of Mining and Rehabilitation Program (MARF).
Radiation Protection Division Environment Protection Authority	Approvals under the Code of Practice and Safety Guide - Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing Licence to Mine & Mill Uranium Ore – to conduct commercial operations. Extension of FLT
ASNO – SA Roads	Transportation Management Plan.
The Department of Water, Land & Biodiversity Conservation – Resource Allocation Division	Permit for Well Construction (ML6109, MPL64)

Note: This list does not include licences/permits held by certain staff for operating equipment and/or handling of radioactive substances, etc.

The licence to mine and mill radioactive ore and the registration of mine or mineral processing activity are both conditional on compliance with the Code of Practice on Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing (2005) and the approvals process is shown in schematic form in Figure 4-2.

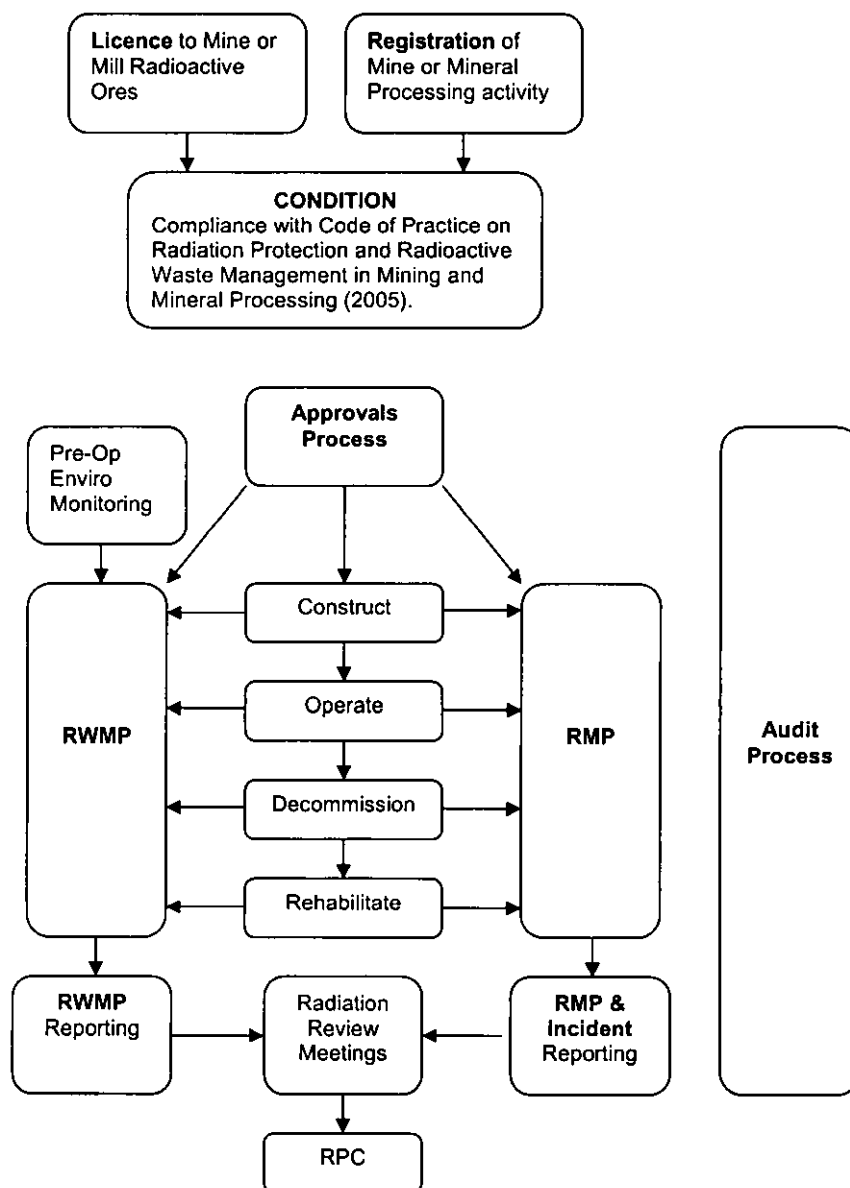


Figure 4-2 Approvals Process

Approvals process required for compliance with the Code of Practice on radiation protection and radioactive waste management in mining and mineral processing (2005) prior to commercial operation.

4.5 Surveys

The Mining Lease Mineral Lease 6109 is located by coordinates in GDA 94, MGA Zone 54 as shown in Figure 4-1.

4.6 Rents and Royalties

4.6.1 Rents

Rents are payable to the South Australian Government under the terms of the mining lease; to the holders of the Pastoral Lease on which the Honeymoon deposit is located; and to the Adnyamathanha and Kuyani peoples.

SA Government – Annual Rent is currently payable at \$31.75 per hectare on the 1000 hectares that comprise the Honeymoon Mining Lease. This rate can be varied from time to time by the South Australian Government.

Pastoral Lease Holders – An under-lease with the Pastoral Lease holder requires an annual rent of \$67,383 (2005) to be paid, which is subject to a CPI adjustment

Native Title Payments – The provisions of the Native Title Agreements require a total annual rental of \$100,000 to be paid to the Adnyamathanha and Kuyani peoples.

4.6.2 Royalties

The Mining Lease 6109 provides for a royalty of 2.5% of the value of the minerals obtained from the lease to be paid to the State of South Australia. The value of the minerals is defined as the ex-mine gate value that fairly represents the market value of the minerals at the time that the minerals leave the lease.

The Native Title Mining Agreement with the Adnyamathanha Traditional Lands Association provides for a royalty of 1.5% of the ex-mine gate value of the minerals obtained from the lease to be paid to the Adnyamathanha Trust.

An agreement which purports to provide for a royalty of 1% of the value of minerals obtained from the lease to be paid to Mineral Properties Pty Ltd is being reviewed by srx Uranium One. For the purposes of this study it is accepted as a valid royalty.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Overview

The Project is located in a sparsely populated rural area of north-eastern South Australia. The main access is from Broken Hill in New South Wales via the Barrier Highway. Honeymoon is accessed from a graded gravel road and then graded farm tracks.

5.2 Physiography and Climate

In a broad context, the region occupies the southeastern extremity of the Lake Eyre drainage system. Gently undulating broad alluvial plains, occupying the area between the Olary Ranges and Lake Frome, are dissected by drainage systems flowing north towards Lake Frome. Elevations fall continuously from approximately 150 m AHD near the Barrier Highway to less than 10 m near Lake Frome, a distance of approximately 150 km. Mingary Creek, situated approximately 10 km east of Honeymoon, is the only water course of note in the project area. Although usually dry, it can run up to 1 km wide after periods of heavy rain. The physical character of the region was determined by a long period of alluvial deposition commenced in the Eocene Period (approximately 40 million years ago) when deposition of sediments in a system of palaeochannels was initiated. Widespread cyclical deposition of finer sediments and subsequent soil formation occurred during Pleistocene glacial and interglacial periods, establishing the modern landscape. This landscape has only been superficially modified by periods of aridity, when aeolian redistribution of soil led to the formation of low irregular sand dunes. The climate is arid, with hot, dry summers. The average annual rainfall at Honeymoon is approximately 200 mm. Rainfall in the area is spasmodic. Over the past five years there has been a protracted drought with rainfall well below the average. In periods of significant rainfall the access roads are unusable and the site may, as a result, be isolated for several days. A recent aerial photograph of the Honeymoon area is shown in Figure 5-1.



Figure 5-1 Honeymoon Site showing Demonstration Plant

5.3 Topography, Elevation and Vegetation

The terrain is a relatively flat, semi-desert landscape, consisting of low sand dunes separated by shallow drainage depressions and clay pans. The area is approximately 120 metres above sea level. Saltbush, bluebush and other low shrubs constitute the dominant vegetal cover. Perennial grasses flourish briefly after rain. Trees are very sparsely distributed, being restricted to a few species of Casuarina and Acacia mainly along watercourses and dune ridges.

The principal landscape types within a 25 km radius of Honeymoon comprise plains, with irregularly distributed clay pans, supporting low open shrubland poverty bush; irregular

northeast-trending low sandy rises, which support low open shrubland saltbush, minor needle bush shrubland and purple-wood wattle; and small, randomly distributed canegrass swamps. Trees are confined to the few ephemeral watercourses that drain the area towards Lake Frome, 110 km to the northwest.

The main native vegetation types occurring within the Honeymoon leases are:

- pale poverty bush – very open shrubland
- bladder saltbush and low bluebush - low open shrubland
- canegrass - tall grassland in claypans
- cotton bush - low open shrublands in drainage and run-on areas
- turpentine and Sturt's pigface - open shrublands on low sandy rises.

The two most widespread weed species in the region are mulga grass and tiny bristle grass. On the leases the most common weeds are onion weed and Wards weed.

Details of the vegetation types are provided in the EIS (Southern Cross Resources, 2000).

5.3.1 Fauna

Sheep, emus and kangaroos extensively graze the Honeymoon area. Birds include the Plains Wanderer, Blue-winged Parrot, Major Mitchell Cockatoo, Australian Bustard and Grey Falcon. Mammals include the Eastern Grey Kangaroo, Forrest's Mouse and Narrow-nosed Planingale. Reptiles and amphibians in the area include the Southern Rock Dtella and the Painted Frog.

Of the fauna noted above, none is endangered nationally or in South Australia. However, fragmented and degraded landscapes exist in many areas throughout the region due to previous cropping and grazing practices, and the introduction of predators. Consequently, many species have significantly declined over their range. The recent prolonged drought has also reduced the presence of some species.

5.3.2 Socio-Economic Aspects

The Honeymoon region is characterised by a sparse population, with a total of only 376 inhabitants occupying an area of more than 37,000 km². This represents approximately one person for every 100 km². In common with many regions throughout rural Australia, the population of the Honeymoon region has declined steadily over time, with the population having halved in the past 20 years. The unemployment rate for the region is 12.5%.

Local communities in the Honeymoon region comprise the Honeymoon Site camp, pastoralists, Barrier Highway towns, and Broken Hill. The pastoral community is made up of isolated family homesteads connected by unsealed roads, telephones and radios.

Minimal services are provided to these homesteads. There are small towns, such as Manna Hill, Olary and Cockburn, established to service the railway line running parallel to the Barrier Highway.

The nearest community of Aboriginal people is Nepabunna, located in the Flinders Ranges, approximately 260 km northwest of Honeymoon. Copley, a settlement 60 km west of Nepabunna is also a predominantly Aboriginal community.

The Honeymoon region has had a strong historic association with the pastoral industry, with pastoral stations and associated service centres along major transit routes subsequently controlling the dominant settlement pattern throughout the region. This high level of dependence on pastoral activities for regional employment continues to the present day, with the agricultural sector currently providing over 62% of all employment within the region.

5.3.3 Land Use

Wool production is the primary economic activity, with a few stations running cattle. The range condition in the area has not always been as stable as it is now. Under previous ownership, some leases were heavily overgrazed in the early 1980s and the Pastoral Board of the day had the stock numbers reduced in most of the areas. High value is placed on pastoral lifestyles and isolation. Several properties provide contracting and equipment hire services to the mining industry and there is evidence of a partial complementary relationship between mining and pastoral production.

5.3.4 National Estate Listings

There are no formal 'conservation reserves' in the Honeymoon area or within the larger region. The closest reserve is Danggali Conservation Park some 150 km to the south of the Honeymoon Site and Lake Frome Regional Reserve some 110 km to the north. Neither of these is representative of the habitats and vegetation communities which exist in the Honeymoon area.

The Honeymoon area is not subject to National Estate or similar listings. Approximately 50 km northwest of the site, around Lake Namba, are three palaeontological sites covering a total area of approximately 40 km². These sites are of international as well as national interest, and are listed on the Register of the National Estate. Proposed operations at Honeymoon will not affect these sites in any way.

5.3.5 Aboriginal and European Heritage

The Honeymoon Site lies in the plains of the Lake Frome Basin. Prior to settlement by pastoralists, Aborigines occupied some portions of the surrounding area on a temporary basis during good seasons. The lack of water in the area prevented permanent occupation. The Olary Range, approximately 30 km south of Honeymoon, is nationally and internationally known for its rock art, especially its rock engraving sites. There are also distinctive hunting hides made from piles of rocks and even more numerous campsites consisting of surface scatters of stone artifacts.

Trails used by the Aborigines were mainly along the higher ground to the south of Honeymoon where there were more reliable supplies of water in waterholes along creeks and rock holes in the hills. However the plains around Honeymoon would have been on a 'short cut' between the northern Barrier Ranges and the hills of the Olary upland southwest of Honeymoon. Reliable supplies of water would have been available at some locations on this stretch of plain for weeks following abnormally heavy rains.

Pastoral activity dominates the cultural landscape. There are no recorded artifacts of European occupation in the Honeymoon area.

5.4 Access to Property

The project is located in South Australia on arid plains between the Olary Ranges and Lake Frome, approximately 400 km northeast of Adelaide and approximately 75 km northwest of Broken Hill. The project area is 60 km north of the Barrier Highway, a major paved highway linking Adelaide and Broken Hill. The project is accessed via an unpaved public road, the Mulyungarie Road, which runs north from the Barrier Highway some six km west of the township of Cockburn. Approximately 40 km along the Mulyungarie Road there is a turn off onto a 21 km farm access road running west, which leads to the site. The site can also be accessed from the Boolcoommatta Road which runs north from the Barrier Highway approximately 25 km west of Cockburn.

5.4.1 Road

The existing access road from the Mulyungarie Road to the plant site will be upgraded to suit the project requirements for secure transport of product and supply of consumables. The road to be upgraded is approximately 21km long. The upgrade will include:

- Regrading existing formation to 7 metres wide, including removal of any unsuitable material and placing additional fill from local borrow pit where the subgrade is low. Cutting table drains to both sides, including turnouts to suit.
- Winning, hauling and placing pavement gravel where necessary, 7 metres wide by 150mm thick, crowned to 3% crossfall, and compacted to 98% Standard maximum dry density. Gravel may be won from a borrow pit located about 7km south of Kalkaroo. An alternative borrow pit is located on the Barrier Highway near the Mulyungarie turnoff.
- Construction of a floodway at the Mingary Creek crossing at Sara's Dam, including 10 barrels of reinforced concrete or corrugated steel pipe, installed with suitable bedding and backfill, concrete bed 150mm thick, stone-pitched headwalls/ batter protection and reno mattress or concrete aprons.
- Improvements to the intersection of the Mulyungarie Road with the Barrier Highway, including construction of a passing lane on the Northern side and an acceleration lane on the Southern side, sealed to match the existing highway pavement, and complete with appropriate road marking and signage.

5.4.2 Airstrip

The existing unsealed airstrip is suitable for light aircraft up to 10-seat capacity. The expected usage is for emergencies and special purpose charter flights. Upgrading will be limited to minor improvements in the taxiway and parking area.

5.4.3 Communications

The Honeymoon site currently has a satellite telecommunications system which provides four lines for voice and data. This can be upgraded as necessary. The site is also within the range of the Telstra CDMA mobile network. Proposals for a radio link – Voice over Internet Protocol system is under consideration.

The site receives satellite television through the Austar service. Free-to-air transmissions from Broken Hill can be received with a tower mounted antenna.

5.5 Climate

Climate in the region is semi-arid, with mean annual rainfall of 200mm. Mean maximum temperatures exceed 30°C in the summer months; in cooler months, mean maximums are near 20°C with minimums often below zero.

5.6 Power Supply

Power is to be provided from the New South Wales grid via a purpose built 100 km, 33 kV 2.5MVA power line. The local power authority will provide a 33kV/11kV transformer complete with 11 kV metering at the mine site.

Small diesel powered motor-generator sets will be retained on site to provide emergency power for lighting, refrigeration and domestic purposes in the event of a power failure.

5.7 Hydrogeology

Significant ground water resources are contained in the sand members of the Eyre Formation. However, salinity levels are high, increasing with depth. Total dissolved solids (TDS) vary from 10,000 to 20,000 mg/L. On the basis of TDS alone, the ground water in the palaeochannel is generally not suitable for watering livestock. The TDS of the water in the basal sand is beyond the tolerance of all stock animals. The water in the overlying sands is generally unsuitable for stock watering.

Not only is the TDS level high but the presence of radionuclides in the ground water is also of note. The Basal Sand that hosts the Honeymoon Deposits is heavily contaminated with naturally occurring radium and uranium. The radionuclide levels in ground water in all three sand units exceed current National Health and Medical Research Council guidelines for drinking water. The uranium mineralization is generally in the Basal Sand. Transmissivities vary from low to very high in the Basal Sand zone, but are generally high. The natural flow of ground water is from east to west in the Honeymoon area at a rate of 10 to 15 m/y under a hydraulic gradient of 1.5 in 10,000.

Raw water will be obtained from water wells in the Upper Sand to the north of the Honeymoon Deposit. This water will be treated in a conventional reverse osmosis treatment plant to provide potable water for the plant, office complex and camp.

5.8 Background Radiation

Like all environments, the Honeymoon area contains naturally occurring radionuclides. The Honeymoon Deposit lies at a depth of approximately 100-120 m below the surface. There are no surface radiological indications of its presence, and there are no outcrops containing uranium mineralization known within 15 km of the deposit. Hence, the radionuclide concentrations in the local environment are expected to be similar to typical continental values.

The background radionuclide concentration of soil samples across the project area is typically within the expected range of global averages. Gamma dose rate measurements of surface radiation show no increase over the area of mineralization. The uranium concentration in dust is consistent with the regional values reported for Olympic Dam and for global averages. This is to be anticipated as the airborne dust at Honeymoon is mainly generated from topsoil. Soil monitoring results are generally comparable to regional trends. The background surface radon flux is considered to be within the expected spread of results for arid regions of Australia. Baseline data can be found in the EIS (Southern Cross Resources 2000).

5.9 Waste Disposal

All waste management activities will be carried out in accordance with written Standard Operating Procedures which will form part of the Project's quality assurance program.

5.9.1 Radioactive Wastes

The Honeymoon project will generate solid, liquid and gaseous low level radioactive wastes. A RWMP has been prepared for the management of the disposal of these wastes, refer Section 4.4.7. Solid and liquid radioactive wastes will be retained and managed on site. A monitoring program will prevent materials from leaving the site until they have a clearance certificate showing that the surface radioactive contamination is below the limits set by the appropriate authority. Gaseous and airborne emissions will be controlled to levels which will not present a hazard to employees or the general public.

The sources of low level radioactive wastes from the Honeymoon site are listed below:

Solid Wastes:

- drill cuttings
- geological samples and or cuttings
- soil contaminated by spilled radioactive materials
- plant and wellfield filters
- dried solids and sludges from the solvent extraction circuit
- equipment such as pumps, valves and piping with internal surface contamination
- equipment such as drilling bits, water sampling pumps, and sampling probes with external surface contamination
- laboratory wastes
- contaminated clothing such as overalls, gloves, and boots
- other low level wastes or contaminated material.

Liquid Wastes:

- wellfield bleed stream
- wellfield airlift water
- drip tray contents in the wellfield
- runoff from the wellfield and plant areas
- solutions left in mined-out areas of the wellfield
- plant wash down water
- shower and wash water from contaminated change rooms
- laboratory waste water
- unplanned releases of liquids.

Gaseous and Airborne Emissions:

- radon released from disposal pond
- radon released during well development;
- radon released in the process plant
- dust in emissions from the drying and packaging plant
- dust from dried spillage.

5.9.2 Audit and Reporting Plan

Each year Southern Cross Resources will audit its operations against the EMMP requirements. The results will be reported to the EPA and PIRSA as part of the Honeymoon Project Annual Environment Report. Every three years, an audit will be run by independent auditors. Results of monitoring conducted under this program will be reported quarterly at the first ISL Operators' meeting following the end of each quarter. Copies will be presented at the meeting to representatives of the EPA, PIRSA, and Department of Administrative and Information Services – SafeWork SA.

5.9.3 General Waste Disposal

Non-radioactive materials requiring disposal will comprise industrial items such as containers and packaging, spent lubricating oils, etc.; camp refuse such as containers, packaging and organic refuse from the kitchen; and office complex materials including paper, packaging, containers, etc. These items will be segregated into recyclable and non-recyclable categories and placed into appropriate containers for subsequent removal from site and disposal. A sanitary landfill disposal site, situated to the south east of the process plant will be maintained for disposal of organic wastes that cannot be composted for mulching new vegetation around the site.

6 History

6.1 Historical Exploration and Development

Since its discovery in the 1970's there have been several estimates made of the Honeymoon resource. The estimates made up until 2006 relied on a mixture of historical drilling and logging data of variable quality. No reliance has been placed on these historical estimates or data in assembling this report. The resource estimate has been taken from recent work which was carried out in 2005 and 2006 using state of the art logging techniques and which was subject to appropriate QA/QC scrutiny.

Exploration for Tertiary sediment-hosted uranium occurrences in the southern Lake Frome region was carried out by Carpentaria Exploration Company Pty Ltd and by E. A. Rudd Pty. Ltd., commencing in 1968 and 1969 respectively. The Oilmin-Transoil-Petromin Joint Venture discovered the Beverley Deposit in 1969. The Minad-Teton CEC Joint Venture discovered the Honeymoon deposit in November 1972. Exploration methods employed open-hole rotary drilling and wire-line geophysical logging as a reconnaissance exploration tool, although surface geophysical methods, primarily resistivity and gravity surveys, were also used with limited success to locate and map Tertiary palaeovalleys.

In 1971–1972, Carpentaria Exploration Co. Pty. Ltd. (CEC) explored EL597 which included the area of the present Honeymoon project site. Drilling intersected minor though encouraging levels of uranium in Tertiary sediments. A Joint Venture was subsequently formed by CEC, Mines Administration Pty. Limited (Minad)—a wholly owned subsidiary of AAR Limited, in turn later wholly owned by CSR Limited—and Teton Exploration Drilling Co. Pty. Ltd. (Minad-Teton-CEC JV). Minad was the Operator. Late in 1972, drilling intersected ore-grade uranium at a depth of 100–120m in Tertiary palaeochannel sediments at the Honeymoon Deposit located approximately 75 km northwest of Broken Hill.

Drilling programs over the next four years established the extent of the deposit, but feasibility studies concluded that it was too small to be mined economically by conventional open-cut or underground mining methods. In all, the database for the Honeymoon Mineral Claims (MCs 3075–76) included more than 250 exploration drill holes excluding wellfield development holes.

Following rapid advances in in-situ leaching (ISL) technology in the USA, a series of in-situ leaching tests was conducted at Honeymoon in 1977 and 1979. These, and additional laboratory tests carried out by the Australian Mineral Development Laboratories (AMDEL) in Adelaide, confirmed the feasibility of uranium recovery at Honeymoon by the ISL method.

In March 1981, Minad submitted a Final Environmental Impact Statement (FEIS) for the Honeymoon Uranium Project (Gutteridge, Haskins & Davey 1981). Government approval to proceed to the next phase of development was subsequently granted and in 1982, Minad established a demonstration ISL facility at Honeymoon. The facility comprised a pilot leach wellfield of three 5-spot leach patterns, a liquid disposal well, monitor wells, and a processing plant designed to treat pregnant leach solution at a rate of 25L/s. Supporting infrastructure included an accommodation camp, office complex and workshop.

Test work confirmed the compatibility of Honeymoon ore to in-situ leach processing, but a demonstration scale operation was considered necessary. In 1982, a 25 L/s (nominally 110 tonnes U₃O₈ per annum) facility comprising wellfield, plant and associated infrastructure was constructed, with initial demonstration proposed at a quarter of this rate. By 1983, the Project had advanced through a feasibility study, including construction of a pilot plant, field leach trials and the preparation of an environmental impact statement.

Minad continued with the process of obtaining the 'Approval to Mine' under the Mining Act 1971 (SA). Approval for an Environmental Monitoring Plan and approval under the Radiation Protection and Control Act 1989 (SA) were granted. However, before the pilot wellfield and the demonstration plant were commissioned, there was a change of government in South Australia and shortly thereafter, a change in federal government. In March 1983, the final Approval to Mine was deferred and the project was placed under 'care and maintenance' in June 1983.

Ownership of the Honeymoon assets subsequently passed to CEC's parent company, MIM Holdings Limited (MIM). Southern Cross Resources acquired the Honeymoon leases (MPLs 14-15, RLs 10-12 and Crown Lease 18063) and the Billeroo leases (RLs 83-90) from MIM in May 1997 (refer Figure 6-1). Note Figure 1-1 shows old mineral claims, not the current leases. Southern Cross Resources restored the demonstration plant and pilot wellfield, which went online in April 1998, producing uranium as yellowcake slurry until August 2000. A second 25 L/s wellfield was completed at Honeymoon in February 1999, enabling leach tests to be carried out utilizing proposed mining scale patterns and equipment. Hydrological test wells were also completed during February and March, 1999.

Since acquiring the project, Southern Cross Resources has:

- prepared a Declaration of Environmental Factors (DEF) and obtained the necessary approvals to undertake demonstration-scale ISL recovery of uranium (Field Leach Trial)
- refurbished existing infrastructure including the demonstration plant and pilot wellfield
- re-established supporting infrastructure including an office complex, accommodation camp and electricity generation facilities
- recommissioned and operated the pilot wellfield and demonstration plant at an initial rate of 6 L/s during the last six months of 1998
- augmented the pilot wellfield with new wells and increased the feed to the demonstration plant to the design rate of 25 L/s
- undertaken additional technical, environmental, financial and marketing studies and prepared a proposal for the construction of a commercial production facility
- completed and submitted an Environmental Impact Statement
- completed and submitted a response Document for the EIS
- completed and reported additional field work and numerical simulations of ground water movement requested by the Minister for the Environment and Heritage
- received federal and state approval for the project
- obtained the granting of Mining Leases by the South Australian Government.

Stratigraphic drilling was undertaken at the Honeymoon Project and East Kalkaroo in 1999, 2000 and 2001. Data were utilised to define the extent of the Yarramba Palaeovalley, refine the stratigraphy and sedimentology of the Eyre Formation, update resource estimates, and in conjunction with pumping tests, to compile a three-aquifer hydrogeological model. EL 2956 was purchased from Rio Tinto in January 2000 and its interests in EL 2937 and EL 3017 were purchased in November 2000.

In 2002 an engineering company, Ausenco, was commissioned to make a cost study for a Honeymoon project based on an annual capacity of 750 to 1000 tpa of U₃O₈. The results of the study, which assumed an extensive resource, implied that the project was viable but, faced with a declining uranium price, it was not possible to attract finance. In 2004 Ausenco completed a second cost study for a 400 tpa plant based on a resource which contained an estimated 3500 t U₃O₈. The study suggested that the project was marginally economic at the then current uranium price.

In 2002, Southern Cross Resources completed 2,077 line kilometres of airborne electromagnetic (AEM) surveys over all of its South Australian tenements and part of the adjoining joint venture areas. The AEM survey, which responds to the highly saline groundwater in buried river channels, allowed detailed interpretation of the palaeodrainage. New palaeochannels and new Tertiary uranium targets, as well as discrete basement conductors, were identified during interpretation of the AEM datasets.

In 2004, a series of scoping drill holes were drilled at Honeymoon using a PFN technology to accurately obtain a direct in-situ measure of uranium grade, overcoming the inherent inaccuracy of gamma logging. In addition to PFN, sophisticated wireline logging tools were run to determine thicknesses of mineable sands and to characterise sand-clay lithologies. Of the 49 holes drilled, into the historic resource 45 confirmed the presence of a high grade Tertiary uranium deposit suitable for in-situ leach mining. The drilling results suggested further drilling would be unlikely to significantly change the previous stated Indicated Resource of 3,300 tonnes U₃O₈. Later that year, Ausenco completed an engineering cost study for a plant at Honeymoon with a design capacity of 400 tonnes per annum of U₃O₈ and a mine life of six to eight years. Based on the results of this study, Southern Cross Resources decided to delay development of the project while maintaining it in a status ready to proceed into production when higher uranium prices materialised.

In 2005, an additional 170 holes were drilled to infill the entire deposit 40 x 40 metre spacing with the aim of generating a revised NI43-101 compliant resources report and to provide detailed information to optimise wellfield planning. This drilling was completed in April 2006 and has provided the geological information necessary to complete a commercial wellfield development plan.

6.2 Previous On-Site Works

At the time of acquisition of the Honeymoon Project by Southern Cross Resources in 1997, on-site works comprised:

- the initial stage of a pilot wellfield
- uranium recovery demonstration plant
- potable water wells
- reverse osmosis (RO) water treatment plant
- airstrip
- access road.

With the exception of the warehouse building, the previous camp, office and electricity generation, infrastructure had been removed by the previous operators.

6.2.1 Pilot Wellfields

In 1979, in-situ leach testing at Honeymoon, comprising a series of push-pull tests, yielded encouraging results and led to a commitment, by the Minad-Teton-CEC JV, to construct a 25 L/s demonstration plant in 1982 (Refer to Figure 6-1).

During 1980, a pilot wellfield (Pattern A) was established to test the aquifer characteristics of the uranium-bearing zone in the Basal Sands (refer to Figure 6-2). The wellfield comprised a 5-spot pattern - four injection wells and a production well designed to operate at a flow rate of 1 L/s, and five observation wells to monitor the aquifer outside the leach area. One injection well failed to meet installation specifications. Four tests were conducted using the remaining wells as a 4-spot pattern.

In the first quarter of 1982, a 36-hole, 6 L/s pilot wellfield was established for the demonstration plant, comprising three 5-spot patterns (patterns B, C, D), a liquids disposal well, and monitoring wells (refer to Figure 6-2). Production wells were cased with 125 mm internal diameter PVC and fitted with telescoped 80 mm PVC well screens; injection, piezometer, and monitor wells were cased with 80 mm internal diameter PVC with integral screens.

The individual wellfield patterns were designed with a capacity of approximately 2.5 L/s in order to provide a total initial feed rate of 6 L/s to the demonstration plant. Step drawdown tests and constant-rate pumping tests on the production wells established flow rates in the order of 6–8 L/s.

A 125 mm diameter well for liquids disposal from barren solution bleed, reverse osmosis (RO) plant discharge brine, plant wash-down water and other miscellaneous sources was installed into the Basal Sands. It was located between the southern boundary of the Yarramba Palaeochannel and the Honeymoon Deposit. Monitoring wells, comprising three piezometer wells and a monitor well in the Basal Sands, two monitor wells in the middle sand, and one in the upper sand, were installed near the disposal well. The purpose of the monitoring wells was to check for evidence of any excursion of the disposal liquids.

6.2.2 Demonstration Plant

A 25 L/s demonstration plant, comprising conventional solvent extraction and precipitation circuits, was installed in 1982 (refer Figure 6-3 and Figure 6-4). With the exception of some major items—solution surge tanks, sulphuric acid tanks, thickener, and freshwater storage—the wet processing equipment was contained in a simple roofed structure. This structure was without walls to maximize natural ventilation and has approximate dimensions of 30 m by 20 m and 6 m high (refer Figure 6-4).

A general-purpose warehouse building was also established near the office complex.

6.2.3 Potable Water Plant

A reverse osmosis (RO) water treatment plant provided potable water for use in the demonstration plant and the camp. The plant was located in a small building adjacent to the demonstration plant, and has a potable water production capacity of approximately 40,000 L/d. Raw water was obtained from an aquifer via one of two bores located approximately 750 m north of the demonstration plant. Long-duration pumping tests indicated that the proposed ISL operation would have no measurable effect on the ground water supply in this upper aquifer.

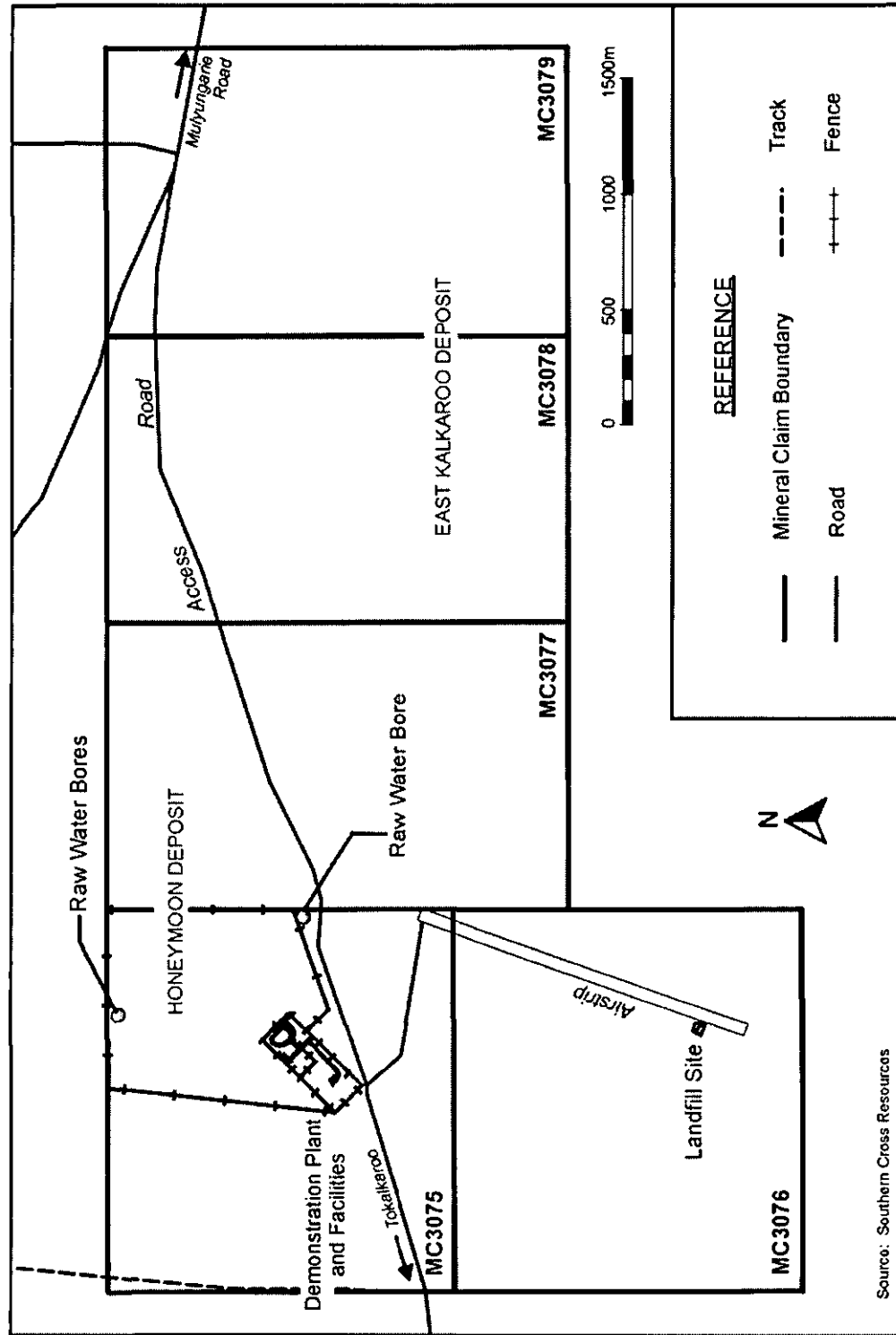


Figure 6-1 Honeymoon and East Kalkaroo Mineral Claims (historical pre 2002)

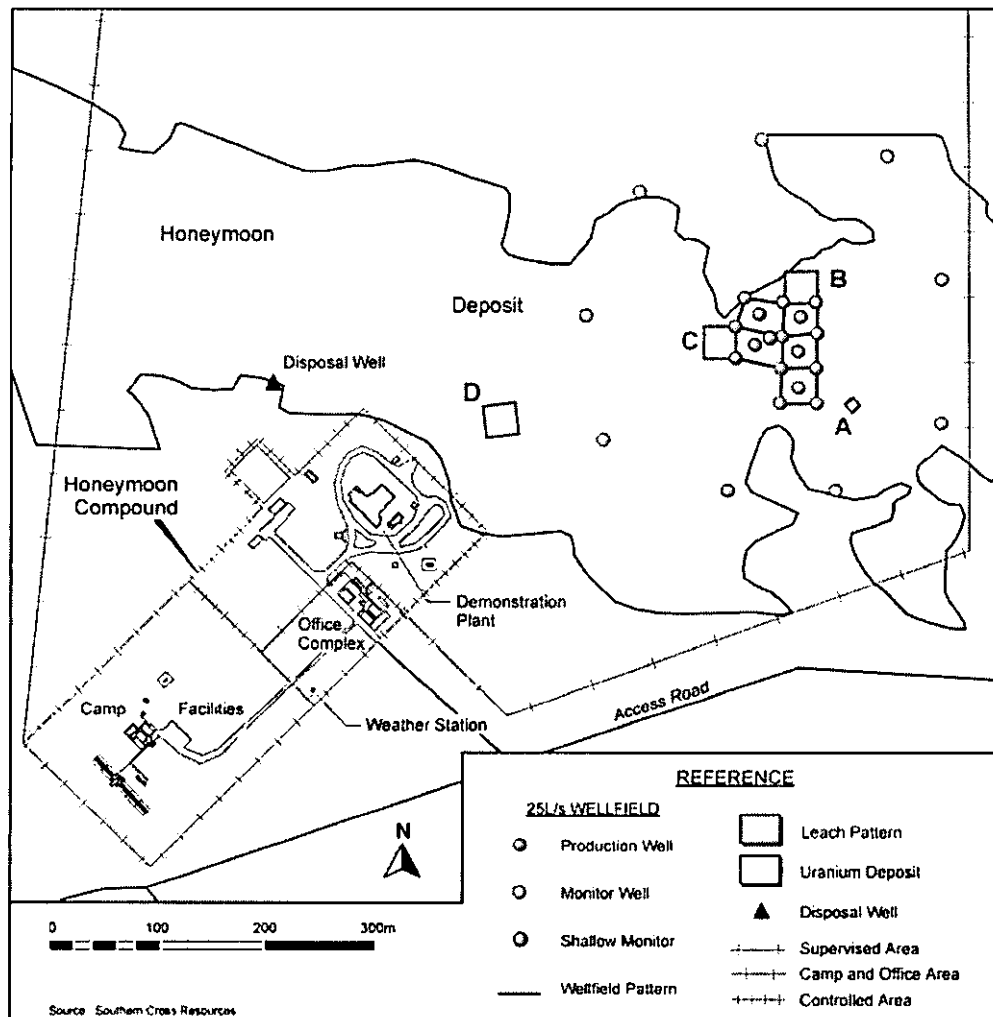


Figure 6-2 6 L/s pilot wellfield (historical pre 2002)

Comprising three 5-spot patterns (patterns B, C, D), a liquids disposal well, and monitoring wells.

6.2.4 Access Road and Airstrip

The previous operators constructed a 21 km access road, linking the Honeymoon site with the Cockburn–Mulyungarie road, by upgrading pre-existing station tracks. An unsealed, 1,300 m airstrip was also constructed on a low sandy rise to the southeast of the plant.

6.3 On-Site Works by Southern Cross Resources

During the period of inactivity from June 1983 to mid-1997, infrastructure associated with the plant—electricity generating plant, support buildings, and the accommodation camp—was removed. The pilot wellfield borehole casings were cut off below ground level and sealed, and most of the area, including the airstrip, was allowed to return to its natural state. Only the demonstration plant, warehouse and water treatment plant remained, enclosed by a 2.4 m high security fence.

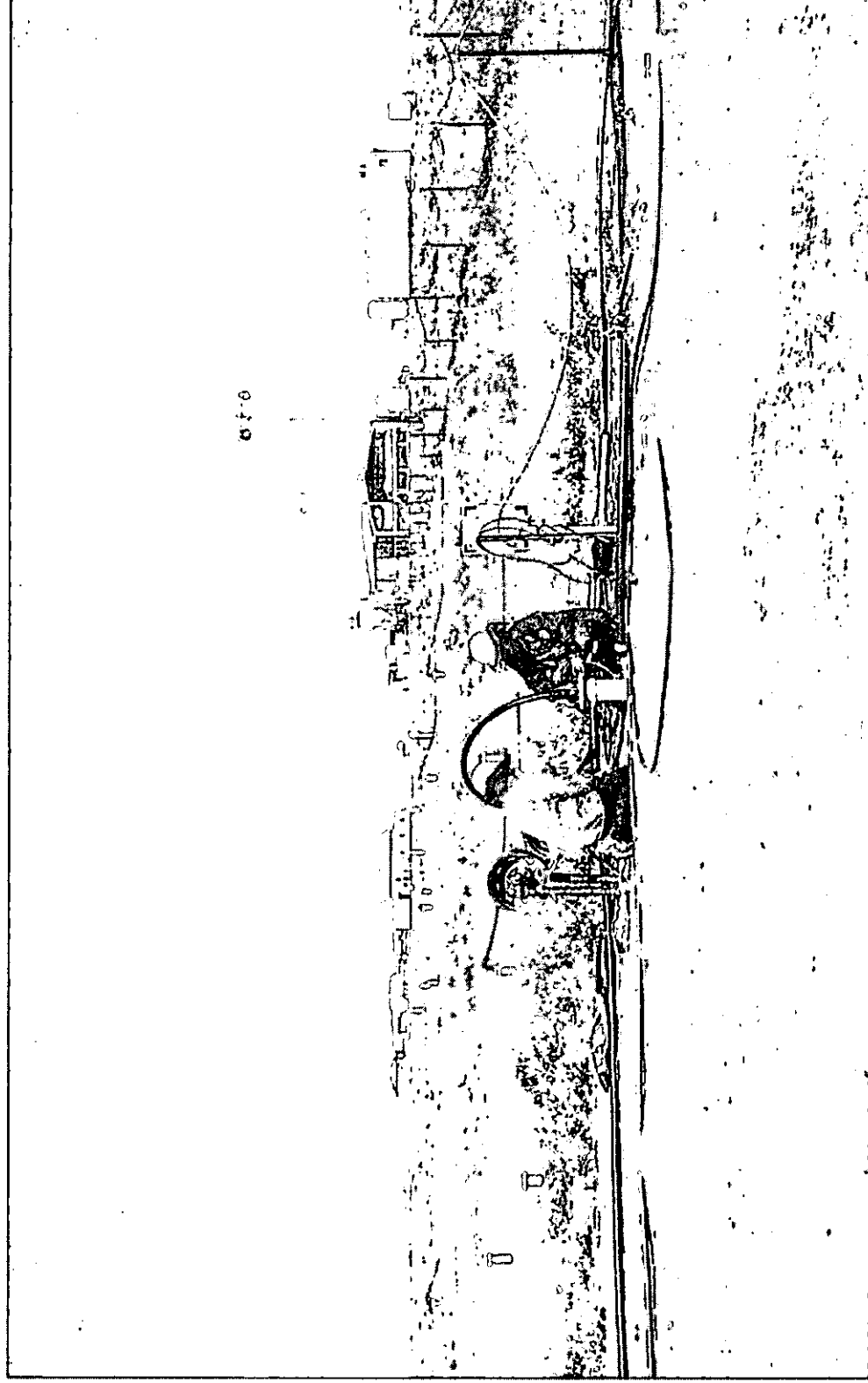


Figure 6-3 Extraction Well in 25 L/s Demonstration Wellfield

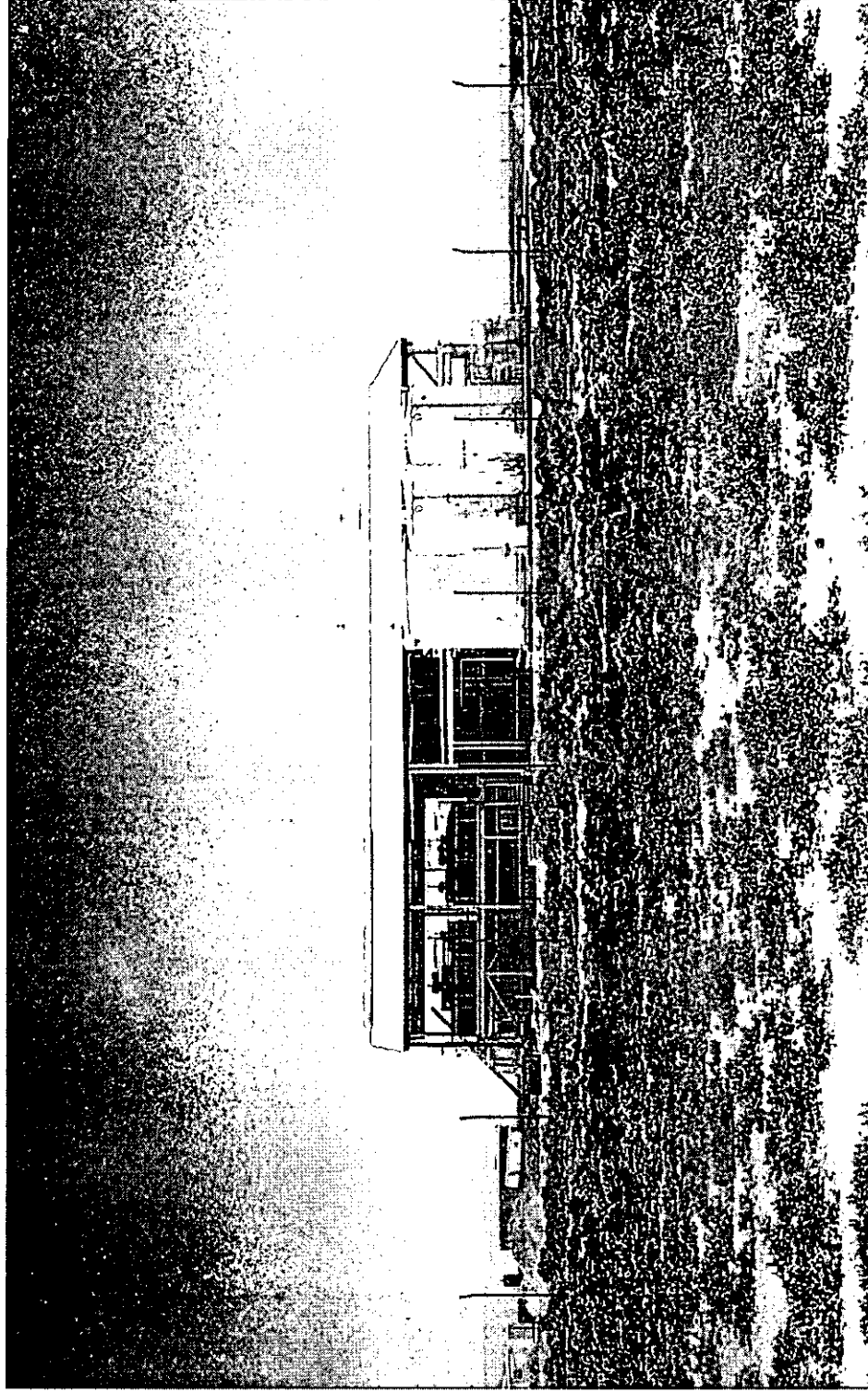


Figure 6-4 25 L/s Demonstration Plant

6.3.1 Refurbishment of Pre-existing Installations

After acquiring the project in 1997, Southern Cross Resources undertook a program of refurbishment of pre-existing installations including:

- pilot wellfield
- demonstration plant
- water supply wells and RO plant
- access road
- airstrip.

Previously removed infrastructure was replaced and upgraded, including:

- accommodation camp
- office complex and workshop
- diesel-powered electricity generators
- other developments included the establishment of a meteorological station, a 25L/s wellfield in the Honeymoon Deposit.

6.3.2 Refurbishment of 6 L/s Pilot Wellfield

All of the wells installed for the previous pilot wellfield were re-located from survey data and refurbished with new wellhead casings. Subsequent cleaning confirmed that all wells were open to their installed depth. Mechanical integrity testing completed in early 1998 confirmed that all well casings were in sound condition.

6.3.3 Refurbishment of Demonstration Plant

Reconnaissance inspection of the demonstration plant in July 1997 showed that, although in generally good condition, all areas of the plant required some attention. Mechanical seals and bearings, on motors, gearboxes and pumps, were found to have deteriorated during the 15 years of inactivity - all required complete overhauls. Local bird life had attacked electrical cables, stripping some sections bare - approximately 80% of unprotected cables required replacement. In addition, changes in electrical codes required the installation of isolation switches on all drives.

6.3.4 Refurbishment of Water Supply Well and RO Water Treatment Plant

Although the two raw water supply bores were recommissioned without difficulty, the RO plant required a major overhaul - membrane replacement and high-pressure pump overhauls were the main items

6.3.5 Refurbishment of Access Roads

The primary access road and plant roads were reggraded at the start of the refurbishment program to facilitate access to and around the Honeymoon site.

6.3.6 Refurbishment of Airstrip

The pre-existing airstrip, which had revegetated naturally, was cleared, and resurfaced with suitable gravel from a local borrow-pit and compacted by roller. The unsealed, 1,300 m long airstrip is suitable for light aircraft up to 10-seat capacity. It is intended primarily for emergency Royal Flying Doctor Service access and special purpose charter flights for visitors and company personnel.

6.3.7 Accommodation Camp

A modern air-conditioned accommodation camp for 33 people was established for the Field Leach Trial. Constructed with prefabricated transportable modules, the camp includes nine 4 - room accommodation blocks with separate male and female ablutions, a separate laundry and a kitchen-dining-recreation complex. A first-aid room, supply storeroom and a camp manager's office were located within one of the accommodation blocks.

6.3.8 Office Complex

A new office complex comprising a general office, geological office, analytical laboratory, male and female toilets, ablution block, and a general-purpose amenities block, was established adjacent to the process plant. Like the camp, the buildings were prefabricated, transportable modules. The office complex also included the large pre-existing concrete-floored warehouse.

A concrete-floored workshop building, reagent storage shed and contaminated equipment pad were constructed near the process plant. The workshop was equipped with basic mechanical, electrical repair and fabrication facilities.

6.3.9 Electricity Power Generation

New diesel-powered electricity generators were installed to supply the demonstration plant, wellfield and accommodation camp. Two 150 kVA generators, located adjacent to the plant, supplied power to the plant and office complex. Two 50 kVA generators, located at the wellfield, supplied power for pumps and control units. A single 50 kVA generator provided standby power for the camp. All units were insulated to minimize noise emissions.

6.3.10 Meteorological Station

An automatic meteorological station was established between the plant and the camp. Wind speed, wind direction, barometric pressure, high level temperature (10 m above ground), low level temperature (ground level), humidity, rainfall and solar radiation are recorded continuously. Operation of the station commenced on 14 May 1998 and will continue for the duration of the project.

6.3.11 Honeymoon 25 L/s Field Leach Trial Wellfield

During the period November 1998 – February 1999, a new wellfield was established to feed the demonstration plant at the design rate of 25 L/s (refer Figure 6-3). The wellfield was located between patterns B and C which were previously used to feed the plant at 6 L/s in the period May–December 1998.

The 25 L/s wellfield, based on five 5-spot patterns (refer Figure 6-3), comprised of 24 new wells - five production wells, nine injection wells and ten monitor wells. The patterns include two injection wells from patterns B and C. Six of the injection wells are common to adjacent patterns (refer Figure 6-3).

6.3.12 Historical Production from Honeymoon

The only historical production from the Honeymoon deposit has been the (approximately) 30 tonnes of U₃O₈ produced during the 1999-2000 field leach trials.

7 Geological Setting

Tertiary sediments of the Callabonna Sub-basin of the Lake Eyre Basin (Drexel & Preiss, 1995) cover the entire project area. The sub-basin is generally a flat-lying blanket sequence reaching a maximum 300 m in thickness. The Benagerie Ridge and Olary Block formed a major structural high, controlling sedimentation during the Lower Tertiary (Callen, 1990), when palaeovalleys were incised into basement and partially filled with fluvial sediments (Figure 7-1). The Billeroo and Curnamona Palaeovalleys on the western flank of the Ridge have immediately underlying basement of Adelaidean and possibly Cambrian rocks that are not considered prospective uranium sources. Overall palaeovalley gradients are towards the north where skeletal valley sediments grade into widespread blanket sands overlying the Frome Embayment. Mesoproterozoic Willyama Supergroup, which outcrops to the south and includes uranium-rich granites, is generally considered the source area for valley-fill sediments.

The Yarramba Palaeovalley in which Honeymoon is located was incised into Willyama basement on the eastern flank of the Benagerie Ridge. It is up to 6 km wide and hosts a confined aggrading fluvial system comprising 40-50 m of upward fining sequences of interbedded sand, silt and clay (Figure 7-2). Palynological analysis of core has determined this to be Eocene Eyre Formation (Rowett, 1990). Average depth to the top of Eyre Formation is 75m. The braided basal unit, which contains the majority of the mineralization at Honeymoon appears to be layercake with laterally-extensive tabular clast-supported, poorly sorted, angular quartz sand and gravel with humic matter and minor pyrite. The middle and upper units are more clay-rich with a labyrinth of compartmentalised meandering channel sands, well preserved overbank facies and clay wedges (Dyson, 2006).

Disconformably overlying the Eocene is an approximately 75 m thick succession of lacustrine sediments of Miocene-Pliocene Namba Formation. These are dominated by organic-rich clays that provide a thick impervious seal to underlying Eyre Formation aquifers. The whole is capped by unconsolidated Quaternary terrestrial units. Static groundwater level at Honeymoon is approximately 50m below ground level and naturally flows at 10-15 metres per year. The highly permeable basal aquifer is very saline at approximately 20,000 ppm total dissolved solids (TDS), whereas the upper aquifer is less so at around 11,000 ppm TDS.

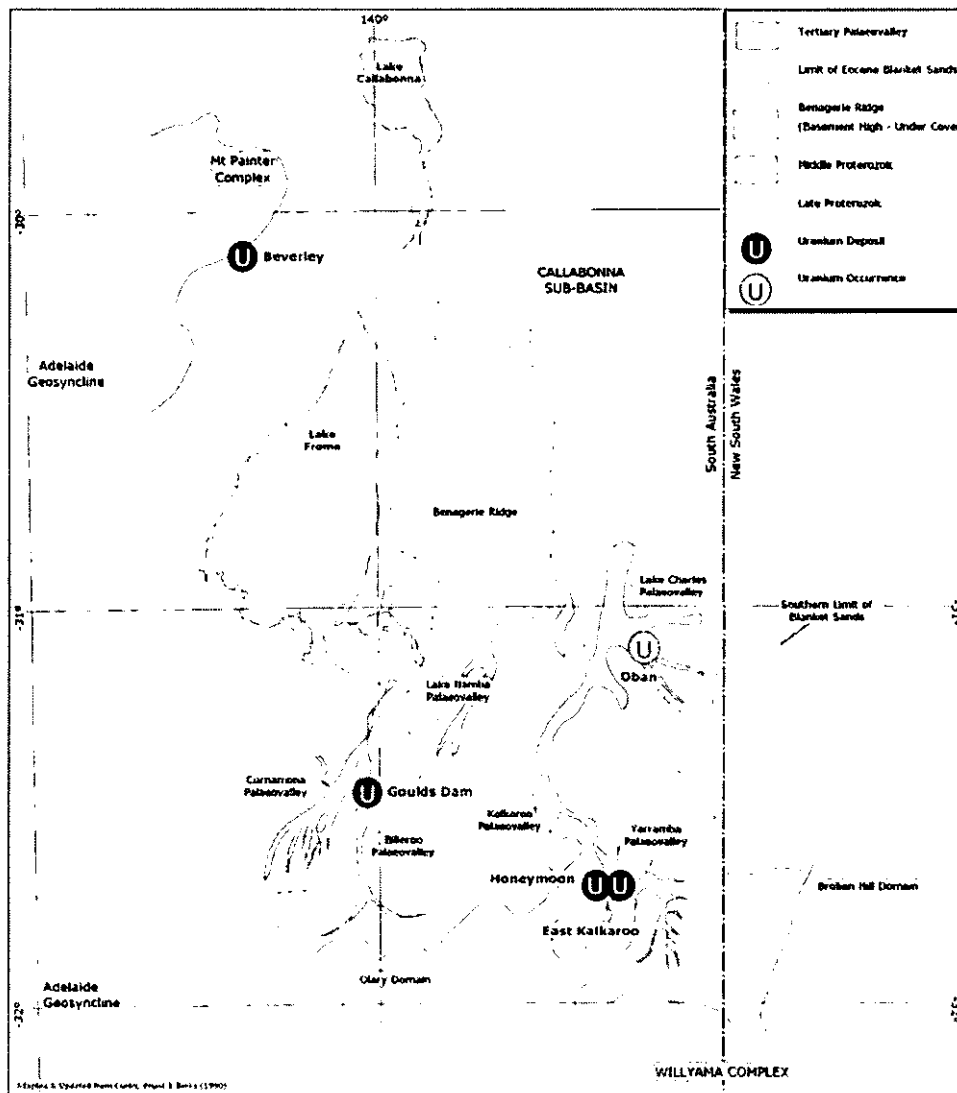


Figure 7-1 Geology of the Callabonna Sub-basin (provided by SXR)
(modified after Curtis, Brunt and Binks, 1990)

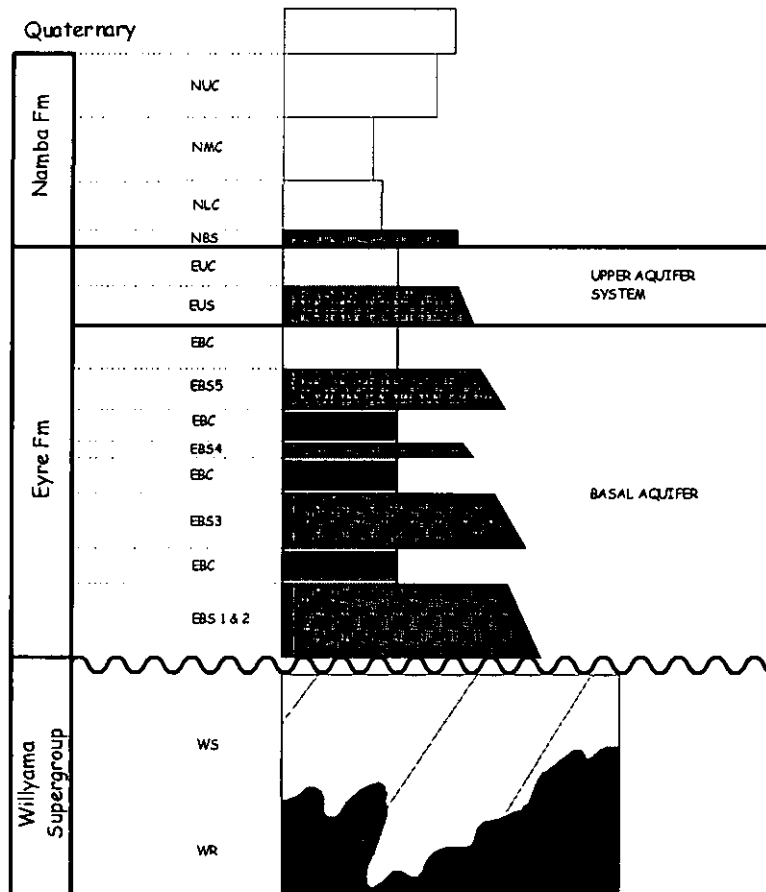


Figure 7-2 Yarramba Palaeovalley stratigraphic column (provided by SXR)

Shape and sinuosity of the palaeodrainage system is strongly controlled by the stratigraphy and structure of the underlying basement. Block warping during the Tertiary defined a northward flowing drainage system. However, the morphology of the Tertiary palaeosurface diverted the main Yarramba Palaeovalley to the WSW for some 12 km along a gutter defined by the deeply weathered meta-evaporitic Bimba Horizon, adjacent to a more competent graphitic pelite ridge of the Strathearn Group. The main palaeodrainage eventually changed direction and breached the ridge at a faulted zone that can be discerned from geophysical datasets. It is at this breach that Honeymoon is located.

Figure 7-3 shows the AEM depiction of a major portion of the Yarramba Palaeovalley within ELs 2937 and 3017. It reveals a number of tributaries entering the main palaeovalley and, in particular, a complex tributary system is evident shedding off a uraniferous granite to join the main channel at Honeymoon.

Thus, the source of Honeymoon's uranium is considered to have been the high-level granite located approximately 2 km to the south – by both chemical and mechanical weathering. Geophysically, this buried granite features as one of a number of discrete circular (~5 km diameter) magnetic and gravity lows that appear to form a district-scale ring centred on the Benagerie Ridge and extending to the New South Wales border. The only known hole into one of these features was drilled by SOUTHERN CROSS RESOURCES in 2002. Petrology of a shallow cored sample describes a weathered muscovite-rich syenogranite with secondary biotite. Uranium content of this sample was 76 ppm, well above typical crustal granite average of 2 ppm. Further investigation of this granite is planned.

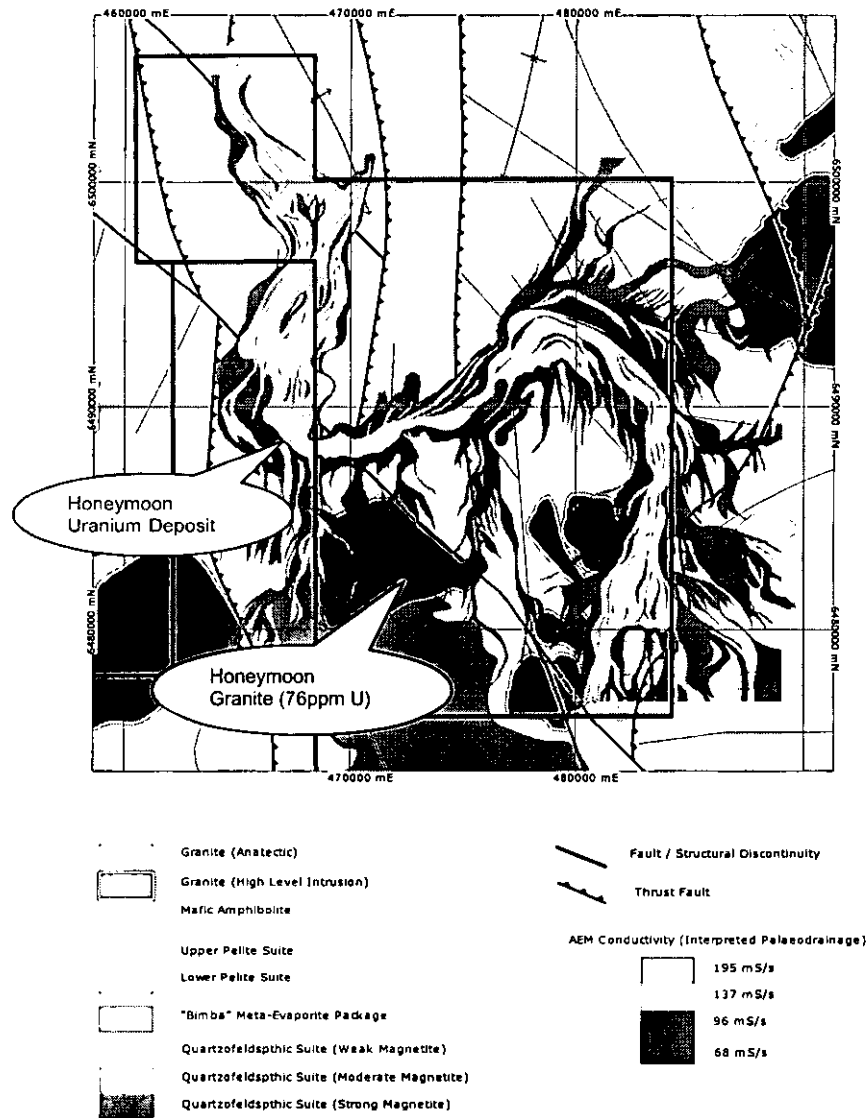


**Figure 7-3 Yarramba Palaeovalley within ELs 2933 and 3017
interpreted from AEM on basement geology (provided by SXR)**

8 Deposit Types

Significant uranium mineralization at Honeymoon is restricted to the basal sand and occurs over approximately 1 km east-west. The majority of mineralization is located near the confluence with a major tributary entering the Yarramba Palaeovalley from the south and also associated with a topographic high in the channel floor. The uranium is thought to derive from a granite body immediately to the south. Sediment fill appears to be dominantly mechanically transported granite detritus with some pelite fragments. The deposit is generally of the 'sediment-hosted' or 'sandstone uranium' type but lacking clear roll-front morphology and displaying apparently structurally influenced distributional trends.

9 Mineralization

Uranium mineralization occurs in highly permeable (porosities commonly >30%) unconsolidated and saturated sands, which are sealed below impervious clay horizons. This physical configuration in association with extremely fine grained, acid soluble uranium mineralogy of uraninite, coffinite and uranium phosphates (Ashley, 2006) suggest amenability to ISL mining. Potentially economic mineralization extends over an area of 900 x 450 m at 1.7 m average thickness in up to five superposed levels – circa 3 m cumulative. It occurs in reduced, pyritic and organic rich zones and also at the contact between sand and clay layers appearing to be mostly flat lying, with no classical crescent shaped rollover zones identified. This may be a function of drill spacing and lack of exposure or it may be that requisite redox fronts are not preserved in this dynamic environment.

10 Exploration

The only new exploration being reported is the drilling in the following Section 11.

11 Drilling

29,200 m of rotary mud drilling was carried out in 236 holes on a nominal 40 m square pattern over the Honeymoon Deposit in two campaigns – HML001-117 in Stage 1 and HML118-287 in Stage 2. Some holes in this numbering sequence were outside of the Honeymoon deposit area (e.g. at East Kalkaroo) and are not included in the discussion, database or computations.

Drilling was conducted by specialist South Australian mud drilling contractor, Thompson Drilling Company Pty Ltd, using a modified Bourne 1250 kelly-drive rotary rig mounted on a 8x4 Man truck, supported by a 9,000 litre 6x6 water truck. The rig employs a 2,600 litre/min 700 psi mud pump system and has a maximum depth capacity of 400 m. All rotary-mud holes were 120 mm nominal diameter and drilled using a BioVis™ modified guar gum mud product. In areas of extreme loss of circulation, bentonite muds and coarse organic additives such as cotton seed were added. Successful holes were between 114 and 139 m deep – required to be drilled from surface to at least six metres into basement and stay open long enough for logging to be completed. Cemented hardbands were encountered in a number of locations, typically at 102 m depth, requiring use of a tri-cone rock roller bit.

Seven holes were partially cored. Precollars were drilled to the top of the coring interval using 6" rotary-mud blade. Core drilling was conventional (non-wireline) 4" (100 mm) triple-tube with 6" OD core barrel. Both PCB and diamond bits were used depending on ground conditions. Core recovery was highly variable and often disappointing due to the loose unconsolidated nature of the materials. Recovered core was transferred to split 100 mm PVC tubing, halved using a thin wedge and sealed in shrink wrap. Stage 1 core samples were not frozen. However, to prevent oxidation and preserve texture and consistency, one half of every core run drilled in Stage 2 has been kept frozen in a cold room installed at Honeymoon. Once basement had been cored, a sump was drilled into the basement for at least six metres with a blade bit, to allow geophysical logging. Samples from HML107C, HML108C, HML109C, HML137C and HML158C were submitted to Amdel (Adelaide) for geochemical analysis uranium assay using XRF pressed pellet techniques.

At the completion of logging, all holes were grouted using a bentonite cement from within the basement to approximately 40 m depth, pumped from the base up. At the completion of the programmes, each site was rehabilitated including backfilling of all sumps, removal of surface casing and rubbish followed by topsoil replacement.

Honeymoon Uranium Project
Summary of Feasibility Study 400 TPA U₃O₈ Equivalent
Drilling

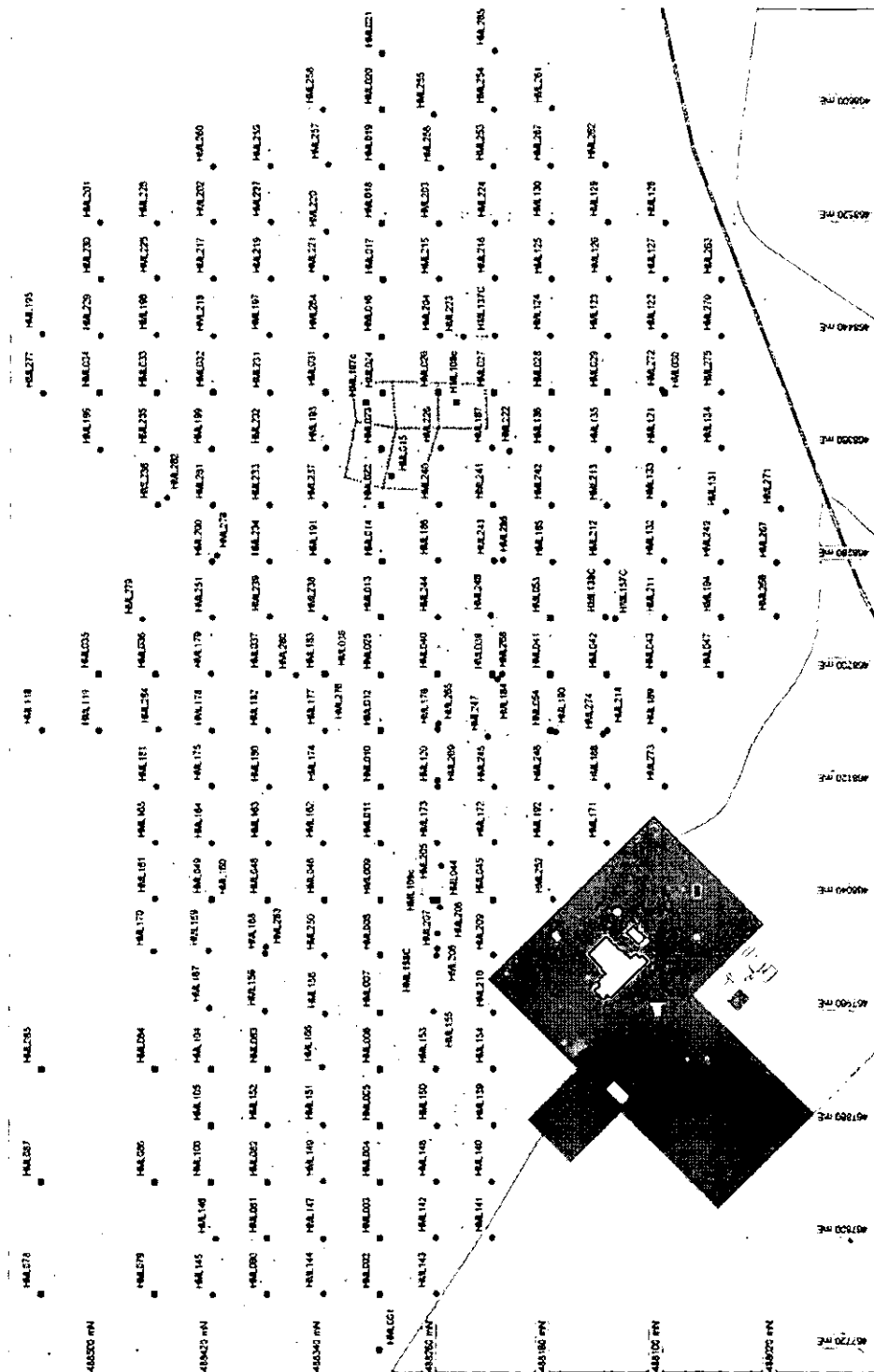


Figure 11-1 Drill Hole Location Plan (provided by SXR)
(Stage 1 - Square, Stage 2 - Circle, Blue - Abandoned)

11.1 Surveying

The projection adopted for surveying is GDA 94, MGA zone 54 with AHD elevation. All surveys were tied to the existing registered base station JCBHM2.

In August 2003, Haines Surveys established a 40 m grid over the Honeymoon deposit area using a Trimble 4000 Real Time Kinematic (RTK) GPS system, whilst simultaneously collecting gravity readings. Accuracy of the system is better than 2 cm both vertically and horizontally. This grid, preserved by wooden pegs, was used to locate the majority of the drilling in these programmes, with the rig being positioned to within sub-metre accuracy from the locating peg. Any holes drilled off-grid were triangulated using measurements from at least three surrounding pegs. While the completed holes were being logged, each collar was also picked up using a handheld GPS, to ensure the correct grid peg location was used.

Final RLs for all holes were calculated from an Inverse Distance Squared grided model of the AHD levels collected during Haines' Survey.

11.2 Stage One (March – August 2004)

Stage 1 was a scoping trial designed to evaluate and verify the historic known resource at Honeymoon using PFN grade logging. Drilling was conducted at 40 m intervals along:

- a single E-W long-section through the centre of the deposit and
- three N-S cross-sections at separations of 160 and 200 m.
- 63 rotary-mud holes totalling 7,820m (5 abandoned due to drilling difficulties) were drilled into the historic resource. In addition, three core holes produced a total of 40 metres of core. The first two core holes were drilled in the Field Leach Trial pattern areas to assess the success of leaching process but could not be geophysically logged as they collapsed before wireline logging was completed. The third was drilled as a twin of a high-grade rotary-mud hole to compare PFN to XRF assay grades and geological interpretations. Comparison of intercepts from Stage 1 and historical holes along the E-W axis line demonstrated a very high level of compatibility between them.

11.3 Stage Two (November 2005 – March 2006)

Stage 2 was a more comprehensive programme to provide the data necessary to optimise the future mining process and to enable generation of an updated NI43-101 technical report and resource estimate. 166 rotary mud holes totalling 20,492 m (14 abandoned) were drilled to infill the entire resource to 40 x 40 m centres. Four additional core holes were completed, although HML157C was a repeat of HML138C due to inaccurate depth control and very poor recovery. Several holes were also drilled at closer spacings to verify geological continuity.

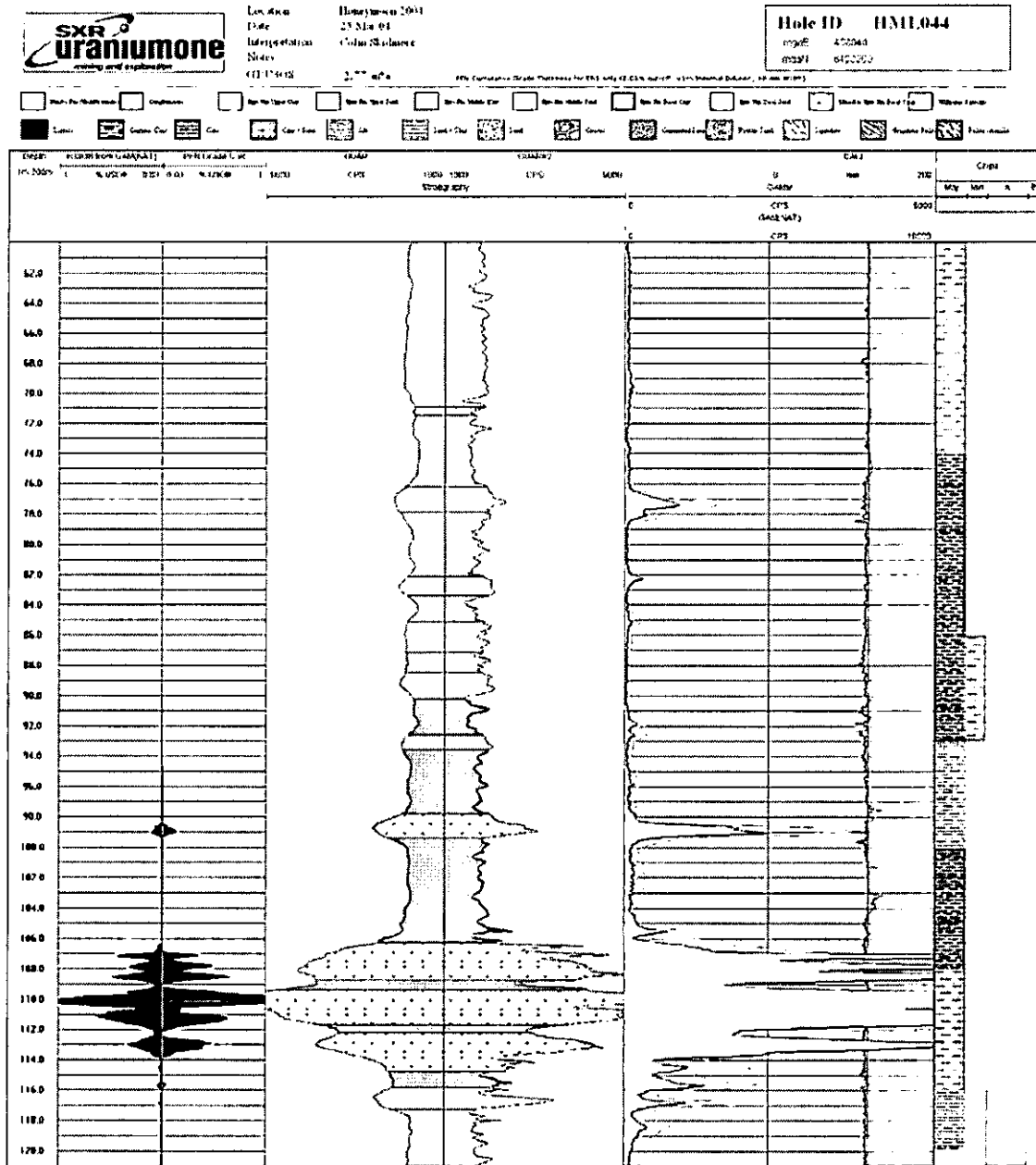
In all, 21 holes including core holes HML107/8C were abandoned due to failure to obtain grade/lithological log information as a result of hole collapse, or holes that were too shallow, leaving 215 holes totalling 27,073 m to (re-)define the resource. All holes were drilled vertically and are believed to intersect true thicknesses of mineralization.

12 Sampling Method and Approach

Drill cuttings were collected at 2 m intervals, geologically logged and preserved as a physical record of the hole. Notwithstanding this, unlike the similar North American and Central Asian sandstone hosted deposits, sampling of these loose gravelly unconsolidated materials is notoriously unreliable. In 1998, SXR trialled reverse circulation and air core drilling, before reverting to the proven rotary-mud method. This traditional soft-sediment technique results in least disturbance to the formation and the mud cake holds the hole open long enough to complete downhole wireline logging. However, the intrinsic gentleness that achieves hole stability is at the expense of sample precision/selectivity/representivity, with severe sample lag and mixing. Thus chemical analysis of cuttings is not undertaken for grade determination and focussed resistivity and induction logs are run for accurate lithological logging purposes. Figure 12-1 is an example of interpreted electric logs for hole HML044. Note that even in the lithified North American and Central Asian analogues, where physical sampling would be an option, geophysical grade determination has long been the method of choice, traditionally by gamma logging and more latterly by PFN, with the continuous nature of the data providing a more complete profile. Refer to Figure 12-1.

PFN technology was originally developed as a downhole logging technique by Mobil R&D and Sandia Laboratories in the United States during the 1970's, specifically to directly measure in-situ uranium grades in sandstone-hosted uranium deposits. Unlike historical gamma techniques, PFN directly measures uranium's ²³⁵U isotope and therefore does not suffer the problem of disequilibrium - separation of uranium from gamma-emitting daughters. Also, since the method utilizes the ratio of two energies of neutrons, it is much less affected by variable formation properties such as salinity and porosity, common to both signals.

Honeymoon Uranium Project
Summary of Feasibility Study 400 TPA U₃O₈ Equivalent
Sampling Method and Approach



13 Sample Preparation, Analysis and Security

SXR purchased a new custom-built PFN uranium grade logging tool from Computer Logging Inc. (Texas) in February 2004. This PFN tool carries a gamma detector, which was run going down the hole to define zones of interest for slower PFN logging coming up hole. The instrument is calibrated regularly in SXR purpose-built in-ground calibration pits, at the Honeymoon site. All logging and calibration was carried out in-house by SXR personnel.

The logging winches have their depth calibration checked periodically by running out approximately 100 m of cable and measuring rewind against a tape measure. Accuracy is considered to be +/- 5 cm against the logging interval of 10 cm and precision of 10 cm applied to collar RLs and lithological boundary picks.

The Honeymoon PFN calibration pits were built to mimic the Honeymoon and Goulds Dam mineralized environments. Porosity of the quartz sand in the pits matches the porosity and mineralogy of mineralized zones; the water in the pits has the same salinity and geochemistry as the aquifers as it was sourced from within the mineralized horizon; and the yellowcake was derived from material processed at Beverley a similar sediment-hosted deposit within the Callabonna Sub-basin. Measurement of grades by the PFN tool is verified at least twice a month with four calibration runs during the Stage 1 campaign and nine for Stage 2. Full calibration procedures are undertaken whenever the tool is opened for maintenance. In addition to grade range, the pits are designed to evaluate and compensate for varying hole sizes and the use of different drilling media.

A Quality Control and Assurance assessment of PFN grades for this programme was undertaken by Dr. David Lawie of ioGlobal, principally by comparing PFN results with XRF assays of quarter core (Lawie, 2006). His report states that:

"The concentration of U in the test pits was determined by analysing 14 samples from each pit by XRF and the average calculated. Statistical tests indicate no outliers are present in the data, and the average, as determined for each test pit, has been calculated correctly."

"That the sampling errors associated with ¼ core sampling are worse than the PFN sampling error should not be surprising. The ¼ core samples analyse a relatively small volume of material compared to the PFN, which measures a radius of 40cm of material surrounding the hole (Humphreys *et. al*, 1981). In fact, the volume of rock 'measured' by the PFN is 630 times that of ¼ core, which must improve the representivity of the sample, and hence lower the field sampling error."

"The analytical error of the PFN tool at U₃O₈ concentrations above 0.1% stabilises at less than approximately 20%, and at higher concentrations is stable at around 12%. The sampling plus analytical error (total error) stabilises at approximately 20% at high concentrations. At higher concentrations, the analytical error contributes 36% of the total error which is reasonable. The effective detection limit of the PFN measuring system is 0.025% U₃O₈. The total sampling error is on the high side, akin to a slightly nuggety gold deposit, however the results are consistent with a properly functioning analytical system."

First-response experience with the SXR instrument in PIRSA's Adelaide test pits suggests 25 cm as a more practical radius to which this tool effectively 'sees', rather than the 40 cm radius mentioned above.

Figure 13-1 reproduced from the ioGlobal report, illustrates correlation between quarter core assays and PFN results for core hole HML158C.

Honeymoon Uranium Project
Summary of Feasibility Study 400 TPA U_3O_8 Equivalent
Sample Preparation, Analysis and Security

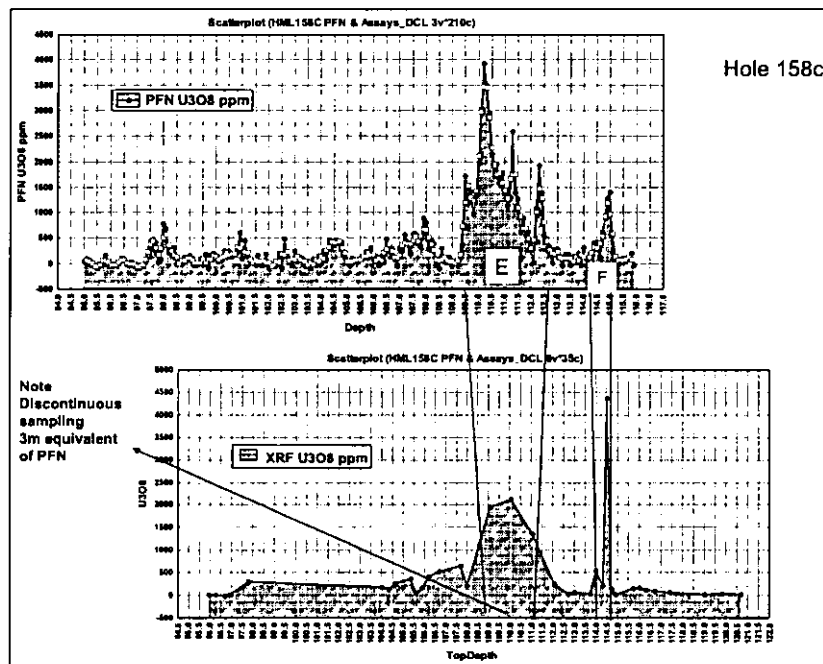


Figure 13-1 Correlation of XRF ¼ core and PFN intervals in HML158C-
from Lawie (2006)

14 Data Verification

Drill hole data provided by SXR in an ACCESS database, HML_delineation.mdb which includes no historic hole data, was audited for completeness, consistency of hole identifiers, negative PFN values, overlapping sample intervals or sample data beyond maximum hole depth. Following minor amendments, all subsequent computational work was carried out on an updated version of the database: HML_Resource_030506.mdb dated 3/5/06. Distinction was introduced between grade data rejected for measuring/computational reasons (logging speed too high or Tn<100) with PFN being reset to a null value of -1 but left at zero for En=0. This database was interrogated and derived information manipulated with SURPAC Vision 5.1F mining software and Microsoft Excel.

This is an uncommonly 'clean' and uniform dataset. It is at very regular spacing, obtained by one sponsor using one drilling contractor in a relatively short period of one year and totally devoid of legacy data of varying or unknown provenance.

15 Adjacent Properties

No work is reported for adjacent properties.



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16 Mineral Processing and Metallurgical Testing

16.1 Metallurgical Testwork

Exploration work by Minad-Teton led to the discovery of uranium at the Honeymoon site in November 1972. East Kalkaroo was discovered by Sedimentary Uranium in 1970. It readily became apparent that Honeymoon, because of its size, grade and thickness was the key to the development of these resources through the only viable mining technique, in-situ leaching.

Early process development followed the USA in-situ leach experience in that alkaline leaching and ion-exchange were first examined in the laboratory in 1976. In 1977, a series of push-pull tests was conducted at Honeymoon. In these tests both uranium extraction into pregnant solution and extraction on to resin were considered to be too low for commercial application.

A further series of push-pull tests was conducted in 1979. Acid leaching using sulphuric acid for pH control was trialled. A range of oxidants including hydrogen peroxide, Caro's acid and ferric sulphate were tested. The ore body was found to be tolerant of acid leaching and viable pregnant liquor values were obtained.

The best oxidant was found to be ferric sulphate, produced from ferrous sulphate by the addition of hydrogen peroxide to the leach liquor.

Using the pregnant liquors obtained from the acid leach tests, a further series of laboratory solvent extraction studies was undertaken to select an appropriate extractant, and to develop a process flowsheet. Due to the relatively high chloride levels in the palaeochannel ground water, only the cationic extractants were found to give adequate uranium loading values.

Sodium carbonate was selected for use in stripping uranium from the organic phase. Both ammonia and hydrogen peroxide were found to be suitable reagents for precipitating uranium from loaded strip aqueous solutions.

A further series of solvent extraction studies was conducted at the Colorado School of Mines Research Institute in 1980, to assist in the selection of solvent modifiers.

A conceptual process flowsheet was selected from several submissions after assessing all the experimental data. This flowsheet was used to design the demonstration plant.

In early 1980, the Honeymoon Joint Venture decided to proceed towards a pilot operation to test the environmental, economic and technological aspects of the proposed acid in-situ leach recovery method at a scale which, subject to successful operation, could be readily upgraded to a small commercial operation.

In November 1981, the Joint Venture committed to the construction of small commercial plant, termed a demonstration plant, having a solution flow capacity of 25 L/s, together with the necessary wellfield installation and support facilities. It was agreed to operate this facility at a pilot scale of 6 L/s for a twelve-month period. The small wellfield, processing plant and support facilities were fully installed in 1982, and flow testing of all pipelines and equipment completed. The project was placed on hold in March 1983 as a result of decisions by the South Australian Government.

During 1982, a field leach test was also conducted at Honeymoon with a small 1 L/s pilot plant and a single 5-spot wellfield pattern. As a result of this work, additional metallurgical investigations into such aspects as jarosite formation, clay absorption studies, alternative oxidants, and bacterial oxidation of ferrous iron were either initiated or stepped up to enable

the 6 L/s pilot operation to be more effective. The additional investigations were also abandoned in March 1983.

16.2 Acquisition by Southern Cross Resources

Following the acquisition of the Honeymoon Project, Southern Cross Resources planned to:

- recommission and operate the pilot wellfield and demonstration plant, installed in 1982, at an initial rate of 6 L/s during the first six months of 1998
- augment the 1982 wellfield with new wells to increase feed capacity to the demonstration plant
- commission the new wellfield and operate the demonstration plant at the design rate of 25 L/s.

The program of work, which was planned to continue with the construction of the initial 6 L/s wellfield (patterns B, C and D) and the demonstration plant, aimed to develop the techniques needed for a commercial operation.

Operation of a field leach trial was authorised by the South Australian Minister for Primary Industries, Natural Resources and Energy (now Primary Industries and Resources), on 17 March 1998. The approved trial commenced in April 1998, and continued through to August 2000.

The demonstration plant and wellfield were operated up to the design rate, developing additional technical, financial and environmental data for use in final engineering and design studies for the project. While the recovery of uranium by solvent extraction methods is used worldwide, it has never been applied commercially using highly saline water. Much of the technology had only been tested on Honeymoon materials in the laboratory and during limited small-scale pilot testing at site in 1982. The Field Leach Trial was designed to test technologies under field conditions at a scale to provide a high degree of confidence in the design and operation of a commercial plant.

During the period of the trial, additional laboratory and field work were conducted to test reagent combinations. The work comprised batch and column tests as well as push-pull tests on newly installed wells.

16.3 Summary of Metallurgical Test Programme – Mines Administration (1975 – 1983)

Early metallurgical testing conducted by Mines Administration (Minad) followed the USA in-situ leach experience in that alkaline leaching and ion-exchange were first examined in the laboratory in 1975 and 1976. In 1977, a series of push-pull tests was conducted at Honeymoon. In these tests both uranium extraction into pregnant solution and their extraction on to resin were considered to be too low for commercial application.

Subsequent test work by Minad was aimed at developing a process flowsheet for the recovery of uranium using an acid leach and solvent recovery. This work culminated in the construction of a test plant and wellfield in 1982. The project was abandoned in 1983 due to changes in government policy towards uranium mining.

Following the acquisition of the project in 1997, Southern Cross Resources Australia Pty Ltd resumed development of the project from the point reached by Minad. The following is a summary of the metallurgical test work conducted by both Minad and Southern Cross Resources. Further details of the work are contained in Southern Cross Resources files and the internal reports listed.

16.3.1 Batch Testing

Agitation leach tests were carried out on low grade and high grade samples. Alkaline sodium carbonate and sulphuric acid systems were investigated using sodium chlorate as the oxidant. The uranium extraction level with the alkaline leach was 88% after seven days. Acid leaching was found to be significantly faster with extraction as high as 96% after 12 hours at 1.5 pH.

Following the first of the push-pull tests at Honeymoon site in February 1977, a series of bottle roll tests was conducted on ore samples from the push-pull holes to determine more precisely the conditions required for high uranium extractions, particularly from areas of relatively high pyrite content. Ammonium carbonate was used as the leachant and hydrogen peroxide as the oxidant.

The results showed that uranium extractions of from 85 to 90% could be achieved in one to two days. Ammonium carbonate concentrations of from 5 to 7.5 g/L and peroxide level of 0.3 g/L were used. Later tests on each sample, aimed at pre-treating the ore, showed that acid leaching was capable of obtaining higher uranium recoveries of 95% in approximately 5 minutes at a pH of 1.9. (Colorado School of Mines, 1977)

16.3.2 Column Leach Testing

Alkaline percolation leaching experiments on low grade and high-grade samples resulted in 69 to 77% uranium extraction in 27 days. Comparable acid percolation tests gave recoveries in the range from 60 to 80% in 14 days. Acid consumption was extremely low. Sodium chlorate was used as the oxidant in both series of tests.

16.3.3 Push-Pull Testing

Two series of push-pull tests were carried out in February 1977 and June-July 1979. The first series comprised five tests each of 17.5 m³ of leach solution using ammonium bicarbonate as the leachant and hydrogen peroxide as the oxidant with a leach time of from five to six days. Ammonium bicarbonate concentrations in leach solutions ranged from 1.4 to 3.3 g/L while peroxide additions ranged from 1.0 to 2.05 g/L. Three wells were used representing differing areas of mineralization. Uranium was recovered by ion exchange resin and subsequently precipitated with hydrogen peroxide.

Two of the three wells tested produced poor results with peak uranium grades in solution in the range from 8 to 62 mg/L. The third well had a peak uranium grade of 410 mg/L. This series of tests was performed to demonstrate the feasibility of in-situ leach uranium recovery at Honeymoon.

The second series of push-pull tests comprised eleven tests in five wells. Three tests used ammonium carbonate at concentrations of 5.0 to 7.5 g/L and a pH of greater than 9.0 as the leachant and eight using sulphuric acid at an injection pH of from 1.5 to 2.1 as the leachant. The alkaline leach tests used hydrogen peroxide at concentrations of 0.5 and 0.75 g/L as the oxidant. Ferric sulphate, hydrogen peroxide and Caro's acid were trialled individually with the acid leach. Leach times of 24 hours were generally used before recovery of pregnant solutions.

The tests successfully demonstrated the potential for in-situ leaching with both alkaline or acid reagents and a range of oxidants. Peak solution grades of approximately 2,500 mg/L were achieved with both leach methods. Overall uranium recoveries during the tests were similar for the alkaline leach and acid with peroxide and ferric iron although there was considerable variation from hole to hole. Oxidant consumption was found to be acceptable for both leaching processes. The tentative conclusion was reached that ferric sulphate was the most efficient oxidant and that acid leaching could have some operational advantages

over alkaline leaching. It was recognised that no satisfactory means of recovering uranium from Honeymoon leach solutions was readily available at that time because of the high chloride content of the ground water.

16.3.4 Field Leach Trials

Two field leach trials were conducted during the initial development phases of the project. The first was in October-November 1981 and was based on the four-spot wellfield pattern A containing an estimated 2,200 kg U_3O_8 at a grade of 0.52% U_3O_8 . This trial used hydrogen peroxide and ferric sulphate as the oxidants. The intended operating conditions were a pregnant solution pH of 2.5 with a peroxide addition rate of 500 mg/L and an iron addition of 1,500 mg/L. The injection pH required for these conditions was 1.7.

The acidification of ground water and oxidant additions commenced on October 19 and November 1 respectively. The response of the leach pattern to acid and oxidant additions was slower than anticipated. The trial was terminated on November 10 after a loss of injectivity due to gypsum precipitation at or near the injection well screen. The portable process plant assembled for uranium recovery was not used, as uranium concentrations did not exceed 20 mg/L during the trial.

The second field leach trial commenced on 21 February 1982 and concluded on 7 August of that year and was designed to operate at 1 L/s. The trial was successful in meeting the project objectives of gypsum control, identification of problems prior to the 6 L/s pilot operation, the relationship between uranium recovery and oxidant strength, compatibility of downhole equipment with the leach solutions and staff training.

The trial was based on a four-spot pattern because of deviation in one hole of the originally proposed five-spot pattern. The in-situ resource was estimated at 2,200 kg with an average grade of 0.52% U_3O_8 .

The trial demonstrated that calcium control could be achieved by displacing high calcium water with upper aquifer water and maintaining a small dilution injection of de-calcified upper aquifer water during leaching. Previous laboratory testing had examined the solubility of calcium sulphate over a range of chloride ion concentrations. For the chloride ion concentration present in the leach pattern it was considered advisable to reduce the calcium level to below 500 mg/L.

The appearance of fungal material late in the trial led to decreased flow from the production well through blockage of the well screen and the immediate surrounding formation. Subsequent test work showed that the material consisted of a mould and yeast living in a symbiotic relationship on clay particles within the ore zone. Jarosite was also found to be present on the well screens. This was later attributed to the high iron concentration used in the leach system.

The uranium content of the pregnant solution peaked at approximately 158 mg/L U_3O_8 and averaged 82 mg/L U_3O_8 for the test at an average ferric ion content of 1,700 mg/L. The reasons cited for the lower than expected pregnant solution grades were:

- poor oxidant utilisation due to higher than average pyrite content
- asymmetry of the leach pattern preventing optimal flow of solutions
- possible channelling of leach solution
- inconsistent oxidant injection due to unplanned shutdowns and loss of ferrous sulphate injection.

Approximately 50 kg of yellowcake was produced with a U₃O₈ analysis of 88%. Overall uranium recovery for the test was considered low.

16.3.5 Solvent Extraction

A program of solvent extraction testing was carried out in 1980 and 1981 following the realization that resin ion exchange was not suitable for uranium recovery from the high chloride pregnant solutions. The preliminary tests showed that D2HEPA was the most promising reagent for this purpose. Solvent loadings of 4.0 and 8.0 g/L were readily achieved with 0.05M and 0.1M solutions. Three stages of extraction were found to be necessary although over-mixing did result in excessive iron recovery.

Operation of the solvent extraction was improved with the use of either a two-solvent or three-solvent system. Work carried out by Amdel and CSMRI showed that D2EHPA together with either TBP or DBBP, and D2EHPA together with DBBP and tertiary amine, were the preferred combinations.

The precipitation of iron, titanium and zinc during stripping resulted in a build-up of solids in the aqueous phase in conventional flat bottomed settlers. A thickener was considered desirable for the removal of this material prior to precipitation.

Solvent scrubbing tests showed that 70- 90% of the iron in the organic phase can be removed by acid scrubbing under reduced conditions. There was an indication that scrubbing under oxidizing conditions would achieve the same result but the results were ambiguous.

Both sodium carbonate and ammonium carbonate were found to be effective in stripping uranium from the solvent. Strip solutions were relatively free of impurities and did not require further purification.

16.4 Testing by Southern Cross Resources (1998-2000)

16.4.1 Batch Testing

Beaker leach tests were carried out using core sample, obtained during the installation of well 1E24-1, to assess the effect of the following conditions:

pHs	0.5, 1.0, 1.5, 2.0
Oxidants	baseline without oxidant and with 3 g/L Fe
	hydrogen peroxide at 0.5 and 1.0 g/L
	sodium chlorate at 0.5 and 1.0 g/L
	hydrogen peroxide at 1g/L with 1.0, 2.0 and 3.0 g/L Fe
	sodium chlorate at 1.0 g/L with 1.0, 2.0 and 3.0 g/L Fe

The test procedure was as follows:

- 250g of moist core (approximately 20% moisture)
- 225mL of pH adjusted raw water added to give a liquid:solids ratio of approximately 1:1
- samples taken for assay at 15 minute intervals for two hours with pH and redox measurements
- after two hours, oxidants added as required for each test and continued for 48 hours with intermittent sampling.

From the data generated, a number of broad observations could be made:

- the highest terminal uranium grades were generally at the lowest pH, i.e. initial bore water at pH 0.5
- the lowest pH tests generally resulted in the highest increase in uranium grade between the 2 hour sample (ie just before oxidant addition) and the final sample (ie at 48 hours)
- all tests showed a rise in pH of around 0.5 pH unit from the initial bore water pH to the 15-minute sample pH (i.e. first sample after mixing)
- the tests using hydrogen peroxide all showed a definite increase in redox immediately after oxidant addition followed by a gradual decrease as the tests continued
- the tests using sodium chlorate showed no observable change in redox following oxidant addition. However, the redox gradually increased as the tests continued
- The uranium contained in the core sample was easily and rapidly mobilised under all the conditions tested. This ease of leaching can be explained by the fact that the uranium in the core sample was extensively oxidised. The oxidised uranium may have been intrinsic to the sample, or oxidation may have occurred during sample storage. It was difficult, therefore, to make any definitive conclusions based on the observations noted above.

16.4.2 Column Leach Tests

A series of six column tests was carried out on a core sample obtained from one of the proposed production wells installed for the 25 L/s wellfield in early 1999. The sample well 1E24-1 was later used as a production well for the field leach trial.

The test column was constructed of PVC pipe with an internal diameter of 78 mm. The column had an active length of 1.1 m and contained approximately 8.5 kg of dry sample. Acidic leach solution was passed upward through the sample in the column. Three core leach tests were carried out to establish the uranium extraction using hydrogen peroxide and the effect of organic entrainment in the leach solution. Other tests evaluated the use of sodium chlorate as the oxidant.

Conclusions were as follows:

- Uranium in core from well 1E24-1 leached readily using plant raffinate acidified to pH1.5 with sulphuric acid and containing 1g/L of hydrogen peroxide. Extraction uranium was approximately 90% after 28 to 34 pore volume displacements.
- The presence of 50 and 520 mg/L of organic in the leachant slowed the rate of extraction but did not affect the final extraction.
- Leach residues contained 18 to 36% of the total uranium in the original core sample. This refractory uranium is not recoverable by ISL using the conditions tested. Some residue samples contained concentrations of uranium up to 919 g/t U₃O₈ that were predominantly associated with clays.
- Uranium was leached readily using potable and raw water acidified to pH 1.8 with sulphuric acid and containing 200 mg/L of sodium chlorate. Extraction of uranium was approximately 75% after 35 pore volume displacements.

A typical leach curve is shown in Figure 16-1. The results of the column leach testing showed that uranium could be readily leached from the sample. However, the samples used in this work were low grade, approximately 0.08% U₃O₈ which made the accurate determination of

total recovery difficult. Flow is shown in terms of "pore volumes" which is the inter-granular volume or pore space in the sample or the deposit.

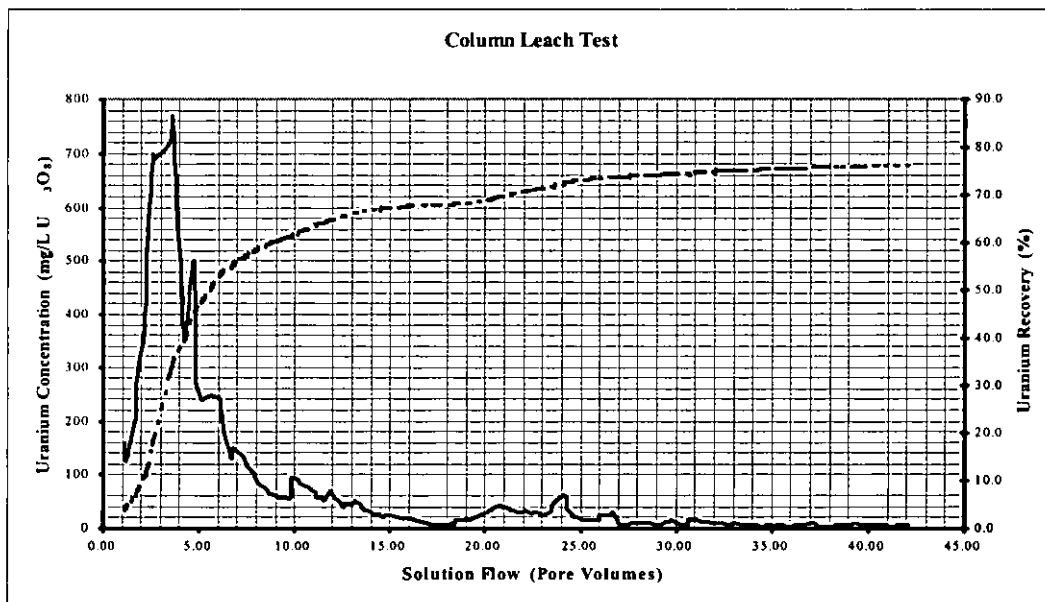


Figure 16-1 Typical column Leach Extraction Curve (provided by SXR)

16.4.3 Push-Pull Tests

A series of 23 push-pull tests was carried out on wells F27 and G27 of the expanded wellfield to evaluate a number of different leaching conditions. Each test involved the placement of a known volume, approximately 18 m³, of leach solution in a well followed by recovery of approximately twice the volume of pregnant solution over a timed period. A typical set of results is shown in Figure 16.2.

Conclusions reached from these tests were as follows:

- Hydrogen peroxide and sodium chlorate produced similar results at pH values of 1.4 to 1.8. Increasing the oxidant concentration increased uranium extraction. Oxygen was not tested for comparative assessment.
- Lowering the pH to 1.0 increased the extraction with hydrogen peroxide but no real change was evident with sodium chlorate. At this low pH, a significant quantity of sulphate was added to the leaching solutions thus promoting the precipitation of calcium sulphate. Consequently, while low pH values may increase uranium extraction in the short term, this was not considered to be a pragmatic option for a sustainable long-term operation.
- Increasing the dissolved iron concentration with ferrous sulphate improved uranium extraction with peroxide at pH 1.6. With sodium chlorate at pH 1.1, however, results were inferior with extra iron. Results with peroxide at pH 1.0 were inconclusive.
- Additional sulphate added as sodium sulphate at pH 1.8 had no effect.
- Creating a lower ionic strength environment by purging the formation with potable water decreased uranium extraction with peroxide at pH 1.6.

- Uranium extractions obtained for the later tests in the series may have been affected by the quantity of uranium extracted in preceding tests, and by the amount of gypsum precipitation which may have occurred during both test series.

Based on these conclusions, the following recommendations were made for future operations:

- use sodium chlorate as a lower cost alternative to hydrogen peroxide
- operate at natural iron concentrations
- operate at the highest practicable pH to minimize gypsum precipitation whilst maintaining adequate uranium dissolution.

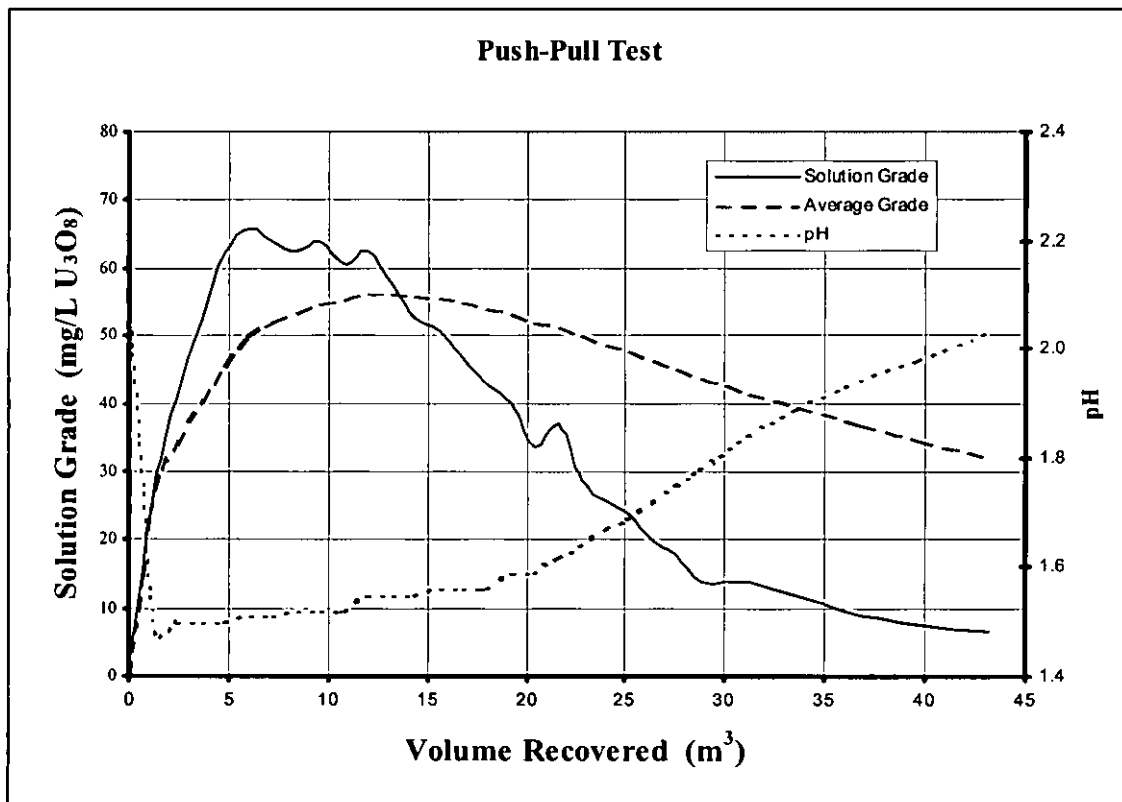


Figure 16-2 Typical results of a push-pull test (provided by SXR)

16.4.4 Field Leach Trials

Four wellfield patterns designated A, B, C and D were installed by Minad in 1983. Three of these patterns were used in preliminary field leach tests in 1998/9.

16.4.4.1 Patterns B, C and D

None of the three patterns responded as expected to conditions typically used for the acid leaching of uranium, namely a pH of 1.8 to 2.0 with oxidation from oxygen or hydrogen peroxide, or a combination of both of these reagents. This is not surprising as the use of oxygen, and to some extent peroxide, has generally been found to be ineffective in acid in-

situ leaching. The use of these oxidants is a hangover from the US carbonate leach experience. The overall performance is summarised in Table 16-1.

Table 16-1 Overall Performance – Patterns B, C and D

Pattern	B	C	D
Operating Time, hours	3,801	743	2,822
Pore Volume Displacements	40.2	4.9	18.3
Uranium Extracted, kg U ₃ O ₈	1,768	59	1,409
Uranium Extracted, %	8.4	0.6	5.8
Ratio % U ₃ O ₈ :PVDs	0.21	0.12	0.32

Based on these results, to achieve extractions of 80% from each pattern, in excess of 250 PVDs would be necessary, assuming that the uranium grades in recovery solutions did not decline significantly.

Solution grades of approximately 60 mg/L U₃O₈ were obtained from patterns B and D using oxygen as the sole oxidant. Injection wells were sealed and operated with wellhead pressures of 350 to 450 kPa, and with an injection pH of 1.8 to 2.0. Solution grades from pattern B were marginally higher than those from D.

With open wellheads, grades of 35 to 40 mg/L U₃O₈ were achieved due to the lower dissolved oxygen concentrations.

The effect of hydrogen peroxide in patterns B and D could not be satisfactorily assessed due to problems relating to loss of injectivity and the complete blockage of some injection wells caused by calcium sulphate scaling. In pattern C, the combination of hydrogen peroxide and oxygen had no effect, and recovery grades attributable to actual leaching were less than 10 mg/L U₃O₈.

The average redox potentials of recovery solutions from the three patterns were: pattern B 440mV; pattern C 350mV; pattern D 400mV.

The significant loss of oxidation potential exhibited by pattern C suggests that this pattern is high in naturally occurring oxidant consumers, such as organic carbon. This naturally occurring carbon may have reduced any already dissolved uranium back to the insoluble tetravalent state, and caused it to be lost from solution, resulting in low solution grades. This may also have occurred in pattern D, albeit to a much lesser extent.

The dissolved iron content of recovery solutions from all three patterns increased as leaching progressed. However, iron concentrations remained below 200 mg/L Fe_{total} when operations ceased. The low concentrations of dissolved iron indicate minimal dissolution of pyrite at pH 1.8 to 2.0. Due to the very low dissolved iron grades (<1,000 mg/L Fe_{total}), there was no evidence of jarosite precipitation.

Calcium sulphate scaling caused the loss of injectivity and the ultimate blockage of some injection wells. Precipitation within the mineralized zones may also have occurred. This problem will need to be addressed to ensure that it does not cause the premature shut down of sections of wellfield before sufficient uranium has been extracted. Operation at higher pH levels, i.e. with reduced sulphate levels, was expected to reduce the opportunity for gypsum precipitation.

16.4.4.2 25 L/s Wellfield Operation

A new wellfield was prepared for a 25 L/s trial. The wellfield was located between patterns B and C and comprised a total of 26 wells:

- 16 wells arranged in five 5-spot patterns comprising five production wells and 11 injection wells)
- 10 monitor wells comprising nine perimeter monitor wells and one shallow monitor well.

The nine monitor wells were located in a ring around the five leach patterns. The monitor ring was 125 metres from the 5 patterns and each monitor well was 125 metres apart. They were all completed in the Basal Sand which contains the Honeymoon mineralization. One shallow monitor well was completed above the Basal Sand within the wellfield.

Installation of the production wells was carried out from 24 November 1998 through 19 January 1999. Installation of the perimeter monitor wells continued until 8 March 1999. Each 5-spot leach pattern was approximately 33 metres square, with an injection well at each corner and a production well in the centre. The wellfield contained a total in-place resource of 147,600 kg U_3O_8 .

Four of the five patterns were operated in parallel during the trial to meet the operating capacity of the test plant. Pattern F22 commenced operation on 27 July 1999 and continued until the trial was terminated on 9 August 2000. The pattern was operated initially at an injection pH of 1.8 which was increased to 2.3 during the trial. Sodium chlorate was used as the oxidant. The other three patterns were brought on line on 26 November 1999, 18 February 2000 and 17 May 2000. The solution grade variations with total leach solution flow for pattern F22, during the course of the trial, is shown in Figure 16-3. The average leach solution grade from this pattern during the trial was 98 mg/L. A total of 18 t of yellowcake was recovered from the pattern out of an estimated resource of 41.8 t. This was the best result achieved from any of the five patterns which were operated during the trial. Of the remaining four only one returned satisfactory results.

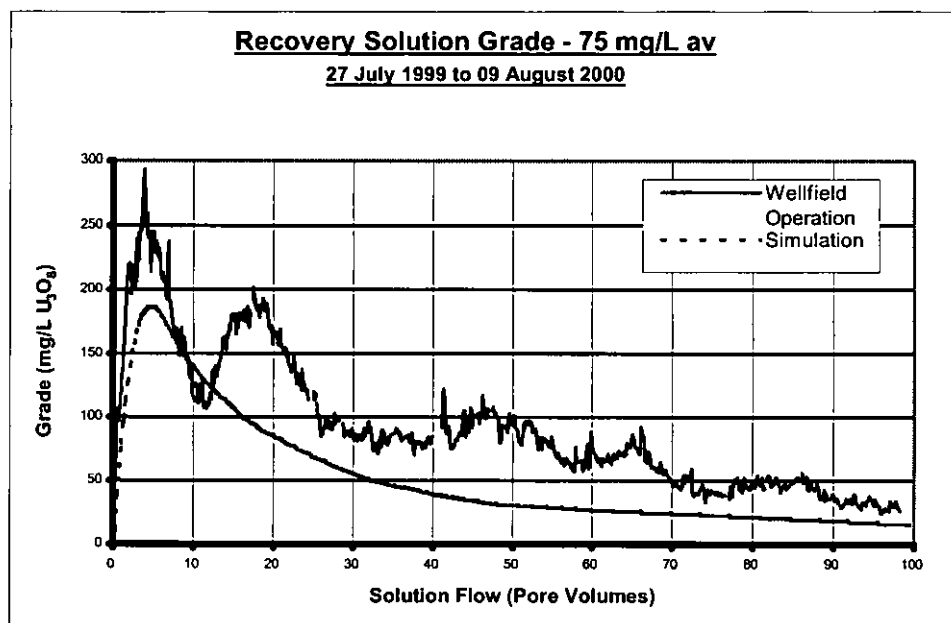


Figure 16-3 Results from pattern F22 leach test (provided by SXR)

The form of the leach solution grade curve obtained for pattern F22 is characteristic of this type of leaching operation and was used as the basis for estimating wellfield requirements for a commercial operation. A smoothed curve was constructed to have an average grade over the life of the pattern of 75 mg/L. This curve is shown in Figure 16-3. The average solution grade was based on the grade required to produce 1,000 t/y yellowcake at an average 70% recovery of in-place uranium for average deposit conditions.

16.4.4.3 Test Plant Operation

The Honeymoon test plant was the first adaptation of the solvent extraction process to high salinity in-situ leach solutions. As such, it incorporated a number of unique operating and installation features. The trial period enabled optimization of the process chemistry, additives and management. Consistently low uranium contents were a feature of the barren solution being recycled as leach solution. There were no problems with jarosite formation or excessive scale build-up in the plant.

The uranium concentration step during solvent extraction is the critical stage for the recovery of uranium. Uranium solvent extraction plants around the world use a tertiary amine and isodecanol combination in the organic phase. This chemistry is not suitable for the high concentrations of competing ions in the Honeymoon saline pregnant solutions. An alternative chemistry was developed to obtain high uranium recoveries and high solution grades from pregnant solutions.

The successful alternative organic reagent suite used comprises di-(2-ethylhexyl) phosphoric acid (D2EHPA), tertiary amine and tributyl phosphate (TBP) dissolved in high flash point kerosene. These organic extractants have been able to achieve uranium recoveries from pregnant solutions of 97%.

The organic extractants have been submitted to long-term tests under continuous operating conditions over a range of uranium concentrations in the feed solutions.

16.4.4.4 Solvent Extraction

This section of the test plant was commissioned on 31 July 1999 and uranium recovery commenced on 1 August 1999. Recovery was poor initially, due to a low extractant concentration of approximately 1% and rapidly increasing pregnant solution grades. However, once the extractant concentration was increased to approximately 2%, raffinate grades dropped rapidly with the average grade being 4 mg/L U₃O₈ until the plant was shut down on 22 December 1999. During this four-month period, less than 9% of raffinate assays exceeded 10 mg/L U₃O₈, and uranium recovery was 96%. In September 1999, the average raffinate grade was 3 mg/L U₃O₈ and uranium capture was 98%, the highest achieved during the trial.

During February 2000, transfer of iron into strip liquor was causing severe operational problems, through excessive crud formation and blockage of aqueous outlets, and a significant quantity of crud was carried over to precipitation. A sample of loaded organic collected at the time contained 1,700 mg/L U₃O₈ and 2,900 mg/L iron and the ratio of transfer into the strip liquor was 0.4 kg of iron per kg of U₃O₈. The low uranium loading and high iron loading of the organic were due to the high organic flow in the circuit. The flow was subsequently reduced to increase the uranium loading and thus crowd off the iron, thereby reducing the transfer ratio.

Despite problems in stripping, during February and March 2000, the recovery of uranium in the extraction circuit remained high at 95% and the average raffinate grade was 4 mg/L U₃O₈. This satisfactory performance was due to high organic flow in this circuit and

the high extractant concentration of approximately 2.8%. The parameters that were creating difficulties in stripping were very favourable in extraction.

During March and April 2000, uranium capture deteriorated to approximately 71% and this was attributed to a low organic inventory that caused difficulties in maintaining a constant flow of organic around the circuit. This intermittent flow resulted in high organic uranium loading in the extraction circuit. The equilibrium uranium concentration in the barren solution increased accordingly. Barren solution grades were up to 46 mg/L U₃O₈ and averaged 19 mg/L U₃O₈.

In April 2000, a 250mm layer of a third phase was observed in the first settler of the strip circuit above a thick layer of interfacial crud that was mostly iron precipitates. No discrete layer of the third phase was evident in the second strip settler but this may have been obscured by the iron precipitates that formed a diffuse layer more than 500mm thick. The TBP concentration was subsequently increased to 3%, and this inhibited further third phase formation. The D2EHPA concentration was kept at approximately 1% as a means of reducing iron transfer, but higher barren solution grades were anticipated.

Laboratory tests showed that 3 to 4% TBP was needed with 2% D2EHPA to prevent third phase formation during carbonate stripping of Honeymoon organic. Typically, operations using D2EHPA and TBP use equimolar concentrations of these reagents to prevent third phase formation. However, at Honeymoon, when the TBP concentration falls below 4% (with 2% D2EHPA) a third phase results. Laboratory tests had also shown that tertiary amine could be used to suppress the iron loading of D2EHPA. This was subsequently confirmed in plant trials when the organic composition was adjusted to 1% D2EHPA, 2.4% TBP and 3% tertiary amine.

During July 2000, the aqueous in both strip settlers contained finely disseminated iron precipitates. Dipping the settlers showed a build-up of interfacial crud, mostly iron precipitates, 50 to 75mm thick in both units. This indicated that the nature of the iron precipitates had changed due to the presence of amine, and while amine had not totally suppressed the iron transfer, the precipitates were easier to handle. The sodium carbonate in fresh strip liquor was increased to 60g/L Na₂CO₃ due to the presence of amine in the organic. The higher concentration was not warranted and the carbonate reverted to 35g/L Na₂CO₃ to minimise reagent consumption. At the beginning of August 2000, the organic flow in the extraction circuit was reduced from 0.5 to 0.25 L/s to increase the organic uranium loading and reduce the organic iron loading. The uranium grade subsequently increased from approximately 700 up to 1,100 mg/L U₃O₈ and the iron grade dropped from approximately 600 down to 200 mg/L iron. As a consequence of the lower iron loading, the strip aqueous was relatively clear and contained little iron precipitate. The Field Leach Trial was terminated on 9 August 2000.

16.4.4.5 Precipitation

High recoveries of uranium from strip solution were obtained during the trial. Typically the recovery from solution was of the order of 99% with residual uranium in the thickener overflow from 100 to 150 mg/L U₃O₈.

Iron precipitate carryover from the strip circuit caused interference with the operation of the precipitation circuit. It will therefore be necessary to include an iron precipitate thickener in the circuit for the commercial plant.

16.5 Review and Verification of Test Data and Methodology

The majority of laboratory test work run before 1983 was carried out by the Australian Mineral Development Laboratories (AMDEL). AMDEL were at that time the pre-eminent Australian laboratory involved in mineral process development. This work was supplemented by some solvent extraction tests at the Colorado School of Mines Research Institute (CSMRI).

All test work carried out by Southern Cross Resources was conducted on site during field leach trials under the supervision of experienced metallurgists and process engineers. Site assays were routinely cross checked by independent laboratories certified by the National Association of Testing Authorities. The laboratory most commonly used was Australian Laboratory Services.

The data from the test laboratories in the Southern Cross Resources files are not systematically organised and it has not been possible for Mayfield to form an opinion on their reliability.

16.6 Southern Cross Resources recently funded research

Recent work at the Australian Nuclear Science and Technology Organisation (ANSTO) has identified an ion exchange resin which shows some promise of operating successfully in high chloride liquors. Southern Cross Resources has funded research on this resin to determine whether it might have application to the Honeymoon project. The work is continuing. If it proves to be successful the option of using resin ion exchange will be re-examined. The information available on the performance of the test resin is limited, and Mayfield have been unable to form an opinion on the ability of the resin to operate in the high chloride Honeymoon environment.

17 Mineral Resources Estimate

The mineral resource estimate was prepared by K F Bampton MSc, MAusIMM, MAIG prior to and independently of the remainder of this study, with an effective date of May 17, 2006.

17.1 Geological Modelling

SXR defined five continuous system-wide Eyre Formation Basal Sand packages, EBS 1-5, based on electrical (focussed resistivity and induction) log correlation from the current drilling programme – Figure 17-1. A sixth discontinuous overlying sand was not modelled. The sands are separated by continuous clay units. Relationship to Dyson's genetic classification, based on historical (1978-82) H-series SP/resistivity logs from the central area only is shown in Table 17-1.

SXR		Resources	DYSON		
Sand Package	Mean depth range (m)		Systems Tract	Depth range (m)	Description
		-	Highstand	95-104	Laterally extensive braided sheets
EBS-6	discontinuous not modelled	-			"Labyrinth" 2-3 m anastomosing sand bodies encased in mud
EBS-5	97-99	minor			
		-			"Jigsaw" meandering stream sands
EBS-4	101-104	Minimal	Transgressive	105-112	
		-			base of 10-4 sand = maximum flooding surface
EBS-3	105-108	moderate			
Old Basal Clay		-			Finer grained but more permeable than EBS-1, partially oxidized and flushed
EBS-2	110-112	Dominant	Lowstand	113-118	base of 11-2 sand = transgressive surface
		-			
EBS-1	113-117	co-dominant			Gravelly elongate braided sand sheets, moderately sorted, reduced

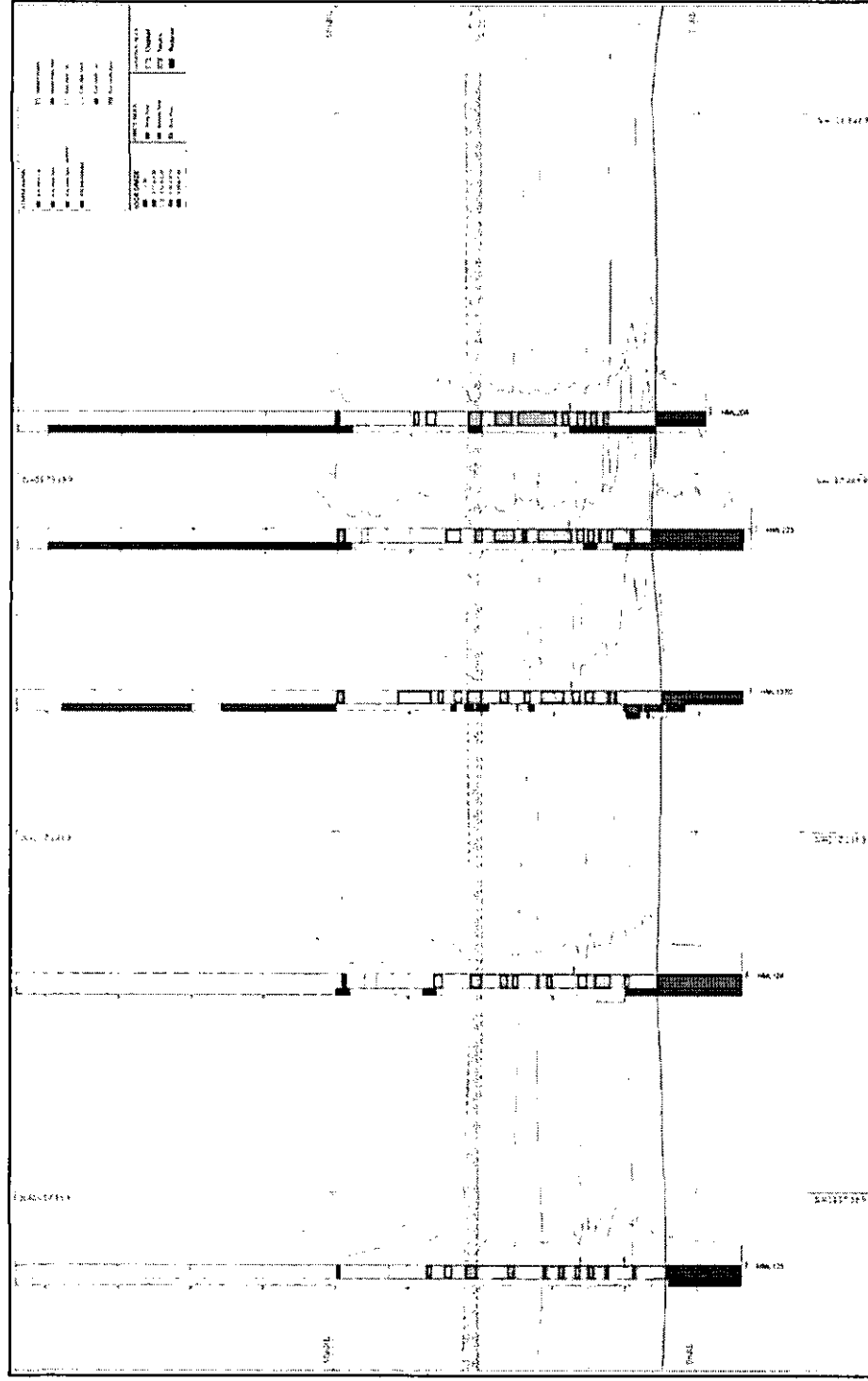
Condensed section commonly bounded by hardbands

Table 17-1 Relationship between SXR's and Dyson's stratigraphic classifications

17.2 Bulk Density

Dry bulk density of 1.9 t/m³, as for previous SXR Honeymoon estimates, is based on 30% average porosity for the ore sands implying $2.67(\text{SG of quartz}) \times 70\% = 1.87$. Allowing for some pyritic cementing, this is rounded up to 1.9. It compares with 1.8 t/m³ adopted for the otherwise similar but less pyritic and more lignitic Goulds Dam Deposit/Billeroo Prospect.

Figure 17-1 Example of electro-correlation and sand packages (provided by SXR)



17.3 Grade Assignment

U₃O₈ grade is calculated as $(E_n/T_n - \text{calibration offset}) \times \text{calibration slope}$ where E_n and T_n are the counts of epithermal and thermal neutrons recorded by the PFN tool for each sample interval. PFN calibration parameters appropriate to a particular hole are referenced automatically by database query. Target logging speed is 0.6 m/min and no grade is assigned if $T_n < 100$ or the recording speed is above 1.5 m/min. For Stage 1, PFN data were collected at 2 cm intervals. For Stage 2, sampling interval was increased to 10 cm, resulting in fewer nulls ($T_n < 100$) and Stage 1 data have subsequently also been accumulated to 10 cm intervals.

No density or formation moisture adjustments are required as the calibration pits are built of local washed quartz river sand and Honeymoon basal aquifer water, to 30% porosity. A hole size/drilling medium (historical water/mud factor) is relevant and the calibration facility provides for this where necessary – viz: larger diameter core holes. However, the vast majority of holes are the same size as the principal calibration pit, requiring no adjustment. As uranium is measured directly, the variable disequilibrium adjustments necessary for gamma readings, which measure daughter products rather than uranium, are not required.

17.4 Intercepts

All holes were checked for availability of both grade and geology information, resulting in 213 contributing holes, totalling 26,950 m of drilling.

Primary intercept grade cut-off is 0.03% U₃O₈ in view of:

the prior 0.01% U₃O₈ cut-off was unrealistically low and,

0.025% U₃O₈ being the effective detection limit of the PFN tool (at this logging speed and accumulation interval) as confirmed by independent assessment (Lawie, *op.cit.*).

The database was queried for intercepts meeting the intercept criteria of 0.4 m minimum thickness and 0.03% minimum U₃O₈ grade, with up to 1 m of internal dilution allowed minimum, within each of the five continuous Eyre Formation Basal Sand packages. 178 holes have at least one qualifying intercept and, of these, 159 have an intercept with $GT \geq 0.05$ m% U₃O₈. Sub .05 GT intercepts are discarded, except that in the case of no ≥ 0.05 intercepts, the highest GT intercept is retained for modelling purposes – but not included in any resource. Where there are two ≥ 0.05 GT intervals in the same sand in the same hole, they are cumulated without intervening waste – 13 instances only. There are then 313 ≥ 0.05 GT intercepts, an average of two (potentially mineable sand packages at this cut-off) per hole.

17.5 Resource Modelling and Estimation

Using SURPAC software, triangulated Digital Terrain Models (DTMs) were constructed of upper and lower mineralized surfaces for each sand package, with tops/bases of cumulated drill intercepts defining the apices of each triangle. A corresponding DTM of GT was contoured at eight values between 0.05 and 0.50 m% U₃O₈. Contours were smoothed using a three-point cubic spline algorithm. Figure 17-2 to Figure 17-6 is a set of colour rendered GT images, overlaid with the various cut-off contours, for each of the five horizons.

The upper/lower surface DTMs are clipped to within the various GT contours and overall volumes ($\times$ bulk density = mass) are obtained by summing individual triangular prismoid volumes between the DTM surfaces for each package. Grades are assigned to each prismoid by inverse distance squared (IDS) weighting of intercept grades, within the search radius of its centroid. Minimum search radius necessary to have at least one hole within range of each prismoid for all cases was 48 m and for uniformity, this was universally adopted. At a little more than the nominal drill spacing of 40 m, this results in a maximum of

six but commonly three holes being referenced for grade interpolation. The IDS weighting ensures strong influence of the closest data. Overall grades are the volume-weighted averages of prismoid grades.

The principal result, at 0.10 m%U₃O₈ GT cut-off is an *Indicated Mineral Resource* shown in Table 17-2:

Table 17-2 Indicated mineral resource

Sand Package	Ore t	Grade %	t U ₃ O ₈	lb U ₃ O ₈	Thickness	GT
EBS-5	89,000	0.13	120	260,000	1.4	0.18
EBS-4	45,000	0.17	77	170,000	1.2	0.20
EBS-3	140,000	0.37	530	1,170,000	1.4	0.51
EBS-2	410,000	0.28	1,100	2,500,000	1.7	0.47
EBS-1	530,000	0.20	1,100	2,400,000	2.1	0.43
Total	1,200,000 tonnes	0.24 % U₃O₈	2,900 t U₃O₈	6.5 million lb	1.7 m thick	0.42 m% GT

Selection of 0.10 m%U₃O₈ as the base GT cut-off relates to SXR's incremental cost modelling of the breakeven GT to add a seven-spot spot extractor pattern to a wellfield. This includes a model recovery of 70%, being a worldwide yardstick level for ISL uranium mines. Other GT cut-off results illustrating sensitivity to this parameter and cost/revenue considerations are presented, together with corresponding grade-tonnage type curves in Figure 17-7.

Maximum ore volume/tonnage is in EBS-1, due to greatest thickness. However, higher grade in EBS-2 results in similar contained uranium oxide and higher GT in this package. The rising grade and GT trend continues into EBS-3 due to strongest development of a NW-trending high grade zone at the north east margin of the deposit, which persists through all sands – Table 17-2. However, volume/tonnage is significantly lower overall due to both lesser area and average thickness. Area, grade and GT all fall substantially in EBS-4/5, such that their contribution is minor.

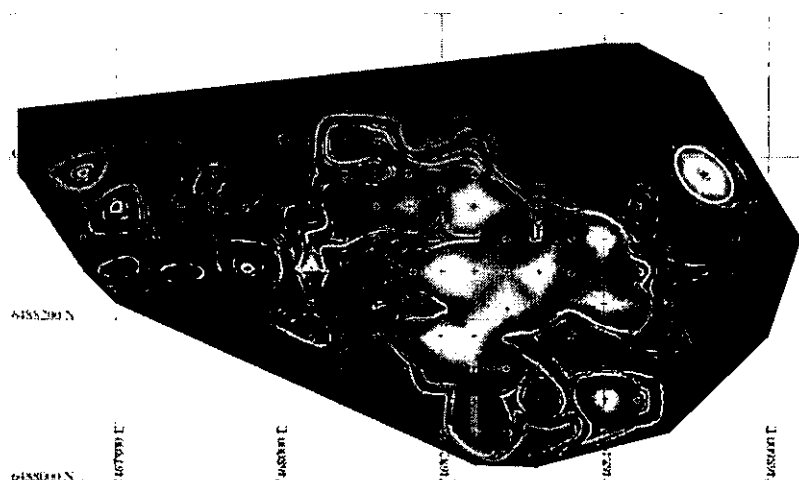


Figure 17-2 Sand Package EBS-1, mean depth 115m

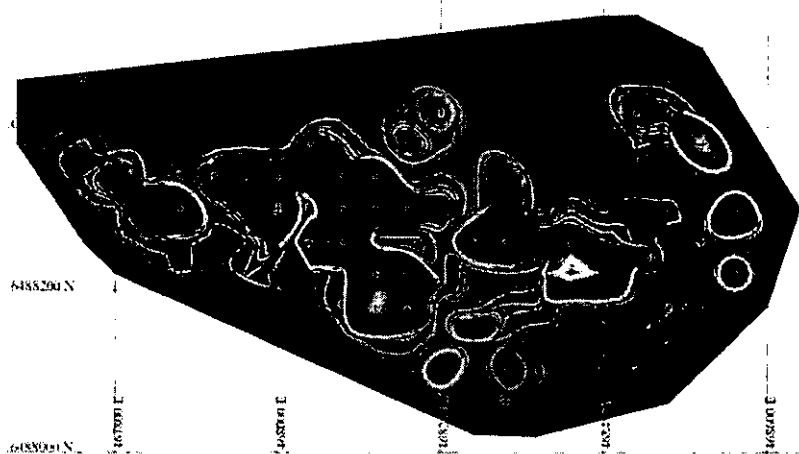


Figure 17-3 Sand Package EBS-2, mean depth 111m

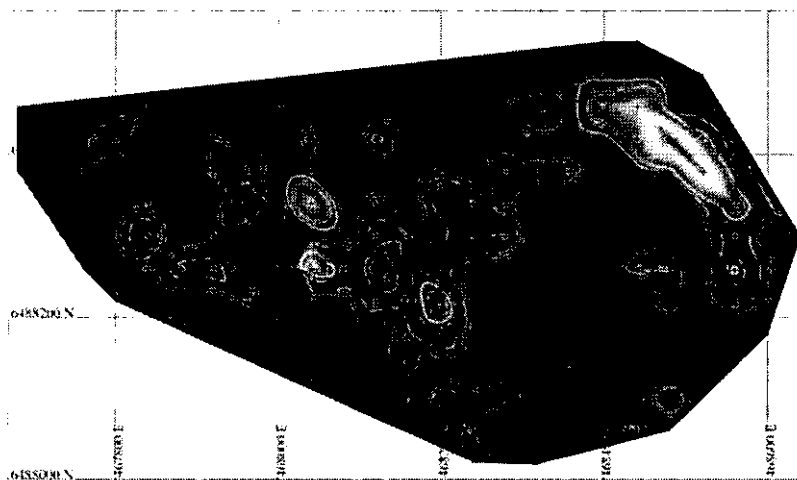


Figure 17-4 Sand Package EBS-3, mean depth 106m

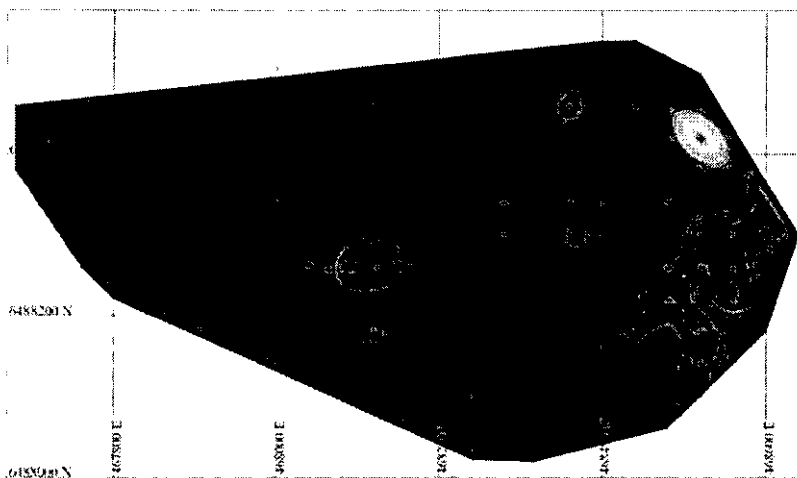


Figure 17-5 Sand Package EBS-4, mean depth 102m

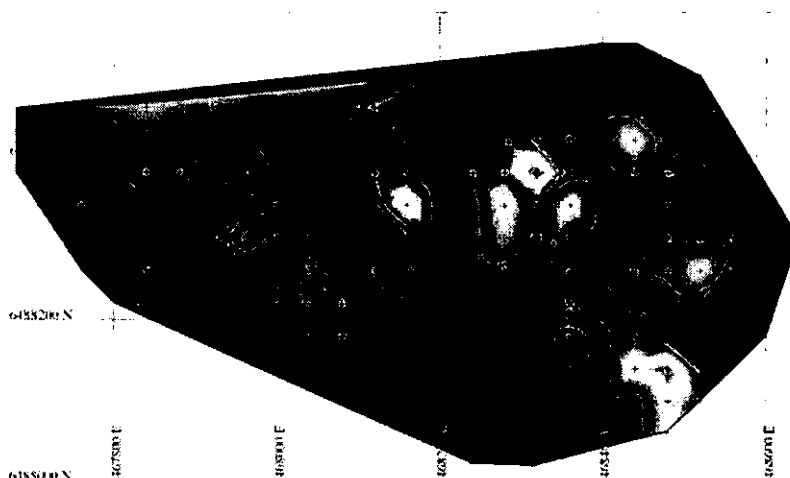


Figure 17-6 Sand Package EBS-5, mean depth 98m

Figure 17-2 to Figure 17-6, GT contours at 0.05, 0.075, 0.1, 0.15, 0.2, 0.25, 0.3
and 0.5 m%U₃O₈ with 200 m

Map Grid of Australia (MGA) overlay – crosses are drill hole locations

17.6 Other Relevant Data and Information

A principal aim of the drilling programmes was to replace several generations of historic drill hole information with a uniform set of data, not subject to grade uncertainties relating to poorly calibrated gamma-probes and inherent in disequilibrium adjustment. This was successfully achieved, at the same time effecting slightly enhanced data density, surpassing that for all current/historical Honeymoon Project deposits/prospects. Refer to Table 17-3.

Table 17-3 Drill Spacing Data

Honeymoon – present	40m x 40m	1 hole per 1 600 m ²
(Honeymoon – historical	approx. 60m x 30m	1 hole per 1 800 m ²)
Goulds Dam – present	80m x 80m	1 hole per 6 400 m ²
(Goulds Dam – historical	approx. 60m x 60m	1 hole per 3 600 m ²)
East Kalkaroo – historical	approx. 100m x 50m	1 hole per 5 000 m ²

This close-spaced regular drilling pattern, together with prior drilling at similar density has affirmed continuity of host sands and mappability of mineralized trends within them. In combination with high quality PFN grade data, this leads to estimates of tonnage and grade from the study being classified as Indicated Mineral Resources.

17.7 Interpretation and Conclusions

Results at the varying GT cut-offs are tabulated and trends illustrated graphically below in Table 17-4. In all cases, primary intercept cut-off is minimum 0.4m @ 0.03% U₃O₈ with maximum 1m internal dilution. These figures are presented by way of sensitivity analysis and all are Indicated Mineral Resources with the proviso that those at lower than 0.10m% GT cut-off are subject to higher product revenue, higher recovery and/or lower production costs than presently anticipated.

Table 17-4 Honeymoon Uranium - Indicated Mineral Resources

GT m%	Volume m ³	Area m ²	Mass t	% U ₃ O ₈	t U ₃ O ₈	lb U ₃ O ₈	Thickness m	avg GT
0.05	780,000	550,000	1,500,000	0.22	3,200	7,100,000	1.4	0.31
0.075	710,000	450,000	1,400,000	0.23	3,100	6,800,000	1.6	0.36
0.10	640,000	370,000	1,200,000	0.24	2,900	6,500,000	1.7	0.42
0.15	540,000	280,000	1,000,000	0.26	2,700	5,900,000	1.9	0.51
0.20	470,000	220,000	890,000	0.28	2,500	5,500,000	2.1	0.58
0.25	420,000	190,000	790,000	0.29	2,300	5,100,000	2.2	0.64
0.30	380,000	160,000	710,000	0.30	2,100	4,700,000	2.3	0.70
0.50	240,000	90,000	450,000	0.34	1,500	3,400,000	2.6	0.90

Note: Mineral resources that are not mineral reserves do not have demonstrated economic viability.

Note: Minor apparent multiplication mismatches are due to post-computational rounding of entries to 2 significant figures.

17.8 Other Factors

The estimates of mineral resources are not materially affected by any known environmental, permitting, taxation, legal, title, socio-economic, marketing or political issue nor are they materially affected by any known mining, metallurgical or infrastructure issues.

The recovery figure of 70% used throughout this report is based on industry experience. There can be no assurance that recovery at such a level will be achieved. (See 18.12.17)

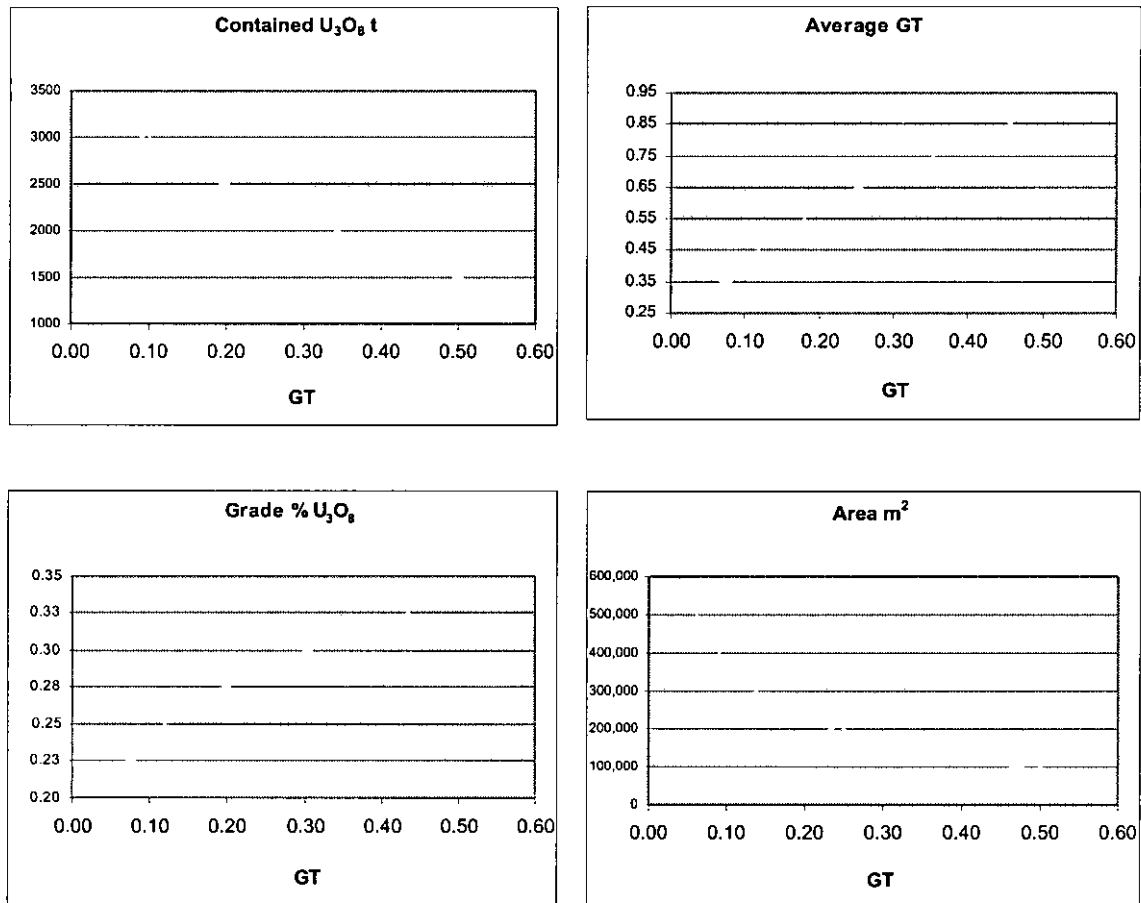


Figure 17-7 Sensitivities of Various Parameters to GT Cut-off

Most trends are fairly linear, particularly above 0.20m% GT cut-off. Contained U_3O_8 is the most linear, decreasing approximately 200 t per .05m% increase in GT cut-off. Area and thickness (latter not shown) are the least linear, respectively falling and rising relatively rapidly at lower cut-offs. Average GT is consistently more than 0.2 m% U_3O_8 above cut-off GT.

18 Other Relevant Data and Information

18.1 Wellfield – Leaching and Recovery

18.1.1 Purpose

The purpose of the ISL wellfield is to selectively extract uranium from the deposits by leaching. In a continuous process, leach solution is injected into the ore zone via injection wells, and drawn to production wells, dissolving uranium as the solution passes through the host sand between the wells. The uranium-bearing solution is then pumped from the production wells to the process plant where the uranium is recovered. The barren solution is reconditioned and recirculated continuously to the wellfield as leach solution. The project general arrangement including the wellfield is shown in Figure 18-1.

18.1.2 Wellfield Design

The basic wellfield design will be based on '7-spot' patterns, which consists of six injection wells arranged in a 20 - 60 m hexagon, with a centrally located production well. Local variations in pattern size may occur on wellfield margins and where low-permeability ore zones require closer-spaced patterns.

Approximately 30 production wells will need to be in operation at any one time within the wellfield to meet the process plant design feed rate of approximately 180 L/s. With contiguous '7-spot' patterns, approximately 70 injection wells will initially be required, resulting in an initial ratio of injection to production wells of 2.4 : 1. If poor recovery is encountered due to structural difficulties in any particular pattern or area, additional injection wells will be installed to provide more efficient contact between the leach solutions and the mineralization. Alternatively, closer well spacing may be employed to improve the contact. Operating costs are sensitive to wellfield costs - which may increase if well spacing needs to be reduced to improve uranium recovery.

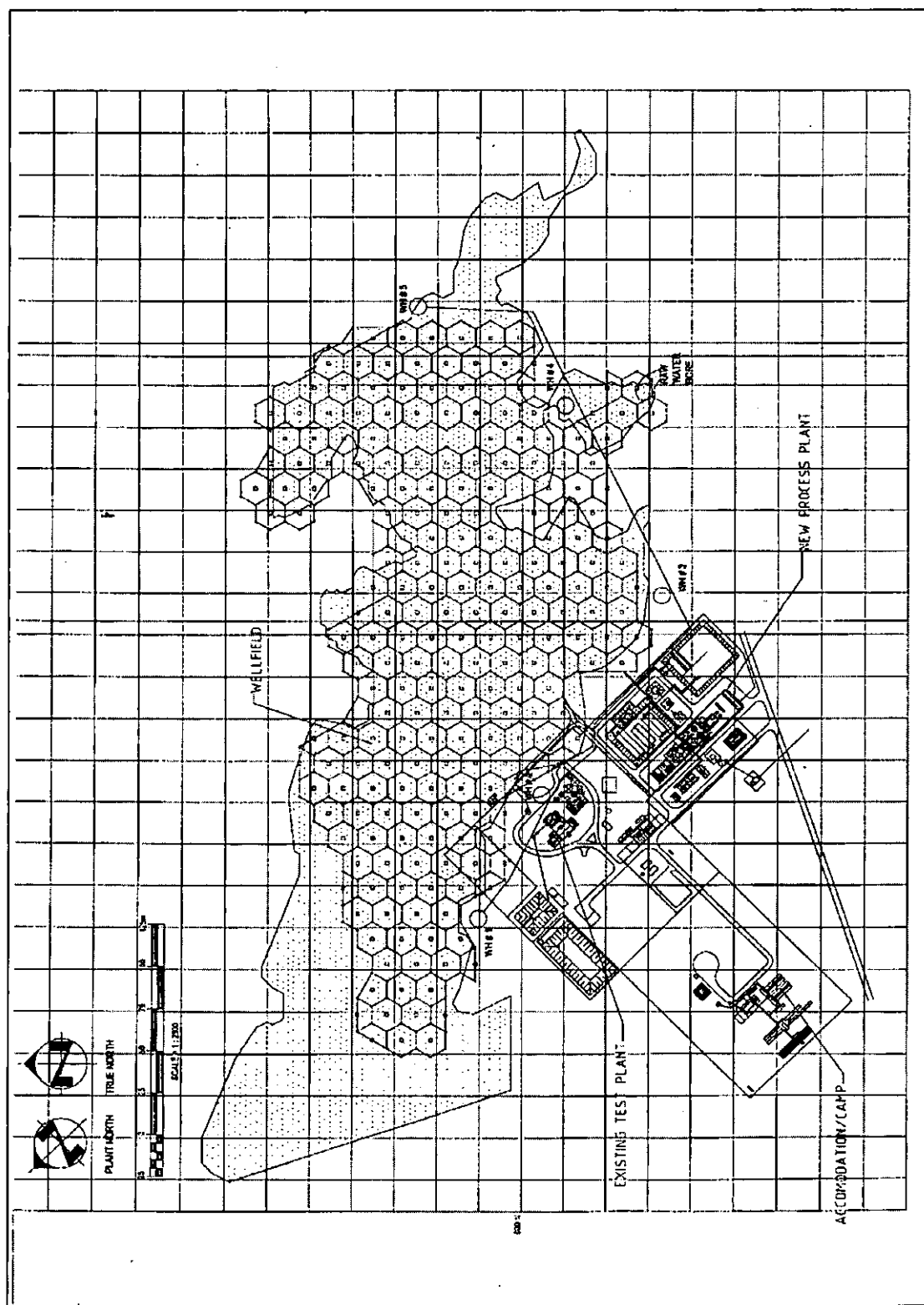
Monitor wells will be installed within and around the boundary of the wellfield during the wellfield installation. The boundary wells will be installed at a distance of 125 m from the wellfield and will be completed in the Basal Sands. The purpose of the monitor wells will be to obtain pre-leach baseline water quality data, and subsequently to monitor for unintended excursions of leach solution from the wellfield during and after leaching. Perimeter monitor wells will serve no useful purpose where the Basal Sands are terminated by underlying basement rocks at the margin of the ore zone. Monitor wells will not be installed in these areas. The outermost wells in the wellfield development will also be used as monitor wells for leach solution detection. The installation of monitor wells will progress across the mineralized area as leaching progresses.

Shallow monitor wells will be installed within the wellfield at a density of one well per 1.5 Ha in both the Middle and Upper Sand units. These wells will be completed above the deposits to check for unintended vertical excursion of leach solution from the Basal Sands during and after leaching operations.

18.1.3 Wellfield Installation

All injection, production and monitor wells will be installed using conventional rotary drilling rigs and standard well-completion procedures developed in Australia. The production wells will first be used to mine the highly permeable zones at the lower levels of the Basal Sands. Under-reaming procedures, which have been adopted in the United States, may be necessary to give access to overlying mineralized horizons which show relatively low permeability. The program will be conducted in accordance with the South Australian Water Resource Regulations (1997).

Figure 18-1 Project General Arrangement Honeymoon Uranium Project



A pilot hole will be drilled to approximately 3m below the base of the target ore zone, which will be determined by interpretation of data from previous exploration drill holes and adjacent wells. Drilling fluid and drill cuttings from the pilot hole and subsequent reaming, will be placed in pairs of pits approximately 4m by 1m by 2m deep, located adjacent to the hole. The pits will be subsequently backfilled and rehabilitated.

- The hole will be geophysically logged for parameters including gamma, "guard" conductivity, inductive conductivity, and uranium grade using Prompt Fission Neutron (PFN) technology. Interpretation of the logs will provide information on the geology and the distribution of uranium in the sequence intersected by the hole.
- If well completion for production or monitoring purposes is warranted, the hole will be reamed to a diameter of 125–240 mm, to a depth approximately 1 m below the base of the ore zone.
- The hole will be equipped with a screen assembly and casing which will be inserted in a single stage operation to provide solution access to the highly permeable sands at the base of the ore zone.
- The annular volume between the casing and the reamed hole will be filled to the surface with sulphate resistant cement slurry, to prevent vertical migration of ground water and leach solution between adjacent aquifers.
- The well will be 'developed' by circulating and air lifting, to remove fine sand, silt and clay from the 'completed' zone, and thereby improve the hydraulic efficiency of the well. The naturally saline and radioactive ground water and silt produced during well development will be transferred to the solids' retention pond at the process plant.
- The integrity of the wells will be pressure-tested at 660 kPa. Each well will be re tested at five-year intervals during its operational life, and after undergoing any maintenance work involving a drilling rig.
- An electric submersible pump will be installed in each production well.
- After the highly permeable zone has been mined, the pumps will be removed from the production wells, and the screens in both the injection and production wells will be plugged using a bentonite slurry. The wells will then be reamed at the appropriate levels and screens inserted to provide solution access to overlying mineralized zones of lower permeability.
- Holes not completed as wells, will be backfilled with cement to prevent inter-aquifer ground water migration.

In some cases, where poor ground conditions are encountered, a two stage completion technique may be required. This involves setting an oversize well casing to below the level of the poor ground to support the well wall, while the remainder of the operation is completed using the standard technique.

The selection of well construction materials will be based on the corrosive nature of the ground water and the leach solution.

18.1.4 Wellfield Conditioning

The wellfield will require conditioning prior to commencing leaching operations to achieve optimum uranium production. Conditioning will involve lowering the pH of the ground water in the ore zone, to near the desired operating range from 2.0 to 2.5, by acidification of the circulating ground water.

As areas become leached out and the wellfield is extended to unleached areas, Basal Sands' ground water from new wellfield areas may be exchanged for leach solution from leached areas. The objective of this procedure will be to restore original ground water conditions in the leached areas, and to confine the leach solution to the operating wellfield.

18.1.5 Leaching

Leach solution will be introduced into the ore zone, via injection wells, at a rate of approximately 10.8 m³/h/well. This will depend on the permeability of the Basal Sands surrounding the wells. The leach solution will comprise ground water from the Basal Sands, acidified with sulphuric acid (H₂SO₄) to a pH of approximately 2.0 to 2.5, together with sodium chlorate (NaClO₃). These reagents were tested during the Field Leach Trial. The leach solution will cause uranium minerals to be oxidised, and then dissolved as sulphates in the form UO₂(SO₄)₃⁻⁴. The leach solution will also mobilise, to a minor extent, radium 226, silica, aluminium, copper and zinc.

The proposed injection and production rates for the wellfield patterns will result in a leach-solution retention time, in the ore zone, of approximately six days. The shortest path time is expected to be approximately one day. The proposed injection rates will result in only a small increase in hydrostatic head, because of the highly transmissive nature of the ore zone.

18.1.6 Production

Pregnant solution will be pumped from the production wells at a nominal rate of 21.6 m³/h/well. The production well pumping rate will be greater than the injection rate in each pattern. This will ensure the maintenance of a positive hydraulic gradient towards the production wells and thereby prevent excursion of leach solution from the wellfield. However, to avoid unnecessary drawdown of ground water from overlying aquifers and undesirable dilution of the leach solution, the overproduction will be limited to 0.5% to 2% of the injection rate, with an average rate of approximately 1%.

The overproduction will be removed as a 'bleed' stream from the barren solution after removal of the dissolved uranium in the process plant. Re-injection of the barren solution bleed into the Basal Sands, with discharge brine from the RO plant, is the preferred disposal option.

As leaching proceeds, uranium production from individual patterns will eventually fall below economic levels. Patterns in leached-out areas will be shut down and new patterns in unleached areas brought on-line, maintaining the design feed rate of 180 L/s to the process plant. This will result in a gradual 'migration' of the wellfield over time, until the deposits are exhausted.

Monitor wells will maintain a continuous check of ground water quality and for unintended horizontal and vertical excursion of leach solution. An excursion is defined as the movement of leach solution outside the area of leach activity. It will be detected by changes in monitoring parameters such as a lowering of the pH of the ground water and an increase in the uranium and sulphate concentrations of the ground water. In the case of an excursion, injection of leach solution into the area will cease while production of ground water will be continued. Ground water will be drawn from the affected area until the monitoring parameters are returned to the normal range determined from baseline measurements.

18.1.7 Wellfield Development Plan

Development of the Honeymoon ISL wellfield will commence in the area to the north and west of the Field Leach Trial patterns. The wellfield will gradually migrate along the northern limits of the Honeymoon deposit and then progress southward. The wellfield design and

development plan will be adjusted during production as additional information on wellfield performance becomes available. As wells are abandoned they will be backfilled with cement to prevent inter-aquifer migration of ground water.

18.1.8 Reticulation System

The purpose of the wellfield reticulation system is to deliver leach solution to the wellfield injection wells and to return pregnant solution from the wellfield production wells to the process plant for uranium extraction.

The injection and production trunk lines and feeder lines connecting the wellfield control centre and the plant will be butt-fused polyethylene (PE) pipe. The pipes will be of the appropriate diameter and pressure rating to handle varying flow rates through each portion of the line. The lines to the production and injection wells will also be PE and sized to accommodate the individual flows and pressures. All lines will be tested, prior to being placed in service, to confirm the integrity of each welded and flanged joint. Attention will be given during design to facilitate access for ease of scale removal and leak management.

Trunk lines will generally be located on the surface as required under the conditions of the Mineral Lease. They will only be buried where necessary for wellfield access. Feeder lines, production and injection lines will also generally be on the surface but will be buried depending on local conditions, access considerations, and pipe expansion and contraction characteristics.

On completion of the production phase, trunk lines, feeder lines and production and injection lines will be removed. Rehabilitation will commence during operations and will be finalised when leaching of an area is completed.

18.1.9 Wellfield Control Centres

The wellfield reticulation system will be managed by transportable, skid-mounted wellfield control centres. These will act as collection and distribution interfaces between groups of injection and production wells in the wellfield, and the process plant.

A typical wellfield control centre comprises injection and production manifolds, valves, and flow meters. Injection and production wells will be connected individually to injection and production manifolds within the control centres. The control centres will be connected to the process plant via PE injection and production mains.

18.2 Processing

The Honeymoon Uranium Project process plant is designed to produce 400 tonnes per annum of uranium oxide equivalent (tpa U_3O_8). The process plant will utilise solvent extraction technology to recover uranium from the pregnant leach solution (PLS). The uranium product will consist predominantly of uranium peroxide ($UO_4 \cdot xH_2O$) and will be precipitated from aqueous strip solution from solvent extraction. The uranium product will be de-watered and dried prior to packaging for transport.

The uranium processing facility will comprise the following sections:

- Pregnant Leach Solution (PLS) Handling and Storage
- Solvent Extraction (SX) including scrubbing and stripping
- Barren Leach Solution BLS Handling and Regeneration
- Iron Thickening, Dissolution and Crud Handling
- Uranium Precipitation
- Uranium Product De-watering, Drying and Packaging
- Reagents, Receival, Storage and Dosing
- Services: power, water, air supply and distribution, plant controls.

The wellfield and PLS pond will be operated to maintain the desired flow into the plant. The average PLS flow will be 654 t/h over 8410 hours per year. The wellfield and the solvent extraction sections of the process plant through to iron thickening will be operated continuously, twenty-four hours a day, seven days per week. Uranium precipitation will be operated on a batch basis, albeit sequentially, over twenty-four hours per day, seven days per week.

The yellowcake de-watering circuit which includes uranium product slurry handling, centrifuging and product drying, will operate seven days per week. Normal operation will be continuous, but the equipment installed will be capable of processing over a shorter campaign each day. Uranium product drumming operations will be performed on dayshift only, seven days per week, for a period of approximately two hours per day.

18.2.1 General

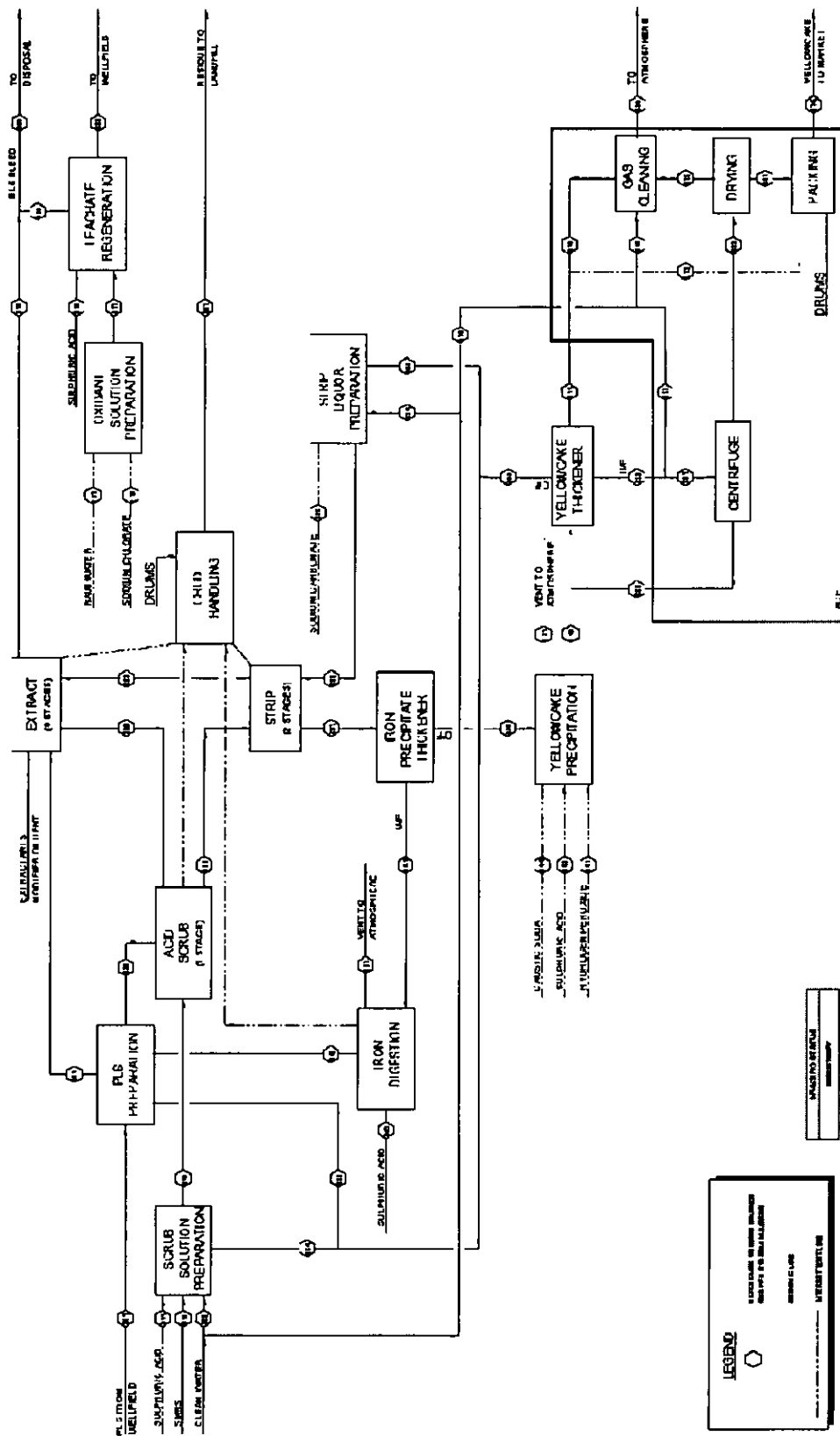
The block flow diagram, Figure 18-2 shows the main process operations. The processing facility will receive PLS from the wellfield, and recover soluble uranium from the PLS by solvent extraction which concentrates and purifies the uranium before precipitation as uranium peroxide yellowcake. The solvent extraction process will transfer soluble uranium from the PLS to an LSL (loaded strip liquor). Various impurities will be removed from circulating solvent by scrubbing with acidic reducing solution. Co-recovered iron will be recirculated to the leaching solution. Uranium will be precipitated from the LSL, and the yellowcake product will then be thickened. The uranium precipitate will be de-watered and dried prior to packaging, and will then be transported from site in drums packed in containers.

The uranium depleted solution from extraction BLS (barren leach solution) will be regenerated by the addition of acid and oxidant. The regenerated solution will be filtered and then be pumped back to the injection wells at the wellfield. The barren strip liquor from precipitation will be used for scrub solution makeup.

Honeymoon Uranium Project Summary of Feasibility Study 400 TPA U₃O₈ Equivalent



Figure 18-2 Process Flowsheet Honeymoon Uranium Project



18.2.2 Wellfield

The wellfield reticulation system will be controlled by transportable wellfield control centres (also referred to as well houses) which will act as collection and distribution points for wellfield solutions. Pregnant liquor solution (PLS) from 14 to 16 production wells will be pumped to a well house where the solution flow rates will be recorded and the solutions sampled for assay. The solution from the production wells will then be sent from the well house via a single lateral pipeline to a trunkline which will take the solution to the plant.

Normal wellfield operation will require three well houses in order to provide the design PLS flow rate to the plant. However, there will be periods in which four well houses will be operational, all producing different head grades and flow rates. Following drilling and fit out of a production well, the development phase prior to recovering leach solution includes a period of time pumping ground water from the new well. The pump out period ensures that there will be minimal solids loading in the production PLS at the completion of pumping. The water pumped from the well will be sent to the solids' retention pond. During production, any fine suspended solids in the PLS will settle out in the PLS pond.

18.2.3 Pregnant Liquor Solution Handling

The objective of the PLS Handling section is to provide regulation of the PLS feed to the solvent extraction facility, rejection and disposal of radon and sand from SX feed. PLS will be delivered by the extraction well field pumps situated up to 1 km from the processing plant, to pregnant aqueous transfer tanks at the process plant. Extraction well discharge lines will join trunk lines that run to the transfer tanks. Radon in PLS will be released from solution and vented from the tanks. Coarse sand contained in PLS, particularly from newly developed wells, will settle in the tanks for disposal in landfill. The transfer tanks will overflow and cascade down the side wall of the PLS Surge Pond. The PLS pond will allow residual fine solids to settle, and offer a volume buffer to regulate the solvent extraction plant feed supply. The pond will allow a steady feed rate for the SX process to maintain target solvent loadings and downstream impurity rejection. PLS surge capacity of up to 24 hours average wellfield production will be available in a lined pond. Fine solids will settle in the profiled pond floor. PLS will be drawn steadily from the pond by duty / standby variable speed SX feed pumps. Spent scrub liquor, acidified iron precipitate and barren strip bleed will be pumped to the pregnant aqueous transfer tanks.

18.2.4 Solvent Extraction

The objective of the solvent extraction section is to recover uranium from PLS into a concentrated solvent stream. The mixture of PLS, spent scrub solution and recycled acidified iron precipitate, i.e. SX aqueous feed will be pumped to a three stage extraction circuit where about 97.5% of the uranium will be extracted into the organic phase or solvent. The circuit will consist of three mixer settlers, which will be arranged as sequential pump mixers and settlers. The mixers will provide a phase contact time of about one minute including recycle streams. The solvent will consist of:

- an organic phosphoric acid extractant to recover the uranium and
- an organic amine modifier to suppress iron transfer
- a polar organic phosphate to suppress third phase formation
- balance of solvent will be high flashpoint, narrow cut kerosene.

Solvent will advance progressively through the three stages of mixer settler. A portion of the organic phase discharging each extraction settlers will be recycled back to its respective pump mixer to maintain the correct phase continuity. Its flow is counter current to the

aqueous flow to allow efficient recovery of uranium. The PLS will be pumped at a controlled rate to the first extraction stage, while the barren organic will be advanced at a rate to meet the uranium loading target. The solvent will progressively flow through the strip and scrub sections.

Barren liquor solution (BLS) discharging from the third extraction settler will gravitate to the barren solution storage tank. The loaded organic advancing from the first extraction stage settler will gravitate to the loaded organic tank. Entrained aqueous in the loaded organic will tend to disengage to the floor of this tank from where it will be returned to the main circuit.

18.2.5 Barren Leach Solution Handling

The objective of the barren leach solution handling section is to provide storage and flow regulation of barren leach solution (BLS), to regenerate leach solution prior to wellfield injection and to filter regenerated solution prior to wellfield injection. The BLS will discharge from the third extraction stage into the Barren solution tank. A portion of the flow will be bled from the BLS stream to maintain a positive wellfield flow bias. The BLS bleed is required to ensure lower flow being injected into the wellfield compared to the PLS flow from the wellfield. Organic entrainment in the barren solution will tend to disengage in the surge tank. This recovered solvent will be periodically decanted for return to the main solvent circuit.

The BLS bleed will be mixed with other solution discharges from the uranium process plant. The combined waste streams will be transferred to the water disposal retention pond, and finally pumped to a water disposal well. During an excursion, a higher than average bleed will be taken from the barren leach stream which will be accommodated by the surge capacity of the water disposal retention pond.

The BLS that gravitates to the Barren solution storage tank will be dosed with sulphuric acid and sodium chlorate solution to adjust the pH and redox potential for regeneration of leach solution. Regenerated solution will be filtered and pumped to the wellfield via a trunk line to the control and distribution facilities. During aquifer solution excursions, the BLS will be pumped to the wellfield at below the normal rate while maintaining well extraction at the same rate to increase the wellfield solution bias surrounding the affected wells. The excess solution will be diverted to the water disposal pond.

18.2.6 Loaded Organic Scrubbing

The objective of the loaded organic scrubbing section is to remove iron and crud-forming impurities from the solvent. The uranium bearing (loaded) organic will be pumped from the loaded organic tank to the scrub mixer settler. Here the organic will be mixed with acidified sodium meta-bisulphite (SMBS) solution that will reject impurities from the organic. The phases will be separated in the adjacent settler. The advance flow of scrub solution will be controlled along with the acid and SMBS concentration.

Uranium thickener overflow i.e. barren strip solution, will be mixed with sulphuric acid during SMBS batching prior to being pumped to the scrub mixer. Clean water can be used instead of barren strip solution, especially on start-up. The spent scrub solution will be advanced to the PLS aqueous transfer tanks.

The scrubbed organic will flow to the first strip mixer. A portion of the aqueous discharging from the scrub settler will be recycled back to the respective pump mixer. Potential contaminants of uranium product, including silica and zirconia, will be depleted from the solvent by the acidity of the scrub solution. Iron will be reduced and depleted by the reductive capacity of the sulphite solution. A small portion of the loaded uranium will also be scrubbed from the solvent which will report with the spent solution to the PLS and hence SX Feed.

18.2.7 Loaded Organic Stripping

The objective of the loaded organic strip section is to transfer uranium into a concentrated aqueous stream suitable for effective precipitation. Recovery of uranium from the loaded organic will be performed in a two-stage strip circuit, each consisting of a single mixer-contactor and conventional settler. Stripping will be performed by carbonate solution prepared with low chloride clean water. Organic from the scrub settler will flow to the pump mixer of the first strip stage, and from this settler will advance to the second strip stage pump mixer. Stripped organic discharging from the second strip settler will discharge to the pump mixer of the third extraction stage. Organic advance flows through the strip mixer-settler system counter current to the aqueous flow at a controlled ratio.

The 5% sodium carbonate strip solution will be dosed through variable speed pumps from the reagent area to the mixer of the first and second strip stage. The design will allow dosage of carbonate solution separately into each mixer box which will provide operational flexibility. The flow of carbonate solution will be regulated on solvent ratio basis with pH trim control, to ensure effective stripping. Strip liquor discharging from the second strip settler will advance to the first strip stage pump mixer. Each strip stage will recycle solution back to its respective pump mixer to ensure efficient phase contact.

Loaded strip liquor will discharge from the first stripping stage settler and gravitate to a loaded strip tank. This tank provides a flow and volume surge capacity between solvent extraction and precipitation.

18.2.8 Crud Handling

The objective of the crud handling section is to collect and treat mixed phases from solvent extraction to maintain downstream operation, minimize solvent losses and ensure product quality. Crud removal apparatus will be installed in locations where build up is expected; collection wands near the weir in settlers; decant or drain arrangements on tanks as appropriate. The design will allow all mixer settlers and the loaded organic tank to be evacuated as required into either the crud tank or the mixer settler main sump for treatment and removal of crud. Contents of the SX sump will be reclaimed and pumped to the crud tank for solvent recovery as required.

Discharge from the crud tank will be separated into drained aqueous, decanted organic or mixed phase crud for further treatment. Mixed phases may be pumped to the centrifuge for the removal of solids that will subsequently be drummed for disposal. Centrate will be discharged into the main process stream in the SX area.

There has been little work done on crud handling. Crud handling in the stripping section is likely to be more difficult than in conventional solvent extraction systems. Consequently crud handling can be anticipated to present operating problems at least during the initial stages of commercial operation.

18.2.9 Iron Thickening and Dissolution

The objective of the iron thickening and dissolution section is to separate, dissolve and recycle the iron precipitate. Iron hydroxides will precipitate in the alkaline carbonate strip environment. Loaded strip liquor will be pumped from the loaded strip tank to an iron precipitate thickener to separate organic bearing solids prior to advancing the loaded strip liquor to uranium product precipitation.

The thickener underflow slurry will consist of iron hydroxides below 5% pulp density, together with residual solvent. The underflow slurry will flow from the iron precipitate thickener by decantation or settling to the iron digestion tank located below the thickener. The underflow slurry will be acidified using concentrated sulphuric acid to digest the precipitates. The acidic

iron solution will overflow to the skimmer box, where a skimmer pump will remove the organic residues to be drummed for disposal. The tank arrangement allows for bypass of the skimmer box. The iron solution can be returned for blending with PLS or transferred to the crud system for further treatment. The iron thickener will allow side off take of solution into batch precipitation. This arrangement will permit a higher than average strip solution flow for flexible management of the continuous/batch interface.

18.2.10 Uranium Precipitation

The objective of the uranium precipitation section is to recover uranium from purified concentrated strip solution in the form of a marketable quality product. Uranium peroxide or yellowcake slurry will be produced by a batch precipitation circuit. Three precipitation tanks will be provided: one filling, one reacting and one being pumped forward to the uranium thickener each with sufficient capacity for 8 hours of average strip solution flow.

The iron precipitate thickener will overflow to a batch precipitation tank. The precipitation tank filling rate can be greater than the average loaded strip flow rate. Sulphuric acid will initially be added to acidify the loaded strip solution to breakdown its carbonate content. Air will be sparged during acidification to purge the carbon dioxide from solution. Once the carbonates have been destroyed the pH will be adjusted by adding sodium hydroxide. Hydrogen peroxide will then be dosed at a controlled rate to precipitate uranium peroxide. Sodium hydroxide will continue to be added for pH control. The amount of peroxide added will be controlled by pre-assay of the tank contents. A calculated overdose will ensure complete and rapid precipitation.

The tank contents will be held and agitated while the reaction proceeds over about 1 hour. When the precipitation cycle in one of the batch reactors is completed, the contents (consisting mainly of uranium peroxide and some hydrated variants) will be pumped to the uranium product thickener. The thickener overflow (barren strip liquor) will be pumped to the sodium meta bisulphite mixing tank, for scrub liquor makeup. Excess barren strip liquor will be transferred to the PLS tanks. Thickener underflow slurry, at approximately 35% w/w solids density, will be pumped to a yellowcake storage tank.

18.2.11 Uranium Product Dewatering, Drying and Packaging

The objective of this section is washing and drying the uranium product to produce a powder meeting market quality requirements and packaging the product for safe transport to market. The thickened uranium slurry will be pumped from the yellowcake storage tank to the yellowcake centrifuge. The slurry density will be controlled with clean water to ensure constant feed rate and chloride dilution.

Solution (centrate) produced from the centrifuge will be pumped to the uranium precipitate thickener. A paste-like slurry with a solids density of approximately 65% w/w solids will discharge from the centrifuge into a yellowcake transfer conveyor, and then into a yellowcake dryer. A portion of dried product from the yellowcake dryer will be recycled via two recycle conveyors back to the yellowcake transfer conveyor.

The dried uranium peroxide product will discharge into a yellowcake bin located in the packaging area. The uranium product will be packaged into top loaded 205 L steel drums and sealed with lids and ring clamps. The steel drums will be packed into a sea-container for road transport to Adelaide or Darwin and then exported as required.

The drum filling station will be located in an airlock to prevent venting of any uranium product to the operational work areas. When packaging is in progress, uranium product will be transferred from the yellowcake bin to the drum using a rotary valve until the correct weight is attained. After drum filling, the drum will be left for 3 hours to cool and then the lids will be manually fitted. Then the drum will move into a wash station to wash any residual product.

from the lid and drum surfaces. The wash solution will be pumped to the uranium product thickener. After washing, the drum will be conveyed to the drum weigh scale located outside the airlock, from where it will be loaded into the sea-container.

The drum packaging airlock in the filling enclosure will be achieved using the bag house filter fan to maintain a negative pressure. The air stream from the airlock will combine with the dust collection airstream from the drying area and enter the bag house filter.

18.2.12 Services

The services area of the uranium processing facility will comprise:

- raw water collection from the raw water borefield
- water treatment to produce low salinity or clean water for plant purposes as well as potable domestic water for drinking purposes
- high and low pressure air supply and desiccated air for instrumentation.

Raw water will be pumped from the raw water borefield into a tank located within the process plant boundary. This tank will supply water to the water treatment plant, process plant wash down points as well as chlorate mixing. Raw water can be used for plant wash down water.

The water treatment plant will utilise reverse osmosis technology to produce potable quality water. Brine from the water treatment plant will be pumped to the disposal wellfield. The product water stream from the treatment plant will discharge into the clean water storage tanks.

Low salinity water, identified as clean water, will be distributed from the clean water storage tanks to the following:

- fire fighting water storage tanks
- clean water break tank
- potable water break tank
- carbonate make-up
- plant wash-down- clean water will be used in areas that require low salinity wash down water such as the precipitation and strip circuits
- gland seal water- a separate pump (and standby) will provide gland seal water
- sodium meta bisulphite mixing back up supply.

The potable water break tank will supply water to the safety showers located within the plant site, the office complex and the camp. Water from the clean water break tank will be distributed as required to the product drying plant.

High pressure air will be required for plant operation with the bulk of the air required for diaphragm pumps and instrument operation. Instrument quality air will be produced by passing the high pressure air through a refrigerative drier and filter system to remove oil and moisture. Air receivers will be allocated for both air types, so that control air supply is available if the compressors shutdown for a short time. Plant air will also be used to assist reagent unloading.

Low pressure air required for strip liquor acidification will be produced on demand by low pressure blowers.

18.2.13 Reagents

18.2.13.1 Sodium chlorate

Sodium chlorate will be delivered to site in one tonne bulk bags and will be mixed to a concentration of 30% w/w as required. When dissolved, it will be transferred to the storage tank. A full storage tank will supply four days of usage for dosing to liquor regeneration. The storage tank has larger capacity than the mixing tank to ensure continuity of supply.

The sodium chlorate solution will be dosed into the barren solution storage tanks at a controlled rate to provide oxidizing regenerated leach liquor.

18.2.13.2 Sodium meta bisulphite

Sodium meta bisulphite will be delivered to site in one tonne bulk bags and will be mixed to a concentration of 5 g/L as required. When dissolved, it will be transferred to the storage tank. A full storage tank will supply four days of usage for dosing to solvent scrubbing. The storage tank has larger capacity than the mixing tank to ensure continuity of supply.

The sodium meta bisulphite solution will be dosed into scrub mixer at a controlled rate to provide reducing solution for impurity removal from solvent.

18.2.13.3 Organics

Diluent will be delivered on site in tanker loads of 20 m³. The diluent will be stored in a tank of 32 m³ capacity storage tank with 33 days of operating capacity. There will be 12 days' supply when there is space for a delivery. Operators will monitor the organic inventory by the loaded organic tank level. Additional diluent will be pumped into the solvent circuit from the storage tank to the third extraction mixer.

Solvent additives amine, TBP and D2EHPA will be pumped from their respective containers (1000 L bulk containers or 200 L drums) to the loaded organic tank.

18.2.13.4 Sodium Hydroxide

Sodium hydroxide at a concentration of 50% w/w will be delivered in 19 tonne tankers and transferred to a 36 m³ storage tank with 24 days' storage capacity. There will be 16 days' supply when space for a delivery is available. Sodium hydroxide solution will be pumped to the precipitation stage for pH control during uranium peroxide precipitation. The storage tank recycle line will be fitted with an electric heater to maintain the solution above 12.5°C to prevent gel formation.

18.2.13.5 Sulphuric Acid

Sulphuric acid at a solution concentration of 98% w/w will be delivered to site in tankers capable of transporting 50 tonne (2 x 25 t tanks) per shipment. Each shipment equates to approximately 27 m³. The sulphuric acid storage tank will have a capacity of 72 m³, giving the site 17 days' usage. There will be 11 days' supply when space for a delivery is available.

Sulphuric acid solution will be dosed by pump to meet consumption demand:

- BLS tank - for regeneration of wellfield solution
- scrub solution mixing tank - for scrubbing loaded organic
- precipitation tanks - for reaction with carbonates ahead of Uranium Peroxide precipitation
- iron digestion tank - for dissolution of iron precipitates
- crud tank – to assist breakdown of crud.

18.2.13.6 Hydrogen Peroxide

Hydrogen peroxide solution at a concentration of 60% v/v will be delivered on site in 20 m³ ISO containers. Deliveries will be scheduled so that at least 10 days of supply are available when the next container arrives. A single container will last about 30 days. Hydrogen peroxide solution will be metered to precipitation as required by a dosing pump.

18.2.13.7 Sodium Carbonate

Sodium carbonate (soda ash) will be delivered in pneumatic tankers of approximately 38 tonnes per shipment. The sodium carbonate will be pneumatically transferred into a 100 m³ (125 t) capacity storage silo with 19 days of operating capacity. There will be 10 days supply when space for a delivery is available.

The sodium carbonate will be discharged from the silo by weigh feeder into an agitated mix tank. Each batch will be mixed for complete dissolution, to a nominal 5-10% concentration and transferred by pump to the storage tank. The soda ash solution will be dosed separately to the first and second stage strip mixers by positive displacement variable speed pumps.

18.2.14 Handling and Transport of Product

The production of yellowcake will be at a rate of 400 tpa U₃O₈ equivalent. This will equate to a production rate of approximately 490 tpa yellowcake based on an average U₃O₈ content of 81.6% and a moisture of less than 2% w/w. Leaching, processing, drying, packaging and shipping will be spread more or less uniformly throughout the year.

The details of the amounts of material to be held on site at any one time, the volume and frequency of transport from site and security issues will be subject to determinations or approvals of the State and Commonwealth Government regulatory agencies. All product transport and handling will be undertaken by licenced contractors, using established commercial facilities and procedures, approved by the appropriate authorities.

18.2.15 Product Handling and Storage

The dried yellowcake will be packed in 205 litre "Safe Seal" dangerous goods, open headed drums. The drums will be sealed with airtight lids and loaded into standard 20 tonne sea containers, within the secure area. The loaded containers will remain within the secure area until ready for transport.

Detailed security requirements for the plant will be defined by the Australian Safeguards and Non-proliferation Office, which has the responsibility for policing Australia's international obligations under the Nuclear Non-Proliferation Treaty, as defined in the Commonwealth Government's Nuclear Non-Proliferation (Safeguards) Act 1987. Hence security is not discussed in detail in this study except to indicate that product will be sealed and secured immediately after packing, and adequate fencing, surveillance, and telecommunications will be in place at all times.

18.2.16 Transport

The loaded containers will be transported by semi-trailer to Port Adelaide via the Barrier Highway. The containers will then either be exported by ship from the Port of Adelaide or alternatively loaded onto a train and forwarded to the Port of Darwin for export. Transportation will be conducted under the Commonwealth Code of Practice for the Safe Transport of Radioactive Substances (1990), the IAEA radiation transport recommendations and the appropriate maritime organization regulations for sea transport. Under existing contracts and approvals, the ultimate destination of the product may be Canada, the USA, the UK or France.

The procedures for road transport to the port, including emergency response procedures, have been drawn up and presented to the regulators for approval. The procedures proposed are similar to those that have been in use for the transport of yellowcake from Olympic Dam since 1989 and from Beverley since 2000.

18.2.17 Mobile Equipment

Operation of the commercial plant will require the use of both a mobile hydraulic crane as well as a yard crane. The majority of lifts can be performed by a 10t yard crane, though a 30t crane will be required for lifting product containers on and off trucks at the uranium product loadout area following the commencement of production. A new 10t yard crane and a 30t mobile crane or fork lift will be purchased prior to construction, and will be retained onsite post construction for product loading and maintenance work. The purchase of the cranes will mitigate construction and future crane hire costs, and costs associated with the necessary decontamination for equipment that enters a "Controlled Area", prior to its departure from site.

The existing forklift will be retained for minor materials movements on the site.

Other mobile equipment required for the project includes:

- eight Toyota Landcruisers or equivalent
- two trailers 3t
- two trailers 1t
- one Mitsubishi Canter logging truck
- one Mitsubishi Canter – wellfield testing unit
- two Mitsubishi Canter - water tankers
- one Caterpillar 428D backhoe
- one container fork lift or crane 30t – second hand
- two quad cycles
- one electric forklift for drum handling
- fire tender
- mobile air compressor
- grader – second hand
- teleporter – mobile crane and general utility.

18.2.18 Maintenance Equipment and Facilities

The maintenance equipment and facilities required are relatively light in nature since there are no large or heavy pieces of equipment to be maintained. The most commonly overhauled items will be pumps but this will be infrequent because of the duty. These will be maintained on site. Excellent engineering and maintenance facilities are available in Broken Hill should any specialized or heavy maintenance equipment be required.

Equipment in the controlled area will, as far as possible, be maintained on site. A workshop building will be provided adjacent to the plant for site maintenance work.

Road vehicles, which will not be allowed in restricted areas, will be serviced and maintained in Broken Hill. Site vehicles which are used in restricted areas will be maintained on site in the maintenance shed, which will be equipped for this purpose.

18.3 Site Manning

Operations at the Honeymoon site will employ a workforce of approximately 50. A further ten contract positions for drillers and caterers will be created and at least two off-site positions (Adelaide based) will be supported by the project. The majority of the work force is expected to be recruited from Broken Hill, which is the largest settlement in the region. There will be a pro-active aboriginal employment policy. Recruitment will depend on the schedule for the construction phase of the project.

The day to day running of the accommodation and messing complex will be the responsibility of a contract caterer. This contractor will provide a complete service including the logistics of room allocations, provisioning of the kitchen, wet mess and camp consumables, room servicing and janitorial requirements, and maintenance of yards and grounds. The camp contractor will also provide janitorial services for the site buildings and offices.

The contractor will be responsible for the day to day running of the wet mess. The contractor will manage and co-ordinate camp building maintenance with equipment, materials and labour being provided by the owner. Being a rostered drive-in drive-out operation (from Broken Hill) roughly a third of the project's permanent employees will be rostered off site at any given time. Each permanent employee will be allocated a room on a shared basis, such that during the occupant's off site period, the room may be used by another employee. On this basis, the Honeymoon camp will generally be around 85% occupied.

18.4 Marketing

Uranium, in the commercial market, is used exclusively for fuel in nuclear reactors for the production of electricity. There are currently 441 commercial nuclear reactors in use in 31 countries, with 27 reactors under construction and a large number planned and proposed world-wide. Uranium is mined by a small number of producers worldwide, with the 4 largest producing over half the Western World's output. Producers compete with each other to sell into the spot and term markets, and also compete with brokers and traders who may be selling various forms of inventory. However, low-cost small producers are able to compete in the market, given the generic nature of uranium, the requirement for continuous (baseload) reactor operation, and the desire of utilities to maintain diversity in their supplier portfolio.

The spot price of uranium has improved substantially in the last 2 years, increasing 75% during 2005 and 18% from the start of 2006 to its present level of US\$46.50 per pound U₃O₈ on June 13 2006, at the time of writing this report. Most industry analysts expect that the price of uranium will continue to increase, based on strong supply/demand fundamentals; increasing governmental desire to support reactor build programs; and increasing utility concern with security of supply. As a result, the project's earnings and cash flows, which are directly related to the price of uranium, will be sensitive to such fluctuations.

The market price of uranium is influenced by a number of factors including demand from nuclear power reactors, inventory levels (including inventory made available under international agreements for the decommissioning of military weapons) and the production levels and operating and capital costs of uranium mining companies. In 2004, the most recent year for which there are published data, Ux Consulting LLP shows the level of world demand for uranium as approximately 175 million pounds per year while the level of uranium mining production as approximately 102 million pounds. As has been the trend since the mid-1980s, the primary production of uranium in 2004 supplied only around half of commercial reactor requirements.

18.5 Contracts

Most uranium is sold by producers under medium to long-term contracts with nuclear utilities. Southern Cross Resources has entered into agreements for the sale of uranium from the

Honeymoon Uranium Project capped at 40% of the previous year's production. The agreements also specify prices related to the prevailing spot price at the time of delivery to customers in North America and Europe. Contract fulfilment is also dependent on the project being able to enter into commercial production.

Currency fluctuations could significantly influence the future profitability of the project as revenue from uranium sales will be received in U.S. dollars while operating costs will be primarily in Australian dollars.

18.6 Taxes

The project is located in South Australia, Australia, and is subject to Australian Income Tax law. As at December 31, 2005, the Australian subsidiary which holds 100% of the Honeymoon Uranium Project, had carry forward tax losses of A\$29M which are expected to be offset against future taxable incomes generated from the project.

Repatriation of profits to the holding company, sxr Uranium One, by way of a fully franked dividend (that is, company tax of 30% has been paid in Australia) will not be subject to dividend withholding tax. If the dividend paid is unfranked (that is, no company tax has been paid in Australia), then it is subject to dividend withholding tax. The dividend withholding tax is generally imposed at a flat rate of 30%, but, for dividends paid to residents of countries with which Australia has a double taxation agreement, the rate is generally 15%.

The Australian subsidiary is also subject to Goods and Services Tax, but considering it is a registered GST business, it does not incur any direct liability apart from the administrative costs incurred in the business cycle.

18.7 Capital Cost Estimation

18.7.1 General

The capital cost estimate for the Honeymoon Uranium Project is expressed in 2nd quarter 2006 AUD with no allowance for escalation, interest or financing during construction and is summarised in Table 18-1.

Table 18-1 Capital Cost Summary

Direct Capital	AUD \$ Value	USD \$ Value \$A1= US\$0.75
General	1,168,840	876,630
Leach Liquor Handling	3,360,770	2,520,577
Solvent Extraction	8,376,580	6,282,435
Precipitation	2,582,914	1,937,186
Yellowcake Drying	3,241,225	2,430,919
Reagents' Storage	3,184,342	2,388,257
Plant Services	3,501,256	2,625,942
Wellfield Control Centres	2,680,542	2,010,407
Power Supply	1,903,317	1,427,488
Infrastructure	1,476,801	1,107,601
Total Direct Capital	31,476,587	23,607,440
Indirect Costs		
EPCM Labour	3,049,715	2,287,286
Commissioning Labour	227,457	170,593
EPCM/Commissioning Expenses	692,910	519,683
Construction Camp (Hire and Operate)	518,854	389,141
Insurances	289,195	216,896
Construction Contingency	516,000	387,000
Design Contingency	245,574	184,181
Total Indirect Costs	5,539,705	4,154,779
Total Direct and Indirect Costs	37,016,292	27,762,219
Owner's Costs (by owner, no EPCM included)		
Project Management/Legals/Consultants	433,200	324,900
Working capital	Excluded	Excluded
First Fill Reagents	1,090,644	817,983
Spares	340,000	255,000
Power Supply to Site	5,150,000	3,862,500
Access roads	1,865,462	1,399,097
Motor Vehicles and Sundry Equipment	1,914,400	1,435,800
Total Value Owner's Costs	10,793,707	8,095,280
Total Project Value	47,809,998	35,857,499

The predicted level of accuracy of the capital cost estimate is $\pm 15\%$. The budget prices for major items identified in this study have been sourced in Australia.

The Study has taken the treatment plant design to the stage of producing process flow diagrams and initial piping and instrumentation diagrams, with line sizing and material selection being conducted. This allows a high degree of confidence in the general pricing although cost areas are affected to different degrees, as is discussed below.

For mechanical equipment, vendor pricing has been obtained for all major items and most minor items of equipment.

Material takeoffs and schedules of rates have been used to estimate electrical, civil, earthworks, and structural costs.

To facilitate the development of capital costs for the project, Southern Cross Resources provided:

- power line capital and environmental costs
- wellfield development (well installation costs)
- srx's project team and owner's project development costs
- accommodation and building requirements
- office, laboratory and workshop equipment costs
- communications' equipment costs
- mobile equipment costs
- spares' costs
- closure costs.

18.7.2 Structure of the Capital Cost Estimate

The capital cost estimate is built up through base level documents. These base level estimating documents are as follows:

- mechanical equipment list
- mechanical installation list
- concrete estimating sheets
- structural estimating sheets
- building estimating sheets
- earthworks estimating sheet
- electrical and Instrumentation list.

These documents are summarised in the Table 18-1, which shows the costs by area and discipline and includes some costs taken directly from vendor information.

18.7.3 Wellfield

Wellfield boreholes, pumps, reticulation piping, and cabling are considered by Southern Cross Resources to be an operating cost, due to their short life. However, wellfield control centre costs are capital items and are contained in the project capital cost.

18.7.4 Process Plant

The process plant items including services' equipment and mobile equipment were listed and specified, and pricing obtained from suppliers for all major equipment.

18.7.5 Mechanical Equipment

Pricing was obtained from suppliers of all major equipment items. Costs for some minor equipment items were estimated on the basis of previous studies or projects where similar size/type of equipment was used.

Equipment installation costs were obtained from:

- vendor supplied installation cost estimates
- installation time estimates for labour and crane hire, together with Mayfield database hourly rates
- factoring of direct equipment costs.

18.7.6 Piping

Field piping to and from the process plant included the main PLS trunk line from the wellfield, the barren solution trunk line to the wellfield, a small bore PLS line to the plant, a small bore line to the solids' retention pond for wellfield development pumping, a new raw water line to the plant and a disposal well line from the plant. The field piping cost was estimated based on quantity take-offs, and vendor pricing for pipe and fittings. The installation cost was derived from labour and equipment hourly estimates, and unit rates.

Field piping was costed from a quotation provided by CPS. Process plant piping costs were derived from quantity take-offs, and supply and install rates from the Mayfield Engineering database.

18.7.7 Earthworks

Earthworks costs have been estimated from quantity take-offs from preliminary design drawings. No provision has been made for excavation in rock. Rates applied to the estimated quantities were derived from rates provided by earthworks' contractors familiar with the area.

18.7.8 Concrete

Costs for concrete construction have been estimated from quantity take-offs from preliminary design drawings, based on allowable design-bearing pressures for footings at 400mm below grade of 100kPa. These values are consistent with the initial geotechnical assessment, but will require confirmation by detailed investigation for final design.

18.7.9 Structural Steelwork

Costs for structural steel fabrication and erection have been estimated from quantity take-offs from preliminary design drawings.

18.7.10 Electrical and Instrumentation

The electrical estimate has been prepared by determining the requirement for each drive and instrument. The detailed cost estimate was built up from a detailed database.

18.7.11 Infrastructure and Facilities

18.7.11.1 Power Supply

Power supply costs to the supply authority battery limit have been provided by Southern Cross Resources.

18.7.11.2 Water Supply

A new 200kl/day RO plant to be installed in parallel with the existing 40kl/day unit, including potable water supply pumps, and plant ring main have been allowed for in the estimate.

18.7.11.3 Roadworks and Site Drainage

Costs for upgrading of the site access road have been estimated based on the lower of two priced schedules of rates obtained by enquiry to local road building contractors. The estimate

is based on availability of adequate supplies of suitable gravel from the Kalkaroo South pit, and on utilising bore water from site for construction.

18.7.11.4 Buildings

Costs for supply and fit-out of infrastructure buildings have been determined by enquiry to the supplier of the buildings used for the recommissioning of the demonstration plant. Installation costs have been estimated based on costs for similar installations at other sites. The cost of a new maintenance shed is included, and an allowance has been made for the purchase of additional maintenance equipment.

18.7.11.5 Mobile Equipment and Light Vehicles

Prices for mobile equipment were obtained from suppliers.

18.7.11.6 Communications

The Honeymoon site currently has a satellite communications' system which provides four lines for voice and data. This may be upgraded as necessary. The site is also within the range of the Telstra CDMA network. The site receives satellite television through the Austar service. Free-to-air transmissions from Broken Hill can be received with a tower mounted antenna. A voice over IP system is under consideration and a cost estimate was obtained.

18.7.11.7 Camp

Costs for supply and fit out of camp buildings have been determined by enquiry to the supplier of the camp used for the recommissioning of the demonstration plant. Installation costs have been estimated based on costs for similar installations at other sites.

18.7.12 EPCM and Expenses

The engineering, procurement and construction management (EPCM) costs for this project have been determined by developing a detailed deliverables' list for the project and determining necessary engineering and project management costs associated with developing these deliverables. In addition, resources have been allowed for overall project management, construction management, site support services, commissioning, schedule management and cost control.

18.7.13 Contingency

Contingency has been allocated on a discipline basis and consideration has been given to the available information in each discipline when determining contingency. Consequently, there is a lesser contingency applied to areas where there is a detailed equipment list and high percentage of quoted prices, as opposed to areas where costs were derived from estimates.

No contingency has been allowed on owner's costs. It has been assumed Southern Cross Resources will make such allowance in the financial model.

18.7.14 Owner's Costs

No EPCM costs or contingency were allowed for the following items:

18.7.14.1 Working Capital

A working capital allowance has not been included in the capital costs estimate but will be derived according to Southern Cross Resources' expectation of product payment terms.

18.7.14.2 Pre-Production Costs and First Fill

Pre-production costs have been developed according to the preliminary project schedule (refer Section 1) and a pre-production manning schedule. The costs for Southern Cross Resources' employees are included in the operating costs, and include the ramp-up of Southern Cross Resources' manpower from the engineering design stage onwards. The camp requirements for construction have been determined from the Southern Cross Resources' manning plan and the forecast engineering-construction manning list. First fill costs in relation to grease and gearboxes have been ignored since they will be minor for the type and size of equipment being used. The most significant pre-production cost is the first fill of organic into the circuit. The first fill reagent costs are summarised in Table 18-2.

Table 18-2 Reagent First Fill Capital Cost AUD

Reagents First Fill	Unit	Amount	Total Cost AUD	Total Cost USD
Diluent	m ³	619	553,123	414,842
D2EHPA	t	9	52,931	39,698
Amine	t	20	198,671	149,003
TBP	t	18	138,661	103,996
Total First Fill Organic			943,386	707,540
Hydrochloric Acid	t	10	5,785	4,339
Sodium Carbonate	t	76	28,120	21,090
Hydrogen peroxide	t	24	20,640	15,480
Sodium Hydroxide	t	38	15,880	11,910
Sulfuric Acid	t	150	37,469	28,102
Sodium Chlorate	t	40	31,480	23,610
Sodium Meta Bisulfite	t	12	7,884	5,913
Total Reagent First Fill			1,090,644	817,983

18.7.14.3 Power Supply

The power will be provided from the New South Wales grid via a purpose built 100 km 33 kV 2.5 MVA power line. The local power authority will provide a 33kV/11kV stepdown transformer complete with 11kV metering at the mine site. The cost for the power supply of \$5,150,000 was supplied by Southern Cross Resources based on a quotation from the power supply authority. Small diesel powered motor-generator sets will be retained on site to provide emergency power for lighting, refrigeration and domestic purposes in the event of a power failure.

18.7.14.4 Vehicles, Mobile Equipment, Building Fit-out Equipment

Estimates were prepared for the purchase of motor vehicles, mobile equipment (trucks, backhoe and cranes), laboratory equipment, wellfield instrumentation, welding equipment, office equipment and workshop equipment.

18.7.14.5 Access Roads' Upgrade Costs

The existing access road from the Mulyungarie Road to the plant site will be upgraded to suit the project requirements for secure transport of product and supply of consumables. The road to be upgraded is approximately 21km long. Estimates for upgrading of site access roads include the upgrade of the turn-off from the Barrier Highway, and upgrading of the Mulyungarie and site access roads.

18.8 Operating Cost Estimation

18.8.1 General

The operating costs for the Honeymoon project have been estimated to an accuracy of $\pm 15\%$. The costs are based in 2nd quarter 2006 Australian dollars, and are summarised in Table 18-3.

Table 18-3 Honeymoon Uranium Project Annual Operating Costs AUD

Life of Mine Operation Costs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total
Description								
Salaries and Wages	653,200	3,919,200	3,919,200	3,919,200	3,919,200	3,919,200	1,959,600	22,208,800
Office Costs	347,300	1,074,800	1,074,800	1,074,800	1,074,800	1,074,800	638,300	6,359,300
Wellfield Costs	2,037,200	4,668,200	3,445,100	3,469,000	3,237,700	2,760,600	168,300	19,786,100
Treatment Plant Costs	251,300	3,060,300	3,685,200	3,685,200	3,685,200	3,685,200	1,128,900	19,181,300
Camp Costs	91,100	702,100	702,100	702,100	702,100	702,100	351,000	3,952,600
Power Costs	203,700	1,222,400	1,222,400	1,222,400	1,222,400	1,222,400	611,200	6,926,900
Site Access Maintenance	15,500	93,300	93,300	93,300	93,300	93,300	46,600	528,600
Product Shipping Costs	0	525,100	646,700	646,700	646,700	646,700	171,400	3,283,300
Contracts	9,300	111,000	111,000	111,000	111,000	111,000	55,500	619,800
Closure Costs							1,500,000	1,500,000
Total	3,608,600	15,376,400	14,899,800	14,923,700	14,692,400	14,215,300	6,630,800	84,346,700

Table 18-4 Honeymoon Uranium Project Annual Operating Costs USD

Life of Mine Operation Costs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total
Description								
Salaries and Wages	489,900	2,939,400	2,939,400	2,939,400	2,939,400	2,939,400	1,469,700	16,656,600
Office Costs	260,438	806,063	806,063	806,063	806,063	806,063	478,688	4,769,438
Wellfield Costs	1,527,900	3,501,150	2,583,825	2,601,750	2,428,275	2,070,450	126,225	14,839,575
Treatment Plant Costs	188,475	2,295,225	2,763,900	2,763,900	2,763,900	2,763,900	846,675	14,385,975
Camp Costs	68,325	526,575	526,575	526,575	526,575	526,575	263,250	2,964,450
Power Costs	152,775	916,800	916,800	916,800	916,800	916,800	458,400	5,195,175
Site Access Maintenance	11,625	69,975	69,975	69,975	69,975	69,975	34,950	396,450
Product Shipping Costs	0	393,825	485,025	485,025	485,025	485,025	128,550	2,462,475
Contracts	6,975	83,250	83,250	83,250	83,250	83,250	41,625	464,850
Closure Costs							1,125,000	1,125,000
Total	2,706,413	11,532,263	11,174,813	11,192,738	11,019,263	10,661,438	4,973,063	63,259,988

18.8.2 Methodology

The operating costs have been developed by studying each process unit operation in logical sequence followed by services (power, water, air, waste disposal), infrastructure (accommodation, offices, change rooms, workshops), on-costs (insurance, head office) and environmental control (monitoring, rehabilitation). The basis for the operating cost estimate is the production plan based on the wellfield deliverables, process flowsheets, process design criteria, materials' balance, and project manning schedule.

To facilitate the development of operating costs for the project, Southern Cross Resources provided:

- wellfield operating costs
- planned workforce details, costs and on-costs
- consultants' costs
- contracts and other operating costs, airstrip and access roads' maintenance
- office site and administrative costs
- camp operating costs
- radioactive waste disposal detailed requirements
- estimates of reagent use
- product shipping costs
- rehabilitation costs.

The operating costs have been developed using the above Southern Cross Resources' spreadsheets as a basis, and are based on commencement of production in January 2008. Mayfield have performed verification of costs presented in the Southern Cross Resources' documentation, with the exception of the Wellfield Operating Costs, and have developed the Treatment Plant Operating Costs including Reagents and Power Costs from first principles.

The operating costs have been summarised under the following categories:

18.8.3 Salaries and Wages

The Honeymoon workforce proposed by Southern Cross Resources, and the salary levels for the various employee designations, have been derived from the 2005 Hay Survey – Resources and Mining.

18.8.4 On Costs

These costs have been estimated at 18% of Salaries and Wages to allow for workers compensation, payroll tax, superannuation and insurance.

18.8.5 Consultants

Southern Cross Resources anticipates using technical consultants sparingly during the operating phase. For budget purposes an assumption has been made of one day of consultant's time per month at \$1500 per day plus travel costs of \$500 per month.

18.8.6 Office, Site and Administrative costs

This estimate includes various site-related expenses associated with the operation of the Honeymoon Project and the Site Office.

18.8.7 Rents

The rents to be paid to the pastoral leaseholder and the Aboriginal Communities.

18.8.8 Wellfield Development and Operating Costs

The wellfield capital and operating costs estimate has been based on a seven spot wellfield pattern with a spacing between the injection and recovery wells of 22 m.

This approximately corresponds to the spacing used in the field leach trials. The field leach trials employed 21 to 23 m spacings in a five spot pattern, as recommended by consultants from the USA (Berglund and Haines ADL 0307). The most authoritative publication on acid in-situ leaching is the IAEA Manual on Acid In-situ Leach Uranium Mining Technology (IAEA - TECDOC-1239 August 2001). It suggests that the spacing should be between 10 m and 80 m. The estimate is also based on data contained in the ORES report of 17 May 2006 (Bampton, 2006).

The cost of drilling, casing and testing wells has been derived from quotes provided by:

- Thompson Drilling Company Pty Ltd. This company is the most experienced in Australia in drilling in-situ leach wellfields. It is the major contractor to the Beverley project. The costs include the cost of cementing the wells prior to abandonment and rehabilitation.
- Pumps have been costed from quotes provided by Grunfos. Grunfos supply pumps to the Beverley project. The life of the pumps and the corrosion protection requirements have been derived from information provided by Grunfos and by Beverley management.
- Down-the-hole equipment - fibreglass pipe, cable etc - has been costed from vendor quotes.
- The cost estimate for wellfield piping and cabling, wellhouses and controls have been derived from quotes provided by Complete Piping Systems Pty Ltd (CPS). CPS provides wellhouses, controls and wellfield piping and cabling services to the Beverley project on a contract basis. Beverley management have indicated the CPS equipment and services are of a high standard and meet all regulatory requirements for wellfield solution control.

Freight, maintenance and rehabilitation costs are budget estimates based on srx experience.

18.8.9 Capital and Operating Allocation

Note that the costs have been split into capital and operating costs. The costs of the trunklines and the first three wellhouses have been allocated to the capital costs' budget. All other costs have been allocated to the operating cost budget.

18.8.10 Treatment Plant Reagents

This is a summary of the reagent costs. The annual usage of each reagent was calculated from factors supplied by Southern Cross Resources. April 2006 prices were obtained from vendors for every reagent.

18.8.11 Treatment Plant Maintenance

These costs were estimated by applying a 5% factor to the direct mechanical costs of equipment and platework (in leaching, solvent extraction, precipitation, reagents, plant services and infrastructure) plus an allowance of \$60,000 per year of full production for maintenance in the drying and packaging area of the treatment plant.

18.8.12 Camp

The camp costs are based on the site manning and rostering system proposed by Southern Cross Resources and a quotation for provision of the catering, cleaning and canteen operation from Warren Barrington. Warren has provided similar services for the Beverley Uranium mine site.

18.8.13 Power

The operating power loads of the wellfield, camp and process plant have been derived by Mayfield and the costs are based on a quotation for power supply by Country Energy.

18.8.14 Airstrip and Access Road Maintenance

These costs were derived by applying a 5% factor to the estimated capital cost for the supply of site access facilities. These capital cost estimates are based on quotations for the upgrading of the Mulyungarie Road and the site access road.

18.8.15 Product freight

The costs for shipping UOC from Honeymoon to a converter vary depending on the port of destination and the mode of transport to the converter. There are a number of possible combinations and for the purposes of this study, a conservative approach has been taken. The costs of shipping through Halifax and then to Cameco in Canada by road transport with containers returned to Montreal have been used and an additional allowance of 10% has been applied to account for unanticipated costs such as demurrage.

18.8.16 Radioactive Waste Disposal

Radioactive waste will be disposed of in pits constructed to a design meeting the requirements of the Near Surface Code. The cost estimate allows for the construction of two such pits per year of operation.

No allowance has been made in the operating cost model for exploration expenditure, contingency or royalties to be paid on the basis of sales to PIRSA and the Adnyamathana Aboriginal Community.

18.9 Economic Analysis

The following analysis has been completed for the Honeymoon Uranium Project:

- a) A cash flow model has been developed and cash flow statement prepared for the life of the project. The model assumes no inflation or escalation and that the project has no debt or debt interest expense or capital repayment included in the cash flow. Also incorporated into the model is the project's current contract position which has 40% of annual production committed under contract at prices which are based on a discount to the spot price at the time of delivery. The average sale price of uranium per pound for any given year of total production (committed and uncommitted) effectively equates to 90-92% of the spot price at the time of delivery. Recovery is applied at a rate of 70% and a solution grade of 75 ppm has been assumed as previously addressed in this report. All costs are in second quarter 2006 US dollars converted at an exchange rate of A\$1 = US\$0.75. Allowance has been made for an ex-minegate royalty of 5%.
- b) Net present value (NPV), internal rate of return (IRR) and payback period have been calculated from the cash flow statement. Ernst & Young have conducted a review on the model and confirm the following:
 - the internal logic and formulae incorporated in the model are materially correct
 - the output of the model is materially correct given the assumptions and methodology used
 - the model has been constructed appropriately so as to materially achieve its objective under the assumptions provided.
- c) The sensitivity of the project to changes in uranium prices, capital and operating costs has been calculated from the cash flow statement.

The project has initial capital costs of US\$35.9 million with a payback period of 2.9 years from the commencement of construction and generates net after tax cash flow over the life of the project of US\$62.1 million. This analysis applies the project's current contract position and assumes a flat US\$46.50 per pound U₃O₈ over the life of the project.

The project has an IRR of 40% and a NPV of US\$37.7 million applying a discount rate of 8%.

Sensitivity analysis shows the following.

- The project is sensitive to changes in uranium prices. A US\$1 increase in the uranium price applied on a flat basis over the life of the project has a net increment of US\$2 million to the NPV (IRR: +2%) at a discount rate of 8%.
- The project is sensitive to changes in both initial capital and operating costs. Over the life of the operation, the project will be slightly more sensitive to operating costs than capital costs.

Life of mine average operating cost is US\$14.13 per pound.

18.9.1 Cash Flow Statement

The cash flow statement for the project is shown in Table 18-5.

Table 18-5 Cash Flow Statement (US\$ million)

	Total	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Production ('000 lbs)	4476		660	882	882	882	882	285
Gross Sales	187		28.3	37.0	36.7	36.7	36.7	11.2
less: Royalties	(8.2)		(1.2)	(1.6)	(1.6)	(1.6)	(1.6)	(0.5)
Net Sales	178.5	0.0	27.0	35.4	35.1	35.1	35.1	10.7
Total Op Costs	(63.3)	(2.7)	(11.5)	(11.2)	(11.2)	(11.0)	(10.7)	(5.0)
Operating Cash Flow	115.2	(2.7)	15.5	24.2	23.9	24.1	24.5	5.7
less: Income tax	(17.2)	0.0	0.0	(0.9)	(5.4)	(5.4)	(5.5)	0.0
Project Cash Flow	98.0	(2.7)	15.5	23.4	18.5	18.7	18.9	5.7
Capital inflow								
Capital expenditure	(35.9)	(35.9)	0.0	0.0	0.0	0.0	0.0	0.0
CASH FLOW AFTER CAPEX	62.1	(38.6)	15.5	23.4	18.5	18.7	18.9	5.7
FORECAST CASH BALANCE		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Opening cash balance		0.0	(38.6)	(23.0)	0.3	18.9	37.5	56.4
+ Project cash flow		(2.7)	15.5	23.4	18.5	18.7	18.9	5.7
- Capital expenditure		(35.9)	0.0	0.0	0.0	0.0	0.0	0.0
Closing Cash Balance		(38.6)	(23.0)	0.3	18.9	37.5	56.4	62.1

All amounts in US\$millions, commodity price of US\$46.50 per lb flat over life of project; AUD \$1 = US \$0.75

18.9.2 Capital and Operating Costs

Capital and operating costs were addressed previously in Sections 18.7 and 18.8 respectively. Operating costs are sensitive to wellfield costs - which may increase if well spacing needs to be reduced to improve uranium recovery. Note: year 1 operating costs are incurred prior to the commencement of production which are related to the development of the initial wellfield, recruiting and staff training.

The following assumptions have been made for working capital:

- accounts receivable are consistent with industry standards
- accounts payable are consistent with industry standards and sxr Uranium One's operating procedures.

18.9.3 Taxation

The project is located in South Australia, Australia, and is subject to Australian Income Tax law. As at December 31, 2005, the Australian subsidiary which holds 100% of the Honeymoon Uranium Project, had carry forward tax losses of A\$29M which are expected to be offset against future taxable incomes generated from the project.

Repatriation of profits to the holding company, sxr Uranium One, by way of a fully franked dividend (that is, company tax of 30% has been paid in Australia) will not be subject to dividend withholding tax. If the dividend paid is unfranked (that is, no company tax has been paid in Australia), then it is subject to dividend withholding tax. The dividend withholding tax is generally imposed at a flat rate of 30%, but for dividends paid to residents of countries with which Australia has a double taxation agreement, the rate is generally 15%.

The Australian subsidiary is also subject to Goods and Services Tax (GST), however as it is a registered GST business, it does not incur any direct tax liability for GST apart from the administrative costs incurred in the business cycle.

18.9.4 NPV, IRR and Payback

The project valuation date is the date the decision is taken to proceed with the project and the start of capital expenditure. The NPV calculation assumes cash flows take place in the middle of the periods. The start of production commences at the beginning of year 2 with a construction and pre-production scheduled over year 1.

The project's NPV at various discount rates are given in Table 18-6 below applying a flat uranium price of US\$46.50 per pound over the life of the project incorporating the project's current contractual position.

Table 18-6 NPV vs Discount Rate

Discount rate	NPV (\$US million)
5%	45.6
8%	37.7
10%	33.2

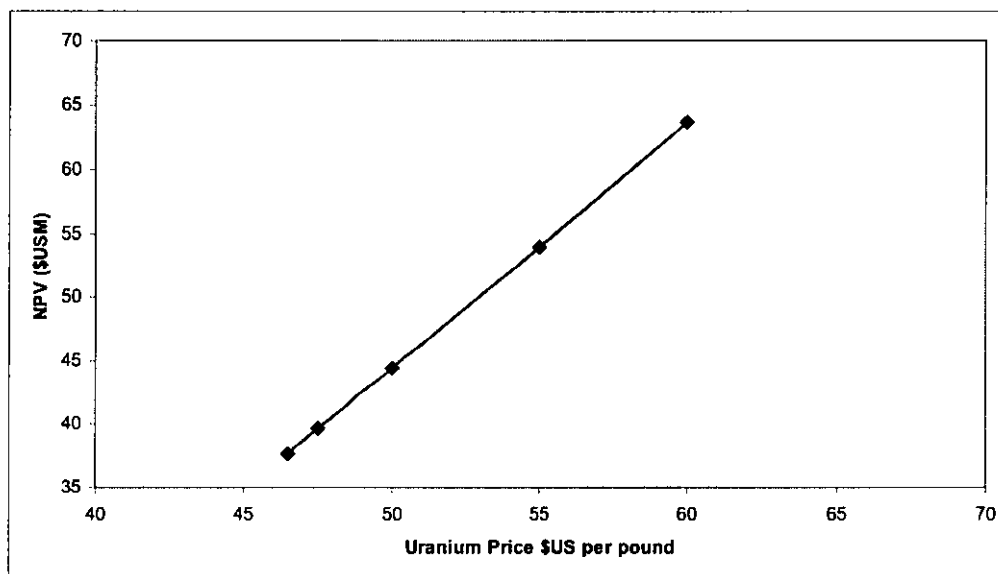
The IRR for the project is 40%. The payback period is 2.9 years.

18.9.5 Sensitivity Analysis

The project is sensitive to changes in uranium prices, refer Figure 18-3.

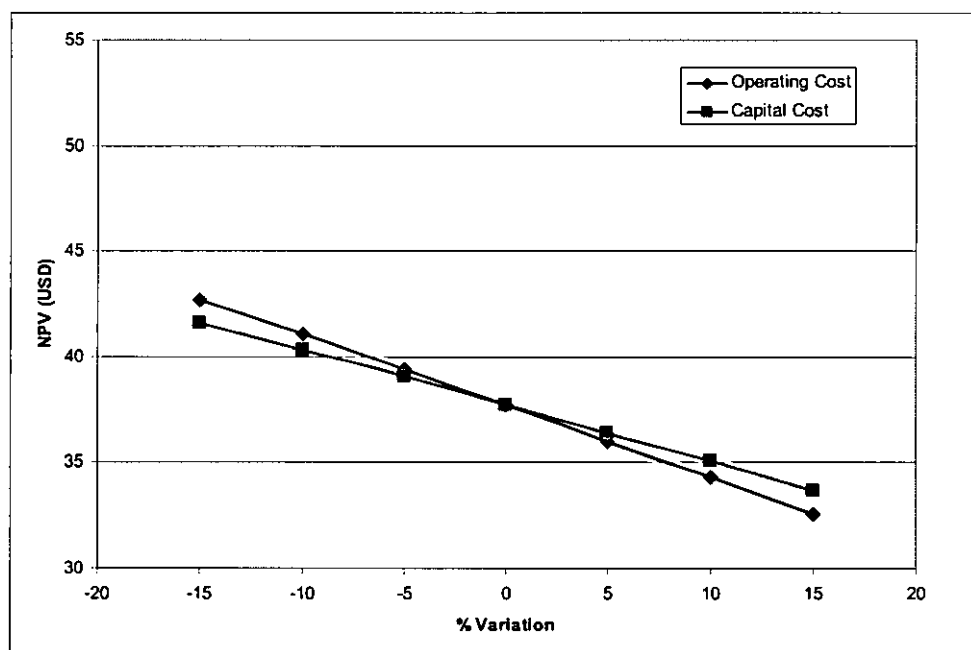
Applying a flat uranium price of US\$46.50 per pound over the life of the project. A US\$1 increase in the uranium price applied on a flat basis over the life of the project has a net increment of US\$2 million to the NPV (IRR: +2%) at a discount rate of 8%.

Figure 18-3 NPV vs Commodity Prices



The project is slightly sensitive to changes in both initial capital and operating costs as shown in Figure 18-4.

Figure 18-4 NPV vs CAPEX vs OPEX



Applying a flat uranium price of US\$46.50 per pound over the life of the project at a 8% discount rate.

A 5% variance in the operating costs over the life of the project has approximately a US\$1.7 million difference to NPV. A 5% variance in the capital costs of the project has approximately a US\$1.3 million difference to NPV. The analysis indicates the project is slightly more sensitive to operating costs.

18.10 Mine Life

The project has a life of approximately seven years including the initial construction period. The actual mine life is between five and six years. The payback period is estimated to be approximately three years from the commencement of the project.

18.11 Project Implementation and Execution Plan

18.11.1 Management Systems

Southern Cross Resources Pty. Limited is a wholly owned subsidiary of sxr Uranium One Inc. sxr Uranium One operates the Bonanza Reefs' gold mine and mill located near Klerksdorp, South Africa. The mine and mill employ 450 people. In addition, the company is developing the Dominion and Rietkuil uranium properties, also located near Klerksdorp.

The company is an established mining company with the management and management systems necessary to develop and operate major mining ventures.

In South Australia, Southern Cross Resources has operated field leach trials at the Honeymoon site. The trials ran for a period of approximately one year treating up to 25 litres per second of leach liquors through a semi-commercial plant and produced approximately 30 tonnes of yellowcake. The trials, which were operated under approvals from the South Australian regulatory authorities, were run in a manner which ensured public safety and protection of the environment.

To manage the field leach trials, a staff induction program was developed to train new employees. Standard operating procedures were documented and adopted to control the on-site operations. A radiation safety manual was developed and a Radiation Safety Officer appointed to protect the employees and the environment. The documents produced for the trials form the basis of similar documents being drafted for the commercial operation.

18.12 Risk Assessment

The capacity of the proposed wellfield, recovery and product handling facilities are relatively small for operations that produce uranium as yellowcake. The remote location will require consideration of infrastructure and supply, but does not present any novel or unusual equipment needs. The skills level of operators and maintenance workers will be consistent with other Australian mineral processing operations to service the proposed facilities.

The Honeymoon Uranium Project process study has assessed specific risks associated with the process selection for recovering uranium, and in producing dried yellowcake at impurity levels consistent with the requirements of the uranium converters.

18.12.1 Political Risk

The present Australian government does not have any policy which restricts the number of uranium mines that operate in Australia. The government has issued an export licence for product produced by the Honeymoon mine which is effectively government approval for the project. The licence is conditional on certain environmental requirements being met.

The "Three Mines Policy" was a policy of the previous Australian Labor Party (ALP) government. The ALP policy, which has been changed to a "No New Mines Policy", has no impact on the policies of the present Federal Liberal-National government.

The ALP is in government in South Australia. The leader of the South Australian Labor government Mike Rann has announced that his government will not stop any mining project that has been previously approved by a South Australian government. He has specifically acknowledged that the Honeymoon project is a previously approved project and will not be

stopped by his government. This has been supported by the Minister for Mineral Resource Development, Paul Holloway.

In May this year Mr Holloway said "We regard that Honeymoon is an existing mine." (Advertiser, 2006)

Regulatory approvals are potentially vulnerable to political circumstances. The regulatory approvals required by the Honeymoon project are being pursued in a systematic manner. There is no apparent reason why these approvals will not be granted nor is there any reason to believe that these approvals will be unreasonably delayed.

18.12.2 Radiological

The environmental radiological impact (Southern Cross Resources, 2000) of the Honeymoon ISL operation will be much lower than the impact of conventional uranium mines and mills. Soil contamination and radioactive dust emissions that may result from the operation can be classified as extremely low. Radon releases will be several times lower than the acceptable amounts being emitted from the two largest existing Australian uranium mines. Doses received by workers and the general public will be a small fraction of the allowed limits.

Using the worst case scenario estimations, the maximum effective dose equivalent received by a member of the workforce within the proposed Honeymoon plant, will be below 5 mSv/y and well below the annual occupational dose limit of 20 mSv (ICRP, 1991). These estimates take into account all radiation exposure pathways described for routine operations. However, the average annual dose for workers at Honeymoon is expected be approximately 1 mSv. The risk probability for the maximum exposed worker of 5 mSv/y at Honeymoon will be approximately 1 in 3,500. Thus it follows that the risk from radiation at Honeymoon places the operation within the ICRP definition of acceptable to tolerable.

18.12.3 Transport

A transport risk assessment (J&H Marsh & McLennan, 1999) considered the potential accident rate applicable to the transport routes. This was coupled with the likelihood of release of material in the event of accident, the exposure of the surrounds to this release, and the possible magnitude of material spill resulting from an accident. From accident data, the likelihood of a spill of any material was calculated in terms of its probability of occurrence per year. The potential accident rate and likelihood of material release indicate the probability of a material spill for each route. The average likelihood of a minor spill of yellowcake is estimated to be one in 100 years while that for a major spill is one in 400 years. These estimates demonstrate the very low probability of these events occurring during the transport of yellowcake from Honeymoon to Port Adelaide.

18.12.4 Fire Protection

A comprehensive fire protection system was installed for the Field Leach Trial covering the demonstration plant, office complex and camp area. This system was not studied by Mayfield/Aker Kvaerner. The fire-fighting system will be extended for the commercial plant, with hydrant points located around the proposed plant. The hydrants adjacent to the solvent extraction area will be equipped with foam making equipment. Other hydrants will be located in the office complex and accommodation camp areas. Portable fire extinguishers will be provided at hydrant points and at other locations throughout the plant, office complex and accommodation camp as well as at ancillary buildings and fuel storage sites. Inert gas systems will be installed in the motor control centres.

The fires at Olympic Dam and other locations in the last six years have highlighted the vulnerability of SX plants to complete destruction from fire and the need for stringent fire prevention measures to be effective. Fortunately, in uranium SX plants, the solvent is highly

conductive and hence this virtually eliminates static electricity as a source of ignition. However electrical faults, smoking, hot work and other more conventional sources of ignition exist and require active fire prevention measures to be in place. As a guiding principal, once a fire commences it is absolutely imperative for the fire to be contained immediately and with overwhelming force. This means that the fire protection systems installed should be automatic, suitably sized and provide coverage within the SX plant of any part that can burn including all pipework. Limitation of fuel availability to a fire is also an important criterion in fire protection and reduction in intensity. The following recommendations have been extracted from papers (Smith, 2005; Moore, 2005; Jensen and Taylor, 2005) delivered in 2005 at a conference "World Summit on SX Fire Protection" and were used as a basis for the SX plant design carried out in this Study:

- the organic storage tanks will be conductive material, remote from the SX equipment and will be connected to the SX plant by grounded steel pipe
- organic Tanks are to be submerged entry
- organic lines between the extraction and stripping sections will be stainless steel
- organic pump seals will be appropriate for organic liquids
- organic flowrates will meet AS 1020 standard
- fire walls will be installed where appropriate
- fire protection equipment will be designed to the appropriate Australian Standard
- hazop studies will be undertaken as part of the design of the commercial plant
- the loaded organic tank will be located close to the strip mixer settlers to ensure lines are kept full of organic
- SX equipment will be designed to minimise organic fall from weirs, etc
- provision will be made for rapid dumping of the organic from the mixer/settlers and tanks to the dump sump
- the dump sump will be located in a fire safe area.

To assist in further reducing the risk of fire in areas of the plant containing organic, the following design aspects were included in this cost study:

- allowance was made for the fitting of temperature transmitters to the casing of all pumps installed for organic solution duties
- all electric motors in areas containing organic solutions were selected as Ex-e (Increased Safety rating to give increased security against the possibility of arcs or sparks), with start/stop stations being Ex-d rated (flameproof rating in which the enclosure will withstand an internal explosion of a flammable mixture without causing ignition of an external explosive atmosphere)
- conductive FRP pipes rather than PE will be used on organic duties
- allowance for earthing plates to be installed in the loaded organic tanks to dissipate any build up of static electricity
- 'fire break' sections of super duplex stainless steel in sections of lines operating on all organic duties.
- Although included in this cost study, the commitment to use 'conductive' FRP pipe for organic service should be reviewed during the project design stage as the risk may be

mitigated by limiting flow velocity. Allowance of earthing plate in the loaded organic tank s may also be reviewed at the project design phase.

18.12.5 Reagent Storage

The proposed plant final design takes into account the requirements for the safe storage of chemicals and flammable materials. Oxidants such as hydrogen peroxide and sodium chlorate will be isolated from organic solutions such as the organic extractants and diluent.

18.12.6 Chemical Spills

Southern Cross Resources will work closely with the Barrier Highway Emergency Management Committee in matters of chemical spills and accidents. The Barrier Highway Emergency Management Plan is in place to respond to accidents involving chemicals along the Barrier Highway and branch roads including the access road to the Honeymoon project site.

18.12.7 Process

Process risk with regard to the Honeymoon uranium process facility encompasses the risks associated with the process selection for recovering uranium, and in attaining a final uranium product of an acceptable quality. Impurity levels must meet the requirements of the uranium product purchasers. The following review discusses the risks of the individual unit processes of the uranium recovery process. A preliminary assessment of the process risks/hazards has been carried out based on review of PFDs developed during the engineering phase of this study.

The plant has been designed for average leach solution uranium tenor and flow rate, and the metallurgical performance and uranium production of the facilities will vary with these criteria. Solution properties, in particular solids and impurity contents, will also influence process plant operation. The studied plant design allows for reasonable variation of fine sand and metallic impurities through allowance for the collection of crud from most vessels, and its subsequent treatment. Further testwork on crud, its formation and management, may be conducted to confirm the general findings of the laboratory investigations.

18.12.8 Uranium Leaching

Apart from the risk associated with equipment requirements to successfully undertake in-situ leaching, some risk must be attributed to the process of leaching uranium from the ore.

While the Honeymoon ore shows greater than 90% recovery in laboratory leaching tests, a 70% recovery in commercial operation cannot be assumed without qualification. The qualifications result from the following conclusions, drawn from an examination of the laboratory and field test data obtained for the Honeymoon uranium deposit:

- the uranium values in core samples can be readily leached into an acidified oxidizing solution provided contact can be made between the solution and the uranium values
- the uranium values in core samples can be readily leached into an acidified oxidizing solution provided the flow of the solution can be contained to maintain contact with uranium values
- the uranium values in large in-situ samples can be leached into an acidified oxidizing solution
- gypsum precipitation will reduce the efficiency of leach operations at increased sulphate concentrations because of the saturated nature of the ground water in the aquifer

- the high calcium and sulphate concentrations in the ground water result in the precipitation of gypsum in the leach system
- control of the ease with which gypsum precipitates will be important in any commercial operation
- the performance of leach patterns is likely to vary under similar leaching conditions
- a recovery of 70% of the uranium resource at an average solution grade of 75 mg U₃O₈/L can be achieved if contact between solution and mineral is successful
- further analysis of the geology of the field leach trial area is justified to examine the installation of the field in relation to revised geological interpretation of the deposit
- in order to obtain a uranium recovery of 70% at an average grade of 75 mg U₃O₈/L, it may be necessary to reduce the well spacing to improve solution passage through mineralized areas
- continued refinement of the resource estimate will have the effect of identifying non-recoverable uranium with the expectation of increased recovery from a reduced resource
- the data available do not support an operating recovery of 70% at a grade of 75 mg U₃O₈/L without qualifications as given above.

Field leach trials, which did not investigate the effects of well spacing or the impact of gypsum precipitation, provided mixed results. Three of the five patterns tested showed unsatisfactory performance. Improved performance can be expected when the effects of these variables are understood.

18.12.9 Gypsum Scaling

Potential gypsum scaling may occur in Honeymoon process facilities that are wetted because of calcium saturation in ground water and leach solution. Significant gypsum scaling may occur during the proposed commercial operations. Process water treatment to de-saturate calcium levels may be required as part of leach solution regeneration, and could be undertaken by treating the water with soda ash to precipitate calcium carbonate. Solution treatment would result in additional solids' accumulation in the retention pond.

18.12.10 Solvent Extraction

The process of solvent extraction has been utilised for over thirty years to recover uranium from pregnant leach solutions. The extractants selected for use in the Honeymoon solvent extraction circuit have been used for similar duties world-wide. It is conventional to use an anionic extractant, however as the high chloride levels in the leach liquors interfere with anionic extraction, a cationic extractant (D2EHPA) has been selected for use at Honeymoon. This extractant will also extract iron and other cationic impurities from the leach liquors. A tertiary amine is added to suppress iron extraction. A phase modifier, TBP, is also added to prevent the formation of a third phase in the solvent extraction equipment.

18.12.11 Reductive Scrubbing

Contact of solvent with an acidic sulfite (SMBS) reductive scrub solution is the method selected for separation of iron and various anionic impurities from uranium. The quality of the final uranium product and potential downstream undesired deposits will be controlled by this scrubbing operation. Similar process steps are widely practised at other commercial uranium process plants.

18.12.12 Solvent Stripping

Sodium carbonate stripping will ensure almost complete uranium recovery from solvent, but some impurities recovered during extraction will be transferred to the marketable product. Residual iron will precipitate during stripping and remain suspended in the advancing strip solution, or accumulate as crud deposits in the settling tank. Impurity solids removal from the loaded strip solution is proposed to ensure minimum contamination of the uranium peroxide precipitate.

18.12.13 Iron Removal

A sedimentation thickener in a clarifying duty is proposed to separate contaminant precipitates following solvent extraction. The allowable level of suspended solids in the loaded strip solution is unclear for application to the commercial facility design, however minor levels of contaminant precipitate carryover to product precipitation is assumed to occur without detrimental effect on the uranium product quality. A low design up-flow velocity in the thickener has been proposed, which limits the risk of precipitate carryover.

18.12.14 Product Precipitation and De-Watering

Yellow cake product precipitation, de-watering and packaging are proven process operations. The precipitation of uranium with hydrogen peroxide is commercially proven for the recovery of uranium from solution, given reliable equipment and stable operation. Peroxide precipitates are generally amenable to the thickening, centrifuging and thermal drying processes. The proposed batch mode of process operation differs from the operation of the Test Plant, but the design precipitation chemical conditions are unchanged. The sequence of the batch operation will reflect the reported Test Plant process conditions, and will require additional upstream and down stream surge capacity, as well as more complex control arrangements. Analysis of uranium product from the Test Plant showed that the product impurities were generally within the nominated market specifications for converters. However, some impurity levels were outside the range for premium grade.

18.12.15 Organic Recovery

The process does not include active solvent recovery from leach liquors following solvent extraction but does include some provision for organic recovery following the extraction stage via BLS and BLS Bleed Tank weirs. Plant upset conditions, variable solution supply, or the occurrence of other phases in the extraction circuit may cause poor phase disengagement, and higher solvent loss to the barren solution. The consequence of increased loss of solvent is an increase in operating cost and an increase in organic reporting to the wellfield. Equipment for organic collection from regenerated leach solution treatment may be investigated in the commercial plant to lower potential risk. Options are available for retrofitting additional organic recovery equipment into the plant should the need arise.

18.12.16 Occupational Health and Safety

Project design and operating procedures will conform to the highest standards required under law. A medical facility will be maintained at the site. Southern Cross Resources will endeavour to have at least 20% of all site staff certified as advanced emergency medical technicians. Access for Royal Flying Doctor aircraft in case of emergency will be provided by the airstrip located southeast of the project site.

An Operating Manual will be prepared and will include radiation issues. The Manual will be subject to approval by the appropriate authority prior to implementation.

New employees will attend a compulsory induction-training course before they commence their duties. This course will address radiation protection issues relevant to the Honeymoon operation. Every employee will attend an annual re-induction course in radiation protection.

Employees and contractors will receive a copy of a Radiation Safety Booklet that will summarize all radiation safety aspects of the operation. They will be required to read the Booklet and comply with its rules and procedures.

18.12.17 Resources and Reserves

With in-situ leaching projects it is difficult to predict with confidence the percentage recovery which will be achieved when mineralization is leached. This makes it virtually impossible to determine reserves estimates for in-situ leach projects. Consequently resource estimates are used throughout this report.

The recovery figure of 70% used throughout this report is based on industry experience. There can be no assurance that recovery at such a level will be achieved.

18.13 Cost of Closure

18.13.1 General

The main components of the mine closure will be:

- dismantling and removal of surface plant
- drainage of all process plant ponds
- removal of wells heads
- rehabilitation of access tracks
- dismantling and removal of infrastructure
- removal of fences as required.

18.13.2 Surface Plant

At the conclusion of operations, the plant facilities will be removed or disposed of as soon as practicable. The process plant will be demolished and the resulting materials recycled, disposed of in an approved disposal site or transported to another location. The approach taken will be determined (*inter alia*) by the radiological condition of the plant components and the regulatory requirements for disposal. These issues are covered in the Radioactive Waste Management Plan (RWMP).

Some of the infrastructure such as roads, tracks, airstrip, fences, water tanks and water wells may be of use to the local community. The disposal or rehabilitation of these items will be discussed with the appropriate authority and with directly interested parties.

18.13.3 Ponds

Process ponds will be designed for use as disposal pits following the conclusion of operations. They will be emptied, used for the disposal of plant waste materials then backfilled to cover the contents. They will be capped with a minimum of one metre of low permeability clay and one metre of soil to prevent the ingress of surface water before the application of soil – as detailed in the Radioactive Waste Management Plan. Revegetation will follow as the final step in the rehabilitation program.

18.13.4 Removal of Well Heads

After an agreed period of time, the final wells will be decommissioned. They will be partially filled with cement to prevent leach solutions leaking into overlying aquifers. The well head will be removed by cutting the casings off 0.5 metres below the surface. The site will be backfilled, levelled and revegetated.

18.13.5 Rehabilitation of Access Tracks

Any remaining access tracks will be rehabilitated. They will be ripped if necessary, profiled to be concordant with the surrounding terrain, scarified and allowed to revegetate naturally.

18.13.6 Dismantling and Removal of Infrastructure

All infrastructure facilities will be dismantled and removed as soon as practicable at the conclusion of operations at the Honeymoon site. The infrastructure, including the office complex and camp, will be transported to another location.

18.13.7 Removal of Fences

Fences will be removed as required after consultation with the local pastoralists.

If necessary, rehabilitation of the fence line will be undertaken.

18.13.8 Airstrip

The airstrip will be gifted to the landowners if possible, or rehabilitated if this is not possible.

18.13.9 Closure costs

Closure costs are related to plant capacity. For a 400 tpa plant the mine closure costs have been estimated as \$1.5 million. The cost of decommissioning the mine and rehabilitating the project area will be estimated annually and provided to the regulatory authorities for assessment. Closure costs are to be funded through a bank guarantee.

19 Interpretation and Conclusions

The proposed well field, recovery and product handling facilities are modest compared with the other Australian operations that produce uranium as yellowcake. The remote location will need infrastructure, but no requirements for novel or unusual equipment. Personnel skills' levels will be consistent with other Australian mineral processing operations to service the proposed facilities.

The Honeymoon deposit contains an indicated mineral resource of 1.2 million tonnes at 0.24% U₃O₈ yielding some 2900 tonnes of U₃O₈. Field tests have shown that the mineralization is amenable to in-situ leaching with an oxidizing solution of dilute sulphuric acid. Southern Cross Resources holds Exploration Licences over an extensive area surrounding the Honeymoon Mining Lease.

Based on recent drilling data the Honeymoon deposit is recognized as five separate mineralized sand packages separated by laterally extensive clay seams. The lower sands are interpreted as being more permeable than the upper sands. Due to the differences in permeability the sands cannot be mined as a single unit. Where wells intersect both the upper and lower mineralized sands, the lower more permeable sands will be mined first. This will be achieved by setting wellscreens over the interval of the lower sands and leaching the sands with recirculating acid leach liquors. When mining of the lower sands is complete the wellscreens in the bottom of the well will have to be plugged and the upper sand interval screened to allow the upper sands to be leached. This technique, which is more costly than leaching the sands as a single unit, has been successfully employed at the Beverley in-situ uranium mine.

An economic analysis based on a 70% recovery of uranium, being the worldwide yardstick level for ISL uranium mines, from an indicated mineral resource containing 2900 tonne of uranium oxide shows that the project has a NPV of \$US 37.7 million at an 8% discount rate and an IRR of 40% at a flat US\$46.50 per pound price projection over the life of the project. While the Honeymoon ore shows greater than 90% recovery in laboratory leaching tests, a 70% recovery in a commercial operation cannot be assumed without qualifications, which include adequate control of gypsum precipitation and possible need to reduce well spacing to improve solution passage through the mineralized areas.

The Honeymoon Uranium Project process study has assessed specific risks associated with the process selection for recovering uranium, and in producing dried yellowcake at impurity levels acceptable to the uranium converters.

The plant design has been studied for average leach solution uranium tenor and flow rate. Solution properties, in particular solids and impurity contents will influence process plant operation. The studied plant design allows for reasonable variation. Further crud testwork may be needed to confirm the general findings of the documented Test Plant experience.

Gypsum scaling may occur in the Honeymoon processing facilities that are wetted because of calcium saturation in ground water and leach solution. Process water treatment to de-saturate calcium levels may be required as part of leach solution regeneration.

The extractants selected for use in the Honeymoon solvent extraction circuit have been used for similar duties elsewhere, but their combination in the same system is unique. Using both cationic and anionic extractant types enables uranium to be recovered from saline leach solution as demonstrated by the Test Plant results. Uranium extraction can be maximised with the chosen reagent system, but may also result in the transfer of impurities. The quality of the final uranium product and potential downstream undesired deposits will be controlled by the scrubbing operation.

Sodium carbonate stripping will ensure almost complete uranium recovery from solvent, but some impurities recovered during extraction will be transferred to the marketable product. Impurity solids removal from the loaded strip solution is proposed to ensure minimum contamination of the uranium peroxide precipitate. A sedimentation thickener in a clarifying duty is proposed to separate contaminant precipitates following solvent extraction.

The precipitation of uranium with hydrogen peroxide is commercially proven for the recovery of uranium from solution, given reliable equipment and stable operation. Peroxide precipitates are generally amenable to the thickening, centrifuging and thermal drying processes. The proposed batch mode of process operation differs from the operation of the Test Plant, but the design precipitation chemical conditions are unchanged. Analysis of the product from the Test Plant showed that it reached the nominated converter market specifications for most impurities.

Plant upset conditions, variable solution supply, or the occurrence of other phases in the extraction circuit can cause poor phase disengagement, and higher solvent loss to the barren solution. Equipment for organic collection from regenerated leach solution treatment can be investigated in the commercial plant to lower potential risk.

Fire protection systems have been selected and costed for the study design, drawing from recent practice for other solvent extraction plants installed in Australia. The process design is considered fit for purpose, and will be revised subject to detailed risk analysis during plant engineering.

20 Recommendations

The results of the Feasibility Study indicate that the Honeymoon Project is sufficiently robust to advance to basic engineering and development.

In order to complete the engineering of the process plant and facilities the following activities are recommended.

- Conduct detailed plant and equipment risk assessment, such as HAZOP review as part of the basic and detailed engineering activities.
- Finalise fire protection systems following risk analysis during detailed engineering to comply with statutory requirements and insurance needs.
- Establish design calcium levels in circulating leach solutions, and investigate design approach to the gypsum scale mitigation.
- Investigate solvent scrubbing conditions to optimise impurity removal.
- Define iron precipitate character, and investigate alternative means of strip liquor clarification as may be required to guarantee product quality.
- Confirm marketable product specification through agreement with preferred converters or customers.
- Optimise process surge capacity to suit the batch product precipitation sequence.
- Evaluate the risks, costs and benefits of active solvent recovery and filtration of barren solution.
- Quantify the risks of variable leach solution flow and uranium concentration.
- Conduct cost benefit review of pulse columns for solvent extraction
- Should the Honeymoon project proceed, prompt attention should be given to upgrading the infrastructure - particularly roads and the power supply - that will be required during the construction phase of the project.

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22 Authors Certificate of Qualifications

Honeymoon Uranium Project
Summary of Feasibility Study 400 TPA U₃O₈ Equivalent
Certificate of Qualifications

 mayfield
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HONEYMOON URANIUM PROJECT FEASIBILITY STUDY SUMMARY REPORT

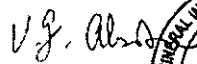
AUTHOR'S CERTIFICATE

To: The securities regulatory authorities of each of the provinces and territories of Canada

I, Victor John Absolon, C.P. Met. M.M.I.C.A. of 178 Cross Road Malvern, South Australia 5061, do hereby certify that;

- I have been retained by Mayfield Engineering Pty Ltd of 43-69 Sturt Street, Adelaide, South Australia, 5000 to manage and co-ordinate the Feasibility Study, operating cost estimate portion and compile the documentation for the Honeymoon Feasibility Study and the Summary Report.
- I am an associate, in Primary Metallurgy, from the Western Australian School of Mines (1966). I have completed post graduate studies in mineral process design at the Royal School of Mines, Imperial College, London University, D.I.C., M.Sc.(Eng) (1971) and an M.B.A at Melbourne University (1976)
- I am a Fellow of the Australasian Institute of Mining and Metallurgy, a C.P. Met, a member of the Mineral Industry Consultants Association, a member of the Institution of Materials, Minerals & Mining and a C.Eng.
- Since graduation I have worked in the operation, design and study management of metallurgical and oil and gas processing facilities.
- I have been involved in the processing of minerals and oil and gas since 1964.
- I have visited the Honeymoon site in 2006.
- I have read the National Instrument 43-101, and the Honeymoon Feasibility Study report has been prepared in compliance with NI 43-101.
- I am responsible for the co-ordination and compilation of the Honeymoon Feasibility Study Summary Report dated July 2006. I co-ordinated the engineering, design and operating cost estimate work conducted by Mayfield and the input to the Feasibility Study provided by Southern Cross Resources. I have relied on the experience and services of others, namely, the geology and resource estimate prepared by Ken F. Bampton, the wellfield section and electrical power line prepared by Dean Roberts and project manning and owner's costs prepared by Brian Lancaster, the technical assessment of the grade and recovery expectations prepared by Dr Phil Bush, the process engineering for the processing facilities, with the exception of drying and packaging, by Peter J Bartsch, the engineering design and costing of the drying and packaging facilities by Glen Jobling, study engineering and capital cost estimate by Colin E. Bazeley and marketing and financial modelling by Leigh Curyer.
- To the best of my knowledge, information and belief, the Summary Report contains all scientific and technical information that is required to be disclosed to make the Summary Report not misleading.
- I hereby certify that I am independent of Southern Cross Resources as described in Section 1.4 of NI 43-101.

Dated this 31st day of July, 2006


Victor John Absolon



Honeymoon Uranium Project
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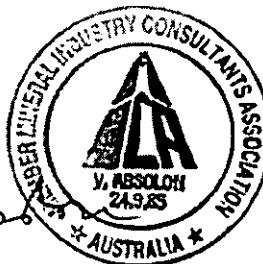
**HONEYMOON URANIUM PROJECT FEASIBILITY STUDY SUMMARY REPORT
CONSENT OF QUALIFIED PERSON**

To: The securities regulatory authorities of each of the provinces and territories of Canada

I, Victor John Absolon, C.P. Met., M.M.I.C.A. do hereby consent to the filing of the technical report prepared for Southern Cross Resources, dated July 2006 in respect of the Feasibility Study of the Honeymoon Uranium Project in Australia.

Dated this 31st day of July, 2006

V. J. Absolon



Victor John Absolon, A.W.A.S.M., D.I.C., M.Sc.(Eng), M.B.A., F.Aus.I.M.M., C.P. Met., M.M.I.C.A., M.I.M.M.M., CEng.

Honeymoon Uranium Project
Summary of Feasibility Study 400 TPA U₃O₈ Equivalent
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AKER KVAERNER

HONEYMOON URANIUM PROJECT FEASIBILITY STUDY

STATEMENT OF QUALIFICATION

To: The securities regulatory authorities of each of the provinces and territories of Canada

I, Peter John Bartsch, B. App. Sci., of 7 Scott Court Woodlands, 6018, West Australia, do hereby certify that:

- I have been employed by Aker Kvaerner with offices at 2 Mill Street, Perth, West Australia to prepare the processing portion of the Honeymoon Feasibility Study.
- I am a graduate, in Primary Metallurgy, from South Australian Institute of Technology, Adelaide, South Australia, 1976.
- I have visited the Honeymoon site in 2006, and participated in processing investigations for the Honeymoon Project during 1980 to 1983.
- Since graduation in 1976 I have worked in the operation and design of metallurgical processing plants.
- I have written and published several documents in my field, and am a Corporate Member of the Australasian Institute of Mining and Metallurgy.
- I have read the National Instrument 43-101, and the processing section of the Honeymoon Feasibility Study report has been prepared in compliance with NI 43-101.
- I hereby certify that I am independent of Southern Cross Resources as described in Section 1.4 of NI 43-101.
- The laboratory and testwork reports that form the basis for processing section of the Feasibility Study report were conducted by Southern Cross Resources and AMDEL. This work was performed under the direct supervision of others. I reviewed the results for reasonableness, and drew conclusions based on the data provided. The Honeymoon Test Plant operating reports were not received for review during the Feasibility Study.
- The dewatering, drying, packaging, product transport and fire protection sections of the report were provided by Adelaide Control engineering, Wormald and Mayfield.
- To the best of my knowledge, information and belief, the Summary Report contains all scientific and technical information that is required to be disclosed to make the Summary Report not misleading.

Dated this 31st day of July, 2006



Peter J. Bartsch, B App. Sci.

Honeymoon Uranium Project
Summary of Feasibility Study 400 TPA U₃O₈ Equivalent
References

HONEYMOON URANIUM PROJECT FEASIBILITY STUDY
CONSENT OF QUALIFIED PERSON

To: The securities regulatory authorities of each of the provinces and territories of Canada

I, Peter John Bartsch, B App. Sci. do hereby consent to the processing section of the technical report prepared for Southern Cross Resources, dated July 2006 in respect of the Feasibility Study of the Honeymoon Uranium Project in Australia.

Dated this 31st day of July, 2006



Peter J. Bartsch, B App. Sci.

Honeymoon Uranium Project
Summary of Feasibility Study 400 TPA U₃O₈ Equivalent
Certificate of Qualifications

HONEYMOON URANIUM PROJECT FEASIBILITY STUDY

STATEMENT OF QUALIFICATION

To: The securities regulatory authorities of each of the provinces and territories of Canada.

I, Colin Edward Bazeley, BSc Mechanical Engineering, of Lot L, Kentish Road, One Tree Hill, 5114, South Australia, do hereby certify that:

- I have been employed by Mayfield Engineering Pty Ltd of 43-69 Sturt Street, Adelaide, South Australia, 5000 to prepare the Study Engineering and Capital Cost estimate portion of the Honeymoon Feasibility Study.
- I am a graduate, in Mechanical Engineering, from Bristol Polytechnic, England, 1983.
- I have visited the Honeymoon site in 2006.
- Since graduation I have worked in the design and project management of heavy industrial mine and material handling facilities in Europe, South Africa and Australia.
- I have been involved in the tendering of major capital projects in Australia since 1993.
- I have read the National Instrument 43-101, and the Honeymoon Feasibility Study report has been prepared in compliance with NI 43-101.
- I hereby certify that I am independent of Southern Cross Resources as described in Section 1.4 of NI 43-101.
- To the best of my knowledge, information and belief, the Summary Report contains all scientific and technical information that is required to be disclosed to make the Summary Report not misleading.

The geology and wellfield sections of the report were conducted by others under the supervision of Southern Cross Resources. The process sections of the report were provided by Aker Kvaerner with Adelaide Control Engineering providing the design and costing for the drying and packaging section. I managed the engineering and design and cost estimate work conducted by Mayfield and completion of the study documentation.

Dated this 31st day of July 2006



HONEYMOON URANIUM PROJECT FEASIBILITY STUDY

CONSENT OF QUALIFIED PERSON

To: The securities regulatory authorities of each of the provinces and territories of Canada.

I, Colin Edward Bazeley, BSc Mech Eng. Do hereby consent to the Engineering and Capital Cost section of the technical report prepared for Southern Cross Resources, dated July 2006 in respect of the Feasibility Study of the Honeymoon Uranium Project in Australia.

Dated this 31st day of July 2006.



Colin E Bazeley BSc. Mech Eng.

HONEYMOON URANIUM PROJECT FEASIBILITY STUDY SUMMARY REPORT

AUTHOR'S CERTIFICATE

To: The securities regulatory authorities of each of the provinces and territories of Canada

I, Philip Donald Bush, PhD, MBA, FAusIMM(CP Met), MMICA, do hereby certify that;

- I have been retained by Mayfield Engineering Pty Ltd of 43-69 Sturt Street, Adelaide, South Australia, 5000 to prepare a technical assessment of the grade and recovery expectations of the Honeymoon Uranium Project located in South Australia.
- I am the holder of a PhD in metallurgy from the University of Queensland and an MBA from the University of Denver.
- I consulted to the Honeymoon Project during the period from May 1997 to December 2003 during the Field Leach Trial and preparation of the Environmental Impact Statement and visited the Honeymoon site on numerous occasions.
- Since graduation I have worked in process research and development and project development, assessment and evaluation in Australia and overseas. The work has covered process definition, project feasibility, plant development, production, reconciliation and project management.
- I have been involved in a wide range of base metal and industrial mineral projects in many parts of the world with differing geological and climatic conditions since 1967.
- I am a Fellow of the Australasian Institute of Mining and Metallurgy and a Chartered Professional in Metallurgy of that institute. I am a member of the Mineral Industry Consultants Association.
- I have read the National Instrument 43-101, and the Honeymoon Feasibility Study Report has been prepared in compliance with NI 43-101.
- I hereby certify that I am independent of Southern Cross Resources as described in Section 1.4 of NI 43-101.
- To the best of my knowledge, information and belief, the Summary Report contains all scientific and technical information that is required to be disclosed to make the Summary Report not misleading.

I prepared a technical assessment of the grade and recovery expectations of the Honeymoon Uranium Project located in South Australia.

Dated this 31st day of July, 2006

Philip Donald Bush, PhD, MBA, FAusIMM(CP Met), MMICA

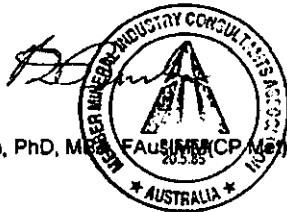


HONEYMOON URANIUM PROJECT FEASIBILITY STUDY
CONSENT OF QUALIFIED PERSON

To: The securities regulatory authorities of each of the provinces and territories of Canada

I, Philip Donald Bush, PhD, MBA, FAusIMM(CP Met), MMICA, do hereby consent to the technical assessment of the grade and recovery expectations of the Honeymoon Uranium Project located in South Australia, for Southern Cross Resources, dated July 2006 in respect of the Feasibility Study of the Honeymoon Uranium Project in Australia.

Dated this 31st day of July, 2006



Philip Donald Bush, PhD, MBA, FAusIMM(CP Met), MMICA

**Honeymoon Uranium Project
Summary of Feasibility Study 400 TPA U₃O₈ Equivalent
References**

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**HONEYMOON URANIUM PROJECT FEASIBILITY STUDY SUMMARY REPORT
AUTHOR'S CERTIFICATE**

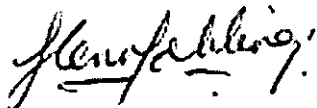
To: The securities regulatory authorities of each of the provinces and territories of Canada

I, Glenn Jobling, B.E. (Elec.) MIE Aust. CP Eng. of 61 Hurtle Square, Adelaide, do hereby certify that:

- My company Adelaide Control Engineering (ACE) of 37 Queen Street, Thebarton, South Australia, 5031 has been contracted by Mayfield Engineering Pty Ltd of 43-69 Sturt Street, Adelaide, South Australia, 5000 to prepare the Drying and Drum Packing cost estimate and documentation for the Honeymoon Feasibility Study and the Summary Report.
- I am the Principal and Engineering Manager of Adelaide Control Engineering (ACE).
- I am a graduate in Electrical and Electronic Engineering from the Footscray Institute of Technology, Footscray, Victoria, Australia. I have worked as a consulting engineer on large projects in the Food, Manufacturing, Chemical and Mining industries for more than 20 years.
- ACE designed and constructed Heathgate Resources Drum Packing plant and redesigned and optimised their yellowcake drying plant.
- ACE has just completed the design and factory acceptance testing of the yellowcake Drying and Packing plant for the Langer Heinrich Uranium mine in Namibia.
- I visited the Honeymoon site in 2004.
- I have read the National Instrument 43-101, and the Honeymoon Feasibility Study report has been prepared in compliance with NI 43-101.
- I hereby certify that I am independent of Southern Cross Resources as described in Section 1.4 of NI 43-101.
- To the best of my knowledge, information and belief, the Summary Report contains all scientific and technical information that is required to be disclosed to make the Summary Report not misleading.

I co-ordinated the engineering and design and cost estimate work for the drying and packaging section of the Honeymoon Uranium Feasibility Study.

Dated this 31st day of July, 2006



Glenn Jobling, B.E. MIE Aust.

Honeymoon Uranium Project
Summary of Feasibility Study 400 TPA U₃O₈ Equivalent
References

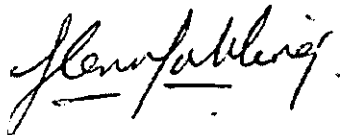
HONEYMOON URANIUM PROJECT FEASIBILITY STUDY

CONSENT OF QUALIFIED PERSON

To: The securities regulatory authorities of each of the provinces and territories of Canada

I, Glenn Jobling, B.E. (Elec.) MIE Aust. do hereby consent to the processing section of the technical report prepared for Southern Cross Resources, dated July 2006 in respect of the Feasibility Study of the Honeymoon Uranium Project in Australia.

Dated this 31st day of July, 2006



Glenn Jobling, B.E. MIE Aust.

Honeymoon Uranium Project
Summary of Feasibility Study 400 TPA U₃O₈ Equivalent
Certificate of Qualifications

 mayfield
AKER KVAERNER

HONEYMOON URANIUM PROJECT FEASIBILITY STUDY SUMMARY REPORT

AUTHOR'S CERTIFICATE

TO: The securities regulatory authority of each of the provinces and territories of Canada

I, Kenneth F. Bampton, B.Sc. (Geol./Geochem.), B.Sc. (Econ. Geol.), M.Sc. (Explor. and Min. Geol.), do hereby certify as follows:

- I am a consulting geologist and Principal of Ore Reserve Evaluation Services. I have been retained by Sxr Uranium One Inc. to prepare a report on the revised mineral resource estimate for the Honeymoon Uranium Project located in South Australia, portions of which report have been included in the Summary Report on the Honeymoon Feasibility Study.
- I hold degrees of B.Sc in Geology/geochemistry, B.Sc(Hons) in Economic Geology from the University of Adelaide and M.Sc in Exploration and Mining Geology from the James Cook University of North Queensland.
- Following 12 years working as a geologist in metalliferous and diamond exploration in Australia and Brazil, I have 20 years experience in resource/reserve estimation and evaluation in Australia, spanning definition, feasibility, mine development, production and reconciliation. Commodities include copper and other base metals, minor gold, industrial minerals and, over the last decade uranium, particularly the Tertiary sediment-hosted deposits of South Australia. I have been a user of SURPAC mining software since 1987 and a licensee since 1991.
- I am a Member of both the Australian Institute of Geoscientists and The Australasian Institute of Mining and Metallurgy and, as a consequence of the foregoing, am a Qualified Person for the purposes of Canadian National Instrument 43-101
- I was the original compiler of historic drilling information on the Honeymoon Uranium Project for sxr Uranium One Inc., developed an initial GIS, supervised part of the 1998 drilling campaign on the Billeroo section of the Project and have carried out prior resource estimates on the property and surrounding areas.
- I prepared the following sections of the Summary Report on the Honeymoon Feasibility Study: Section 7, Geological Setting; Section 8, Deposit Types; Section 9, Mineralization; Section 11, Drilling; Section 12, Sampling Method and Approach; Section 13, Sample Preparation, Analysis and Security; Section 14,

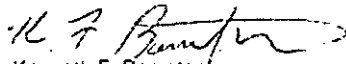
- 2 -

Data Verification; and Section 17, Mineral Resources Estimate, subsections 1 to 7

- I have read the National Instrument 43-101, and the portions of the Summary Report on the Honeymoon Feasibility Study prepared by me have been prepared in compliance with National Instrument 43-101.
- I hereby certify that I am independent of Southern Cross Resources as described in Section 1.4 of NI 43-101.

I confirm the geology and mineral resource estimates included in this document have been prepared as a Qualified Person's Technical Report under Canadian NI 43-101- as requested by SXR Uranium One Inc. by letter of 16th March, 2006.

Dated this 29th day of September, 2006.


Kenneth F. Bampton

Honeymoon Uranium Project
Summary of Feasibility Study 400 TPA U₃O₈ Equivalent
Certificate of Qualifications

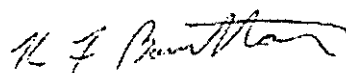
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AKER KVAERNER

**HONEYMOON URANIUM PROJECT FEASIBILITY STUDY SUMMARY REPORT
CONSENT OF QUALIFIED PERSON**

To: The securities regulatory authorities of each of the provinces and territories of Canada

I, Kenneth F Bampton, MSc, MAusIMM, MAIG do hereby consent to the geology and mineral resource estimates of the technical report prepared for Southern Cross Resources, dated July 2006 in respect of the Feasibility Study of the Honeymoon Uranium Project in Australia

Dated this 29th day of September, 2006



Kenneth F Bampton, BSc (Geol/Geochem.), BSc (Econ.Geol.), MSc (Explor. and Min Geol.), MAusIMM, MAIG



CERTIFICATE AND CONSENT

Ontario Securities Commission
New Brunswick Securities Commission
Toronto Stock Exchange

Dear Sirs/Mesdames

**Re: sxr Uranium One Inc. - Summary of Feasibility Study Honeymoon Uranium Project
South Australia**

I refer to the press release of sxr Uranium One Inc. dated August 29, 2006 (the "**Press Release**") and the technical report entitled "Summary of Feasibility Study Honeymoon Uranium Project South Australia" dated 31 July, 2006 (the "**Technical Report**").

I hereby consent to the public filing of this Technical Report with any stock exchange or securities regulatory authority to which this consent is addressed and to extracts from, or a summary of, the Technical Report as included in the Press Release. I further consent to the publication and use of this Technical Report by sxr Uranium One on its website or in connection with its business.

I certify that I have read the Press Release disclosing the completion of a feasibility study for the Honeymoon Uranium Project in South Australia, and that such Press Release fairly and accurately represents the information in the Technical Report that supports the disclosure in the Press Release.

Dated the 25th day of September 2006.

Philip Donald Bush PhD, MBA, FIM(AM), FIM(CP Met), MMICA





AKER KVAERNER™

CERTIFICATE AND CONSENT

Ontario Securities Commission
New Brunswick Securities Commission
Toronto Stock Exchange

Dear Sirs/Mesdames

**Re: sxr Uranium One Inc. - Summary of Feasibility Study Honeymoon Uranium Project
 South Australia**

I refer to the press release of sxr Uranium One Inc. dated August 29, 2006 (the "**Press Release**") and the technical report entitled "Summary of Feasibility Study Honeymoon Uranium Project South Australia" dated 31 July, 2006 (the "**Technical Report**").

I hereby consent to the public filing of this Technical Report with any stock exchange or securities regulatory authority to which this consent is addressed and to extracts from, or a summary of, the Technical Report as included in the Press Release. I further consent to the publication and use of this Technical Report by sxr Uranium One on its website or in connection with its business.

I certify that I have read the Press Release disclosing the completion of a feasibility study for the Honeymoon Uranium Project in South Australia, and that such Press Release fairly and accurately represents the information in the Technical Report that supports the disclosure in the Press Release.

Dated the 22nd day of September 2006.

Colin Edward Bazeley, BSc Mech Eng



CERTIFICATE AND CONSENT

Ontario Securities Commission
New Brunswick Securities Commission
Toronto Stock Exchange

Dear Sirs/Mesdames

**Re: sxr Uranium One Inc. - Summary of Feasibility Study Honeymoon Uranium Project
 South Australia**

I refer to the press release of sxr Uranium One Inc. dated August 29, 2006 (the "**Press Release**") and the technical report entitled "Summary of Feasibility Study Honeymoon Uranium Project South Australia" dated 31 July, 2006 (the "**Technical Report**").

I hereby consent to the public filing of this Technical Report with any stock exchange or securities regulatory authority to which this consent is addressed and to extracts from, or a summary of, the Technical Report as included in the Press Release. I further consent to the publication and use of this Technical Report by sxr Uranium One on its website or in connection with its business.

I certify that I have read the Press Release disclosing the completion of a feasibility study for the Honeymoon Uranium Project in South Australia, and that such Press Release fairly and accurately represents the information in the Technical Report that supports the disclosure in the Press Release.

Dated the 22 day of September 2006.

A handwritten signature in black ink, appearing to read 'Glenn Jobling', is written over a horizontal line.

Glenn Jobling
BE Elec Eng; MIEAust

Ore Reserve Evaluation Services
ABN 17 998 949 266

KEN BAMPTON M.Sc, M.AusIMM, M.AIG
Consulting Geologist, SURPAC Licencee

CERTIFICATE AND CONSENT

Ontario Securities Commission
New Brunswick Securities Commission
Toronto Stock Exchange

Dear Sirs/Mesdames

**Re: sxr Uranium One Inc. - Summary of Feasibility Study
 Honeymoon Uranium Project, South Australia**

I refer to the press release of sxr Uranium One Inc. dated August 29, 2006 (the "**Press Release**") and the technical report entitled "Summary of Feasibility Study Honeymoon Uranium Project South Australia" dated July 31, 2006 (the "**Technical Report**").

I hereby consent to the public filing of this Technical Report with any stock exchange or securities regulatory authority to which this consent is addressed and to extracts from, or a summary of, the Technical Report as included in the Press Release. I further consent to the publication and use of this Technical Report by sxr Uranium One Inc. on its website or in connection with its business.

I certify that I have read the Press Release disclosing the completion of a feasibility study for the Honeymoon Uranium Project in South Australia, and that such Press Release fairly and accurately represents the information in the Technical Report that supports the disclosure in the Press Release.

Dated the 29th day of September 2006.



Kenneth F. Bampton
B.Sc. (Geol./Geochem.), B.Sc.Hons. (Econ. Geol.),
M.Sc. (Explor. and Min. Geol.)



CERTIFICATE AND CONSENT

Ontario Securities Commission
New Brunswick Securities Commission
Toronto Stock Exchange

Dear Sirs/Mesdames

**Re: sxr Uranium One Inc. - Summary of Feasibility Study Honeymoon Uranium Project
 South Australia**

I refer to the press release of sxr Uranium One Inc. dated August 29, 2006 (the "Press Release") and the technical report entitled "Summary of Feasibility Study Honeymoon Uranium Project South Australia" dated 31 July, 2006 (the "Technical Report").

I hereby consent to the public filing of this Technical Report with any stock exchange or securities regulatory authority to which this consent is addressed and to extracts from, or a summary of, the Technical Report as included in the Press Release. I further consent to the publication and use of this Technical Report by sxr Uranium One on its website or in connection with its business.

I certify that I have read the Press Release disclosing the completion of a feasibility study for the Honeymoon Uranium Project in South Australia, and that such Press Release fairly and accurately represents the information in the Technical Report that supports the disclosure in the Press Release.

Dated the twenty fifth day of September 2006.

A handwritten signature in dark ink, appearing to read 'P. Bartsch', is written over a horizontal line.

Peter Bartsch, B. App. Sci. PMet.



CERTIFICATE AND CONSENT

Ontario Securities Commission
New Brunswick Securities Commission
Toronto Stock Exchange

Dear Sirs/Mesdames

**Re: sxr Uranium One Inc. - Summary of Feasibility Study Honeymoon Uranium
 Project South Australia**

I refer to the press release of sxr Uranium One Inc. dated August 29, 2006 (the "**Press Release**") and the technical report entitled "Summary of Feasibility Study Honeymoon Uranium Project South Australia" dated 31 July, 2006 (the "**Technical Report**").

I hereby consent to the public filing of this Technical Report with any stock exchange or securities regulatory authority to which this consent is addressed and to extracts from, or a summary of, the Technical Report as included in the Press Release. I further consent to the publication and use of this Technical Report by sxr Uranium One on its website or in connection with its business.

I certify that I have read the Press Release disclosing the completion of a feasibility study for the Honeymoon Uranium Project in South Australia, and that such Press Release fairly and accurately represents the information in the Technical Report that supports the disclosure in the Press Release.

Dated the 25th day of September 2006.

A handwritten signature in dark ink, appearing to read 'V. J. Absolon', written over a horizontal line.

Victor John Absolon, A.W.A.S.M., D.I.C., M.Sc.(Eng), M.B.A., F.Aus.I.M.M., (C.P. Met.), M.M.I.C.A.

FORM 51-102F3
MATERIAL CHANGE REPORT

1. Name and Address of Company:

SXR Uranium One Inc.
Suite 1610 - 390 Bay
Toronto, Ontario M5H 2Y2

2. Date of Material Change:

October 11, 2006

3. News Release:

The news release attached was disseminated via Canada NewsWire on October 11, 2006.

4. Summary of Material Change:

SXR Uranium One Inc. announced that the South African Department of Minerals and Energy ("DME") has granted SXR a new order mining right for the Dominion Uranium Project under the Mineral and Petroleum Resources Development Act 2002.

SXR has also been formally notified by the DME that additional, exclusive prospecting rights in excess of 14,000 hectares have also been granted to the Company. These prospecting rights cover a natural extension to the Company's Dominion Uranium Project.

5. Full Description of Material Change:

See attached news release dated October 11, 2006.

6. Reliance on subsection 7.1(2) or (3) National Instrument 51-102:

The report is not being filed on a confidential basis in reliance on subsection 7.1(2) or (3) of National Instrument 51-102.

7. Omitted Information:

No information has been omitted from this material change report on the basis that it is confidential information.

8. Executive Officer:

The following senior officer of the Corporation is knowledgeable about the material change:

Chris Sattler,
Vice President, Investor Relations
Tel: 1.416.350.3657

9. Date of Report:

October 13, 2006

Attention Business Editors:

Uranium One Granted New Order Mining Right and Additional, Adjacent
Prospecting Rights for its Dominion Uranium Project

Trading Symbol: SXR - Toronto Stock Exchange, Johannesburg Stock
Exchange

TORONTO and JOHANNESBURG, South Africa, Oct. 11 /CNW/ - sxr Uranium One Inc. ("Uranium One" or the "Company") is pleased to announce that the South African Department of Minerals and Energy ("DME") has granted Uranium One a new order mining right for the Dominion Uranium Project under the Mineral and Petroleum Resources Development Act 2002.

The mining right has been granted for an initial period of 30 years. The area covered by the mining right comprises approximately 14,000 hectares, incorporates all the resources covered by the current prospecting right, and includes all areas in the Dominion mine plan. The Company continues to hold old order mining rights over a further area of approximately 1,400 hectares adjacent to the Dominion project.

Uranium One has also been formally notified by the DME that additional, exclusive prospecting rights in excess of 14,000 hectares have also been granted to the Company. These prospecting rights cover a natural extension to the Company's Dominion Uranium Project.

Neal Froneman, President and CEO of Uranium One, commented:

"We are extremely pleased to have reached this milestone and to have received the mining right which is a major legislative requirement to our commencing production at Dominion on schedule, and to complete the transformation of Uranium One from a development stage company into a focused uranium producer.

Uranium One would like to thank the employees of the Department of Minerals and Energy of South Africa, with whom the Company has been working to secure the new order mining right, for this positive outcome. It is clear that the Government of South Africa is supportive of its domestic uranium industry and Uranium One is proud to be positioned to become the major player in this sector.

With the approval of the mining right we are now well placed to become the pre-eminent South African uranium producer, benefiting not only our shareholders, but also our employees and, through our broad based empowerment structure, the local communities in which we will operate."

About sxr Uranium One

sxr Uranium One Inc. is a Canadian uranium and gold resource company with a primary listing on the Toronto Stock Exchange and a secondary listing on the JSE Limited (the Johannesburg stock exchange). The Corporation owns the Dominion Uranium Project in South Africa and the Honeymoon Uranium Project in South Australia, as well as a number of exploration projects. The Corporation holds an approximate 71% interest in Aflease Gold Limited, which owns the Modder East gold project in South Africa. Through a joint venture with Pitchstone Exploration Ltd., the Corporation is also engaged in uranium exploration activities in the Athabasca Basin of Saskatchewan.

Cautionary Statement

No stock exchange, securities commission or other regulatory authority has approved or disapproved the information contained herein.

This News Release includes certain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 and "forward-looking information" within the meaning of applicable Canadian legislation. All statements other than statements of historical fact included in this release including, without limitation, statements regarding future plans and objectives of Uranium One and the timing of commencement of

construction activities, are forward-looking statements (or forward-looking information) that involve various risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. Important factors could cause actual results to differ materially from Uranium One's expectations. Such factors include, among others, the actual results of exploration activities, actual results of reclamation activities, the estimation or realization of mineral reserves and resources, the timing and amount of estimated future production, costs of production, capital expenditures, costs and timing of the development of new deposits, availability of capital required to place Uranium One's properties into production, conclusions of economic evaluations, changes in project parameters as plans continue to be refined, future prices of commodities, possible variations in ore grade or recovery rates, failure of plant, equipment or processes to operate as anticipated, accidents, labour disputes and other risks of the mining industry, delays in obtaining governmental approvals, permits or financing or in the completion of development or construction activities, Uranium One's hedging practices, currency fluctuations, title disputes or claims limitations on insurance coverage, as well as those factors discussed under "Risk Factors" in Uranium One's Annual Information Form and Management's Discussion and Analysis as filed with securities regulatory authorities in Canada. Although Uranium One has attempted to identify important factors that could cause actual results to differ materially, there may be other factors that cause results not to be as anticipated, estimated or intended.

There can be no assurance that such statements will prove to be accurate as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. Uranium One does not undertake to update any forward-looking statements that are included herein, except in accordance with applicable securities laws.

Investors are cautioned not to assume that all or any part of the mineral deposits in the measured and indicated resource categories will ever be converted into reserves. In addition, "inferred resources" have a great amount of uncertainty as to their existence and economic and legal feasibility. It cannot be assumed that all or any part of an inferred mineral resource will be ever be upgraded to a higher category. Under Canadian rules, estimates of inferred mineral resources may not form the basis of feasibility or pre-feasibility studies or economic studies except for preliminary assessments as defined under NI 43-101. Investors are cautioned not to assume that all or any part of an inferred resource exists or is economically or legally mineable.

To receive the Corporation's news releases by email, please register on Uranium One's website - www.uranium1.com
%SEDAR: 00005203E

/For further information: Neal Froneman, Chief Executive Officer, Tel: + 27 11 482 3605; Chris Sattler, Vice President, Investor Relations, Tel: (416) 350-3657/

(SXR.)

CO: sxr Uranium One Inc.

CNW 09:30e 11-OCT-06

FORM 51-102F3
MATERIAL CHANGE REPORT

1. **Name and Address of Company:**

SXR Uranium One Inc.
Suite 1610 - 390 Bay
Toronto, Ontario M5H 2Y2
2. **Date of Material Change:**

October 11, 2006
3. **News Release:**

The news release attached was disseminated via CCN Matthews on October 11, 2006.
4. **Summary of Material Change:**

SXR Uranium One Inc. announced that it has entered into an agreement to sell to a syndicate of underwriters led by BMO Capital Markets, on a bought deal basis, 18,100,000 Common Shares from the Company and sell to the public at a price of \$8.30 per Common Share, representing an aggregate amount of \$150,230,000.
5. **Full Description of Material Change:**

See attached news release.
6. **Reliance on subsection 7.1(2) or (3) National Instrument 51-102:**

The report is not being filed on a confidential basis in reliance on subsection 7.1(2) or (3) of National Instrument 51-102.
7. **Omitted Information:**

No information has been omitted from this material change report on the basis that it is confidential information.
8. **Executive Officer:**

The following senior officer of the Corporation is knowledgeable about the material change:

Chris Sattler,
Vice President, Investor Relations
Tel: 1.416.350.3657
9. **Date of Report:**

October 13, 2006

PRESS RELEASE

SXR URANIUM ONE INC. – NEW ISSUE

SXR Uranium One Inc. ("SXR") has today entered into an agreement to sell to a syndicate of underwriters led by BMO Capital Markets, on a bought deal basis, 18,100,000 Common Shares from the Company and sell to the public at a price of \$8.30 per Common Share, representing an aggregate amount of \$150,230,000. SXR has granted the Underwriters an over-allotment option to purchase additional Common Shares up to 15% of the purchased Common Shares at the same price, exercisable by the Underwriters for a period of 30 days from Closing. Closing is expected on or about October 31, 2006.

The securities offered have not been registered under the U.S. Securities Act of 1933, as amended, and may not be offered or sold in the United States absent registration or an applicable exemption from the registration requirements. This press release shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of the securities in any State in which such offer, solicitation or sale would be unlawful.

Not for distribution to U.S. news wire services or dissemination in the United States.

For further information, please contact:

SXR Uranium One Inc.

Jean Nortier
Chief Financial Officer
Tel: + 27 11 482 3605

Chris Sattler
Vice President, Investor Relations
Tel: + 1 416 350 3657