

## ASX ANNOUNCEMENT

### Salar de Olaroz Lithium-Potash Project Update

## HIGHLIGHTS

- The Definitive Feasibility Study on the Olaroz Lithium-Potash project is on track and expected to be completed in mid 2010. Technical activities to date include:
  - a. Large diameter water bores drilled and long term pump testing commenced
  - b. Resource definition, sampling and testing program underway
  - c. Surface geophysical surveys completed
  - d. Evaporation test work six months into 12 month program
  - e. Environmental impact study investigations commenced
- Subject to regulatory approvals and finance, development is anticipated to commence late in 2010 with initial production at the end of 2011;
- Due to its excellent brine chemistry and other characteristics, the Olaroz Lithium-Potash project has the potential to be a very low cost producer of lithium and potash products and competitive with existing lithium brine producers in South America;
- Recent work and modelling indicates lower operating costs than in the scoping study with high recoveries of lithium and potash;
- Olaroz is well advanced compared to other brine exploration projects having completed a resource estimate and scoping study and now advancing through a DFS. Coupled with the high quality of the brines and related technical advantages the Olaroz project has significant time advantages over other projects;
- The company is in discussions with a number of off-take partners regarding the financing and development of the project;
- Land position significantly increased. Recent acquisitions nearly double, to 14,000 hectares, the area of salar nucleus and salar margins held by the company. These areas, particularly the salar nucleus, are prospective for sub-surface lithium and potassium brines. The salar nucleus was increased by 35% to 10,000 hectares and 4,000 hectares of salar margins were added and are expected to significantly increase the near surface resource;
- Executive management based in Argentina;
- Orocobre is to become a single focused Lithium and Potash Company with the de-merger of its hard rock metalliferous assets into Elementos Ltd due to list on the ASX in December 2009.

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The Directors of Orocobre Limited are pleased to advise on substantive progress being made on the Definitive Feasibility Study at its flagship Olaroz Lithium-Potash project in Jujuy Province, Argentina.

### Project Background

In early 2009, Orocobre announced its initial Salar de Olaroz JORC compliant resource statement and related Scoping Study. The JORC compliant inferred resource was estimated as **350 million kL of brine at 800g/kL lithium and 6,600 g/kL potassium to 55m depth** (equivalent to 1.5 million tonnes of Lithium carbonate and 4.4 million tonnes of Potash and within the then existing property boundaries of the company).

The related Scoping Study indicated that Olaroz had the potential to be a highly attractive project with favourable capital costs and operating costs, yielding high investment returns with low processing technical risks. With such positive initial conclusions, the company committed to move forward with a series of technical and business initiatives leading to a DFS with the goal of the commencing construction in late 2010.

The chart below summarizes the findings of the JORC and Scoping study completed earlier this year:

Key Highlights of the Olaroz JORC and Scoping Study – April 2009	
<b>Resource</b>	JORC compliant inferred resource of 350 million kL of brine at 800g/kL lithium and 6,600 g/kL potassium to 55m (1.5 million tonnes of lithium carbonate and 4.4 million tonnes of potash)
<b>Chemistry</b>	Attractive lithium and potassium grades, low Mg/Li ratio and attractive sulphate levels
<b>Production rate</b>	15kt/yr lithium carbonate and 36kt/yr of potash
<b>Process route</b>	Conventional technology with low technical risk
<b>Capital costs</b>	US\$80-100 million
<b>Operating costs</b>	Bottom quartile cash costs competitive with existing brine producers
<b>Economics</b>	High internal rate of return
<b>Location and Infrastructure advantage</b>	Sealed road and railway to Port of Antofagasta, gas line and compression station 40kms to the north, low cost local workforce, low rainfall and high net evaporation rates, and strong provincial government support

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Olaroz is well advanced compared to other exploration brine projects having completed exploration drilling, a resource estimate, a scoping study and now undertaking a DFS. Coupled with the high quality of the brines and related technical advantages of the Olaroz project has significant time advantages over other projects.

### **Definitive Feasibility Study, (DFS), Update**

The DFS is now well advanced and due for completion in mid 2010. The purpose of the DFS is to examine in detail the commercial, financial and technical aspects of developing Salar de Olaroz, and to refine and confirm the scoping study results which indicated that Olaroz would be a low cost and long life project. Key elements of the DFS are:

- **Pond Processing Test Work** - Including brine extraction, long-term solar evaporation test ponds, and process development test work both in laboratory and in-field;
- **Drilling** - Infill core drilling to upgrade resource categories to “Measured and Indicated”. The program will involve multi-point brine sampling through the sequence, down-hole geophysics and hydrogeological test work on collected cores.
- **Pump Testing** - Long time frame pump testing and other studies to develop a better understanding of bulk hydrogeological properties and likely aquifer response to development.
- **Surface Geophysical Surveys** - Mapping basin shape and extent of brine pool;
- **Plant Process Planning** - Evaluation of process route using field results;
- **Finalize Plan and Economic Analysis**

### **Executive Management and DFS Study Team**

The Company's Managing Director, Richard Seville, has been based out of Argentina since July in order to provide “real time” input as required in the DFS and in the Company's other commercial activities.

The Olaroz project is being coordinated by Argentine Chemical Engineer, Marcelo Sanchez who has been in the role for nearly a year and a half.

Orocobre has assembled a world class DFS study team of consultants which includes:

- John Houston – Consultant Hydrogeologist with over 40 years experience - expert salar hydrogeologist who undertook the investigations and resource estimates at both producing salars in South America – Salar de Atacama (Chile) and Salar de Hombre Muerto (Argentina).
- Peter Ehren – Lead Processing Consultant – former processing manager at SQM's operation at Salar de Atacama and research manager with nearly 20 years experience.
- Jerry Lukes – Processing Engineer with over 40 years experience including SQM's development at Salar de Atacama in Chile and operations at the Great Salt Lake in USA
- Jorge Andreani – Processing Engineer with over 40 years experience in chemical engineering in Argentina both in industry and in University.

## Drilling and Pump Testing

This work program has been developed, and is being supervised by Consultant Hydro-geologist, Mr. John Houston, one of the world's most respected salar hydro-geologists.

During the Scoping Study phase of development, Orocobre drilled a grid of holes that resulted in the JORC compliant inferred resource announced to the ASX in April, 2009. After assessment of this initial data, the company's resource team developed plans for a second round of drilling, down-hole geophysics, and pump testing with the objective of upgrading the resource to Measured and Indicated resource categories and to develop an understanding of the productive capacity of Olaroz resource.



*Drilling the first water bore*

Martín E. Vail Servicios Geológicos		<ul style="list-style-type: none"> <li>• Perforaciones</li> <li>• Planos de Sitio</li> <li>• Estudios Hidrogeológicos</li> <li>• Estudios Ambientales</li> </ul>
PROPIETARIO: OROCOBRE LIMITED		FECHA: 25/09/2009
UBICACION: SALAR DE OLARAZ		COORDENADAS: 23° 32' 04" S 69° 47' 21" O
ZONA: Sector Sur del Salar		
<b>PERFIL DE POZO N° F3</b>		
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*Geological Log with >95% Recovery*

As a first part of our second drilling program, three large diameter water bores have been drilled and pump testing has commenced. We are also pleased to report that very high recoveries were achieved with the cuttings on these wells (over 95%), and that the assessment confirmed the geological model on which the April JORC resource was based.

The main part of the infill drilling operation is set to commence in December, 2009, and will be undertaken though to February, 2010. The results of this programme will be incorporated in DFS to be completed in mid 2010.



Considerable efforts have been made to understand the drilling and recovery results from the initial drilling campaign in order to identify optimal drilling systems and testing techniques to be used in the second drilling campaign. Orocobre is confident that the selected drilling and testing plans will help ensure a high confidence interpretation and understanding of reservoir properties, and improve the reliability of our resource assessment.

During the DFS, some additional holes away from the current resource area will also be drilled. This drilling program will include wells on the newly acquired leases and to deeper horizons. This drilling is necessary to develop a basin wide hydrogeological model important to understanding extraction capacity. This drilling also has the potential to result in a significant resource increase.

### Surface Geophysical Surveys and Geological Mapping

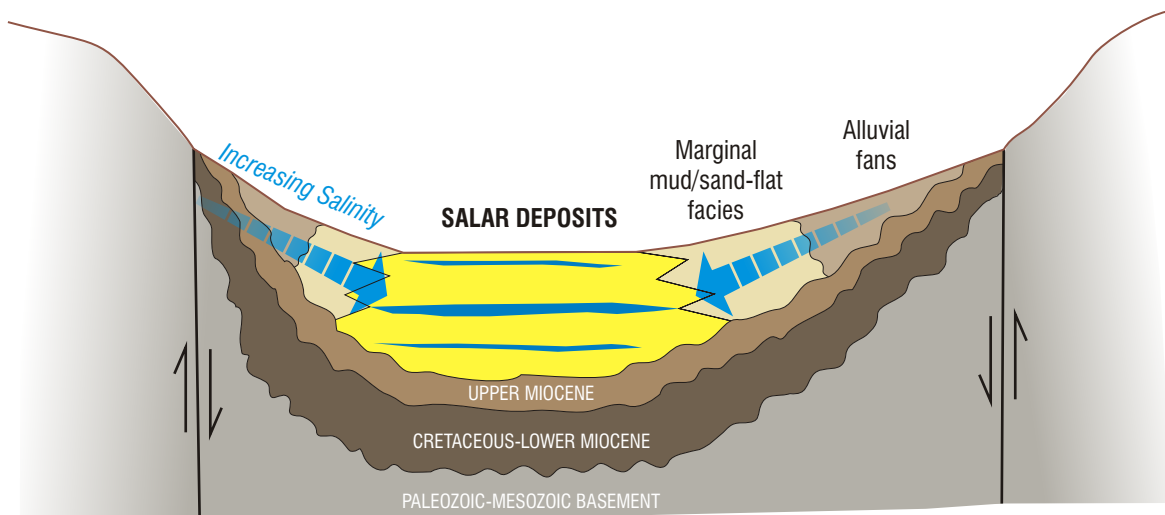
Augmenting and supporting the data collected from our drilling and testing work is the surface geological mapping of the whole catchment, satellite interpretation and surface geophysical surveys all of which have been recently completed. The surface geophysical work included ATM and gravity surveys.



*Interpretation of concentration model – salar nucleus and marginal zones*

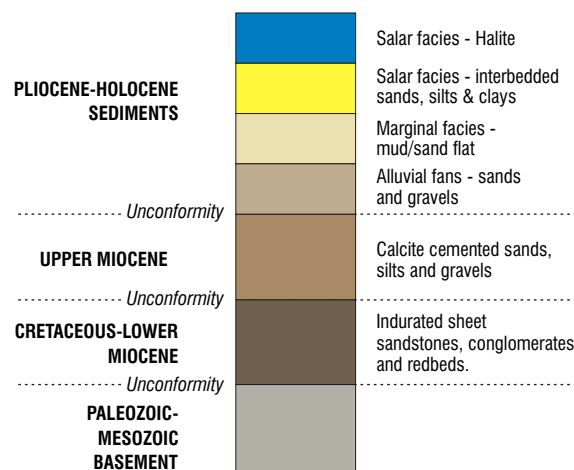
The ATM surveys map salinity, which should be proportional to the potassium and lithium content of the subsurface brines. The surveys are located to understand the interface between brines and fresh groundwater water around the margins of the salar. Preliminary data clearly shows that the most saline brines are focused on the salar nucleus covered by Orocobre leases, with reducing salinity away from the salar nucleus through the marginal zone.

The gravity survey is currently being analysed and will be used to refine the company's understanding of the shape of the overall basin and possible depth extent. When complete, the overall basin model will be used as part of the resource estimate modelling process and to identify additional potential. It is anticipated that the gravity survey analysis and final ATM data will be available in December, 2009.



### CONCEPTUAL MODEL OF OLAROZ BASIN

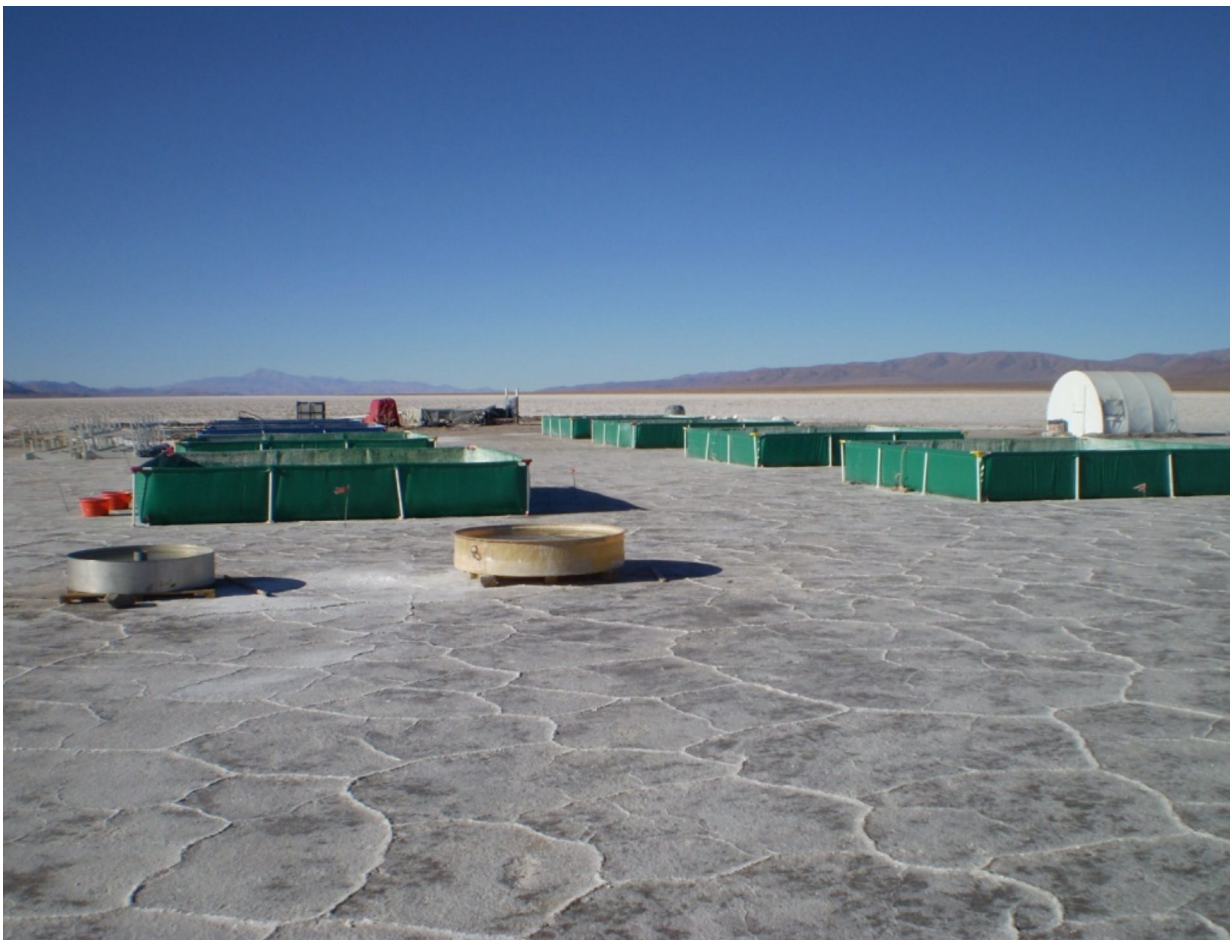
(10 : 1 vertical : horizontal exaggeration)



## Evaporation Pond Processing Test work

Evaporation Pond Processing Test work is one of the longest lead items for any lithium- potash process development, and a key element of the DFS work underway at Olaroz. In order to properly design the evaporation pond complex and the associated processing plants, it is essential to undertake a detailed study of how the brines at Olaroz behave under the actual climatic conditions at Olaroz while using the process routes which are used elsewhere on brines with similar chemistry.

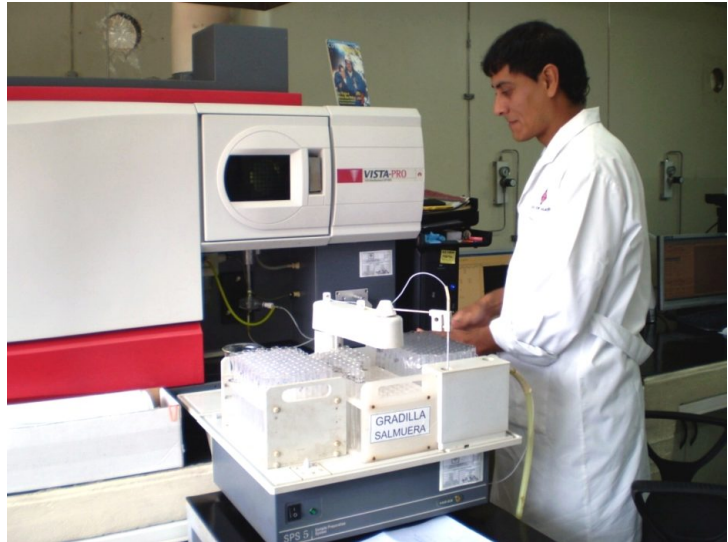
Our process engineering team has been operating a series of evaporation test ponds at Olaroz for over 6 months, taking detailed daily measurements of the brines progress towards concentration in real world conditions. The team has also completed work at University of Salta, Argentina developing proprietary brine purification and reagent addition processes which are now being utilized in the field with pilot scale tests.



*Evaporation Pond Test work*



In conjunction with the test work, advances are being made in finalizing the process flow sheet. As previously indicated, the preferred process flow sheet is expected to be an adaptation of the “Silver Peak” process which has been used in Nevada for over 40 years. Modelling of the results so far is yielding better than anticipated Lithium Carbonate and Potash recoveries and lower operating costs than projected in the Scoping Study.



*ICP analysis at Alex Stewart Laboratories in Mendoza*

### **Process Flow Sheet Development and Engineering**

Based on the results from test work to date, the process flow sheet has been reviewed with positive results. Recoveries of lithium and potash are modelled to be above 70%. The work also indicates that due to the low magnesium and high sulphate levels, the evaporation /concentration requirements prior to the production of lithium carbonate in the reactor are expected to be much lower than at existing operations at Atacama and Hombre Muerto, resulting in significantly shorter processing times.

Financial modelling also shows lower operating costs than estimated in the scoping study. While there is additional work required to finalize the process flow sheet, it is expected that the process flow sheet, mass balance and key equipment list can be provided to the EPC engineers in the first half of 2010.

In addition to the major initiative described above, the company is examining a variety of options related to power, transportation, logistics, and other infrastructure items required for the completion of its comprehensive DFS. The excellent location of Olaroz to existing gas, water, roads, rail and skilled workforce should allow the construction of a fully operational plant on site by late 2011.

### **Environmental Impact Study**

The baseline study investigations have commenced. The work is being undertaken by Ambiental S.A., a highly respected Argentine company with a long history of working in resource developments. Many of the study groups are being sourced from Jujuy.



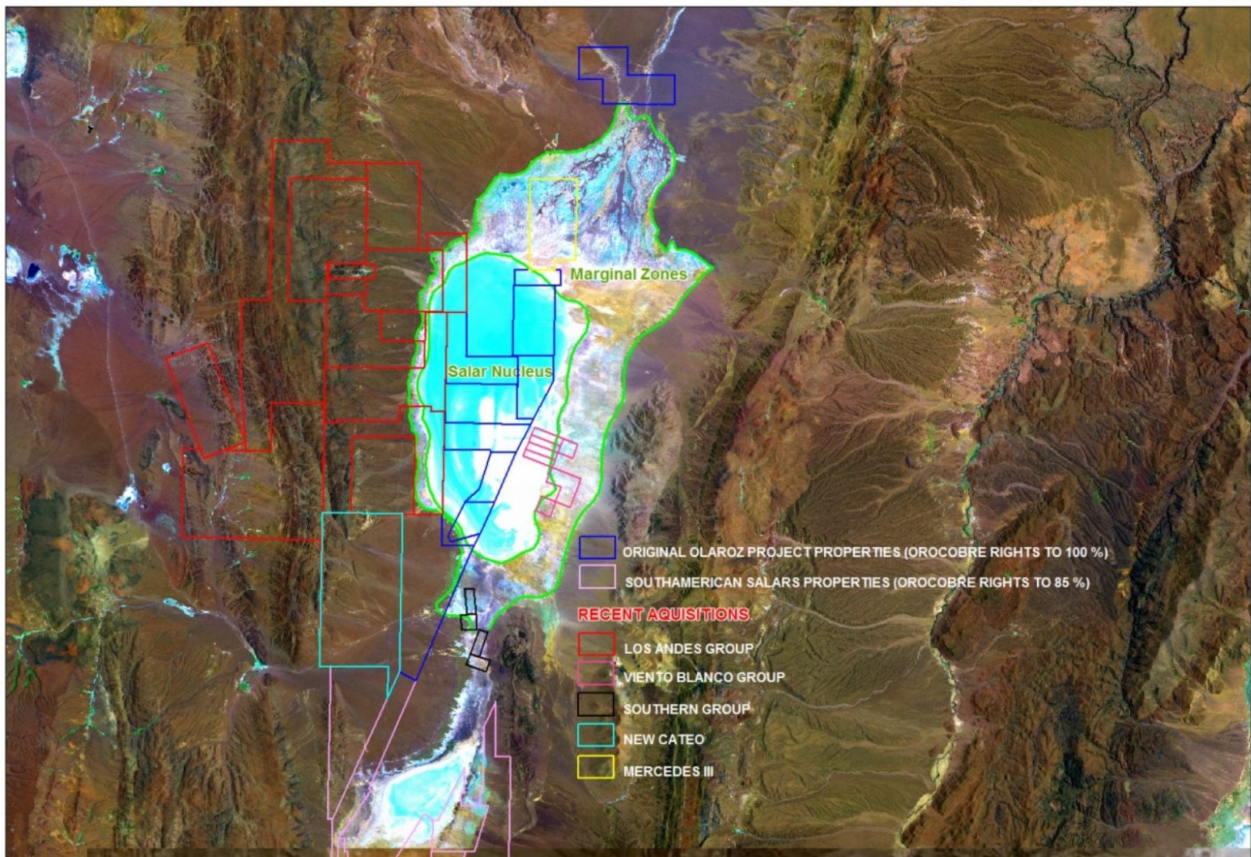
## Olaroz Land Holdings

The project land holdings at Olaroz have been considerably increased recently with approximately 53,000 hectares now owned or under contract. The acquisitions nearly double, to 14,000 hectares, the area of salar nucleus and salar margins held by the company. These areas, particularly the salar nucleus, are prospective for sub-surface lithium and potassium brines. The salar nucleus was increased by 35% to 10,000 hectares and 4,000 hectares of salar margins were added.

The area now controlled includes:

- Sufficient areas on and off the salar for brine bore fields, ponds, processing plant and infrastructure
- Extensive access to public roads which could be used for gas or power easements
- Access to fresh water supplies

The company owns, or has rights to own, all its Olaroz area properties outright. Rights to the brines are not, as is the case with some competitors, held through time limited tribute arrangements or with royalties. The company has full surface rights.



*Orocobre tenement locations*

## Financing, Off-take and Development

Orocobre is able to reaffirm that it is on schedule to complete its DFS by mid 2010. A final investment structure and decision will then be made, taking into account the results of the DFS, review and selection of a minimally dilutive path to financing, receipt of final governmental approvals, and the nature of the off-take agreements with end users.

The company is currently exploring a variety of financing options, and believes that as it continues to prove the unique quality and scale of the Olaroz project through the DFS process, the financing options will continue to expand, and the costs of funds will improve.

Orocobre has received approaches from Chinese, Japanese and Korean companies interested in entering into long-term supply agreements from the project and providing finance for its development. These companies included vehicle manufacturers, trading houses and battery chemicals manufacturers.

We continue to work with these companies to better understanding their volume and technical specifications, and are incorporating those needs into our planning activities. We intend to work closely with these potential off-take partners in the coming months to incorporate their requirements into our DFS, and in anticipation of the construction financing of the Olaroz project.

Orocobre also reaffirms its belief that development will commence late in 2010, with initial production targeted for the end of 2011.

For and on behalf of the Board  
**Paul Crawford**  
Company Secretary

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## Competent Persons Statement

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Richard Seville who is a member of the Australasian Institute of Mining and Metallurgy. Mr Seville is an Executive Director of Orocobre Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Persons as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.' Mr Seville consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.