

# MARKET RELEASE

22 May 2008

#### Pacific Enviromin Limited

#### REINSTATEMENT TO OFFICIAL QUOTATION

The suspension of trading in the securities of Pacific Enviromin Limited (the "Company") will be lifted immediately, following receipt of an announcement regarding a placement of ordinary shares and a renounceable rights issue.

Security Code: PEV

Rohan Abeyewardene Adviser, Issuers (Brisbane)



22 May 2008

Company Announcements Office Australian Stock Exchange Limited 20 Bridge Street SYDNEY NSW 2000

Dear Sir

Pacific Enviromin Limited ("PEV") announces a placement and renounceable rights issue

Pacific Enviromin Limited ("PEV") is pleased to announce a placement and renounceable rights issue to raise \$4.2 million. This will be undertaken by way of the following:

- a placement of approximately16.7 million ordinary shares at 6 cents per share to raise \$1.0 million, and,
- a fully underwritten renounceable rights issue of approximately 53.6 million ordinary shares at 6 cents per share to all shareholders to raise \$3.2 million.

The placement will be completed to sophisticated investors who qualify under S708 of Corporations Act. The rights issue will be on the basis of one (1) new share for every six (6) shares held at the record date, in accordance with the following timetable:

Announcement of Issue	22 May 2008
Prospectus lodged with ASIC (Lodgement Date)	4 June 2008
Rights Trading Date ("Ex" Date)	10 June 2008
Record Date	16 June 2008
Prospectus Issue to Shareholders	18 June 2008
Trading of rights closes	23 June 2008
Rights Trading Closing Date	23 June 2008
Closing Date for Acceptances	1 July 2008
Shortfall Notification	2 July 2008
Expected Date for Allotment of Shortfall Securities	8 July 2008

Patersons Securities Limited and Cygnet Capital Pty Limited have been appointed joint lead managers and underwriters to the capital raising.

The prospectus relating to the rights issue is expected to be lodged with the ASX and ASIC on Wednesday 4 June 2008.

The funds will be used for two main purposes:

1. Capital expenditure to expand the plant and equipment at the Company's Mantuan Downs mine to enable further processing of the calcium bentonite now being extracted. At present the bentonite is simply sundried before shipment as an unprocessed bulk product. However there is substantial demand for a bentonite product processed to smaller granular or powder form, or beneficiated, and packaged, which will attract a significantly higher sale price. The additional cost for final processing has been calculated at approximately \$19 per tonne, however the processed product could attract additional revenue of more than \$50 per tonne.

2. Commencement of the development program at the Company's Grafton Range sodium bicarbonate project, with the drilling of wells to confirm the size and quality of the identified brine reservoir. This will enable detailed scoping studies on the technical and commercial requirements for production of up to 30,000 tonnes of sodium bicarbonate per annum.

Further details of these company operations are provided in the attached presentation, and will be included in the rights issue prospectus which will be sent to all shareholders in the near future.

Yours faithfully

Brian Jones Chairman



#### Building an industrial minerals portfolio

May 2008

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- The JLM's, their respective servants or agents, make no recommendation as to whether you should participate in either the capital raising for PEV nor do they make any recommendation or warranty to you concerning the shares or accuracy, reliability or completeness of the information provided or the performance of the Company.
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- The Document contains reference to certain intentions, expectations and plans of PEV. Those intentions, expectations and plans may or may not be achieved. They are based on certain assumptions which may not be met or on which views may differ. The performance and operations of PEV may be influenced by a number of factors, many of which are outside the control of PEV. No representation or warranty, express or implied, is made by the JLM's or PEV or any of their respective directors, employees, agents, advisers and consultants that any intentions, expectations or plans will be achieved either totally or partially or within a prescribed timeframe or that any particular rate of return will be achieved.
- The Information disclosed relates to the proposed business of PEV at the date of this Document. Material information may have changed since the date the Document was compiled. No responsibility is accepted to advise any person of any change.
- Neither the provision of this document nor any information contained in this document or subsequently communicated to any person in connection with this document is, or should be taken as, constituting the giving of investment advice to any person.
- The JLM's advise that they and persons associated with them may have an interest in the securities of PEV and that they may earn brokerage, commissions, fees and other benefits and advantages, whether pecuniary or not and whether direct or indirect, in connection with the making of a recommendation or a dealing by a client in these securities, and which may reasonably be expected to be capable of having an influence in the making of any recommendation, and that some or all of our respective Representatives may be remunerated wholly or partly by way of commission. The JLM's respective directors and staff may hold securities in PEV and may participate in the offer on their own accounts. The JLM's may also participate as principal in the PEV offering.
- The JLM's will receive fees for their role in assisting PEV in raising the equity capital required by the Company.
- By accepting this document you acknowledge and agree to be bound by each of the foregoing statements.

## About PEV



- Listed in 1999 as product innovation company (TSR)
- Acquired Ipoh Pacific (bentonite-based environmental remediation and protection technologies) in 2005
- > Acquired IPR (Mantuan Downs calcium bentonite) in 2006 as vertical integration project
- > Now building an industrial minerals portfolio (not metals or coal)
- PEV focus on <u>identified</u> industrial minerals opportunities which have a <u>specific market or</u> product advantage no greenfields or "moose pasture"
  - Mantuan Downs calcium bentonite
    - has the highest CEC (quality) in Australia and among the best in the world
    - Very low mining costs
    - Resource able to be reported in accordance with the JORC code at 15 million tonnes
    - mining has commenced
  - Grafton Range sodium bicarbonate
    - unique mining operation
    - more efficient extraction process than other producers
    - Domestic shortage of high-value product
  - Other targets must have unique/advantage qualities
    - Several have been reviewed and rejected

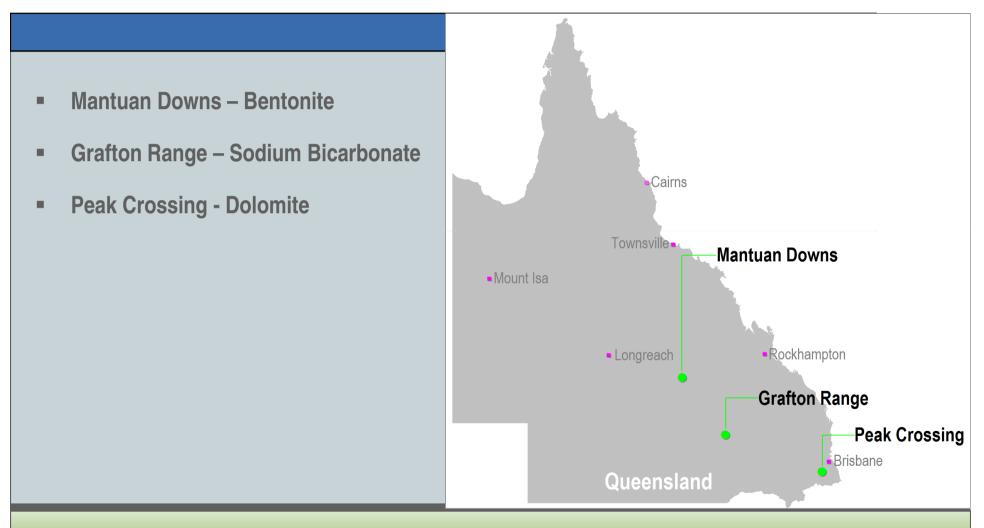
## Why industrial minerals?



- ✓ multitude of industrial uses
- ✓ diversification within one portfolio
- ✓ a mix of revenue generation and resource development
- ✓ minimal overburden/extraction costs
- ✓ minimal primary processing costs
- ✓ major environmental applications
- ✓ Asian proximity for global players



### **PEV Industrial Mineral Projects**



#### **PROJECT LOCATIONS**

### What is Bentonite?



- Natural clay mineral formed by weathering of volcanic ash
- Bentonite is an important industrial mineral with world production exceeding 14 million tonnes per annum
- Bentonite has over 2,000 uses from cat litter to wine purification to nanotechnologies
- Unique chemical and physical properties makes it well suited to environmental remediation and related applications
- Quality of the bentonite is defined by its CEC (Cation Exchange Capacity)





## Bentonite Applications (> 2000 uses)

#### **PEV Market Priorities**

- ✓ Agricultural applications
  - soil enhancement / fertiliser enhancement & substitution
- ✓ Livestock feed
  - Protein enhancement and methane reduction
- ✓ Waste stream processing
  - Generation of fertilizer substitutes
- ✓ Refining of oils & fats (palm oil) wine, beer, foods
- ✓ Environmental remediation
  - Absorption of toxins from soil, water & air

#### **Other Potential markets**

- Pelletisation of iron ore fines
- Foundry moulds
- Drilling mud
- Pharmaceuticals
- Cosmetics, detergent & preparations, paints
- Nanotechnology development







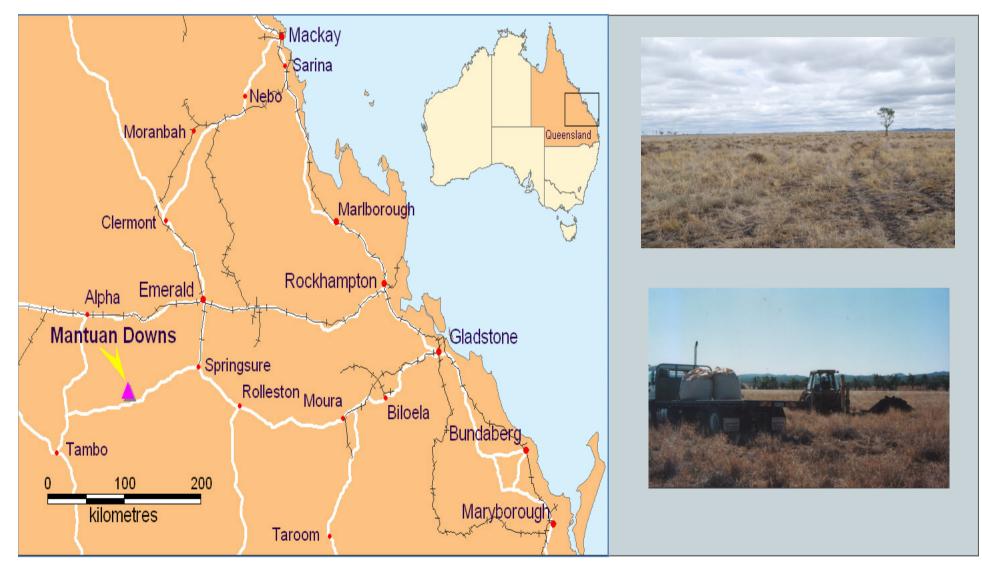






### Mantuan Downs Bentonite Deposit



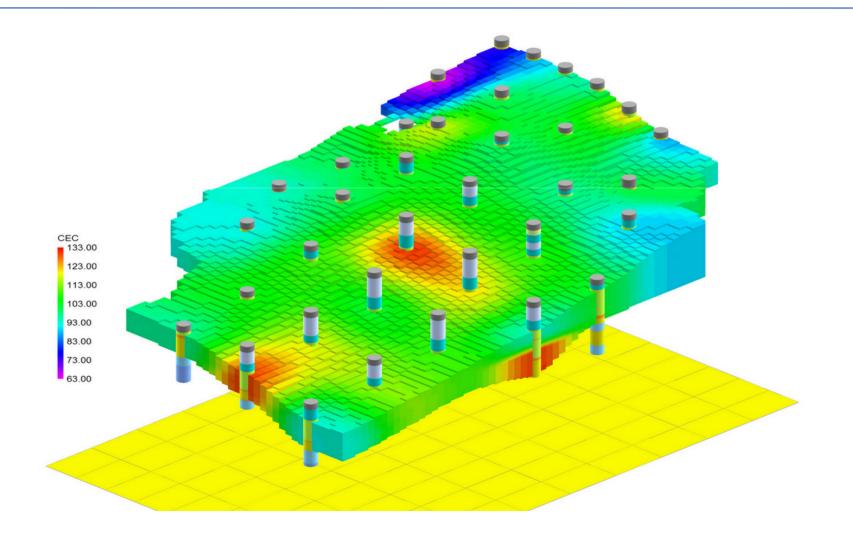


### Mantuan Downs Bentonite Resource



#### 3D image of CEC quality taken from drill results

(10x vertical exaggeration)



## Resource JORC Estimates



(refer JORC consent on last page)

Mantuan Downs		CEC 60meq/100g cut-off		
	Tonnes	meq/100g		
Indicated	12,147,500	98		
Inferred	2,867,500	96		
Total	15,015,000	97		
New drilling commencing 26 May to expand JORC.				

## Mining Commenced April 08



First 2,000 tonnes of bentonite sun dried in pit

- Mining lease granted 1 April 08
- Superior quality bentonite
  Mantuan = 90 to 130 CEC
  - World average = 80 CEC
- Low mining costs

because –

- ✓ 1 metre overburden
- ✓ 14 metre max depth
- ✓ Flat resource profile
- Capex Required
  - Processing plant to deliver substantially higher value product
  - Complete all-weather access road



### Domestic Market Strategy



Four primary Australian markets

✓ Agriculture

✓ Industrial Waste streams

✓ Government Waterwise programs

✓ Environmental remediation

# Domestic Market Strategy

### **Primary Industries**



CSIRO, DPI, and field usage demonstrate bentonite blends enhance livestock growth and soil productivity

- ✓ Livestock feed supplement: potential for up to 50,000 tpa
  - Australia's largest feed supplement block producer to use PEV bentonite in feed blocks
  - 2 of Australia's top agribusinesses to trial bentonite supplement in feed lots
- ✓ Livestock waste blending to create fertilizer substitute and soil conditioner: potential for up to 250,000 tpa
  - ✓ 1.2 million cattle produce over 2 million tonnes pa of manure in Australian cattle feedlots
  - ✓ PEV is working with top feedlot operators to blend bentonite with manure for sale to the primary industries sector

# Domestic Market Strategy



#### Other markets

- ✓ Qld Govt Waterwise program
  - Government specified water-saving product
    - Sales commencing into SE Qld through distributor
- ✓ Industrial Waste streams
  - Blending with industrial wastes provides an excellent fertilizer substitute
    - Agreement with one of the largest Australian abattoirs to work together on bentonite-blending all waste for sale
    - Agreement with carbon waste contractor to produce bentoniteblended soil enhancer
- CSIRO proved that bentonite blended with fertilizer reduces early leaching of fertilizer elements
  - Working with several fertilizer suppliers on this project

## International Strategy



- Why the international interest in PEV bentonite?
  - Superior CEC = higher quality = more efficient process effect =
    <u>less product needed and less processing for end use</u>

✓ Shipping cost advantage from USA or Europe to Asia Pacific

- Taiko (Malaysia) use 300,000 tpa of bentonite for palm oil processing. They currently use lower CEC Indian bentonite and are keen to access our 100 CEC bentonite. They have visited 3 times and tested samples. Visiting soon, and requested quotes for delivery in 20,000 tonne shipments.
- Halliburton (USA) is an international supplier of drilling mud. Globally the drilling industry uses 1.5million tpa of bentonite. Halliburton visited in March and advised PEV that our bentonite is of the highest quality.
- Amcol/Volclay (USA) are the largest global distributor. They have visited and tested samples. They have again asked for samples this month, and have previously expressed interest in JV production.
- Wyoming Bentonite (USA) are visiting in June/July.
- S&B Bentonite is the largest EU producer. Visiting in July to discuss Australasian supply.

## **Environmental Remediation**



One of fastest growing industry sectors worldwide

- Estimated to be worth US\$586 billion in 2008
- 120,000 contaminated sites in Australia, with clean-up costs of \$5-8 billion
- ✤ 3 million contaminated sites in Asia
- An estimated 1.3 million tonnes (1.5 billion litres) per year of petroleum products enter global waters
- Air contamination is a major worldwide health issue
- Worldwide demand for new low cost environmental remediation technologies
- Bentonite has demonstrated capacity (CSIRO) to ameliorate contamination

## Environmental remediation



Bentonite based products and technologies can enhance soil quality and reduce toxins in soil, water and air

- Beneficiated bentonite is used to improve crop yields
- Bentonite in livestock feed reduces methane emissions (carbon credit potential)

CSIRO & DPI research - PEV is working with agricultural bodies

- Bentonite filters reduce toxins in tobacco smoke
- Bentonite absorbs heavy metal in soil which contaminates tobacco leaf
  - PEV holds patents and is working with a global tobacco company on both projects
- Absorption of oil spills in water

> PEV holds exclusive global licence for completed CSIRO research

## Mantuan Downs Financial Summary



per tonne (A\$)	Sundried	Processed
Revenue at mine gate	70 - 90	150 - 800
Costs		
Mining	6.34	6.34
Processing	-	19.30
Admin ( Mgt, Leases, etc	1.91	1.91
Mine Gate costs	8.25	27.55
Mine Gate Net Cash	61.75 – 81.75	122.45 – 772.45
Revenue as FOB (Gladstone)	130 – 150	150 - 800
Costs		
Mine Gate Costs	8.25	27.55
Transport costs	65	65
FOB costs	73.25	92.55
FOB Net Cash	56.75 – 76.75	57.45 – 707.45

# Revenue Assumptions



### Mine Gate pricing samples

Pricing for bentonite sales is generally a private deal with no global spot pricing. Below are samples of Australian pricing.

- Coffey Mining research advised mine gate sundried calcium bentonite price at \$75pt (Apr 2006)
- Qld. bentonite (60 CEC) sundried currently sold at mine gate for \$66 pt (bulk)
- Qld bentonite (60 CEC) crushed granular currently sold at mine gate for \$100pt (bulkabags)

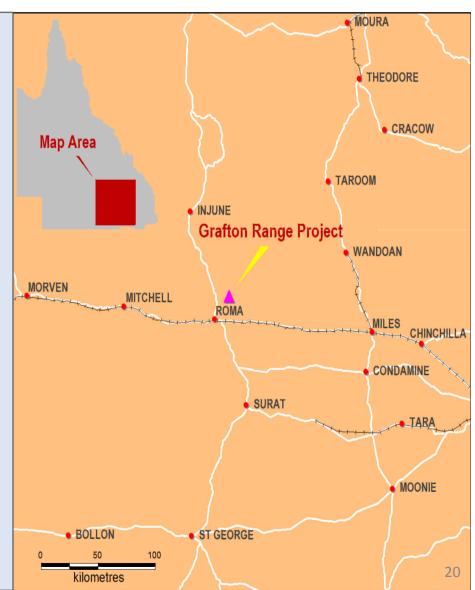
(PEV bentonite is 100 CEC)

- Qld bentonite (60 CEC) fine-crushed currently sold into Brisbane factory at \$350pt FOB
- US distributor advised that mine gate price for PEV product should be \$75 pt.
- Australian agribusinesses have discussed \$100pt for granular at mine gate
- Australian wine industry imports French processed bentonite (lower CEC) at \$780 pt. They are prepared to look to a high quality Oz product.

## GRAFTON RANGE SODIUM BICARBONATE PROJECT



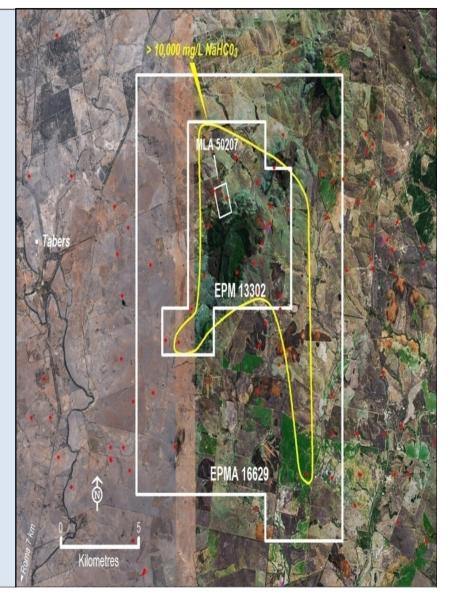
- ✓ Australia is a significant net importer of sodium bicarbonate (BAKING SODA).
- ➢ Used extensively in:
  - food manufacture,
  - pharmaceuticals,
  - mineral processing
  - other industries.
- Major derivative products, sodium carbonate (soda ash) & caustic soda are key inputs into:
  - mineral processing
  - chemicals and glass manufacture
  - other industries





## GRAFTON RANGE SODIUM BICARBONATE PROJECT

- > High concentrate sodium bicarbonate brine> 14,000 mg/l in identified artesian reservoir
- Brine pumped to the surface via wells
- Non-chemical processing
  Solar drying or reverse osmosis
- Product sells for \$300 \$800 per tonne.
- No native title issues/landholders supportive
- > Two year development project
- Probable JV structure
- Capex commence development program
  - ✓ Drill wells to assess volume and quality
  - Scoping studies on technical and commercial requirements
  - ✓ All-weather access road



# Capital Structure



	Number of shares	Value	Holding	
Current				
Total Shares on Issue	305 million	-	81.3%	
Top 20 holders	206 million	-	67%	
Directors shares	133 million	-	43%	
Market Cap @ 15 May 2008		\$25.9 million		
No options on issue				
New Issue s @ 6 cents per share				
Placement shares	16.7 m	\$1,000,000	4.4%	
Renounceable Rights issue shares (1 for 6)	53.6 m	\$3,200,000	14.3%	
Total shares (Post Issue)	375.3 m	-	100.0%	
Issue co-underwritten by Paterson Securities Ltd and Cygnet Capital Pty Ltd				



### Share Price Chart



# Use of New Equity Funds

\$4.2 million raised

	Mantua	n Downs			
	•	Processing plant	2,050,000		fine crushing/bagging
	•	Drying area	75,000		proper sun drying
	•	Services to site	110,000		water/power/comms
	•	Road construction	225,000		all-weather road
	•	Admin etc	220,000		Mgt/leases/etc
	•	Exploration	120,000		JORC expansion
			2,8	300,000	
	Grafton	Range			
	•	Proving wells	600,000		2 wells drilled
	•	Road access	<u>100,000</u>		all-weather road
			7	00,000	
	Working	g Capital	4	00,000	
Costs of the Issue		3	<u>300,000</u>		
	TOTAL		<u>\$4,2</u>	200,000	



### Directors



#### Mr Brian Jones B Bus, FAICD, FAIM, FFIN. Non-Executive Chairman

Director or MD of local and international investment banks and venture capitalists, and a director of public companies, for 25 years. Skills in M&A, corporate structuring, IPO's, corporate governance.

#### Mr Paul Byrne Executive Director

Experienced director with over 20 years in the minerals and R&D sectors. Has skills in the use of industrial minerals in industry, the environment and agricultural sectors. Co-founder of Ipoh Pacific, the main operating entity of PEV.

#### Mr Chris Dredge B App Sc, MBA, AusIMM Executive Director

Highly regarded geologist with 30 years experience in the mining sector. Skills in identifying and plotting resources, project managing mine development, and commercialisation. Co-founder of Ipoh Pacific .

#### Mr John Laurie B Ec, FCPA, FAIM Non-Executive Director

Experienced public company director . Previously Ch of Home Leisure Ltd, MD of Melcann Ltd, ED of Australian Cement Ltd, GM of CSR Building Products. Skills in domestic and international trade and corporate governance.

#### Mr Peter Ziegler B Comm (Hons), LL B (Hons) MFM, FCPA, FTIA, ACA Non-Executive Director

Experienced company director. Previously CEO of CPH Capital Pty Ltd part of the Consolidated Press Group. Skills in accounting & law, investment strategies & corporate governance .

## <u>Summary</u>



### Pacific Enviromin - focussed on industrial minerals

Mantuan Downs calcium bentonite resource Mining commenced - Minimal mining cost > Multi-use product Domestic sales strategies and opportunities implemented Strong international interest New funding capex will enable value-adding production Grafton Range sodium bicarbonate project > Naturally produced pure brine product > Environmentally friendly process Strong domestic demand/import substitution New funding capex will enable wells to confirm quality and volume > Possible JV with large industry group **Environmental products**  $\checkmark$ > Increase market exposure and revenue opportunities

### Indicative Timetable



#### • 22 May Announcement of Placement and Rights Issue

- 4 June Lodgement of Prospectus
- 10 June Ex-date (rights trading begins)
- 16 June Record Date
- 18 June Opening Date and dispatch of Prospectus
- 23 June Rights trading ends
- 1 July Rights Issue closes
- 8 July Rights Shares allotted



#### JORC ANALYSIS

The information contained in this presentation that relates to Mineral Resources is based on information compiled by Mr. Christopher Dredge, a Director of Pacific Enviromin Limited. Mr. Dredge is a geologist and a Member of the Australasian Institute of Mining and Metallurgy and has the relevant experience in relation to the mineralisation being reported upon to qualify as a Competent Person as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Dredge consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.