

Colorado Potash Project Update

Paradox Basin, Colorado, USA

September 2013

This document provides a high level overview of the Colorado Potash project and exploration target concept. For information concerning this project and Red Metal's operations and plans for the future please contact Rob Rutherford, Managing Director at: Phone +61(0)2-92811805 Fax +61(0)2-92815747 www.redmetal.com.au



Highlights

- » Potash recognised in historic oil wells outlines vast tonnage potential at solution mineable depths and grades.
- » Recent issue of potash prospecting permits opens region to potash focused exploration for the first time.
- » Located only 160 kilometres to rail head providing access to west coast and gulf ports.
- » Gas infrastructure traversing the project offers potential for cheap energy. Scope for mine water sources identified in deep aquifers.
- » Strong community support.
- » Seismic interpretation highlights shallower, flat bedded target region over the Dolores anticline.
- » Single proof-of-concept hole needed over Dolores anticline target to test continuity and provide salt core data for detailed scoping study.
- » Five holes permitted for drilling to fast track towards a JORC compliant resource if proof-of-concept hole proves successful.

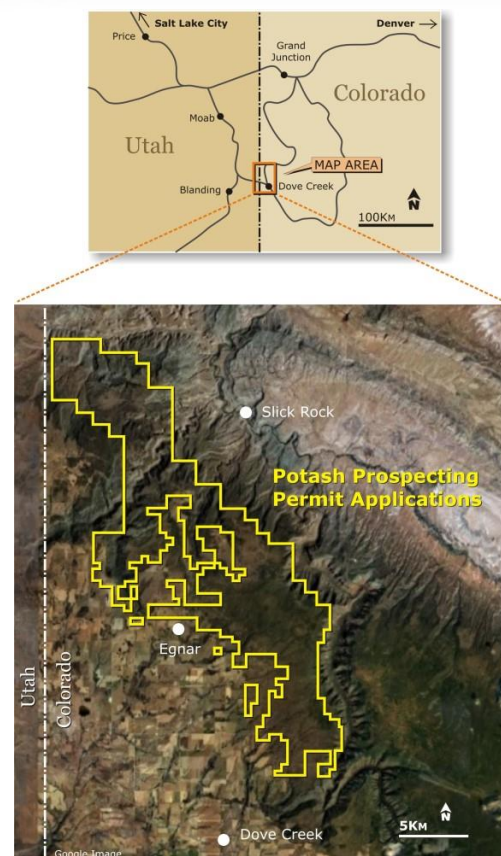


Figure 1: Project location

Background

Red Metal Limited (“Red Metal”, ASX:RDM) is a diversified Australian listed mineral exploration and development company with extensive exploration tenements in Australia.

Red Metal, through its subsidiary RM Potash, applied for 21 potash prospecting permits covering a total of 166 square kilometres of the potash-rich Paradox Basin, Colorado, USA (Figures 1 & 3).

A detailed study by leading international potash consultants, Agapito Associates Inc. (Agapito) identified multiple potash-rich horizons within the permit area and concluded that there was **high potential for defining economically significant potash resources** that could be amenable to extraction using **standard solution mining methods** (Table 1).

This year the environmental assessment process allowing drilling for potash on the Colorado Potash Project was successfully finalised. In August 2013 five prospecting permits covering the approved drill sites and extending over 35 square kilometres were issued by the Bureau of Land Management.

The approval and issue of potash prospecting permits represents a major milestone for the project and opens this region of the Paradox Basin to potash focused exploration for the first time.

Red Metal is evaluating the economic potential for a low capital cost, high-return solution mining operation with scope to expand.

Project Location <[Google Earth Location](#)>



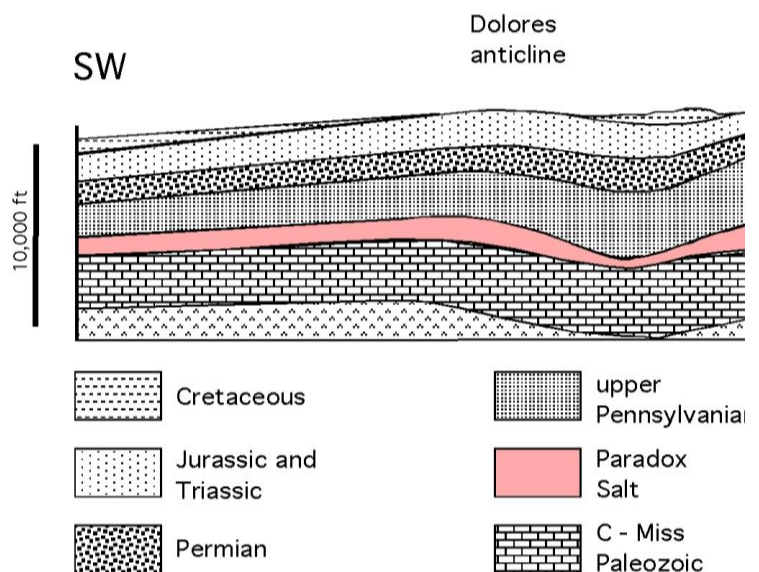
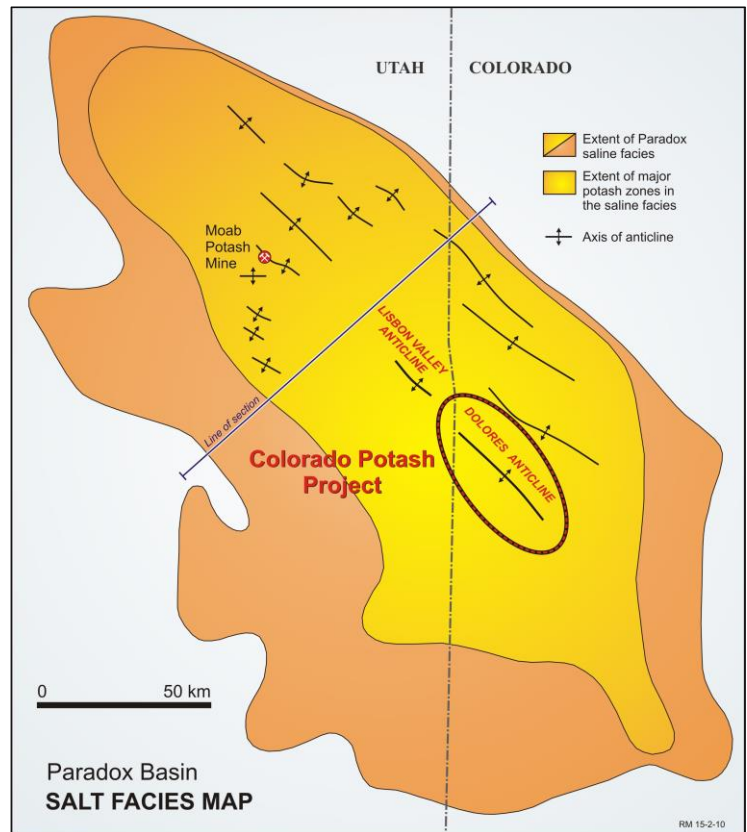
ASSET

Geology

The basin stratigraphy of the Paradox Basin has similarities to the basins that host the major potash solution mining operations in Saskatchewan, Canada. It contains a large number of laterally extensive salt horizons several of which contain beds where potash-rich salts predominate. Drilling logs from earlier regional oil exploration indicate that some of these beds reach economically viable widths and, importantly, primarily consist of the soluble potassium-rich salt, sylvite (potassium chloride). This combined with advances in directional drilling technology, improved solution mining techniques, good regional infrastructure and stronger potash prices has stimulated exploration for new solution mineable deposits in the basin.

The Red Metal Project will evaluate the potash horizons that occur on the crest of the regional Dolores anticline (Figure 2) located in the eastern portion of the basin. Regional oil exploration data, which included seismic surveying, provides strong evidence that this anticline is a very broad feature with particularly gentle dips - a key requirement for optimising recoveries from cavity leach systems used in most major solution mining operations.

The potash potential of the Paradox Basin is underlined by the presence of a small-scale solution mine at Moab in the western portion of the basin that is operated by Intrepid Potash, Inc. (NYSE:IPI). This mine utilises innovative horizontal solution mining caverns in a region of shallow, gentle-dipping potash beds. Potash Minerals Ltd (ASX:POK) are also active in the western portion of the basin and, like Red Metal, are targeting deeper, flatter lying potash sequences than mined at Moab which should enable larger tonnage extraction using more standard, potentially lower cost, solution mining techniques.



Modified from Baars and Stevenson, 1981, and Kluth and DuChene, 2009

Figure 2: Regional Geology



Historic Oil Well Data

Of particular significance is the oil log data from two wells situated over 17 kilometres apart and central to the project area (Figure 3). Although no direct potash assays were taken during the oil drilling, Agapito have used standard industry practice calculations based on natural gamma data from radiometric logs to determine best estimate potassium grades for contained potash. These logs reveal a series of potash beds with encouraging grades and widths at depths at which solution mining can be contemplated with the most encouraging being the Potash 5 Bed.

Intercepts calculated for the Potash 5 Bed include 6.7 metres estimated at 27.2% sylvite (17% K₂O) from 1697.7 metres in the first hole and 3.7 metres estimated at 30.4% sylvite (19% K₂O) from 1861.7 metres in the second. Another target bed of particular promise is the Potash Bed 9 which occurs at a depth of 1934 metres in the first hole and 2112 metres in the second hole. This bed returned widths of 9.1metres at 16% sylvite in the first hole and 3.7 metres at 38.4% sylvite in the second (Figure 3).

Independent Project Assessment

Agapito's assessment validated the significant intercepts calculated from oil well log data and confirmed the large tonnage potential for potash on the project with the calculation of a JORC code compliant Exploration Target for the Potash Beds 5, 6, 9 and 19 (see Agapito Target Estimate, Table 1). Well log data indicate the dominant potash mineral for all the beds is sylvite (potassium chloride) rather than the less favoured carnallite (hydrated potassium-magnesium chloride). The study concluded that the Potash Bed 5 to be the most favourable solution mining target. The deeper beds, in particular Bed 9, are considered potentially significant because if they can be solution mined along with Bed 5 they could have the advantage of significantly lowering the drilling cost per tonne of potash produced.

The Agapito review found no fatal flaws with the project and concept at this early stage and recommended advancing the project by assessing existing seismic data and drilling a single exploration core hole located midway between the two old oil holes mentioned above. The hole would seek to confirm the positive data gleaned from the old logs and allow a more accurate assessment of the potassium content and the relative proportions of potassium salt types and impurities of the beds.

Table 1. Exploration Target Estimate for the Colorado Potash Project

Bed No.	Depth(m)	Thickness (m)	Grade K ₂ O% / Sylvite%	Grade x Thickness Product (% K ₂ O-m)	Sylvinite Tonnage (Mt)
Potash 5	1,600 – 1,900	3.5–5.2	13–19 / 20.8-30.4	57–86	940–1,410
Potash 6	1,650 – 1,950	2.6–3.9	8–13 / 12.8-20.8	34–50	710–1,070
Potash 9	1,850 – 2,150	4.2–6.3	14–21 / 22.4-33.6	72–108	1,130–1,690
Potash 19	2,200 – 2,450	8.5–12.8	13–19 / 20.8-30.4	133–199	2,310–3,470

Mt = million tonnes Sylvite(KCl) % = 1.6 x K₂O% assuming no other potassium mineral types

The Exploration Target covers an area of approximately 130 square kilometres. The target assumes a grade-thickness cut-off of 20% K₂O-m, below which mineralisation is excluded from the estimate. All mineralisation estimated exceeds this cut-off. The Exploration Target is conceptual in nature and there has been insufficient exploration to define a Mineral Resource, and it is uncertain if further exploration will result in the determination of a Mineral Resource under the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, the JORC Code"



POTENTIAL

Dolores Anticline Target

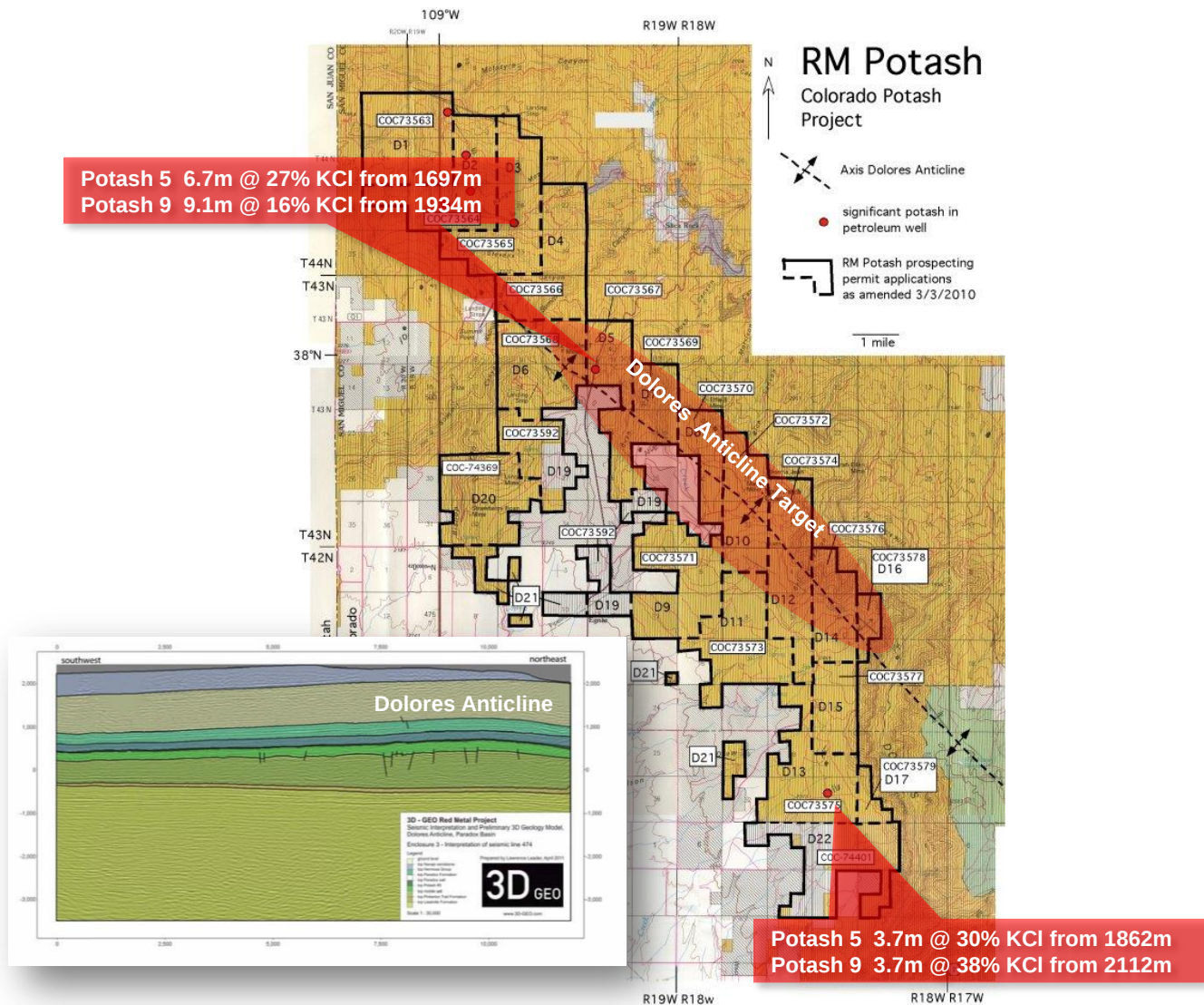


Figure 3: Prospecting permit applications showing potash in historic oil well and the extend of the Dolores Anticline target

Seismic Interpretation

Re-processing of seismic data by Red Metal has highlighted a significant area of shallower, flat lying, potash stratigraphy over the Dolores anticline were strong indications of potash are recognised in a nearby oil well (Figure 3). This is one of Red Metal's principle targets for the Colorado project and offers scope for a significant resource if further exploration proves successful.

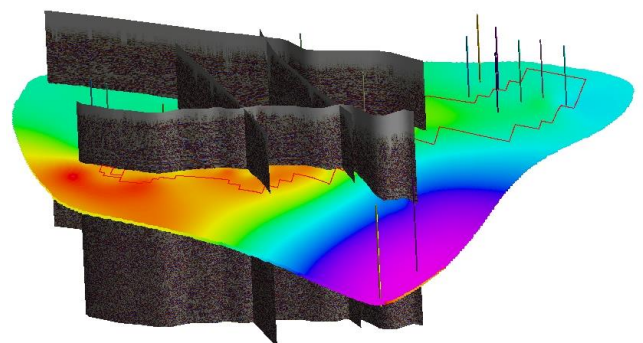


Figure 4: 3D model of seismic lines and salt horizon depth



OPPORTUNITY

Simple Drill Test

A single drill hole is proposed over the Dolores anticline target to test the continuity of the salt identified in the nearby oil well and provide salt core data for a detailed economic scoping study.

Five holes are permitted for drilling along the axis of the anticline to fast track towards a JORC compliant resource if the first proof-of-concept hole and subsequent scoping study prove successful.



Figure 5: Project landscape

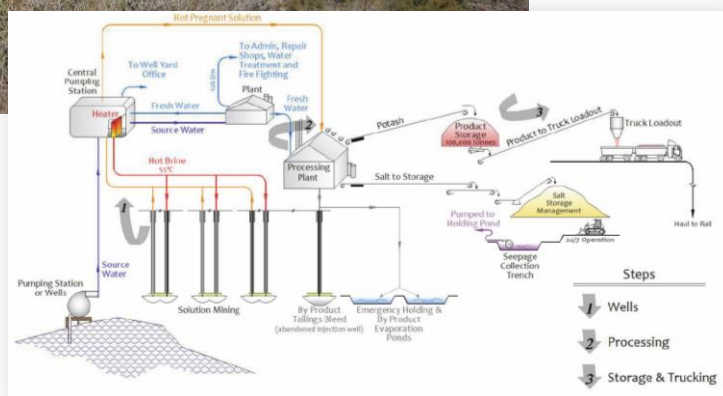


Figure 6: Typical solution mining flow sheet

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Exploration Data

The information set out above and information in this report that relates to Exploration Results is based on information prepared by Dr. Douglas F. Hambley, an Associate with Agapito Associates, Inc. and reviewed by Dr. Michael P. Hardy, President and Principal with Agapito Associates, Inc. (AAI). Dr. Hambley is a Professional Engineer registered with Professional Engineers Ontario (PEO) and the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS). Dr. Hardy is a Professional Engineer registered with the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS) and a Registered Member of The Society for Mining, Metallurgy, and Exploration (SME). Drs. Hambley and Hardy have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2004 Edition of the JORC Code. Drs. Hambley and Hardy consent to the inclusion in this report of the matters based on their information in the form and context in which it appears.