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LAKE DISAPPOINTMENT
ENCOURAGING RESULTS FROM PILOT EVAPORATION TRIAL – SYLVANIA STATION, WA
ASX ANNOUNCEMENT
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Reward Minerals Ltd is pleased to provide preliminary results for its recent pilot scale evaporation trial conducted at Sylvania, WA based brine from the Lake Disappointment Potash resource. The results are regarded as very encouraging.

Summary details are as follows:

- Initial Brine Volume 10,000 litres.
- Feed Brine analysis

K 0.503%	**Mg** 0.695%	**Na** 7.85%	**Cl** 17.8%	**SO_4** 2.14%

- Potash Mixed Salt Harvest weight - 983kg.
- Total Potassium (K) recovery to the combined harvest was 87.5% of input via the feed brine.
- Of the 87.5% recovery 40% Potassium recovery was achieved in Stage 3 Mixed Salt grading 8.8% K.
- A further 47.5% K recovery was achieved in Stage 2 Mixed Salt at a grade of 3.44% K.
- Combining Stage 2 and Stage 3 Mixed Salts the total harvest recovery of 87.5% provides a composite grade of 4.8% K.
- The Potash minerals breakdown in the combined Potash harvest

Leonite	K_2SO_4 $MgSO_4$ $4H_2O$	48.0%
Kainite	KCl $MgSO_4$ $3H_2O$	37.4%
Carnallite	$KMgCl_3$ $6H_2O$	8.8%
Sylvite	KCl	5.7%

- Trial Duration 180 days (see Note 6).
- Evaporation Rate averaged 7-8mm per day (2.7m/annum).

Trial Notes

1. The trial location at Sylvania Station near Newman, WA is 350km west of and on similar latitude to Lake Disappointment hence the trial location should provide for evaporation conditions comparable to Lake Disappointment. Importantly, the location and prevailing weather conditions allow for evaporation of the brine to dryness (if desired) and result in the high yields of potassium if recovery is the only consideration.

The overall recovery of 87.5% of the feed potassium to the bulk harvest is excellent at the composite grade of 4.8% K. The balance of the K reports primarily to the crude halite Stage I harvest (see below) with approximately 0.8% of the feed K reporting to the end brine.

2. The Stage II harvest grading 3.44% K and representing a recovery of 47.5% of the input potassium is somewhat lower than expected on the basis of the Laboratory evaporation trial completed in April 2012. The 2012 trial indicated that the trigger point for transfer of brine to the Potash crystallizers should have been approximately 37g/litre Magnesium content. It appears from the Sylvania trial result that this trigger point was somewhat early for the brine extracted from Lake Disappointment and the prevailing evaporation conditions.

It is also apparent from the trial that the trigger point for transfer of the brine to the potash harvest ponds lies within a narrow brine composition range hence must be carefully controlled. However, being a sharp transition will be advantageous in commercial operations when the control parameters are narrowed down.

3. Following from Note 2, the 8.8% K grade of Stage III harvest is excellent and demonstrates that high grade Mixed Salts can be achieved from evaporation of Lake Disappointment brines. On this basis we believe that the Potash grade of the total harvest can be significantly improved with tight control of the timing of brine-transfer to the Potash crystallizer ponds. A higher grade harvest should also be achievable by back mixing of high $MgCl_2$ end brines to the lake brine feeding the evaporation ponds.

Obviously, the recovery of higher grade harvest product comes at a reduction of overall potassium recovery. The grade *vs* recovery parameters are not finalised as yet but it is expected that a recovery of a 6.5% K harvest at 70% recovery should be achievable.

Further laboratory scale trials are in progress to establish this commercial tradeoff between harvest grade and overall potash recovery for the evaporation pond system.

4. Stage I product from the trial analysed 82-83% Sodium Chloride (Halite) and 0.30% Potassium. It is assumed that the K content results mostly from brine entrained in the crude halite. The loss of potassium to the halite crystallized represents 11.9% of the total potassium input to the trial. No seepage losses occurred as the ponds were made of HDPE plastic.

5. The weight of the Stage I halite product was 2,134kg which was 68.5% of the total harvest (of 3,117kg). Additional halite crystallized through all stages of the evaporation cycle and is the major contaminant in all of the Potash harvest products.

6. The duration of the Sylvania trial was 180 days *vs* 49 days for the laboratory trial in 2012. The reason for this relates to the trial procedure whereby a constant (250mm) head of brine was maintained in the evaporation ponds throughout the trial. The aim of this procedure was to obtain well crystallized Potash salts of a reasonably large particle size by controlled evaporation. Crystal size has important implications in any milling and flotation steps used in the Potash recovery process. The procedure utilised translated into an extended timeframe for the trial. Results of the harvest particle size analysis and flotation results will determine if the procedure utilised was warranted. These studies are in progress.

7. Importantly, the brine evaporation rate during the trial averaged 7-8mm per day (2.74 metres/annum). On this basis it is considered that the 180 day cycle can be significantly shortened in practice primarily by increasing pond area available in the halite (NaCl) crystallization phase where the crystal size is immaterial and over 80% of the water in the feed brine is evaporated. Thus the recoverable Potash per hectare of crystallizer area of approximately 100 tonnes (SOP) per hectare per annum should be readily achievable at Lake Disappointment.

8. Harvest Mineralogy and Process Implications

The Potash harvest from the Sylvania evaporation trial is consistent with expectations based on Lake Disappointment brine composition and the previous (laboratory) evaporation trial.

In practice the Potash crystallization phase will be condensed – commencing later and completing earlier (in terms of brine magnesium content) to reduce halite contamination on the front end and Carnallite/Sylvite formation on the tail end. As mentioned in Note 3 the end brine can be recycled to the front end of the evaporation ponds and thereby recover contained Potassium values in addition to improving overall harvest K grades.

The harvest XRD results indicate that Schoenite is not present in any of the evaporite products. The early stage Potash evaporite is Leonite rather than Schoenite presumably as a result of warm conditions under which the trial was conducted. In practical terms Leonite floats well under the conditions used for Schoenite flotation and is readily convertible to SOP.

The Kainite content of the Sylvania harvest was slightly higher than that obtained in the 2012 evaporation trial but is in keeping with expectations. In the currently proposed process flowsheet Kainite is converted to Leonite or Schoenite during the ore milling process. Laboratory testwork on the conversion step and flotation of the resultant Potash products has commenced.

Follow Up Testwork

Laboratory testwork on the harvest products from the Sylvania evaporation trial (983kg) has commenced.

Key components of the testwork are:

- Establishment of ore particle size distribution and ore size reduction parameters.
- Conversion of the Kainite component of the ore to Leonite prior to flotation.
- Testwork to establish the Potash recovery from the harvest by flotation procedures. Flotation of Leonite alone or in combination with Kainite.
- Conversion of Leonite Flotation concentrate to K_2SO_4.
- Locked cycle testwork to confirm the proposed process can be operated on a continuous basis with acceptable commercial parameters.

Yours faithfully

Michael Ruane
Director
on behalf of the Board