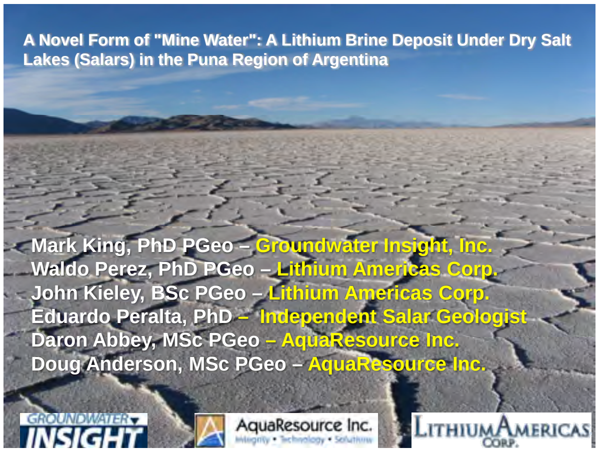

A Novel Form of "Mine Water": A Lithium Brine Deposit Under Dry Salt Lakes (Salars) in the Puna Region of Argentina

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Waldo Perez, PhD PGeo – Lithium Americas Corp.
John Kieley, BSc PGeo – Lithium Americas Corp.
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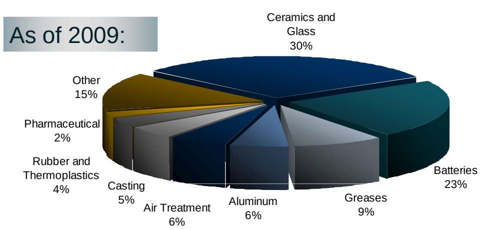
Outline

- World Lithium Demand
- Lithium Sources
- Salar Geology
- Lithium Americas Program
- Conceptual / Numerical Salar Brine Model
- Ongoing Work

Uses and Demand for Lithium

As of 2009:



- Lithium consumption has increased at a rate of 6% between 2000 and 2008; projected rate of 11% per year
- Primary future growth area is batteries, mainly for electric and hybrid cars; will quickly become the largest component of lithium demand

Electric Vehicles

Three Electric Drive Technologies:

Hybrid Electric Vehicle (HEV)

Toyota Prius
sold since 1997 and available in ~ 60 countries
1.5 kWh battery

Plug-In Hybrid Electric Vehicle (PHEV)

Chevy Volt – on sale Q4/10
16 kWh battery

Electric Vehicle (EV)

Mitsubishi i-MiEV – already for sale in Japan
16 kWh battery
Nissan Leaf – on sale Q4/10
24 kWh battery

Additional transportation applications for lithium ion batteries already in use and expected to grow significantly: Electric bicycles and scooters (especially in Asia), buses, garbage trucks, trains, and heavy equipment (ie forklifts, excavators, etc…)

Primary Sources of Lithium

	Hard Rock Mining	Lithium Brines
Source:	Vein deposits	Salar lake deposits
Mining Method:	Hard rock conventional open pit mining	Pumping and evaporation
Minerals:	Spodumene, petalite, lepidolite, ambligonite	In solution in hypersaline brines
Main Producers:	Australia, Canada, India, China, Zimbabwe	Chile, Argentina, China, US
World Resources:	8.9 million t (26% of world resource)[1]	25.5 million t (74% of world resource)[1]
World Production:	7,700 t Li (33% of world production)[2]	15,107 t Li (67% of world production)[2]
Production Costs (2008)	\$4,300 - \$4,800 per tonne[2]	\$2,300 - \$2,600 per tonne[2]

[1] Reserves and Resources, Industrial Minerals Lithium Conference, Keith Evans, 2010.
[2] The Economics of Lithium 2009, Roskill Report.

Brine sources are attractive due to the simple processing method (evaporation ponds)

Brine Source Locations

- Approximately 83% of the world's lithium brine reserves are contained on the Puna Plateau of Argentina, Chile and Bolivia

6

Comparison of Known Li Brine Deposits

- Lithium Americas' has the 6th largest known lithium brine resource, with all drill holes open at depth and exploration potential still to the north and the south

Project Name	Company	Country	Lithium Carbonate Resource (in Tonnes)
Uyuni [1]	Comibol	Bolivia	29,150,000*
Salar de Atacama [1]	SQM	Chile	26,500,000*
Zabuye [1]	Zabuye	China	8,109,000*
Salar de Rincon [1]	Sentient Group	Argentina	7,435,900*
Dongtai [1]	Qinghai	China	6,890,000*
Salar de Cauchari	**Lithium Americas**	**Argentina**	**4,900,000**
Salar de Hombre Muerto [1]	FMC	Argentina	4,505,000*
Salar de Atacama [1]	Rockwood	Chile	2,650,000*
Xitai [1]	Qinghai	China	2,650,000*
Salar de Olaroz [2]	Orocobre	Argentina	1,500,000*
Silver Peak [1]	Rockwood	USA	530,000*

[1] The Economics of Lithium, Eleventh Edition, 2009, Roskill Inf,

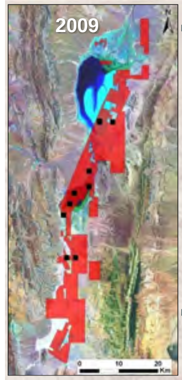
[2] Orocobre Limited website, www.orocobre.com.au

* NON 43-101 Compliant

In Production

Under Development

Cauchari Exploration Program



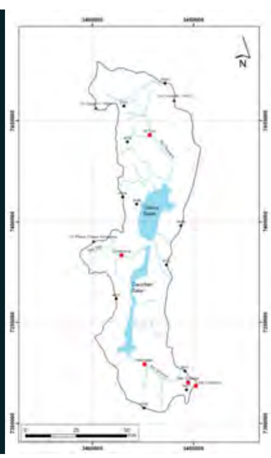
- The **2009** exploration program included 9 holes that defined a NI 43-101 compliant Inferred Resource of:
  - 4.9 million tonnes of lithium carbonate with average concentration of 580 mg/L lithium and a magnesium to lithium ratio of 2.84
  - 14.7 million tonnes of potash with average concentration of 0.48% K.
- The **2010** exploration program included 40 holes and the update will be release at the end of Q3

PUNA PLATEAU

- Argentina, Bolivia, Chile
- High desert environment between two ridge lines of the Andes
- Inward drainage + evaporation leads to concentration of salts

PUNA SALARS

- Formed in dropped horst and graben basins in the Puna Plateau
- Compression and expansion faulting due Andes mountain building
- Concentration of salts from salar watersheds
- Hydrothermal fluid inputs to salars through the basin faults

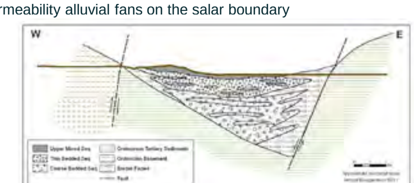


CAUCHARI – OLAROZ WATERSHED

- Argentina
- Elevation 3900 m
- Inward drainage + evaporation leads to concentration of salts
- Hydrothermal springs in watershed

Cauchari Salar Geology

- Sediments in the Cauchari basin are Pleistocene or younger
- Can be simplified into three main hydrogeological units
  - Upper Mixed Sequence from 0 m to 40 m in thickness – low permeability
  - Thin Bedded Sequence 0 m to 176 m in thickness – moderate permeability
  - Coarse Bedded Sequence up to at least 310 m in thickness – main aquifer
- Low permeability alluvial fans on the salar boundary



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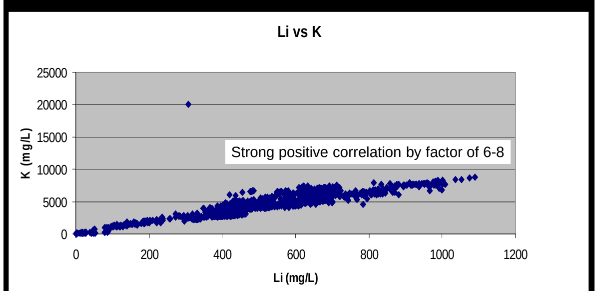
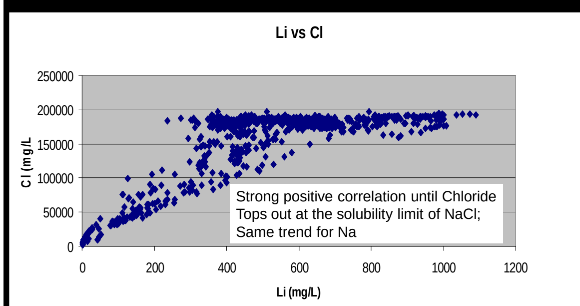
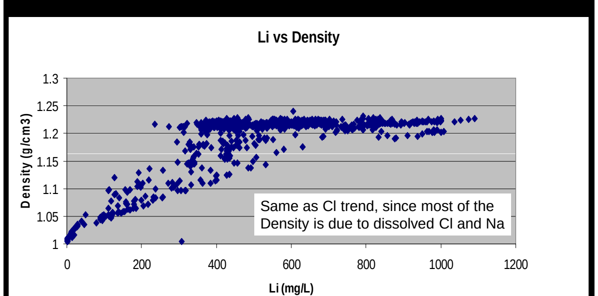


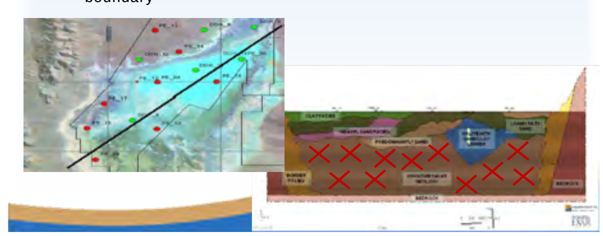
- >1500 brine samples collected from discrete borehole sampling depths throughout the salar
- 40 reverse circulation and diamond drill boreholes to depths of as much as 300 metres





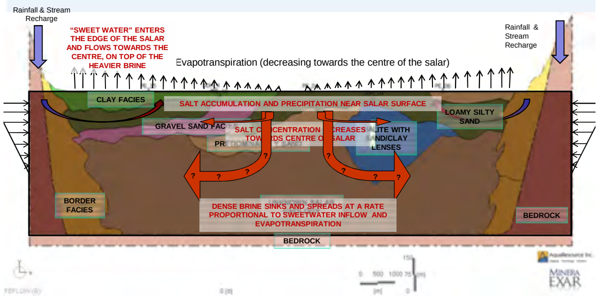
Groundwater / Brine Modelling

- Preliminary 2D flow, density and transport model through Cauchari salar along SW-NE section
- MODFLOW / SEAWAT Software
- Model geology based is simplified
- Short Term Goal – support Recoverable Reserve estimate
- Longer Term Goal – support design of optimal brine production strategy
- Examine hydro-dynamics of ‘Sweet-water’ input on basin boundary



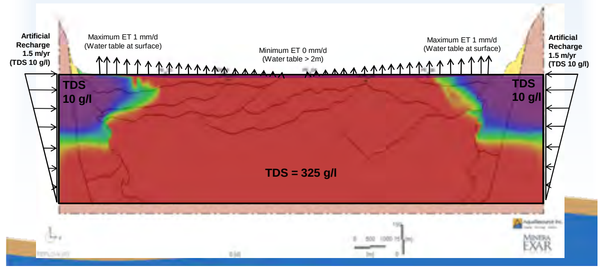
Conceptual/Numerical Salar Brine Model – MODFLOW/SEAWAT

- Groundwater movement beneath Cauchari is controlled by:
  - Groundwater and surface water inputs at the salar boundary
  - Flow resistance of the geology (Porosity, Hydraulic Conductivity)
  - Evapotranspiration (ET), as a function of depth to water table
  - Differences in groundwater density



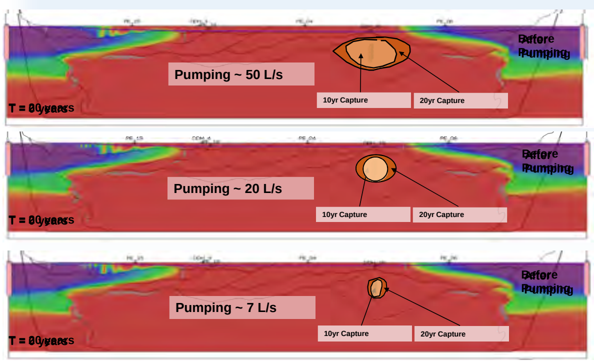
2D Steady State Brine Model (Pre-Production)

- Produced a reasonable simulation of brine distribution on the salar
- Initial condition for simulation of brine production



Simulation of Brine Production (Pumping)

- Design goal: maximize brine concentration / minimize production of "sweet water"



Next Numerical Modelling Steps

- More detailed representation of geologic layers
- Implement full 3D flow, density and transport
- Calibrate to Pumping Tests
- Use calibrated Model to support Recoverable Reserve Estimates and design of Production Well Field

Current Program

- Pumping well installation / Pump tests
- 3D Brine Model
- Pilot process plant, engineering
- Measured Resource Report: Q4 2010
- Recoverable Reserves Report: mid-2011

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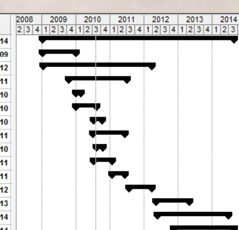
Schedule to Production

FAST MOVING PROJECT:

Task	Time period	Start	End
CAUCHARI SALAR PROJECT	2026 d	10/01/09	28/08/14
DISCOVERY AND INICIAL EXPLORATION	355,42 d	10/01/09	31/12/09
SOCIAL AND ENVIRONMENTAL PROGRAM	1135,58 d	15/01/09	26/03/12
PROCESS DEVELOPMENT PROGRAM	590 d	21/10/09	03/07/11
INFERRED RESOURCE ESTIMATION	57 d	01/01/10	27/02/10
ADVANCED EXPLORATION PROGRAM	220,42 d	01/01/10	09/08/10
MARKET RESEARCH PROGRAM	90 d	11/07/10	09/10/10
HIDROGEOLOGY PROGRAM	315 d	05/07/10	15/06/11
FINAL RESOURCE ESTIMATION	75 d	09/08/10	23/10/10
PRELIMINARY ECONOMIC ASSESMENT	167,58 d	10/07/10	24/01/11
PRE - FEASIBILITY STUDY	135 d	31/01/11	15/06/11
FULL FEASIBILITY STUDY	240 d	30/07/11	26/03/12
DETAIL ENGINEERING STUDY	360 d	10/05/12	05/05/13
MINE CONSTRUCTION	765 d	25/05/12	29/06/14
OPERATIONS	645 d	21/11/12	28/08/14




Thank You!
Questions?
GROUNDWATER INSIGHT
AquaResource Inc.
LITHIUM AMERICAS CORP.