North American Lithium

Private & Confidential **January 2016**

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This Opportunity is:

- Grass Roots
- Conceptual
- Underpinned by sound ‘geological’ reasoning
- In an A-grade jurisdiction (location, infrastructure, legal & cost)
- With a potential ‘first-mover’ advantage

and

- Initial testing won’t ‘break the bank’

Who We Are

William (Bill) Feyerabend - a Certified Professional Geologist based in Arizona. Author of four technical reports on lithium brine properties In Nevada's Clayton Valley area - the site of lithium production from sub-surface brines since 1967.

Michael (Mike) Bohm – a Mining Engineer with operational, project development and corporate experience in multiple commodities and jurisdictions. Currently a director of several listed companies including two ASX and TSX listed gold producers. Based in Perth, Western Australia.

The target is a Clayton Valley (Nevada) ‘look-a-like’

- Clayton Valley is in the Walker Lane of Nevada’s Basin and Range province where crustal extension tectonics have thinned the Earth’s crust from perhaps 60 km to 30 km depth.
- The thinner crust brings heat and resulting molten rock forming intrusives and extensive volcanic rocks.
- As those melts cool and crystallize, lithium does not fit well into common crystals and becomes concentrated in the last melts where it simply has to fit in somewhere.
- This enriches lithium from a few ppm in early crystallizing rocks to 30–70 ppm in the late rhyolitic rocks around Clayton Basin.

Nevada's Clayton Valley area has been the site of lithium production from subsurface brines since 1967.

Brines concentrated by solar evaporation before final separation in the Silver Peak plant.

In the course of his work, Bill Feyerabend has become familiar with Clayton Valley geology and the theories behind formation of the commercial lithium brine deposits.

That knowledge has been used to build a model for the formation of the brines and then apply that model to identify a new area of lithium potential.

This presentation lays out the case for that model. The point is to show geologic processes which formed the Clayton Valley lithium brines are also believed to be in action at our newly identified area.

Clayton Valley Geologic Model

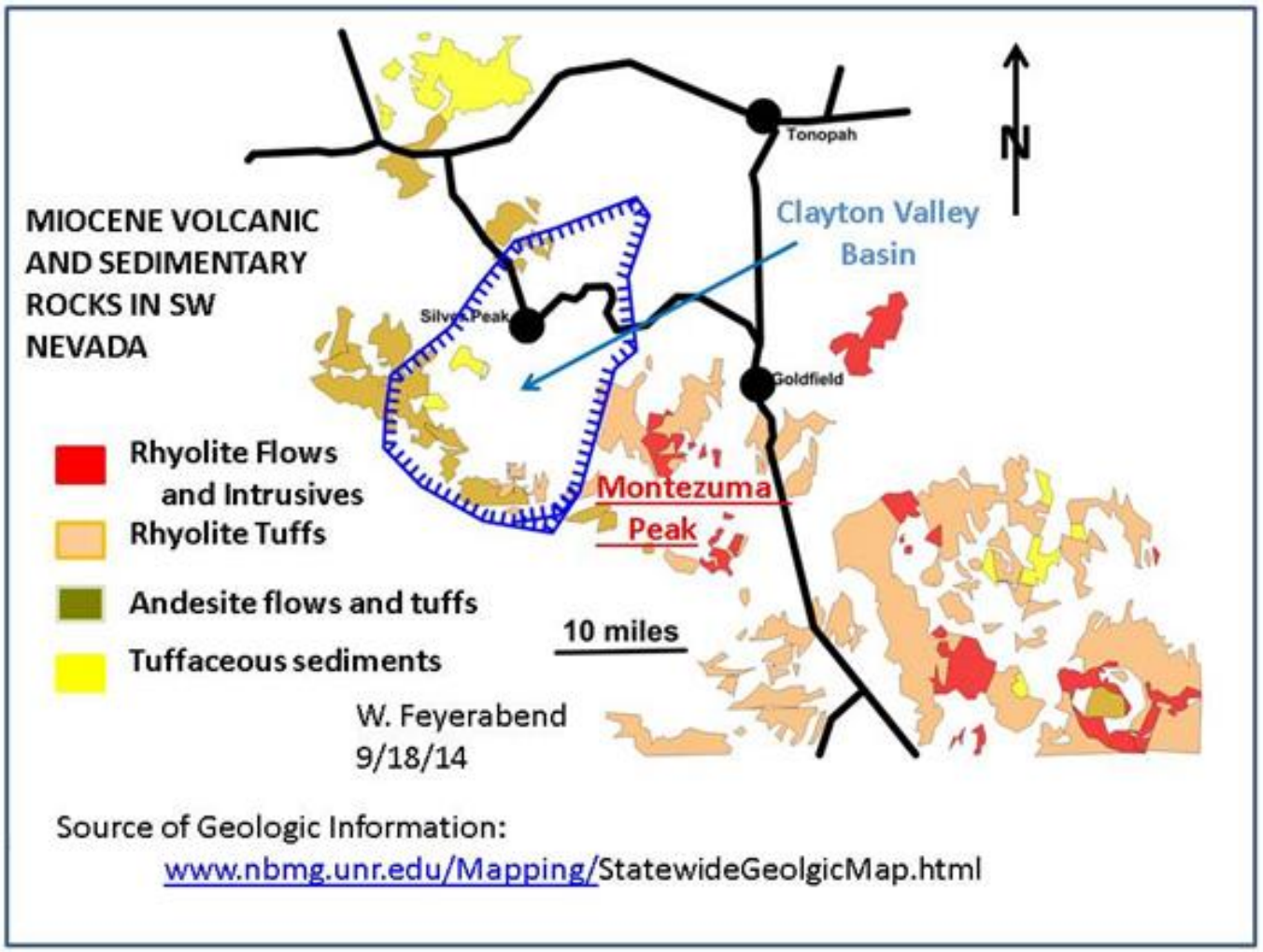
- Average rock units contain 5-70 ppm lithium.
- Commercial production at Silver Peak requires perhaps +200 ppm Li (actual cutoffs are confidential).
- A geological model for the brines of Clayton Valley connects those two end points and requires three things:

1. A Lithium source
2. Path from source to the final repository
3. A suitable repository

Lithium Source

SCALE OF ENRICHMENT

There are hundreds of **cubic miles** of lithium-enriched rocks in the Clayton Valley area and the total contained lithium is a very large number



Path from source to the final repository

Lithium can arguably be delivered in two ways to Clayton Valley:

1) Weathering and erosion

2) Circulating systems of lithium-enriched hot water – ie. hydrothermal systems – caused by the high heat environment of intrusive of volcanic events.

Path from source to the final repository

1) Weathering and erosion

In the same sense that lithium is concentrated in late crystallizing rocks because it does not fit easily into common mineral crystals, it also is easily flushed out of those crystals during weathering because it does not fit in so well.

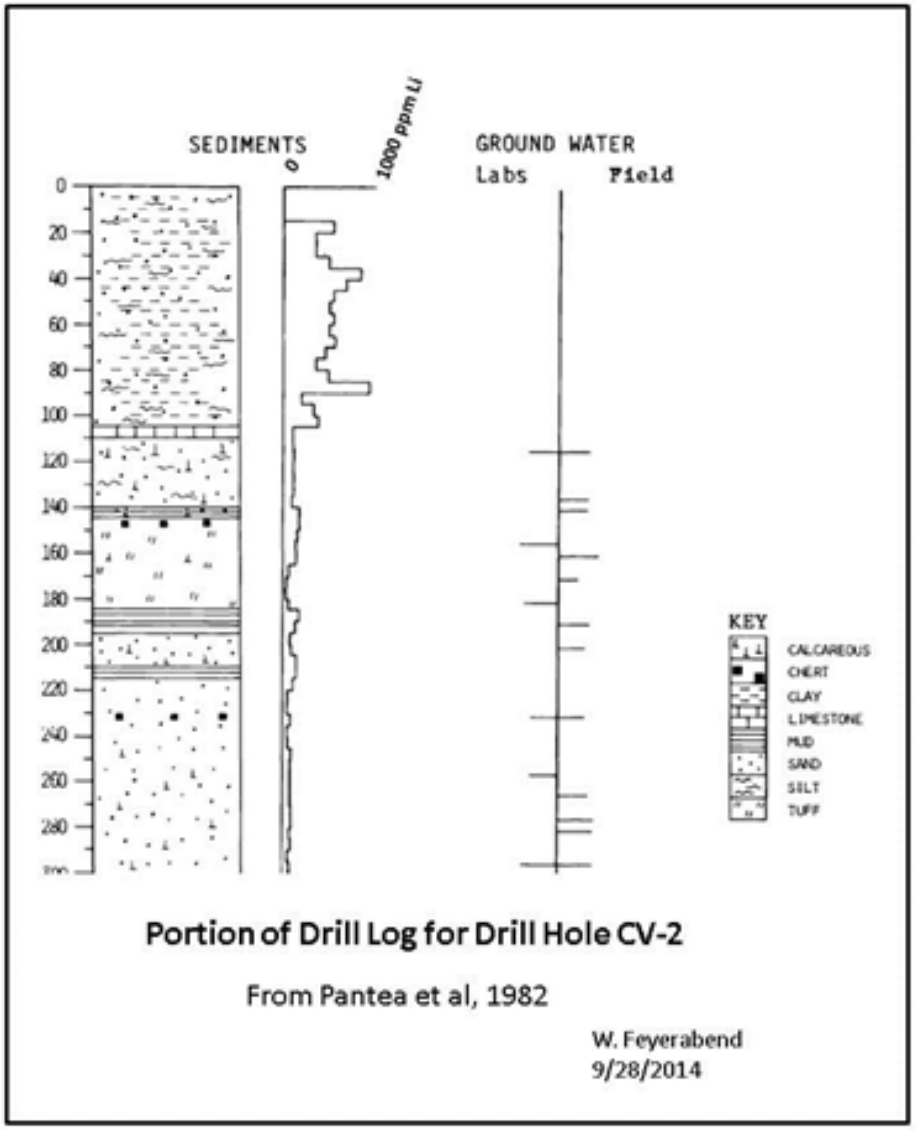
Once freed, lithium ions either flow downhill dissolved in water or attach to clay particles (which can carry 100 – 1,000 ppm Li) and are carried downhill in runoff.

The ultimate destination is either the ocean or capture in an enclosed basin like Clayton Valley.

If in an enclosed valley, then further weathering frees lithium from clay particles and evaporation concentrates lithium with the final evaporative salts and..

Path from source to the final repository

1) Weathering and erosion



Public information from US Geological Survey drilling 35 years ago shows lithium analyses of 100's of ppm (parts per million) from fine, clayey sediments In the Clayton Valley.

The sum total of lithium in clayey sediments is also a very large number.

Path from source to the final repository

2) Circulating systems of hot water leach lithium from the cubic miles of lithium-enriched rocks and move it to final repository.

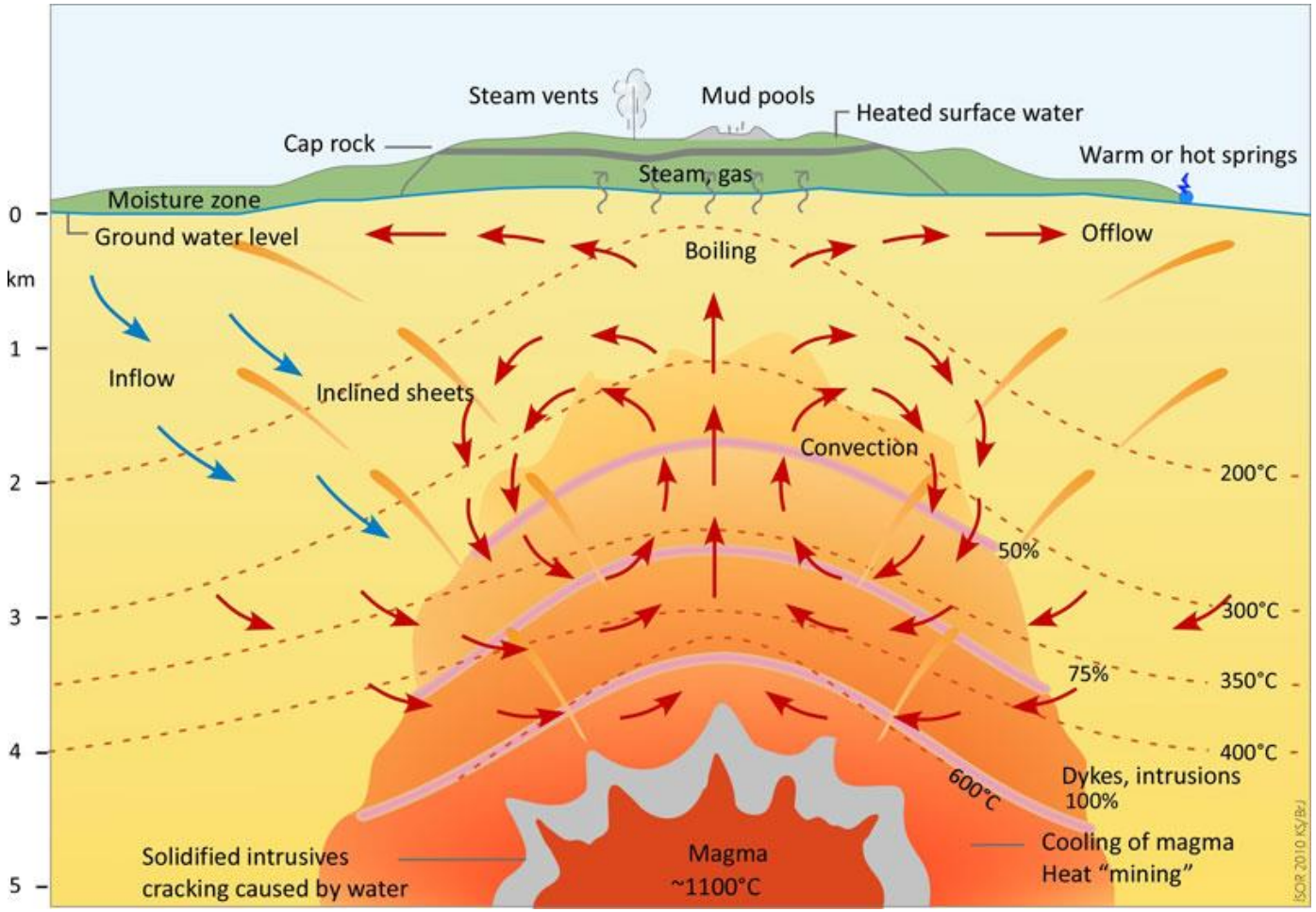


Diagram source: http://www.unugtp.is/en/organization/what-is-

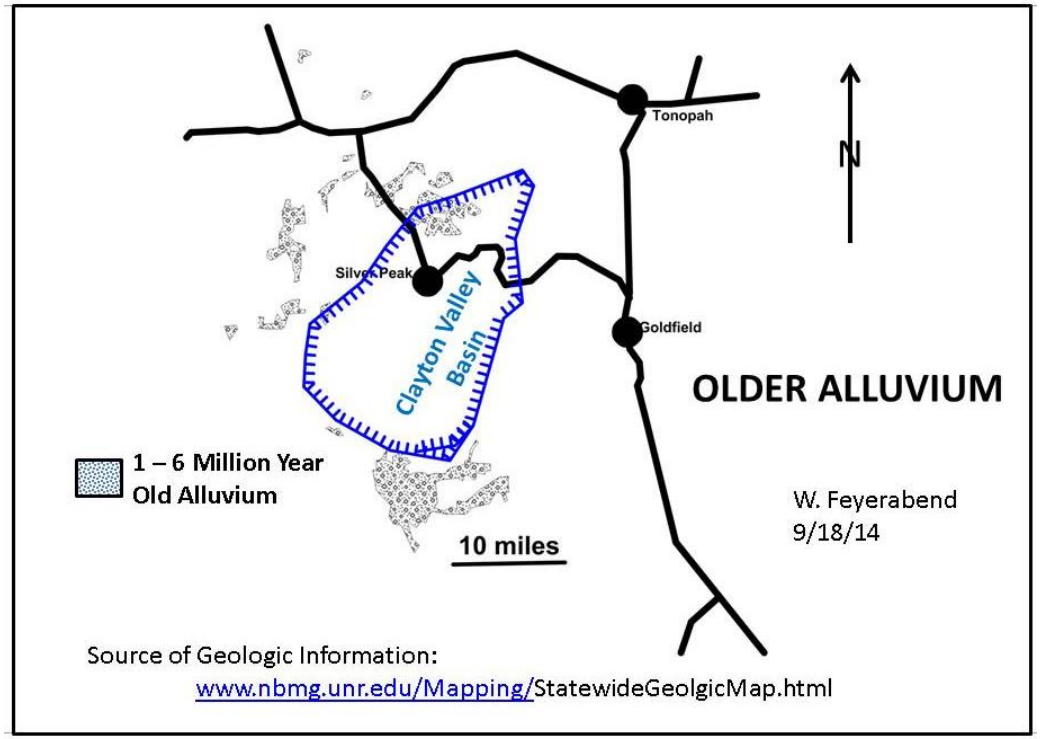
A suitable repository

Clayton Valley (our model) has four characteristics that make it favorable:

1) It is relatively stable in a vertical sense
2) Alternating clays, sands, gravels, salts and volcanic tuffs make suitable horizons for trapping and storing fluids.
3) Extensional faulting has broken up the sedimentary pile on a smaller scale so fluids can migrate to and be stored in suitable horizons
4) There are larger scale faults to service as conduits or feeder for bringing lithium-enriched fluids into the basin from underneath.

A suitable repository

1) It is relatively stable in a vertical sense. Generally, on a geologic scale, Nevada valleys are subsiding rapidly. Things get buried deeply and quickly.



Clayton Valley is surrounded by gravels millions of years old. For those to be at the surface, Clayton Valley must not be subsiding rapidly.

The sediments and fluids that Clayton Valley has been receiving for millions of years are within economic drilling depths.

A suitable repository

2) Impermeable clays alternating with permeable sands, gravels, salts and volcanic tuffs make suitable horizons for trapping & storing fluids.

Clayton Valley Production Aquifers

- Main Ash Aquifer (MAA), 5 – 20 meters thick, tuff material seems related to the Bishop Tuff or Glass Mountain volcanic events 0.7 – 1.2 million years ago and about 50 miles to the west.
- Salt Aquifer System (SAS), alternating silts and halite (salt) 30 – 100 meters thick.
- Tuffa Aquifer System (TAS), 6 – 20 meters thick, localized aquifer in travertine.
- Lower Ash System (LAS), 10 – 90 meters thick, extensive zone of thin bedded volcanic ash deposits alternating with silts and sands.
- Margin Gravel Aquifer (MGA), 10 – 70 meters, local aquifer of sands, gravels and silts.
- Lower Gravel Aquifer (LGA), 50 – 100 meters thick, poorly sorted deposit of fine to coarse silts, sands and gravels.

From Monk (2011)

A suitable repository

3) On a smaller scale, extensional faulting has broken up the sedimentary pile so fluids can migrate to and be stored in suitable horizons

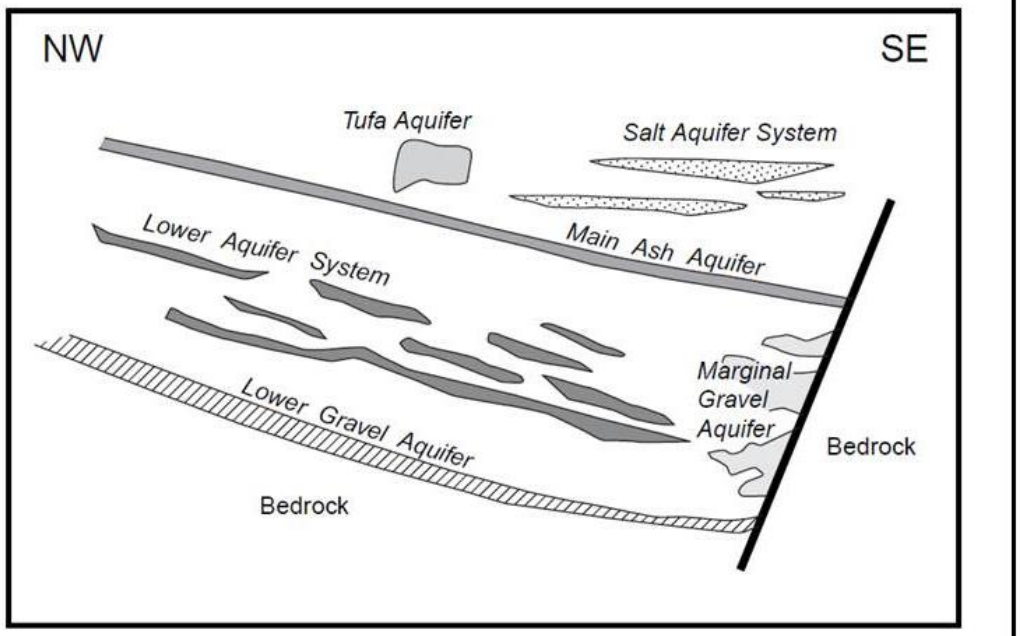


Figure 4. Schematic cross section of aquifers in Clayton Valley along the dip of the basin.

From Zampirro, 2003

W. Feyerabend 10/7/14

Sediments are generally deposited horizontally.

Note difference in dip between lower and upper sediments.

Clayton Valley was being 'extended' by geologic forces while it was being filled with sediments.

This tilted older sediments and fractured the sedimentary pile.

Those fractures allowed lithium fluids to move vertically thru the valley sediments and accumulate in aquifers.

A suitable repository

4) There are larger scale faults to service as conduits or feeders for bringing lithium-enriched fluids into the basin from underneath.

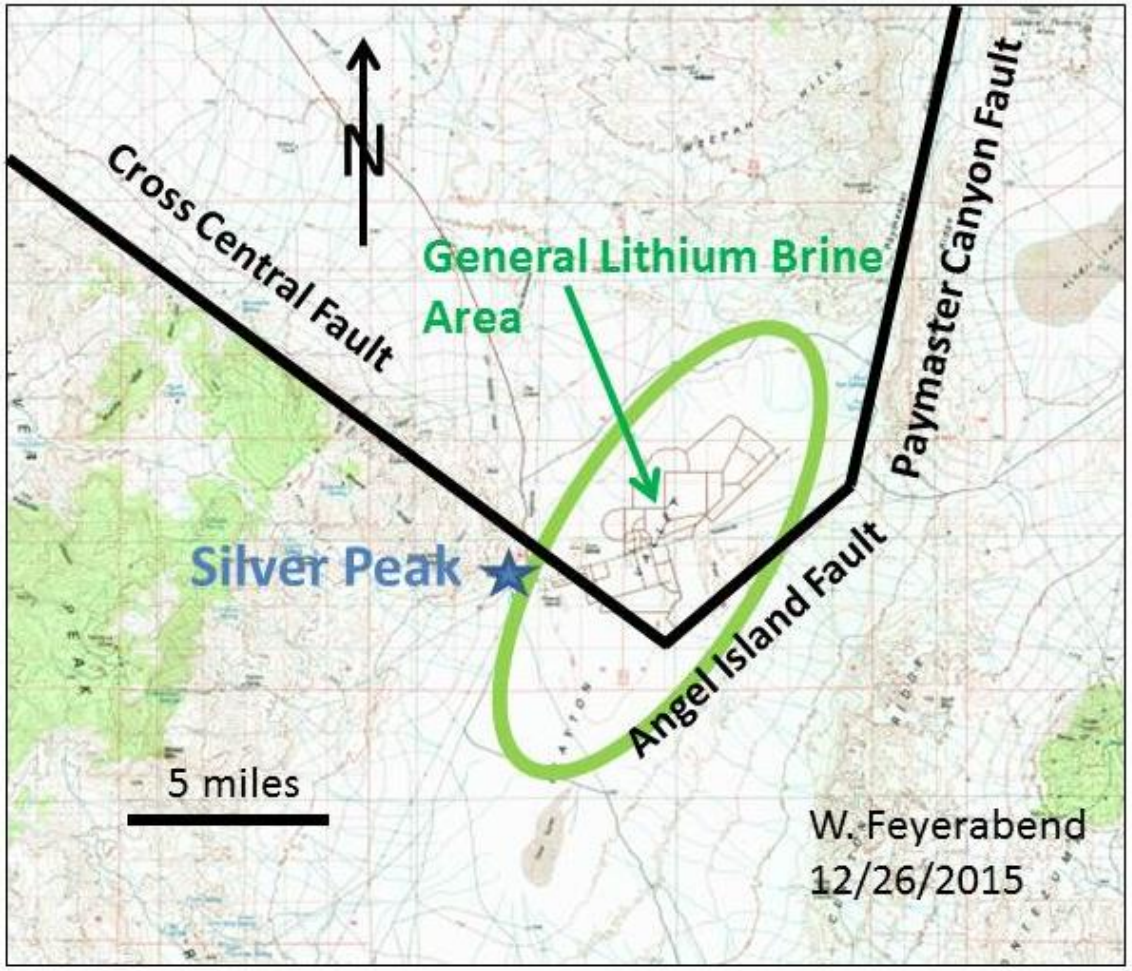
Photo of drilling for lithium brines in Clayton Valley with recent basalt cone on horizon to left of drill.

Basalts are very dark rocks rich in Iron and magnesium. Because of that composition, they are thought to be sourced from the mantle tens of miles deep.

That implies faulting thru the entire earth's crust which mineralizing fluids can also use.

A suitable repository

4) There are larger scale faults to service as conduits or feeders for bringing lithium-enriched fluids into the basin from underneath.



A suitable repository

4) There are larger scale faults to service as conduits or feeders for bringing lithium-enriched fluids into the basin from underneath.

Travertine or tufa is fine calcium carbonate sometimes deposited around mineral springs.

Travertine was noted in an old drill log from the US Geological Survey drilling from about 35 years ago. This implies fluids were moving along the major faults and into Clayton Valley from underneath.

New Lithium Area

A new lithium area was identified by focusing consecutively on areas of crustal extension in North America and then on areas of rhyolitic volcanics.

Final focus came with historical chemical analyses and looking at all available drill and geological information.

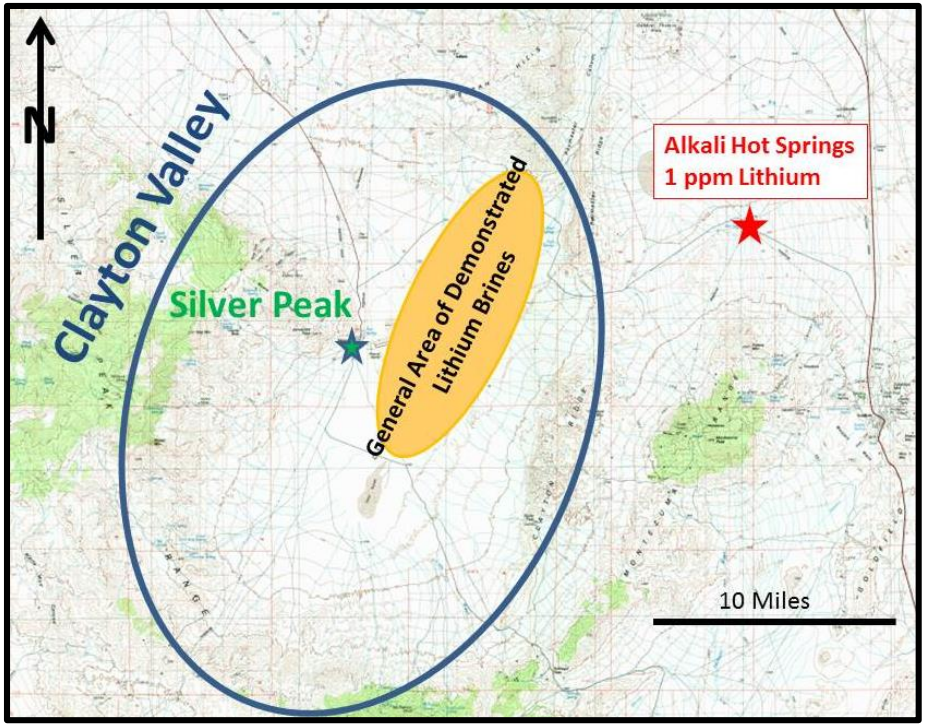
One area stood out as a remarkable twin of the Clayton Valley.

This area is our focus and initial tenement pegging has now occurred.

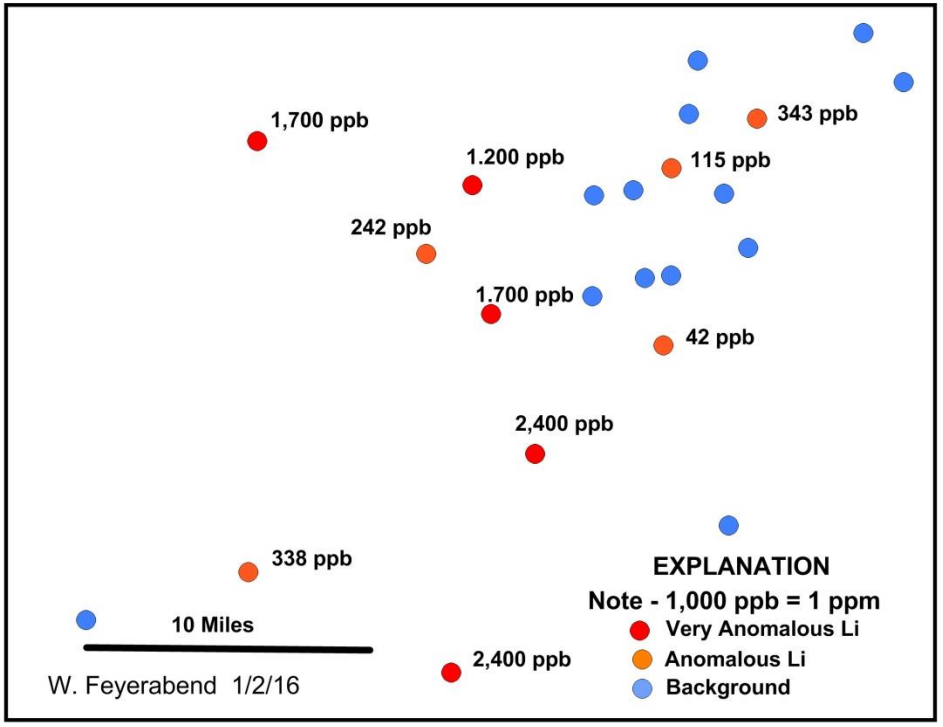
SUMMARY OF CLAYTON VALLEY GEOLOGICAL POINTS COMPARED TO PROPOSED 'NEW' LITHIUM AREA

Characteristic	Clayton Valley	New Lithium Play
Source - Large Scale Lithium - Enriched Rocks	X	X
Basin contains fine sediments from lithium-enriched sources	X	X
Anomalous Lithium in Waters	X	X
Vertically Stable - Old Sediments Outcrop Around Basin	X	X
Potential Aquifers from Cyclical Sedimentation	X	X
Extensional Faulting	X	X
Large Scale Faulting	X	X
Travertine in drill logs	X	X
Recent basalt volcanism	X	X

COMPARISON OF WATER ANALYSES



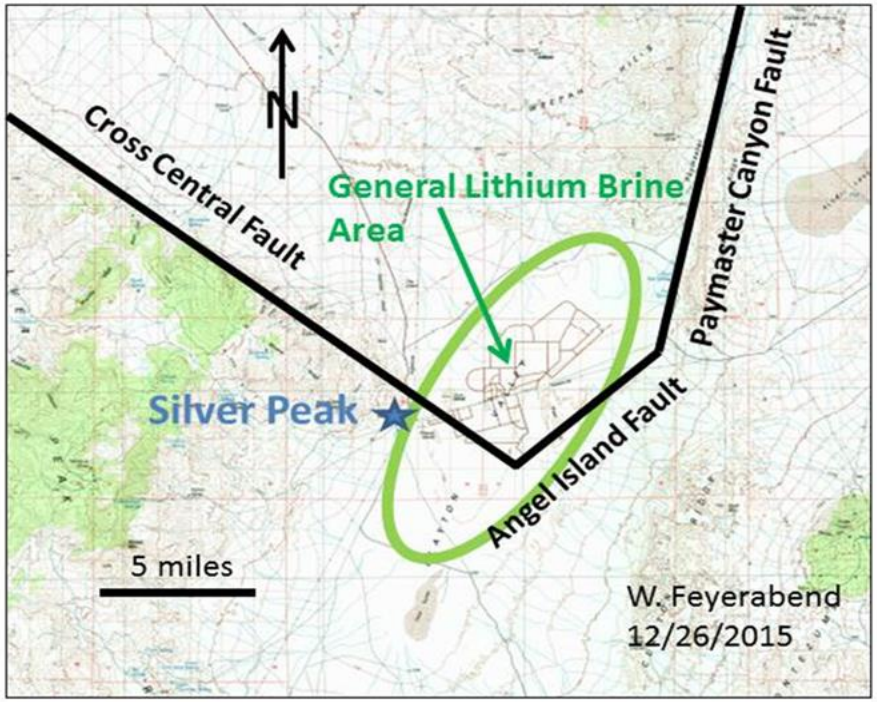
Clayton Valley

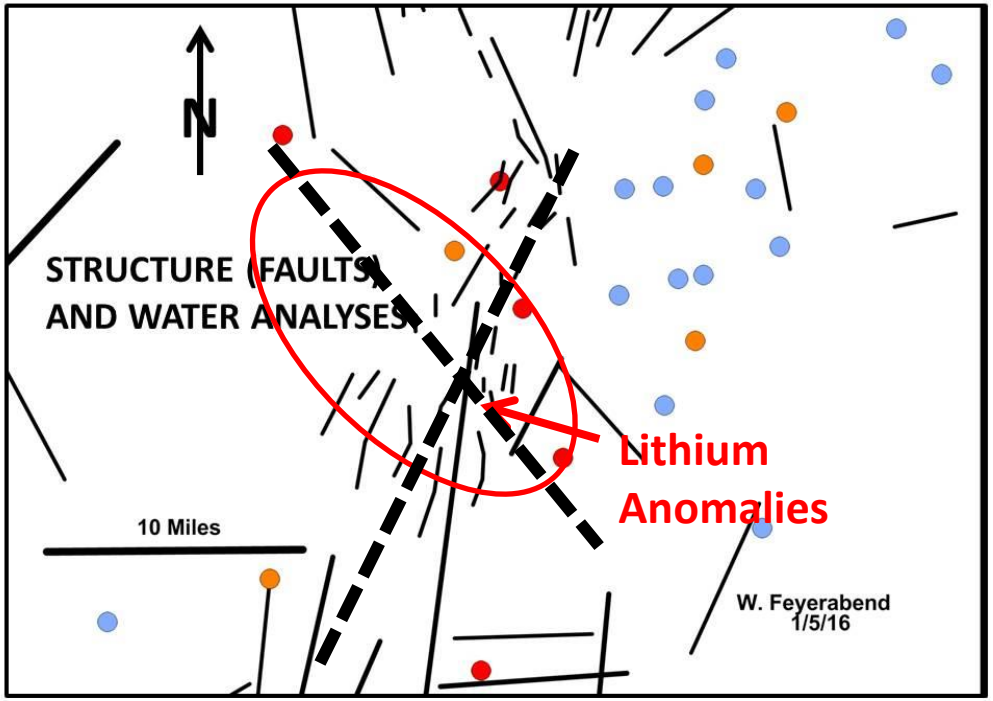


NEW LITHIUM PLAY

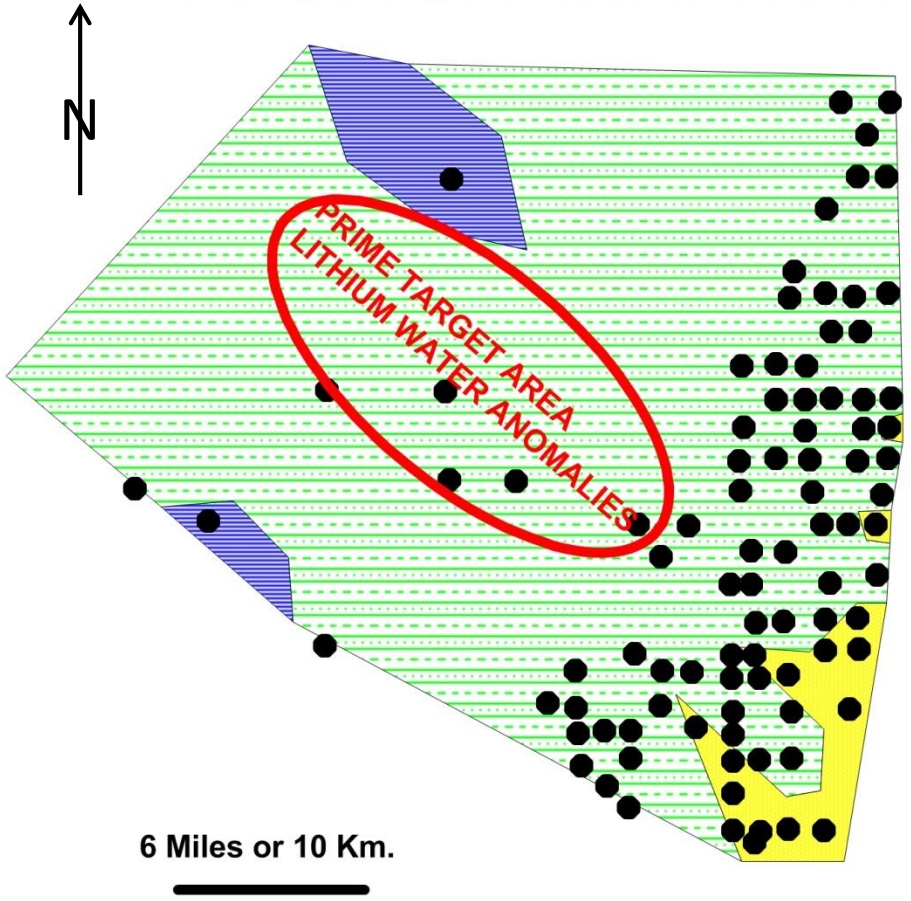
Note that background lithium in waters is 1 – 20 parts per billion.

COMPARISON OF STRUCTURAL SETTING





BASIN SEDIMENTARY PATTERNS



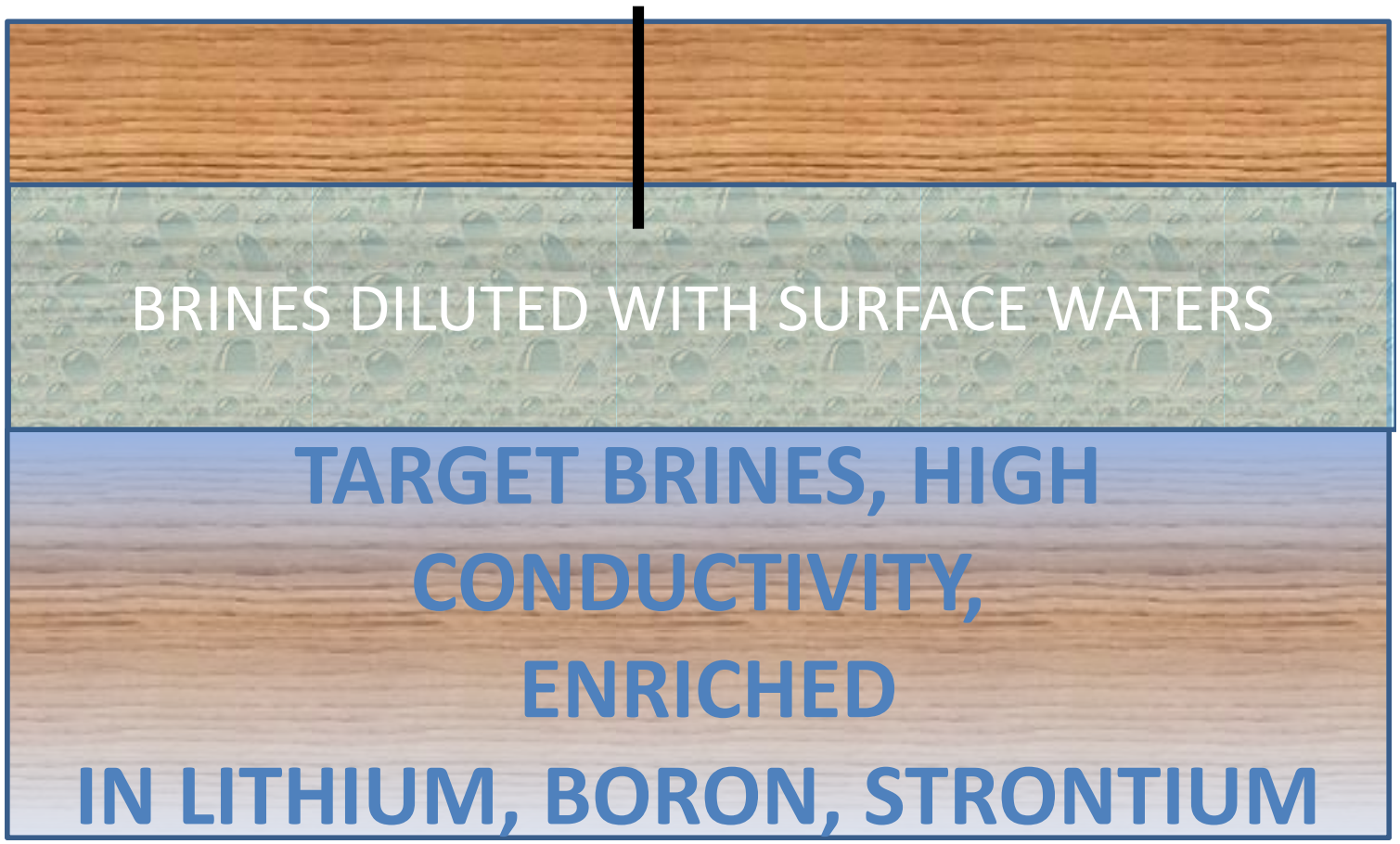
Water wells
(generally 50-250ft deep)
establish the pattern of sedimentation in the basin.

Target area lies in pattern of alternating potential reservoirs and caps - as Clayton Valley.

- Water well
- Sand and gravels - No cap
- Alternating gravels, sands, silts and clays - Potential reservoirs and caps
- Clay - no porosity / permeability

William Feyerabend
1/29/16

TARGET MODEL



The size of the New Lithium Area and the known Lithium Brine Area of Clayton Valley are roughly equivalent:

- New Lithium Area 5 x 15 miles
- Clayton Valley 5 x 13 miles

In Addition:

- The water chemistry evidence is not just lithium.
- Boron jumps to 4,740 ppm maximum and Strontium to 6,373 ppm maximum (with higher lithium).
- Conductivity doubles and triples in waters with lithium, as it does in Clayton Valley.

Tenure:

- Approximately ⅓ of the New Lithium Area is complicated by private ownership, recreational areas or areas of environment restrictions.
- Approximately ⅔ of the New Lithium Area is 95% Federal Land managed by the Bureau of Land Management, 5% State land and <1% is private.
- There are currently no known mining claims in the area and no known environmental complications.

The Opportunity:

- The New Lithium Area presents a simple model that duplicates the Clayton Valley geology and water chemistry.
- Sufficient available mineral rights for extensive land position in an area with relatively obtainable permitting.
- The concept can be tested with relatively low cost and conventional water well drilling.
- First work program estimated at ~US$400,000 (for proof of concept work including two drill holes).

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