Sagebrush Creek Uranium-Vanadium Project, Humboldt County, Nevada, USA

May 2024, American Metals Exploration Corp., Sparks, NV

Introduction

American Metals Exploration Corp. ("**AmMetEx**") has a large claim block, Sagebrush Creek project, over Miocene intra-caldera sedimentary rocks with known carnotite mineralization associated with pervasive opalization. The Sagebrush Creek project is located in Miocene sedimentary rocks in a pull-apart basin surrounded by peralkaline rhyolite on a resurgent dome in the 16.4 Ma old Virgin Valley caldera, northwest Humboldt County, Nevada (see Figures 1-3). This caldera is essentially the same age and with parallel features as the nearby McDermitt caldera, 50 km to the east, which hosts two large lithium clay deposits (Thacker Pass and Jindalee's McDermitt) and a uranium deposit (Aurora, technical report attached). The Thacker Pass lithium clay deposit is reported to be the largest lithium resource in the world and is currently in development with loan guarantees from the United States federal government. That bodes well for advancing other similar deposits in the region. Like Aurora, there is great possibility that there will be a lithium deposit in the vicinity of the uranium/vanadium mineralization at Sagebrush Creek and in another AmMetEx target 8 km to the northeast in caldera moat sediments – Burro Spring, which will be staked in June.

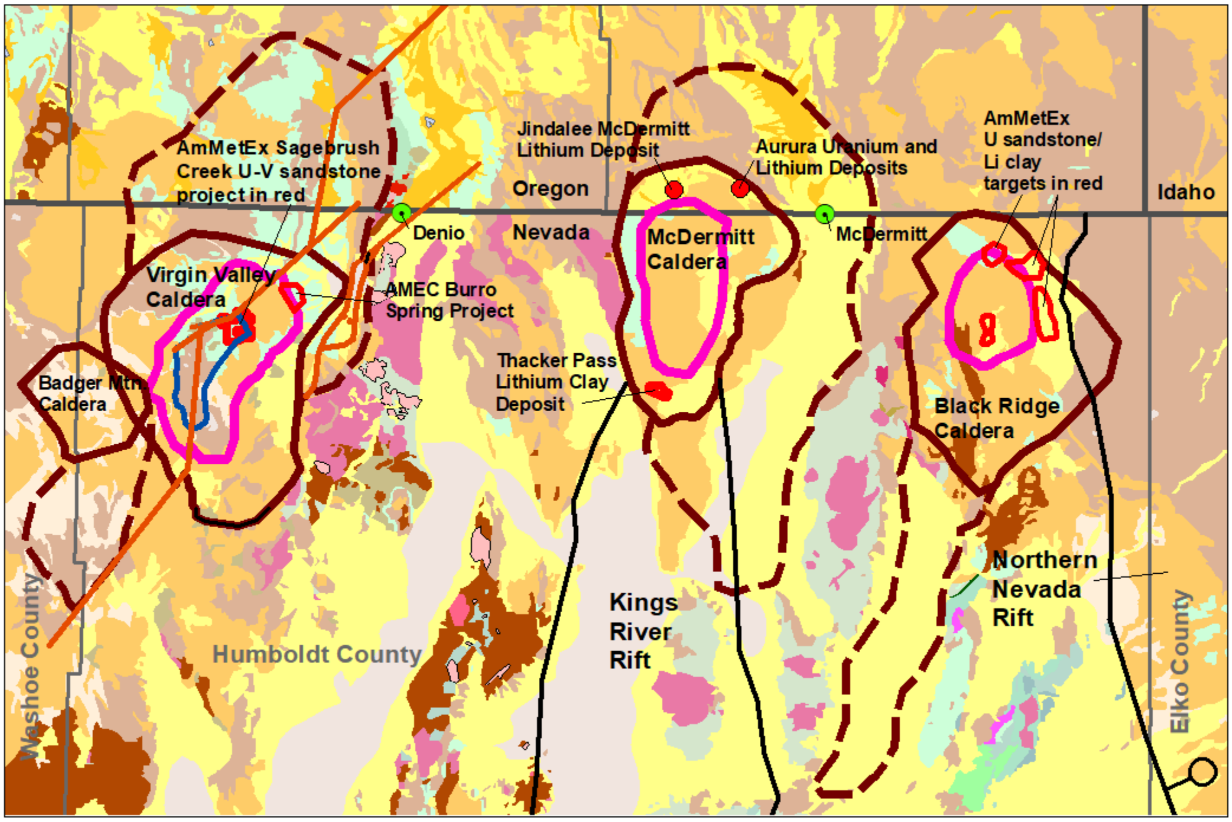


Figure 1. Location of AmMetEx's Sagebrush Creek project in Virgin Valley caldera, northwest Humboldt County Nevada. Geologic base map - rhyolites in tan, Miocene lake sediments in light blue-green (major host for U-V sandstone and Li clay deposits). Resurgent domes outlined in pink. Deposits and projects in red.

N W E S

20 10 0 20 Kilometers

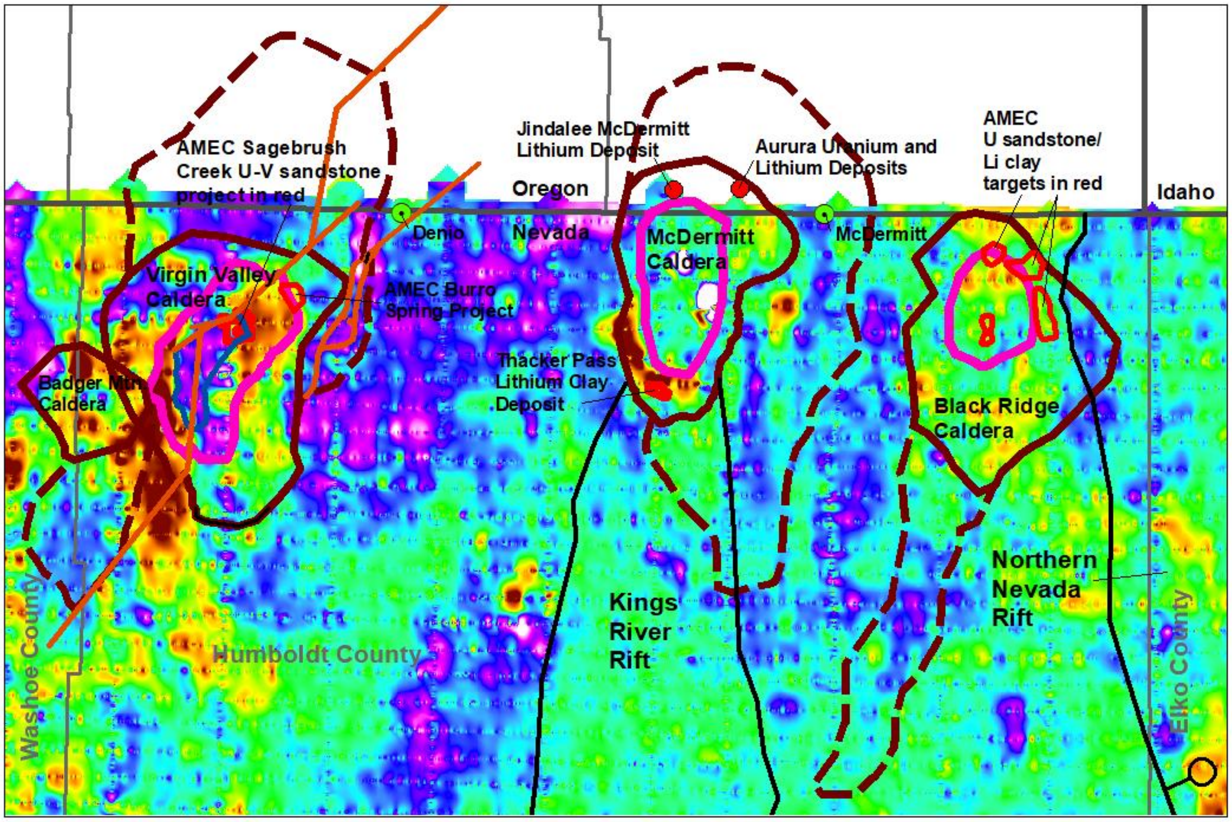
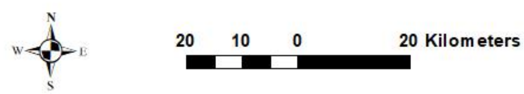


Figure 2. Location of AMEC Sagebrush Creek project in Virgin Valley caldera, northwest Humboldt County Nevada. Base map: aeroradiometric uranium from 1970's NURE survey in Nevada. Note high concentration of uranium associated with Virgin Valley caldera.



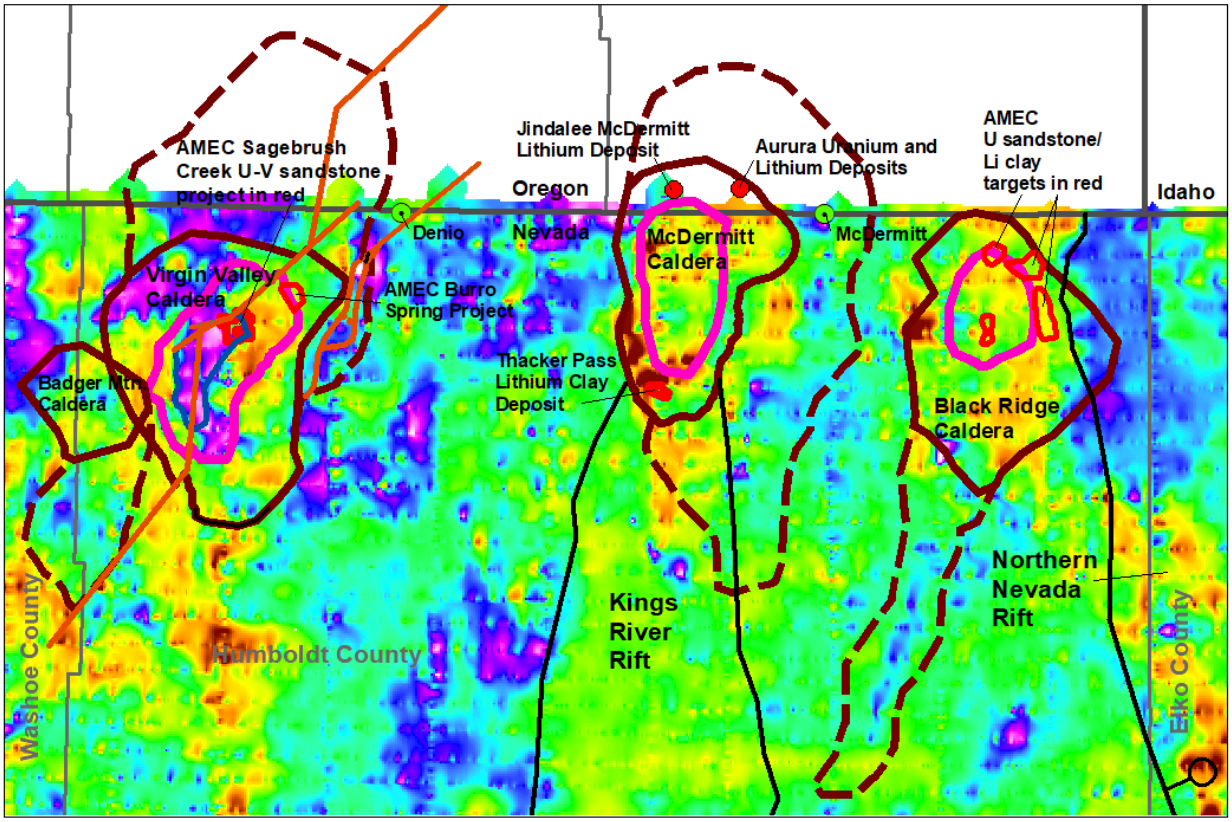


Figure 3. Location of AMEC Sagebrush Creek project in Virgin Valley caldera, northwest Humboldt County Nevada. Base map: aeroradiometric potassium from 1970's NURE survey in Nevada. Potassium may be a proxy element for lithium. Note high K anomaly at Thacker Pass Li deposit.

N W E S

20 10 0 20 Kilometers

These calderas are part of a widespread volcanic field of peralkaline and high potassium subalkaline rhyolites that erupted in the incipient manifestation of the Yellowstone hotspot track. The high uranium, lithium and other incompatible element content of peralkaline rhyolites is in part due to their genesis (either small degrees of partial melting of continental lithosphere or prolonged fractional crystallization of alkali basaltic magmas). This part of northwestern Nevada and southeastern Oregon contains the largest uranium deposits in Tertiary volcanic rocks in the United States (Castor and Henry, 2000, abstract attached).

Four calderas from the northern Humboldt County peralkaline volcanic field are shown as solid brown lines in figures 1-3. The largest volcanic complex is the High Rock complex that includes at least four calderas, with Virgin Valley being the oldest and farthest north. Calderas of the High Rock volcanic complex were structurally controlled by a NE-trending sinistral strike-slip fault system that propagated from north to south, coeval with the rhyolitic volcanism. A previously unreported caldera has been recognized by AmMetEx 30 km east of the McDermitt caldera, and is herein called the Black Ridge caldera. The National and Buckskin National gold deposits are associated with this caldera. AmMetEx has several uranium and lithium targets in this caldera, shown in figures 1-3, that will be staked in June-July.

Each of the four calderas shown in figures 1-3 have an extended footprint in adjacent basins that formed synchronously with the calderas. The dashed brown lines outline these basins and may represent an outer ring fracture, where subsidence or even just sagging into the magma chamber, in combination with tectonic fault displacements, created a basin at the surface, usually with a caldera in one end. These basins are herein referred to as volcanotectonic rift basins, and were repositories for copious uranium and lithium-rich volcanic ash from the caldera-forming eruptions and from later erosion of volcanic hills around the basins. The basins commonly are closed and some contain playas and playa lakes. These basins therefore have great potential for lithium clay and brine deposits. Uranium deposits may be more localized in the calderas proper, particularly on resurgent domes, where strong hydrothermal systems developed, fueled by resurgent magma bodies.

Tectonics

The emplacement of the Virgin Valley caldera and its underlying magma chamber were controlled by faults in a sinistral strike-slip fault system that propagated from NE to SW by way of en echelon NE-trending sinistral strike-slip faults connected by NNE-trending normal faults in dilational jogs. In figures 1-3, this fault system is shown as red-brown lines cutting through the Virgin Valley caldera. Elements in the caldera complex all have similar geometry – NNE-trending in the northern 2/3 of the feature and N-trending in the southern 1/3. This can be seen in figures 1-3: in the combined solid brown Virgin Valley caldera, which is N-trending in the southern part and NE-trending in the northern part, along with the brown dashed volcanotectonic rift basin. In Figure 4, the pink-outlined resurgent dome and the blue-outlined pull-apart basin in the center of the dome, both trend N-S in the southern thirds and NE-SW in the northern two-thirds. The strike-slip and normal faults were active before, during and after development of the caldera complex. All of these features formed at the northern ends of dilational jogs. This includes the younger Quaternary-Tertiary basaltic crater that formed in the pull-apart basin on top of the resurgent dome (see Figure 4). Basalt flows emanating from this crater form the table tops of mountains in the Virgin Valley area.

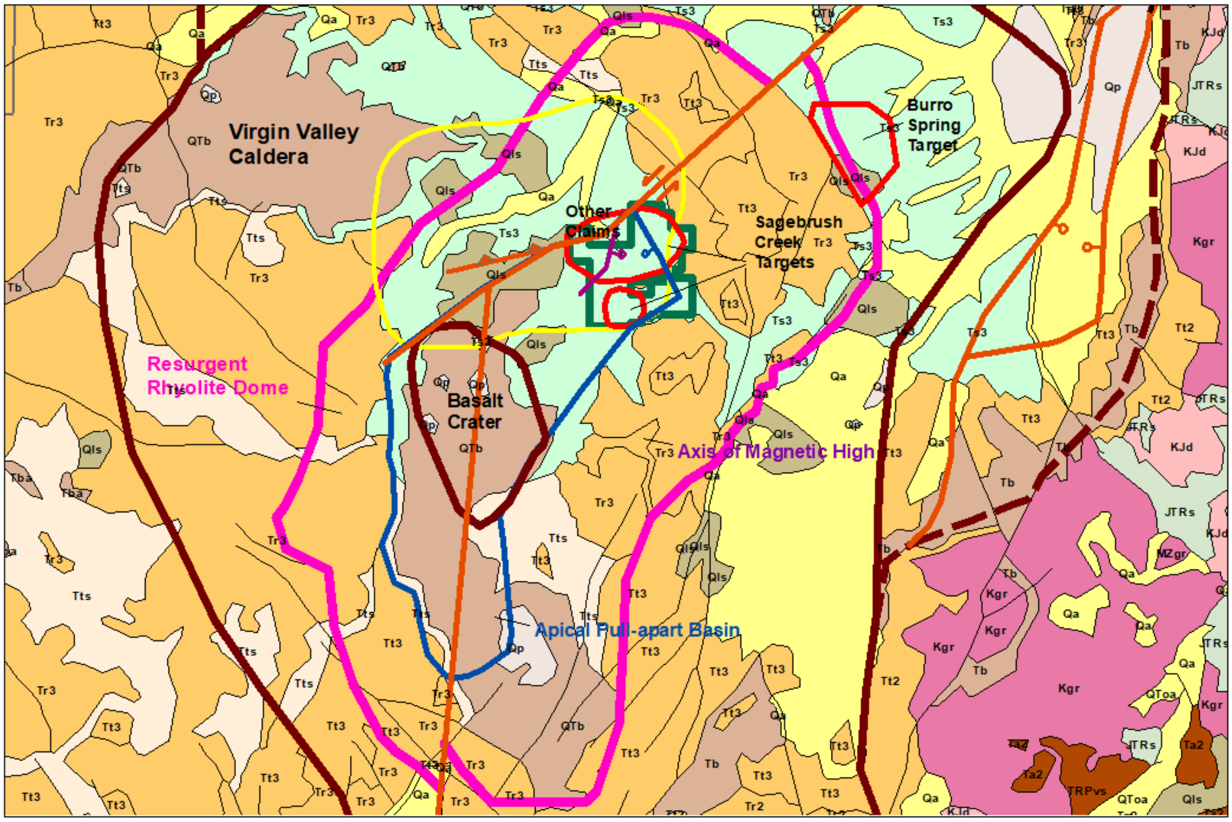


Figure 4. Geologic Map. Resurgent rhyolite dome of Virgin Valley caldera outlined in pink. Outline of 67,000 acres open for mining outlined in yellow. AMEC U-V and Li targets outlined in red. AMEC claim block outlined in dark green.

N W E S   4 2 0 4 Kilometers

On the dome, the resurgent rhyolite (Tr3) overlies, and a dike of it cuts through, the Miocene sedimentary rocks (Ts3). This suggests that the sedimentary rocks are older than the rhyolite. The Miocene sedimentary rocks probably formed as caldera lake sediments prior to resurgent doming. Likewise the pull-apart basin outlined in blue may have formed prior to being uplifted on the resurgent dome, and the rhyolite may have risen along fractures associated with the pull-apart basin. In the NE end of the pull-apart basin, in the Sagebrush Creek project area, gravity derivatives suggest that a small N-S trending graben is buried beneath sedimentary cover.

Sagebrush Creek

At the Sagebrush Creek project, the primary target is a uranium/vanadium hydrothermal deposit(s) in Miocene caldera lake sedimentary rocks with abundant plant fossils, similar to uranium-bearing sandstone deposits of the Colorado Plateau (Fischer, 1950, attached). There are several opal mines in the district and the opal is in the form of silicified wood and opalized sediments. Carnotite was identified, as fracture coatings and in layers in opalized sedimentary beds, by the USGS in the early 1960's (Staatz and Bauer, 1961, attached). The area was staked by only one company in the past, in

1978, by Accent Energy Corp., an oil and gas company. AmMetEx does not know where or what they may have drilled.

AmMetEx has staked 181 claims to date and at least another 71 will be staked in June, bringing the total to 252 claims. The claim block is outlined in dark green in figures 6-10. Northwest of the claim block, there are claims by other parties, primarily for opal mining. AmMetEx is getting the claim maps for this area and will stake claims up to the boundaries of those other claims.

The Sagebrush Creek project and the opal deposits in the Virgin Valley mining district are in a quasicircular shaped area of 67,000 acres that was reserved for mining of U, V, Hg, opal and building stone, taken out of the >500,000 acre Sheldon National Wildlife Refuge, established in the 1930's. The Sagebrush Creek claim block is entirely within the areas open for location and mining, both within and outside of the wildlife refuge to the east (see Figure 5). Figure 6 shows the major opal mines in the Virgin Valley mining district and the location of AmMetEx's claim block. Although the proximity to a wildlife refuge may have deterred other companies from exploring here, it is for that reason that it is available. AmMetEx views this as an opportunity to be the first to do modern exploration in a highly prospective area with outcropping uranium-vanadium mineralization in strongly hydrothermally altered rocks in a known well-endowed uranium-vanadium-lithium region. The precedent for successful permitting and development is set as there is a world-class mine being constructed nearby, facilitated by the U.S. federal government. This region may well become known as a hub of production of energy minerals.

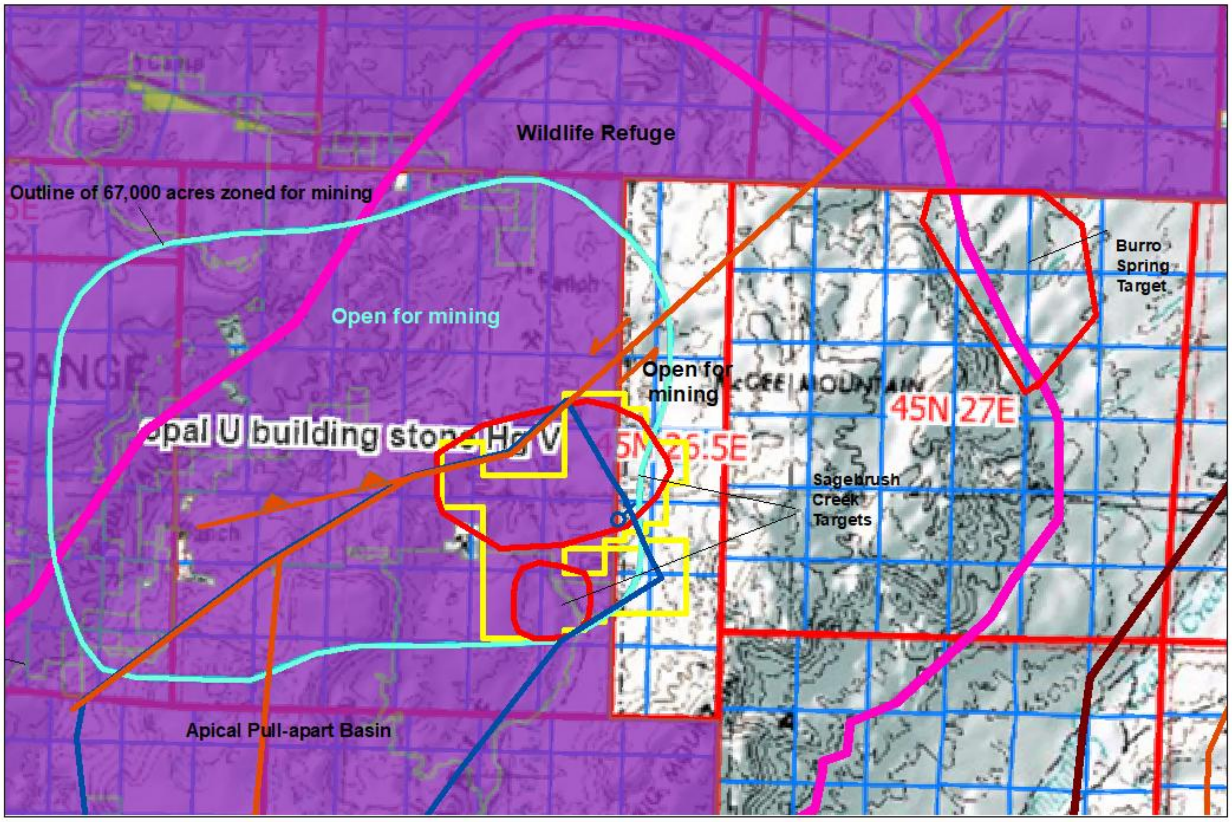


Figure 5. Land Status Map, Sheldon National Wildlife Refuge in purple. Area outlined in light blue contains 67,000 acres that were exempted from the wildlife refuge for the purposes of mining opal, U, V, Hg and building stone. AMEC claim block outlined in yellow.

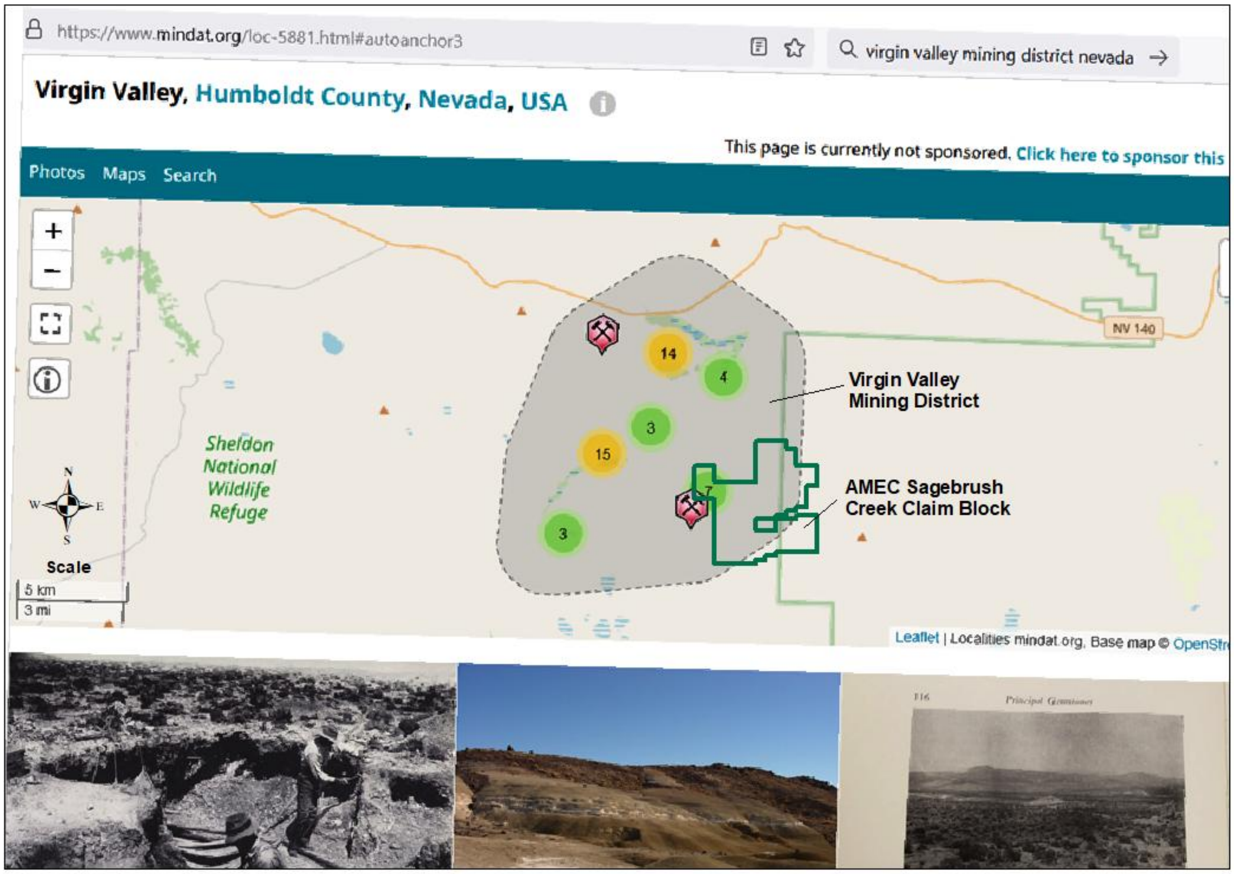


Figure 6. Virgin Valley Mining District with major opal mines. AMEC claim block outlined in dark green. See accompanying VirginValleyOpal.pdf.

Website: **https://www.mindat.org/loc-5881.html**

Figures 7-11 display geology and geophysics of the Sagebrush Creek project area. In Figure 7, the resurgent rhyolite in tan can be seen to crop out around the north and east sides of the current pull-apart basin outlined in blue. Arcuate faults that have been mapped in the rhyolite and horizontal gravity derivatives suggest that the rhyolite came up along outer faults of the pull-apart basin.

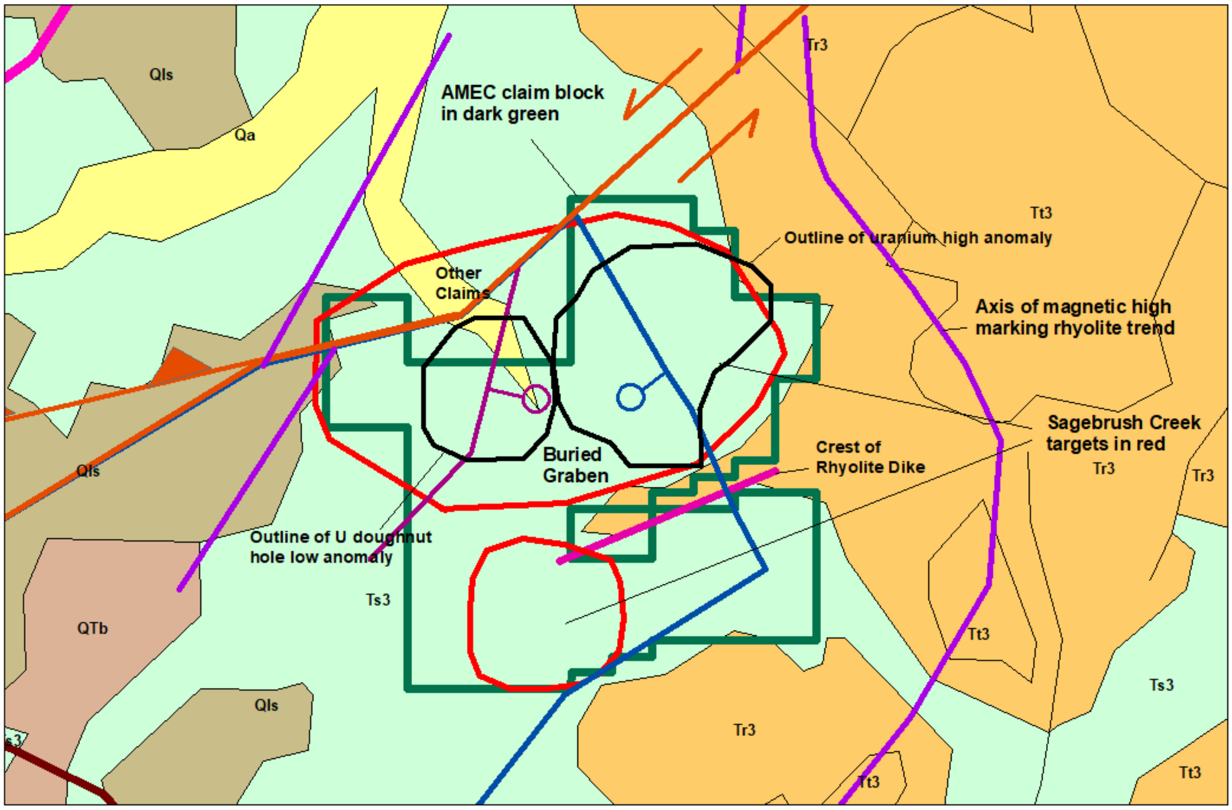


Figure 7. Geologic map. Tan is rhyolite, light blue-green is Miocene caldera lake sediments. Note that rihyolite dike cutting sedimentary unit suggests that at least part of resurgent rhyolite (Tr3) is younder than the Miocene sediments (Ts3).

Figure 8 shows the regional gravity map for the project area. The USGS did substantial work here in the period of uranium exploration in the 60's and 70's and the gravity coverage here is good. In the figure it can be seen that a gravity high extends southwestward under Miocene sedimentary cover from outcropping rhyolite in the north. It is likely that rhyolite wraps around three sides of the pull-apart basin and the small buried graben indicated in the figure.

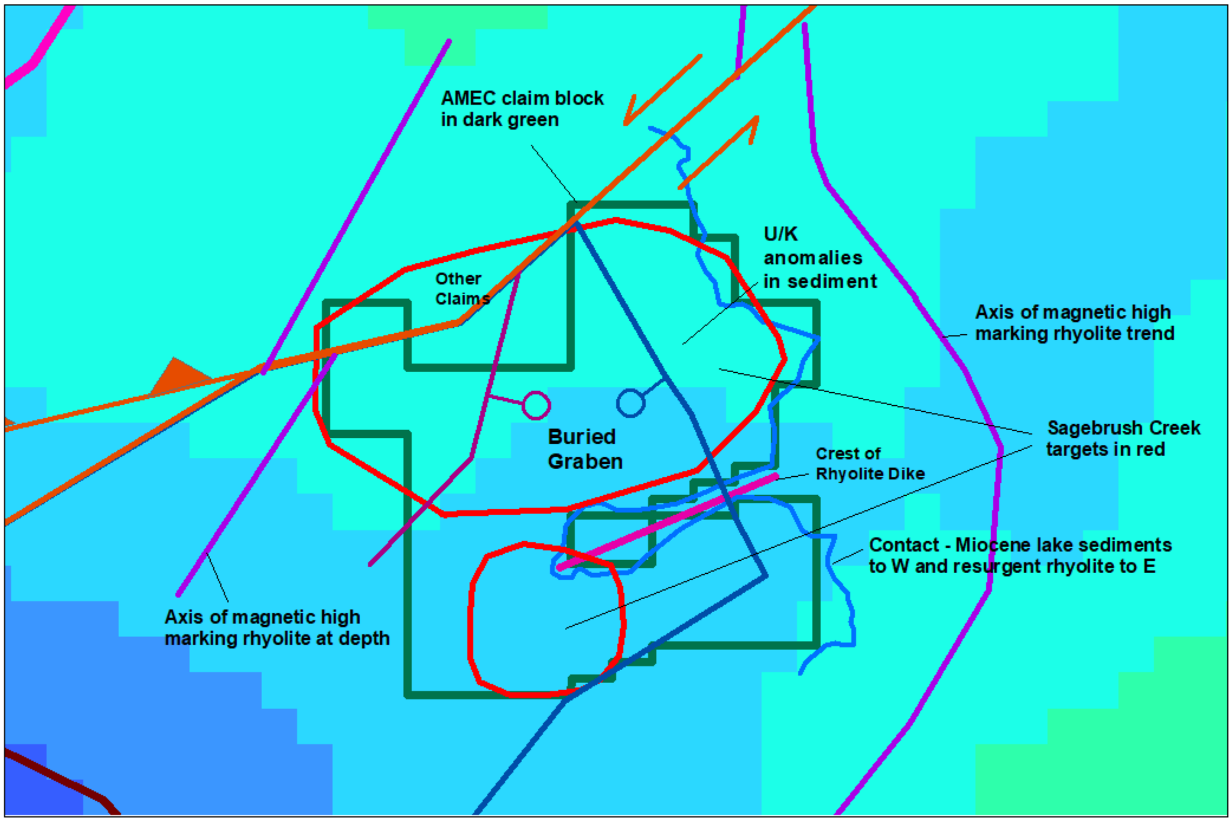


Figure 8. Complete Bouguer gravity anomaly map. Greens are gravity highs, blues are lows. Note N-trending buried graben in the NE-end of the NE-trending pull-apart basin.

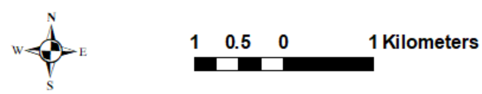


Figure 9 is a map of aeromagnetic total intensity reduced to pole. The magnetic highs in brown are prominent on three sides of the pull-apart basin, supporting that resurgent rhyolite wraps around the the pull-apart basin and the small buried graben. A large and strong hydrothermal system is indicated by the widespread opal mineralization in the Virgin Valley mining district to the northeast. Opal was likely deposited in the higher parts of the hydrothermal depositional zone. Hot hydrothermal fluids are buoyant and tend to rise as high as they can in fractured or permeable rocks, depositing different elements at different depths depending on temperature, pressure and chemical gradients. As can be seen in figures 10 and 11, the rhyolite is rich in uranium and potassium and, no doubt, other incompatible elements. It is likely that acidic hydrothermal fluids were enriched in these elements, convected away from hot rhyolite bodies around and under the basin and rose along the graben faults.

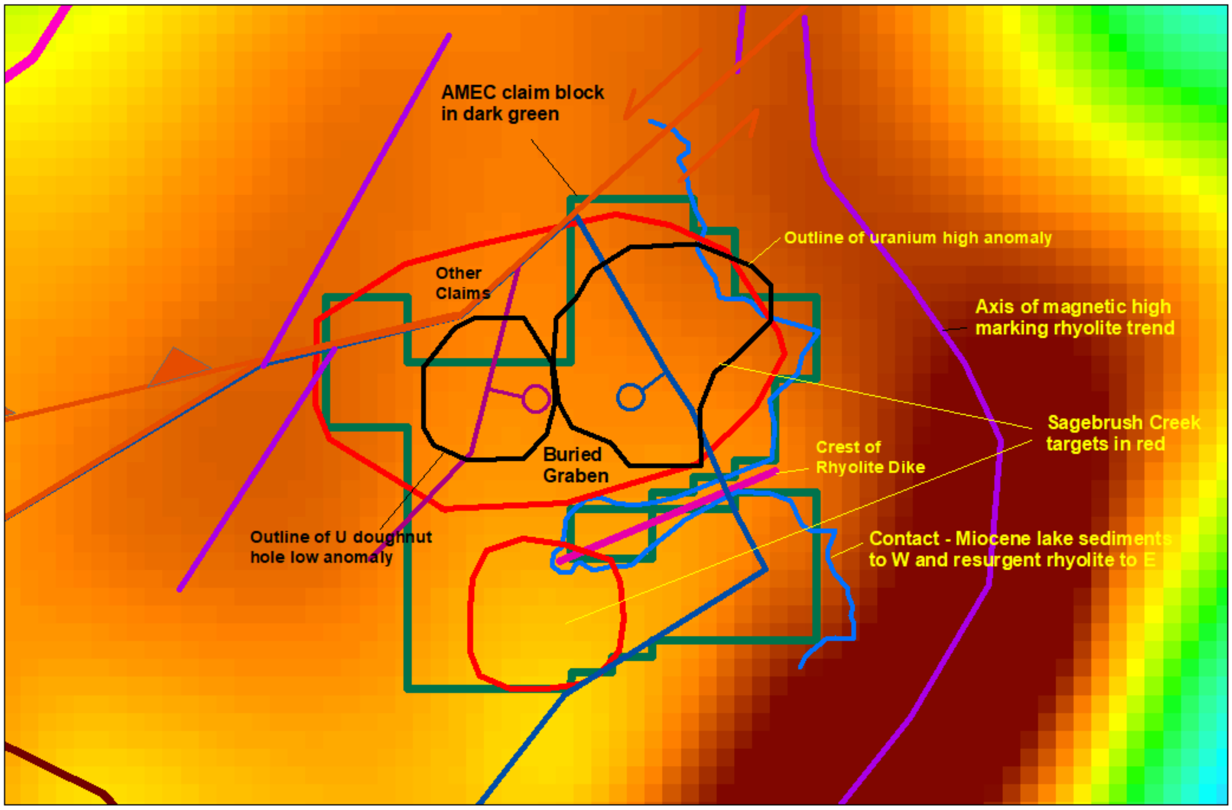


Figure 9. Aeromagnetic map. Browns are magnetic highs in peralkaline rhyolite lavas and tuffs. Note that magnetic highs suggest that rhyolites completely surround pull-apart basin - possible heat engines for hydrothermal circulation.

N W E S

1 0.5 0 1 Kilometers

Figure 10 is a map of gridded uranium equivalent from the 1970's NURE aeroradiometric survey. It demonstrates that the outcropping rhyolite is high in uranium, but the largest uranium high anomaly, outlined in black with yellow lettering, is in Miocene sedimentary rocks, adjacent to the rhyolite and spanning the buried graben fault. This is a primary exploration target for AmMetEx.

The other two primary targets are the doughnut hole low anomaly to the east and the red circled low anomaly to the south. The northern of the two anomalies shows a low surrounded on all four sides by uranium high zones and the southern anomaly is surrounded on three sides by uranium high zones. This pattern, resembling a doughnut hole, is common above buried mineralized bodies where the elements released by weathering or groundwater leaching may travel s short diatnce within the ore body but are rapidly taken up again by the ore or alteration minerals. The only place they can escape and rise is around the edges of the ore body, hence when they reach the surface, probably largely by evapotranspiration in the arid Nevada desert, they precipitate in a halo or doughnut pattern with a central low zone. It is not known at this point whether the high uranium anomaly or the doughnut hole low anomalies or both indicate underlying mineralization, but drilling will tell.

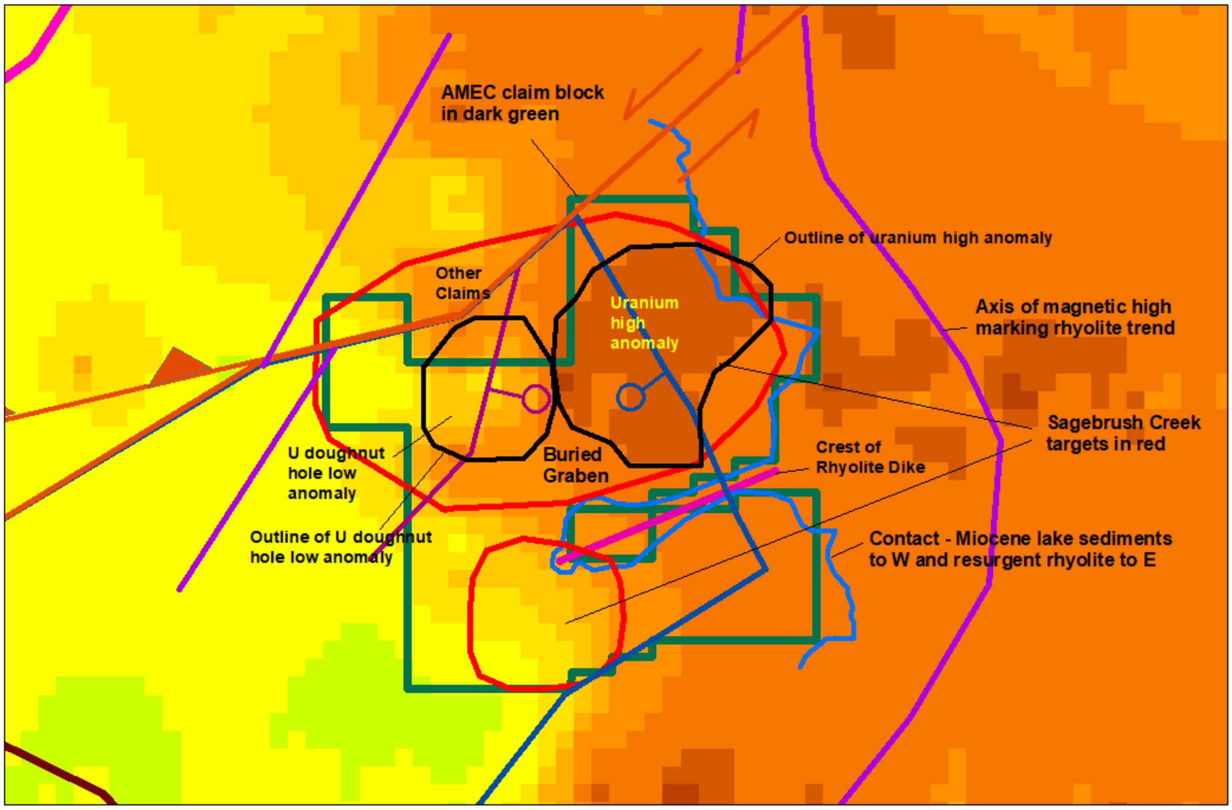
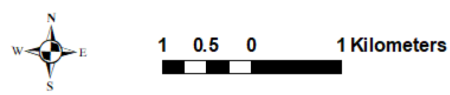


Figure 10. Aeroradiometric uranium map. Browns are highs, greens are lows. Note uranium high and low anomalies in the Miocene sediments, spanning the graben faults. Hydrothermal fluids may have been heated by rhyolite bodies (including dike) and traveled up the graben faults.



In Figure 11, note that aeroradiometric potassium yields the same pattern as uranium. The aeroradiometric U and K anomalies are coincident and both have dimensions of 2,000 x 2,000 metres at the top of the Miocene sedimentary unit.

Potassium may also be an indicator of lithium, and, in addition to uranium/vanadium deposits, there is the possibility of lithium clay deposits in hydrothermally altered caldera lake sediments, as at Thacker

Pass and Aurora, 50 km to the east.

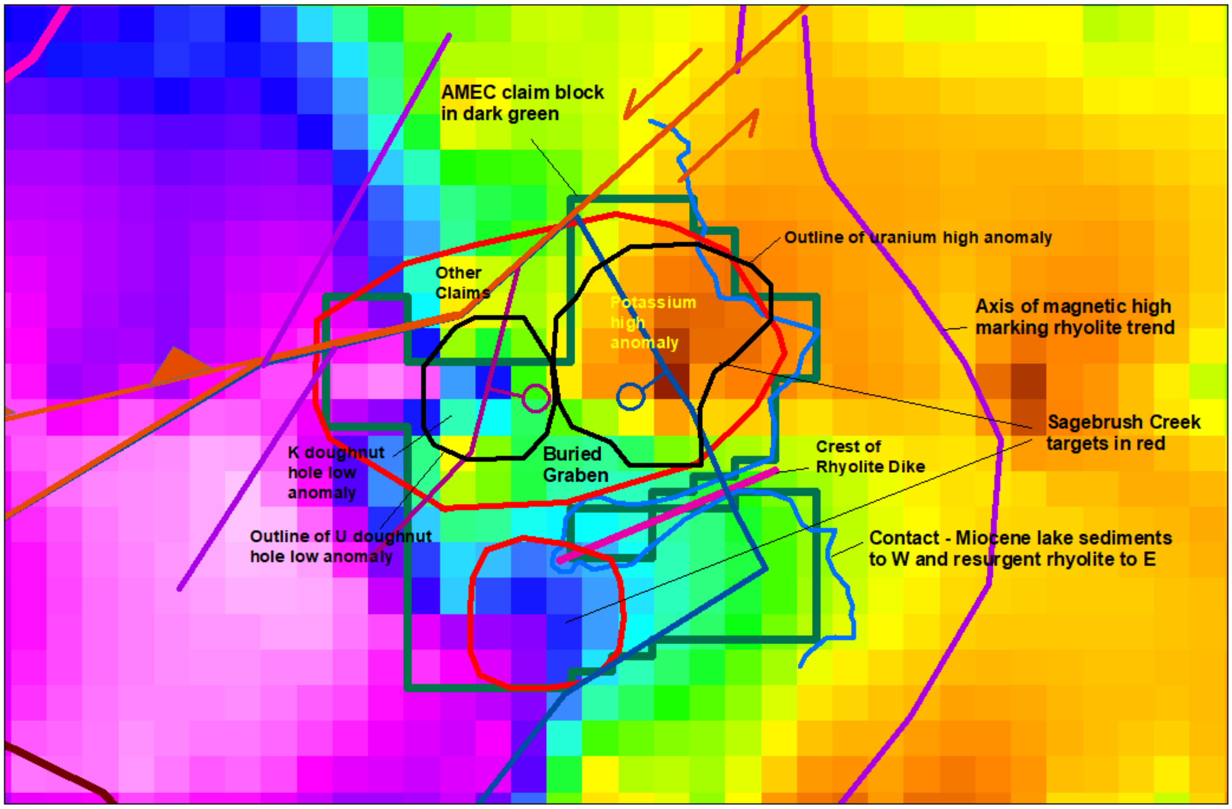


Figure 11. Aeroradiometric potassium map. Browns are highs, pinks are lows. Note K anomalies are coincident with high and low U anomalies of figure 10. High K suggests the fluids may also have had high Li content, and there may be Li clay deposits here.

N W E S

1 0.5 0 1 Kilometers

Figure 12 is an aerial photograph of the Sagebrush Creek project area. Access is good and winter snow and mud are the only expected hindrances, so there may a 9-month favorable exploration season. Mineral exploration in the area is administered by the BLM and drilling permitting should be easy.

AmMetEx is still in the process of staking claims and none have yet been recorded. AmMetEx is looking for exploration partners either in a joint venture or an option to purchase arrangement with work commitment. The first exploration work recommended is geologic mapping and rock chip sampling, a detailed gravity survey and a weak-leach soil survey like ALS' Ionic Leach that is tailored for ultra-trace elements adsorbed onto the outside of soil particles, ostensibly sampling elements that have risen up from a buried mineralized body.

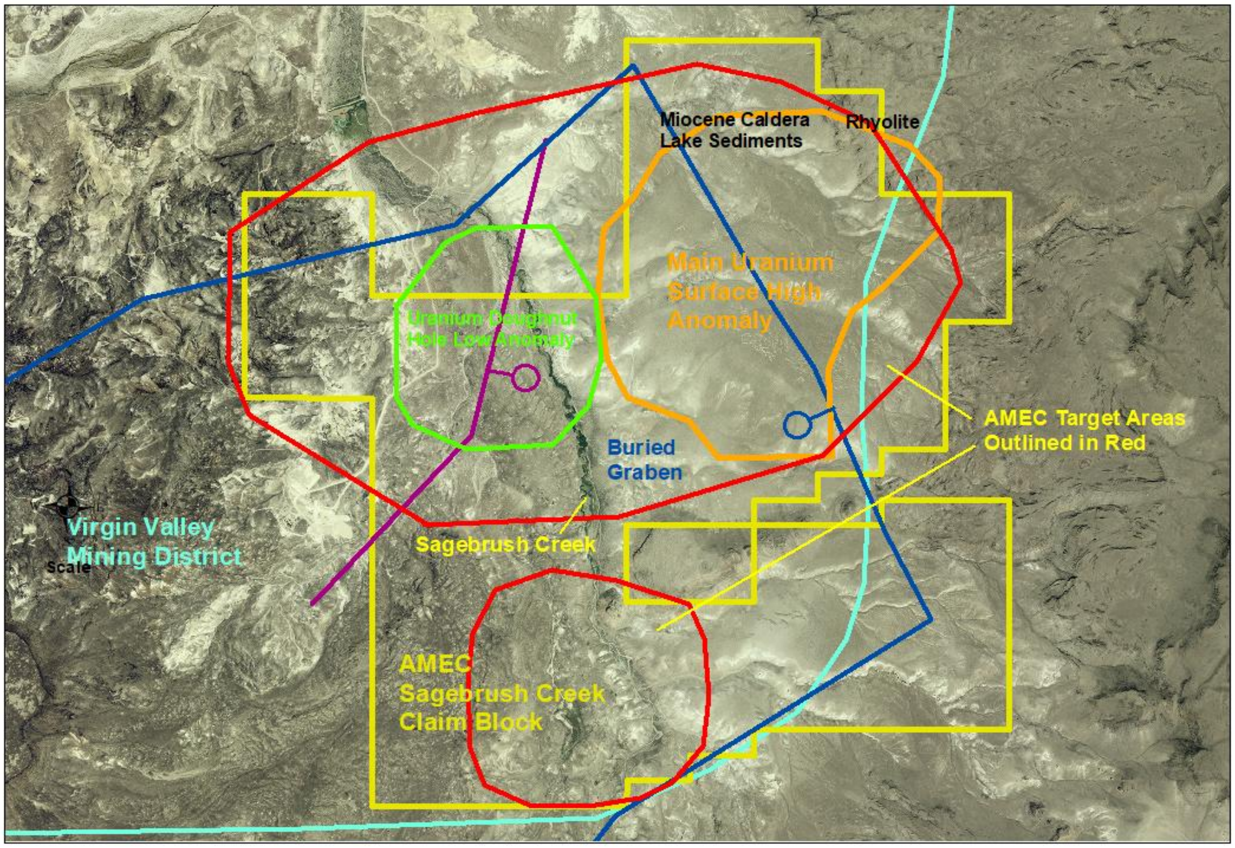


Figure 12. Aerial photograph of Sagebrush Creek project area.

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