# NI 43-101 TECHNICAL REPORT

# Lucky Mica Project, Arizona

# RedZone Resources Ltd.

**Transmitted to:**

**RedZone Resources Ltd.**

Michael Murphy

**Prepared by:**


**SGS Canada Inc.**

Jean-Philippe Paiement, P.Geo., M.Sc.

Marc-Antoine Laporte, P.Geo., M.Sc.


**Date:**

February 13, 2017

## Disclaimer:

# DATE AND SIGNATURES

This report has an effective date of February 13, 2017

**Prepared by:**

*20-02-17*

**Jean-Philippe Paiement, P.Geo., M.Sc.** **Date**

**Reviewed by:**

*20-02-17*

**Marc-Antoine Laporte, P.Geo, M.Sc.** **Date**

# 1 EXECUTIVE SUMMARY

RedZone Resources Ltd. (hereinafter "RedZone" or the “Company”) holds twenty five (25) contiguous LM (lode mining) claims (the “Property”) for a total of 2.066 $km^2$ in the Maricopa County of Arizona. The Property is located approximately 10 km southwest of the city of Wickenburg, Arizona.

This report presents a technical review of the geology and the mineralization on the Property. It includes a summary of previous work, a detailed description of the new geological work carried out by RedZone, independent check samples and an exploration targets discussion. Currently, no mineral resources have been estimated or declared on the Property.

The claims are staked in the name of Godolphin Mining Inc., an Arizona Corporation controlled by one of the directors of RedZone. Godolphin and Redzone have entered into an option agreement whereby in order to earn an initial 75% interest in the Property, subject to a 0.5% net smelter return royalty (“NSR”). Upon exercising its initial option to earn a 75% interest in the Property, the Company shall have the further option to acquire the remaining 25% interest in the Property, subject to an aggregate 0.667% NSR on the Property (which may be purchased by the Company in consideration of a cash payment of US$1,000,000). The Company can exercise this further option to earn the remaining 25% interest by (i) making an additional cash payment of US$25,000 to the Vendors; (ii) issuing an additional 100,000 common shares of the Company to the Vendors; and (iii) completing additional exploration expenditures on the Property in the aggregate amount of US$400,000 over the ensuing two year period.

Prior to 2016, geological evaluation work including drilling and sinking of a shaft to 10 meters depth were conducted by numerous companies in the 1950’s and 1980’s. Recent work conducted by RedZone has included geological mapping and grab and channel sampling.

The Lucky Mica project is located at the junction of the Mexican Highland and the Sonora Desert; and is part of the Arizona Pegmatite Belt; as part of the basin and range tectonic domain. Pegmatites in this belt occur in igneous and metamorphic rocks of Precambrian age. These are largely covered by sedimentary and volcanic rocks of Tertiary and Quaternary age. The Lucky Mica area rocks are mapped as ‘Older Precambrian schist’ by Wilson (1960); part of the Yavapai schists. The phyllite schists are overlain by Tertiary dacites and rhyolite in the northeastern and eastern portion of the Property. A gravel cover is present throughout the Property and varies in thickness from a few centimeters to several meters. The different pegmatite bodies observed on the Property are interpreted as in echelon intrusions in fold hinge planes. The pegmatite bodies also display, to varying degrees, zoning that is typical of these pegmatites: 1) a border zone which is fine grained; 2) wall zone composed of medium size mineral crystal; 3) an albite zone at the contacts followed by a K-feldspar rich zone with lesser albite, quartz, mica, and little or no spodumene followed by 4) a spodumene-quartz-rich core zone with variable feldspars and mica. It has been demonstrated by Singh (1993) that weathering of pegmatites can result in the spodumene being altered to smectite. This weathering process can lower the lithium grade of surface samples.

Early prospecting and geochemical analysis show that the spodumene bearing pegmatites have grades comparable to the average grade of other pegmatite projects where studies have been completed indicating positive economics (for example Nemaska Lithium 1.50% $Li_2O$, North American Lithium 1.99% $Li_2O$ and Galaxy Resources 1.28% $Li_2O$); with one grab sample (from spodumene rich pegmatite) returning a grade up to 7.5% $Li_2O$. Furthermore, the geochemical zoning observed on the Property is consistent with LCT-type pegmatite and within the lithium bearing zoning. The Lucky Mica dyke and newly discovered pegmatite outcrops were sampled in order to assess the existence of lithium mineralization and potential for the Property.

To date, no drilling has been conducted on the Property by RedZone, however a number of historical collar monuments were found during the site visit. The Company's investigations indicate that some of these holes were drilled to target potential gold occurrences and were not targeted to intercept pegmatite bodies.

A site visit of the Property was completed by Jean-Philippe Paiement, P.Geo., M.Sc. SGS Canada Inc. in January of 2017. The author conducted field inspection of the Lucky Mica dyke and preliminary prospecting enabled him to identify and sampled ten (10) new pegmatite outcrops throughout the Property, possibly indicating seven (7) separate pegmatite occurences. The author also conducted independent check sampling at these outcrops. Results from this sampling are consistent with previous analytical results observed on the Property. The independent check sampling program conducted by SGS at the Property confirms the presence of lithium mineralization in the pegmatite bodies and supports the targeting of these bodies for potential zones of mineralization.

Currently, no Mineral Resources or Mineral Reserves have been estimated on the Property.

RedZone now has sufficient information and data required to proceed with further exploration work with the objective of finding potential Mineral Resources on the Property. Based on the surface mapping, sectional interpretation and sampling for the Lucky Mica dyke alone, SGS Canada Inc. has defined a target envelope tonnage of between 330,000 and 551,000 tonnes to a depth of 60m with average grades between 0.3% and 2.5% $Li_2O$. Work to date indicates at least seven (7) distinct pegmatite bodies on the Property, with most of the sampling and mapping to date focused on the first of these to be identified by Redzone (the Lucky Mica dyke). These dykes could increase the mineral potential to between 330,000 and 3.0M tonnes. RedZone's exploration strategy is to target all of the pegmatite bodies identified on the Property and if successful would aggregate multiple zones of lithium mineralization to an economic threshold resource tonnage and grade. The potential quantity and grade for this "Mineral Potential" estimates is conceptual in nature; there has been insufficient exploration to define a mineral resource and it is uncertain if further exploration will result in the target being delineated as a mineral resource. It should be noted that no recent drilling has been completed on the Property, which is necessary to delineate potentially economic grade and thickness intervals.

The observed lithium grades from the spodumene bearing pegmatites on the Property are comparable to grades found in other lithium deposits, If the observed lithium grades are present in the depth and strike extensions of The Lucky Mica dyke and if the newly found dykes are similar to the Lucky Mica, the author is of the opinion that the Property holds the potential for tonnages similar to other exploration and feasibility stage projects. Redzone's initial drilling would target the Lucky Mica dyke and exploration of additional dykes on the Property would likely depend on the indication of a zone in the Lucky Mica dyke at potentially economic lithium grades.

In order to advance the project SGS Canada Inc. recommends that RedZone proceed with the following exploration work:

1. Conduct geochemical analysis to investigate intrusive suite prospectivity on a tighter grid;
2. Conduct detailed field mapping and investigation;
3. Initiate a c ore drilling campaign designed to delineate the Lucky Mica dyke and assess its lithium content including at depth and
4. Evaluation the potential lithium concentrate quality through metallurgical testing of drill core samples.

In order to proceed with the following recommendations, SGS estimates the following budgets to be needed by RedZone:

**Table 1-1: Estimated budget for further phases of exploration work**

| TASKS | TIMEFRAME | ESTIMATED COSTS ($CAD) | POSSIBLE CONSULTANT |
|---|---|---|---|
| Geochemical analysis grid (1,000 samples) | 2017 | 35,000$ | Local consultant supervised by Geologist |
| Conduct detailed field mapping (1 month field campaign) | 2017 | 16,000$ | Local consultant supported by SGS Canada Inc. |
| Initiate drilling campaign with 7 drill holes | 2017 | 220,000$ | Local consultant supported by qualified person |
| Metallurgical testing program | 2017-2018 | 500,000$ | SGS Canada Inc. |

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# 2 INTRODUCTION

In December 2016, RedZone retained SGS Canada Inc. (hereafter “SGS”) to complete a Technical Report under the NI 43-101 format for the Lucky Mica Project, located near Wickenburg, Arizona.

This technical report on the Property of Merit provides the reader with a thorough review of the exploration activities and the exploration target evaluation carried out by SGS based on historical data, mapping and independent sampling program.

This report was requested by Michael Murphy, CEO of RedZone. RedZone provided the necessary technical data in electronic and paper format. The author visited the Lucky Mica Project site on January 9-11, 2017.

This technical report has been prepared in accordance with industry best practices as described by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) "Best Practices and Reporting Guidelines" for the disclosure of mineral exploration information, the Canadian Securities Regulators Revised Regulation 43-101 (Disclosure Standards for Mining Projects), Supplemental Instrument 43-101 and the CIM Definitions and Standards for Mineral Resources and Mineral Reserves (December 11, 2005, November 2011).

The effective date of this report is February 13, 2017.

## 2.1 Units and Abbreviations

All units of measurement used in this technical report are in metric.

All currency is in Canadian dollars, unless otherwise noted.

# 3 RELIANCE ON OTHER EXPERTS

Jean-Philippe Paiement, P.Geo., M.Sc., relied on:

1. Alan Matthews, Consultant Engineer at Godolphin Mining Services LLC on matters relating to:
    - mineral tenure and mining rights permits and surface rights

# 4 PROPERTY DESCRIPTION AND LOCATION

## 4.1 Location

The Lucky Mica Property is located in the Maricopa County, State of Arizona, approximately 10 km southwest of the city of Wickenburg. The area is easily accessible through the public road network. The city of Wickenburg is accessible using highway 60; 105 km Northwest of Phoenix (Figure 4-1). From Wickenburg, the project area is accessible by both the Vulture Mine road and the N Vulture Peak road.

## 4.2 Property Description

The center of the Property is located at approximately 337,392mE and 3,748,053mN (WGS84). The Property comprises twenty five (25) - 1 thru - contiguous LM (lode mining) claims for a total of 2.066 $km^2$ (Figure 4-2). The claims are located in Sections 14, 15, 22 and 23, Township 6 North, Range 5 West, Gila-Salt River Base Meridian.

According to the available map, the Property holds several mining prospects and historical mining shafts and adits. However due to the lack of public filing system, no further information on the nature of these prospects or shafts are available.

## 4.3 Ownership

The claims are staked in the name of Godolphin Mining Inc., an Arizona Corporation (the “vendor”). Godolphin and RedZone have entered into an option agreement whereby in order to earn an initial 75% interest in the Property, subject to a 0.5% net smelter return royalty (“NSR”), the Company is required to (i) issue an aggregate of 400,000 common shares of the Company (200,000 issued to date) to the Vendors over a two year period, of which 300,000 common shares must be issued in the first 15 months; (ii) make aggregate cash payments to the Vendors of US$37,500, of which US$17,500 must be paid in the first 15 months ($17,500 paid); and (iii) complete exploration expenditures of US$100,000 on the Property over the first year.

Upon exercising its initial option to earn a 75% interest in the Property, the Company shall have the further option to acquire the remaining 25% interest in the Property, subject to an aggregate 0.667% NSR on the Property (which may be purchased by the Company in consideration of a cash payment of US$1,000,000). The Company can exercise this further option to earn the remaining 25% interest by (i) making an additional cash payment of US$25,000 to the Vendors; (ii) issuing an additional 100,000 common shares to the Vendors; and (iii) completing additional exploration expenditures on the Property in the aggregate amount of US$400,000 over the ensuing two year period.

The 25 claims composing the Property have been staked on four corners and the registration papers have been placed on the center of the north and south limits. The claims are listed active and assessment fees paid thru the 2017 assessment year on the Bureau of Land Management (BLM) website LR200.

Claim staking procedures require recordings with both the county Recorder's Office and then with the state Bureau of Land Management office where the claims are entered into the BLM system and available online at the BLM's interactive website LR2000. Mining claims on Federal land are held to a September 1 to September 1 assessment year. Current BLM assessment fees are $155 per lode claim or 20 acres of placer claim. An 'Intent to Hold' or a 'Proof of Labor' (for groups of claims of less than ten in number) document needs to be filed for the annual assessment work.

LR2000 shows several placer and lode claims in the NW, SE and SW quarters of Section 14 (there is only one placer claim in the SW quarter) and the NW, NE and SE quarters of Section 15 These claims, which have not had their assessment fees paid for various years are listed as 'active'. LR2000 shows that the last assessment paid for these placer claims listed as 'active' varies from 2006 thru 2016. It is noted that only one claim paid the assessment for 2017. Details are available on LR2000.

There are no other royalties, back-in-payments or other agreements and encumbrances to which the Property is subject.

## 4.4 Restrictions

To the best of the author's knowledge, there are no known environmental liabilities to which the Property is subject.

To the best of the author's knowledge, there are no other significant factors and risks that may affect access, title, or the right or ability to perform work on the Property.

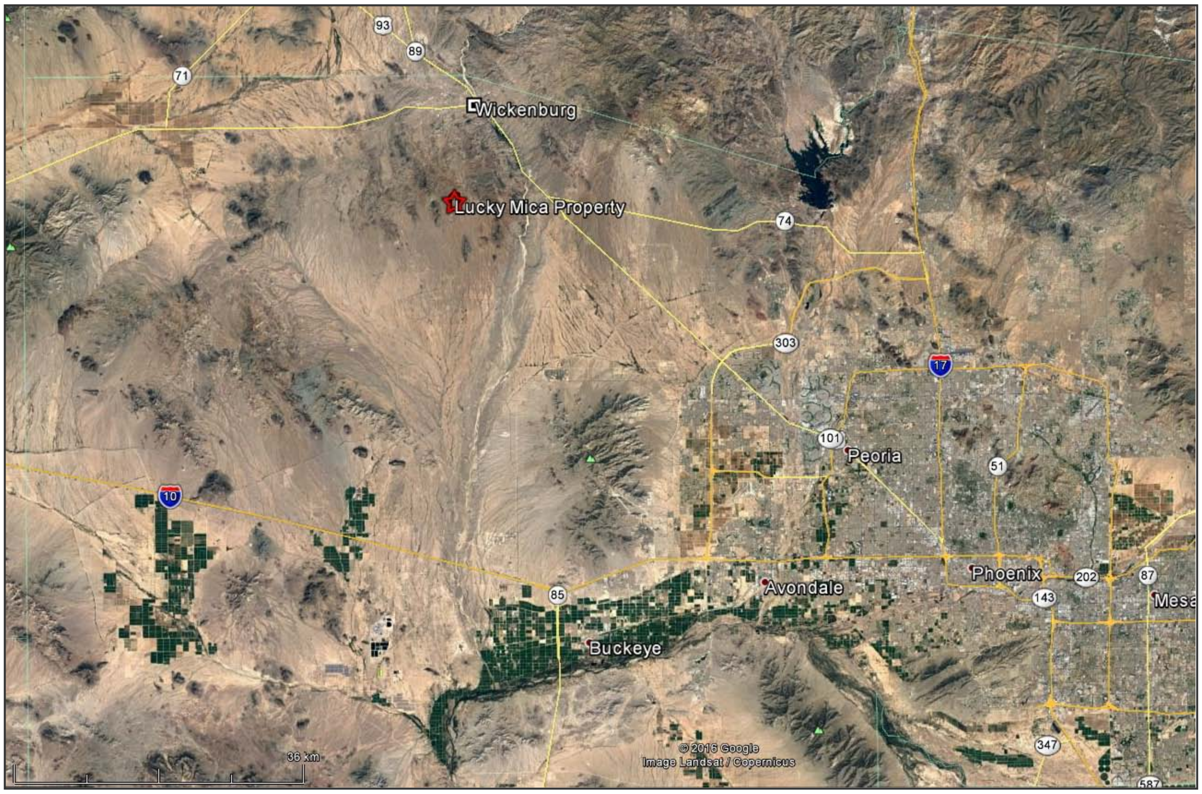



**Figure 4-1: Property Location**

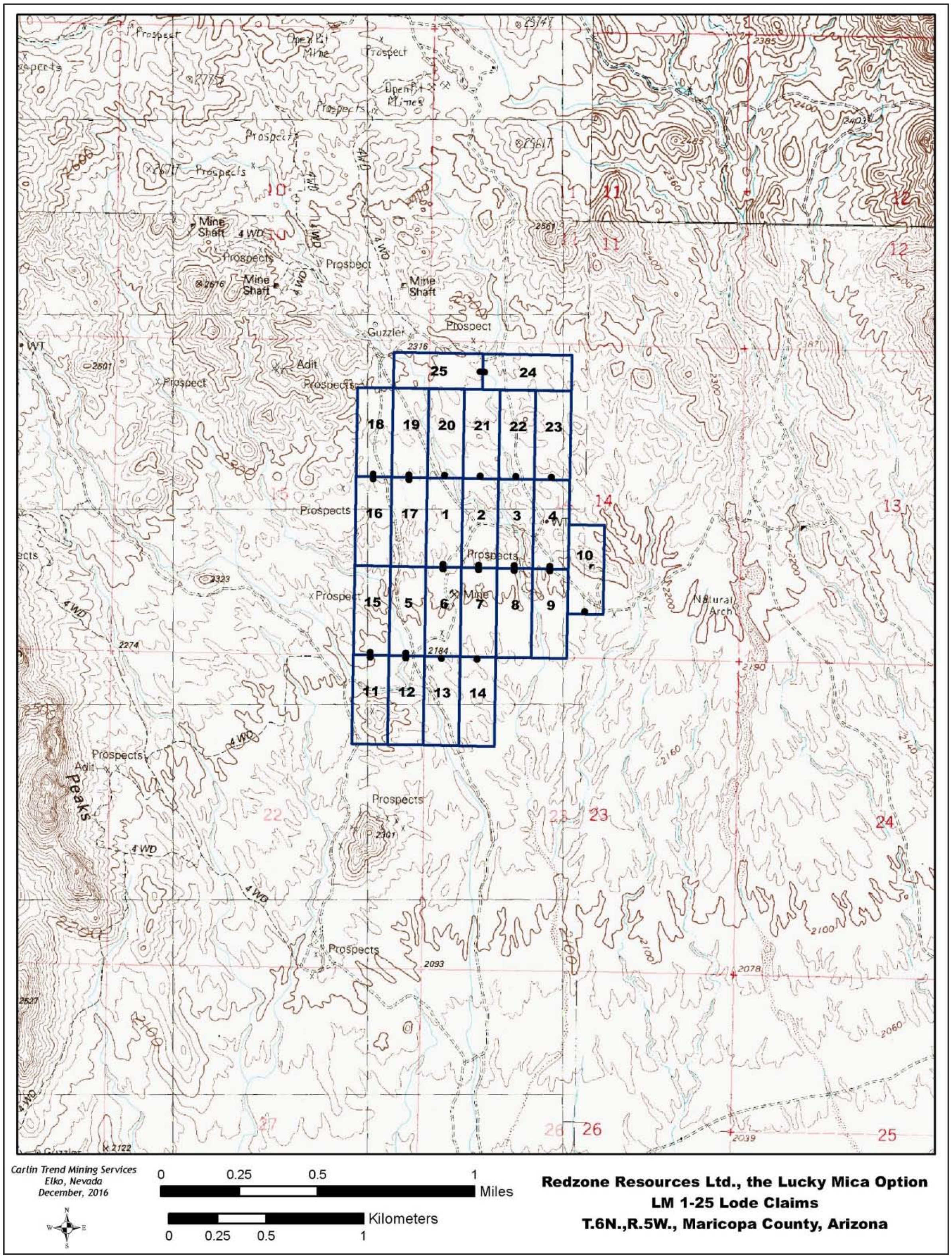



**Figure 4-2: Claim Map**

# 5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

## 5.1 Access

### 5.1.1 Lucky Mica Property

The project can be accessed by the southern extent of the claim block through the paved Vulture Mine road. A turnout, at 19.8km (across from the Vulture Mine entrance) from the Wickenburg cross road, leads to a series of unmaintained off road trails (Figure 5-1). The trails run East-West crossing several drainages (arroyos), which make them rough for vehicle and temporarily impracticable during rainy days. This route takes in excess of 1.5 hours to complete the 10.2km due to the difficult road conditions.

The Property can also be accessed by its northern boundary from the N Vulture Peak Road (Figure 5-1). The turnout for this road is located 5.75km from the Wickenburg cross road. The N Vulture Peak road is relatively well maintained and ends at a canyon entrance 1.54km from the Property's edge. From there an ATV is needed to access the claims.

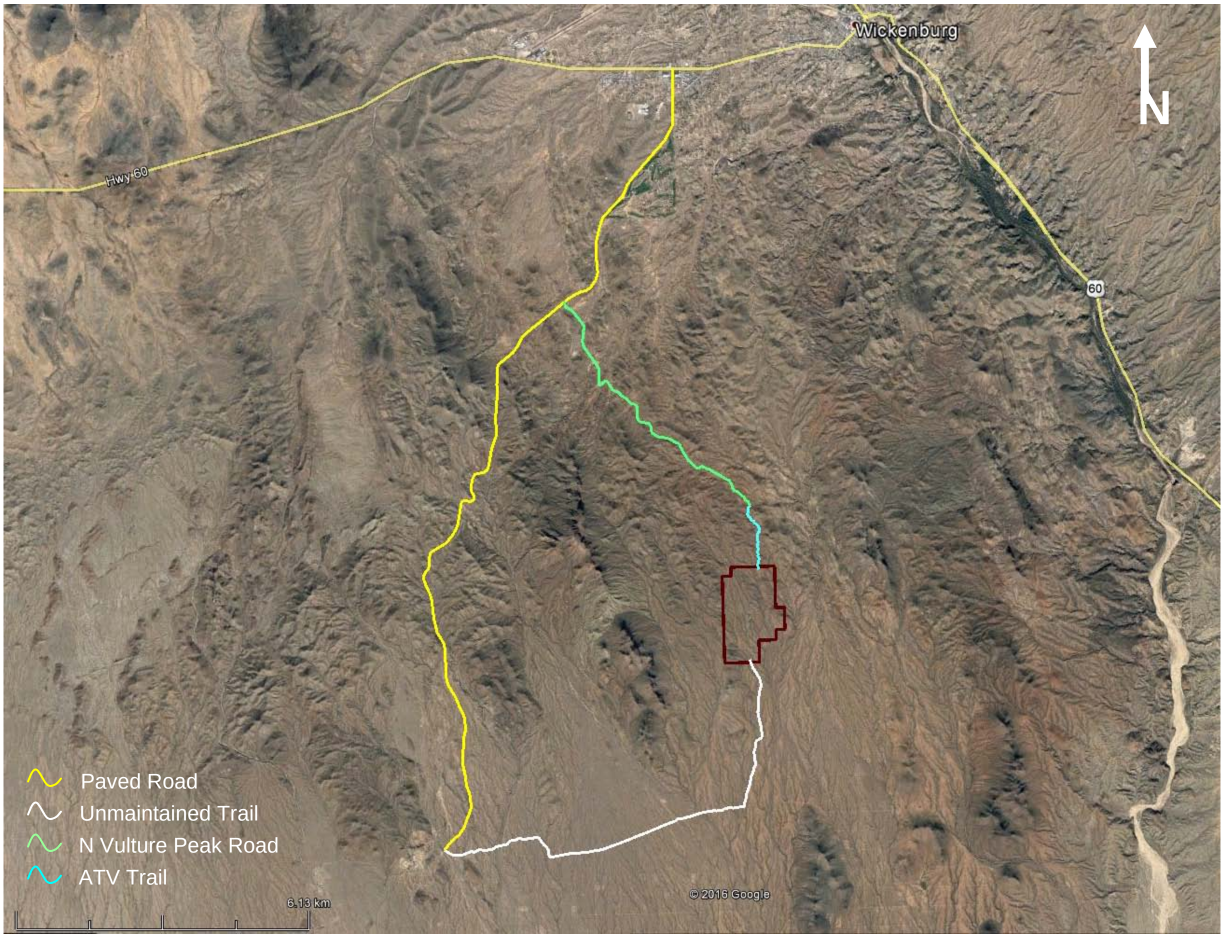
A network of good condition trails is present throughout the Property.

## 5.2 Climate

The region is arid; with cool to cold winters and summers are hot with high averages in excess of 35°C (Table 5-1). Average annual precipitation is 30.84 cm and peaks with summer thunderstorms and winter fronts. Exploration can be conducted year around, but is made more difficult for a few days during severe summer thunderstorms and winter events.

**Table 5-1: Average Wickenburg temperature and precipitation**

| | JAN | FEB | MAR | APR | MAY | JUNE | JULY | AUG | SEPT | OCT | NOV | DEC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average High in °C | 18 | 19 | 23 | 27 | 33 | 37 | 39 | 38 | 35 | 29 | 22 | 18 |
| Average Low in °C | 0 | 2 | 4 | 7 | 11 | 16 | 21 | 21 | 17 | 10 | 4 | 0 |
| Av. Precipitation in cm | 3.40 | 3.91 | 3.09 | 0.99 | 0.51 | 0.30 | 3.51 | 5.41 | 3.10 | 1.60 | 2.31 | 2.69 |
| Source: http://www.usclimatedata.com/climate/wickenburg/arizona/united-states/usaz0261 | | | | | | | | | | | | |




*Source: Google Earth 2017*

**Figure 5-1: Access to the Lucky Mica Property**

## 5.3 Local Resources and Infrastructures

Wickenburg has a population of about 6,000 and a hospital. A selection of motels, restaurants and gas stations is also available in Wickenburg. The greater Phoenix metro area is an hour from Wickenburg and has all transportation and commercial services.

The availability of groundwater is beyond the scope of this report.

Once on the Vulture Mine Road, a reasonable network of paved roads connects the claim area to the rest of Arizona. The nearest rail and commercial airline service is in Phoenix, AZ.

## 5.4 Physiography

The immediate Property area is a gravel covered plain incised with arroyos up to 15 feet deep. Hills and the rugged volcanic Vulture Mountains surround the area to the north and west (Figure 4). Elevations on the Property range from about 2,100 to 2,300 feet. The valley floor is characterized by subdued topography with washes eroding into slightly older valley fill gravels. Vegetation on the Property is typical of the Sonoran desert with saguaro and other cacti such as cholla, brushes and grasses (Figure 5-2).

**Figure 5-2: Typical physiography of the project area**

# 6 HISTORY

*This section is a compilation of the data found through different sources, no centralized filing system exist in Arizona, which make the historical work research difficult.*

## 6.1 B. H. Fortner of Prescott and Bob Boyd

The historical work on the Property dates back to the middle of the 20$^{th}$ century. In 1950 the Property was owned by, B. H. Fortner of Prescott and Bob Boyd of Wickenburg. Some exploration work was carried out. The Property was idled in 1958. The Arizona Continental Uranium Co. of Phoenix reported that the body (Lucky Mica Dyke) was satisfactory, but they had no way of economically processing the ore. Lithium content of 3.0% to 3.5 % was reported by the company at this time.

### 6.1.1 Work Report 1950

Gently rolling country, principally coarse grained granite intruded by many pegmatite dikes. Principal opening an irregular hole about 8-ft by 12-ft deep with short drifts running each way along strike. Other workings consist of shallow trenches along the strike, mostly to the south at irregular intervals over a length of about l000-ft. Purpose to explore the continuity of pegmatite dike. In the larger hole a segregation of lepidolite. In one corner a smaller but distinct segregation of amblygonite. On dump plus or minus five tons of lepidolite. In float across a shallow draw southwest of the larger hole some small crystals of beryl found. No other indication of beryl along strike. Parallel pegmatite dikes not explored as of this date.

### 6.1.2 Work Report 1952

The Property was visited early in 1951 by A.L. Flagg, in company with B.H .Fortner, 224 West Gurley Street, Prescott, co-owner with Bob Boyd of Wickenburg. At that time there was almost no development work; a rather irregular hole not over 15-ft deep had been sunk on a segregation of lepidolite (Figure 6-5 and Figure 6-1). Some fragments of spodumene were found in the perimeter of the hole. On the surface about 50-ft SW of this hole there were indications of beryl (i.e. two small crystals less than an inch long). Shallow trenching at irregular intervals had been done to the south covering a distance of about 1,200-ft North of the hole two or three trenches revealed nothing. Since that time a considerable amount of stripping has been done. At the south end, as of the first visit, a shaft has been sunk. The depth of approximately 30-ft was reached. From the bottom a short crosscut was started easterly and continued for about 20-ft. About 15-ft below the collar of the shaft, a strong foot-wall was encountered with a dip of about sixty-five to seventy degrees. On this foot-wall is a streak of solid quartz, about 30-inches, reported to carry over 90% silica. To the east of the quartz streak a zone of crushed spodumene, with incomplete outlines of rather large crystals, extends about eight feet. To the east is a band of undetermined width of amblygonite. Lepidolite occurs also in rather definite segregations. From what information as can be gathered from the shaft and stripping operations it seems reasonable to expect a productive zone of forty feet in width throughout which the several lithium bearing minerals are definitely segregated which might permit selective mining. The hanging-wall of the dike has not been identified positively. More work in the crosscut at the bottom of the shaft, or at a deeper level, would reach that wall. In addition to the lithium minerals, bismutite and columbite have been found in small quantities but nothing can be determines as to the abundance of distribution. The present indications warrant a much more extensive exploration program.

### 6.1.3 Work Report from 1957

The mine consists of a main pegmatite vein or dyke, 2,000 feet long and 12 feet wide in granitic rocks and schist, and several lesser pegmatites. The principal minerals are amblygonite, lepidolite, mica, spodumene, albite feldspar, muscovite and some rare earths (beryl, tantalum, columbite and a few suspected rare constituents as shown by the spectograph). The beryl, in a few spots, is white and massive, but in others it is in stringers in the Albite. The pegmatites strike nearly south and are mainly vertical. Most of the main dike is on two claims. The stringer beryl runs 12% BeO. An examining engineer reported that the material would best be beneficiated by means of flotation after hand sorting the larger segregations.

Lithium pegmatite dyke is about 2,000 ft in length and average about 40 ft. wide. Soda feldspar is predominant, lithium zone 12 to 15 ft., on footwall side, mostly spodumene and amblygonite, large bodies of soda feldspar carrying beryllium. Considerable amount of tantalum is found in the lithium zone. Concentrating the beryllium and tantalum was investigated. A shaft 30 ft, two open cuts and overburden removal by bull dozer on the full length of dike were conducted.

## 6.2 Watt, Griffis & McQuad 1980

The Vulture Pegmatite is a very large, nearly continuous group of pegmatite bodies which trend north-south for 1,350 feet. The bodies range in width from 10 feet to 50 feet. The Vulture Pegmatite is lithium-rich, containing spodumene, lepidolite, and possibly amblygonite. Columbite-tantalite minerals occur as erratically distributed bladed crystals up to one inch in length and 1/4 inch wide. Tantalum content varies considerably although a preliminary average of all samples collected is on the order of 282 ppm (Figure 6-4). The highest grade sample (across a width of 7 feet) contains 1,291 ppm tantalum (Figure 6-4). A sample (154) of zones in the pegmatite which display radiometric anomalies of +300 counts per second contains 303 ppm niobium and 168 ppm tantalum. Located approximately 2,500 feet east of this pegmatite are a pair of similar-sized dikes which also contain anomalous niobium and tantalum. A grab sample (155) of the most radiometric material (800 cps) exposed in one pegmatite contains 685 ppm niobium and 345 ppm tantalum. A grab sample (166) of an adjacent pegmatite 200 feet to the east contains 10,300 ppm niobium, 1,983 ppm tantalum, and 422 ppm uranium. This grab sample is from an area with local radiometric anomalies to 1,300 counts per second. The pegmatite is 300 feet long and 40 feet wide. The information gathered thus far shows that highly anomalous amounts of niobium and tantalum are present. However, detailed sampling and mapping are necessary before the tantalum potential of the Shannon and other nearby pegmatites can be fully assessed.

The most mineralized sample (117) is from the north end of the pegmatite. This seven-foot vertical chip sample contains 1,291 ppm tantalum, 1,233 ppm niobium, 2,450 ppm lithium, and 450 ppm beryllium. All four samples collected from the north lobe of the pegmatite (073, 116, 117, and 118) contain anomalous tantalum values (Figure 6-4). Although most of the samples from the central portion of the pegmatite generally contain less than 100 ppm tantalum, sample 071 from the south-central area contains 468 ppm tantalum, 515 ppm niobium, and 600 ppm lithium. The area contains numerous gold- and silver-bearing prospects which are primarily related to the Tertiary volcanics.

The Vulture Pegmatite warrants additional sampling and mapping to determine if some portions of this extensive pegmatite body contain sufficient reserves of tantalum to become an economic source. Some ore grade material is indeed present and there is sufficient room for one or more orebodies. However, additional sampling should be conducted on the northern and southern portions of the system to determine if continuity of grade can be established. Additionally if any of the underground workings are accessible they should be mapped and sampled to aide in obtaining a three-dimensional view of the body.

## 6.3 Fan Steel 1981

A total of 96 channel and continuous chip samples were collected from the Vulture Pegmatite (Figure 6-5). Although sample results indicate an anomalous concentration of tantalum, only two samples contained over 200 ppm tantalum. Sample No. 1440 was a six-foot continuous chip sample collected underground from the roof of the northward driven drift (cross-section E-E', Plate 2) and contained 326 ppm tantalum and 1,232 ppm niobium. Sample No. 1493 was a 10-foot continuous chip sample collected across a portion of the north cut (Plate 2) and contained 358 ppm tantalum and 616 ppm niobium.

## 6.4 Recent Activities

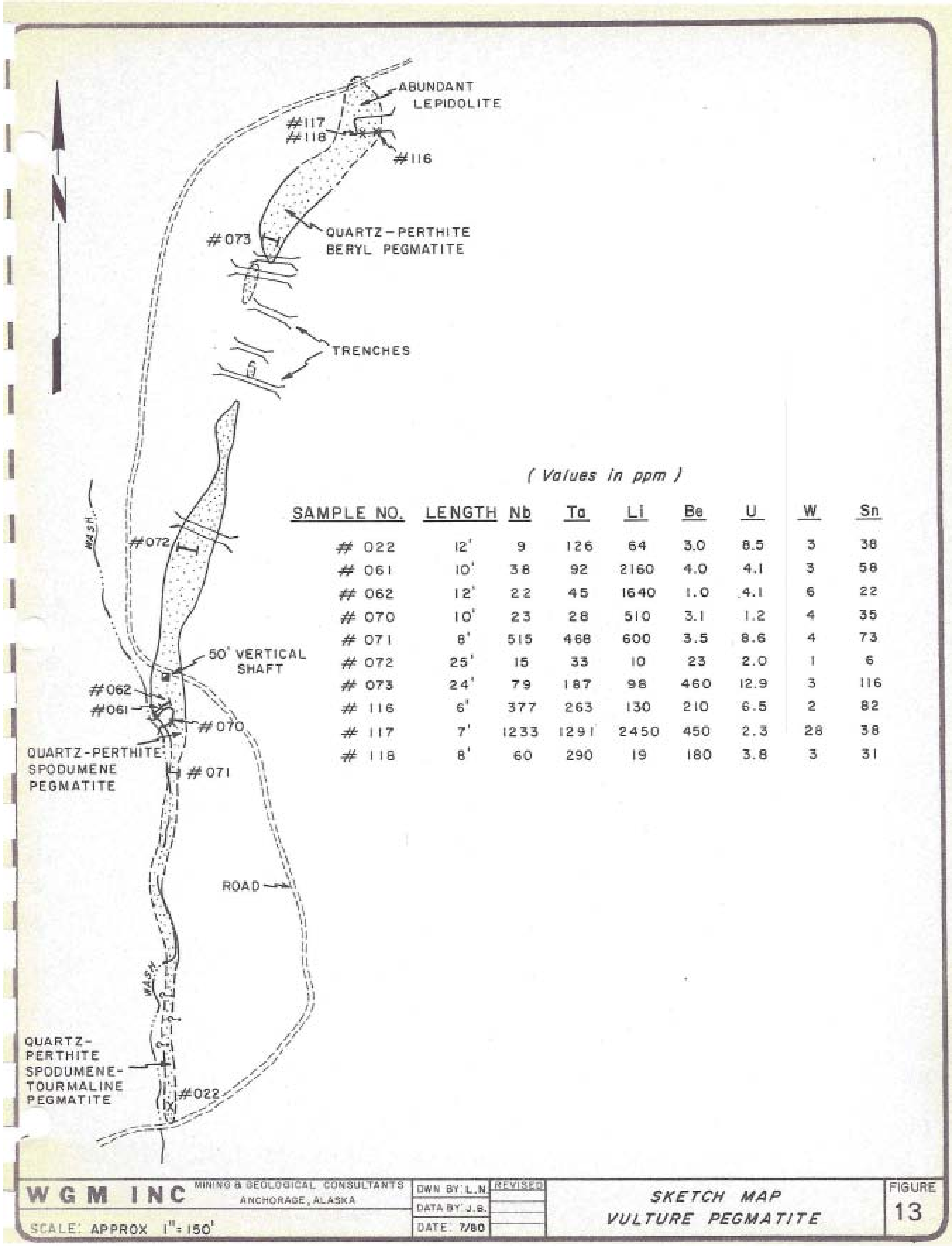
No other information was available to the author; passed 1981. During the site visit, some drill hole collars monuments were observed (Figure 6-3). The numbering sequence of the drill hole seems to indicate that the work was conducted in 2013 (Figure 6-3). Early investigations on that matter indicate that the holes were drilled by Bulldog Gold corp. looking for gold mineralization. The company will keep investigating that matter in order to find assay results and possible witness core.

RedZone conducted staking and initial prospecting on the Property in 2016. The results from this work are described in the present report.

**Figure 6-1: Historical shaft adit**

**Figure 6-2: Open cut through the northern extension of the Lucky Mica dyke**


**Figure 6-3: Drill hole monument**




( Values in ppm )

| SAMPLE NO. | LENGTH | Nb | Ta | Li | Be | U | W | Sn |
|---|---|---|---|---|---|---|---|---|
| # 022 | 12' | 9 | 126 | 64 | 3.0 | 8.5 | 3 | 38 |
| # 061 | 10' | 38 | 92 | 2160 | 4.0 | 4.1 | 3 | 58 |
| # 062 | 12' | 22 | 45 | 1640 | 1.0 | 4.1 | 6 | 22 |
| # 070 | 10' | 23 | 28 | 510 | 3.1 | 1.2 | 4 | 35 |
| # 071 | 8' | 515 | 468 | 600 | 3.5 | 8.6 | 4 | 73 |
| # 072 | 25' | 15 | 33 | 10 | 23 | 2.0 | 1 | 6 |
| # 073 | 24' | 79 | 187 | 98 | 460 | 12.9 | 3 | 116 |
| # 116 | 6' | 377 | 263 | 130 | 210 | 6.5 | 2 | 82 |
| # 117 | 7' | 1233 | 1291 | 2450 | 450 | 2.3 | 28 | 38 |
| # 118 | 8' | 60 | 290 | 19 | 180 | 3.8 | 3 | 31 |

**Figure 6-4: Historical map of sampling by Watts, Griffis and McQuad**

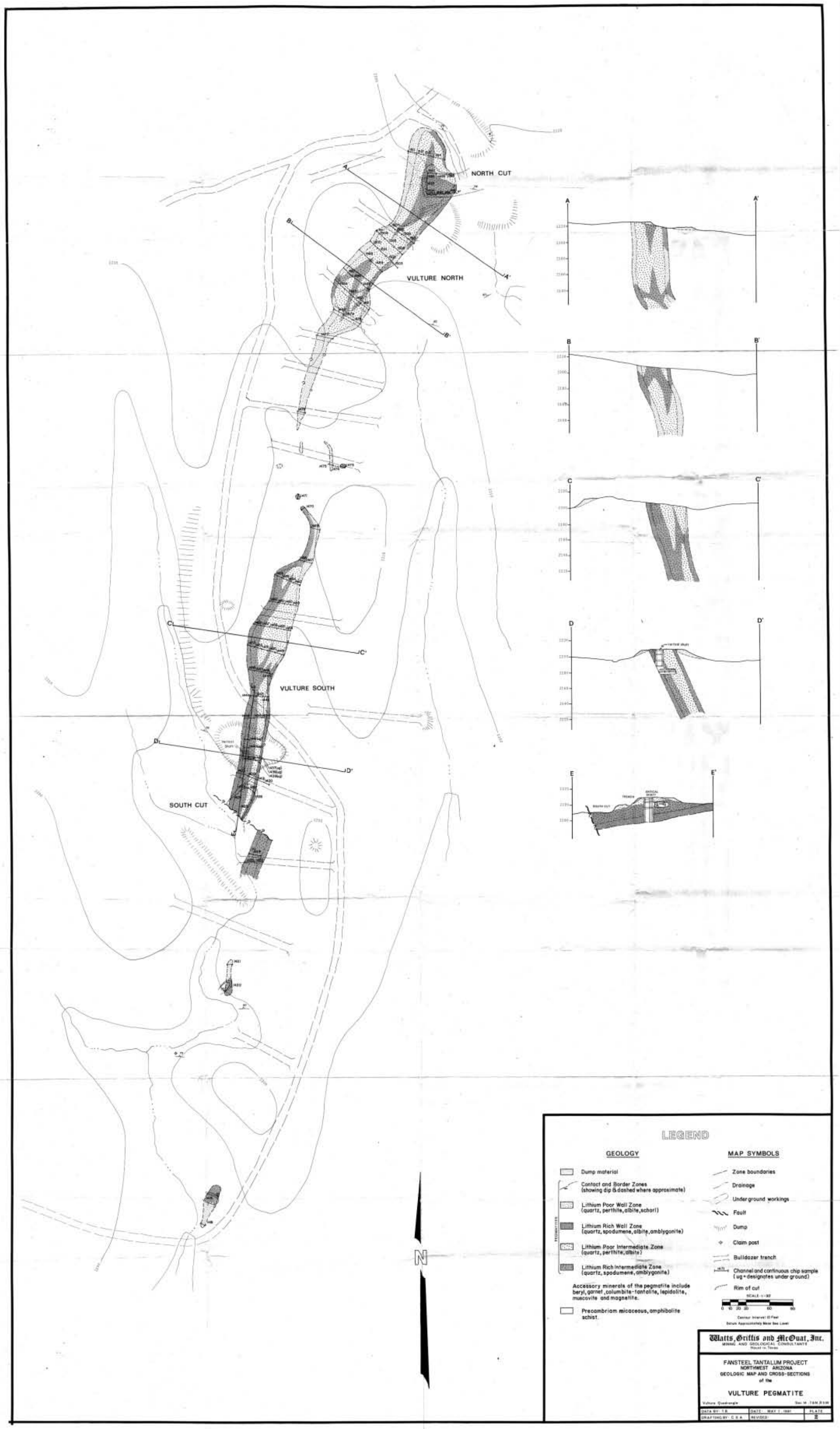



**Figure 6-5: Historical map of the Lucky Mica Dyke by Fan Steel**

# 7 GEOLOGICAL SETTING AND MINERALIZATION

## 7.1 Regional Geology

*Taken and modified from Jahns, 1952*

The Lucky Mica project is located at the junction of the Mexican Highland and the Sonora Desert; and is part of the Arizona Pegmatite Belt; as part of the basin and range province (Figure 7-1). The pegmatites occur in igneous and metamorphic rocks of Precambrian age. These are largely covered by sedimentary and volcanic rocks of Tertiary and Quaternary age.

The oldest of the major rock units, the Yavapai schist (Figure 7-2), comprises thinly foliated quartz-micas schist, quartz-mica-hornblende schist and gneiss, feldspathic hornblende gneiss, quartz-feldspar-mica gneiss, amphibole, epidosite, impure quartzite, and various types of migmatitic or hybrid rocks. Most of these are rocks of middle metamorphic rank, as evidenced mainly by the presence of hornblende, garnet, biotite, and calcic plagioclase. In general they are silvery gray to very dark greenish gray and form sombre-appearing areas of exposure that contrast markedly with those of the lighter-colored Tertiary rocks. Many of the quartzites and quartz-rich schists are plainly of sedimentary origin, as indicated by graded bedding, cross bedding, cut-and-fill relations, and other primary structural features. Most of the more mafic rocks, on the other hand, probably were original volcanic flows and pyroclastic types. Amygdaloidal and flow structures are clearly preserved in some of them, and several units of agglomerate and flow breccia are readily recognizable. Also present are layers and lenses of what appear to be metamorphosed tuffaceous rocks as well as light-colored feldspathic rocks that may represent metamorphosed flows and dikes of rhyolitic composition. The Yavapai schist, first described from the Bradshaw Mountains to the north and northeast, is similar in many respects to the Vishnu schist exposed in other parts of the state (Grand Canyon of the Colorado for example). These ancient rocks are divisible into stratigraphic and lithologic units that can be traced for considerable distances.

Younger intrusive masses of porphyritic rhyolite, diorite, and gabbro are present locally (Figure 7-2), especially in the northern parts of the district. Most of these masses are small with widths measurable in tens or hundreds of feet. Their maximum known length is about 2,000 feet, but some poorly exposed masses may be considerably longer. Granitic intrusive rocks are exposed in many places, and are most abundant in the northermost parts of the district (Figure 7-2). The most widespread type is medium to pinkish gray, medium to coarse grained, and even grained to slightly porphyritic. It consists mainly of potash feldspar, quartz, and plagioclase. This granitic rock probably is correlative with the Bradshaw granite, which is widely exposed in areas to the north and northeast. It is one of the youngest of the Precambrian rocks in the district, but nevertheless is a part of the so-called "older Precambrian" series or rocks in the state. Masses of pegmatite are present in both the granite and the older metamorphic rocks, and in general are smallest and most irregular where they occur in the granitic rocks.

Quartz veins and lenses are rather common, and have been worked for gold and tungsten in several parts of the district. Also present are somewhat thicker and more irregular masses of pegmatitic quartz, most of which contain a little perthite and some of the accessory minerals that are typical of the less quartz-rich pegmatites of the district.

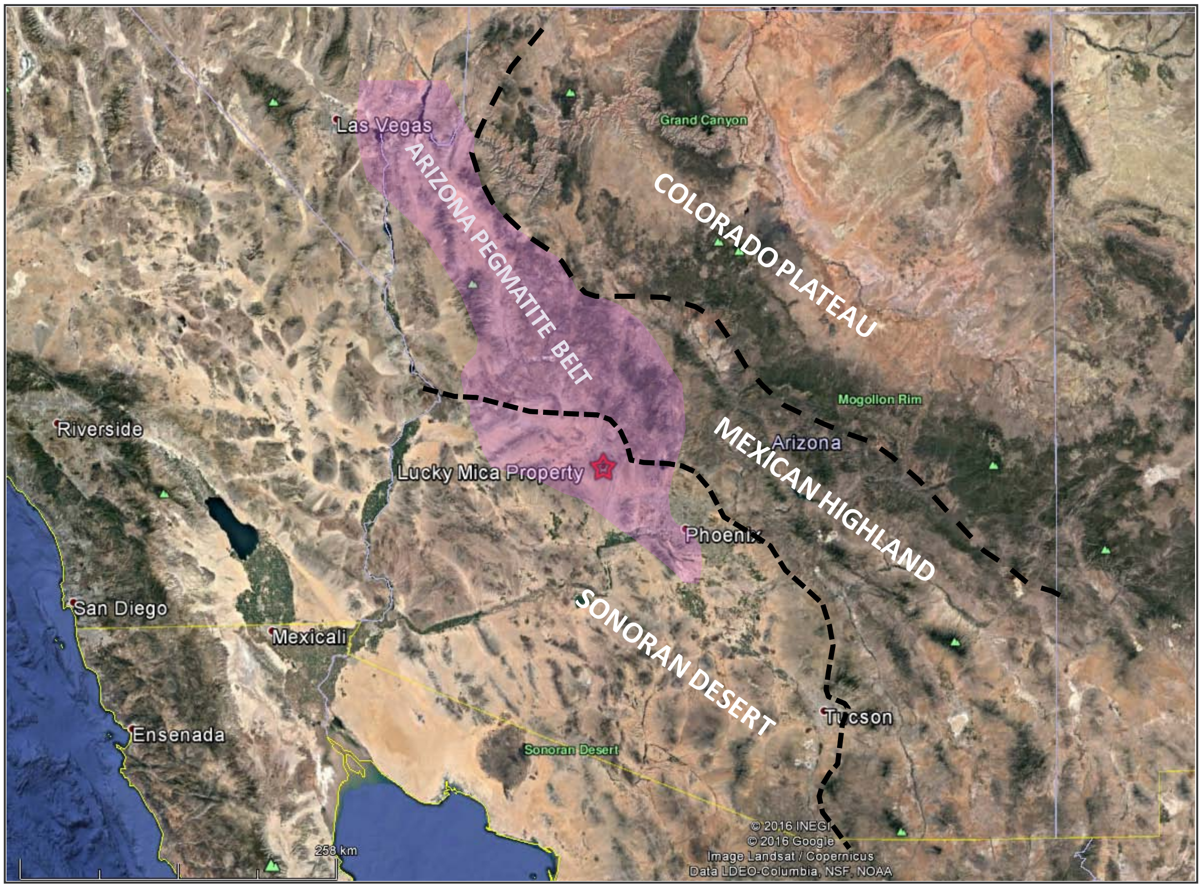



**Figure 7-1: General geological location of the Property**

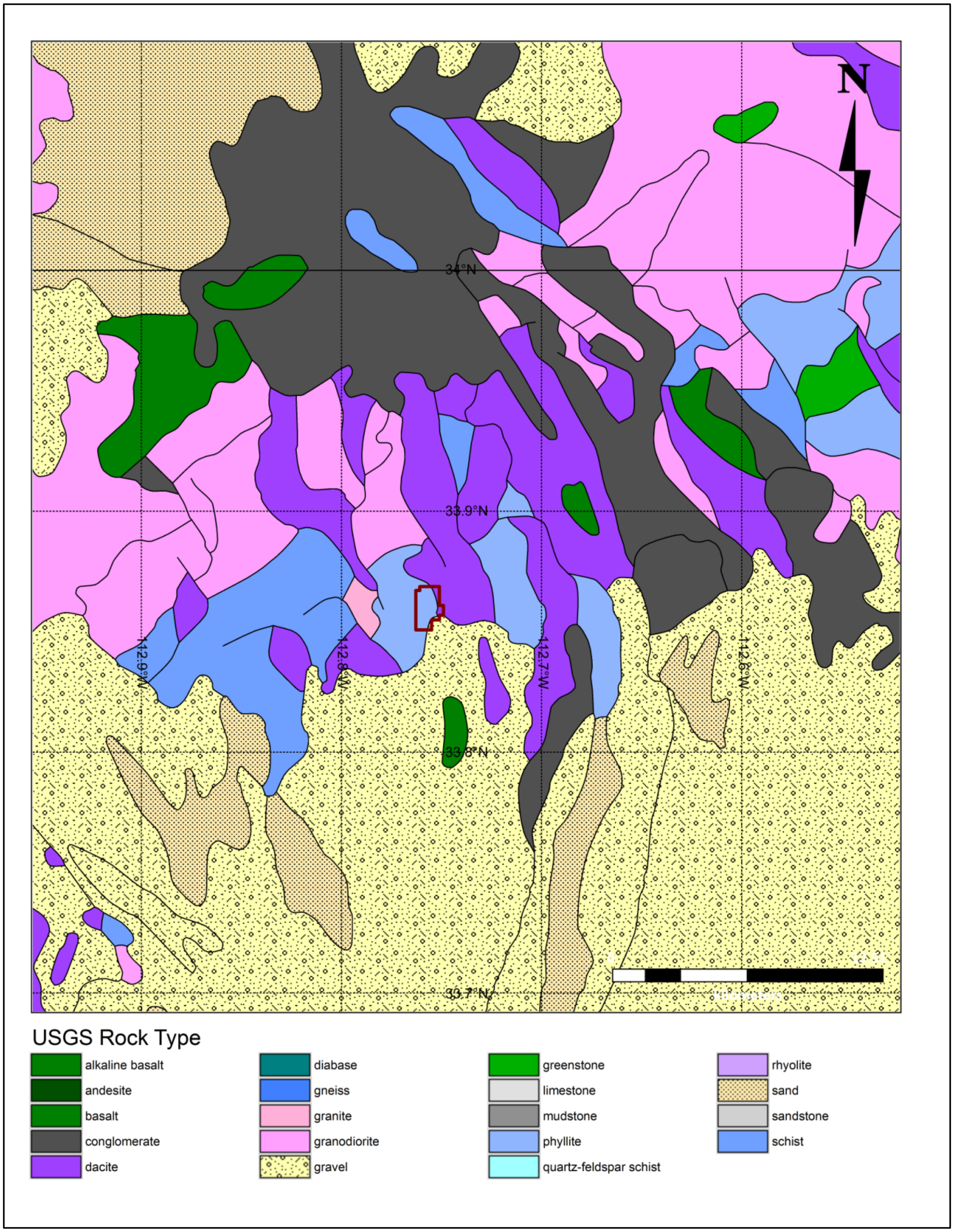



**Figure 7-2: Regional geological map**

## 7.2 Structural Context

*Taken and modified from Jahns, 1952*

The structure of the Precambrian rocks is complex, and in part has been obscured by metamorphism. Bedding is nevertheless preserved in some of the sedimentary rocks, as is primary layering in many of the volcanic flows and breccias. These planar features, which appear to be essentially parallel to foliation and schistosity in most places, generally trend northeast to east-southeast, and dip in a northerly direction at moderate to steep angles.

Small-scale folding is visible in many outcrops. Most of the folds are tightly compressed, with amplitudes that are measurable in feet or a few tens of feet. Nearly all the rocks are extensively jointed and sheared, as well, and faults are present in nearly all parts of the district. Displacements along some of these faults probably were large, as suggested by the presence of wholly different rock types on opposite sides of the breaks.

The Tertiary volcanic and sedimentary rocks also have been deformed but to a much lesser extent than the older rocks. They are gently to moderately tilted, and dip northerly in most parts of the district. Folds are present locally, but are not obviously systematic in their distribution or orientation. Faulting is widespread, and numerous steeply dipping breaks are plainly exposed on the walls of the major canyons. Juxtaposition of unlike parts of the Tertiary section suggests that movement along most of the faults must have amounted to at least 100 feet, and possibly was of a much greater order of magnitude. Several of the faults also transect beds of the younger valley fill and alluvial-fan sequence, but all of them are covered by the still younger pediment and terrace gravels.

The basin and range extensional event produced a series of horst and graben. The horst structures produced windows through the Tertiary rock cover; exposing the Precambrian rock series hosting the pegmatite deposits.

## 7.3 Observations of the Arizona Pegmatite Belt

*Taken and modified from Jahns, 1952*

The pegmatite bodies include dikes, sills, pods, and irregular, branched masses. Most are distinctly elongate, and all that are not partly concealed by younger rocks plainly are terminated against older rocks in both directions along their strike. Although many simple forms are represented, most of the bodies are highly irregular in detail. Some have broadly rounded ends, but many others taper to long, thin spines or split into two or more branches that commonly change direction as traced along their strike. Lateral projections are characteristic, and range from broad protuberances to thin, irregular apophyses. Some of the apophyses are branching in pattern, others form stockworks in the country rock, and still others connect two or more adjacent pegmatite masses. Pinch-and-swell structure is widespread, and some masses consist of connected bulges that are arranged like beads on a string.

Some of the pegmatite masses are continuous for distances of 1,000 feet or more, but most are markedly lenticular. Many form groups, or swarms, in which the individual masses show a crude parallelism of attitude. The pegmatites of chief economic interest range in outcrop length from about 15m to nearly 700m, with a general average of slightly less than 150m. They range in thickness from less than a foot to about 200 feet, and the average thickness of all major bulges is the order of 40 feet. Ratios of outcrop length to breadth range from slightly less than 2 to 1 to as much as 120 to 1, and reflect variations in form from the thickest and most stubby, pod-like bodies to the longest dikes and other tabular masses. Despite these numerous irregularities and local variations in attitude, most of the pegmatite bodies show broad consistencies of orientation. In general they trend either north to north-northeast, or east-northeast to east and their dips are prevailingly steep.

The general form of the pegmatite bodies reflects, in various ways, major differences in the type of enclosing country rock. The pegmatites that lie in granite and other relatively massive rocks ordinarily are small, thin, and highly irregular in detail. Those in the more thinly foliated varieties of schist, in contrast, commonly are much larger and more bulbous in form. Many of them pinch and swell as traced along their strike, and have one or more subparallel branches. Some of the most irregular ones appear locally as stockworks in the country rock, where they evidently were controlled by two or more sets of joints. Most of the pegmatites are distinctly discordant. Some trend parallel to the strike of the country-rock structure, but diverge markedly from it in dip. A few of the more tabular masses are broadly concordant, but even these transect the structure of the enclosing rock in detail. Many of the tabular pegmatite bodies appear to have been emplaced along joints, whereas others, including most of the bulbous ones, evidently were controlled also by foliation and other planar features in the country rock.

Nearly all the pegmatite-wallrock contacts are sharp, and many are highly irregular in detail. Numerous larger-scale irregularities involve thin septa, screens, and inclusions of schist and gneiss; the foliation in these inclusions commonly lies at distinct angles to their general trend. Many of the pegmatite bodies plainly cut across major folds in the country rock, but numerous small-scale folds appear to have been formed during injection of the pegmatite, especially in the metamorphic rocks that are most thinly foliated. Much of the country rock seems to have been little deformed or altered adjacent to masses of pegmatite, and remains uniform in texture and mineralogy as traced up to the pegmatite contacts.

This uniformity is especially characteristic of the granites and feldspathic gneisses. Some of the more schistose types of country rock, in contrast, have been impregnated with muscovite, potash feldspar, albite, or combinations of these minerals at several localities. The aureoles of impregnation are irregular, and locally extend for distances of several tens of feet from the pegmatite contacts. In other aureoles much wallrock hornblende has been converted to biotite and in still others the metamorphic rocks are crowded with metacrysts of feldspar. In places, the contact between pegmatite and metacryst-rich schist or gneiss is difficult to define.

## 7.4 Local Geology and Structural Context

The Lucky Mica area rocks are mapped as 'Older Precambrian schist' by Wilson (1960); part of the Yavapai schists (Figure 7-3 and Figure 7-5). The phyllite schists are overlain by Tertiary Dacites and Rhyolite in the northeastern and eastern portion of the Property (Figure 7-3). A gravel cover is present throughout the Property and varies in thickness from a few centimeters to several meters. The best outcrops are found in N-S arroyos.

Field observations identified mostly identified east-west striking, vertical to steeply dipping muscovite schists, sandstones, siltstones and black argillites. The muscovite schist horizons parallel bedding and are interpreted to be shear (structural) zones which would represent a break within the stratigraphic rock units. The pegmatite occurrences are mostly crosscutting NNE to NE trending bodies; which are steeply dipping (Figure 7-4). A portion of the Lucky Mica dyke has been stripped and shows the best surface exposure (Figure 7-3 and Figure 6-5). The dyke forms a pinch and swell structure with the widest of the two bodies is to the north where a maximum width of about 15m can reasonably be inferred from discontinuous outcrops and trenches. The 'swells' are coarser crystalline and the 'pinches' or wings clearly grade at the lateral pinch outs into cryptocrystalline siliceous veins. Within the wider parts of the pegmatite (Figure 6-5) a zoning towards the center was observed and comprises: 1) albite, 2) albite + quartz + muscovite, 3) albite + quartz + microcline + spodumene + muscovite to 4) all of above with large spodumene and coarse muscovite. There also is a sense of NW-trending left lateral offsets to the pegmatite; which could attributed to en echelon structures and/or late fault displacement.

Structural measurements taken on the schists show a variation of orientations (Figure 7-5) which might indicate folding of the units. The fold axes vary in orientation from N047° to N167° and range in dip from 57° to 90° (Figure 7-5). The structural measurements taken on the different pegmatites dykes (Figure 7-4) on the Property (Figure 7-3), show a good correlation with the average fold hinge plan of the bedding (Figure 7-5) and also to the bedding itself (Figure 7-5). This indicates that the pegmatites were most likely intruded along these weakness planes. These evidences suggest that the pegmatites were intruded during late stages or after the deformation events.

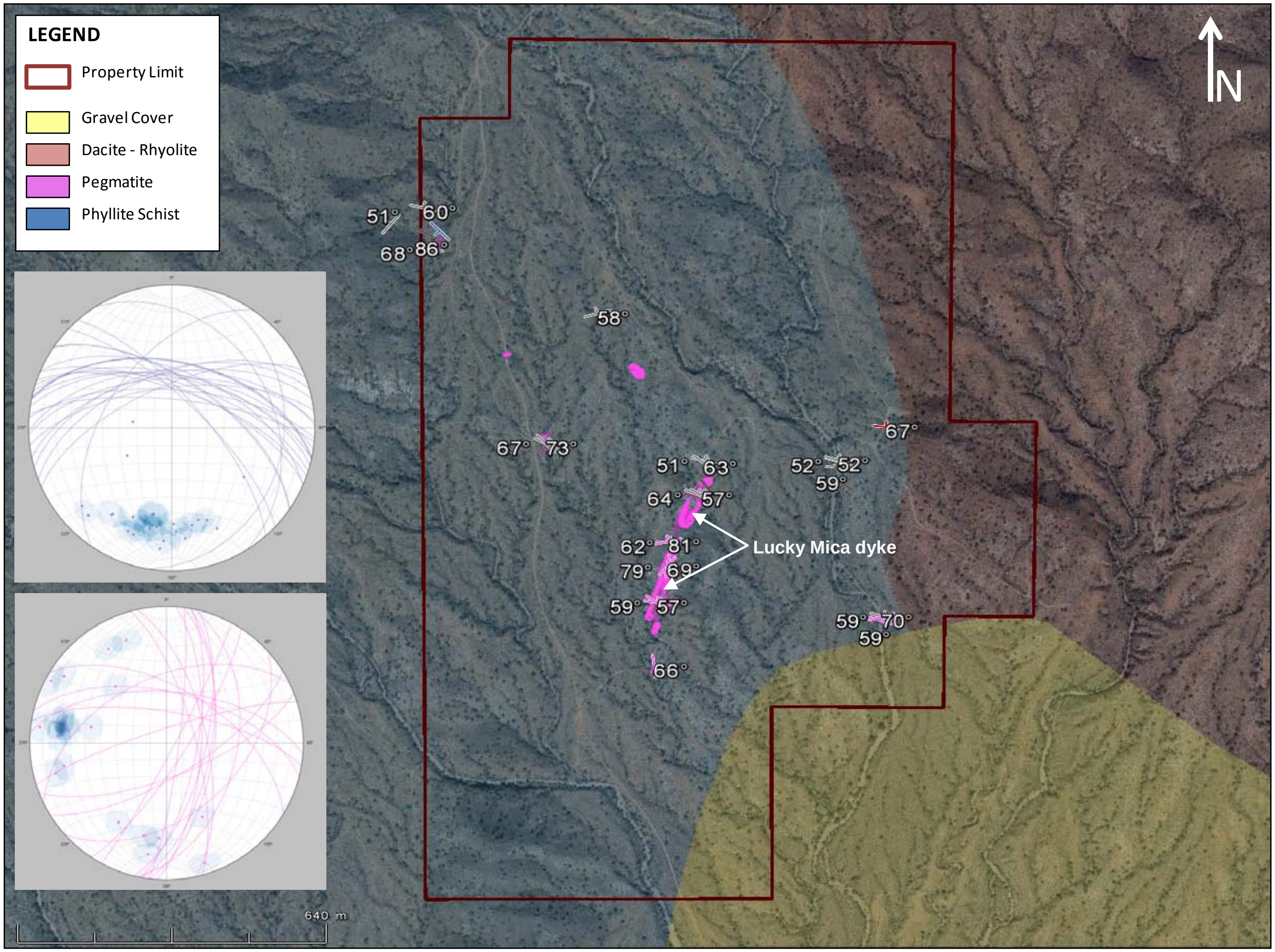



**Figure 7-3: Local geological map**

**Figure 7-4: Example of schist outcrop (left) and pegmatite dyke intrusion (right)**

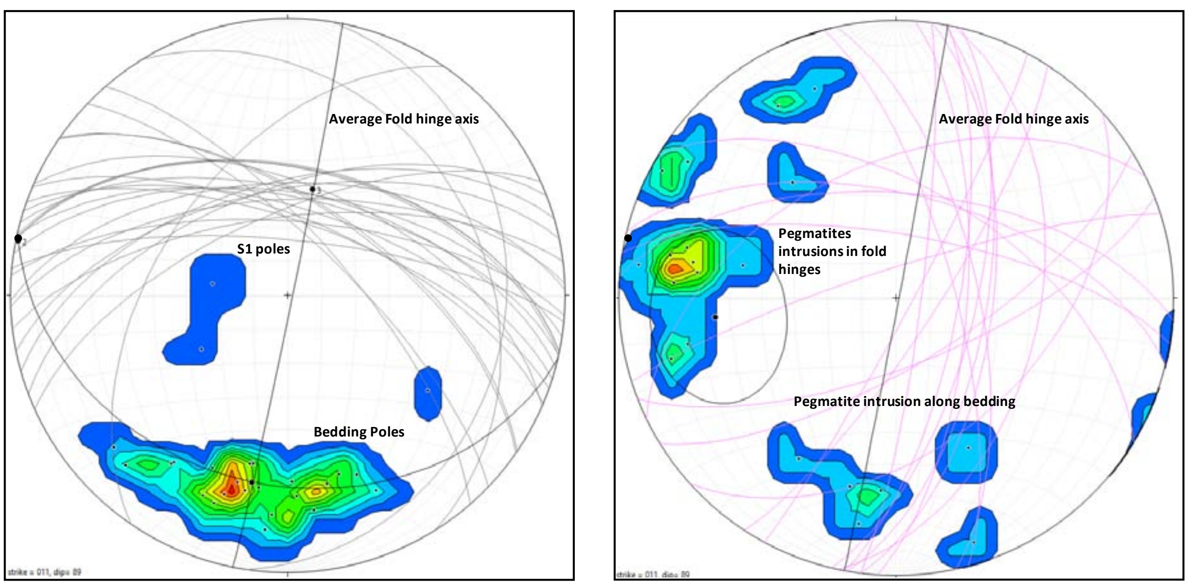



**Figure 7-5: Structural relationship between folding (left) and pegmatite intrusions (right)**

## 7.5 Mineralization

The mineralization of economic interest at the Property is found in spodumene-bearing pegmatite dykes complexes. Spodumene is a lithium-bearing mineral, which contains 8% $Li_2O$ when pure. Spodumene also contains minor amounts of niobium and tantalum. Assays for spodumene normally range between 7.6% and 8.0% $Li_2O$ depending on the degree of replacement by $Na_2O$. Variable amounts of niobium and tantalum are observed in the grab samples and are consistent with the broader scale metal zonation associated to pegmatites.

Pegmatite complexes can vary from a few meters to a hundred meters in length with the same variation in widths. Typically, pegmatite intrusions are zoned and show the following structures from the exterior to the interior: 1) the rim zone is usually very narrow and fine-grained; 2) the wall zone is normally composed of quartz, feldspar and muscovite and marks the development of larger crystals typical of pegmatites; 3) the intermediate zone, when present, comprises a more complex mineralogy with varying amounts of economic minerals such as micas, beryl (Be), spodumene (Li), amblygonite (Li), lepidolite (Li-Rb), colombite-tantalite (Nb-Ta) and cassiterite (Sn). Crystals in this zone can extend up to metric lengths and 4) the central zone is mainly composed of quartz in pods or automorph crystals.

Four (4) phases are observed at the Lucky Mica dyke: 1) albite, 2) albite + quartz + muscovite (Figure 7-6), 3) albite + quartz + microcline + spodumene + muscovite (Figure 7-6) to 4) all of above with large spodumene and coarse muscovite (Figure 7-6). The lithium mineralization occurs mainly in medium to large spodumene crystals. Muscovite also contains minor lithium but is not recoverable by the most industrial treatment method associated to spodumene pegmatites.

The field observations identified several outcrops (Figure 7-3) of pegmatite with varying amounts of spodumene, muscovite, quartz, albite and beryl. Grab samples were taken by the author from the different pegmatite occurrence with varying amounts of spodumene (0% to almost 100% spodumene) and show $Li_2O$% ranging from none to 7.5%. Mineralized samples have values ranging from 0.14% $Li_2O$ to 7.50% $Li_2O$ (Table 7-1).

All the assays were conducted on grab samples taken at surface from different variation of weathering patterns. However, it has been demonstrated by Singh 1993 that weathering of pegmatites could result in the spodumene mostly altered to smectite. The spodumene dissolution produces etch pits similar to those observed on hornblende grains. The etch pits are then filled with smectite. Most of the lithium in the spodumene is lost during its weathering to smectite. The phenomena could also occur at the Lucky Mica Property and could result in lower lithium content of surface exposed samples. Drilling might be needed in order to assess the true lithium content of the pegmatites.

**Albite- quartz pegmatite**

**Muscovite phenocryst in pegmatite**


**Ta mineralized pegmatite sample**


**Mineralized pegmatite boulder**

**Figure 7-6: Examples of pegmatite**

**Table 7-1: SGS Grab sample results for Li, Ta and Nb**

| Sample# | Li_ppm | Li2O_% | Nb_ppm | Nb2O5_% | Ta_ppm | Ta2O5_% | Litho | Description |
|---|---|---|---|---|---|---|---|---|
| 32451 | 34 | 0.01 | 26.00 | 0.00 | 0.25 | 0.00 | Alteration | Grab zone alteration Mx? |
| 32452 | 23 | 0.00 | 0.50 | 0.00 | 29.5 | 0.00 | Pegmatite | Grab dyke pegmatite |
| 32453 | 11 | 0.00 | 63.00 | 0.01 | 22.9 | 0.00 | Pegmatite | Grab dyke pegmatite |
| 32454 | 11 | 0.00 | 51.00 | 0.01 | 40.2 | 0.00 | Pegmatite | Grab dyke pegmatite |
| 32455 | 5 | 0.00 | 52.00 | 0.01 | 48.3 | 0.01 | Pegmatite | Pegmatite Dyke |
| 32456 | 11 | 0.00 | 159.00 | 0.02 | 56.7 | 0.01 | Pegmatite | Grab dyke pegmatite |
| 32457 | 15 | 0.00 | 70.00 | 0.01 | 74.3 | 0.01 | Pegmatite | Grab dyke pegmatite |
| 32458 | 11 | 0.00 | 102.00 | 0.01 | 40.4 | 0.00 | Pegmatite | Grab dyke pegmatite |
| 32459 | 5 | 0.00 | 77.00 | 0.01 | 39.8 | 0.00 | Pegmatite | Grab fine grained pegmatite |
| 32460 | 40 | 0.01 | 113.00 | 0.02 | 54.8 | 0.01 | Pegmatite Msc | Grab coarse grained MSC pegmatite |
| 32461 | 16 | 0.00 | 47.00 | 0.01 | 34.5 | 0.00 | Pegmatite Msc | Grab pegmatite a MSC++ |
| 32462 | 5 | 0.00 | 24.00 | 0.00 | 16.4 | 0.00 | Pegmatite Spd | Grab pegmatite a spodumene |
| 32463 | 5 | 0.00 | 3.00 | 0.00 | 28.5 | 0.00 | Pegmatite | Grab pegmatite |
| 32464 | 5 | 0.00 | 6.00 | 0.00 | 14.3 | 0.00 | Pegmatite | Grab pegmatite |
| 32465 | 5 | 0.00 | 4.00 | 0.00 | 14.1 | 0.00 | Pegmatite | Grab pegmatite |
| 32466 | 1373 | 0.30 | 8.00 | 0.00 | 189 | 0.02 | Spodumene | Grab sorted purple spodumene mineral |
| 32467 | 34850 | 7.50 | 133.00 | 0.02 | 67.9 | 0.01 | Pegmatite | Grab pegmatite |
| 32468 | 408 | 0.09 | 226.00 | 0.03 | 15.1 | 0.00 | Pegmatite Spd | Grab pegmatite a spodumene |
| 32469 | 152 | 0.03 | 30.00 | 0.00 | 2.2 | 0.00 | Pegmatite | Grab pegmatite |
| 32470 | 26 | 0.01 | 35.00 | 0.01 | 2.2 | 0.00 | Alteration | Grab altered rocks |
| 32471 | 35 | 0.01 | 32.00 | 0.00 | 60.8 | 0.01 | Schist | Grab fresh rosk from 32470 |
| 32472 | 5 | 0.00 | 43.00 | 0.01 | 0.25 | 0.00 | Pegmatite | Grab pegmatite sub outcrop |
| 32473 | 5 | 0.00 | 0.50 | 0.00 | 29.8 | 0.00 | Pegmatite | Grab pegmatite |
| 32474 | 1122 | 0.24 | 83.00 | 0.01 | 16 | 0.00 | Pegmatite | Grab pegmatite contact |
| 32475 | 49 | 0.01 | 22.00 | 0.00 | 19.2 | 0.00 | Spodumene | Sorted spodumene hand concentrate |
| 32476 | 24 | 0.01 | 41.00 | 0.01 | 68.4 | 0.01 | Pegmatite Spd | Spodumene pegmatite from channel |
| 32477 | 380 | 0.08 | 231.00 | 0.03 | 62.5 | 0.01 | Pegmatite | grab pegmatite |
| 32478 | 12 | 0.00 | 88.00 | 0.01 | 24.9 | 0.00 | Pegmatite Spd | Grab spodumene pegmatite |
| 32479 | 11 | 0.00 | 26.00 | 0.00 | 55.2 | 0.01 | Pegmatite | Grab pegmatite |
| 32480 | 654 | 0.14 | 25.00 | 0.00 | 603 | 0.07 | Pegmatite Msc | Grab pegmatite spodumene -msc |
| 32481 | 23719 | 5.11 | 1018.00 | 0.15 | 170 | 0.02 | Muscovite | Muscovite hand sorted concentrate |
| 32482 | 1441 | 0.31 | 134.00 | 0.02 | 5.6 | 0.00 | Pegmatite Msc-Spd | Grab pegmatite spodumene -msc |
| 32483 | 3191 | 0.69 | 9.00 | 0.00 | 32.9 | 0.00 | Spodumene | Phenocryst spodumene |
| 32484 | 12 | 0.00 | 14.00 | 0.00 | 99.3 | 0.01 | Pegmatite | Grab pegmatite |
| 32485 | 40 | 0.01 | 92.00 | 0.01 | 99.30 | 0.01 | Pegmatite Msc | Grab pegmatite msc |

Not of interest
Anomalous
Mineralized
Ore grade

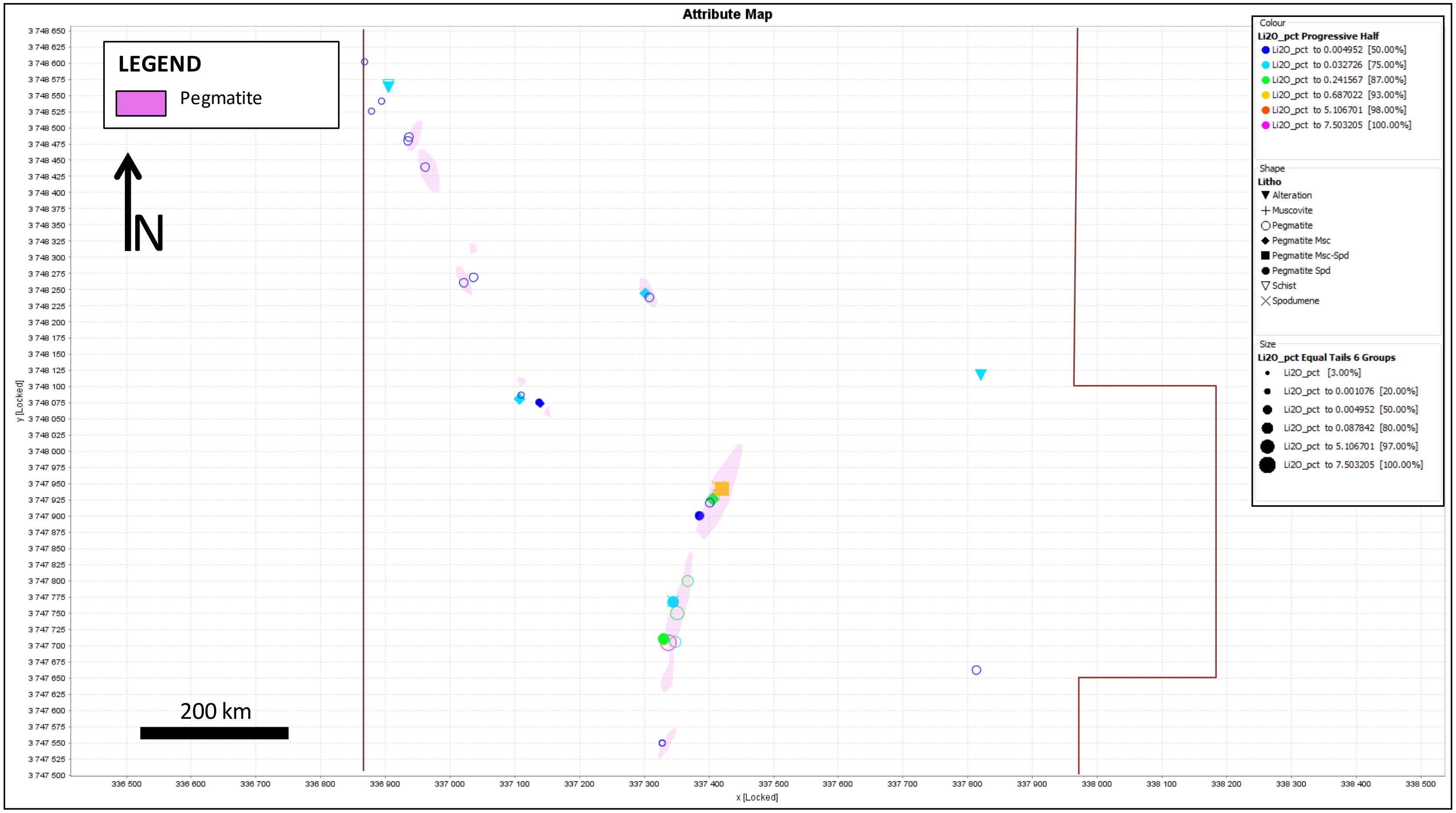



**Figure 7-7: Map of the $Li_2O$ grade from SGS samples**

# 8 DEPOSIT TYPE

## 8.1 Origin and Features of Rare Metal Pegmatites

Rare metal bearing pegmatites are normally found in moderately metamorphosed terranes near vast granitic plutons: a possible parental source for the pegmatitic magmas. Pegmatites are associated with granitic intrusions and are generally zoned around these intrusive centers. Pegmatites tend to be more enriched in volatile elements further away from the intrusive centers. Pegmatites are thought to be derived from primary crystallization of highly differentiated volatile enriched granitic magmas.

Emplacement of rare metal pegmatites correlates with the last phase of the crystallization of a parent granite pluton. High pressure residual fluids, with abundant water, silica, alumina, alkalis, and rich in rare elements and other volatiles concentrate in the cupola or upper domed contact of the granite as it crystallizes. Under increasing pressure, the fluid dilates fractures in overlying rocks, providing feeder channels for emplacement of pegmatites at shallower depth. Progressive crystallization of the main rock-forming minerals out of this fluid enriches the final fluids in rare metals and the process culminates in the formation of rare metal pegmatites still under fluid pressure. Varying condition in crystallization and parental magma initial compositions create different pegmatite types and mineralogy.

The differences in pegmatite at the Property scale is caused by the degree of fractionation, which arises from the chemical, temperature and pressure evolution of the pegmatite fluids over time and distance from the parent granite. The complex rare element pegmatites generally evolve as follows (Figure 8-1). At depth, under high-pressure and temperature conditions, simple granite pegmatites of quartz, feldspar and mica crystallize in fractures above and within the solidified granite pluton (Figure 8-1). Above this level, columbo-tantalite minerals appear starting with high niobium compositions and progress to higher tantalum/niobium ratios where the complex pegmatites appear with lithium, cesium, and rubidium bearing minerals (Figure 8-1). Other lithium bearing minerals can include petalite, often along with pollucite and lepidolite. Tantalum may occur in a variety of minerals and cassiterite may be present. A greisen phase may form at or near surface (where temperature and pressure are low); which comprise variable amount of lepidolite, quartz, tantalum-rich minerals, tin, topaz, etc.

Mineralized pegmatites are found in favorable environment, which might include one or a combination of the following:

1 Emplacement in opening, low pressure, local structural contexts;

2 Presence of a compressed, near-vertical, syntectonic mobile zone that is the locus of pegmatite intrusion;

3 Host rocks most commonly are dominantly mafic volcanics often with intercalated metasediments and gabbroic rocks.

## 8.2 The Lucky Mica Pegmatite

From initial field observations, the Lucky Mica pegmatite appears as a highly fractionated, spodumene-rich pegmatite dyke. The different individual bodies observed on the field (Figure 6-5) are interpreted as in echelon intrusions (Figure 8-2) in fold hinge plans. The pegmatite bodies also display typical zoning to varying degrees (Figure 8-3): 1) a border zone which is fine grained; 2) wall zone composed of medium size crystal (<30cm); 3) an albite zone at the contacts followed by a K-feldspar rich zone with lesser albite, quartz, mica, and little or no spodumene followed by 4) a spodumene-quartz-rich core zone (with variable feldspars and mica).

Further field work and drilling will help better define the mineralogical zoning of the Lucky Mica dyke and the more regional chemical zonation of the different pegmatite bodies observed on the Property.

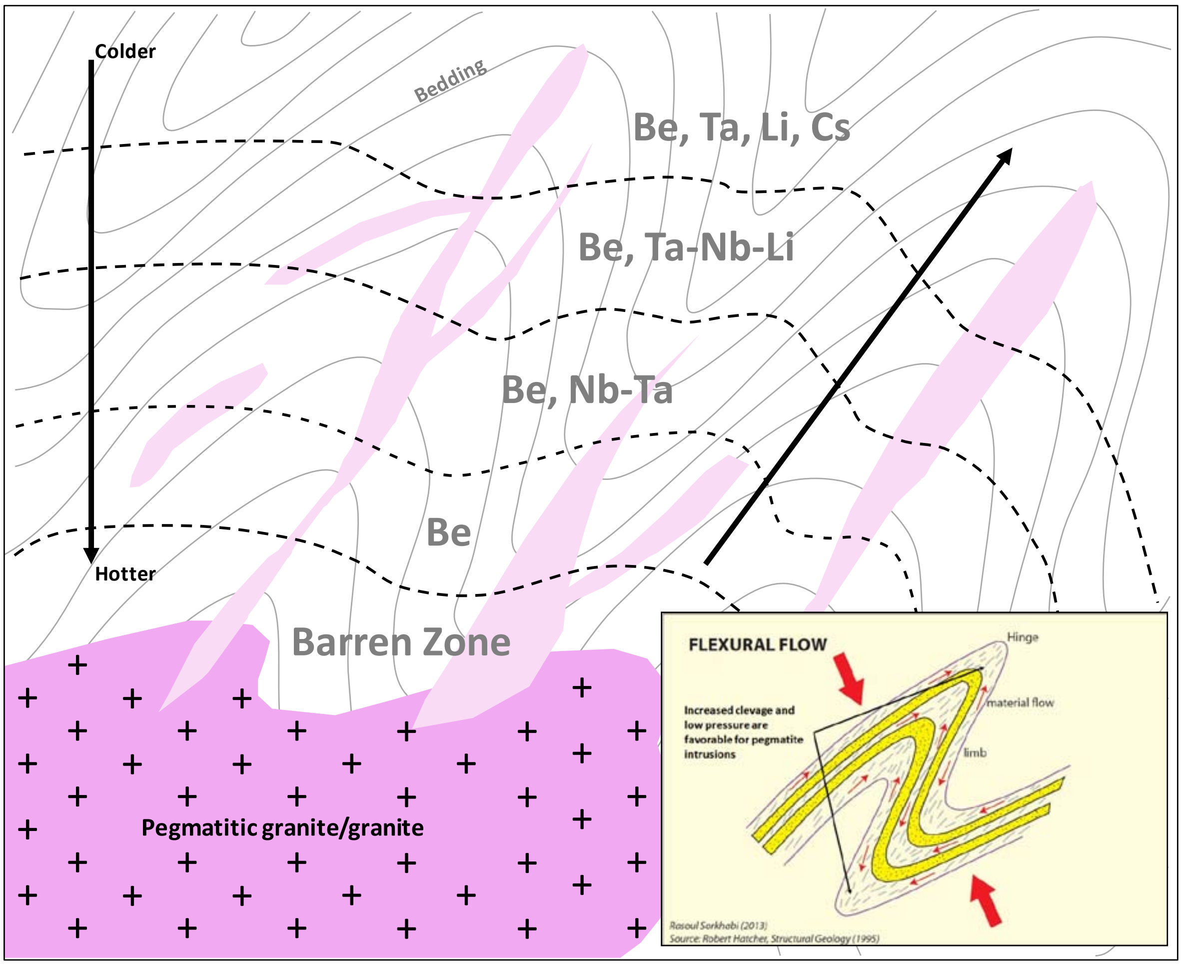



**Figure 8-1: Schematic distribution of pegmatite zoning at the Lucky Mica (modified from Cerny, 1982)**

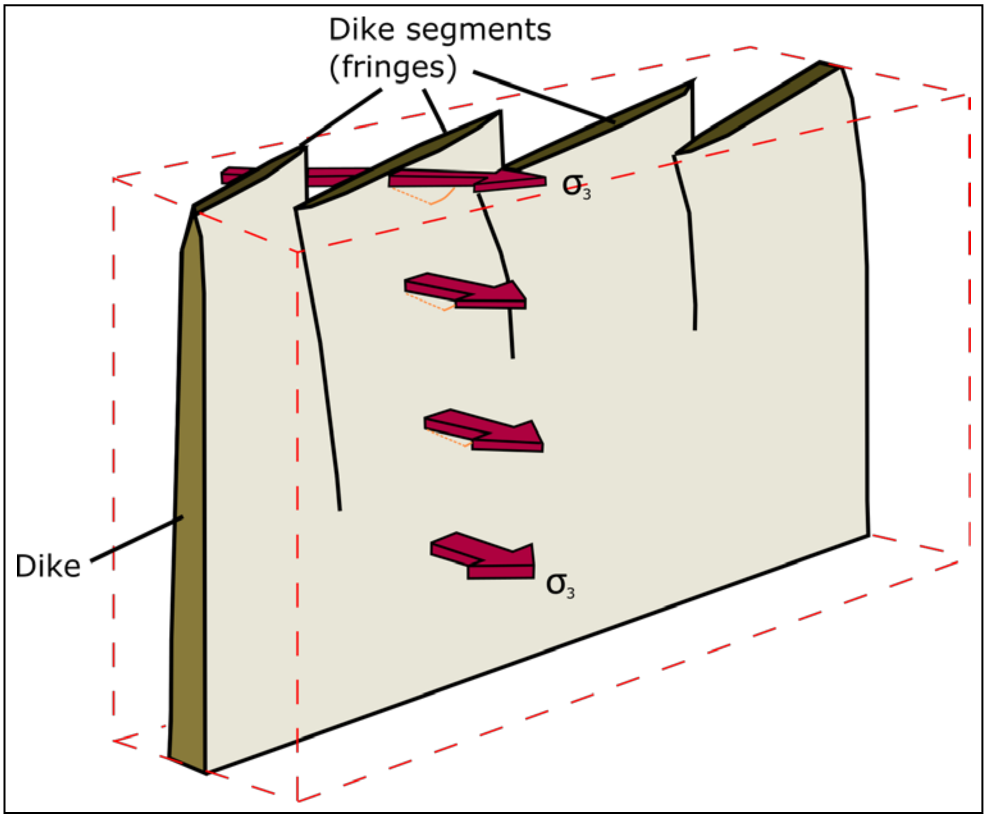



**Figure 8-2: In echelon dyke intrusions (from Fossen, 2010)**

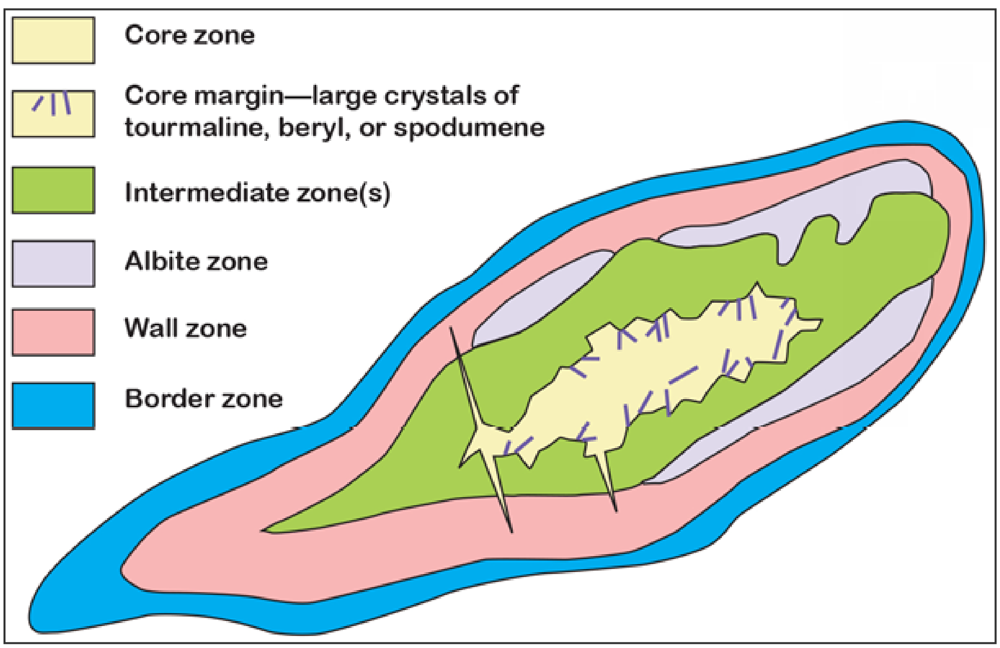
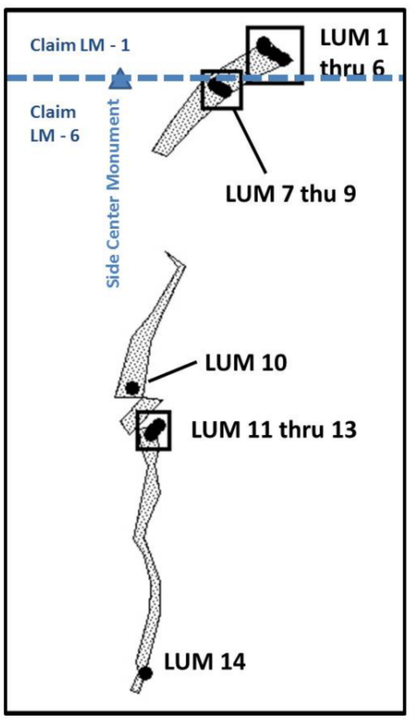



**Figure 8-3: Typical pegmatite zonation (from Cerny, 1991)**

# 9 EXPLORATION

The exploration work conducted by RedZone is limited to foot prospection on the claims. In 2016, William Feyerabend (C.P.G.) conducted channel sampling over the Lucky Mica dyke exposure (Figure 9-1). A total of 14 samples were collected from the site and the assay results confirm the zoned nature of the dyke. The best results, from the channel samples, for $Li_2O$ are 0.57% (LUM-3) and 1.57% (LUM-10).




| SAMPLE No. | Li ppm | Nb ppm | Rb ppm | Ta ppm |
|---|---|---|---|---|
| LUM-1 | 78.1 | 56.8 | 2970 | 29 |
| LUM-2 | 138 | 65.2 | 3490 | 30.7 |
| LUM-3 | 2670 | 118 | 6190 | 68.1 |
| LUM-4 | 202 | 135.5 | 4430 | 82 |
| LUM-5 | 109 | 110 | 4410 | 71 |
| LUM-6 | 59.2 | 120 | 4590 | 57.8 |
| LUM-7 | 9.5 | 20 | 3260 | 25.5 |
| LUM-8 | 7.9 | 26.2 | 4960 | 15.45 |
| LUM-9 | 8.8 | 6.2 | 4010 | 5.01 |
| LUM-10 | 7280 | 28.6 | 3310 | 30.1 |
| LUM-11 | 55.5 | 76.1 | 2380 | 27.4 |
| LUM-12 | 104 | 66 | 2360 | 26.4 |
| LUM-13 | 81 | 36.7 | 1550 | 14.7 |
| LUM-14 | 10.2 | 9.5 | 79.2 | 35 |

**Figure 9-1: Sampling result from the Lucky Mica dyke**

During the site visit, in January 2017, the author conducted sampling on the Property (Figure 9-2); both on the Lucky Mica dyke and other pegmatite occurrences. The samples comprise 31 rock grab and 4 sorted mineral concentrates of spodumene and muscovite. The samples were assayed for 56 elements including Li, Ta and Nb. The results for the element of interest are presented in Table 7-1. Furthermore, the assays were used to ascertain the regional chemical zoning of the pegmatite bodies (Figure 8-1). The ratio between K/Rb and Rb was used to map the crystallization fractionation between the different samples (Figure 9-3); which provided an indication of the degree of evolution of the fluid. A more evolved fluid will be enriched in incompatible elements such as Be, Ta, Nb and Li. The samples taken from the Property show different levels of fractionation, from little evolved (early fractionation) to highly differentiated; this also correlates with increase in Be, Nb, Ta and Li values in the pegmatites (Figure 9-3).

The Be, Nb, Ta and Li values were used to map out the degree of fractionation of the different pegmatites (Figure 9-4), which in turn help identify prospective areas for lithium mineralization. Given the distribution of the different elements, it appears that erosion might have removed the upper portion of the pegmatites associated to Li mineralization in the Northwestern portion of the Property (Figure 9-5). This shows that the area 500m around the Lucky Mica dyke would be the more prospective for Li mineralization in pegmatites. However, the rather loose sampling grid could be improved in order to better define this potential.

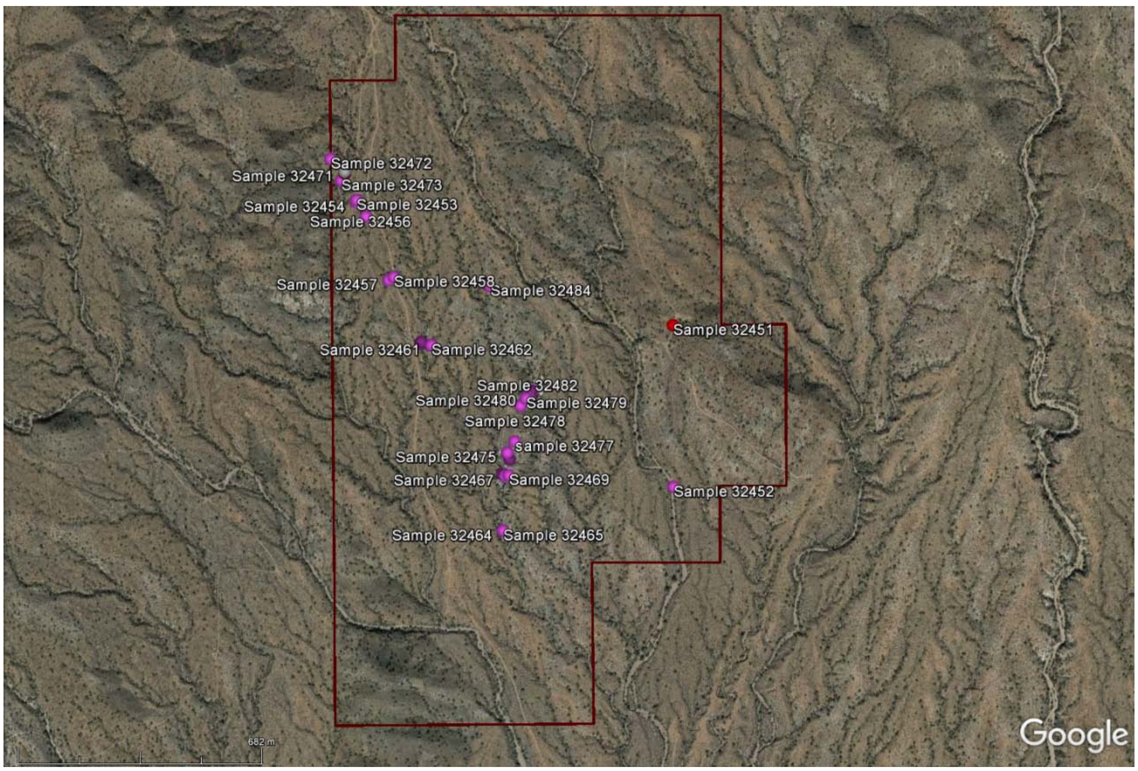



**Figure 9-2: SGS sampling location maps**

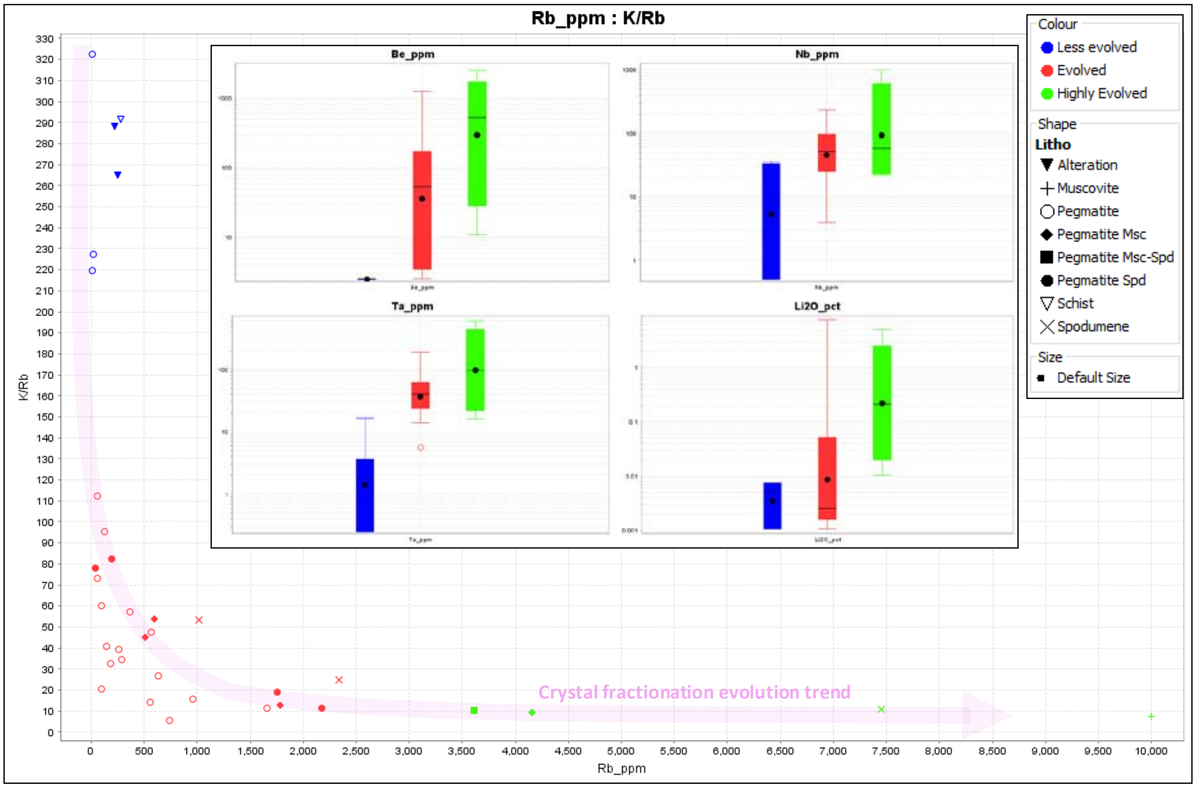
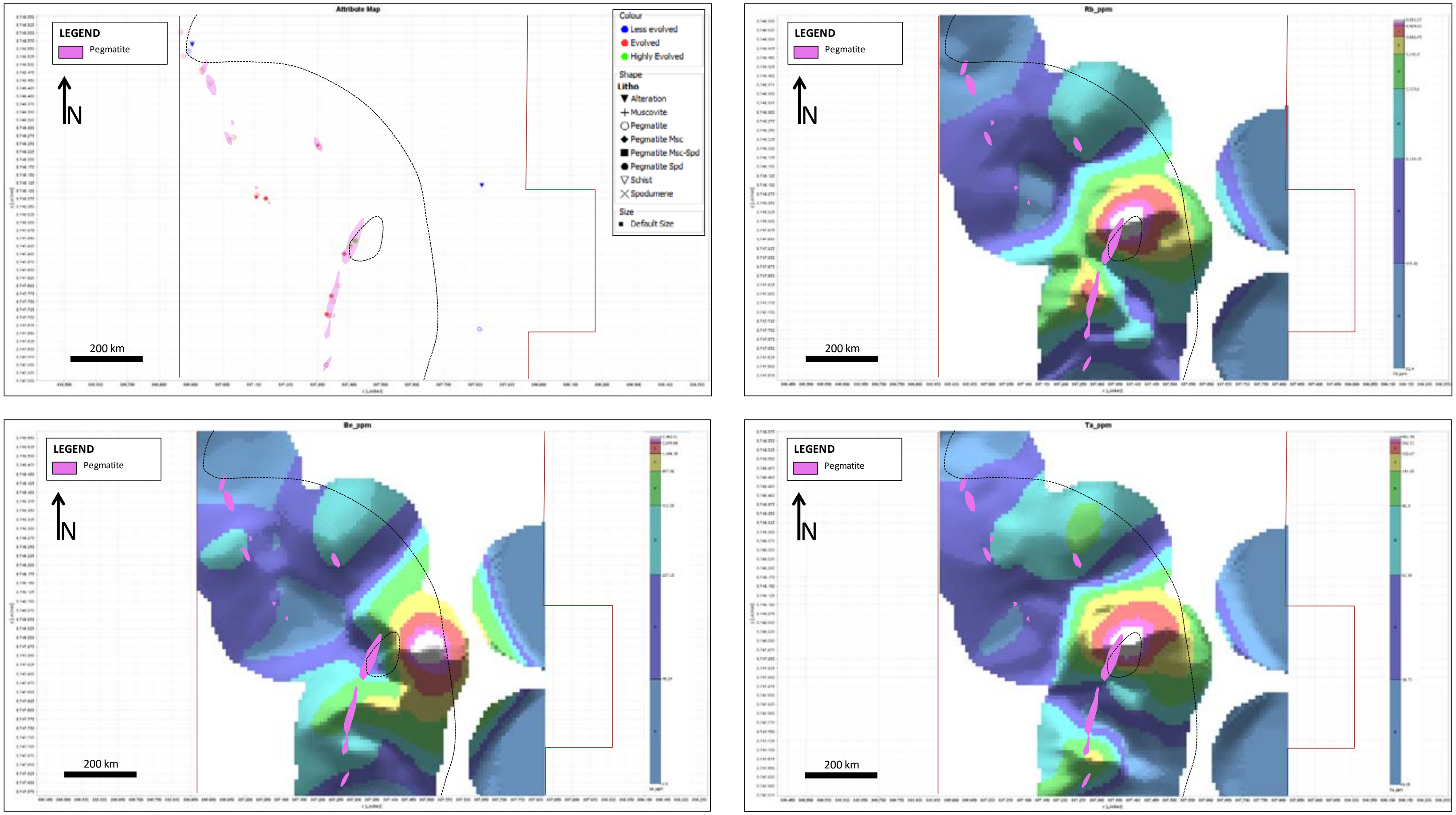



**Figure 9-3: Fractionation evolution indication of the samples in regards to Li, Be, Nb and Ta content**


Attribute Map
LEGEND
Pegmatite
N
200 km
Colour
Less evolved
Evolved
Highly Evolved
Shape
Litho
Alteration
Muscovite
Pegmatite
Pegmatite Msc
Pegmatite Msc-Spd
Pegmatite Spd
Schist
Spodumene
Size
Default Size
Rb_ppm
LEGEND
Pegmatite
N
200 km
Be_ppm
LEGEND
Pegmatite
N
200 km
Ta_ppm
LEGEND
Pegmatite
N
200 km

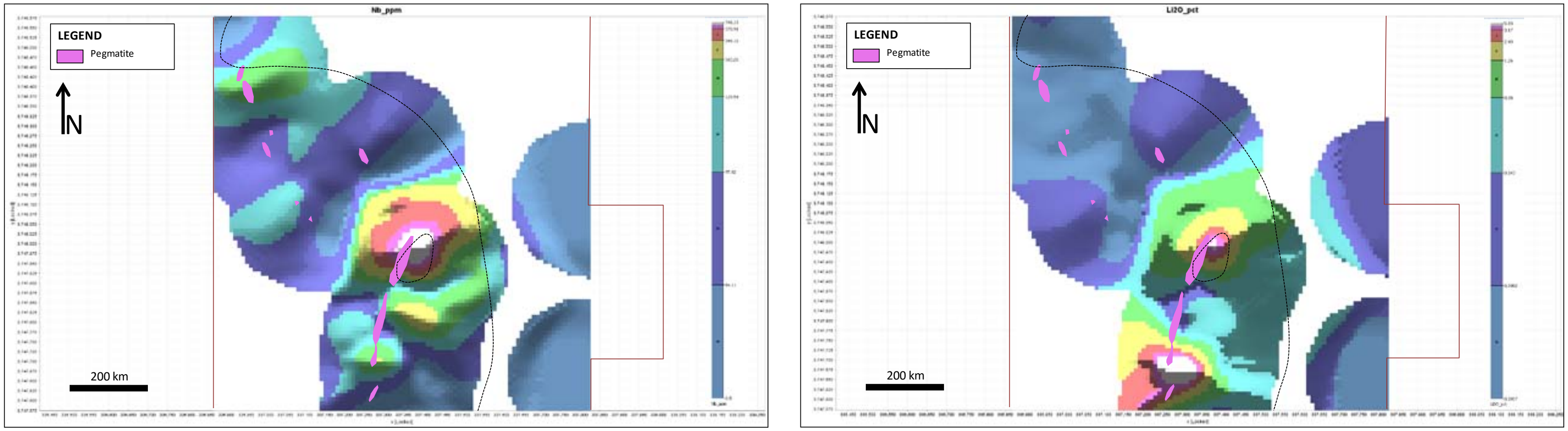



**Figure 9-4: Geochemical zonation of the observed pegmatite dykes**

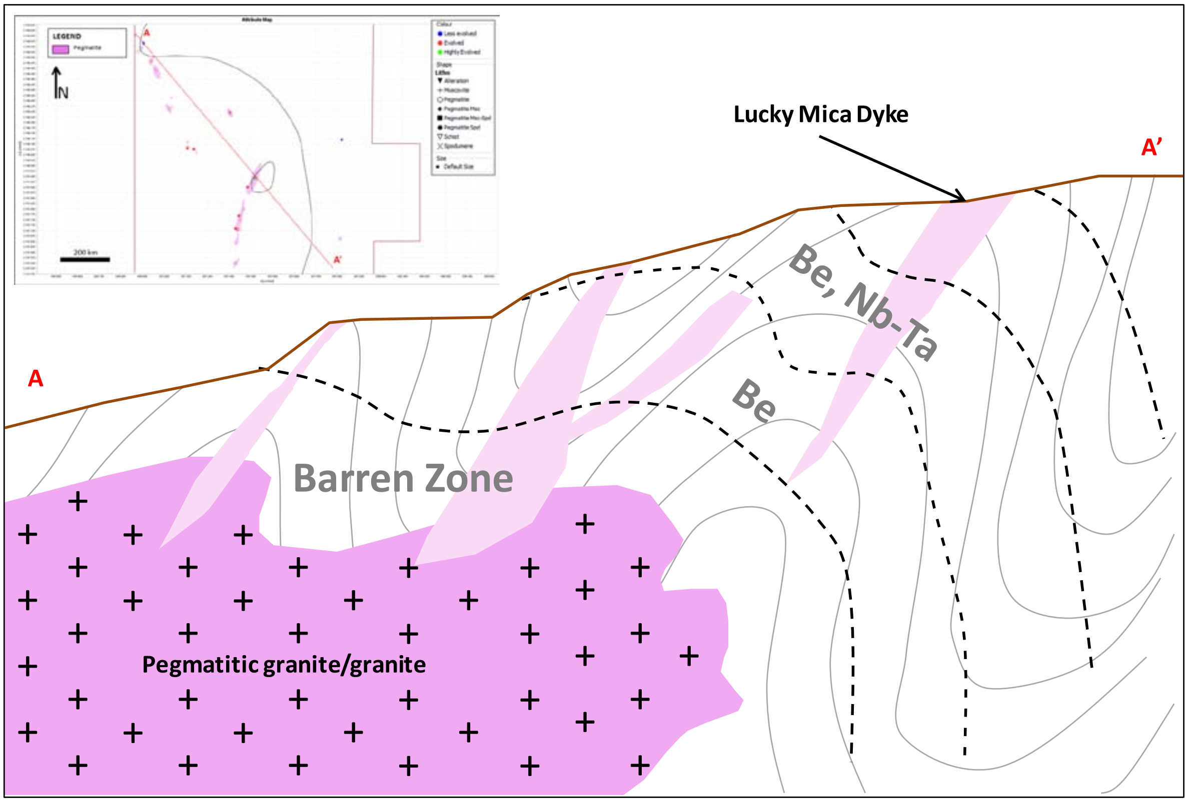



**Figure 9-5: Schematic cross section of the Lucky Mica Property**

## 9.1 Mineral Potential of the Lucky Mica Dyke

Given the high definition of the available maps and in order to have a sense of magnitude of the mineralization, SGS modelled the Lucky Mica dyke in 3D. The plan map from Fan Steel (Figure 6-5) was digitized and the pegmatite intrusion was modelled. The complete dyke outline was digitized and then pushed vertically to 60m from surface. This depth represents six (6) times the maximal depth of available information from the historical shaft (see section 6).

The volume of the dyke from 0m to 60m is estimated at 408,000m$^3$ (Figure 9-6). The tonnage was estimated using a density of 2.7 t/m$^3$ and variability between 30% and 50% of the overall volume according to the sectional interpretation of Figure 6-5. This would have an estimated mineral potential, for the Lucky Mica dyke alone, between 330,000 and 551,000 tonnes at grades between 0.3% and 2.5% $Li_2O$. The Property comprises seven (7) other outcropping dykes (Figure 7-7); which could add significant volume to the spodumene bearing pegmatites and increase the tonnage range to 330,000 to 3.0M tonnes.

The author feels that these “Mineral Potential” ranges are appropriate given:

1. The favourable geological setting of the Project;
2. The size and prospects of the pegmatite systems on the Property;
3. The size and distribution of mineralized pegmatites on the Property;
4. The number of samples with Li grades within rock that are within these ranges;
5. Other lithium hosted pegmatite deposits.

The potential quantity and grade for this “Mineral Potential” estimates is conceptual in nature; there has been insufficient exploration to define a mineral resource and it is uncertain if further exploration will result in the target being delineated as a mineral resource. It should be noted that no recent drilling has been completed on the Property, which is necessary to delineate potentially economic grade and thickness intervals.

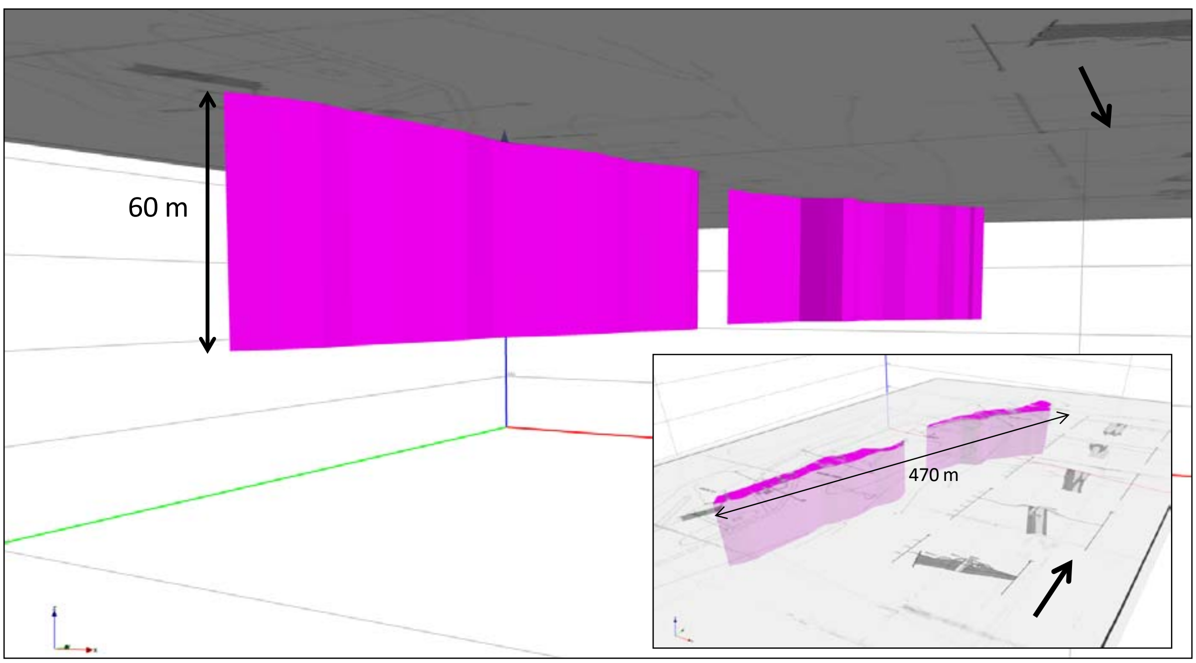



**Figure 9-6: 3D digitization of the Lucky Mica dyke**

# 10 DRILLING

No drilling has been conducted by RedZone on the Lucky Mica Property.

# 11 SAMPLE PREPARATION, ANALYSIS AND SECURITY

## 11.1 Sample Preparation

Samples were collected from the field by either channel sampling or grab sampling. The fourteen (14) channel samples were taken during the field examination by William Feyerabend. Sampling followed normal procedures for precious metal sampling. A flexible rubberized basin was used for channel samples. The samples were appropriately stored and were shipped immediately to ALS Minerals in Reno, NV.

The grab samples collected by the authors wee bagged on site, with numerical tag inserted immediately Each sample was described, photographed and location were noted from a hand held GPS. The samples were stored in the author's truck and shipped upon return to SGS laboratories in Lakefield, ON.

## 11.2 Analysis

The Channel samples taken by W. Feyerbend were prepped and analyzed for 48 elements by ICP (ME-MS61) by ALS in Reno Nevada. The grab samples were prep and analyzed by SGS Lakefield for 56 elements using sodium peroxide fusion and ICP-AES/ICP-MS finish (GE ICM90A). The Li overlimits were analyzed using sodium peroxide fusion and AAS finish (GC AAS93B).

## 11.3 QA/QC

Both the ALS and SGS internal quality control procedures were used. No QAQC samples were inserted in the sampling stream at the moment.

# 12 DATA VERIFICATION

A site visit to the Lucky Mica Property was conducted by the author between January 9 and January 11, 2017. The field visit included inspection of some of the claim monument location, traverses on foot, geological observations and control sampling. The findings from the site visit were transmitted to RedZone in an internal Memorandum on January 19, 2017.

## 12.1 Independent Control Sampling

Jean Philippe Paiement, P.Geo, M.Sc from SGS visited the Property as part of the certification for the preparation of an NI 43-101 report. As part of this verification 35 hand samples were collected to ascertain whether mineralization similar to that described by the project owners could be identified. The author is satisfied that the style and distribution of mineralization was similar to what was described in previous reports. The analytical results from the independent samples are also coherent with this statement (Table 7-1). The author therefore has no reason to doubt the veracity of previous rock sampling work done on the Property, but couldn't verify the location and exact values.

# 13 MINERAL PROCESSING AND METALLURGICAL TESTING

No mineral processing or Metallurgical testing have been undertaken by RedZone on the Lucky Mica Property.

# 14 MINERAL RESOURCES ESTIMATION

No mineral resources have been estimated to this date on the Lucky Mica Property.

# 15 ADJACENT PROPERTIES

Since no central database exist for Arizona mining claims, it is impossible to verify the existence of neighboring projects or properties. During the site visit, the author observed placer mining claim post to the name of the Vulture Mining Company.

# 16 INTERPRETATIONS AND CONCLUSIONS

Following the mandate given to SGS by RedZone, in December 2016, SGS has reviewed the geological setting, mineralization styles and possible deposit occurrences of the Lucky Mica project. The Lucky Mica project lies within a prospective geological and structural setting for lithium and rare metal pegmatite type mineralization.

The orogenic setting of the Precambrian units of the Property together with prospective intrusive suites and associated dyke observation make for significant pegmatite mineralization potential at Lucky Mica. Field observation of the geological and metallogenic setting by the authors further supports the potential for lithium pegmatite mineralization on the Property.

Upon conducting a geochemical interpretation of rock grab samples the Property lies within the favourable crystallization fractionation degree associated to Li (and Ta-Nb) pegmatites.

The independent check sampling program conducted by SGS at the Lucky Mica Property confirms the presence of Li mineralization and the potential for deposit discovery.

RedZone has now the information and data in order to proceed with further exploration work with the objective of finding mineral deposits on Lucky Mica Property and possibly delineating Mineral Resources. SGS has defined a potential, for the Lucky Mica dyke alone (not the entire Property), between 330,000 and 551,000 tonnes at grades between 0.3% and 2.5% $Li_2O$. The Property comprises seven (7) other outcropping dykes (Figure 7-7); which could add significant volume to the spodumene bearing pegmatites and increase the tonnage range to 330,000 to 3.0M tonnes.

The authors feel that these “Mineral Potential” ranges are appropriate given:

1. The favourable geological setting of the Project;
2. The size and prospects of the pegmatite systems on the Property;
3. The size and distribution of mineralized pegmatites on the Property;
4. The number of samples with Li grades within rock that are within these ranges;
5. Other lithium hosted pegmatite deposits.

The potential quantity and grade for this “Mineral Potential” estimates is conceptual in nature; there has been insufficient exploration to define a mineral resource and it is uncertain if further exploration will result in the target being delineated as a mineral resource. It should be noted that no recent drilling has been completed on the Property, which is necessary to delineate potentially economic grade and thickness intervals.

The observed lithium grades (Table 7-1) from the spodumene bearing pegmatites on the Property are comparable to grades found in other lithium deposits (Figure 16-1). If the observed Li grades are present in the depth extensions of the different dykes and the strike extensions if the newly found dykes are similar to the Lucky Mica, the author is of the opinion that the Property holds the potential for tonnages similar to other exploration and Feasibility stage project (Figure 16-1). However, further investigation using detailed mapping and drilling is needed to increase the mineral potential of the Property.

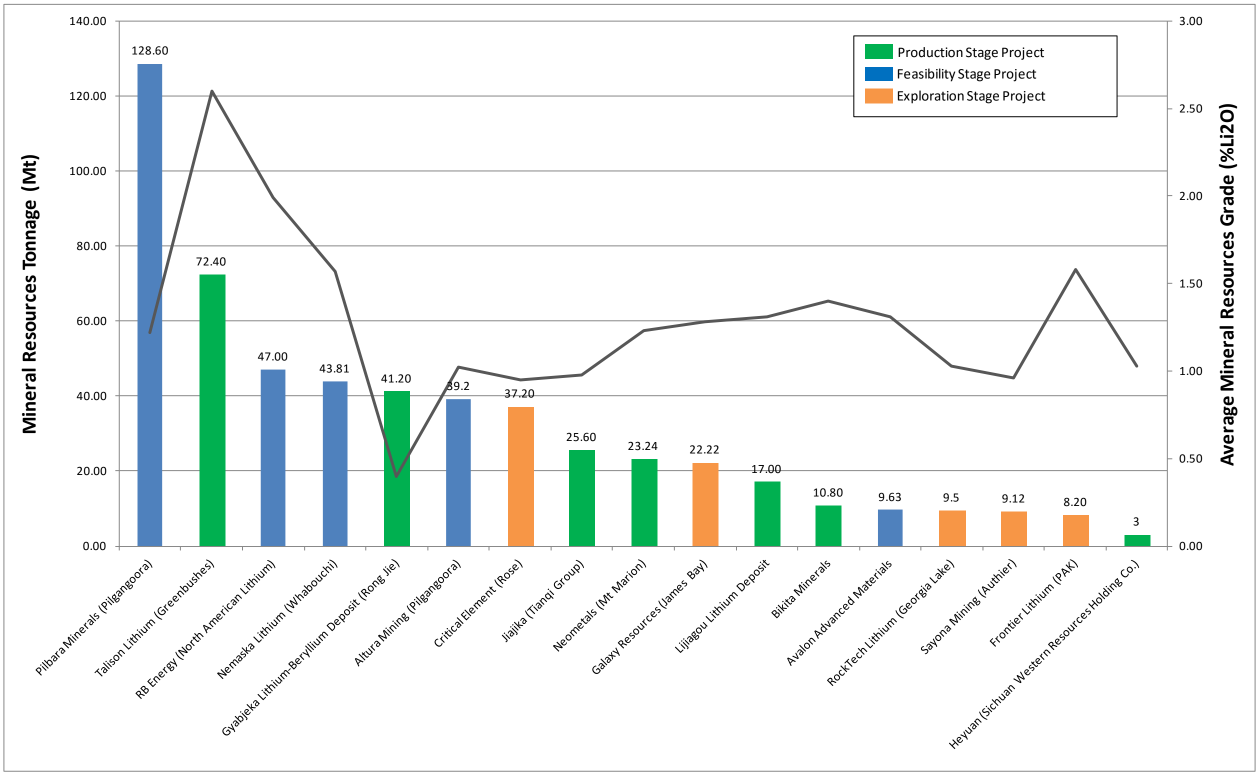



**Figure 16-1: Other hard rock lithium project in the world**

# 17 RECOMMENDATIONS

Following the completion of this mandate for RedZone, SGS recommends the following exploration work:

5. Future sampling should include QA/QC samples, including lithium specific standards, duplicates and blanks for a total of 5-10% of the total samples;
6. Conduct geochemical analysis to investigate intrusive suite prospectivity on a tighter grid;
7. Conduct detailed field mapping and investigation;
8. Initiate drilling campaign in order to explore delineate the Lucky Mica Dyke and assess the lithium content at depth (Figure 17-1) and
9. Evaluation the potential concentrate quality in the early project valuation by conducting metallurgical testing on drill core samples.

In order to proceed with the following recommendations, SGS estimates the following budgets to be needed by RedZone:

**Table 17-1: Estimated budget for further exploration work phases**

| TASKS | TIMEFRAME | ESTIMATED COSTS ($CAD) | POSSIBLE CONSULTANT |
|---|---|---|---|
| Geochemical analysis grid (1,000 samples) | 2017 | 35,000$ | Local consultant supervised by Geologist |
| Conduct detailed field mapping (1 month field campaign) | 2017 | 16,000$ | Local consultant supported by SGS Canada Inc. |
| Initiate drilling campaign with 7 drill holes | 2017 | 220,000$ | Local consultant supported by qualified person |
| Metallurgical testing program | 2017-2018 | 500,000$ | SGS Canada Inc. |

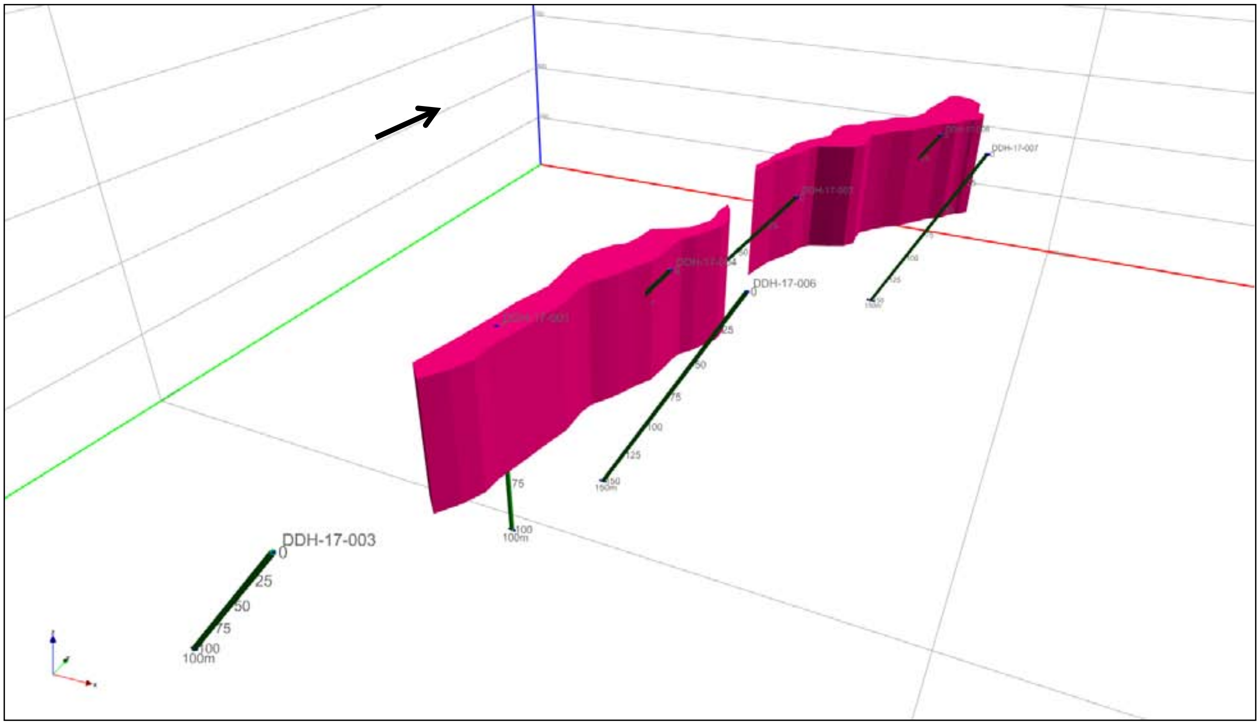



**Figure 17-1: Proposed drilling campaign on the Lucky Mica dyke**

# 18 REFERENCES

1 Černý, Petr, 1982, Anatomy and classification of granitic pegmatites: inČerný, Petr (ed.), Granitic pegmatites in science and industry: Mineralogical Association of Canada, p. 1–39.

2 Fossen, H., 2010, Structural geology, Cambridge University Press.

3 Jahns, H. R. Pegmatite Deposits of the White Picacho District, Maricopa and Yavapai Counties, Arizona. University of Arizona Bulletin, Vol. 23, No. 5, Nov 1952.

4 Singh, Balbir. Weathering of Spodumene to Smectite in a Lateritic Environment, Clays and Clay Minerals, vol. 41 No. 5, October 1993. p. 624-630.

# 19 QUALIFICATION CERTIFICATE

I, Jean-Philippe Paiement, P.Geo., M.Sc., of Quebec, Quebec, do hereby certify:

1. I am a Geology Project Manager with SGS Canada Inc. with a business address at 125 rue Fortin, Suite 100, Quebec, Quebec, G1M 3M2.

2. This certificate applies to the technical report entitled “NI 43-101 TECHNICAL REPORT for the Lucky Mica Project, Arizona, RedZone Resources Ltd.” with an effective date of January 20, 2017 (the “Technical Report”).

3. I am a graduate of Université du Québec à Montréal (B.Sc.,Resource Geology, 2006) and from Université Laval (M.Sc. Geology, 2009). I am a member in good standing of Ordre des Géologues du Québec (#1410). My relevant experience includes six years of mineral resources estimation project with several industrial minerals clients. I have participated in numerous technical reports on different industrial commodities, varying from mineral resources estimation to feasibility studies.

4. I am a “Qualified Person” for the purposes of National Instrument 43-101 (the “Instrument”).

5. I have visited the site on January 9-11, 2017.

6. I am responsible for all Sections of the Technical Report.

7. I am independent of RedZone Resources Ltd. as defined by Section 1.5 of the Instrument.

8. I have read the Instrument and sections of the Technical Report I am responsible for have been prepared in compliance with the Instrument.

9. As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report that I am responsible for contain all scientific and technical information

Signed and dated this 17 day of February, 2017 in Montréal, Québec.

**Jean-Philippe Paiement, P.Geo., M.Sc**
Geology Project Manager – Geological Services
SGS Canada Inc.

# APPENDICE 1: CLAIM LIST

| CLAIM | POST | EASTING | NORTHING |
|---|---|---|---|
| LM5 | LM | 337210 | 3747253 |
| LM5 | SEC | -1 | -1 |
| LM5 | SW | 337116 | 3747249 |
| LM12 | LM | 337208 | 3747246 |
| LM12 | NEC | -1 | -1 |
| LM12 | NW | 337116 | 3747249 |
| LM11 | NE | 337116 | 3747249 |
| LM11 | NEC | 337026 | 3747253 |
| LM11 | LM | 337024 | 3747252 |
| LM11 | NW | 336920 | 3747259 |
| LM11 | SW | 336921 | 3746763 |
| LM11 | SEC | 337012 | 3746763 |
| LM11 | SE | 337100 | 3746769 |
| LM12 | SW | 337100 | 3746769 |
| LM12 | SEC | 337204 | 3746763 |
| LM12 | SE | 337286 | 3746764 |
| LM13 | SW | 337286 | 3746764 |