# The Emigrant Mining District Project South Central Montana



# A National Instrument 43-101 report

Prepared For: Lucky Minerals Inc.

Prepared by: Geologic Systems Ltd.

Geologic Systems Ltd.

Updated October 2015

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### 1.0 Executive Summary

### Introduction and Recommendations

Lucky Minerals Inc., Emigrant Creek Project, is focused on the exploration and development of several targets within a fifteen square kilometer (six square mile) area, located in the core of the mineralized and intensely altered Emigrant Mining District, South-central Montana. As many as ten highly mineralized breccia-pipes and two porphyry targets exist within the property boundary and have been variously explored by historical drilling including 12,874 meters (42,237 feet) in 83 holes, induced polarization geophysical surveys, rock chip sampling and geologic and alteration mapping. The analysis of the work completed to date indicates these breccia pipes are part of the same mineralization event and are zoned from a molybdenum rich core through copper gold to copper silver on the outer edges of the central area. Non-complaint historical inferred resources have been calculated for several of these targets zones by various government agencies and Pegasus Gold Corporation. In 2008, Tetra Tech calculated a NI-43-101 historic inferred mineral resource (*see note*) for the DUV Breccia pipe using a low cut-off of 0.01 ounces per ton (opt) gold estimated to be 1,646,000 tons at a grade of 0.0286 opt gold that would contain approximately 47,000 ounces of gold with additional silver and copper credits and anomalous molybdenum mineralization. Although reliable the resource is considered historic and is being used as a guide only.

Note: The 2008 resource is considered an historical resource, as a technical report on the resource was never filed although the calculation was completed. It is the author's opinion that the resource is reliable having been done by a reputable independent third party who verified data and checked assays. A qualified person has not done sufficient work to classify the historical estimate as a current mineral resource. The company is not treating the resource as a "current resource" and does not intend to rely on this resource but will use it as a guide.

An exploration program consisting of exploration diamond drilling, both in-fill and step out on the main target areas, St Julian, DUV, Allison, Base Metal/Great Eastern, and Emigrant Peak. Work will also been done on examining the other five breccia pipes using geological mapping and sampling and possible additional induced polarization surveys. Drilling will focus on obtaining information necessary for a 43-101 compliant current resource calculation and to follow the known mineralization to depth. In addition work will be done on examining the potential for recovery of gold from the placer deposits in the area. Estimated Budget is \$2,500,000.

### **Technical Report**

This Technical Report presents: the mining history including historic production, characterizes the geology setting and mineralization, provides a summary of recent geologic exploration, evaluates the mineral potential, provides a summary of recent geological exploration, and evaluates the mineral potential of the lands held by Lucky Minerals Inc. in the Emigrant District, south-central Montana. It also identifies potential exploration targets and makes recommendations appropriate to meeting Lucky Minerals future exploration goals. This document is provided as a NI-43-101 Technical Report.

### Location, Land Holdings and Infrastructure

The Lucky Minerals properties are located 45 km (28 miles) south of Livingston, Montana within the Gallatin National Forest on the western edge of the Absaroka Mountain Range. Lucky Minerals

currently has lease/option agreements on 8 unpatented claims and 9 patented claims, and has staked a total of 117 claims covering a total of approximately 1,035 hectares (2,560 acres). Under the lease/option agreements, graduated (incurs over time) annual payments are paid. The terms of the agreement are such that the property will be 100% owned once all payments are made up to the total amount agreed upon. Currently Lucky Minerals Land position provides them with control over the major known targets in the area. Work is proceeding to obtain agreements covering other areas of the mineralized belt. In addition to mineral rights, surface rights are held on all patented claims, and rights of access on unpatented claims, a large water right (1,125 gallons per minute) is also included on the patent claim option. Surface disturbance necessary to conduct exploration or mining activities need to be permitted by the U.S. Forest Service as the surface owner of the unpatented claims and bonded by the Montana Department of Environmental Quality.

The Emigrant properties and Livingston, Montana are conveniently located with respect to local supply centers and the offices of state and federal government regulatory agencies. The project area is readily accessible be an existing road network and numerous exploratory roads exist on the property. Infrastructure and other resources necessary to support with advanced exploration activities or future mining operation are readily available to the Emigrant Project site.

### **Regional Geology**

The Emigrant Mining District occurs along the western edge of the Absaroka Range of the Beartooth uplift, a northwest-trending fault-bounded structural block of Precambrian basement rock that creates the Beartooth Plateau physiographic province in the Middle-Rocky Mountains of south-central Montana. This Precambrian basement block comprises the deeper basement rock of the Emigrant Mining District. The Yellowstone River and the deep alluvial fill of the fault bounded Paradise Valley form the western margin of the Absaroka Range, Beartooth Uplift and the Emigrant Mining District. During Paleozoic and Mesozoic eras a thick sequence of marine and marginal marine sedimentary rocks were deposited in a shallow inland seaway that covered much of the area. During late Tertiary time, the region was uplifted to approximately the present altitude by the Larimide Orogeny. This mountain building event also resulted in the emplacement of early Tertiary intrusive stocks and the extrusion of voluminous volcanic rock sequences of the Absaroka-Gallatin volcanic field along reactivated structural zones of Precambrian crustal weakness.

Five historic mining districts, including the Emigrant District, are geologically and genetically related to these intrusive centers. These districts have been mapped over distances of at least 120 kilometers (75 miles) from northwestern Wyoming to south-central Montana along the northwest-trending Cooke City Structural zone, the most prominent of these Precambrian basement faults zones.

#### Geology of the Emigrant District

The Emigrant Mining District has been the site of small-scale lode and placer operations since the 1860s. During the period from 1864 to 1930 an estimated 40,000 ounces of gold were produced predominantly from placer operations. Beginning in the early 1970s, a series of companies conducted various types of mineral exploration within the Emigrant District that are described in this report

The Emigrant Mining District is centered on one of several intrusive centers localized on Cooke City Structural Zone at its intersection with the local Mill Creek fault. This intersection is the locus for the emplacement of the Emigrant Stock that is spatially, genetically and temporally related to the deposits of the district.

The Lucky Minerals properties are underlain by Tertiary rocks of the Eocene (49-54 million years old) Absaroka-Gallatin volcanic field that consist of intermediate composition, calc-alkaline andesite and dacite rocks. Eruptive centers of several kinds are present including volcanic necks and plugs, intrusive breccia pipes, vent and caldera complexes and ring dike and cone complexes. The Emigrant Stock is intrusive into these dacitic volcanics, forms the core of the Emigrant District and is also the center for alteration and mineralization. The stock is elongate northwest-southeast and is about 6.5 kilometers (4 miles) wide and 11 kilometers (7 miles) long. A bounding fault between the older andesites and the dacite porphyry intrusive Emigrant Stock appears to be localized along what is likely a collapsed and resurgent caldera complex. This fault is defined approximately by the limits of the dacitic intrusive that in part host the copper-gold-silver-molybdenum mineralization of the Emigrant District. Subsequent ground preparation events produced the fracture systems and breccia pipe structures that became the loci for later mineralizing fluids that formed the breccia-pipe-hosted mineral deposit of the district.

### Mineralization

Mineralization in the Emigrant District is associated with the multiphase dacite porphyry of the Emigrant stock and smaller associated late stage quartz monzonite porphyries. Alteration associated with these stocks exhibit a classical pattern of zoning typically associated with the coper-molybdenum mineralized porphyry systems. Metal distribution around the Emigrant stock is also zoned with a core of molybdenum with minor copper, a zone of copper-gold and then an outer zone of copper-silver-base metals.

Within the Emigrant District, mineral deposits occur as sulfide disseminations, stockwork and veintype mineralization that show pervasive regional alteration in quartz-sericite-pyrite and argillically altered zones associated with the Emigrant Stock and quart monzonite porphyry. The size of the regional alteration zone of silicification with pyrite extends over an area of 23 to 25 square kilometers (9 to 10 square miles) and the pyrite content generally decreases outward from the intensely altered quartz sericite-pyrite intrusive centers. More importantly, mineral occurrences exist as gold-silvercopper-molybdenum-rich concentrations in breccia pipe-hosted deposits. Observed ore minerals include native gold, chalcopyrite, chalcocite, covellite, molybdenite, sphalerite and galena.

Exploration of the Emigrant District properties will focus on two types of mineralized targets including:

 Breccia pipe and structurally hosted deposits that appear to be localized around the contact area of the Emigrant Stock dacite porphyry and occur in conjunction with quartz-sericitepyrite alteration spatially related to areas of emplacement of late stage quartz monzonite intrusive stocks and dykes. Examples of these types of deposit areas include the St. Julian, DUV, Allison, Base Metal, Montana Queen, Huckleberry and Peter Pear that occur as breccia pipes and spatially associated cross cutting shear zones, 2) Classic gold-copper-molybdenum porphyry systems such as those located on the east flank of Emigrant Peak and in the Emigrant Creek area (both of which are supported by alteration patterns, mineralization style and induced polarization geophysical surveys).

### Targets

The targets and the potential quantity and grade are conceptual in nature as there had been insufficient exploration work done to define Mineral Resources as defined by NI 43-101, and it is uncertain if further exploration would result in establishing the existence of Mineral Resources.

### St Julian

The St Julian Target zone was first identified in 1885 and has a history of sporadic production up until 1903. It is estimated that 395 ounces of gold were produced between 1901 and 1903. The area contains the major mine workings in the Emigrant Mining district. The St Julian is covered by 9 patented mineral claims under option to Lucky Minerals. Underground workings at the St Julian target consisted of twelve adits (total length about 320 meters (1,060 feet)) and three shafts.

Mineralization appears to be confined to a north east trending shear zone that is approximately 400 meters wide and at least 900 meters in length. Workings to the south east on Huckleberry Gulch are also on a highly sheared north east orientated zone, which may be the continuation of the St Julian zone. If true this would double the strike length to 1800 meters. The original rock composition in the area is difficult to ascertain due to the wide spread argillic alteration that has destroyed original textures.

A total of 27 holes have been drilled on the St Julian mineralized zone, 5 holes by Duval Corp.in 1973 and 22 reverse circulation holes by Pegasus in 1992. Analysis of the drill results indicates potential for a thick zone grading 1 to 2 gms/T gold and 0.10 to 0.3 % copper. Of the 27 holes, 19 intersected significant gold +/- copper mineralization. The drilling indicates that at higher elevations the wider overall zone breaks into discrete zones/veins that were mined, lower down a stockwork starts to appear resulting in thick intersections of interest, which have not been explored.

### DUV Target Zone

The DUV Target Zone is a major center of porphyry style alteration in the Emigrant District and is located in the East Fork of Emigrant Creek. Mineralization in DUV Target Area is associated with hydrothermal breccia, strong silicification, and quartz-sericite-pyrite alteration all of which are related to development of the irregularly-shaped DUV breccia pipe. Mineralization also appears to be related to the later-stage quartz monzonite porphyry and quartz monzonite dykes intruded into the dacite porphyry of the Emigrant stock. Gold mineralization is associated with the breccia pipe as well as with later-stage quartz monzonite and quartz monzonite porphyry dykes. Drilling and mapping by Pegasus in 1991 and 1992 indicate that the Emigrant quartz monzonite stock in the DUV area probably extends at depth in the subsurface from the East Fork of Emigrant Creek to the north of the Allison Tunnel area and probably as far north as the Peter Pear Target Areas described below. The better grades of gold mineralization, including significant drill intercepts > 0.1 oz gold/ton in several holes, occurs at the intersection between the breccia pipe and a relatively flat-lying to moderately south dipping zone between elevations of 8,100 and 8,800 feet. The relatively flat-lying mineralized zone may represent a boiling zone within and adjacent to the breccia pipe and followed the contact between dacite

porphyry and a less porous welded tuff. The projected contact of the dacite porphyry with the overlying welded tuff appears to be particularly favorable for gold deposition. The mineralized copper-gold zone, so far as known, ranges to as much as 500 meters (700 feet) in thickness with a horizontal expression approximating 750 meters x 800 meters (800 feet by 1,200 feet). Within this zone, gold mineralization with associated copper, with a tenor of greater 0.03 opt occurs in drill intercepts as much as 132 meters (434 feet) thick. In 1971, Duval Corporation, Inc. contracted with Geoterrex, Ltd. Inc. to conduct Induced Polarization geophysical surveys along two crossing lines, each more than 1.5 miles long and centered on the junction of Emigrant Creek / East Emigrant Creek center of hydrothermal alteration. The locations of the geophysical lines are shown on Figure 26 (main body of report). In 2007, NewEdge Gold contracted with Carlson Geophysics of Missoula Montana to reinterpret the historical Induced Polarization surveys and refine the Induced Polarization / Resistivity data that was collected in 1971 using more advanced computer techniques than were available at the time the data were collected. The reinterpretation resulted in extremely high chargeability anomalies that likely indicate sulfides and associated mineralization in the survey area and are areas to be focused on for mineral exploration. A southwest-northeast oriented Line (Line #1) shows a very high chargeability anomaly over the upper East Fork of Emigrant Creek in the vicinity of the DUV and St. Julian Target Areas. A north-south oriented Line (Line #2) also shows two very high chargeability anomalies, one is located east of Emigrant Creek and is approximately centered between the Allison Tunnel and Great Eastern breccia pipes. Thus the surveys identify known and new target areas in both the Emigrant creek and East Fork of Emigrant Creek areas.

### Allison Tunnel

The Allison Tunnel molybdenum bearing intrusive breccia pipe occurs to the southwest and adjacent to the DUV target area (Figure 4 main body of report) and was one of the principal areas of underground workings development along Emigrant Creek. The Allison breccia pipe itself appears to be small, about 45 meters (150 feet) in diameter (Pfau 1981), However the breccia is surrounded by a mineralized stock work of molybdenite bearing veins at depth turning to copper–molybdenum bearing veins near surface. Alteration in the Allison Tunnel area is similar to that of the DUV Area and this pipe is probably part of the same Copper-Molybdenum System (Green 1976). Modeling shows that from the top of DUV mineralized zone to the molybdenum bearing intersection in hole 73-01 is a vertical range of 900 meters, which gives an indication of the size of the zonation on the system. A low angle easterly dipping fault with breccia is inferred on the slope above the Allison Tunnel and this-fault may host the molybdenum-bearing breccia zone reported from underground in the Allison Tunnel (Harrison 1990).

A hole drilled in 1973 by Duval intersected the breccia zone at a depth of 300 meters below the Tunnel and intersected 73.2 meters grading 0.112% MoS<sub>2</sub>. Pegasus drilled holes DU92-16 and 17 angled at - 45 degrees to the north and south respectively from a pad south of the Allison workings. The holes intersected strong stockwork mineralization with copper and molybdenum , DU91-16 intersected 50.3m (165 feet) grading 0.031% MoS<sub>2</sub> and 0.21% copper in the copper-molybdenum zone of the breccia above the Allison Tunnel. Gold assays were low, as expected as gold is not expected to be present in the well-developed hydrothermal breccia and stockwork molybdenum mineralized zone.

### Base Metal Target Zone

The Base Metal Target Zone is one of ten (10) breccia pipes located in the Emigrant District. The zone is located in the Emigrant canyon bottom at an elevation of 2100 meters (6880 feet). Underground

workings at the base metal target consisted of four adits (total length about 91 meters (300 feet) and a 15-meter (50 foot) deep shaft. Samples of mine wastes collected by the U. S. Geological Survey averaged 1.65 opt silver (56.57 gms/T), 0.25% copper, 1.61% lead and 0.67% zinc.(USGS 1983). Several shallow holes are reported with good silver and copper credits. Data from core drilling by Pegasus, hole GE92-1 had an overall average grade of 0.343% copper, 0.796 opt silver, 0.006 opt gold over its entire depth 179 meters (588 feet). Lead and zinc were also observed but not assayed.

### Emigrant Peak Target Zone

The Emigrant Peak Target Zone is one of two major hydrothermally altered centers related to the multiphased intrusive of the Emigrant Stock. This target area is located in the core of the Emigrant District on the eastern slope of Emigrant Peak (Figure 4 in the body of this report) near the western contact of the Emigrant Stock. The target is a distinct center of alteration and sulfide mineralization (pyrite is estimated at 2-5 % of the total rock mass). The alteration/mineralization of this system is manifested as a triangular-shaped strongly hydrothermally altered area approximately 1,463 meters (4,800 feet) on a side. The yellowish-red-brown color of the anomaly results from jarosite-limonite alteration of sulfides in the rock (Green 1976). Sulfide mineralization is distributed as both dissemination and as a widespread network of veinlets, and quartz-pyrite veinlets are common and pervasive in the central core area. Other sulfides include chalcopyrite, molybdenite and galena; and in addition, chalcopyrite, chalcocite and covellite occur disseminated and in narrow stock-work quartz veins. Sulfide minerals are zoned from a copper sulfide-molybdenite core, outward through a zone of pyrite-chalcopyrite and further outward to a halo of sphalerite and galena. In 1971, Basic Metals, Inc. contracted with Applied Geophysics Inc. to conduct Induced Polarization geophysical surveys over the Emigrant Peak Target Area. In 2006, NewEdge Gold contracted with Carlson Geophysics of Missoula Montana to reinterpret the historical induced polarization and refine the Induced Polarization / Resistivity data that was collected in 1971 using more advance computer techniques than were available at the time the data was collected. The reinterpretation found extremely high chargeability anomalies that likely indicate sulfides and associated mineralization in the survey area and are areas to be focused on for mineral exploration.

The Emigrant Peak Target Area exhibits a number of characteristics that indicate it is a prime target for porphyry Cu-Mo-Au mineralization. A distinct alteration and color anomaly resulting from sulfide oxidation exists on the eastern flank of Emigrant Peak where the Emigrant stock is in contact with adjacent volcanics. Finally, the geophysical anomalies) identified in the Emigrant Peak Target Area are very supportive of a porphyry system of alteration. The only drill hole in this area was a deep hole drilled by AMAX in 1963 and was not oriented properly to test this target area.

### Peter Pear Target Zone

The Peter Pear zone is poorly exposed in a scree covered avalanche chute about 0.8 kilometers (0.5 miles) upstream of the Base Metal breccia pipe on the east side of Emigrant Gulch (Figure 4 of this report). Although poorly exposed, workings are developed in a brecciated shear zone and are likely associated with a breccia pipe near the contact of a quartz monzonite porphyry dyke with the dacite porphyry of the Emigrant Stock. The US Geological Survey collected 27 samples principally from waste rock dumps in the Peter pear area that contained a maximum of 0.05 opt gold (1.71 gms/T), 32.3 opt Silver (1,107.4 gms/T), 0.4% copper and 0.102% molybdenum.

Two holes were drilled by Pegasus (DU- 91-14 and DU-91-15) from a single drill pad in the Peter Pear area. Drill and surface mapping by Pegasus (1993) indicate that the Peter Pear breccia pipe is centered on at least one and probably two intrusive masses that are on the order of several hundred feet thick and consist of altered quartz monzonite porphyry with abundant intrusion breccias. Hydrothermal brecciation is widespread in drill core. Assay data from hole DU91-14 reported 18.29 meters (60 feet) of 0.225% copper and 78 ppm (0.0078%) molybdenum from the 21.34 to 39.62 meter (70-130 feet) interval in the hole.

### Drilling

Lucky Minerals has not conducted any exploration drilling on their Emigrant District holdings to date, although drilling is expected to be a major component of an aggressive exploration program in the near future. Several rounds of historical exploration drilling have, however, occurred within the Emigrant Mining District from 1971 through 1992 and include a total of 12,879 meters (42,237 feet) of drilling in 83 holes. A maps showing historical drill hole collar locations and drill traces on a topographic base upon which a projection of the perimeter boundary of the Lucky Mineral Claim block is superimposed is shown in various figures in the main body of this report. Much of the historical drilling has taken place on lands currently controlled by Lucky Minerals on identified target areas within the District including the St Julian, DUV, Allison Tunnel, Peter Pear, Base Metal breccia-pipe-hosted targets and the Emigrant peak porphyry target area (Figures 4 and 11, main body of this report). Table below summarizes the amount of drilling that has been completed on each of the principal exploration target areas. Assay and geochemical data are available for most of this historical drilling.

Zone	# holes	Feet	Meters	Years
St Julien	27	14,255	4,345	1973, 1992
DUV	33	15,658	4,773	1973, 1992
Allison	5	4,223	1,287	1971, 1973, 1992
Peter pear	2	1,141	348	1992
base metal	15	5,383	1,641	1976, 1992
Emigrant	1	1,577	481	1973
Montana Queen	0	0	0	
Huckleberry	0	0	0	
Sheila	0	0	0	
Crevis	0	0	0	
Overlap	0	0	0	
totals	83	42,237	12,874	

### Sampling and Data Verification

Sampling methods for various rounds of historic exploration on the property are briefly described as is information regarding the collection and handling of drilling samples by Pegasus Gold Corporation. In addition NewEdge Gold under the recommendation of Tetra Tech implemented a sampling program to

validate the Pegasus assay and geochemical data by re-sampling historical samples from the Pegasus drilling program.

Assay and geochemical data was obtained directly from Tetra Tech in spreadsheet form for most previously drilled holes from various exploration company records for the Emigrant Project area. Verification of spreadsheet assay data was conducted by New Edge by re-assaying 50 of the original assay pulps for comparison with 1991-1992 Pegasus gold assay data results obtained from copies of signed assay certificates.

Core recovery was good with all commonly encountered zones of alteration or mineralization being cored and sampled.

### Metallurgy

NewEdge Gold has conducted no metallurgical testing of materials collected from their Emigrant Project site. Historically two preliminary metallurgical tests were conducted on materials from the DUV Ridge Target Area, including samples tested by the U.S. Bureau of Mines from the Iron King Adit, and a second test performed by Pegasus Gold on composite drill samples. However, there has been no thorough or comprehensive metallurgical study of metal recovery from mineralization present at DUV or elsewhere on the Emigrant District properties.

### Historic Estimates of Inferred Mineral Resources

There have been a number of historical resource calculations done for various mineralized areas of the Emigrant District over time, principally by government agencies. In addition, non-compliant inferred geologic resources were identified in the DUV Ridge/St. Julian Target Area breccia pipes and adjacent mineralization through limited exploration drilling by Duval, Kennecott Exploration and Pegasus Gold Inc. Pegasus Gold calculated a historic, drill inferred geological resource (by Cochetas 1992) as cited in McCullough 1999) within the combined DUV and St. Julian mineralized zones. This resource assessment was based on a rather simple extrapolation of average grade over an assumed thickness and footprint of the DUV breccia pipe. Due to the above reasons and discussion, the historical estimates of the reserves should not be relied upon, as per section 2.4(b) under the rules and policies of NI 43-101. They are reported here to show possible future potential of the target areas.

In 2008, Tetra Tech calculated a NI-43-101 historic inferred mineral resource *(see note)* for the DUV Breccia pipe using a low cut-off of 0.01 ounces per ton (opt) gold estimated to be 1,646,000 tons at a grade of 0.0286 opt gold that would contain approximately 47,000 ounces of gold with additional silver and copper credits and anomalous molybdenum mineralization. Although reliable the resource is considered historic and is being used as a guide only.

Note: The 2008 resource is considered an historical resource, as a technical report on the resource was never filed although the calculation was completed. It is the author's opinion that the resource is reliable having been done by a reputable independent third party who verified data and checked assays. A qualified person has not done sufficient work to classify the historical estimate as a current mineral resource. The company is not treating the resource as a "current resource" and does not intend to rely on this resource but will use it as a guide.

#### **Recommendations**

The author recommends a multi-stage exploration approach for Lucky Minerals exploration of their Emigrant Creek properties. The initial stage involves drilling on the Patented ground (St Julian) and in areas covered by a low level: Category Exclusion permit (submitted January 2015). While, this work is being performed an application (Plan of Operations) will be made for road access construction and additional drilling locations that would be covered by an Environmental Assessment program. The purpose of the program is to produce a 43-101 complaint resource for the project and its various zones. This will mainly be accomplished by diamond drilling within the existing known zones and following these zones along strike and to depth. Additional work involving geophysics, geological mapping and sampling will be done to examine additional previously unexplored targets within the property boundaries. The initial program budget is estimated at US\$2.5 million and is summarized in Table 12 in the report. The initial program also allocates approx. US\$380,000 to obtaining the Environmental Assessment permit for future stages that will lead to full resource definition on the various zones. It is estimated that an additional \$5 million would be spent on the subsequent stage, the exact distribution would be determined by the results of the first stage program. Phase 1 is designed to be completed during the 2016 field season allowing for time to complete the required permits for additional phases and full analysis of all data collected prior to starting phase 2.

### 2.0 Introduction

This Technical Report has been prepared by Geologic Systems Ltd (Geologic) for Lucky Minerals Inc. (Lucky), in compliance with the disclosure requirements of Canadian National Instrument 43-101, to disclose relevant information about the Emigrant Property (Emigrant), Park County, Montana, USA. Lucky Minerals Inc., Emigrant Creek Project, is focused on the exploration and development of several targets within a six square mile area, located in the core of the mineralized and intensely altered Emigrant Mining District, South-central Montana.

Unless otherwise stated, information and data contained in this report or used in its preparation has been provided by Tetra Tech Ltd. and the various property owners. This Technical Report has been compiled from sources cited in the text by Mr. Shaun Dykes, MSc (Eng), P.Geo., President, Geologic Systems Ltd and director of Lucky Minerals Inc.

Mr. Dykes is a qualified person as defined by NI 43-101, and Mr. Dykes has visited the property twice with the last visit in the fall of 2014.

This report summarizes the results of the compilation of the available data and makes recommendations as to how to proceed with the exploration and development of the Emigrant property.

# 3.0 Reliance on Other Experts

The preparation of this report has been based upon public and private information provided by Tetra Tech Ltd and the owners of the Property. This report and the information contained within are based on work conducted by Shaun M Dykes, P.Geo the qualified Person responsible for the report.

The author believes that the information provided and relied upon for preparation of this report is accurate at the time of compiling this report and that the interpretations and opinions expressed in it are reasonable and based on current understanding of mining and processing techniques and costs, economics, mineralization processes and the host geologic setting. The author have made reasonable efforts to verify the accuracy of the data relied on in this report.

The results and opinions expressed in this report are conditional upon the aforementioned information being current, accurate, and complete as of the date of this report, and the understanding that no information has been withheld that would affect the conclusions made herein the Author reserves the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to the Author subsequent to the date of this report.

### 4.0 Property Description and Location

### 4.1 General

The property is located within the jurisdictions of the Gallatin National Forest and Park County on the western edge of the Absaroka Mountain range. Located 48 kilometers (30 miles) south of Livingston, Montana and 24 kilometers (15 miles) north of Yellowstone National Park, the project area is well situated with respect to supply centers and regulation authorities (Figure 1 and 2). The co-ordinates of the property are centered on 50 15' 20" North latitude and 110 39' 30" West longitude covered by Townships 6 and 7 south and ranges 8 and 9 east (unsurveyed). The Absaroka wilderness area forms a buffer between the Yellowstone National Park and the project area. In 1983 the project area was deliberate left out of the wilderness area due to its high mineral potential.

### 4.2 Mineral Tenure

The property currently consist of eight (8) unpatented claims, and 9 patented claims under option, and 117 unpatented staked and un-surveyed contiguous mining lode claims covering an area of approximately 2,530 acres. Most of the claims are full-sized, 600 feet by 1,500 feet claims (20.66 acres each). However the total includes 17 fractional claims, where new claims staked overlap existing ones. The claims are shown in Figure 3 and listed in Appendix A.

In Montana, staked claims expire annually on September 1, the annual fee of \$155/claim must be paid to the BLM prior to Aug 31, each year or all claims will expire. At \$155/claim, the company must make

annual payments to the BLM of US\$19,800 to keep unpatented claims in good standing. All fees have been paid and all claims are in good standing until September 1 2016.

#### 4.3 Ownership Agreements

On June 1, 2014 Lucky Minerals Inc. completed an option to purchase agreement with Revett Metals Associates and Kathleen Antonioli, a local prospector group, to purchase seven (7) unpatented mineral claims located in Park County, Montana, USA known as the Emigrant Property. The terms of the agreement call for a series of escalating annual advance royalty payments starting with \$15,000 payment June 1, increasing \$5,000 each year until a maximum of \$50,000 per year, this continues until such time as a total of \$1,000,000 has been paid. In addition the agreement calls for a 2% NSR payable to the owners upon start of commercial production. Lucky has an option to purchase 1.8% of the NSR for \$1.5 million within 9 months of the start of commercial production. During the term of the option agreement ownership of the claims is transferred to Lucky.

On March, 2015 Lucky entered into an option to purchase agreement with David R. Amsk Revocable Trust ("ART, LLC"), Michael P. Amsk, Richard D. Amsk, Keough Brown & Keough, Inc., and Emigrant Manna, LLC (Julian Group) to purchase 9 surveyed patented claims totally 138.5 acres and 1 unpatented staked claims totaling 14 acres located in Emigrant, Montana and known as the St. Julian properties. The terms of the agreement call for a series of escalating annual advance royalty payments starting with \$10,000 upon signing and a second payment of \$10,000 within 3 months of signing, and a payment of \$30,000 one year from the date of signing, increasing \$10,000 each year until year 10. The Option will expire on the date which is eleven years from the date of signing, unless the Parties mutually consent in writing to extend the term of the Option. The buyout price of the option is a minimum \$2.5 million and maximum \$7.5 million based on the number of gold equivalent ounces identified in reserves on the patented claims, as defined in an independent 43-101 report. In the case of the minimum any ounces less than 1 million ounces gold equivalent results in a minimum of \$2.5 million, any ounces define between 1 and 3 million.



Figure 1 Emigrant Project Location Map



Figure 2 Emigrant Project Local Area Location Map

In addition the agreement calls for a 3% NSR payable to the owners upon start of commercial production. Lucky has an option to purchase 2% of the NSR for \$5 million within 12 months of the start of commercial production and subject to the owners approval, purchase the remaining 1% royalty for \$2.5 million. During the term of the option agreement ownership of the claims are transferred to Lucky.

Lucky is currently negotiating other agreements with additional land owners in the area.

### 4.4 Permits

Exploration on Federal lands requires a permit to conduct exploration except for sampling of rocks and soils by hand and other activities that create no land disturbance. There are three levels of permits reflecting increasing disturbance:

- The lowest level of permit is Categorical Exclusion (CE). This is the least intense disturbance and requires some public notification. Track mounted auger drilling and no new road clearing would fit in this category according to USFS personnel.
- Environmental assessment (EA) requires an in depth study with 30 days for public comment, plus additional time for appeal. Drilling with an RC rig using water, new road construction, etc., would require this level of permit. USFS personnel suggest that one year may be required to receive a permit. Spot Studies on archaeology and sensitive plant species would be required prior to disturbance.
- Environmental Impact Statement (EIS) is the highest permit level and would be required for mine development. Several aspects should be factored into timing of exploration plans.

A plan of operations was submitted to the US forest service for a CE level permit to allow drilling on existing roads within the lands controlled by US Forest Service. In addition the plan has been submitted to the State of Montana Department of Environmental Quality (DEQ) for their approval. Finally Permitting is not required for work on the patented land.

Lucky Minerals Inc.



### Figure 3 Emigrant Project Claim Map



Figure 4 Emigrant Project Target Location map

### 5.0 Accessibility, Physiography, Climate, and Infrastructure

Easy access to the property is available by 4-wheel drive truck on unimproved gravel and rock roads (Figures 1 and 2). From Livingston, Montana, the town of Emigrant is 33 kilometers (20 miles) to the south along US highway No. 89. From Emigrant, a paved secondary road proceeds east across the Yellowstone River for 6 kilometers (4 miles) to the country resort of |Chico Hot Springs. A gravel road continues beyond Chico Hot springs for 2.5 kilometers (5 miles) to the mouth of Emigrant Gulch. A 4 wheel drive passable gravel and rock road heads up Emigrant Gulch to reach the property. Several spur roads branch off the main access to provide additional access to other areas with the property.

The Emigrant Property lies within a mountainous region where elevations range from 1525 meters (5000 feet) at the mouth of emigrant Gulch to nearly 3355 meters (11,000 feet) at the summit of Emigrant Peak. On the property itself elevations generally range from 2000 meters (5,600 feet) to 3,000 meters (9,840 feet).

The mouth of Emigrant Gulch occupies a narrow, steep sided canyon with vertical relief of up to 185 meters (600 feet). The valley walls have been incised by narrow cuts which act as talus chutes, and precipitous rock ledges and pinnacles characterize the high canyon walls. Approximately 2 kilometers from the mouth the valley widens considerably and the lower slopes are treed and talus covered.

The area receives an annual rain fall between 25 and 50 cm (approx. 10 to 20 inches). All drainage from the project area is captured by northerly flowing Emigrant Creek.

The region is heavily forested from the base of the mountains at Old Chico up to alpine elevations of 2900 meters (9500 feet). Lodge pole pine dominate coniferous vegetation, with occasional fir, spruce and balsam. Many creek and water courses are marked by small groves of aspen.

The optimum period for surface field work extends from May through to the end of October. Though hail and snow squalls are possible throughout the year at high elevations. Snow cover predominates the winter months, especially between November and April.

### 6.0 History

The Emigrant Mining District has been the site of small scale lode and placer operations since the 1870's. During the period 1864 to 1935 an estimated 40,000 ounces of gold was produced dominantly from placer operations. The most recent phase of modern exploration started in 1990 when Kennecott drilled six helicopter supported core holes on the south flank of DUV Ridge. All of these holes intersected anomalous to ore grade gold and copper mineralization.

Emigrant District Historic Activity

An outline of the district history is as follows:

1864 Placer gold discovered in Emigrant Creek

Geologic Systems Ltd.

1885	Lode gold discovered at St. Julian claims, followed by minor production from underground workings.				
1864 -1930	An estimated 40,000 oz gold produced from 1864 to 1930 principally from placer deposits				
1963	American Metal Climax, Inc. (AMAX) drilled one exploration hole on the east side of Emigrant Peak (hole E-1) and another near the junction of Emigrant Creek and the East Fork of Emigrant Creek (hole E-2) (Green 1976)				
1966	Minerals Exploration, Inc. a subsidiary of Union Oil Corporation sampled the Allison prospect area as part of a regional molybdenum exploration program				
1970	Basic Metals, Inc. drilled 15 (?) holes in the Great Eastern (or Base Metals) breccia pipe in Emigrant Creek				
1971-1973	Duval Corporation explored for Cu-Mo-Au porphyry by drilling 10 core holes (holes MED 1-10) in the Emigrant District about 7 of which were located along the East Fork of Emigrant Creek both north (in the DUV Ridge area) and south (St. Julian area) of the creek; in addition Duval conducted approximately 4 linear miles of induced polarization geophysical surveys (Duval Corporation, 1973)				
1975	Duval Corporation drilled one additional hole in a joint venture agreement with Gulf Mineral Resources, Inc. in 1975 as part of the same program (Pfau, 1981).				
1980	Bear Creek Mining Company a subsidiary of Kennecott Copper conducted a copper- molybdenum exploration program on the east flank of Emigrant Peak.				
1987	Montana Mining and Reclamation (MM&R) begins testing placer deposits along Emigrant Creek and consolidates a land position including lode mining claims				
1988-1990	Sandhurst Mining NL, in a joint venture with Montana Mining and Reclamation, began a gold exploration program in 1988 which included geologic mapping and sampling of both lode (DUV Ridge and St. Julian target areas) and placer deposits in the Emigrant Creek drainage (Harrison, 1990). The joint venture was terminated in 1990.				
1990	Kennecott Exploration obtains an option from Montana Mining and Reclamation through Fischer-Watt Gold Company and began a gold exploration program. Before the option was terminated, Kennecott had drilled six core holes on the DUV deposit				
1991	Harrison Western Environmental Services, Inc., began evaluating the gold placer deposits along the upper part of Emigrant Creek, the East Fork Emigrant Creek, and Huckleberry Gulch; they completed 10 sonic drill holes				
1991-1993	Pegasus Gold Inc. acquires Kennecott's interest in the MM&R properties and entered a joint venture, also with Fischer-Watt Gold Company; to conduct a gold exploration program in the district (The Mining Record, 1991) on the DUV Ridge Target Area and				

on patented mining claims in the St. Julian area. 1991 to 1992 Pegasus drilled twentysix helicopter supported core holes (13,774 feet) and 24 reverse circulation holes with a track mounted drill (9,400 feet) in six target areas (Figure 4). Approximately \$4.8M in work was completed in the district from late 1980's to early 1990's by Kennecott Exploration and Pegasus Gold.

2007 NewEdge Gold Corp acquires a lease/option on several properties in the Emigrant District. NewEdge dropped the project in 2008 as a result of collapse in the market.

# holes Zone Feet Meters Years St Julien 27 4,345 1973, 1992 14,255 DUV 33 4,773 1973, 1992 15,658 Allison 5 4,223 1,287 1971, 1973, 1992 2 1992 Peter pear 1,141 348 1976, 1992 base metal 15 5,383 1,641 Emigrant 1 1,577 481 1973 Montana Queen 0 0 0 Huckleberry 0 0 0 Sheila 0 0 0 Crevis 0 0 0 Overlap 0 0 0 42,237 totals 83 12,874

The following table outlines the drilling completed on the various targets, whose locations are show in Figure 4.

No new drilling has been done on the project since 1993.

### 6.1 Placer Mining

Placer mining, on a seasonal basis and on a small scale has been continuous up until the present day. The Emigrant Gulch placers were discovered in 1864 and by 1869 an estimated 250,000 cubic yards had been washed yielding an average of \$1 per cubic yard at a gold price of \$20.67 per yard. An estimated production of 24,000 ounces of gold had been recovered by 1900, (Johnson, 1998). Bureau of Mines records for Park County, show 15,592 troy ounces of gold was produced from the placers between 1901 and 1960. Early methods were ground sluicing above ferrocrete, drifting in and below the ferrocrete, and hydraulic sluicing in the upper part of Emigrant Creek. The mouth of the Gulch was first mined in 1904, with a track mounted steam shovel served by 3 Dinky engines, 40 ore cars, and a track mounted wash plant. A dry land dredge mined in the same area in 1939 (USGS 1505, 2981). Between August 1941 and October 1942, a 10 cubic yard bucket line dredge called the Mosier II operated in the area processing 1.6 million cubic yards at an average value of 0.14 per cubic yard at a gold price of \$35 per troy pounce. The dredge was re-activated in 1946 and processed an additional 947,000 cubic yards of material grading \$0.106 per cubic yard at the \$35 per ounce gold price. (Lyden,

1948). Operations ceased in 1947 when the dredge was sold and shipped to Columbia in South America. It was the largest dredge ever to operate in Montana.



#### Figure 5 Photograph of the Mosier II dredge circa 1946

Upstream in the Gulch near White City (Figure 2 and 4) Yellowstone Gold Mining Company processed gravel from 1929 to 1932, using a combination of hydraulic and ground sluicing. Small scale drifting operations under the talus of the southwest side of the gulch in the area, produced many coarse nuggets in the late 1970's and early 1980's. Operations higher up in the areas between Base metal and St Julian targets were heavily worked in the early years. The ruminant valley floor indicates the stream was lowered up to 200 feet in some places by hydraulic sluicing over a distance greater than a mile. This is still visible today. Mining continued up stream onto perched bench gravels in Huckleberry Creek.

In 1989, Montana Mining and Reclamation, Inc. performed a test of the placer gravels in the upper part of Emigrant Creek and the East Fork. Test pits were dug and samples taken. Results showed the presence of gold bearing gravels, and also some supergene enriched native coper mineralization.

### 6.2 Historic Resources

Note: Historical estimates of grade and tonnage given are viewed as reliable and relevant based on the information and methods used at the time. However they are not compliant with resource definitions under NI 43-101 and must be considered only as historic resources. The author of the report and Qualified Person has not done sufficient work to classify the historic estimates as current mineral resource or mineral reserve terminology and are not treating the historic estimates as current mineral resources. The historic resources are used as an indication of potential only and should not be relied upon.

There have been a number of historical resource calculations (Table 1) done for various mineralized areas of the Emigrant District over time. These results are simply tabulated and presented here and are discussed again in greater detail in the Mineralization section (section 12.0) below. The data is

presented only to point out the relatively large size and potential of the mineralized target areas in the Emigrant District.

Deposit Name	Туре	Tons	Grade	Source
		(classification)		(references)
Base Metal	Breccia	1.7 million	0.41% Cu	Published resources
(Great Eastern)	Pipe	(identified)	0.39% Zn	(Green, 1976)
			0.18% Pb	
			0.81 oz Ag/ton	
DUV	Stockwork	38 million	0.044 oz Au/ton	Calculated from USBM
DUV	Breccia	(Identified)	0.24 oz Ag/ton	sample analyses and
	pipe		0.44% Cu	geological
				measurements
St Julian	Shear Zone	42 million	0.009 oz Au/ton	Calculated by BLM
	Breccia	(identified)	0.04 oz ag/ton	sample analyses and
	pipe			geological
				measurements
Emigrant Peak	Porphyry	100 million	0.006 oz Au/ton	Calculated from USBM
	Cu-Mo	(Identified)	0.04 oz Ag/ton	sample analyses and
				interpretation of
Emigrant Creek	Placer	Larga	Not determined	deposit models Based on geological
	1 10001	Large (Identified)		interpretation and past
		(iucininicu)		production
L				production

### Table 1 Significant Identified Resources Emigrant Mining District, Montana

Table modified from U.S. Bureau of Mines Mineral Lands Assessment open file report 19-93, by Johnson and others 1993. The assessment file contains the original source of the BLM resource estimates which was part of an evaluation of the entire area as part of the wilderness designation study. Methodology was to take the size and extent of the visible mineralized apply a thickness based on drill information and apply the average grade of samples taken by the authors themselves. As already stated the resource are estimates that point out the potential of target areas and are relevant and believed to be reliable for pointing out these potential targets only and should not be relied upon.

The DUV Ridge/St. Julian Target Areas breccia pipes and adjacent mineralization were identified through limited exploration drilling by Duval, Kennecott Exploration and Pegasus Gold Inc. Pegasus Gold calculated a historic, drill inferred geological resource (Cochetas 1992, as cited in McCullough 1999) within the combined DUV Ridge and St. Julian mineralized zones as listed in Table 2:

Table 2	DUV	Historic	Resource	Calculation	(Cochetas, 19	992)
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Item	<u>Tons</u>	Gold (opt)	Silver (opt)	<u>Copper %</u>	<b>Remarks</b>
1	7,831.365	0.032	0.30	-	Gold only
2	15,723,033	0.032	0.30	0.274	Gold-Copper
3	5,293,103	-	0.25	0.338	Copper only
Total	28,847,501	753,739 ozs	8,389,595 ozs	60,782 tons	

The Pegasus historic inferred resource is based on a cross-sectional method of calculation with drill hole projections of 60 meters (200 feet) or half the distance to the next drill hole or cross section. In 2008, Tetra Tech calculated a 43-101 inferred resources for the DUV Target Area. This resource is considered historic and not current and is reported in section 17 below. These resources are

considerably lower than those reported for the combined DUV Ridge/St. Julian Target Area by Pegasus (Cochetas 1992 as cited in McCullough 1999).

### 6.3 Historic Production

Historical production from the Emigrant District between 1863 and 1930 has been estimated at about 40,000 ounces of gold (1.2 million grams) most of which was from placer deposits in Emigrant Creek (Table 3). A limited amount of lode claim production (a few hundred ounces) is documented from the St. Julian Mine. For most other mines and prospects in the Emigrant District the amount of production is generally unknown and/or small.

### **Table 3 Recorded Production from the Emigrant Mining District**

Commodity	Quantity by Deposit Type		
	Placer	Bedrock or Lode Deposit	
Gold (Au)	39,594 oz Gold	438 oz Gold	
Silver (Ag)	2,292 oz Silver	942 oz Silver	
Copper (Cu)	318 lb. Copper		
Lead (Pb)	954 lb. Lead		
Zinc (Zn)	318 lb. Zinc		

### Figure 6 Photograph of the St Julian Mill 1906



### 7.0 GEOLOGIC SETTING

### 7.1 Regional Geology

The Emigrant Mining District is located in the western part of the Beartooth uplift, a broad faultbounded structural block. The Beartooth uplift is divided into the North Snowy, South Snowy and Bear tooth Plateau structural blocks. Precambrian crystalline rocks are exposed on most of the Beartooth uplift except for the southwestern and southern parts where Paleozoic sedimentary rocks and Tertiary igneous rocks of the Absaroka-Gallatin volcanic province overlie them.

The Absaroka-Gallatin volcanic field is composed of a sequence of mostly andesitic flows and vent breccias followed by a younger, slightly more silica rich phase of dacite flows, extrusive tuffs and sills. The field covers an area of over 23,000 square kilometers (9,000 Sq. Miles) and is the largest Eocene volcanic field in North America. It follows a northwest trending arcuate pattern for over 250 kilometers (160 miles) from west central Wyoming north to Livingstone, Montana and reaches a thickness of 1,980 meters (6500 feet). The volcanics date from 45 to 55 million years old and are associated with major uplift of the region but also provide post-mineral cover for Larimide age and older mineralization. Age relations within the volcanic field indicate that the volcanic rocks become progressively younger toward the south. A multiphase Tertiary intrusive complex with various silica rich intrusive types ranging from granite to quartz monzonite porphyry has been emplaced into the slightly older volcanic rocks in the Emigrant Peak and Six Mile Creek areas. Extensive deposits of glacial derived talus and alluvium conceal areas on both slopes and canyons.

The Emigrant Mining District is centered on one of several intrusive centers localized along the northwest-trending Cooke City Structural zone, which is a prominent structural lineament, comprised of a reactivated, deep-seated, Precambrian basement faults and shear zones (Foose and others 1961; Elliot and others 1992) (Figure 8). This structural zone is one of two parallel belts, 24 to 56 kilometers (15 to 35 miles) apart, that typically separates Precambrian crystalline rocks of the Beartooth Plateau from younger intrusive, volcanic and sedimentary rocks to the north and south of the uplift (Figure 7). The northwest-trending alignment of Tertiary intrusive masses identifies the Cooke City Structural Zone as a major crustal lineament that served as a conduit for local emplacement of rock associated with these volcanic and intrusive centers. Folding and faulting along this zone have been reactivated in numerous episodes throughout geologic time.

Five historic mining districts genetically related to these intrusive centers and numerous other intrusive complexes have been identified over distances of at least 120 kilometers (75 miles) from northwestern Wyoming to south-central Montana along this trend. The mining districts include: Sunlight Basin, New World, Horseshoe, Cowles (or Independence) and Emigrant-Mill Creek. The Archean gold deposits of the Mineral Hill Mine in the Jardine District also occur along this trend and the Stillwater and East Boulder platinum and palladium mines occur along the north bounding structure of the Beartooth Uplift (plateau). As can be seen from Figure 7 the structural trend producing alignment of Tertiary aged intrusive centers continues to the west of the Paradise Valley.

The Emigrant-Mill Creek Districts occur along this structural trend at its intersection with the Mill Creek fault which is the locus for the emplacement of the Emigrant Stock that appears to be spatially, genetically and temporally related to the deposits in these Districts.



### Figure 7 Tertiary Intrusives and Mining Districts, Cooke City Structural zone

### 7.2 Local Geology

The Emigrant Mining District is located within a possible caldera setting with an exposed shallowly emplaced resurgent intrusive core centered near Emigrant Peak. This stock sized intrusive of Emigrant Peak has compositionally zoned phases some of which radiate outward from the central core as dykes and possibly sills. A large disseminated sulfide system and associated vein deposits occur within and around the Emigrant stock and is associated with mineralized shear and fracture breccias in an alteration halo in the volcanic rocks but centered on the intrusive stock. The outwardly decreasing halo of silicification and sulfidization extends throughout the area around the stock for about ten square miles.

The most widely occurring rock on the surface of the area east of Emigrant Peak is a porphyritic dacite. Associated with and mostly overlying the dacite are a sequence of dacitic breccias and crystal tuffs. Further to the east past Arrastra Ridge, andesite and basalt autobreccias were found to underlie both of these units and are thought to represent a volcanic vent facies.

The Emigrant Stock is intrusive to the dacitic volcanics and forms the core of the Emigrant District and is also the center for alteration and mineralization (Figure 9). The stock is elongate northwest-southeast and is about 6 kilometers (4 miles) wide and 11 kilometers (7 miles) long (Figures 8 and 9). Emplacement of the Emigrant stock appears to be related to the intersection of the Cooke City structural zone with the Mill Creek fault zone (that occurs in the vicinity of the junction of Emigrant Creek and the East Fork of Emigrant Creek) and this may have been one of the zones of weakness that was the locus for the extrusion of the Gallatin—Absaroka volcanics and later the emplacement of the Emigrant Stock. Subsequent ground preparation events produced the fracture systems and breccia pipe structures that became the loci for later mineralizing fluids that formed the mineral deposits of the district.

The Emigrant Stock is a multi-phased sub volcanic dacite porphyry intrusive complex that exhibits four distinct intrusive phases (Harrison 1990, and Pegasus 1993) and the distribution of these phases was mapped in some detail by Pegasus Gold Corporation during their exploration in the early 1990s (Pegasus 1993). These intrusive phases consist of:

- 1) An older dacite intrusive occurring along the lower slopes of Emigrant Creek consists of several hundred feet of a sparsely porphyritic dacitic intrusive sill with lesser amounts of dacitic autobreccias and ash fall tuff (Pegasus 1993);
- 2) An intermediate age unit of dacitic breccias consisting of a mix of crystal lithic tuffs, intrusive autobreccias and flow breccias. The breccias are generally porphyritic, clast to matrix supported, poorly sorted, and have angular to sub-rounded clasts (Pegasus 1993);
- 3) Younger dacite porphyry intrusive stock that typically contains more feldspar and biotite as phenocrysts than the dacitic tuff breccia and contains abundant rounded "quartz eyes", this variety of porphyry is typically associated spatially with mineralization and alteration in the District and outcrops along the East Fork of Emigrant Creek (DUV, St. Julian and Allison Tunnel areas); and
- 4) An even younger quartz monzonite (or granodiorite) porphyry stock that intrudes the dacite porphyry (Emigrant Stock) and is associated with northwesterly-trending dykes and sills (Harrison 1990). Drilling by Duval and Pegasus indicate that this intrusive extends to depths of

90 to 150 meters (300 to 500 feet) and more in the DUV and St. Julian areas, (Pegasus 1993) and may underlie other breccia pipe hosts for mineralization elsewhere in the District.

One additional important intrusive sequence in the District is a series of andesite to basalt autobreccias and intrusions that are present east of Arrastra Ridge (northeast of the DUV and St. Julian areas) where they underlie the dacite porphyries and breccias (numbers 1 and 2 described above). Similar mafic to intermediate rocks, many of which appear to be vent breccias, extend in an east-west elongate ellipsoid ring around the central zone of mineralization in the District. These older andesitic rocks are in turn surrounded by a rim of dacite intrusives (and extrusive equivalents?) that is approximately three kilometers (two miles) wide (see Plate 1, in Elliot and others USGS Bulletin 1505, 1983; and Figure 8). These relationships suggest that the emplacement of the Emigrant Stock and the main area of mineralization at Emigrant occupy the resurgent core of an older caldera, and that these mafic units form the center of a cone of an early phase of the volcanic system (Pegasus 1993).

Bulk tonnage targets for gold and copper mineralization occur in structural zones, breccia pipes and favorable units within and adjacent to the intrusive centers. Numerous breccia pipes or stockwork zones occur in the district some of which have been cited as volcano-tectonic structures. The hydrothermal breccias and associated intrusive dykes exhibit pervasive quartz-sericite- pyrite with supergene argillic alteration. The ore minerals vary with zoning but include gold, molybdenite, chalcopyrite, chalcocite, covellite, sphalerite, and galena in a variable gangue of quartz - pyrite veinlets cementing clasts of silicified and sericite altered wall rock often with disseminated sulfides. District wide alteration zoning is reported as classic, centered on a potassic altered intrusive and radiating through phyllic and silica flooded intrusive and dacite to a propyllitic alteration halo. Mineralization follows alteration zoning from a central molybdenite differentiated core through copper and gold halos to peripheral silver-lead-zinc mineralization.

Within the Emigrant Project area, the most important mineral occurrences are in the Tertiary igneous rocks, principally of rhyodacite composition. Both disseminated and vein type occurrences are found in the Emigrant Sock and associated with shear and fracture systems in the alteration halo around the stock. Other deposits maybe associated with major structural lineaments which cross the region. At least 23 bedrock mineral occurrences have been identified with a 5 kilometer (3 mile) radius of the old St. Julian mine site, from the north fork Six Mile creek in the south west, to Arrastra Creek in the Mill Creek drainage to the east. Gold, silver , copper lead, zinc are all dominant metals within these occurrences which form a mineralized belt approximately 11 kilometers (7 miles) long and approximately 0.8 km (0.5 miles wide). The Emigrant project covers the main core of this area.

### Figure 8 Regional Geology Map





Figure 9 Major Tectonic Features of the Bear Tooth Range and Adjacent Areas

Structurally, the Emigrant project is located within a caldera complex, which is defined by the limits of the dacitic intrusive shown by Elliot and others (US Geological Survey Bulletin 1505, 1983). Elliot and others (1983) also show a thick sequence of vent facies andesite breccias and flows in the north-central part of the caldera complex. These older andesites appear to be in fault contact with the dacitic sills and breccias in the area east of the Base Metal breccia pipe. This is interpreted as the bounding fault for the central dacites which host the gold–copper-molybdenum mineralization centered on the St Julian, Allison, DUV and Emigrant breccia pipes. Dacite sills and dykes extend out into the thick pile

of andesites north of the fault suggesting that the main fault movement may have postdated emplacement of the dacite breccias and tuffs but predated intrusion of at least the last phases of the dacite sills. This fault system shows evidence of reactivation and may have controlled emplacement of the Base Metal, Emigrant and possibly the Peter Pear breccia pipes.

The long, continuous straight nature of Emigrant Creek on air photos suggest that a major fault may occur along the valley system. At close to right angles to the Emigrant Creek fault are two other likely faults that occur along the axes of the East Fork of Emigrant Creek and Huckleberry Gulch. The intersection of the Emigrant Creek fault with the East Fork Emigrant Creek fault appears to have been the center of a zone of weakness that localized the intrusion of the Emigrant stock. Later-stage quartz monzonite dykes oriented north-northwest are likely developed along zones of weakness parallel to the main Emigrant Creek fault.

The complex and poorly understood volcanic stratigraphy does not yet permit a reliable structural, interpretation of the DUV and St. Julian areas. However, it is likely that a fault with movement predates emplacement of the Emigrant Stock is present along the northeast trending lower portion of the east Fork of Emigrant Creek. A similar fault is probably also present along the northwest trending upper part of the East Fork.

Hydrothermal breccia veins and intensely altered quartz porphyry dykes are present in the southeastern part of the St Julian Area. The Allison and DUV breccia pipes are elongate and aligned east-northeast. Steeply dipping mineralized quartz porphyry dykes with northwest strikes are common in the area of the DUV breccia pipe and east-northeast and north to northwest striking intrusives are found in the area of the Allison pipe. A mineralized and strongly altered zone with steep northwesterly dip occurs on the ridge between Emigrant and Six Mile Creeks approximately 500 feet northwest of peak 9462. This zone projects to the northeast under talus and lines up with the northeast trend of the lower portion of the East Fork of Emigrant Creek. This orientation is similar to the elongation and alignment of the Allison and DUV breccia pipes, and the elongation of the Peter Pear breccia pipe farther to the north.

# 8.0 Deposit Types

In general, the mineralization type present in the Emigrant District Project may be classed in a porphyry Cu-Mo-Au category (Cox and Singer 1988). In 1999, the US Geological Survey prepared a report entitled "Giant Porphyry-related metal camps of the world - a data base" (Mutschler and others 1999). The Emigrant District is included as one among only 234 other identified world-wide mining camps with giant porphyry systems. The tonnage and grade values calculated for the Emigrant District (Table 4) result from the methodology of resource calculations used in the report (Mutschler and others 1999), which applied guidelines that consistently reported the largest tonnage of resource at the lowest cut-off grade. Resource numbers used by Mutschler and others (1999) for the Emigrant deposit are predominantly derived from a U.S. Bureau of Mines report by Johnson and others (1993) on mineral deposits of the Gallatin National Forest. The resource estimates generated in the Johnson and others report (1993) were generated principally on assay values from a considerable amount of surface and underground sampling, and calculated geological volumes of mineralized material. Thus the resource numbers calculated by Johnson and others (1993) and Mutschler and others (1999) are necessarily considered inferred resources base principally on geologic evidence and limited sampling. The resource estimate cannot be substantiated at this time, and regardless the estimate is not compliant with ore reserve reporting standards of the Canadian Institute of Mining (CIM). This data

is presented here only to point out the extremely large size and potential of the mineralized porphyry system in the Emigrant District.

Commodity	Quantity	Average Grade	
Ore	181,519,605	Not Applicable	
Gold (Au)	2, 869,184 oz Gold	0.014 oz Gold	
Silver (Ag)	17,742,803 oz Silver	0.089 oz Silver	
Copper (Cu)	963,580,800 lb. Copper	0.26%	
Lead (Pb)	6,218,240 lb. Lead	Not Reported	
Zinc (Zn)	13,440,000 lb. Zinc	Not Reported	

### Table 4 : Hypothetical Cu-Au-Ag porphyry/ Breccia Pipe Hosted Resource

From Mutschler and others 1999

Within the Emigrant District, the most significant mineral occurrences are hosted within or associated with the Tertiary age dacite porphyry of the Emigrant Stock or the somewhat later quartz monzonite porphyry intrusive, as sulfide disseminations, stockworks and vein-type mineralization, but more importantly as concentrations in breccia pipe-hosted deposits. Observed ore minerals include: native gold, chalcopyrite, chalcocite, covellite, molybdenite sphalerite and galena. Intense quart-sericite-pyrite+/- clay, +1- adularia, +1- carbonate alteration is present in and around the breccia pipes as well as the quartz monzonite and quartz monzonite porphyry dykes associated with the late-stage stock. The size of the regional alteration zone of silicification with pyrite extends over an area of 23-25 square kilometers (9 to 10 square miles) and the pyrite content generally decreases outward from the intensely altered quartz-sericite-pyrite intrusive centers.

Vein, and shear / fault zone controlled mineralization is also found hosted in volcanic rock in the alteration halo around the stock. Structurally controlled vein-type or structurally localized mineralization occurring both within and outside of the stock typically occurs as veins of quartz or silicified shear zones that commonly contain sulfides of pyrite, chalcopyrite and molybdenite.

Historically mined deposits of the Emigrant District occur principally within the Emigrant Creek / Mill Creek drainages and have been described by Reed (1950), Basler (1965, 1966) and Fox (1960). These deposits are spatially and probably genetically related to and centered about the dacite porphyry core of the Emigrant Stock in upper Emigrant Gulch. Intense pyritic alteration is widespread along the upper portion of Emigrant Creek (Figures 8 and 9) and alteration decreases in intensity outward from the stock. In addition, within the Emigrant District area an alignment of northeast-trending faults and coincident mineral deposits suggest a strong structural control of mineralization. At least 23 bedrock mineral occurrences have been identified within a 5 kilometer (3 mile) radius of the Emigrant stock. These occurrences form a northeast-trending mineralized belt approximately 11 kilometers (7 miles) long and 0.8 kilometers (0.5 miles) wide. The Lucky Minerals property are centered on the southwest end of this tend (Figure 4).

### 9.0 Mineralization

Mineralization in the Emigrant District is associated with the multiphase dacite porphyry of the Emigrant stock and smaller associated late stage quartz monzonite porphyries. Alteration associated with these stocks exhibit a classical pattern of metal zoning typically associated with the coper-molybdenum mineralized porphyry systems. Metal distribution around the Emigrant stock is zoned with a core of molybdenum with minor copper, a zone of copper-gold and then an outer zone of copper-silver-base metals.

Within the Emigrant District, mineral deposits occur as sulfide disseminations, stockwork and veintype mineralization that show pervasive regional alteration in quartz-sericite-pyrite and argillically altered zones associated with the Emigrant Stock and quart monzonite porphyry. The size of the regional alteration zone of silicification with pyrite extends over an area of 23 to 25 square kilometers (9 to 10 square miles) and the pyrite content generally decreases outward from the intensely altered quartz sericite-pyrite intrusive centers. More importantly, mineral occurrences exist as gold-silvercopper-molybdenum-rich concentrations in breccia pipe-hosted deposits. Observed ore minerals include native gold, chalcopyrite, chalcocite, covellite, molybdenite, sphalerite and galena. Figure 10 shows some of the more significant showings in the district.

Vein, and shear/fault zone controlled mineralization is also found hosted in volcanic rock in the alteration halo around the stock. Structurally controlled vein-type or structurally localized mineralization occurring both within and outside of the stock typically occurs as veins of quartz or silicified shear zones that commonly contain sulfides of pyrite, chalcopyrite and molybdenite.

Exploration of the Emigrant District properties will therefore focus on two types of mineralized targets including:

- 1) Breccia pipe and structurally hosted deposits that appear to ne localized around the contact area of the Emigrant Stock dacite porphyry and occur in conjunction with quartz-sericite-pyrite alteration spatially related to areas of emplacement of late stage quartz monzonite.
- 2) Intrusive stocks and dykes. Examples of these types of deposit areas include the St. Julian, DUV Ridge, Allison, Great Eastern, Montana Queen, Huckleberry and Peter Pear areas that occur as breccia pipes and spatially associated cross cutting shear zones,
- 3) Classic gold-copper-molybdenum porphyry systems such as those located on the east flank of Emigrant Peak and in the Emigrant Creek area (both of which are supported by alteration patterns, mineralization style and induced polarization geophysical surveys as described below).


Figure 10 Significant showings within the Emigrant-Mill Creek Mining Districts.

### Target Zones

The following describes the historic exploration, the author has used descriptions from previous workers to build a picture of the mineralization in each of the target zones.

Please note the following in regard to the disclosed targets.

- 1. The targets and the potential quantity and grade are conceptual in nature as there had been insufficient exploration work done to define Mineral Resources as defined by NI 43-101, and it is uncertain if further exploration would result in establishing the existence of Mineral Resources.
- 2. Copper equivalent (Cu. Eq.) is based on the following metal prices (all in US\$): Copper \$3.00/lb, Molybdenum Trioxide (\$8/lb) (\$12 per molybdenum metal (Mo)) ,, Silver \$20/ounce and Gold \$1250/ounce.

Cu. Equiv. = (Cu% \* 20\* Cu) + ((MoS2% \* 20\* (1.5/1.6681)\* (MoO3)) + (Ag\* Ag) + (Au\* Au) / (copper) \* 20 + (Au\* Au) / (Au) / (Au\* Au) / (Au\* Au) / (Au\* Au) / (Au\* A

Figure 11 shows a summary of the various targets explored to data.

#### St Julian

The St Julian Target zone was first identified in 1885 and has a history of sporadic production up until 1903. It is estimated that 395 ounces of gold were produced between 1901 and 1903. The area contains the major mine workings in the Emigrant Mining district. The St Julian is covered by 9 patented mineral claims under option to Lucky Minerals. Underground workings at the St Julian target consisted of twelve adits (total length about 320 meters (1,060 feet)) and a three shafts.

Mineralization is exposed on the north–east facing slope of St Julian Mountain (Figure 12), is contained within a north-easterly trending structural zone referred to as the St Julian Zone. Within this zone, which trends at 020 degrees, are numerous high angle faults and shears which sub-parallel the general orientation, suggesting a cognate fracture system. Other shears crosscut within the zone in a more east-northeasterly orientation. Economic minerals have replaced sheared volcanic rock, mainly dacite; hydrothermal fissure-filling is minor. A coarse multi-stage breccia phase is present within the mineralized zone which shows moderate to strong whitish argillic alteration with possible silica overprinting. This has been termed an undifferentiated breccia as it appears to be a hydrothermal brecciation of an original rhyodacite autobreccias. Large angular fragments up to 3cm show remnant autobreccias textures, and minor flow textures. The breccia commonly has an aphanitic siliceous matrix, however certain area a matrix of coarse, massive pyrite has been observed.

This was identified in place above Adit B and in the talus/dump float material between adits no. 1 and No.3. Pyrite constituted up to 25% of some of this breccia material, where it is found fresh. On the weathered surface, the pyrite appears to have undergone retrograde alteration to marcasite, giving the host rock an overall grayish green color, with limonite staining. Pyrite occurs throughout the St Julian Zone as fine disseminations and irregular masses from trace to 2%, producing an orange brown limonite oxidation product on the weathered rock.



Area #1 – ST JULIAN Au Fracture Zone (27 holes drilled) At least 400m \*1250m \*500m (W\*L\*D) 1992 highlights (Au assays only):

- 67.0 meters grading 1.93 g/t
- 54.6 meters grading 1.81 g/t
- 71.0 meters grading 1.06 g/t

#### Area #2 – DUV Cu/Au Breccia Zone (33 holes drilled) 900m\*950m\*500m (W\*L\*D)

1990 highlights (Au assays only):

- 132.3 meters grading 2.12 g/t
- 87.8 meters grading 1.05 g/t
- 50.3 meters grading 114.37 g/t

•Breccia pipe crosscuts volcanic stratigraphy and has never been followed to depth.

# Area #3 - ALLISON The Core: Mo Breccia ( 5 holes drilled)

•at least 400m\*1000m\*560m (W\*L\*D) •Holes showed excellent hydrothermal breccia w/ Mo •Adit contained 75k tons @ 0.3% Mo (USGS1990) Area #4 – PETER PEAR Mo/Cu/Au Breccia Pipe ( 2 holes drilled) Size Unknown

Lead-Zinc bearing veins with silver noted in hole indicating on outer edges of system

#### Area #5 – BASE METAL Cu/Ag/Pb/Zn Breccia (15 holes drilled) 100m\*180m\*480m (W\*L\*D) 1970 highlights (Pb/Zn not assayed):

- 102 meters 0.44% Cu, 35.1 gms Ag/T
- 88 meters 0.43% Cu, 33.9 gms Ag/T
- 90 meters 0.45% Cu, 44.9 gms Ag/T

1992 hole: 178 meters well-mineralized hydrothermal breccia w/ high base metal content, only Au assayed.

#### Area #6 – EMIGRANT Cu Breccia (1 hole drilled)

1200m\*1300m\*800m (W\*L\*D) Large extensive IP geophysical anomaly and alteration zone Higher up than Area #5 w/ significant Cu-Au at surface Appears to be in Cu-Au zone. Major target undrilled, single hole located to on eastern edge of zone. Sampling by Anderson 1990 returned assays ranging from 0.005 oz/t (90.17 gms/T) gold up to 0.890 oz/t (30.51 gms/T) within the No.3 Adit. Within one section of the adit, a zone 12 meters (40 feet) long averages 0.039 oz/t (1.34 gms/T) gold over 10 samples. The section begins approximately 20 meters (65.5 feet) in from the portal. Several other narrow gold bearing intersections are present. Base metals are generally low and gold values are associated with narrow fracture, gouge zones or pyritic veinlets.

The No.1 adit is 25 meters (82 feet) long and is upslope and west of the No. 3 Adit. Eleven samples were taken by Anderson (1990) from the adit ranging in value from less than 0.005 oz/t (0.17 gms/T) gold to 0.07 oz/t (2.4 gms/T) gold. All base metal and silver values are less than 0.01 oz/t (0.34 gms/T). The face of the adit is reported to expose a breccia with 15 to 20% pyrite within the matric. A 0.3 meter sample ran 0.059 oz/t (2.20 gms/T) gold.

Near the top of the hill within the St. Julian Zone are two inclined, collapsed shafts, one of which is reported to be 44.5 meters (146 feet) deep. Rock in the dump maybe representative of the material at depth. The dump material consists dominantly of variably altered rhyodacite host rock, strongly cut by veinlets of aphanitic silica to white crystalline quartz. The veins often exhibit open space voids lined with drussy quartz with occasional pyrite. Many fracture planes host fine quartz with up to 30% limonite/hematite after pyrite. Native gold was observed on the dump as very fine (<1 mm) specks with highly weathered limonite and quartz.

Sampling completed in 1989 on the dump material ranged from 0.006 oz/ton (0.21 gms/T) up to 1.66 oz/ton (56.91 gms/T) the highest gold grade sample also had 2.54 oz/ton (87.08 gms/T) silver and 1,000 ppm bismuth. (Sandhurst 1990). A sample on the ridge top was collected from a small pit of caved shaft assayed 0.019 oz/t (0.65 gms/T) gold, 2..07 oz/t (70.97 gms/T) silver and 2500 ppm lead.

A distinct topographic lineament trends north westerly from near the summit of St Julian Mountain down to the valley bottom of East Fork Emigrant Creek. This has been called the "Chute" as it is a linear depression filled with talus that acts as an avalanche chute in later winter and spring. An accessible adit near the top of the chute is collared within flow-banded rhyodacite porphyry, however downslope, at an elevation of 8,700 feet is outcrop of autobreccias rhyodacite with up to 10% pyrite matrix. Moderate argillic alteration and silicification are common. Sampling by Anderson 1990 returned decent gold values from the Chute Adit, ranging in value from 0.023 z/ton (0.79 gms/T) to 0.073 oz/t (2.5 gms/T) gold. A composite sample over 3 meters, in highly weathered altered and limonite/hematite stained rock with narrow (0.5cm) pyrite veinlets, assayed 0.39 oz/t (13.37 gms/T) gold, 0.24 oz/t (8.23 gms/T) silver, 14,500 ppm lead, and 620 ppm zinc.

Along the upper switch-back road which leads to the No. 3 adit and the "Blue Tunnel", the rhyodacite volcanics dominate, with flow-banded and auto brecciated phases. Narrow felsic dykes (1m or less) are present but rare. The waste dump beyond the "Blue Tunnel" portal consist of fine fragmental pieces of rhyodacite material, moderately limonite weathered. The dump is evenly covered in a layer of very fine talc-like clay up to 15 cm. The clay is light grey colored with a faint blue tinge, indicating that it probably originated from a significant fault at the end of the adit. Assays from the area ranged from trace up to 0.081 oz/t (2.78 gms/T) gold.



Figure 12 View looking South West at St Julian Target.

of interest, upslope from Duval drill hole MED-3 (Figure 13), a series of collapsed adits within quartz monzonite intrusive rock, and moderately altered rhyodacite autobreccias, representing a contact zone with the Emigrant Stock can be found. Gold mineralization is weak and low grade less than 0.006 oz/t (0.21 gms/T) in five sample. However, as one would expect, copper and molybdenum values are high, ranging from 65 ppm to 1950 ppm copper and 115 ppm to 970 ppm molybdenum.

Flow-banded rhyolite was noted in some dumps. This rock type was also seen at important mineral deposits elsewhere in the study area. Hydrothermal alteration, perhaps an indicator of economic mineralization, has introduced secondary pyrite, sericite, and silica over an area of several thousand square feet. Because of the degree of alteration, the original rock composition are difficult to determine in the field. Colors vary from white to brown and black in the altered zone.

However, rocks of possible quartz monzonite composition crop out near the bend of the creek.

Workings to the south east on Huckleberry Gulch are also on a highly sheared zone and this may be the continuation of the St. Julian zone. If true this would double the length of the zone to 1800 meters. The original rock composition in the area is difficult to ascertain due to the wide spread argillic alteration that has destroyed original textures.

A total of 27 holes have been drilled on the St Julian mineralized zone, 5 holes by Duval in 1973 and 22 reverse circulation holes by Pegasus in 1992. Analysis of the drill results indicates potential for a thick zone grading 1 to 2 gms/T gold and 0.15 to 0.3 % copper. Of the 27 holes, 19 intersected significant gold +/- copper mineralization (Table 5).

Examples are: Hole P91S-09 that intersected

67.1 m (220 feet) grading 1.93 gms Au/T (0.056 oz Au/t), 0.10% Cu or 1.32% Cu Equiv.

Hole P91S-10 intersected 56.4 m (185 feet) grading 1.81 gms Au/T (0.053 oz Au/t), 0.12% Cu or 1.26% Cu Equiv.

Hole P91S-11 intersected 74.7 m (245 feet) grading 1.19 gms Au/T (0.035 oz Au/t), 0.10% Cu or 0.81% Cu Equiv.

The drilling and surface sampling by previous workers indicates that at higher elevations the wider overall zone breaks into discrete zones/veins that were mined, lower down a stockwork starts to appear resulting in intersections of interest, which have not been explored. Also of note in the drilling the copper grades are also increasing in the lower areas which confirms the general concept that the main copper-gold zone lies beneath the adits.

3D Modelling by the author reveals that the thickest intersections are at the lowest elevation in what is defined as a zone that is at least 400 meters (1200 feet) wide, at least 900 meters (2700 feet) long and at least 500 meters (1500 feet) deep, zone is wide open at depth and on strike to the South-west, especially towards Huckleberry and Montana Queen targets. The zone appears cutoff to the north-east by a major fault along the Emigrant Creek East Fork. Dimensions represent a target zone of 400 to 600 million tonnes. A target grade of 1-2 g/t Au and 0.10% to 0.3% copper based on the historic drill intercepts and the increasing copper grades with depth is indicated. The cross and longitudinal example sections in Figures 14 and 15 show the vertical extent of the target areas.

The targets and the potential quantity and grade are conceptual in nature as there had been insufficient exploration work done to define Mineral Resources as defined by NI 43-101, and it is uncertain if further exploration would result in establishing the existence of Mineral Resources.

Table 5 Significant Intersection from Drilling at St Julian.											
Hole	From	То	Length	From	То	Length	Au oz/t	Au Gms/T	Cu %	Ag Gms/T	Cu Equiv.
Name	Feet	Feet	Feet	Meters	Meters	Meters	oz/t	Gms/T	%	Gms/T	%
P91S-01	5.00	40.00	35.00	1.52	12.19	10.67	0.030	1.03	0.01	0.08	0.66
P91S-01	85.00	115.00	30.00	25.91	35.05	9.14	0.029	0.99	0.02	0.00	0.64
P91S-02	0.00	15.00	15.00	0.00	4.57	4.57	0.031	1.06	0.01	0.05	0.68
P91S-02	265.00	300.00	35.00	80.77	91.44	10.67	0.023	0.78	0.09	0.07	0.59
P91S-03	335.00	385.00	50.00	102.11	117.35	15.24	0.073	2.49	0.20	0.10	1.78
including	350.00	360.00	10.00	106.68	109.73	3.05	0.336	11.52	0.16	0.12	7.44
P91S-04	115.00	200.00	85.00	35.05	60.96	25.91	0.038	1.32	0.06	0.00	0.89
including	140.00	170.00	30.00	42.67	51.82	9.14	0.096	3.29	0.06	0.04	2.14
including	150.00	165.00	15.00	45.72	50.29	4.57	0.180	6.16	0.07	0.05	3.96
P91S-05	40.00	55.00	15.00	12.19	16.76	4.57	0.161	5.51	0.02	0.07	3.50
P91S-06	95.00	120.00	25.00	28.96	36.58	7.62	0.099	3.40	0.02	0.04	2.17
P91S-06	165.00	205.00	40.00	50.29	62.48	12.19	0.020	0.68	0.12	0.10	0.55
	360.00	385.00	25.00	109.73	117.35	7.62	0.222	7.62	0.10	0.08	4.91
P91S-07	165.00	175.00	10.00	50.29	53.34	3.05	0.029	1.01	0.07	0.16	0.71
P91S-08	10.00	45.00	35.00	3.05	13.72	10.67	0.028	0.97	0.01	0.03	0.63
P91S-09	5.00	225.00	220.00	1.52	68.58	67.06	0.056	1.93	0.10	0.11	1.32
including	95.00	140.00	45.00	28.96	42.67	13.72	0.106	3.64	0.10	0.09	2.40
including	100.00	120.00	20.00	30.48	36.58	6.10	0.169	5.79	0.09	0.12	3.75
including	190.00	225.00	35.00	57.91	68.58	10.67	0.101	3.45	0.10	0.09	2.29
_	215.00	400.00	185.00	65.53	121.92	56.39	0.053	1.81	0.12	0.08	1.26
including	215.00	230.00	15.00	65.53	70.10	4.57	0.088	3.02	0.03	0.04	1.94
including		395.00	80.00	96.01	120.40	24.38	0.073	2.49	0.13	0.12	1.70
including	315.00	340.00	25.00	96.01	103.63	7.62	0.140	4.79	0.13	0.07	3.15
P91S-11	30.00	275.00	245.00	9.14	83.82	74.68	0.035	1.19	0.05	0.08	0.81
including		180.00	30.00	45.72	54.86	9.14		1.78	0.07	0.07	1.20
including		280.00	45.00	71.63	85.34	13.72	0.051	1.73	0.06	0.10	1.15
P91S-12	0.00	20.00	20.00	0.00	6.10	6.10	0.016	0.54	0.01	0.07	0.35
P91S-12	100.00	115.00	15.00	30.48	35.05	4.57	0.021	0.71	0.00	0.03	0.45
P91S-14	105.00	115.00	10.00	32.00	35.05	3.05	0.034	1.18	0.01	0.00	0.75
P92S-15	15.00	25.00	10.00	4.57	7.62	3.05	0.057	1.95	0.01	0.02	1.24
P92S-15	65.00	75.00	10.00	19.81	22.86	3.05	0.116	3.99	0.14	0.16	2.66
	175.00	190.00	15.00	53.34	57.91	4.57	0.027	0.91	0.05	0.04	0.62
	105.00	130.00	25.00	32.00	39.62	7.62	0.010	0.33	0.32	0.27	0.53
including		115.00	5.00	33.53	35.05	1.52	0.027	0.93	0.97	0.82	1.57
P92S-21	85.00	90.00	5.00	25.91	27.43	1.52	0.038	1.30	0.00	0.02	0.83
P92S-21	200.00	220.00	20.00	60.96	67.06	6.10	0.040	1.37	0.10	0.14	0.97
	240.00	255.00	15.00	73.15	77.72	4.57	0.033	1.12	0.02	0.06	0.75
	285.00	300.00	15.00	86.87	91.44	4.57	0.028	0.95	0.04	0.21	0.65

Table 5 Significant Intersection from Drilling at St Julian.

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Figure 13 Emigrant Project – St Julian Drill Hole Location Map.



# Figure 14 Cross Section View St Julian Zone

Figure 15 Long Section View St Julian Zone



#### DUV Target Zone

The DUV Target Zone is a major center of porphyry style alteration in the Emigrant District and is located in the East Fork of Emigrant Creek. Mineralization in DUV Target Area is associated with hydrothermal breccia, strong silicification, and quartz-sericite-pyrite alteration all of which are related to development of the irregularly-shaped DUV breccia pipe. Mineralization also appears to be related to the later-stage quartz monzonite porphyry and quartz monzonite dykes intruded into the dacite porphyry of the Emigrant stock.

Gold mineralization is associated with the breccia pipe as well as with later-stage quartz monzonite and quartz monzonite porphyry dykes. Drilling and mapping by Pegasus in 1991 and 1992 indicate that the Emigrant quartz monzonite stock in the DUV area probably extends at depth in the subsurface from the East Fork of Emigrant Creek to the north of the Allison Tunnel area and probably as far north as the Peter Pear Target Areas described below. The better grades of gold mineralization, including significant drill intercepts > 0.1 opt in several holes, occurs at the intersection between the breccia pipe and a relatively flat-lying to moderately south dipping zone between elevations of 8,100 and 8,800 feet. The relatively flat-lying mineralized zone may represent a boiling zone within and adjacent to the breccia pipe which appears to be steeply dipping. Mineralizing fluids appear to have come up through the breccia pipe and the contact between dacite porphyry and a less porous welded tuff. The projected contact of the dacite porphyry with the overlying welded tuff appears to be particularly favorable for gold deposition. The mineralized copper-gold zone so far as known, ranges to as much as 500 meters (700 feet) in thickness with a horizontal expression approximating 750 meters x 800 meters (800 feet by 1,200 feet). Within this zone, gold mineralization with associated copper, with a tenor of greater 0.03 opt occurs in drill intercepts as much as 132 meters (434 feet) thick.

In 1971, Duval Corporation, Inc. contracted with Geoterrex, Ltd. Inc. to conduct Induced Polarization geophysical surveys along two crossing lines, each more than 1.5 miles long and centered on the junction of Emigrant Creek / East Emigrant Creek center of hydrothermal alteration. The locations of the geophysical lines are shown on Figure 26. In 2007, NewEdge Gold contracted with Carlson Geophysics of Missoula Montana to reinterpret the historical Induced Polarization surveys and refine the Induced Polarization / Resistivity data that was collected in 1971 using more advanced computer techniques than were available at the time the data were collected. The reinterpretation resulted in extremely high chargeability anomalies that likely indicate sulfides and associated mineralization in the survey area and are areas to be focused on for mineral exploration. A southwest-northeast oriented Line (Line #1) shows a very high chargeability anomaly over the upper East Fork of Emigrant Creek in the vicinity of the DUV and St. Julian Target Areas. A north-south oriented Line (Line #2) also shows two very high chargeability anomalies, one is located east of Emigrant Creek and is approximately centered between the Allison Tunnel and Great Eastern breccia pipes. Thus the surveys identify known and new target areas in both the Emigrant creek and East Fork of Emigrant Creek areas.

A single adit known as Iron King or DUV adit was also driven into highly altered, pyritized felsic volcanic autobreccias and porphyry. Sericite and argillic alteration are dominant with lesser silicification. From 5 to 15% pyrite is ubiquitously diffused through the exposures on the adit walls. Many narrow (less than 1cm wide) veinlets consisting of pyrite and/or marcasite. Near the portal the aidt area earthy blueish crusts of hydrous copper sulphate, formed by leaching and precipitations. The

Lucky Minerals Inc.

# Figure 16 View Looking North- East at DUV target



Geologic Systems Ltd.

Initial 43.5 meters (142.5 feet) of the DUV adit has an average grade of 0.035 oz/t (1.2 gms/T) gold and 0.16 oz/t (5.49 gms/T) silver, coper values were not reported.

In 1973 Duval drilled 3 holes in to the area, in 1990, Kennecott drilled six (6) holes into the zone. Between 1991 and 1992 Pegasus drilled 27 core holes and 4 RC holes into the zone.

Analysis of the drill results indicates a large breccia pipe has crosscut the stratigraphy with mineralizing fluids moving through the near vertical pipe and spreading out along the dip plane of the stratigraphy in a relatively flat zone, where the breccia pipe has intersected a more impervious overlying tuff units., Grades drop the further one is away for the center pipe. There is potential for a thick mineralized zone, in both the vertical and horizontal dimensions, grading 1 to 2 gms/T gold and 0.15 to 0.3 % copper.

Also of note were two 1.5 meter (5 foot) high grade intersections of 203.9 gms/T (12.1 oz/t) gold and 85.72 gms/T (2.5 oz/t) gold which indicate the potential for better grade. However no follow-up drilling has been completed to delineate the size and orientation of the high grade zone.

Of the 40 drill holes completed, 33 intersected significant gold +/- copper mineralization. Table 7 lists the significant intersections.

Examples are:

Hole E90-01 that intersected 87.8 m (288 feet) grading 1.05 gms Au/T (0.031 oz Au/t), 0.31% Cu or 1.19% Cu Equiv.

Hole P91D-03 intersected 132.3 m (434 feet) grading 2.12 gms Au/T (0.062 oz Au/t), 0.13% Cu or 1.47% Cu Equiv.

Hole P91D-10 intersected 50.3 m (165 feet) grading 14.37 gms Au/T (0.419 oz Au/t), 0.03% Cu or 9.12% Cu Equiv. Including 7.5 m (25 feet) grading 88.39 gms Au/T (2.578 oz Au/t), 0.01% Cu or 55.89% Cu Equiv.

In 1992, Cochetas for Pegasus calculated a historic drill inferred geological resource estimate for the zone based on the drill results. Table 6 summarizes the calculation of the resource.

Item	Tons	<u>Gold (opt)</u>	Silver (opt)	Copper %	Remarks
1	7,831.365	0.032	0.30	-	Gold only
2	15,723,033	0.032	0.30	0.274	Gold-Copper
3	5,293,103	-	0.25	0.338	Copper only
Total	28,847,501	753,739 ozs	8,389,595 ozs	60,782 tons	

Lucky Minerals Inc.

# Figure 17 DUV Drill Hole Locations



Geologic Systems Ltd.

	Table 7 Significant Intersection from Drilling at DUV.											
Hole	From	То	Length	From	То	Length	Au	Au	Cu %	Ag	Cu Equiv.	
Name	Feet	Feet	Feet	Meters	Meters	Meters	oz/t	Gms/T	%	Gms/T	%	
E90-01	7.00	295.00	288.00	2.13	89.92	87.78	0.031	1.05	0.31	17.66	1.19	
including	10.00	135.00	125.00	3.05	41.15	38.10	0.048	1.65	0.17	18.25	1.42	
or	115.00	295.00	180.00	35.05	89.92	54.86	0.021	0.72	0.45	18.94	1.15	
E90-02	200.00	210.00	10.00	60.96	64.01	3.05	0.047	1.61	0.02	5.65	1.11	
E90-02	240.00	553.00	313.00	73.15	168.55	95.40	0.006	0.22	0.28	7.61	0.57	
including	345.00	475.00	130.00	105.16	144.78	39.62	0.010	0.33	0.37	6.79	0.79	
E90-02	240.00	475.00	235.00	73.15	144.78	71.63	0.008	0.27	0.28	6.79	0.61	
E90-03	230.00	305.00	75.00	70.10	92.96	22.86	0.007	0.23	0.23	8.39	0.49	
E90-03	395.00	405.00	10.00	120.40	123.44	11.00	0.084	2.90	0.34	9.25	2.32	
E90-04	105.00	130.00	25.00	32.00	39.62	7.62	0.044	1.52	0.09	9.22	1.15	
E90-04	185.00	250.00	65.00	56.39	76.20	19.81	0.009	0.30	0.28	10.59	0.59	
E90-04	280.00	295.00	15.00	85.34	89.92	4.57	0.007	0.23	0.33	8.93	0.57	
E90-04	315.00	425.00	110.00	96.01	129.54	33.53	0.059	2.03	0.26	10.82	1.86	
E90-05	30.00	50.00	20.00	9.14	15.24	6.10	0.027	0.93	0.01	4.00	0.63	
E90-06	4.00	150.00	146.00	1.22	45.72	44.50	0.039	1.35	0.04	13.78	1.07	
E90-06	245.00	260.00	15.00	74.68	79.25	4.57	0.030	1.02	0.00	4.67	0.70	
P91D-01	10.00	20.00	10.00	3.05	6.10	3.05	0.008	0.27	0.34	0.18	0.51	
P91D-01	45.00	60.00	15.00	13.72	18.29	4.57	0.071	2.42	0.00	0.15	1.54	
P91D-01	175.00	380.00	205.00	53.34	115.82	62.48	0.040	1.37	0.13	0.37	1.00	
including	175.00	235.00	60.00	53.34	71.63	18.29	0.102	3.51	0.09	0.77	2.32	
P91D-01	320.00	499.00	179.00	97.54	152.10	54.56	0.010	0.34	0.25	0.30	0.47	
P91D-02	170.00	507.00	337.00	51.82	154.53	102.72	0.019	0.65	0.33	0.38	0.74	
including	170.00	225.00	55.00	51.82	68.58	16.76	0.045	1.55	0.05	0.25	1.04	
including	245.00	270.00	25.00	74.68	82.30	7.62	0.029	1.01	0.22	0.33	0.86	
including	310.00	507.00	197.00	94.49	154.53	60.05	0.014	0.48	0.49	0.47	0.79	
including	330.00	475.00	145.00	100.58	144.78	44.20	0.017	0.58	0.54	0.53	0.91	
including	330.00	405.00	75.00	100.58	123.44	22.86	0.025	0.86	0.80	0.80	1.35	
P91D-03	175.00	609.00	434.00	53.34	185.62	132.28	0.062	2.12	0.13	0.28	1.47	
including	240.00	609.00	369.00	73.15	185.62	112.47	0.072	2.46	0.14	0.31	1.70	
including	485.00	609.00	124.00	147.83	185.62	37.80	0.197	6.76	0.21	0.57	4.48	
including	515.00	520.00	5.00	156.97	158.50	1.52	1.170	40.11	0.30	0.55	25.66	
including	550.00	555.00	5.00	167.64	169.16	1.52	2.340	80.23	0.38	4.05	51.12	
P91D-04	530.00	535.00	5.00	161.54	163.07	1.52	0.030	1.03	0.01	0.10	0.66	
P91D-05	165.00	450.00	285.00	50.29	137.16	86.87	0.009	0.31	0.23	0.23	0.43	
including	165.00	170.00	5.00	50.29	51.82	1.52	0.151	5.18	0.11	1.96	3.40	
including	180.00	290.00	110.00	54.86	88.39	33.53	0.013	0.43	0.40	0.29	0.67	
including	215.00	225.00	10.00	65.53	68.58	3.05	0.077	2.64	1.03	1.23	2.71	

	Tab	ole 7 Sig	nificant I	ntersecti	on from	Drilling	at DUV	(contd)	).		
Hole	From	То	Length	From	То	Length	Au	Au	Cu %	Ag	Cu Equiv.
Name	Feet	Feet	Feet	Meters	Meters	Meters	oz/t	Gms/T	%	Gms/T	%
P91D-06	135.00	555.00	420.00	41.15	169.16	128.02	0.006	0.22	0.15	0.07	0.29
including	150.00	155.00	5.00	45.72	47.24	1.52	0.328	11.25	0.54	0.41	7.65
P91D-07	125.00	490.00	365.00	38.10	149.35	111.25	0.016	0.54	0.13	0.12	0.47
including	125.00	155.00	30.00	38.10	47.24	9.14	0.021	0.73	0.22	0.15	0.68
including	130.00	135.00	5.00	39.62	41.15	1.52	0.107	3.67	0.41	0.50	2.73
including	380.00	405.00	25.00	115.82	123.44	7.62	0.046	1.59	0.18	0.34	1.19
including	470.00	485.00	15.00	143.26	147.83	4.57	0.073	2.50	0.12	0.20	1.71
P91D-08	75.00	515.00	440.00	22.86	156.97	134.11	0.008	0.28	0.22	0.10	0.40
including	75.00	100.00	25.00	22.86	30.48	7.62	0.066	2.25	0.16	0.29	1.58
including	215.00	250.00	35.00	65.53	76.20	10.67	0.021	0.71	0.35	0.09	0.80
P91D-09	60.00	65.00	5.00	18.29	19.81	1.52	0.091	3.12	0.01	0.25	1.99
P91D-10	95.00	260.00	165.00	28.96	79.25	50.29	0.419	14.37	0.03	0.66	9.12
including	115.00	140.00	25.00	35.05	42.67	7.62	2.578	88.39	0.01	2.59	55.89
including	210.00	230.00	20.00	64.01	70.10	6.10	0.104	3.57	0.05	0.37	2.31
P92DA-10	75.00	290.00	215.00	22.86	88.39	65.53	0.022	0.75	0.03	0.27	0.50
including	25.00	30.00	5.00	7.62	9.14	1.52	0.162	5.55	0.01	0.35	3.52
including	75.00	80.00	5.00	22.86	24.38	1.52	0.113	3.87	0.00	0.90	2.46
including	105.00	130.00	25.00	32.00	39.62	7.62	0.044	1.51	0.00	0.68	0.96
including	155.00	200.00	45.00	47.24	60.96	13.72	0.027	0.93	0.01	0.27	0.61
including	285.00	290.00	5.00	86.87	88.39	1.52	0.044	1.51	0.14	0.13	1.10
P92DA-10	395.00	420.00	25.00	120.40	128.02	7.62	0.021	0.73	0.25	0.19	0.71
P92D-11	30.00	70.00	40.00	9.14	21.34	12.19	0.03	0.95	0.00	0.22	0.61
P92D-11	130.00	155.00	25.00	39.62	47.24	7.62	0.03	1.14	0.10	0.32	0.82
P92D-11	215.00	360.00	145.00	65.53	109.73	44.20	0.01	0.28	0.24	0.24	0.42
P92D-11	435.00	515.00	80.00	132.59	156.97	24.38	0.01	0.35	0.16	0.16	0.39
including	475.00	480.00	5.00	144.78	146.30	1.52	0.04	1.47	0.20	0.15	1.13
P92D-12	145.00	555.00	410.00	44.20	169.16	124.97	0.005	0.18	0.10	0.08	0.22
including	145.00	150.00	5.00	44.20	45.72	1.52	0.031	1.06	0.33	0.61	1.01
P92D-12	590.00	595.00	5.00	179.83	181.36	1.52	0.048	1.65	0.11	0.15	1.15
P92D-13	275.00	280.00	5.00	83.82	85.34	1.52	0.036	1.23	0.09	0.17	0.87
P92D-13	345.00	370.00	25.00	105.16	112.78	7.62	0.033	1.12	0.17	0.25	0.88
P92D-13	410.00	420.00	10.00	124.97	128.02	3.05	0.129	4.42	0.08	0.09	2.88
P92D-18	105.00	125.00	20.00	32.00	38.10	6.10	0.040	1.38	0.01	0.40	0.89
P92D-18	140.00	145.00	5.00	42.67	44.20	1.52	0.051	1.75	0.03	0.21	1.13
P92D-18	180.00	195.00	15.00	54.86	59.44	4.57	0.025	0.85	0.04	0.72	0.59
P92D-18	270.00	385.00	115.00	82.30	117.35	35.05	0.019	0.66	0.28	0.77	0.70
including	270.00	280.00	10.00	82.30	85.34	3.05	0.025	0.86	0.97	6.34	1.58
including	305.00	315.00	10.00	92.96	96.01	3.05	0.130	4.46	0.26	0.59	3.09

	Table 7 Significant Intersection from Drilling at DUV (contd).											
Hole	From	То	Length	From	То	Length	Au oz/t	Au Gms/T	Cu %	Ag Gms/T	Cu Equiv.	
Name	Feet	Feet	Feet	Meters	Meters	Meters	oz/t	Gms/T	%	Gms/T	%	
P92D-18	460.00	515.00	55.00	140.21	156.97	16.76	0.012	0.41	0.22	0.28	0.48	
P92D-18	545.00	560.00	15.00	166.12	170.69	4.57	0.007	0.24	0.28	0.20	0.44	
P92D-19	140.00	415.00	275.00	42.67	126.49	83.82	0.016	0.55	0.20	0.26	0.55	
including	195.00	210.00	15.00	59.44	64.01	4.57	0.060	2.07	0.33	0.99	1.65	
including	245.00	255.00	10.00	74.68	77.72	3.05	0.025	0.86	0.21	0.20	0.76	
including	315.00	325.00	10.00	96.01	99.06	3.05	0.049	1.70	0.62	0.72	1.70	
including	370.00	385.00	15.00	112.78	117.35	4.57	0.034	1.18	0.17	0.21	0.92	
P92D-20	70.00	75.00	5.00	21.34	22.86	1.52	0.031	1.06	0.01	0.12	0.69	
P92D-20	155.00	170.00	15.00	47.24	51.82	4.57	0.005	0.17	0.14	0.11	0.25	
P92D-20	240.00	255.00	15.00	73.15	77.72	4.57	0.003	0.10	0.15	0.11	0.22	
P92D-20	345.00	360.00	15.00	105.16	109.73	4.57	0.002	0.08	0.17	0.19	0.22	
P92D-20	420.00	440.00	20.00	128.02	134.11	6.10	0.002	0.06	0.17	0.16	0.21	
P92D-21	420.00	435.00	15.00	128.02	132.59	4.57	0.003	0.10	0.13	0.04	0.20	
P92D-22	30.00	200.00	170.00	9.14	60.96	51.82	0.006	0.22	0.17	0.10	0.30	
P92DR-01	255.00	325.00	70.00	77.72	99.06	21.34	0.01	0.22	0.14	0.15	0.28	
P92DR-01	255.00	265.00	10.00	77.72	80.77	3.05	0.02	0.67	0.20	0.54	0.62	
P92DR-03	225.00	230.00	5.00	68.58	70.10	1.52	0.07	2.47	0.08	0.27	1.64	
P92DR-03	345.00	375.00	30.00	105.16	114.30	9.14	0.02	0.78	0.05	0.09	0.54	
P92DR-04	0.00	10.00	10.00	0.00	3.05	3.05	0.03	1.13	0.03	0.08	0.74	

The historic resource estimate was completed prior to the inception of NI 43-101 and does not follow the categories outlined in NI 43-101. There was no distinction between measured, indicated and inferred resources and thus the resource is considered a historic inferred estimate. Nevertheless, Pegasus and the author are considered to be a reliable source and therefore the estimate is considered relevant as to the tonnage and grade potential of this zone.

On April 24, 2008 Tetra Tech, completed an inferred 43-101 resource estimate for the DUV target. The resource, which is considered historic was completed using the drilling executed by Duval Corporation (1971-1972), Kennecott Copper Corporation (1990) and Pegasus Gold Corporation (1991-1992). The drilling data consist of approximately 4,726.3 meter (15,506.3 feet) of core drilling in 33 holes and an additional 373.3 meters (1,223.5 feet) of reverse circulation drilling in 4 holes. Sampling/assay intervals were 5 feet for core and 10 feet for reverse circulation drilling. Results of the inferred mineral resource calculations using a low cut-off of 0.01 oz/t Gold were; 1,646,000 tons at a grade of 0.0286 oz/t gold (47,000 ounces), no grade was calculated for copper or silver in this resource. The author has examined and verified the resource and determined it to be reliable. The company will not use the resource as a current resource but as a guide only.

"An 'Inferred Mineral Resource' as used in the Tetra Tech 2008 historic resource is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade

continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes."

Note: The 2008 resource is considered an historical resource, as a technical report on the resource was never filed although the calculation was completed. It is the author's opinion that the resource is reliable having been done by a reputable independent third party who verified data and checked assays. The company is not treating the resource as a "current resource" and does not intend to rely on this resource but will use it as a guide.

The targets and the potential quantity and grade are conceptual in nature as there had been insufficient exploration work done to define Mineral Resources as defined by NI 43-101, and it is uncertain if further exploration would result in establishing the existence of Mineral Resources.

3D Modelling of the drilling and surface geology, reveals that the breccia feeding pipe is near vertical with dimensions of 240 meters (800 feet) wide, 400 meters (1200 feet) long and at least 500 meters (1500 feet) deep. Pipe is wide open to depth and represents a target of 110 to 150 million tonnes<sup>1</sup>, with grades indicated of between 1 to 2 gms Au /T and copper between 0.15% to 0.30%. The vertical pipe appears to connect with a near horizontal zone of mineralization that is 720 meters (2400 feet) wide by 750 meters (2500 feet) long and 75 meters (250 feet) thick. This represents a target zone of 100 to 130 million tonnes<sup>1</sup>, with grades indicated of between 1 to 2 gms Au /T and copper between 0.15% to 0.30%. Copper appears to increase toward the pipe and at depth similar to the previously described St Julian zone. When rock samples of the breccia are compared between the two zones, the rock types, alteration and mineralization are identical indicating a very strong connection and correlation that needs to be explored and developed further.





#### Allison Tunnel

One of the principal workings on Emigrant Creek is an adit and associated underground development locally called the Allison Tunnel (Figure 4 and 11). Leaching of the dump has left an iron-oxide stain that extends several hundred feet down the treeless hillside. The workings are on the east side of the creek. Bad air in the main adit and caving at the upper one make them inaccessible.

Exploration at the Allison Tunnel site began about 1885 when Peter Clausen located claims for gold, silver, and copper in the area and drove the lower adit 170 meters (560 feet) (Whithorn and Whithorn, 1968, p. 41). George B. Allison worked the claim until about 1914. The Metallic group of molybdenum claims were located in 1927. The U.S. Geological Survey investigated the molybdenum occurrence in 1943 (unpublished. data, 1943) and again in 1983 when the property was owned by W. L. Kearns, who had relocated the Molybdenum Nos. 1-6 claims. Hodges Mining Co. explored the property in 1947 (Reed, 1950, p. 52); Minerals Exploration Co. tested it in 1968. Duval drilled a single hole in 1973 and finally Pegasus drilled two holes in 1992.

The Allison Tunnel contains a molybdenum bearing intrusive breccia pipe and lies to the southwest and adjacent to the Duv target area (Figures 4 and 11). The breccia is surrounded by a mineralized stock work of molybdenite bearing veins at depth turning to copper–molybdenum bearing veins near surface. Alteration in the Allison Tunnel area is similar to that of the DUV Area and this pipe is probably part of the same Copper-Molybdenum System (Green 1976).

Kearns in 1943 reported that the lower adit was 210 meters (700 feet) long and had a 15 meters (50 feet) crosscut or drift in the molybdenite zone 100 meters ( 340 feet) from the portal. Kearns took 10 samples from part of the adit and drift walls. Assays ranged from 0.17 to 1.10 percent molybdenum and had a weighted average of 0.6 percent. Kearns also reported that samples were taken from every fifth car of rock mined as the east drift was extended 9 meters (30 feet) in 1937. Assays from the 13 car samples ranged from 0.24 to 0.42 percent molybdenum and averaged 0.28 percent molybdenum(Mo) (0.467% MoS<sub>2</sub>). A dump sample taken by the U.S. Geological Survey in 1943 assayed 0.30 percent molybdenum (0.504% MoS<sub>2</sub>).

Sampling by the Bureau of Mines in 1973 indicated that near the Allison Tunnel the areal extent of the higher grade molybdenum-bearing zone was considerably more than indicated by earlier reports. Assays greater than 0.1 percent molybdenum were found in samples from workings in an area about 460 meters long by 275 meters wide (1,500 feet long by 900 feet wide), and through a vertical distance of approximately 180 meters (600 feet). Similar rock types, along with brecciation and alteration, suggest that the Peter Pear workings may be on an extension of the Allison Tunnel molybdenum-rich zone. The author also observed molybdenum bearing quartz veinlets in bedrock at several locations along the 750 meter access trail to the upper adit. These were in the dacitic porphyries and were obviously part of the stockwork surrounding the breccia pipe.

The hole drilled in 1973 by Duval, hole 73-01, was collared well below the adit and drilled to intersect the mineralization at depth. It intersected a mineralized zone at a depth of 325 meters below the Tunnel and returned a grade of 0.067% Mo (0.112% MoS<sub>2</sub>) over 73.2 meters. The zone was contained in quartz monzonite intrusive which is interpreted as the source of the mineralization and fluids that created the breccia zone in the adit. Pegasus drilled holes DU92-16 and 17 angled at -45 degrees to the north and south respectively from a pad south of the Allison workings. The holes intersected strong

stockwork mineralization with copper and molybdenum , DU91-16 intersected 50.3m (165 feet) grading 0.031% MoS<sub>2</sub> and 0.21% copper in the copper-molybdenum zone. Gold assays were low, as expected as gold is not expected to be present in the well-developed hydrothermal breccia and stockwork molybdenum mineralized zone.

Three (3) holes of the four completed, intersected significant mineralization (Table 8). Examples are:

Hole M73-01 that intersected 73.2 m (240 feet) grading 0.112% MoS<sub>2</sub>, 0.03% Cu or 0.50% Cu Equivalent;

# Hole P92D-16 intersected 50.3 m (165 feet) grading 0.031% MoS<sub>2</sub>; 0.21% Cu or 0.48% Cu Equivalent;

The targets and the potential quantity and grade are conceptual in nature as there had been insufficient exploration work done to define Mineral Resources as defined by NI 43-101, and it is uncertain if further exploration would result in establishing the existence of Mineral Resources.

3D Modelling reveals that the molybdenum zone that forms the core to these types of systems is at least 560 meters (1680 feet) vertically, before transitioning into a copper-molybdenum zone. Both of these zones are located beneath the copper-gold bearing zones discussed at St Julian and DUV zones. The breccia pipe itself is relatively small 100 meters (300 feet) in diameter, but the surrounding stockwork is extensive with dimension of at least 1200 feet (400 meters) wide, 3000 feet (1000 meters) long and at least 1680 feet (560 meters) deep. Pipe and associated stockwork is wide open to depth and represents a target of 500 to 600 million tonnes with grades ranging from 0.1 to 0.2% copper and 0.05 to 0.1% Mos2. Modeling shows that from the top of DUV mineralized zone to the molybdenum bearing intersection in hole 73-01 is a vertical range of 1,100 meters, which gives an indication of the size of the zonation on the system. A low angle easterly dipping fault with breccia is inferred on the slope above the Allison Tunnel and this-fault may host the molybdenum-bearing breccia zone reported from underground in the Allison Tunnel (Harrison 1990).

Hole	From	То	Length	From	То	Length	Au	Cu	Ag	MoS2	Cu Equiv.
Name	Feet	Feet	Feet	Meters	Meters	Meters	Gms/T	%	Gms/T	%	%
M73-01	790.00	1310.00	520.00	240.79	399.29	158.50	0.08	0.03	0.01	0.064	0.31
including	790.00	880.00	90.00	240.79	268.22	27.43	0.08	0.05	1.89	0.040	0.27
including	960.00	1200.00	240.00	292.61	365.76	73.15	0.09	0.03	0.73	0.112	0.50
P92D-16	55.00	70.00	15.00	16.76	21.34	4.57	0.78	0.08	0.64	0.015	0.64
P92D-16	70.00	90.00	20.00	21.34	27.43	6.10	0.08	0.15	0.17	0.015	0.26
P92D-16	255.00	280.00	25.00	77.72	85.34	7.62	0.05	0.14	0.05	0.027	0.27
P92D-16	350.00	380.00	30.00	106.68	115.82	9.14	0.06	0.18	0.04	0.023	0.29
P92D-16	425.00	590.00	165.00	129.54	179.83	50.29	0.10	0.21	0.11	0.031	0.48
including	550.00	590.00	40.00	167.64	179.83	12.19	0.19	0.63	0.15	0.191	1.44
P92D-17	140.00	365.00	225.00	42.67	111.25	68.58	0.07	0.06	0.04	0.038	0.25
P92D-17	395.00	400.00	5.00	120.40	121.92	1.52	0.03	0.02	0.00	0.142	0.55
P92D-17	450.00	490.00	40.00	137.16	149.35	12.19	0.03	0.07	0.01	0.040	0.23

 Table 8 Significant Intersection from drilling at Allison.

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Figure 19 Emigrant West Drill Hole Location Map.



Figure 20 Section view looking Northwest Allison Target.

#### Base Metal Target Zone

The Base Metal Target also often referred to as the Great Eastern Zone, was discovered in 1882, Basic Metals Inc. shipped five car loads of ore in 1985 for smelter tests. (Whithorn and Whithorn, 1968, p. 37). It consists of a cylindrical breccia pipe intruding the dacite porphyritic volcanics, the pipe is located in the Emigrant canyon bottom at an elevation of 2100 meters (6880 feet). Patent survey plats drawn in 1900 show underground workings consisting of four adits and a shaft. Total length of the adits is nearly 91meters (300 feet). The shaft was at least 15 meters (50 feet) deep. All mine entrances have been obliterated by floods, snow slides, and bulldozing activities.

Samples of mine wastes collected by the U. S. Geological Survey 1983 averaged 56.57 gms/T (1.65 opt silver), 0.25% copper, 1.61% lead and 0.67% zinc. During the 1970's several shallow holes are reported with good silver and copper credits. Data from, 1992 core hole by Pegasus GE92-1 had an overall average grade of 0.343% copper, 2.72 gms/T (0.796 opt) silver, 0.006 opt gold over its entire depth 179 meters (588 feet). According to Pegasus the entire hole was in well mineralized hydrothermal breccia with high base metal values. Lead and zinc were also observed but not assayed.

Eight (8) holes of the 15 holes completed, intersected significant mineralization.
Examples are:
Hole G76W-08 105.2 m (345 feet) grading 0.69% Cu, 29.40 gms Ag/T or 1.00% Cu Equivalent;
Hole G76E-02 78.3 m (257 feet) grading 0.37% Cu, 37.71 gms Ag/T or 0.77% Cu Equivalent;
Hole P92G-01 102.1 m (335 feet) grading 0.49% Cu, 38.74 gms Ag/T or 0.64% Cu Equivalent;

Hole	From	То	Length	From	То	Length	Au oz/t	Au	Cu	Ag	Cu Equiv.
Name	Feet	Feet	Feet	Meters	Meters	Meters	oz/t	Gms/T	%	Gms/T	%
G76E-02	40	297	257	12.19	90.53	78.33	na	na	0.37	37.71	0.77
G76E-02	297	360	63	90.53	109.73	19.20	na	na	0.16	17.96	0.35
G76E-03	29	400	371	8.84	121.92	113.08	na	na	0.15	9.24	0.25
G76W-01	5	37	32	1.52	11.28	9.75	na	na	0.34	20.91	0.56
G76W-02	35	370	335	10.67	112.78	102.11	na	na	0.38	29.38	0.70
G76W-02	370	865	495	112.78	263.65	150.88	na	na	0.13	8.33	0.21
G76W-05	10	253	243	3.05	77.11	74.07	na	na	0.42	37.95	0.82
G76W-08	15	360	345	4.57	109.73	105.16	na	na	0.69	29.40	1.00
G76W-08	360	768	408	109.73	234.09	124.36	na	na	0.10	7.89	0.18
P92G-01	35	370	335	10.67	112.78	102.11	0.006	0.21	0.49	38.74	0.64
P92G-01	500	588	88	152.40	179.22	26.82	0.004	0.14	0.39	27.77	0.49

Table 9 Significant Intersection from drilling on Base Metal Zone.

Na – Not assayed

3D Modelling reveals that the copper silver dominated breccia zone contains significant lead-zinc bearing minerals with copper that contain silver, these are usually found on the periphery of the copper-gold-molybdenum porphyry systems. The breccia pipe itself is relatively small oval shaped 180 meters (600 feet) in width and 100 meters (300 feet) in length and can be traced to 480 meters (1600 feet) in depth. There appears to be a low silver bearing copper zone that surrounds the breccia and probably reflects copper bearing fluids migrating outward from the breccia. The breccia represents a target of at least 20 to 40 million tonnes, with a grade of 0.2 to 0.4% copper and 25 to 40 gms/T silver .

The targets and the potential quantity and grade are conceptual in nature as there had been insufficient exploration work done to define Mineral Resources as defined by NI 43-101, and it is uncertain if further exploration would result in establishing the existence of Mineral Resources.

# Emigrant Peak Target Zone

The Emigrant Peak Target Zone is one of two major hydrothermally altered centers related to the multiphased intrusive of the Emigrant Stock. This target area is located in the core of the Emigrant District on the eastern slope of Emigrant Peak (Figures 4 and 11) near the western contact of the Emigrant Stock. The target is a distinct center of alteration and sulfide mineralization (pyrite is estimated at 2-5 % of the total rock mass). The alteration/mineralization of this system is manifested as a triangularshaped strongly hydrothermally altered area approximately 1,463 meters (4,800 feet) on a side (Figure 23). The yellowish-red-brown color of the anomaly results from jarosite-limonite alteration of sulfides in the rock (Green 1976). Sulfide mineralization is distributed as both dissemination and as a widespread network of veinlets, and quartz-pyrite veinlets are common and pervasive in the central



Figure 21 Plan View of Base Metal zone.

Figure 22 Section view looking North Base Metal Target.



core area. Other sulfides include chalcopyrite molybdenite and galena; and in addition, chalcopyrite, chalcocite and covellite occur disseminated and in narrow stock-work quartz veins. Sulfide minerals are zoned from a copper sulfide-molybdenite core, outward through a zone of pyrite-chalcopyrite and further outward to a halo of sphalerite and galena. In 1971, Basic Metals, Inc contracted with Applied Geophysics Inc. to conduct Induced Polarization geophysical surveys over the Emigrant Peak Target Area. In 2006, NewEdge Gold contracted with Carlson Geophysics of Missoula Montana to reinterpret





the historical induced polarization and refine the Induced Polarization / Resistivity data that was collected in 1971 using more advance computer techniques than were available at the time the data was collected. The reinterpretation found extremely high chargeability anomalies that likely indicate sulfides and associated mineralization in the survey area and are areas to be focused on for mineral exploration.

The hole drilled by Amax, drilled prior to the IP survey, failed to test that target, and instead intersected highly altered and anomalous rock immediately to the east of the target area. Several sections of copper veins and also molybdenum bearing veins were intersected. The hole intersected breccia zone at 396.2 meters to 426.7 meters (1300 to 1400 feet) containing molybdenum and copper mineralization. Below this were thick sections of volcanic containing quartz veins averaging 1 to 2 per foot. To date no assay data has been found for the hole, just the drill logs. The location of the hole relative to the IP anomalous area can be seen in the section.

A 3D conceptual model of the zone has been constructed and reveals a large zone system with probably a copper-gold margin with a molybdenum bearing core. Very similar to the relationship between the DUV and the Allison Zones located immediately to the east.

#### Peter Pear Target Zone

The Peter Pear zone is poorly exposed in a scree covered avalanche chute about 0.8 kilometers (0.5 miles) upstream of the Base Metal breccia pipe on the east side of Emigrant Gulch (Figures 4 and 11). Although poorly exposed, workings are developed in a brecciated shear zone and are likely associated with a breccia pipe near the contact of a quartz monzonite porphyry dyke with the dacite porphyry of the Emigrant Stock. The US Geological Survey collected 27 samples principally from waste rock dumps in the Peter pear area that contained a maximum of 1.71 gms/T (0.05 opt gold), 1,107.4 gms/T (32.3 opt Silver), 0.4% copper and 0.10\*% molybdenum.

Two holes were drilled by Pegasus (DU- 91-14 and DU-91-15) from a single drill pad in the Peter Pear area. Drill and surface mapping by Pegasus (1993) indicate that the Peter Pear breccia pipe is centered on at least one and probably two intrusive masses that are on the order of several hundred feet thick and consist of altered quartz monzonite porphyry with abundant intrusion breccias. Hydrothermal brecciation is widespread in drill core. Assay data from hole DU91-14 reported 60 feet of 0.225%copper and 78 ppm (0.0078%) molybdenum from the 70-130 foot interval in the hole.

Mineralization on Peter Pear is associated with an irregularly shaped breccia pipe and stockwork envelope that is elongate east northeast with a projected steep dip. The mineralized breccia is reported to contain clasts of altered dacite, welded dacitic tuff, and porphyritic quartz monzonite but the alteration overprint obscures the protolith. The fragmental volcanic and intrusive rocks have been pervasively altered to quartz–sericite–pyrite. Early pyrite occurs as subhedral to euhedral disseminations and is associated with minor chalcopyrite. The early disseminated pyrite is cut by possibly two later vein stages consisting of quartz–pyrite with chalcopyrite containing gold and a vein stage of quartz–arsenopyrite–chalcopyrite–gold. Gold is reported as enclosed both within quartz and as 1 to 10 micron sized inclusions in pyrite and arsenopyrite. Due to the lack of detailed information modelling of this zone is not possible at this time, so target size is impossible to Estimate.



Figure 24 Schematic Section view looking North Emigrant Target.

#### **Other Target Zones**

Several other targets exist within the area of the property, only brief information is known about these. So until further information is obtained these are considered low priority targets. The following has been summarized from the USGS Bulletin 150, 1983

#### Montana Queen and Corbett

Locate to the South-west of St Julian: The patented claims are the Corbett, located in 1894, and the Montana Queen, located in 1890. Although no record of production remains, small stopes indicate that some ore was produced, probably prior to 1904. The survey plat of the Corbett shows three adits with a total length of about 180 ft (55 m). Erosion and revegetation have nearly obliterated the entrance to the main adit, Tunnel No. 4 (pi. 4B, No. 153), which is reported to have been 132 ft (40 m) long. At the south end of the claims are two large caved adits (pi. 4B, Nos. 151 and 156); one is known to have been at least 310 ft (95 m) long. The workings in the vicinity of the patented claims, which are leased to Duval Corp., are in the Emigrant stock. Alteration and mineral deposition were apparently concentrated near the contact between flow-banded rhyolite, quartz monzonite, and rocks of dacitic composition. Pyritization and argillization are widespread. Field identification of rock types was impossible in most cases. The mineralized structure at the Corbett and Montana Oueen claims is a highly sheared zone, often with open fissures, striking northerly and traceable for nearly 3,000 ft (900 m). It may be an extension of the St. Julian mineralized zone. Quartz and gougy, brecciated quartz veins, containing sulfides, occur along the shear zone. The oxidized gouge is a bright-red hematitic clay. Hydrothermal vein filling was incomplete, leaving underground fissures, some of which are mansized. Mining in the Montana Queen was accomplished by underhand stoping (fig. 32), and it appears to have been limited to a vein of gritty hematitic mud striking N. 10° E. and dipping vertically. However, some gold values may occur in the wall rock. The south drift could not be examined because loose timbers block the passage. The weighted averages of samples across the mineralized structure exposed in the mine are 0.05 oz gold per ton (1.71 g/t) and 0.26 oz silver per ton (8.91 g/t).

The auriferous, hematitic-gouge vein of the Montana Queen is exposed in a short trench 1,000 ft (300 m) north of the adit. Samples from here and from 15 pits and adits along and near the Corbett and Montana Queen shear zone (pl.4B, Nos. 145-158) assayed as much as 0.3 oz silver per ton (10,3 g/t). Most adits are caved and pits badly sloughed. The shear zone along which most of the workings are dug forms the contact between dacite and quartz monzonite (Nos. 152, 156, and 158). One section of the structure is a pyritized, quartz-monzonite zone covering an area several hundred feet square (No. 154). One working (No. 147) is in limonite-cemented gravel. Two parallel 4-in. (IO-cm)-thick open fissures exposed in an 8-ft (2.5-m) drift driven S. 20° E. at the end of a 35-ft (11-m) adit were sampled (No. 149). An adit (No. 151), possibly 500 ft (150 m) long, was driven on a 5-ft (1.5-m)-wide zone of fluffy limonite containing a 4-in. (10-cm)-wide silicified center. The Corbett and Montana Queen shear zone appears to extend 2,700 ft (820 m) through both patented claims,

#### Sheila zone

Nine adits exposing a gold and silver occurrence were examined on the west slope of Emigrant Gulch. They are in the study area above the mouth of Huckleberry Gulch (pi. 4B, Nos. 159-167). Access is by trail along the east side of Emigrant Gulch.

The occurrence has been covered by numerous claims since the early 1880's, but no recent mining or exploration is indicated. The Sheila claim was located in 1966 by J. H. Counts. Caving and debris from snow slides have closed portals to all but two short adits. No production has been recorded.

Talus and snow slide debris permits observation of only a few outcrops. As a result, explorations have been centered in areas covered by iron-oxide-stained overburden. The principal workings are along a shear zone in older volcanic rocks that lie between dacite of the Emigrant stock and younger dacite flows. Dump material indicates that a basalt dike was intersected that would probably be along the shear zone. The northeasterly projection of the shear zone parallels the St. Julian mineralized zone and intersects the Corbett shear zone. As at the St. Julian, gold occurs in pyrite, and rock types are the same, including the presence of flow-banded rhyolite. Development rock set aside during adit excavation indicates that the mineralized zone contains cellular and vuggy vein quartz, altered dacite, and coarse pyrite veins. Fragments of vein material on the dumps are as thick as 1 ft (0.3 m). The gold assays from vein material on dumps at three adits were as follows: 0.53 oz per ton (18.17 g/t), 0.43 oz per ton (14.74 g/t), and 0.12 oz per ton (4.11 g/t) (pi. 4B, Nos. 163, 165, and 161), respectively. Corresponding silver assays were 1.3 oz per ton (44.57 g/t), 0.4 oz per ton (13.7 g/t), and 0.2 oz per ton (6.9 g/t). Six samples were taken from the longest open adit (pi. 4B, No. 162), which trends S. 60°-70° W. for 61 ft (18.6 m), where it crosscuts a N. 20° W.-striking fracture zone. The samples show low gold and silver values, ranging from a trace to 0.03 oz gold per ton (1.03 g/t) and from nil to 0.2 oz silver per ton (6.9 g/t). The adit is probably south of the main mineralized structure.

**Magnetite** is an iron ore target with workings consisting of one pit and two adits that are driven southerly along mineralized shear zones in Pre-Cambrian schist. The zones strike N. 22° W. and dip 60° to 87° SW. parallel to foliation. One averages 7.5 ft (2.3 m) in width and is traceable for 390ft (120 m). Samples from the lower adit, weighted by length, averaged 39.3 percent iron (samples W-21 and W-22). An outcrop sample (W-20) from between the adits assayed 23.4 percent iron. The zones are composed of vuggy quartz veinlets as much as 1 in. (2.5 cm) wide, with limonite, and siliceous schist that has fine disseminations and streaks of magnetite as much as 3 in. (8 cm) wide. Magnetic concentrations seem discontinuous, and boundaries are gradational within the siliceous schist. The upper adit seems to be on a relatively barren shear zone.

# Overlap

Workings consist of three caved adits estimated to total approximately 500 ft (150 m) in length (fig. 43). Small stockpiles are atop two dumps. The first location was probably the Spring Tunnel claim Located in 1895. The prospect was relocated as the Overlap in 1967. Development plans call for the reopening of the two major adits, and the shipment of the stockpiles to a smelter (J. H. Counts, oral communication, 1974). All three adits are caved, and talus covers most bedrock. A small ridge-like outcrop above and between the two larger workings was examined. A vein containing gouge and masses of vuggy pyrite and galena intergrowths is traceable for 65 ft (20 m) in dacite porphyry. The maximum width is 2.0 ft (0.6 m). Projected along strike and dip (N. 65° E. and 52° NW,. respectively), the vein would intersect adit No. 1. Adits 2 and 3 have a northeast orientation and seem to follow a different geologic structure. Dump material indicates that adits 1 and 2 encountered veins as much as 8 in. (20 cm) wide. Dump materials include pyrite, galena, and sphalerite occurring in a calcite-quartz gangue of silicified dacite porphyry. Assays ranged from nil to 0.15 oz gold per ton (5.1 g/t), nil to 1.5 oz silver per ton (51.4 g/t), nil to 3.0 percent lead, and nil to 2.0 percent zinc. Stockpiled material is less than 100 tons (90 t); the dumps contain about 900 tons (820 t).

# Crevis

A 20-ft (6-m) adit exposes a 3.1-3.4-ft (0.9-1.0-m)-wide fault zone in siliceous dacite. The zone strikes  $N.50^{\circ}$  W. and dips from  $85^{\circ}$  SW. to vertical. Three samples across it assayed a maximum of 0.1 oz gold per ton (3.43 g/t), 1.0 oz silver per ton (34.3 g/t), and 0.07 percent bismuth.

#### **Placer Targets**

As mentioned under the history section, extensive placer mining has been carried out since 1864 on Emigrant Gulch. Placer mining is still occurring today and continues to recover gold. Lucky will investigate potential placer opportunities including joint ventures and exploration with existing owners.

# 10.0 Exploration

Extensive historic exploration work has been conducted throughout the area and the work has revealed that the tenor and relative continuity of the mineralization are favorable and support the premise that further systematic exploration should be conducted. Previous work in addition to the mining, drilling and geophysics, also consisted of mapping prospecting and sampling by several different groups as has been described previously.

The future program should be designed to confirm the historic resource using 43-101/CIM best practice guidelines and also to test the structural zones which controlled emplacement of the breccia pipes on strike with known mineralization. Favorable structural and lithology horizons should also be tested at a depth below historic drilling and at other structural intersections suggested by detailed surface geologic mapping and 3D modelling of the information.

In July 2014 an aerial photographic survey with legal ground control was flow over the area. Contour maps for the target area were created using a 2.5 foot contour interval and ortho-rectified photographs are available for the entire area as shown in Figure 25. The resulting maps will be sued to provide excellent base maps for the exploration work.

# Geophysics

In 1971, Duval Corporation, Inc. contracted with Geoterrex, Ltd. Inc. to conduct Induced polarization geophysical surveys along two crossing lines, each more than 1.5 miles long and centered on the junction of Emigrant Creek / East Emigrant Creek center of hydrothermal alteration. The locations of the geophysical lines are shown on Figure 26. NewEdge Gold contracted with Carlson Geophysics of Missoula, Montana to reinterpret the historical Induced Polarization surveys and refine the Induced Polarization / Resistivity data that was collected in 1971 using more advance computer techniques than were available at the time the data was collected. The results of computer modeling (Figures 28 and 29) show more precisely defined mineralized targets than the previous data. This allowed a more accurate interpretation of mineralization at depth. In addition, advanced 2-D modeling (University of



Figure 25 2014 Aerial Photography Flight Plan.

British Columbia, UBC, DCINV2D and IPINV2D) of results of the high-resolution data provided the approximate dimensions of the prominent anomalies.

Reinterpretation of the Induced Polarization survey data resulted in extremely high chargeability anomalies as shown in red on both the Chargeability Model Figures 28 and 29. Chargeability anomalies (higher values) indicate sulfides and associated mineralization in the survey area and are areas to be focused on for mineral exploration. The southwest-northeast oriented Line #1 (Figure 28) shows very high chargeability anomaly (red) over the upper East Fork of Emigrant Creek right where it turns to the south, where two major lineaments intersect. It also shows a high chargeability anomaly over an area at the southwest end of the line in an area without any known significant mineralization identified to date. The north-south oriented Line #2 (Figure 29) also shows two very high chargeability anomalies (red), one is located east of Emigrant Creek and is approximately centered between the Allison Tunnel and Great Eastern breccia pipes, the second anomaly is located near the mouth of Huckleberry Gulch

in an area with minor mineral occurrences, but also no previously identified highly mineralized areas. Thus the Induced Polarization surveys identify known and new target areas in both the Emigrant Creek and East Fork of Emigrant Creek areas (Figure 26). High chargeability could indicate potential for massive sulfide mineralization. The depths of the survey did not reach far enough, nor have the resolution to determine how extensive the potential mineralization extends below the surface. This leaves the possibility open for the existence of a porphyry style system as suggested by the lateral continuity of high chargeability values from the two lines.

The resistivity models shown on these two lines are a measure of alteration and rock type in the project area. Where the high chargeability anomaly is associated with a much lower resistivity, this association suggests a mineralized—altered zone that appears to extend to depth within the areas of the surveys.

Induced Polarization surveys appear to be highly effective in the identification of highly mineralized and altered zones within the study area. With numerous advances in methodologies since 1971, Induced Polarization survey using modern day Induced Polarization equipment would likely be a highly effective tool in the identification of future target zones particularly if future surveys were to be laid out on a grid-based pattern with a better line density, and run over these earlier identified anomalous areas.

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### Figure 27 Geologic Interpretation Induced Polarization Line 0.

(Earth Sciences 1976, line location shown in Figure 2)



# Figure 28 Resistivity and Chargeability Induced Polarization Line #1.

(from re-evaluation of Pegasus data 2008a, line location shown in Figure 2)



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# **Figure 29 Resistivity and Chargeability Induced Polarization Line #2.** (from re-evaluation of Pegasus data 2008a, line location shown in Figure 2)



# 11.0 Drilling

Lucky Minerals has not conducted any exploration drilling on their Emigrant District holdings to date, although drilling is expected to be a major component of an aggressive exploration program in the near future. Several rounds of historical exploration drilling have, however, occurred within the Emigrant Mining District from 1971 through 1993 and include a total of 12,879 meters (42,237 feet) of drilling in 83 drill holes. A map showing historical drill hole collar locations and drill traces on a topographic base upon which a projection of the perimeter boundary of the Lucky Minerals claim block is superimposed is shown as Figures 13, 17 and 19. All of the historical drilling has taken place on lands currently controlled by Lucky Minerals on identified target areas within the District including the St Julian, DUV, Allison Tunnel, Peter Pear, Base Metal breccia-pipe-hosted targets and the Emigrant peak porphyry target area (Figure 4 and 11). Table below presents drill hole data that shows the amount of drilling that has been completed on each of the principal exploration target areas. Assay and geochemical data are available for most of this historical drilling.

Zone	# holes	Feet	Meters	Years
St Julien	27	14,255	4,345	1973, 1992
DUV	33	15,658	4,773	1973, 1992
Allison	5	4,223	1,287	1971, 1973, 1992
Peter pear	2	1,141	348	1992
base metal	15	5,383	1,641	1976, 1992
Emigrant	1	1,577	481	1973
Montana Queen	0	0	0	
Huckleberry	0	0	0	
Shiela	0	0	0	
Crevis	0	0	0	
Overlap	0	0	0	
totals	83	42,237	12,874	

Drill holes sites and most can still be found.

# Figure 30 Drill Hole Marker Hole 92-01.



Updated October 2015
## 12.0 Sampling Method and Approach

Sampling methods for various rounds of historic exploration on the property are briefly described as is information regarding the collection and handling of drilling samples by Pegasus Gold Corporation. In addition NewEdge Gold under the recommendation of Tetra Tech implemented a sampling program to validate the Pegasus assay and geochemical data by re-sampling historical samples for the Pegasus drilling program.

Assay and geochemical data was obtained directly from Tetra Tech in spreadsheet form for most previously drilled holes from various exploration company records for the Emigrant Project area. Verification of spreadsheet assay data was conducted by re-assaying 50 of the original assay pulps for comparison with 1991-1992 Pegasus gold assay data results obtained from copies of signed assay certificates

With the exception of the Pegasus Core drilling from 1990-1193 very little is known about the sampling methods, approach etc. for the various programs. The author did confirm the location of approximately 8 drill holes still visible on the property using hand held GPS units, tied into t the recently (July 2014) aerial photographic survey and associated legal surveying of ground control targets.

The core drilled by Pegasus was collected by a skid mounted Hagby core rig. The drilling equipment was owned and operated by Bush Drilling of Bozeman, Montana. Corrugated waxed cardboard core boxes were provided by the core contractor. Wooden blocks were labeled and placed by the core contractors at the appropriate measured drill depths. Core drilling was supervised and frequently observed by company personnel.

Core boxes filled with core were stacked in wood crates at the drill. The crates were secured and transported by helicopter to the Pegasus Gold base camp near Chico Hot Springs. Upon arrival at the base camp the core was removed from the secured crates and inventoried. The core was washed, geologically logged and sample intervals selected and labeled by a company geologist.

Pegasus set up a core cutting and sampling facility p and operated by company personnel under the supervision of the Project Geologist. Harder continuous sections of core were cut with a diamond blade core saw. Soft or friable sections of core were manually split or divided. The splits of the core collected for assaying were "one-half" splits.

Core recovery was good with all commonly encountered zones of alteration or mineralization being cored and sampled.

### 13.0 Sample preparation, Analyses and Security

Again only a description of the work done by Pegasus Gold Corp. has been checked by Tetra Tech in 2007.

Sampling was under the supervision of the Project Geologist. The Project Geologist observed the process from when the core was delivered to the core cutting and sampling facility until it was shipped

to the analytical laboratory. The samples to be submitted to the analytical laboratory were collected by employees of Pegasus Gold.

The sample handling and processing area were on private property at an exploration base camp near Chico Hot Springs. The camp was continuously occupied by company personnel or contractors employed by the company. It is considered that the security of the samples during preparation before dispatch of samples to the analytical laboratory was good.

## 14.0 Data Verification

Field examinations conducted by the author in the district verify the surface geology presented and substantiate the geological model for the ore deposit type. The historic exploration work conducted in the 1990 -1993 period was performed by a reputable company in part by geologists of good standing in professional organizations. The work and results were verified by Tetra Tech and used in a 43-101 historic resource calculation on then DUV zone. The program was at times visited and reviewed by U.S.G.S. geologists collecting data for a mineral resource potential study of the National Forest.

In 2008, NewEdge re-assayed 50 samples from the Pegasus drill core along with internal standards, blank and duplicate samples in addition to the laboratory standards for quality assurance purposes. The results confirmed the assay work done by Pegasus and led to Tetra Tech producing a 43-101 historic inferred resource for the DUV target. (see section 17 on resource calculations). The author sees no reason why the assays done by Pegasus of the diamond drilling holes cannot be used in future 43-101 compliant resource calculations.

### 15.0 Adjacent properties

Other than in the context of the district wide setting of the geology, this report is not intended to elaborate on properties with ownership outside of Lucky Minerals. At this writing, Lucky owns or controls the area shown on the property map of Figure 3, it is currently working on obtaining additional ground within the area. Numerous metal occurrences and showing occur with the district the USGS bulletin 1505, 1983 has excellent short descriptions on many of the occurrences.

### 16.0 Metallurgical testing

Lucky Minerals has conducted no metallurgical testing of materials collected from their Emigrant Project site.

Historically metallurgical test work to date consists of

(1) A beneficiation study for a bulk sample taken from the Iron King adit (Figure 17) adjacent to the DUV zone, was conducted by the Bureau of Mines Research Center. The head grade for the sample was .03 opt gold and 0.36 opt silver. The CN amenability test extracted 75% of the gold and 77% of the silver. Sulfide flotation collected 80% of the gold in a concentrate that was 23% of the total weight.

(2) Some limited metallurgical test work has also been conducted at the Montana Tunnels Mine laboratory (Emigrant Project Summary report, Pegasus Gold Inc.). The Test work was on a composite sample made up from 1991 drill core and cuttings. Records indicate the samples were taken from Diamond drill holes DUV 91-02, and RC hole St Julian 91-09. The composite sample test indicates a good response to floatation as summarized below:

Floatation	Au	Ag	Cu
<b>Overall % Recovery</b>	90	72	88
Composite head assay	0.038	0.36	0.22

Since the mineralization consists of disseminated sulfides with values in both gold and copper, the probable metallurgical processing method would be milling followed by production of a flotation concentrate containing the recovered percentage of gold and copper. The concentrate would then likely be shipped to an off-site smelter for further separation and refining. It is outside the scope of this report to comment further as final selection of processing methods is contingent upon numerous factors which can only be addressed in either a pre-feasibility or feasibility study following detailed metallurgical analysis.

### 17.0 Mineral Resource Estimates

As mentioned previously, a historic, drill inferred geological resource has been identified within the DUV mineralized zone as listed in Table 10:

Item	Tons	Gold(opt)	Silver (opt)	Copper %	Remarks
1	7,831,365	0.032	0.30	-	Gold silver
2	15,723,033	0.032	0.30	0.274	Gold-Copper, in sulfides
3	5,293,103	-	0.25	0.338	Copper only, in sulfides
Total	28,847,501	753,739 oz	8,389,595 oz	60,872 tons	

#### Table 10: DUV Historic Geological Resources (Cochetas 1992)

This historic estimate is not compliant with ore reserve reporting standards and cannot be substantiated at this time. The records regarding methodology (including sampling, bulk density, grade cutoff, model zone constraints, etc.) used to calculate these historic estimates has not at this time been located and the only reliance which may be placed on the estimate is as an indication of potential mineralization. The good professional reputation of the reporting company and the presence of drill hole collars in the field are presently the only supporting evidence of the work. The estimate is presented solely to demonstrate the expected tenor and minimum tonnage of the target slated for future exploration. During the prior program, drilling reportedly did not penetrate below 800 ft. and was only the initial phase of a more extensive exploration program which was not completed.

Note: The 1992 resource is considered an historical resource. It is the author's opinion that the resource is reliable having been done by a reputable independent third party who verified data and checked assays A qualified person has not done sufficient work to classify the historical estimate as a current mineral resource. The company is not treating the resource as a "current resource" and does not intend to rely on this resource but will use it as a guide.

In 2008, Tetra Tech completed a 43-101 resource estimate for the DUV breccia pipe target (Figures 4 and 11). This is considered an historical resource. Geologic relations of the distribution of mineralization of the DUV breccia pipe target area were determined from historical reports that has been previously summarized (see section 6). The resource calculations were principally based on historic drilling executed by Duval Corporation (1971, 1972), Kennecott Copper Corporation (1990) and Pegasus Gold Corporation (1991-1992). The drilling data consist of approximately 4,726.3 meters (15,506.3 feet) of core drilling in 33 holes, and an additional 373.3 meters (1,222.5 feet) of reverse circulation drilling in 4 holes. Sampling/assay intervals were 5 feet for core and 10 feet for reverse circulation drilling.

The inferred geologic resources calculated by Tetra Tech used a block model with a 10 \*10\*10 foot block size. Approximately 25 million blocks were generated in the model. Approximately 3,300 5-foot intervals were converted into 10-foot assay composites and statistical analyses were run on gold (opt), silver (opt) and copper (%). The metal data showed a log-normal distribution and the DUV data suggested that it was derived from a single population of assay data. Correlations between the distributions of gold, silver and copper values were weakly positive.

Variograms for the metals exhibited a strong anisotropy, with a vertical range of 100 feet, a North 20 East trend of 50 feet, and a short cross-trend of 25 feet.t. As would be expected, copper showed the greatest lateral and vertical continuity of the metals, with gold and silver showing less systematic distributions. The data was kriged using a General Relative Kriging model. The search parameters were established as the nearest 4 points, with the search ellipse using the modeled gold variogram ranges of values. The same search parameters were used for all metals. Rock densities were not reported for the drill samples and therefore, a default density of 12.5 cubic feet per ton was used.

Inferred mineral resource data generated from the model calculations are presented on Table 11 as cumulative lists of inferred resources based on variable cut-off grades. Grade / tonnage curves developed for the; DUV Target Area are illustrated on Figure 31.

The CIM definition for an inferred Mineral Resource is "that part of a Mineral Resource for which the grade or quantity can be estimated on the basis of geologic evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity,, (CIM 2005). Therefore, the estimate is based on limited information and sampling gathered using appropriate techniques principally from, in the case of the DUV Target Area, drill hole spatial and assay data.

The 2008 resource is considered an historical resource, as a technical report on the resource was never filed although the calculation was completed. It is the author's opinion that the resource is reliable having been done by a reputable independent third party who verified data and checked assays. A qualified person has not done sufficient work to classify the historical estimate as a current mineral resource. The company does not intend to rely on this resource but will use it as a guide.

Cutoff	Tons	Grade	Oz Au	Grade	Oz Ag	Grade	Lbs Cu
Au (opt)	(000's)	Au (opt)	(000's)	Ag (opt	(000's)	Cu (%)	(000's)
0.1	44	0.172	8	0.87	38	0.16	139
0.09	48	0.165	8	0.84	40	0.15	143
0.08	53	0.158	8	0.81	43	0.15	158
0.07	82	0.129	11	0.83	68	0.13	221
0.06	140	0.102	14	0.89	125	0.13	357
0.05	229	0.084	19	0.86	197	0.12	545
0.04	300	0.075	22	0.81	242	0.11	667
0.03	451	0.061	27	0.71	319	0.11	1,018
0.02	736	0.047	35	0.59	437	0.13	1,874
0.01	1649	0.029	47	0.41	676	0.14	4,637

# Table 11: Cumulative Inferred Au-Ag-Cu Resources for DUV Ridge Area(Tetra Tech Corp. 2008)





### 18.0 Interpretation and Conclusions

The author believes that the background materials presented in this report support the conclusion that the Emigrant District in general, and the Lucky Minerals properties in particular, are viable, sound and desirable targets for gold-silver-copper-molybdenum metal exploration. In addition, both government agencies and exploration companies have reported non-compliant historical inferred resource estimates from Lucky Minerals properties, and a NI-43-101 historic inferred resource estimate for the DUV Target Area was developed by Tetra Tech, a reputable engineering company. This inferred resource implies that the potential exists with additional exploration drilling to document the tonnage and grade of potential resources will be required. Some of the target areas may also have the potential testing, economic analysis and prefeasibility study work as proposed in Lucky Mineral's Exploration plan. In support of this premise we present the following very brief summary of relevant data.

The Emigrant Mining District has had historical production and has been the site of small-scale lode and placer operations since the 1860s. During the period from 1864 to 1930 an estimated 40,000 ounces of gold were produced predominantly from placer operations. Beginning in the early 1970s, a series of companies conducted various types of mineral exploration within the Emigrant District that are described in this report. Lucky Minerals currently holds a very strong land position in the core of the highly altered and mineralized Emigrant Mining District of south-central Montana in the form of lease/option agreements on 38 unpatented mining claims incorporating approximately 317.4ha (784.34 acres). Furthermore, Lucky Minerals land position provides them with control of all of the major exploration target areas in the heart of the Emigrant Mining District. In addition to mineral rights, surface rights for access are held on all of these unpatented mining claims and complete surface rights on the patented claims under option.

Mineralization in the Emigrant District is associated with the multiphase dacite porphyry of the Emigrant stock and smaller associated late-stage quartz monzonite porphyries. Alteration associated with these stocks exhibit a classical pattern of metal zoning typically associated with copper and molybdenum mineralized porphyry systems. Within the Emigrant District, mineral deposits occur as sulfide disseminations, stockwork and vein type mineralization that show pervasive regional alteration in quartz-sericite-pyrite and argillically altered zones associated with the Emigrant Stock and quartz monzonite porphyries. The size of the regional zone of alteration showing silicification with pyrite extends over an area of 23-25 square kilometers (9 to10 square miles) and the pyrite content generally decreases outward from the intensely altered quartz-sericite-pyrite intrusive centers. More importantly, mineral occurrences exist as gold-silver-copper-molybdenum-rich concentrations in breccia pipehosted deposits. Observed ore minerals include native gold, chalcopyrite, chalcocite, covellite, molybdenite, sphalerite and galena.

Exploration of the Emigrant District properties by Lucky Minerals will therefore focus on two types of mineralized targets including:

1) Breccia pipe and structurally hosted deposits that appear to be localized around the contact area of the Emigrant Stock dacite porphyry and occur in conjunction with quartz-sericite-pyrite alteration spatially related to areas of emplacement of late stage quartz monzonite intrusive stocks and dykes. Examples of these later types of deposit areas include the St. Julian, DUV,

Allison Tunnel, Great Eastern and peter pear target areas that occur as breccia pipes and spatially associated cross cutting shear zones.

 Classic gold-copper-molybdenum porphyry systems such as those located on the east flank of Emigrant Peak and in the East Fork of the Emigrant Creek area (both of which are supported by alteration patterns, mineralization style and induced polarization geophysical surveys as described below.

Lucky Minerals has stated that its Emigrant Project activities are slated to focus on the exploration and development of several identified target areas within its claim block. As many as six highly mineralized breccia-pipes and two porphyry targets exist within the claim block and have been identified and variously explored by historical drilling including as much as 12,874 meters (42,237 feet) of drilling in 83 holes, induced polarization geophysical surveys, rock chip sampling and geologic and alteration mapping. All of the historical drilling has taken place on lands currently controlled by Lucky Minerals on identified target areas within the district including ST. Julian, DUV, Allison Tunnel, Peter Pear, and Base Metal breccia-pipe hosted targets and the Emigrant peak porphyry target area (Figures 4 and 11). Non-compliant historical inferred resources have been calculated for several of these target areas by various government agencies and by Pegasus Gold Corporation. Tetra Tech calculated in 2008 an Historic Ni 43-101 inferred mineral resource for the DUV breccia pipe target using a low cut-off of 0.01 ounces per ton (opt) gold estimated to be 1, 646,000 tons grading 0.0286 opt gold that would contain 47,000 ounces of gold with additional silver and copper credits and anomalous molybdenum mineralization. The author considers the resource reliable. The company does not consider the resource current, and intends to use it as a guide only. Very preliminary metallurgical testing by others suggests that overall flotation recoveries of as much as 90% gold, 72 % silver and 88% copper might be attained with head grades as tested of 0.038 opt gold, 0.36 opt silver and 0.22% copper.

Note: The 2008 resource is considered an historical resource, as a technical report on the resource was never filed although the calculation was completed. It is the author's opinion that the resource is reliable having been done by a reputable independent third party who verified data and checked assays. A qualified person has not done sufficient work to classify the historical estimate as a current mineral resource. The company is not treating the resource as a "current resource" and does not intend to rely on this resource but will use it as a guide.

A multi-phase exploration program has been recommended with a goal to define the geographic extend and grade distribution of mineralization and potentially establish mineable reserves on the Lucky Minerals properties. The work is easily justified at the current time, given the encouraging existing historic geologic, drilling and assay data. Phase 1 is a \$2,500,000 exploration program focusing on advanced permitting, exploration diamond drilling, both in-fill and step out on the main target areas, St Julian, DUV, Allison, Base Metal, and Emigrant Peak. Work will also been done on examining the other five breccia pipes using geological mapping and sampling and possible additional induced polarization geophysical surveys. Drilling will focus on obtaining information necessary for a 43-101 compliant resource calculation and to follow the know mineralization to depth. In addition work will be done on examining the potential for recovery of gold from the placer deposits in the area. Phase 2 would be initiated following the completion of phase 1 and the receipt of additional permits and would be designed to deliver information required to complete a pre-feasibility level analysis of the project.

Overall target is a significant gold property with copper, silver by products.

Finally the infrastructure exists to support both advanced exploration and development projects at locations in the Emigrant Project area. Surface disturbance necessary to conduct exploration and mining

activities need to be permitted by the U.S. Forest Service as the surface landowner of the unpatented claims and bonded by the Montana department of Environmental Quality.

### 19.0 Recommendations

The author recommends a multi-stage exploration approach for Lucky Minerals exploration of their Emigrant Creek properties. The initial stage involves drilling on the Patented ground (St Julian) and in areas covered by a low level: Category Exclusion permit (submitted January 2015). While, this work is being performed an application (Plan of Operations) will be made for road access construction and additional drilling locations that would be covered by an Environmental Assessment program. The purpose of the program is to produce a 43-101 complaint resource for the project and its various zones. This will mainly be accomplished by diamond drilling within the existing known zones and following these zones along strike and to depth. Additional work involving geophysics, geological mapping and sampling will be done to examine additional previously unexplored targets within the property boundaries. The initial program budget is estimated at US\$2.5 million and is summarized in Table 12 below. The initial program also allocates approx. US\$380,000 to obtaining the Environmental Assessment permit for future stages that will lead to full resource definition on the various zones. It is estimated that an additional \$5 million would be spent on the subsequent stage, the exact distribution would be determined by the results of the first stage program.

Use	US Dollars
Property acquisition and maintenance	\$92,000
Permitting and Plan of Operations	\$380,000
Road maintenance and pad construction	\$80,000
Management Geology and technical support	\$168,000
Geophysical surveys	\$65,000
Core drilling (20,000 to 25,000 feet)	\$1,685,000
Report and resource calculations	\$30,000
Total Stage 1	\$2,500,000

Table 12: Recommended Explorat	tion program and Budget Estimate.
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Phase 1 is designed to be completed during the 2015 field season allowing for time to complete the required permits for additional phases and full analysis of all data collected prior to staring phase 2.

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### 21.0 Signature Page

I, Shaun M Dykes, resident of New Westminster, Province of British Columbia, hereby certify as follows:

- 1) I am a consulting geologist with an office located at 514 East Columbia St., New Westminster, British Columbia.
- 2) I graduated with a degree of Bachelor of Science (engineering) in geology from Queen's University in 1976 and with a Master of Science (engineering) in geology from Queen's University in 1979 and have practiced my profession for 7 years on a seasonal and 35 years on a continuous basis and I am a "Qualified Person" under the terms and policies of National Instrument 43-101.
- 3) I have practiced my profession continuously since 1979. I have over 35 years' experience in geology and engineering having worked on a wide variety of gold, copper, molybdenum, silver, lead and zinc deposit throughout the world. I was major team member in the exploration construction and production at the Premier Gold Mine, British Columbia supplying geological expertise and resource and reserve calculations. I have evaluated numerous deposits for a variety of companies including Voisey Bay, Red Chris, Tulsequah Chief, Petaqullia, Barun Holbinsky(Russia), Cariboo Quartz Gold Mine, Mosquito Gold Mine, Blackpoint Gold, and several other gold mines and Prospects.
- 4) I am registered as Professional Geoscientist (No. 123245) by the Association of Professional Engineers and Geoscientists of British Columbia.
- 5) I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of education, experience and affiliation with a professional association, I meet the requirements of a qualified person as defined in National Instrument 43-101.
- 6) Although a qualified person, I am not independent of Lucky Minerals inc. as I am a director and vice president.
- 7) This report The Emigrant Mining District Project South Central Montana is based on examination of the available data, my direct involvement, and my experience working in exploration. I am responsible for all sections of the report and have visited the property on at least two occasions, between July 10 and July 17, 2013 and August 8 to 17,2014
- 8) I am not aware of any material fact or material change with respect to the subject matter of the technical report, which is not reflected in the technical report, the omission to disclosure, which makes the technical report misleading.
- 9) The author has read National Instrument 43-101, "Standards Of Disclosure For Mineral Projects " and Form 43-101F1, and this report has been prepared in compliance with 43-101 and Form 43-101F.

Dated at New Westminster, Province of British Columbia, this 7rd day of October, 2015

Signed

Shaun M. Dykes

Shaun M Dykes, M.Sc. (Eng), P. Geo

Updated October 2015

## 22.0 Appendix A Claims List

		Claim			Last
Serial Num	Mer Twn Rng Sec Quad	Name/Number	Status	Loc Dt	Assmt
MMC133088	20 0070S 0090E 005 SE	ST JULIAN FRACTION	ACTIVE	4/25/1987	2015
MMC212188	20 0070S 0090E 006 NE,NW	NANCY 4	ACTIVE	11/19/2004	2015
MMC217803	20 0070S 0090E 006 NE	AYME JEAN NO 1	ACTIVE	7/2/2007	2015
MMC217804	20 0070S 0090E 005 NW	AYME JEAN NO 2	ACTIVE	7/2/2007	2015
MMC217805	20 0070S 0090E 006 NE	KATHLEEN 4	ACTIVE	7/3/2007	2015
MMC217806	20 0060S 0090E 031 SW,SE	KATHLEEN 5	ACTIVE	7/3/2007	2015
MMC230769	20 0070S 0090E 005 NW	ATLAS 1	ACTIVE	6/9/2014	2015
MMC230770	20 0070S 0090E 005 NW	ATLAS 2	ACTIVE	6/11/2014	2015
MMC230771	20 0070S 0090E 005 NW	ATLAS 5	ACTIVE	6/9/2014	2015
MMC230772	20 0070S 0090E 006 SE	ATLAS 6	ACTIVE	6/9/2014	2015
MMC230773	20 0070S 0090E 005 NW,SW	ATLAS 7	ACTIVE	6/9/2014	2015
MMC230774	20 0070S 0090E 005 NW,SW	NEW DUV 2	ACTIVE	6/11/2014	2015
MMC230775	20 0060S 0090E 031 SW	ROSIE 1	ACTIVE	6/11/2014	2015
MMC230776	20 0070S 0090E 006 NW	ROSIE 2	ACTIVE	6/11/2014	2015
MMC230777	20 0060S 0090E 031 SW	ROSIE 3	ACTIVE	6/11/2014	2015
MMC230778	20 0060S 0090E 031 SW,SE	ROSIE 4	ACTIVE	6/10/2014	2015
MMC230779	20 0060S 0090E 031 SW,SE	ROSIE 5	ACTIVE	6/10/2014	2015
MMC230780	20 0060S 0090E 031 SE	ROSIE 6	ACTIVE	6/10/2014	2015
MMC230781	20 0060S 0090E 031 SE	ROSIE 7	ACTIVE	6/10/2014	2015
MMC230782	20 0060S 0090E 031 SE	ROSIE 8	ACTIVE	6/10/2014	2015
MMC230783	20 0060S 0090E 031 SE	ROSIE 9	ACTIVE	6/10/2014	2015
MMC230784	20 0060S 0090E 031 SE	ROSIE 10	ACTIVE	6/10/2014	2015
MMC230785	20 0060S 0090E 031 SE	ROSIE 11	ACTIVE	6/10/2014	2015
MMC230786	20 0060S 0090E 032 SW	ROSIE 12	ACTIVE	6/11/2014	2015
MMC230787	20 0070S 0090E 006 NW,SW	ROSIE 14	ACTIVE	6/12/2014	2015
MMC230788	20 0060S 0080E 035 SE	ROSIE 15	ACTIVE	7/18/2014	2015
MMC230789	20 0060S 0080E 035 SE	ROSIE 16	ACTIVE	7/18/2014	2015
MMC230790	20 0060S 0080E 035 SE	ROSIE 17	ACTIVE	7/19/2014	2015
MMC230791	20 0070S 0080E 001 NW	ROSIE 18	ACTIVE	7/19/2014	2015
MMC230792	20 0070S 0080E 001 NW	ROSIE 19	ACTIVE	7/19/2014	2015
MMC230793	20 0070S 0080E 001 NW	ROSIE 20	ACTIVE	7/19/2014	2015
MMC230794	20 0060S 0080E 036 SW	ROSIE 21	ACTIVE	7/18/2014	2015
MMC230795	20 0060S 0080E 036 SW,SE	ROSIE 22	ACTIVE	7/18/2014	2015
MMC230796	20 0060S 0080E 036 SW	ROSIE 23	ACTIVE	7/17/2014	2015
MMC230797	20 0060S 0080E 036 SW,SE	ROSIE 24	ACTIVE	7/17/2014	2015
MMC230799	20 0060S 0080E 036 SW,SE	ROSIE 26	ACTIVE	7/17/2014	2015
MMC230800	20 0070S 0080E 001 NE,NW	ROSIE 27	ACTIVE	7/17/2014	2015

Serial					Last
Number	Mer Twn Rng Sec Quad	Claim Name/Number	Status	Loc Dt	Assmt
MMC230801	20 0070S 0080E 001 NE,NW	ROSIE 28	ACTIVE	7/16/2014	2015
MMC230802	20 0070S 0080E 001 NE,NW	ROSIE 29	ACTIVE	7/16/2014	2015
MMC230803	20 0070S 0080E 001 NE,NW	ROSIE 30	ACTIVE	7/16/2014	2015
MMC230804	20 0060S 0080E 036 SE	ROSIE 31	ACTIVE	6/13/2014	2015
MMC230805	20 0060S 0080E 036 SE	ROSIE 32	ACTIVE	6/13/2014	2015
MMC230806	20 0060S 0090E 031 SW	ROSIE 33	ACTIVE	6/13/2014	2015
MMC230807	20 0060S 0080E 036 SE	ROSIE 34	ACTIVE	7/15/2014	2015
MMC230808	20 0060S 0090E 031 SW	ROSIE 35	ACTIVE	6/13/2014	2015
MMC230809	20 0060S 0080E 036 SE	ROSIE 36	ACTIVE	7/15/2014	2015
MMC230810	20 0060S 0090E 031 SW	ROSIE 37	ACTIVE	7/15/2014	2015
MMC230811	20 0070S 0080E 001 NE	ROSIE 38	ACTIVE	7/15/2014	2015
MMC230812	20 0070S 0090E 006 NW	ROSIE 39	ACTIVE	7/15/2014	2015
MMC230813	20 0070S 0080E 001 NE	ROSIE 40	ACTIVE	7/15/2014	2015
MMC230814	20 0070S 0090E 006 NW	ROSIE 41	ACTIVE	7/15/2014	2015
MMC230815	20 0070S 0080E 001 NE	ROSIE 42	ACTIVE	7/15/2014	2015
MMC230816	20 0070S 0090E 006 NW	ROSIE 43	ACTIVE	7/15/2014	2015
MMC231286	20 0060S 0080E 036 NE,NW	EMD 1	ACTIVE	10/8/2014	2015
MMC231287	20 0060S 0080E 036 NE	EMD 2	ACTIVE	10/8/2014	2015
MMC231288	20 0060S 0090E 031 NW	EMD 3	ACTIVE	10/8/2014	2015
MMC231289	20 0060S 0090E 031 NE,NW	EMD 4	ACTIVE	10/8/2014	2015
MMC231290	20 0060S 0090E 031 NE,NW	EMD 5	ACTIVE	10/8/2014	2015
MMC231291	20 0060S 0080E 035 NE,NW	EMD 6	ACTIVE	10/8/2014	2015
MMC231292	20 0060S 0080E 036 NE	EMD 7	ACTIVE	10/8/2014	2015
MMC231293	20 0060S 0090E 031 NW	EMD 8	ACTIVE	10/8/2014	2015
MMC231294	20 0060S 0090E 031 SW	EMD 9	ACTIVE	10/8/2014	2015
MMC231295	20 0060S 0090E 032 SW	EMD 13	ACTIVE	10/3/2014	2015
MMC231296	20 0070S 0090E 005 NW	EMD 14	ACTIVE	10/3/2014	2015
MMC231297	20 0070S 0090E 005 NW	EMD 15	ACTIVE	10/3/2014	2015
MMC231298	20 0070S 0090E 005 NW	EMD 16	ACTIVE	10/5/2014	2015
MMC231299	20 0070S 0090E 005 NW	EMD 17	ACTIVE	10/3/2014	2015
MMC231300	20 0070S 0080E 001 NE,NW	EMD 18	ACTIVE	10/5/2014	2015
MMC231301	20 0070S 0080E 001 NE	EMD 19	ACTIVE	10/5/2014	2015
MMC231302	20 0070S 0080E 001 NE	EMD 20	ACTIVE	10/7/2014	2015
	20 0070S 0080E 001				
MMC231303	NE,NW,SW,SE	EMD 21	ACTIVE	10/5/2014	2015
MMC231304	20 0070S 0080E 001 NE,SE	EMD 22	ACTIVE	10/5/2014	2015
MMC231305	20 0070S 0080E 001 NE	EMD 23	ACTIVE	10/5/2014	2015
MMC231306	20 0070S 0080E 001 SE	EMD 24	ACTIVE	10/5/2014	2015

		Claim			Last
Serial Number	Mer Twn Rng Sec Quad	Name/Number	Status	Loc Dt	Assmt
MMC231307	20 0070S 0080E 001 SE	EMD 25	ACTIVE	10/7/2014	2015
MMC231308	20 0070S 0080E 001 SE	EMD 26	ACTIVE	10/5/2014	2015
MMC231309	20 0070S 0080E 001 SE	EMD 27	ACTIVE	10/7/2014	2015
MMC231310	20 0070S 0080E 001 SE	EMD 28	ACTIVE	10/7/2014	2015
MMC231311	20 0070S 0080E 001 SE	EMD 29	ACTIVE	10/7/2014	2015
MMC231312	20 0070S 0090E 006 SW	EMD 30	ACTIVE	10/7/2014	2015
MMC231313	20 0070S 0080E 001 SE	EMD 31	ACTIVE	10/7/2014	2015
MMC231314	20 0070S 0090E 006 SW	EMD 32	ACTIVE	10/7/2014	2015
MMC231315	20 0070S 0080E 007 NW	EMD 33	ACTIVE	10/7/2014	2015
MMC231316	20 0070S 0090E 006 SW	EMD 34	ACTIVE	10/7/2014	2015
MMC231317	20 0070S 0080E 007 NW	EMD 35	ACTIVE	10/6/2014	2015
MMC231318	20 0070S 0090E 007 NW	EMD 36	ACTIVE	10/6/2014	2015
MMC231319	20 0070S 0080E 007 NW	EMD 37	ACTIVE	10/6/2014	2015
MMC231320	20 0070S 0080E 007 NW	EMD 38	ACTIVE	10/6/2014	2015
MMC231321	20 0070S 0080E 007 NW	EMD 39	ACTIVE	10/6/2014	2015
MMC231322	20 0070S 0080E 007 NE,NW	EMD 40	ACTIVE	10/6/2014	2015
MMC231323	20 0070S 0080E 012 NE,SE	EMD 41	ACTIVE	10/6/2014	2015
	20 0070S 0090E 007				
MMC231324	NE,NW,SW,SE	EMD 42	ACTIVE	10/6/2014	2015
MMC231325	20 0070S 0090E 007 SW	EMD 43	ACTIVE	10/6/2014	2015
MMC231326	20 0070S 0090E 007 SW,SE	EMD 44	ACTIVE	10/6/2014	2015
MMC231327	20 0070S 0090E 007 SW,SE	EMD 46	ACTIVE	10/6/2014	2015
MMC231328	20 0070S 0090E 007 SW,SE	EMD 48	ACTIVE	10/6/2014	2015
MMC231329	20 0070S 0090E 007 SE	EMD 52	ACTIVE	10/3/2014	2015
MMC231330	20 0070S 0090E 007 NE,SE	EMD 53	ACTIVE	10/3/2014	2015
MMC231332	20 0070S 0090E 007 NE,SE	EMD 54	ACTIVE	10/3/2014	2015
MMC231333	20 0070S 0090E 007 SE	EMD 55	ACTIVE	10/3/2014	2015
MMC231334	20 0070S 0090E 007 SE	EMD 56	ACTIVE	10/3/2014	2015
MMC231335	20 0070S 0090E 007 SE	EMD 57	ACTIVE	10/3/2014	2015
MMC231336	20 0070S 0090E 006 NE	EMD 58	ACTIVE	10/2/2014	2015
MMC231337	20 0070S 0090E 005 SW	EMD 59	ACTIVE	10/2/2014	2015
MMC231338	20 0070S 0090E 005 SW	EMD 60	ACTIVE	10/5/2014	2015
MMC231339	20 0070S 0090E 006 SE	EMD 61	ACTIVE	10/2/2014	2015
MMC231340	20 0070S 0090E 005 SW	EMD 62	ACTIVE	10/2/2014	2015
MMC231341	20 0070S 0090E 005 SE	EMD 63	ACTIVE	10/5/2014	2015
MMC231342	20 0070S 0090E 007 NE	EMD 65	ACTIVE	10/2/2014	2015
MMC231343	20 0070S 0090E 005 SW	EMD 66	ACTIVE	10/5/2014	2015
MMC231345	20 0070S 0090E 008 NW	EMD 68	ACTIVE	10/2/2014	2015

Serial		Claim			Last
Number	Mer Twn Rng Sec Quad	Name/Number	Status	Loc Dt	Assmt
MMC231346	20 0070S 0090E 007 NE	EMD 69	ACTIVE	10/2/2014	2015
MMC231347	20 0070S 0090E 008 NW	EMD 70	ACTIVE	10/2/2014	2015
MMC231348	20 0070S 0090E 007 NE,SE	EMD 71	ACTIVE	10/2/2014	2015
MMC231349	20 0070S 0090E 008 NW	EMD 72	ACTIVE	10/2/2014	2015
MMC231350	20 0070S 0090E 007 SW,SE	EMD 73	ACTIVE	10/2/2014	2015
MMC231351	20 0070S 0090E 008 NW,SW	EMD 74	ACTIVE	10/2/2014	2015
MMC231352	20 0070S 0090E 007 SE	EMD 75	ACTIVE	10/2/2014	2015
MMC231353	20 0070S 0090E 008 SW	EMD 76	ACTIVE	10/2/2014	2015
MMC231354	20 0070S 0090E 007 SE	EMD 77	ACTIVE	10/2/2014	2015
MMC231355	20 0070S 0090E 008 SW,SE	EMD 78	ACTIVE	10/2/2014	2015
MMC231356	20 0070S 0090E 007 SE	EMD 79	ACTIVE	10/2/2014	2015
MMC231357	20 0070S 0090E 008 SW,SE	EMD 80	ACTIVE	10/2/2014	2015
MMC231358	20 0070S 0090E 001 NW	KATHLEEN 8	ACTIVE	10/4/2014	2015
MMC231359	20 0060S 0080E 036 SW	KATHLEEN 7	ACTIVE	10/4/2014	2015

### List of Patented Claims (under Option)

Mineral Survey	LOT NAME	SURFACE
9015	COPPER KING	20.3 acres
9015	BERCRY	16.3 acres
9015	BULLION	20 acres
9015	ST JULIEN FRACTION	7.6 acres
9015	JOSEPHINE	16 acres
9015	HELEN	13.3 acres
6706	ST JULIEN	16.1 acres
6707	BOTTLER	11.21 acres
6705	ST JULIEN MILL	17.68 acres