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**GRASS ROOTS PROSPECTING REPORT**

**on the**

**KALIK McTAVISH AMETHYST PROPERTY**

**McTavish Township  
Thunder Bay Mining Division  
NORTHWEST ONTARIO, CANADA  
NTS 52A/NE**

**Prepared by  
Gerry White P.Geo  
for  
David Kalik, Prospector and Property Owner  
Thunder Bay, Ontario**

**August 26, 2019**

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## LIST OF ABBREVIATIONS

Ag	Silver
Au	Gold
CNR	Canadian National Railway
CPR	Canadian Pacific Railway
cm	centimeter
Cu	Copper
DDH	Diamond Drill Hole
EM	Electromagnetic
GB	Greenstone Belts
GIS	Geographic Information System
GPS	Global Positioning System
GSC	Geological Survey of Canada
g/t	Grams per tonne (Metric ton, 1,000 kg)
ha	Hectare
IP	Induced Polarization
Kg	Kilogram
Km	Kilometre
KMAP	Kalik McTavish Amethyst Property
Li	Lithium
LIO	Land Information Ontario
m	Metre
mm	Millimetre
MDI	Mineral Deposit Inventory
MENDM	Ministry of Energy, Northern Development and Mines
MNDM	Ministry of Northern Development and Mines
Mo	Molybdenum
NAD83	North American Datum 1983
NI	National Instrument
Ni	Nickel
NTS	National Topographic System
OGS	Ontario Geological Survey
PGE	Platinum Group Elements
Ounce	Troy ounce (used for precious metals) = 31.103 grams
ppb	Parts Per Billion
ppm	Parts Per Million
REE	Rare Earth Elements
SP	Subprovince
TDEM	Time-Domain Electromagnetic
UTM	Universal Transverse Mercator (map projection)
VLF	Very Low Frequency
Zn	Zinc

## INTRODUCTION

This Grass Roots Prospecting report on the Kalik McTavish Amethyst Property (KMAP) was prepared by geological consultant Gerry White P.Geo (prospectors licence #1013733, client #413224), on behalf of prospector and owner Mr. David Kalik of Thunder Bay. Mr. Kalik controls 3 groups of cell claims in the McTavish Township area east of Thunder Bay (Figure 1). The work presented in this report was conducted during the 2017 and 2018 summer field seasons by Mr. Kalik and his assistants on the largest claim group, which consists of 7 contiguous cell claims. The purpose of this and current work on the property is to locate and identify amethyst and amethyst-related mineralization (including smoky quartz, green quartz and red iron-coated amethyst, which is unique to the Thunder Bay – Lake Superior region). These samples are highly sought after by the mineral collecting industry, as well as landscape and interior artists. Amethyst is the purple gemstone variety of quartz and the official gemstone of the province of Ontario.

Mr. Kalik resides at 110 Hazelwood Dr, Thunder Bay, Ontario, P7G 1Y4. He has been an active prospector for over 20 years and possesses a valid Ontario prospectors license - # 1002304, client # 402196. Mr. Kalik also holds a valid Exploration Permit with number PR-19-000004 for the KMAP property.



Figure 1: Property Location Map

## LOCATION AND ACCESS

The Kalik McTavish Amethyst Property is located approximately 60 km northeast of Thunder Bay, Ontario along the north shore of Lake Superior. It lies just west of Granite Point on Black Bay within the northeast portion of McTavish Township. Access to the property is via Highway 11/17 61 km east from the City of Thunder Bay to Superior Shores Road. The main claim group can be reached by travelling south along this all-weather road and a branch road to the east northeast for a total of 7.2 km to a staging area (Figure 2). The main amethyst occurrences are accessible on foot or by ATV along well-flagged trails.

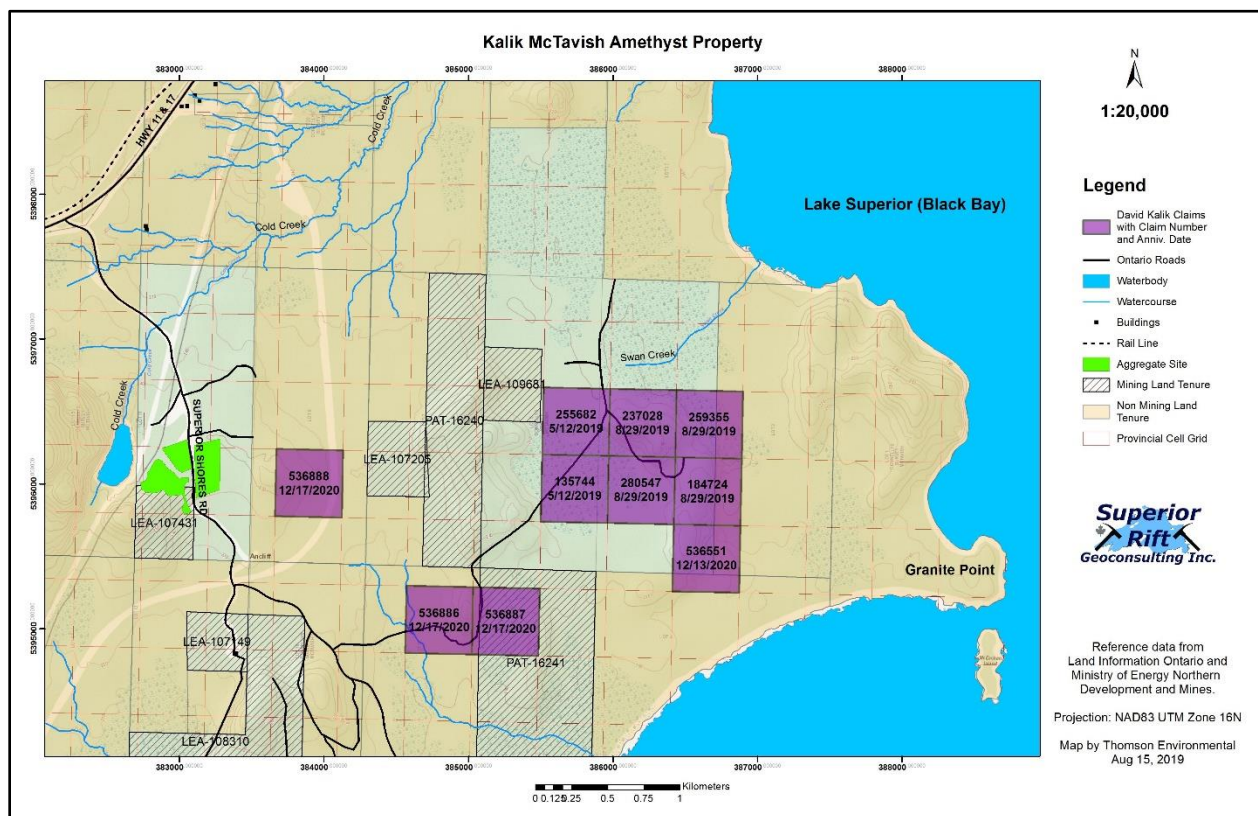


Figure 2: Kalik McTavish Amethyst Property Claim Map

## PROPERTY DESCRIPTION

The property where the 2017 and 2018 prospecting work was conducted, consists of 7 contiguous cell claims: 135744, 184724, 237028, 255682, 259355, 280547 and 536551 (Figure 3). However, most of the work was performed on claims 237028 and 259355.

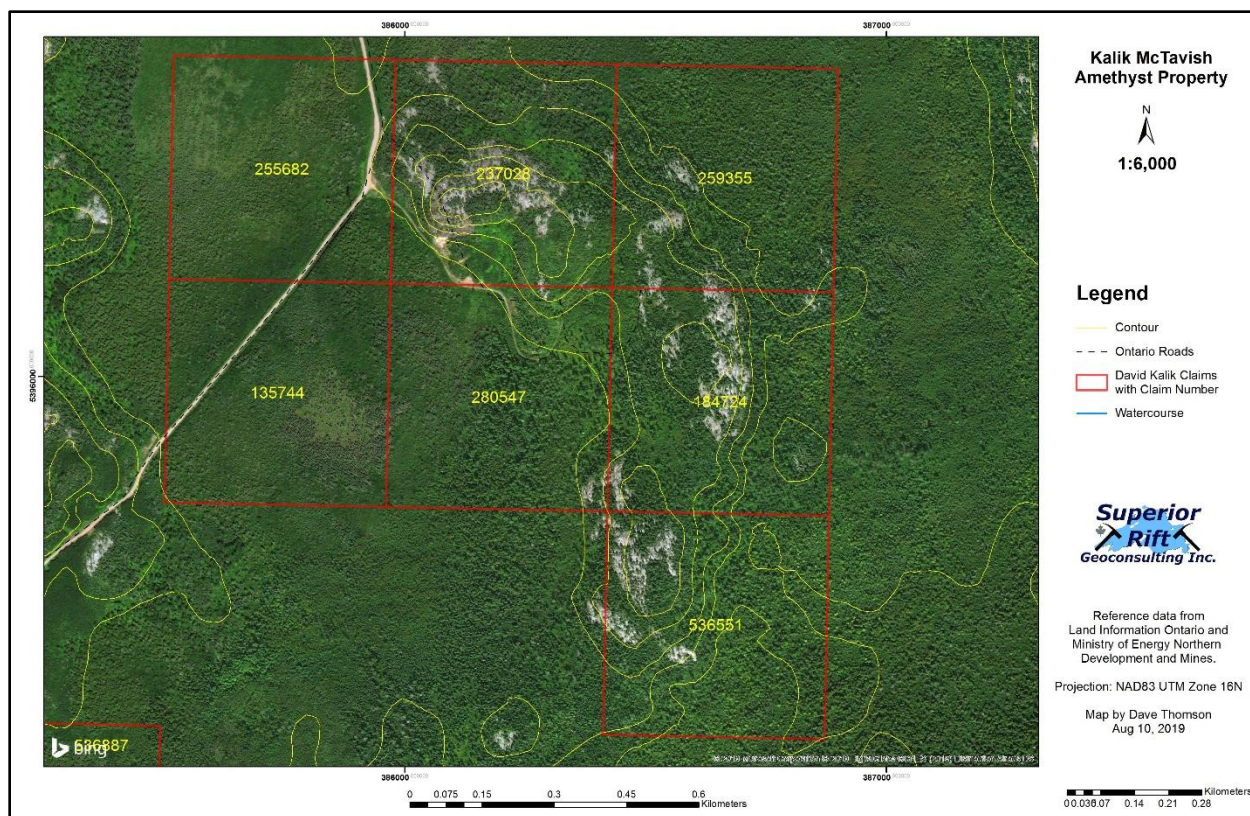


Figure 3: Kalik McTavish Amethyst Property Topographic Map

## EXPLORATION HISTORY

In the mid-1600's, early explorers to the north shore of Lake Superior record the use of amethyst as a decorative gemstone by local indigenous peoples. By 1862 amethyst was being commercially exploited as a secondary product from various lead-zinc and silver deposits in the area. During the 1880's Amethyst was mined at what is known today as Amethyst Harbour northeast of Thunder Bay. Interest in Thunder Bay amethyst declined at the turn of the century with the discovery of high-quality deposits in Brazil. However, with the discovery of the Amethyst Mine Panorama (located north of Highway 11/17 in the Loon Lake area) in 1961 and the subsequent development of the deposit, interest in the areas amethyst deposits was revitalized. This led to the proclamation in 1975 designating amethyst as Ontario's provincial gemstone. A comprehensive report on amethyst deposits and related mining activity in the Thunder Bay area was completed by M. Garland of the Ontario Geological Survey in 1994 (Kissin 2012).

## GEOLOGICAL SETTING AND MINERALIZATION

The Kalik McTavish Amethyst Property (KMAP) lies on or within the contact zone between the underlying granite or 'basement' rocks of the Archean age Canadian Precambrian Shield and a much younger group of sedimentary rocks from the Proterozoic age, known as the Sibley Group (Carter 1973). (This younger package of sedimentary rocks unconformably overlies the Archean granites, since there is roughly a 1.1 billion-year gap of missing and eroded material between these two rock units). Deformation, namely folding and faulting, has resulted in the break-up and brecciation of some of these rock units. This 'mixing' zone is evident in some of the amethyst breccia found on the KMAP, which contains fragments (averaging from 1 to 3 cm) of red brown siltstone-sandstone (Sibley Group), medium-grained granite and amethyst.

Deformation (folding and faulting) within the earth's crust also resulted in the development of fractures, fissures and cavities in the local host rock. These fractures are often discontinuous (pinch and swell) but have a preferred orientation. Recognizing these trends is important to the prospecting and discovery of amethyst mineralization. Sometimes multiple parallel fractures host various types of veining consisting primarily of calcite and quartz, including smoky quartz, green quartz (rare) and amethyst. In the right conditions as observed on the KMAP, the open cavities within these vein systems allow the growth of amethyst and smoky quartz crystals ranging in size from < .5 cm to 2 or 3 cm and larger in rare cases.

Numerous occurrences of this type have been and continue to be discovered on the KMAP. To date (spring 2019) more than a dozen occurrences have been uncovered, included historical trenches and new amethyst showings, often along strike and in related parallel vein systems. These veins systems host open lens-shaped cavities up to half a meter wide and from 30 cm to 2 m long, generally trending in an easterly direction. Cross fractures at roughly 90° (north-trending) to this trend were noted but are not common.

At sites KMA-4 and KMA-9 (Figure 4, Table 1), two 'exploration' shafts were discovered, approximately 4 and 10 m deep respectively. Although no historical records documenting these shafts were found, they are likely related to the search for silver and/or amethyst during the 1860's to the 1880's. Prospecting



along the trend of the associated vein systems at these 2 locations, has located amethyst mineralization.

Site KMA-11 is a large (5m x 20m) south facing bedrock exposure hosting a breccia zone. The breccia is unusual in that it contains an abundance of fragmented cherty stromatolite structures from 10 to 15 cm in size and smaller (2 to 3 cm) complete examples. The zone also contains fragments of granite, amethyst, buff to rust colored Sibley sandstone and disseminated malachite. In other areas along the northwest shore of Lake Superior, the Sibley sedimentary rocks are known to contain complete stromatolite structures. However, the fragmentation of these structures indicates a higher degree of deformation in this area on the KMAP. It is worth noting that in addition to the economic value of the smoky quartz and amethyst uncovered on the property, the unusual character of this stromatolite-amethyst-granite breccia is worth considering as a decorative or landscape stone.

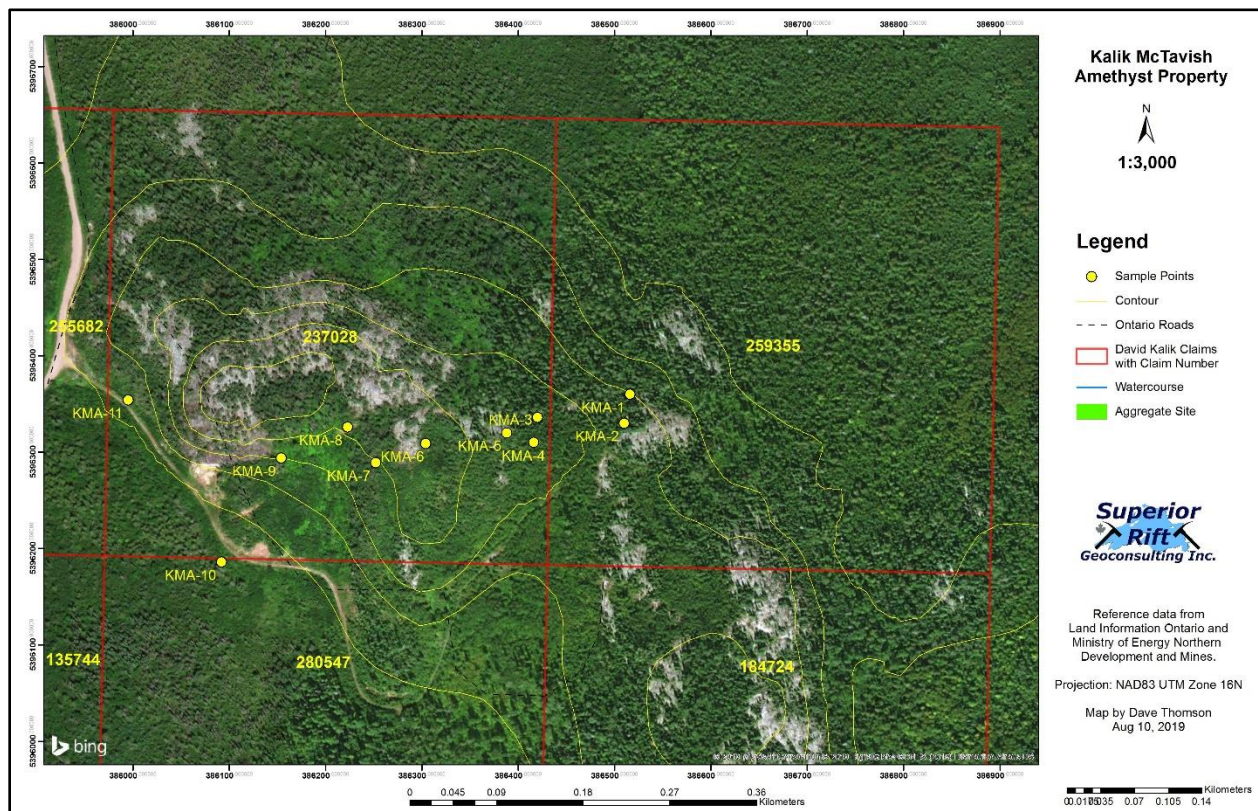


Figure 4: Kalik McTavish Amethyst Property Work Site Locations

## PROSPECTING ACTIVITY

There are currently 11 main sites where work was conducted, primarily located along an easterly trend in the south-central area of cell claims 237028 and 259355 (Figure 4, Table 1). This work consisted of general prospecting and sampling, flagging and brushing lines to the various occurrences, clearing and cleaning out historical pits and trenches, small-scale (~1 sq. m) drilling and blasting at 2 sites and uncovering new amethyst/smoky quartz-veins, vugs and cavities for study.

Table 1: KMAP Work site location coordinates

<b>Kalik McTavish Amethyst Property</b>			
<b>Site No.</b>	<b>UTM Coordinates</b>		
	<b>Zone</b>	<b>Easting</b>	<b>Northing</b>
KMA-1	16	386516	5396360
KMA-2	16	386510	5396330
KMA-3	16	386420	5396336
KMA-4	16	386416	5396310
KMA-5	16	386388	5396320
KMA-6	16	386304	5396309
KMA-7	16	386252	5396289
KMA-8	16	386223	5396326
KMA-9	16	386154	5396294
KMA-10	16	386092	5396186
KMA-11	16	385995	5396354

At various times during the exploration activity conducted on the KMAP in the 2017 and 2018 field seasons, Mr. Kalik hired prospector assistants to further advance the search for amethyst and related material. The daily logs (see below) document the work these assistants completed and their names. Table 2 below is a complete list of the people that assisted Mr. Kalik and their addresses.

Table 2: Prospector assistants

<b>Prospector Assistants</b>	<b>Address</b>	<b>Prospector Assistants</b>	<b>Address</b>
Chuck Anderson Linda Harysum	27 3 <sup>rd</sup> Street Nipigon, ON POT 2J0	Ryan Johnson	92 Brampton Rd. Red Rock, ON POT 2P0
Adam Arthur	121 McConnell Rd. Shuniah, ON POT 2M0	John Koczur	377 Madeline St. Thunder Bay, ON P7A 5Y9
Rod Arthur	1180 Lakeshore Dr. Shuniah, ON P7A 0S4	James Savas	321 Montclair St. Thunder Bay, ON P7A 1M5
Johnatun Harysum Carl Lyytinen	#326, Hwy 11-17 RR1 Nipigon, ON POT 2J0	Larry Danco	Deceased Dec. 23, 2018
Dale Johnson	132 West Loon Rd. Loon Lake, ON POT 2M0		

## DAILY LOG

### 2017

**May 7, 2017:** Prospecting on cell 259355. Flagging and prospecting to east center of cell claim to locate possible amethyst showing (showing located). Expenses: 1 prospector (\$300/day) + travel, 140 km from Thunder Bay to the claim site and return ( $\$0.50/\text{km} \times 140 \text{ km} = \$70$ ) + food (\$25/day).

**May 10, 2017:** Full day researching old assessment and government reports related to past work conducted in the area of the claim group. Expenses: 1 prospector (\$300)

**May 12 & 13, 2017:** Prospector (David Kalik) and assistant (Larry Danco) brushing trail and prospecting to amethyst showing in the eastern portion of cell 259355. Expenses: 1 prospector (2 days  $\times$  \$300 = \$600)+ 1 assistant (2 days  $\times$  \$200 = \$400)+ travel (2 days  $\times$  140 km = 280 km  $\times$  \$0.50 = \$140) + food (2 days  $\times$  2 people  $\times$  \$25/day = \$100) + ATV rental (2 days  $\times$  \$100/day = \$200) + chain saw (2 days  $\times$  \$50/day = \$100).

**May 14, 2017:** Prospecting southern half of cell 237028. 100 m east of old pit located 3 m long exposure of green quartz. Expenses: 1 prospector (\$300/day) + travel (140 km  $\times$  \$0.50 = \$70) + food (\$25).

**May 15, 2017:** Permission granted from Shuniah Township to install gate on west side access of cell 237028.

**May 17, 2017:** Locate and brush out gate location and prospect (west side cell 237028). Expenses: 1 prospector (\$300) + travel (65 km x \$0.50 = \$32.00) + food (\$25).

**May 20, 2017:** Prospector (David Kalik) and assistant (Larry Danco) prospecting and continue brushing trail to amethyst showing on cell 259355. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km x \$0.50 = \$70) + food (\$50) + ATV rental (\$100) + chain saw rental (\$50).

**May 21, 2017:** Prospector (David Kalik) and assistant (Adam Arthur) ride ATV to amethyst showing area (cell 259355). Begin brushing and stripping occurrence site. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km x \$0.50 = \$70) + food (\$50) + ATV rental (\$100) + chain saw rental (\$50).

**May 24 to 26, 2017:** Prospector (David Kalik) and assistant (Adam Arthur) flagging, brushing and prospecting along trail to amethyst occurrence site located in the northeast corner of cell 280547. Managed to get to within 50 m of the showing. Expenses: 1 prospector (3 days x \$300 = \$900) + 1 assistant (3 days x \$200 = \$600) + travel (3 days x 70 km = 210 km x \$0.50 = \$105) + food (3 days x \$50 = \$150) + ATV rental (3 days x \$100 = \$300) + chain saw rental (3 days x \$50 = \$150).

**May 27, 2017:** Prospector (David Kalik) and assistant (Adam Arthur) completed trail to showing (on cell 280547), prospected and collected amethyst samples. Also collected samples of mineralized quartz-calcite containing zinc or possible galena and chalcopyrite. Expenses: 1 Prospector (\$300) + 1 assistant (\$200) + travel (70 km x \$0.50 = \$35) + food (\$50) + ATV rental (\$100) + chain saw rental (\$50).

**May 28, 2017:** Prospecting again within the NE portion of cell 280547 from amethyst showing along a northeast trend for 30 to 50 m to an old trench. Trench is 5 m in length and 2 m wide. Expenses: 1 prospector (\$300) + travel (65 km x \$0.50 = \$32.00) + ATV rental (\$100) + food (\$25).

**June 3 & 4, 2017:** Prospector (David Kalik) and assistant (Larry Danco) continue Prospecting NE corner of cell 280547 to a site under an old tree containing broken amethyst tailings from historic work conducted in the area. Collected approx. a 50 lb sample for study. Expenses: 1 prospector (2 days x \$300 = \$600) + 1 assistant (2 days x \$200 = \$400) + travel (2 days x 140 km = 280 km x \$0.50 = \$140) + food (2 days x \$50 = \$100) + ATV rental (2 days x \$100 = \$200).

**June 10, 2017:** Prospector (David Kalik) and 2 assistants (Larry Danco and Adam Arthur) continue prospecting, brushing and stripping from known amethyst showing 30 m NE to old trench (NE corner of cell 280547). Expenses: 1 prospector (\$300) + 2 assistant (2 x \$200 = \$400) + travel (150 km x \$0.50 = \$75) + food (3 people x \$25 = \$75) + ATV rental (\$100 x 2 machines = \$200).

**June 11, 2017:** Prospector (David Kalik) and assistant (Larry Danco) continue prospecting in the area of the old trench and surrounding tailings, northeast portion of cell 280547. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (70 km x \$0.50 = \$35) + food (2 x \$25 = \$50) + ATV rental (\$100).

**June 16, 2017:** Prospector (David Kalik) and assistant (Jimmy Savas) brought in camper for equipment storage, including safety gear, to be set up along southern portion of cell 237028. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km x \$0.50 = \$70) + food (\$50).

**June 17, 2017:** Prospector (David Kalik) and assistant (Jimmy Savas) brushed out area for storage camper and set up in southern portion of cell 237028. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (70 km x \$0.50 = \$35) + food (\$50).

**June 24 and 25, 2017:** Prospector (David Kalik) and assistant (Larry Danco) prospecting and sampling historic trench area near storage camper along southern portion of cell 237028. Expenses: 1 prospector (2 days x \$300 = \$600) + 1 assistant (2 days x \$200 = \$400) + travel (210 km x \$0.50 = \$105) + food (2 days x \$50 = \$100).

**July 1 and 2, 2017:** Prospecting center portion of cell 184724. Expenses: 1 prospector (2 days x \$300 = \$600) + travel (140 km x \$0.50 = \$70) + food (2 days x \$25 = \$50)

**July 9, 2017:** Prospector (David Kalik) and assistant (Rod Arthur) prospecting old trench or pit at the south end of cell 259355. Used grub hoes to scrape away moss and roots covering bottom of amethyst trench. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (70 km x \$0.50 = \$35) + food (\$50) + ATV rental (\$100).

**July 15 and 16, 2019:** Prospector (David Kalik) and assistant (Rod Arthur) cut, brush and peel moss to extend amethyst vein located in old trench (discovered on July 9, 2017) for over 10 m along strike (cell 259355). Expenses: 1 prospector (2 days x \$300 = \$600) + 1 assistant (2 days x \$200 = \$400) + travel (2 days x 70 km = 140 km x \$0.50 = \$70) + food (2 days x \$50 = \$100) + ATV rental (2 days x \$100 = \$200) + chain saw rental (2 days x \$50 = \$100).

**July 21, 22 and 23, 2017:** Prospecting on cell 184724 along a western track to cell 280547. This is along the contact zone between the lower granite and upper Sibley formation, the most favorable horizon for amethyst mineralization. Expenses: 1 prospector (3 days x \$300 = \$900) + travel (70 km x 3 days = 210 km x \$0.50 = \$105) + food (3 days x \$25 = \$75) + ATV rental (3 days x \$100 = \$300).

**August 4, 2017:** Prospecting and flagging trail to cell 536551. Expenses: 1 prospector (\$300) + travel (70 km x \$0.50 = \$35) + food (\$25).

**August 5, 2017:** While prospecting, located old workings in the center portion of cell 536551. Note there are no records of historical work in this area. Expenses: 1 prospector (\$300) + travel (70 km  $\$0.50 = \$35$ ) + food (\$25).

**August 6, 2017:** Prospector (David Kalik) and assistant (Larry Danco) continued prospecting center portion of cell 536551. Numerous grab samples of both amethyst and other mineralization were collected for later study and analysis. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km  $\times \$0.50 = \$70$ ) + food (\$50) + ATV rental (\$100).

**August 12 and 13, 2017:** Prospector (David Kalik) and assistant (Larry Danco) prospecting and following amethyst vein system on cell 536551 from earlier discovered workings to the west. Old trenching was located and stripping of the overburden moss, brush and debris was initiated. Expenses: 1 prospector (2 days  $\times \$300 = \$600$ ) + 1 assistant (2 days  $\times \$200 = \$400$ ) + travel (2 days  $\times 140 \text{ km} = 280 \text{ km} \times \$0.50 = \$140$ ) + food (2 days  $\times \$50 = \$100$ ) + ATV rental (2 days  $\times \$100 = \$200$ ).

**August 19 and 20, 2017:** Prospector (David Kalik) and assistant (Larry Danco) prospecting and flagging trail between old trenches located last weekend to access road (cell 536551). Grab samples were collected of both amethyst vein material and other mineralized rock. Expenses: 1 prospector (2 days  $\times \$300 = \$600$ ) + 1 assistant (2 days  $\times \$200 = \$400$ ) + travel (2 days  $\times 140 \text{ km} = 280 \text{ km} \times \$0.50 = \$140$ ) + food (2 days  $\times \$50 = \$100$ ) + ATV rental (2 days  $\times \$100 = \$200$ ).

**August 23, 24 and 25, 2017:** Prospector (David Kalik) and assistant (Jimmy Savas) brush and cut trail from access road to pit trench on cell 259355. The area surrounding the trench was also cleared. This was done to prepare the area for the compressor rock drill which will be used to drill and blast open the amethyst vein. Expenses: 1 prospector (3 days  $\times \$300 = \$900$ ) + 1 assistant (3 days  $\times \$200 = \$600$ ) + travel (140 km + 70 km + 70 km = 280 km  $\times \$0.50 = \$140$ ) + food (3 days  $\times \$50 = \$150$ ) + ATV rental (3 days  $\times \$100 = \$300$ ).

**August 26 and 27, 2017:** Prospector (David Kalik) and assistant (Jimmy Savas) prepare and transport compressor drill equipment to trench area on cell 259355. The site area for the drill was cleaned and readied for drilling and blasting. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km  $\times \$0.50 = \$70$ ) + food (\$50).

**August 29 and 30, 2017:** Prospector (David Kalik) and 3 assistants (Johnatun Harysum, Carl Lyytinen and Ryan Johnson) drilling and blasting with compressor drill on amethyst trench area in cell 259355. Expenses: 1 prospector (2 days  $\times \$300 = \$600$ ) + 3 assistants @ \$200/day (2 days  $\times \$600 = \$1200$ ) + travel, 2 trucks (2 days  $\times 280 \text{ km} = 560 \text{ km} \times \$0.50 = \$280$ ) + food (2 days  $\times \$100 = \$200$ ) + ATV rental, 2 ATV's (2 days  $\times \$200 = \$400$ ) + compressor & drill (2 days  $\times \$150/\text{day} = \$300$ ).

**August 31 and September 1, 2017:** Prospector (David Kalik) and 3 assistants (Johnatun Harysum, Carl Lyytinen and Ryan Johnson) clean out trench on cell 259355, collect amethyst samples and continue drilling and blasting. Expenses: 1 prospector (2 days  $\times \$300 = \$600$ ) + 3

assistants @ \$200/day (2 days x \$600 = \$1200) + travel, 2 trucks (2 days x 280 km = 560 km x \$0.50 = \$280) + food (2 days x \$100 = \$200) + ATV rental, 2 ATV's (2 days x \$200 = \$400) + compressor & drill (2 days x \$150 = \$300).

**September 2 and 3, 2017:** Prospector (David Kalik) and 3 assistants (Johnatun Harysum, Carl Lyytinen and Ryan Johnson) continue clean out of trench on cell 259355, sort out and collect amethyst samples for study. Numerous pictures were taken to document the vein and work conducted. Expenses: 1 prospector (2 days x \$300 = \$600) + 3 assistants @ \$200/day (2 days x \$600 = \$1200) + travel, 2 trucks (2 days x 280 km = 560 km x \$0.50 = \$280) + food (2 days x \$100 = \$200) + water pump and hose (2 days x \$50/day = \$100).

**September 13 and 14, 2017:** Prospector (David Kalik) and 2 assistants (Chuck Anderson and Linda Harysum) continue drilling and blasting amethyst trench on cell 259355. The trench was cleaned and readied for sampling. Expenses: 1 prospector (2 days x \$300 = \$600) + 2 assistants @ \$200/day (2 days x \$400 = \$800) + travel, 2 trucks (2 days x 280 km = 560 km x \$0.50 = \$280) + food (2 days x \$75 = \$150) + ATV rental (2 days x \$100 = \$200) + compressor & drill (1 day @ \$150).

**September 23 and 24, 2017:** Prospector (David Kalik) and assistant (Larry Danco) prospecting west from main trench area on cell 259355. At approximately 100 m along this vein trend at the top of a hill, a smoky quartz vein was uncovered and sampled. Expenses: 1 prospector (2 days x \$300 = \$600) + 1 assistant (2 days x \$200 = \$400) + travel (2 days x 140 km = 280 km x \$0.50 = \$140) + food (2 days x \$50 = \$100) + ATV rental (2 days x \$100 = \$200) + chain saw rental (1 day @ \$50).

**September 30 and October 1, 2017:** Prospecting area of smoky quartz vein at the top of hill on cell 259355. Managed to uncover and expose 8 m of this vein system along trend. Expenses: 1 prospector (2 days x \$300/day = \$600) + travel (2 days x 70 km = 140 km x \$0.50 = \$70) + food (2 days x \$25/day = \$50) + ATV rental (2 days x \$100 = \$200) + chain saw rental (1 day @ \$50).

**October 7 and 8, 2017:** Prospector (David Kalik) and assistant (Larry Danco) prospecting southeast corner of cell 237028 and northeast (NE) corner of cell 280547 to locate possible amethyst veining. Two amethyst veins approximately 30 m apart along an easterly trend, were located in the NE corner of cell 280547. Expenses: 1 prospector (2 days x \$300 = \$600) + 1 assistant (2 days x \$200 = \$400) + travel (2 days x 140 km = 280 km x \$0.50 = \$140) + food (2 days x \$50 = \$100) + ATV rental (2 days x \$100 = \$200).

**October 14 and 15, 2017:** Prospecting and flagging trails to all recently discovered amethyst veins and potential areas on cells 280547 and 237028. This is related to planned work next field season. Expenses: 1 prospector (2 days x \$300/day = \$600) + travel (2 days x 70 km = 140 km x \$0.50 = \$70) + food (2 days x \$25/day = \$50) + ATV rental (2 days x \$100 = \$200).

**October 16, 2017:** Sit visit to winterize all equipment for the season cell (237028). Expenses: 1 prospector (1 day @ \$300) + travel (140 km x \$0.50 = \$70) + food (1 day @ \$25) + ATV rental (1 day @ \$100).

## **2018**

**May 13, 14 and 15, 2018:** Prospector (David Kalik) and assistant (Jimmy Savas) prospecting, cutting and brushing access (from winter blowdown) to trench and compressor equipment on cell 259355. Expenses: 1 prospector (3 days x \$300 = \$900) 1 assistant (3 days x \$200 = \$600) + travel (3 days x 140 km = 420 km x \$0.50 = \$210) + food (3 days x \$50 = \$150) + ATV rental (2 days x \$100 = \$200) + chain saw rental, 2 saws (3 days x \$100/day = \$300).

**May 18, 2108:** Prospector (David Kalik) and assistant (Jimmy Savas) haul in water cube, set up on hill adjacent to amethyst trench on cell 259355 and fill up in preparation for water stripping. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km x \$0.50 = \$70) + food (\$50) + ATV rental (\$100).

**May 19 and 20, 2018:** Prospector (David Kalik) and 2 assistants (Jimmy Savas and Ryan Johnson). Initiate stripping and washing down main amethyst trench area on cell 259355. Expenses: 1 prospector (2 days x \$300 = \$600) + 2 assistants @ \$200/day (2 days x \$400 = \$800) + travel, 2 trucks (2 days x 280 km = 560 km x \$0.50 = \$280) + food (2 days x \$75 = \$150) + ATV rental (2 days x \$100 = \$200) + water pump and hose (2 days x \$50/day = \$100).

**May 26 and 27, 2018:** Prospector (David Kalik) and 2 assistants (Larry Danco and Ryan Johnson) completed water stripping to expose 15 m area of main showing on cell 259355. The area was then prospected in detail and marked for blasting. Expenses: 1 prospector (2 days x \$300 = \$600) + 2 assistants (May 26) @ \$200/day = \$400) + 1 assistant (May 27) @ \$200 + travel (2 days x 140 km = 280 km x \$0.50 = \$140) + food (\$75 + \$50 = \$125) + ATV rental (2 days x \$100 = \$200) + water pump and hose (1 day @ \$50).

**June 2 and 3, 2018:** Prospector (David Kalik) and assistant (Larry Danco) prospecting the southeast corner of cell 237028. An amethyst 'vug' / vein system was located and the brushing and cutting of an ATV trail to the site was initiated. Expenses: 1 prospector (2 days x \$300 = \$600) + 1 assistant (2 days x \$200 = \$400) + travel (2 days x 140 km = 280 km x \$0.50 = \$140) + food (2 days x \$50 = \$100) + ATV rental (2 days x \$100 = \$200) + chain saw rental (1 day @ \$50).

**June 9 and 10, 2018:** Prospector (David Kalik) and assistant (Larry Danco) prospecting and continue to cut ATV trail to "Vug" showing on cell 237028. During this process an old pit was discovered (~3 sq. m) 50 m north of the southwest corner of cell 259355 and investigated. Smoky quartz was discovered and the water pump was set up for stripping and washing. Expenses: 1 prospector (2 days x \$300 = \$600) + 1 assistant (2 days x \$200 = \$400) + travel (2



days x 140 km = 280 km x \$0.50 = \$140) + food (2 days x \$50 = \$100) + ATV rental (2 days x \$100 = \$200) + chain saw rental (1 day @ \$50).

**June 15, 2018:** Prospector (David Kalik) and assistant (Larry Danco) prospecting and continue to cut ATV trail to “Vug” showing located in the southeast corner of cell 237028. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km x \$0.50 = \$70) + food (\$50) + ATV rental (\$100) + chain saw rental (\$50).

**June 17, 2018:** Prospector (David Kalik) and assistant (Larry Danco) initiate stripping of the Vug showing (cell 237028). Samples of re-coated quartz from vein system collected for study. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km x \$0.50 = \$70) + food (\$50) + ATV rental (\$100).

**June 23 and 24, 2018:** Prospector (David Kalik) and assistant (Larry Danco) continue stripping at Vug showing on cell 237028. A 4 m by 30 cm area of vein material uncovered on the original showing. Along strike 10 m to the west a second quartz vug was located and exposed by stripping. Expenses: 1 prospector (2 days x \$300 = \$600) + 1 assistant (2 days x \$200 = \$400) + travel (2 days x 140 km = 280 km x \$0.50 = \$140) + food (2 days x \$50 = \$100) + ATV rental (2 days x \$100 = \$200).

**June 30, 2018:** Prospector (David Kalik) and assistant (Larry Danco) continue prospecting western trend of the Vug vein system to the west on cell 237028. The vein eventually splits with one continuing west and the other trending southwest. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km x \$0.50 = \$70) + food (\$50) + ATV rental (\$100).

**July 7, 2018:** Prospector (David Kalik) and assistant (Larry Danco) prospecting along west vein from split on the Vug showing in cell 237028. This vein eventually joins up with old workings on top of a ridge in the northeast corner of cell 280547. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km x \$0.50 = \$70) + food (\$50) + ATV rental (\$100).

**July 8, 2018:** Prospector (David Kalik) and assistant (Larry Danco) prospecting southwest trending vein from split on the Vug showing in cell 237028. The vein was followed for 40 m to an area of thick bush and heavy overburden. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km x \$0.50 = \$70) + food (\$50) + ATV rental (\$100).

**July 14 and 15, 2018:** Initiated detailed prospecting along access road in cell 237028. Discovered unusual rock formation near the beginning of the access trail which was followed and sampled for 250 m. Grab samples were collected roughly every 50 m from what appears to be altered, brecciated stromatolite formations, malachite (green copper mineralization) and quartz. Expenses: 1 prospector (2 days x \$300/day = \$600) + travel (2 days x 70 km = 140 km x \$0.50 = \$70) + food (2 days x \$25/day = \$50).

**July 21 and 22, 2018:** Continued prospecting and sampling along access road in cell 237028 hosting an unusual rock formation consisting of altered, brecciated stromatolite formations,

malachite and quartz vein material. Expenses: 1 prospector (2 days x \$300/day = \$600) + travel (2 days x 70 km = 140 km x \$0.50 = \$70) + food (2 days x \$25/day = \$50).

**July 28, 29 and 30, 2018:** Prospector (David Kalik) and assistant (Larry Danco) prospecting and sampling area surrounding the Top Vug vein showing on cell 237028. Located a parallel purple amethyst vein 30 m south of the Vug vein. Hand stripping was initiated and a 5 m area was exposed and sampled along this newly discovered vein system. Expenses: 1 prospector (3 days x \$300 = \$900) + 1 assistant (3 days x \$200 = \$600) + travel (3 days x 140 km = 420 km x \$0.50 = \$210) + food (3 days x \$50 = \$150) + ATV rental (3 days x \$100 = \$300) + chain saw rental (1 day @ \$50).

**August 18, 2018:** Prospector (David Kalik) and assistant (Larry Danco) prospecting the east ridge on cell 259355. Old workings (pits and trenches) located in this area. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km x \$0.50 = \$70) + food (\$50) + ATV rental (\$100).

**August 19, 2018:** Prospector (David Kalik) and assistant (Larry Danco) prospecting and flagging the east ridge old workings east to the blast trench on cell 259355. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km x \$0.50 = \$70) + food (\$50) + ATV rental (\$100).

**August 24, 25 and 26, 2018:** Prospecting and sampling vein vugs or 'massive' along the northern portion of cell 184724 west for 200 m. At 100 m west from massive, uncovered a new showing of amethyst, smoky and rose quartz. At 200 m west of massive, another vein showing discovered consisting of pinch and swell amethyst, calcite and mixed mineralization. Expenses: 1 prospector (3 days x \$300/day = \$900) + travel (3 days x 70 km = 210 km x \$0.50 = \$105) + food (3 days x \$25/day = \$75) + ATV rental (3 days x \$100 = \$300).

**August 29, 30 and 31, 2018:** Prospector (David Kalik) and assistant (John Koczur) working on vuggy area at the east end of the Blast trench on cell 259355. Drilling and blasting were conducted in this area, which was then cleaned and sampled for study. Expenses: 1 prospector (3 days x \$300 = \$900) + 1 assistant (3 days x \$200 = \$600) + travel, 2 trucks (3 days x 280 km = 840 km x \$0.50 = \$420) + food (3 days x \$50 = \$150) + ATV rental, 2 ATV's (3 days x \$200 = \$600) + compressor & drill (2 days x \$150 = \$300).

**September 15 and 16, 2018:** Prospector (David Kalik) and assistant (Larry Danco) grub strip and sample vuggy smoky quartz vein on top of hill in the southwest portion of cell 259355. Expenses: 1 prospector (2 days x \$300 = \$600) + 1 assistant (2 days x \$200 = \$400) + travel (2 days x 140 km = 280 km x \$0.50 = \$140) + food (2 days x \$50 = \$100) + ATV rental (2 days x \$100 = \$200).

**September 21 and 22, 2018:** Prospector (David Kalik) and assistant (Larry Danco) prospecting and flagging from smoky quartz vein on top of hill west for approximately 250 m to the Camper trench (KMA-9) (cell 237028). Expenses: 1 prospector (2 days x \$300 = \$600) + 1 assistant (2

days x \$200 = \$400) + travel (2 days x 140 km = 280 km x \$0.50 = \$140) + food (2 days x \$50 = \$100) + ATV rental (2 days x \$100 = \$200).

**September 23, 2018:** Prospector (David Kalik) and assistant (Larry Danco) cut a wider trail to accommodate compressor move to smoky quartz vein (KMA-1) at the top of hill on cell 259355. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km x \$0.50 = \$70) + food (\$50) + ATV rental (\$100) + chain saw rental (1 day @ \$50).

**September 26, 2018:** Prospector (David Kalik) and assistant (Dale Johnston) move compressor to within 100m of the smoky quartz vein at the top of hill on cell 259355. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (70 km x \$0.50 = \$35) + food (\$50) + ATV rental (\$100) + chain saw rental (1 day @ \$50).

**September 27 and 28, 2018:** Prospector (David Kalik) and 2 assistants (Dale Johnston and Jimmy Savas) brush and clean area around compressor and move in rest of related equipment (drill box, tools, water pump and hose) to site near smoky quartz vein at the top of hill on cell 259355. A 10 m area around the smoky quartz vein was stripped and washed down with hose. Expenses: 1 prospector (2 days x \$300 = \$600) + 2 assistants (September 27) @ \$200/day = \$400 + 1 assistant (September 28) @ \$200 + travel (2 days x 140 km = 280 km x \$0.50 = \$140) + food (\$75 + \$50 = \$125) + ATV rental (2 days x \$100 = \$200) + chain saw rental (1 day @ \$50) + water pump and hose (1 day @ \$50).

**October 1, 2018:** Prospector (David Kalik) and assistant (Larry Danco) initiated shutdown of project for the season. Winterize compressor now located near smoky quartz vein on cell 259355, dismantle pump, hose and pack up all equipment. Expenses: 1 prospector (\$300) + 1 assistant (\$200) + travel (140 km x \$0.50 = \$70) + food (\$50) + ATV rental (\$100).

See Appendix 1 for the prospecting traverses conducted in 2017 and 2018 field seasons along with the main work activity sites.

Appendix 2 contains GPS photographs of grab and trench samples from the main worksites on the KMAP.

Table 3 is a summary of all applicable expenses incurred on the KMAP during the 2017 and 2018 field seasons. These amounts will be used to apply work to each of the seven contiguous cell claims with the remainder designated to the exploration reserve tied to this claim group.

Table 3: KMAP expenses for the 2017 and 2018 field seasons

<b>Expense / Year</b>	<b>2017</b>	<b>2018</b>
Daily Rate, Prospector	\$17,100	\$12,900
Daily Rate, Assistants	\$11,000	\$8000
Travel	\$3604	\$3080
Food	\$2775	\$2075
ATV Rental	\$4700	\$4100
Chainsaw Rental	\$600	\$650
Water Pump & Hose Rental	\$100	\$200
Compressor & Drill Rental	\$750	\$300
<b>Totals</b>	<b>\$40,629</b>	<b>\$31,305</b>
<b>Grand Total</b>	<b>\$71,934</b>	

## RESULTS AND CONCLUSION

Prospecting work on the Kalik McTavish Amethyst Property during the 2017 and 2018 field seasons was successful in located numerous historical pits and trenches. Further work in these areas lead to the discovery of new amethyst and smoky quartz vein occurrences. These new showings are most often found in elongated, crystal-lined cavities along an easterly or westerly trend from the historical workings or in nearby parallel vein systems.

Although amethyst samples were recovered from many of the historical workings, larger, high quality amethyst and smoky quartz crystals were found in some the newly exposed veins and cavities discovered on cell claims 237028 and 259355. Sites KMA-1 and KMA-5 (Figure 4) host cavities with some of these higher quality crystal masses. In addition to color, and always critical to obtaining better quality samples for sale to mineral collectors and the general public, is the extraction of the crystals causing little or no damage. Mr. Kalik conducted small scale drilling and blasting at these 2 locations. Other more benign methods of extraction will be tested this field season (2019), such as drilling and using a chemical expansion agent to pry open the cavities.

## RECOMMENDATIONS

Display samples of amethyst and smoky quartz crystals will be extracted from cavities at Sites KMA-1 and 5, for analysis and to ascertain their value in the marketplace. Prospecting will continue (2019) along strike and in adjacent areas (parallel vein systems) to the known amethyst occurrences already discovered on cell claims 237028 and 259355.

Reconnaissance prospecting during the 2017 and 2018 field seasons located undocumented historical amethyst showings and new occurrences on 3 other cell claims in the southern portion of the property (cell claims 280547, 184724 and 536551). These sites will be further investigated and sampled in the coming field seasons.

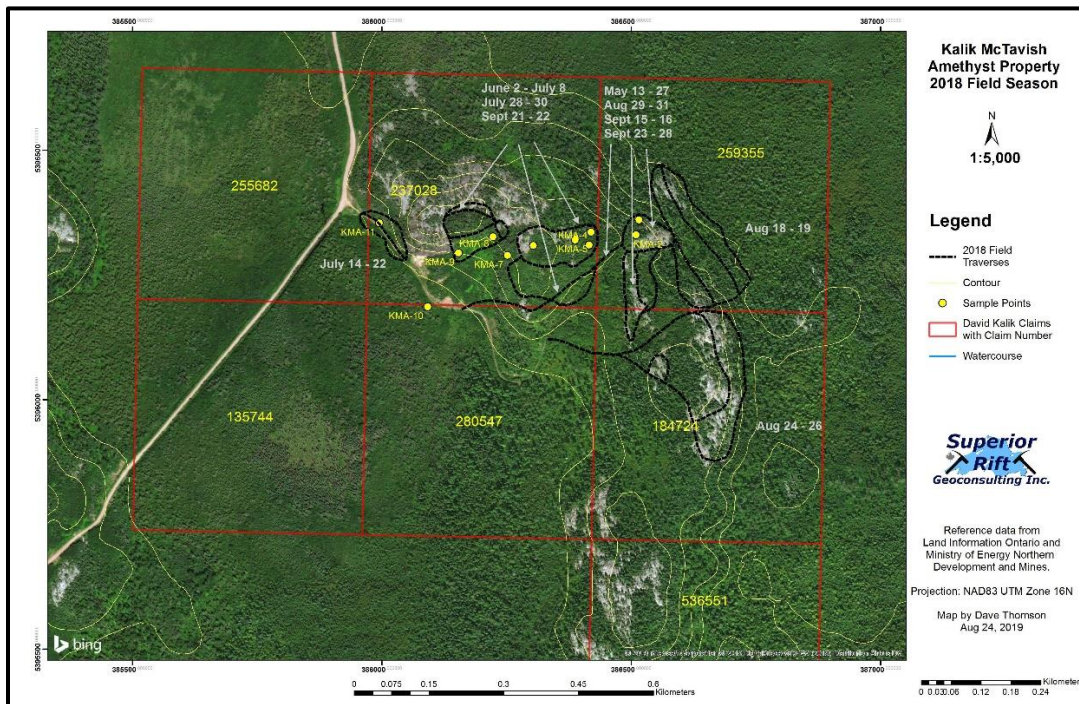
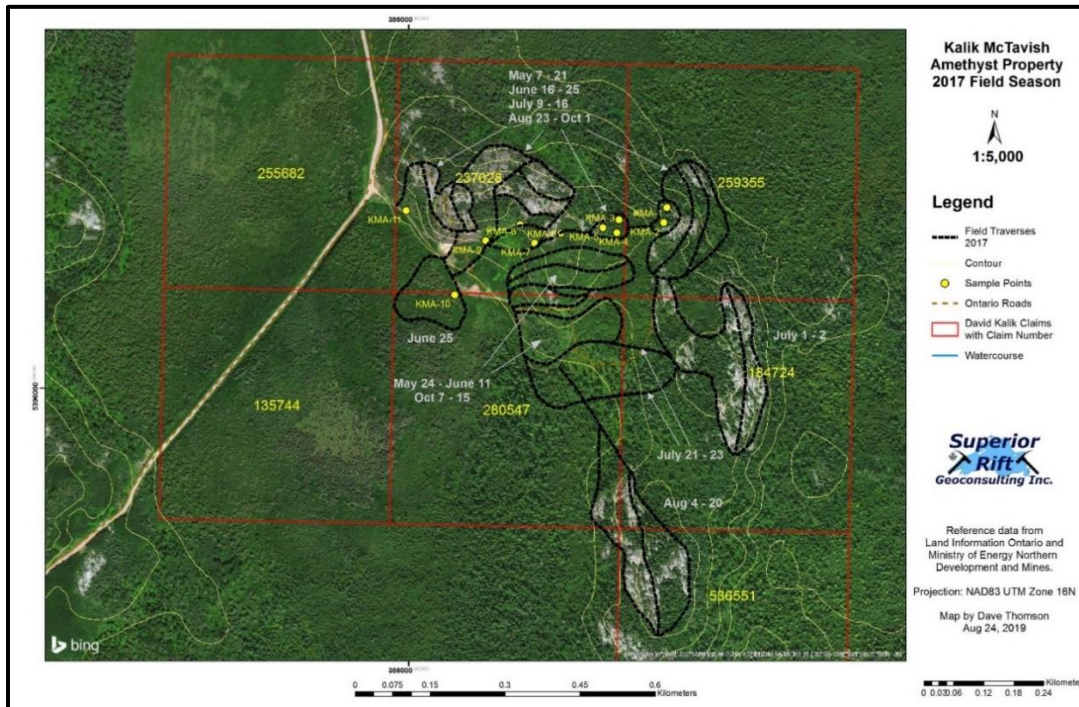
The large bedrock exposure of stromatolite-amethyst-granite breccia discovered at site KMA-11 along the western access road to the property, will also be studied in detail. Samples of this highly unusual rock will be extracted, cut and polished to determine its value as a decorative stone and/or a collector item.

## REFERENCES

- Carter, M.W, McIlwaine, W.H. and Wisbey, P.A. 1973. Nipigon–Schreiber Sheet (Revised), geological compilation series, Thunder Bay District; Ontario Geological Survey, Map 2232, scale 1:253 440.
- Garland, M.I. 1994. Amethyst in the Thunder Bay area; Ontario Geological Survey, Open File Report 5891, 197p.
- Kissin, S.A. 2012. Field trip 6 – Thunder Bay Amethyst Mine. In; Hollings, P., MacTavish, A. and Addison, W. (Eds.), Institute on Lake Superior Geology Proceedings, 58<sup>th</sup> Annual Meeting, Thunder Bay, Ontario, Part 2 - Field trip guidebook, v.58, part 2, 82-92.
- Ontario Geological Survey 1991. Bedrock geology of Ontario, west-central sheet; Ontario Geological Survey, Map 2542, scale 1: 1 000 000.

## APPENDIX 1: Prospecting Traverse Maps

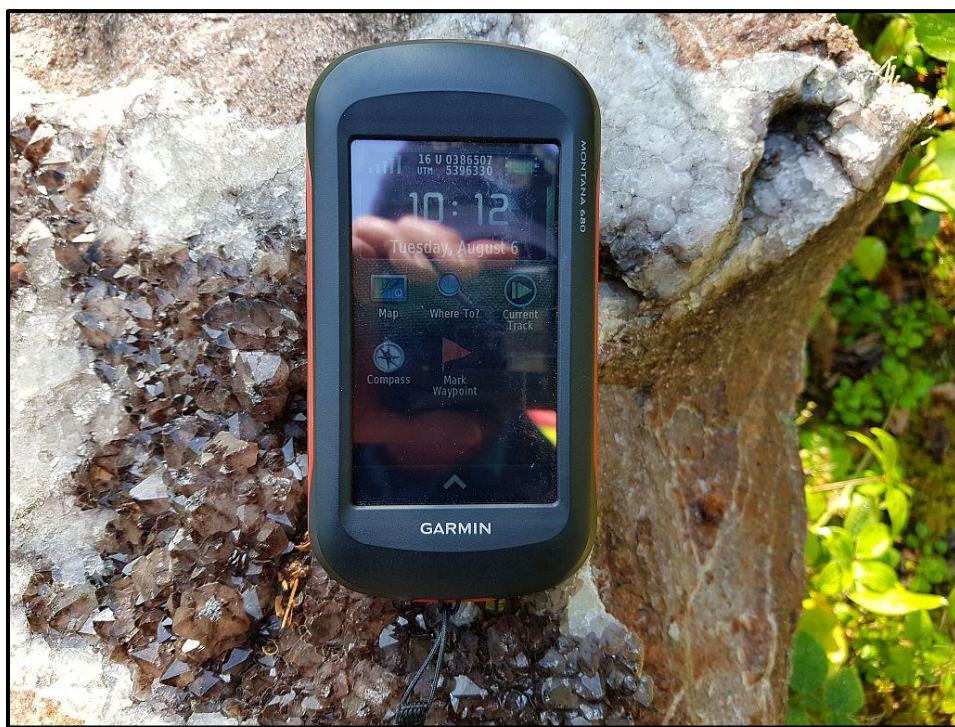
- Traverse Map, 2017 Field Season
- Traverse Map, 2018 Field season



## APPENDIX 2: Rock Sample Photographs



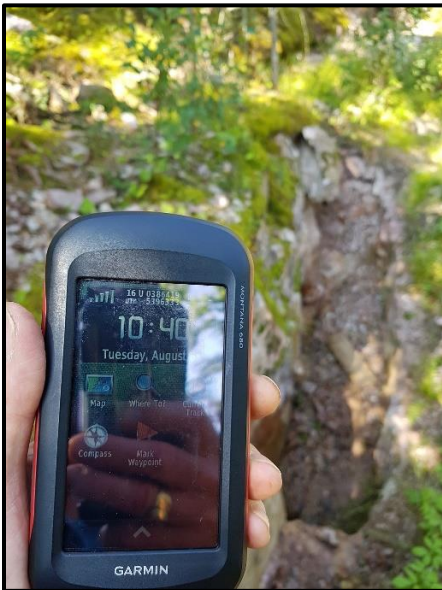
Site KMA-1: Amethyst-Granite Breccia



Site KMA-2: Smoky Quartz Vein Crystals

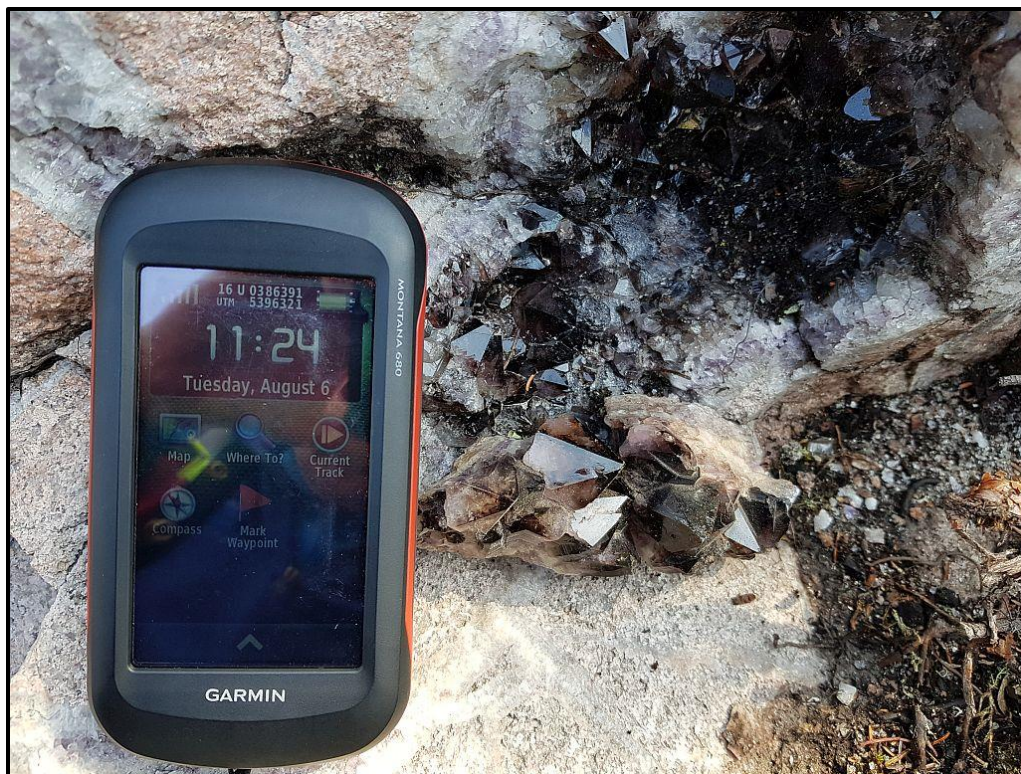


Site KMA-3: Amethyst Blast Trench



KMA-3: Amethyst Blast Trench Location





Site KMA-5: Smoky Quartz Vein Cavity



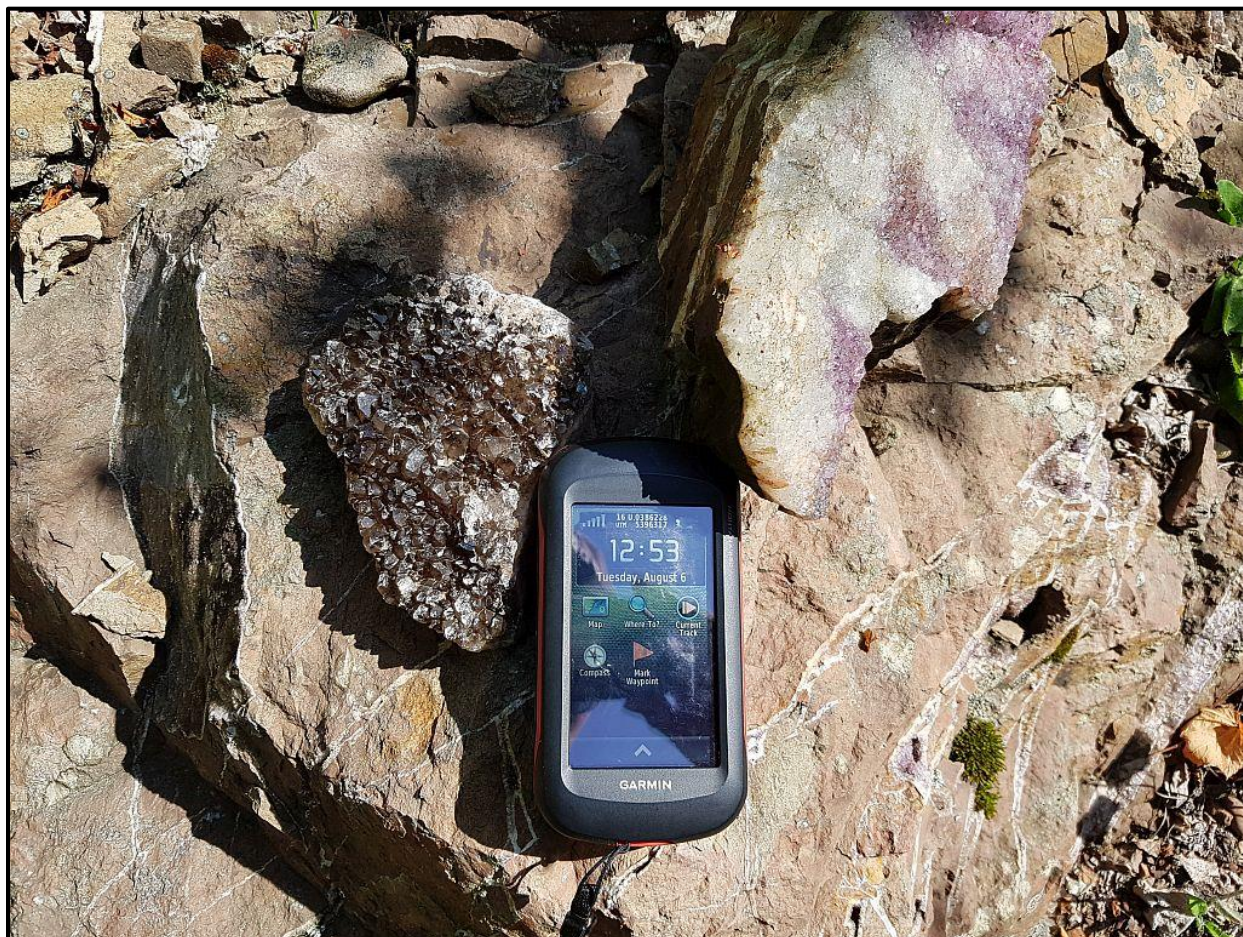
Site KMA-6: Amethyst Vein Cavity Crystals



Site KMA-6: Smokey Quartz-Amethyst Vein in Granite Host



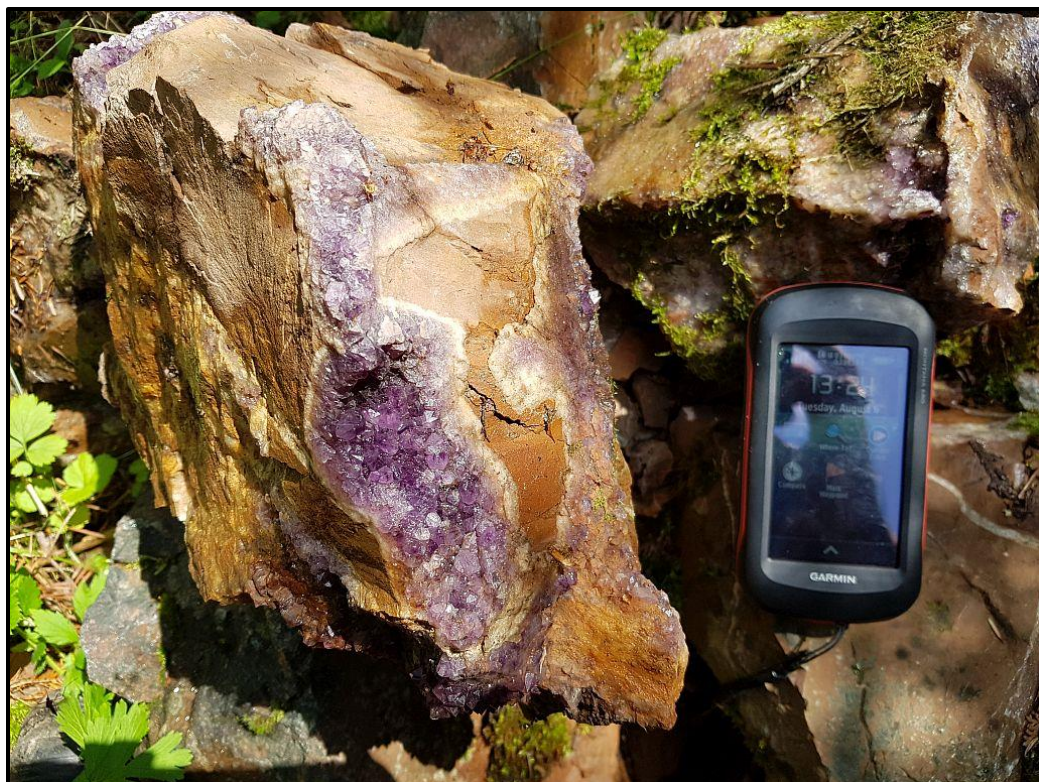
Site KMA-6: Smokey Quartz-Amethyst Vein System



Site KMA-7: Amethyst and Smoky Quartz Samples from Vein Cavity



Site KMA-8: Amethyst Vein System



Site KMA-10: Amethyst Vein Samples



Site KMA-11: Stromatolite-Amethyst-Granite Breccia