



BC Geological Survey
Assessment Report
37929



Ministry of Energy and Mines
BC Geological Survey

ASSESSMENT REPORT
TITLE PAGE AND SUMMARY

TITLE OF REPORT [type of survey(s)] PROSPECTING ON THE MEACHEN BEND PROPERTY TOTAL COST \$2800.00

AUTHOR(S) CRAIG KENNEY SIGNATURE(S) _____

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S) _____ YEAR OF WORK 2018

STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/DATE(S) EVENT NUMBER 5716873

PROPERTY NAME MEACHEN BEND

CLAIM NAME(S) (on which work was done) 1055900

COMMODITIES SOUGHT LEAD, ZINC, COPPER

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN _____

MINING DIVISION FORT STEELE NTS 82F059

LATITUDE 49 ° 55 ' 17 " LONGITUDE 116 ° 35 ' 69 " (at centre of work)

OWNER(S)

1) CRAIG KENNEY 2) _____

MAILING ADDRESS

2290 DEWOLFE AVE

KEMBERLEY BC VIA IPS

OPERATOR(S) [who paid for the work]

1) KOOTENAY SILVER INC. 2) _____

MAILING ADDRESS

SUITE 720-1055 W. HASTINGS ST

VANCOUVER BC V6E 2E9

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

MIDDLE ALBERGGE FM SEDIMENTS, GABBRO, FADLER FAULT, LEAD ZINC FRACTURE
MINERALIZATION

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS 37566, 36666

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping _____			
Photo interpretation _____			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic _____			
Electromagnetic _____			
Induced Polarization _____			
Radiometric _____			
Seismic _____			
Other _____			
Airborne _____			
GEOCHEMICAL			
(number of samples analysed for ...)			
Soil _____			
Silt _____			
Rock _____			
Other _____			
DRILLING			
(total metres; number of holes, size)			
Core _____			
Non-core _____			
RELATED TECHNICAL			
Sampling/assaying _____			
Petrographic _____			
Mineralographic _____			
Metallurgic _____			
PROSPECTING (scale, area) <u>1:10000</u>		<u>1055300</u>	<u>\$ 2800.00</u>
PREPARATORY/PHYSICAL			
Line/grid (kilometres) _____			
Topographic/Photogrammetric (scale, area) _____			
Legal surveys (scale, area) _____			
Road, local access (kilometres)/trail _____			
Trench (metres) _____			
Underground dev. (metres) _____			
Other _____			
TOTAL COST			<u>\$ 2800.00</u>

**Report on Prospecting
For**

**The Meachen Bend
Summer of 2018**

**By
Craig Kennedy**

**Fort Steele
Mining Division**

**NTS
82 F059**

**UTM Co-Ordinates:
54600E, 5490000N**

December 2018

TABLE OF CONTENTS

	Page
1.00 SUMMARY	2
2.00 INTRODUCTION	2
1.10 Location and Access	2
1.20 Property	2
1.30 Physiography	2
1.40 History of Previous Work	2-6
1.50 Purpose of Work	6
3.00 GEOLOGY	6
4.00 PROSPECTING	6-9
5.00 CONCLUSIONS and RECOMMENDATIONS	9
6.00 STATEMENT OF EXPENDITURES	10
7.00 AUTHOR'S QUALIFICATIONS	10
8.00 REFERENCES	11

LIST OF ILLUSTRATIONS

Figure 1	Property Location Map	3
Figure 2	Claim Map	4
Figure 3	Regional Geology Map	5
Figure 4	Prospecting Map	8

1:00 SUMMARY

2.00 INTRODUCTION

This report describes the results of prospecting carried out on the Meachen Bend mineral claim in the summer of 2018.

2.10 Location and Access

The Meachen Bend claim group is located roughly 32 km west of Kimberly B.C. in the Meachen and Fiddler Creek drainages (Figure 1). Access to the claims is provided by the main Meachen Creek haul road and then a southern logging spur road up Fiddler Creek.

2.20 Property

The Meachen Bend claim group consists of mineral tenures 104103, 1051787, 1055800, 1064986, 1062342 and covers roughly 231 Ha of area (Figure 2)*note tenures 1064986 and 1062342 were added to the claim group after the summer work program. The claim group is located in the Fort Steele mining division and is owned by the author of this report Robert Duncan Craig Kennedy of Kimberley BC, Canada and Fred Cook of Salt Spring Island BC, Canada. All tenure is subject to an option agreement with Kootenay Silver Inc.

2.30 Physiography


The Meachen Bend claim covers an area of rugged to subdued topography along both the north and south sides of Meachen Creek and the western flank of and valley bottom of the lower reaches of the Fiddler creek drainage. Elevations on the claim range from 1280 m to 2240m. Spruce, cedar and hemlock with some balsam covers most of the valley floor. Above the valley bottom immature stands of cedar, hemlock, larch, pine and spruce with balsam occur with a mossy understory. Cliff exposures dominate in areas of extreme topography. Several areas have been logged in mid seventies to eighties and are in various states of regeneration. After the work program was conducted on the claim group the area covered by the claims was burnt by a large wildfire.

2.40 History of Previous Exploration



The area underlain by the Meachen Bend mineral claim group has been held at times by various mining companies. Several small programs of limited geological mapping and soil sampling were carried out on the property and are referenced in ARIS assessment reports: 23049, 25178, and 25177. This work was focused on searching for a "Sullivan" like massive sulfide deposit hosted in similar stratigraphy at Kimberley, B.C.

To the east of the claim group several historic workings for copper occur as well as a number of significant lead zinc showings. A small intrusion to the southwest of the claim


Figure 1. Meachen Bend Location Map

 **Meachen Bend Location**

Topographic Layers

-  **Lakes 1:6M**
-  **Rivers 1:6M**

BC Border Layers

-  **BC Border 1:6M**



Map Center: 54.4781N 124.7082W

SCALE 1 : 11,306,075

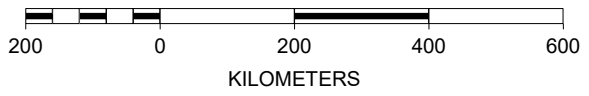


Figure 2. Meachen Bend Claim Map

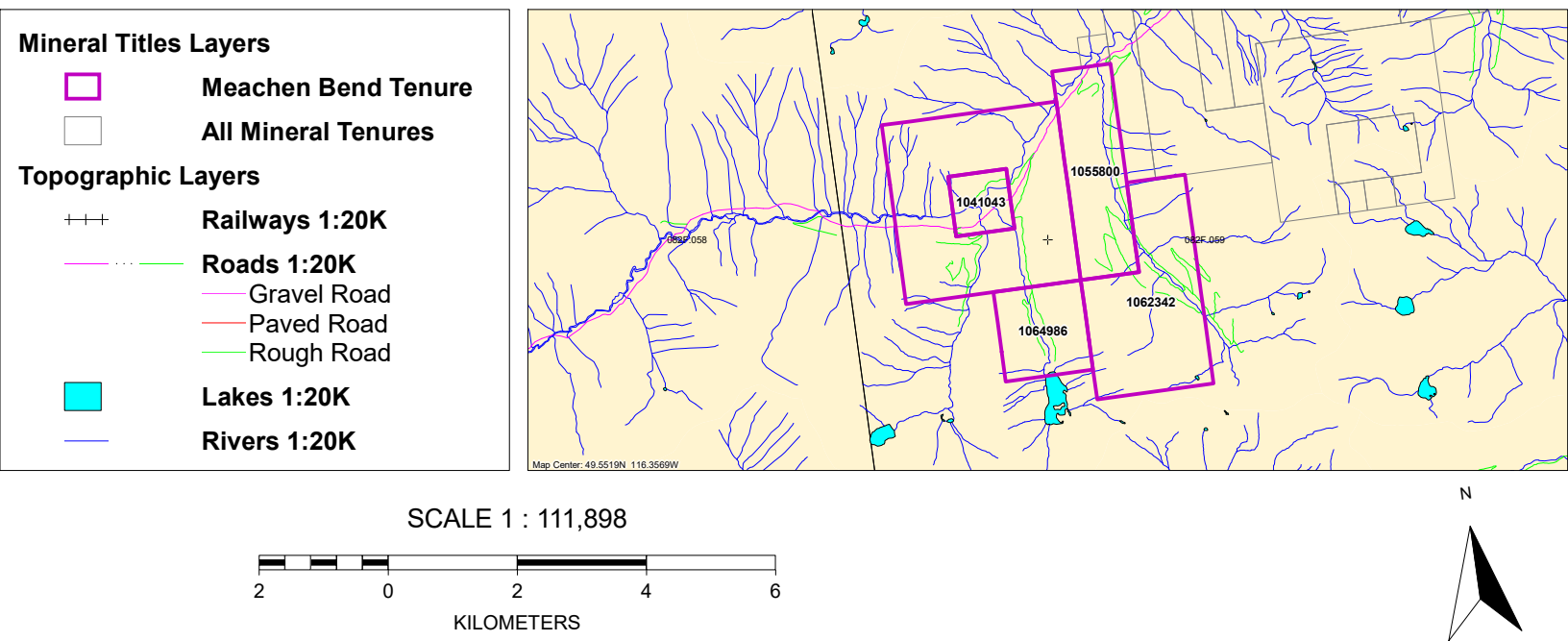
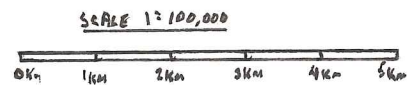
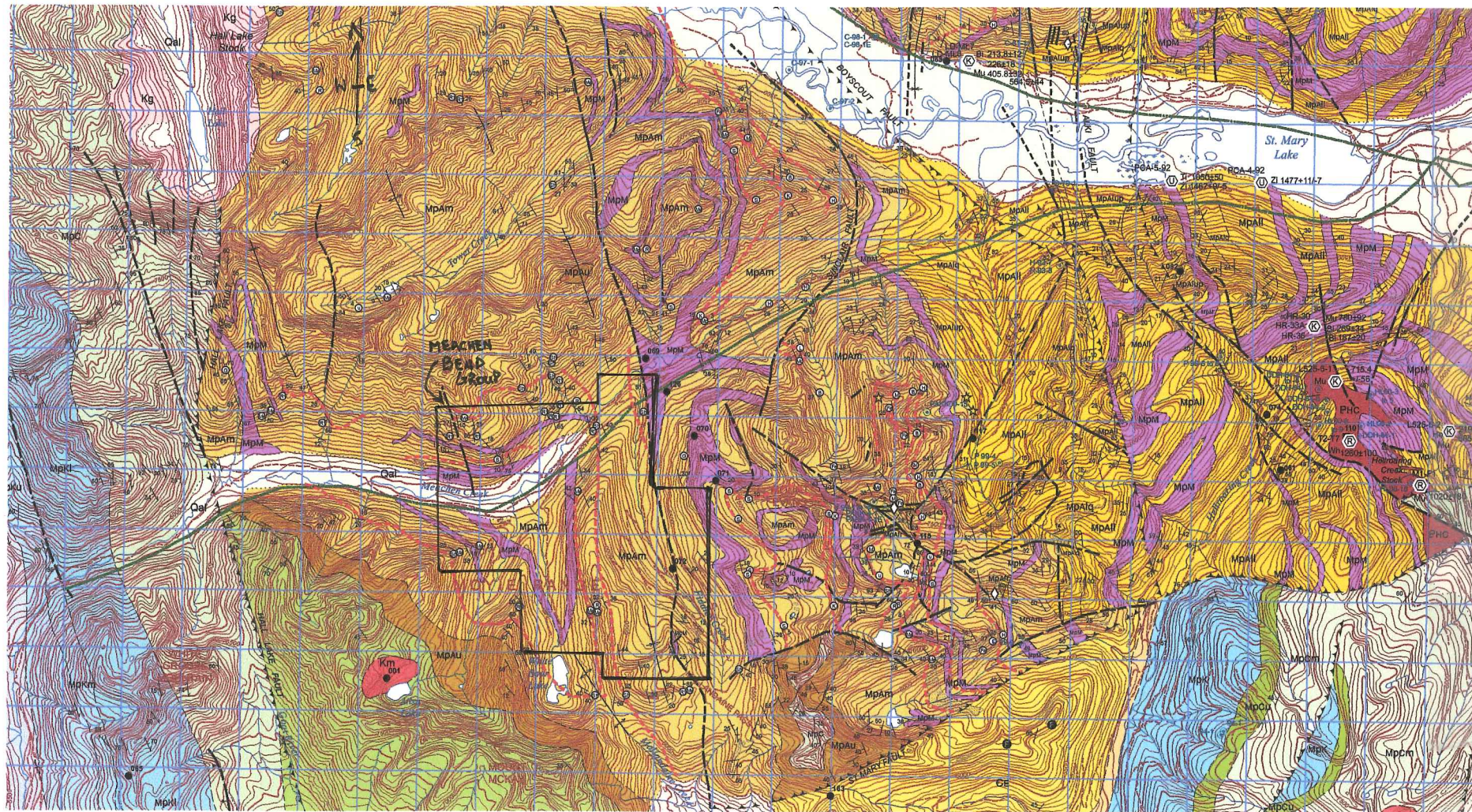


FIGURE 3 REGIONAL GEOLOGY
 (From OPNW File 6309 Compiled by
 Brown, D.A., Mallard, R.F., and Wagner, C.S.)



LAYERED ROCKS

Coloured legend blocks indicate map units that appear on this map.

CENOZOIC

QUATERNARY

Qal Unconsolidated outwash, alluvium, colluvium and till.

PALEOZOIC

CAMBRIAN

LOWER AND (?)MIDDLE CAMBRIAN

EAGER FORMATION

CE Grey argillite, silty argillite, siltstone; buff weathering, silty limestone; rare bioclastic beds.

CRANBROOK FORMATION

CC Calcite marble, dolomite marble, calc-silicate.

PROTEROZOIC

MESOPROTEROZOIC (HELIKIAN)

PURCELL SUPERGROUP

DUTCH CREEK FORMATION

MpDC Green siltstone, argillite, stromatolitic dolomite, quartz wacke.

GATEWAY FORMATION

MpG Dolomite, quartz wacke, siltstone, argillite.

NICOL CREEK FORMATION

MpNC Massive to amygdaloidal, basalt to andesite lava flows, volcanic sandstone, siltite.

VAN CREEK FORMATION

MpVC Pale green, laminated, siltite and argillaceous siltite, and quartz wacke; minor ripple marks, lenticular bedding, rare flattened mudcracks.

KITCHENER FORMATION

MpK Undivided.

MpKu

UPPER: thin- to thick-bedded, white to grey dolomite, with interbedded white quartzite.

MpKm

MIDDLE: dolomitic siltstone, dolomitic argillite, and dolomite, commonly buff-weathering; argillite, siltstone, quartzite; molar green tinged dolomitic siltstone near base.

MpKl

LOWER: green and beige siltstone, dark grey argillite, dolomitic siltstone.

CRESTON FORMATION

MpC Undivided.

MpCu

UPPER: green siltstone; black or purple argillite and siltstone.

MpCm

MIDDLE: light grey, mauve, purple, thin- to medium-bedded quartz arenite, quartz wacke; lesser grey siltite and argillite; white quartzite interbeds; lenticular bedding, ripples, cross-bedding and mudcracks.

MpCl

LOWER: waxy green to olive with tan weathering surfaces, laminated to thick-bedded argillite and siltite; lesser fine-grained quartz wacke. Wavy bedding and abundant mudcracks.

MpClmc

Mud-cracked member.

ALDRIDGE FORMATION

MpA

MpAfr Fragmental rocks interpreted as sedimentary debris flows, breccia formed in dewatering pathways, mud volcano debris, and hydrothermal breccias; stratiform and discordant, matrix- and framework-supported fragmental rocks consisting of angular to rounded quartzite clasts having a size range of <2 mm to >2 m.

MpAu

UPPER: rusty brown weathering, gray to dark grey, fissile to platy, laminated silty argillite, and siltite.

MpAm

MIDDLE: grey to rusty weathering, thick to thin-bedded, quartzofeldspathic wacke intercalated with argillite and siltite.

MpAl

LOWER: rusty brown weathering, thin- to medium-bedded, quartz wacke, quartz arenite.

MpAlup

Upper siltites: argillite, minor quartzite.

MpAlq

Footwall quartzites: grey quartzite, quartz wacke.

MpAlip

Lower siltites: siltstone, argillite, minor quartzite.

INTRUSIVE ROCKS

MESOZOIC

CRETACEOUS (?)

Kg Massive, medium-grained, quartz monzonite, monzonite, and granodiorite. Includes Hall Lake Stock.

Km

Biotite monzogranite; medium- to fine-grained, massive; includes Angus Creek Stock.

PROTEROZOIC

MESOPROTEROZOIC (HELIKIAN)

MESOHELIKIAN

PHC HELLROARING CREEK STOCK: Granitoid pegmatite, coarse-grained tourmaline-rich pegmatite, ~ 1370 Ma. (Smith and Brown, 1998)

PMC

MATTHEW CREEK STOCK: Pegmatite.

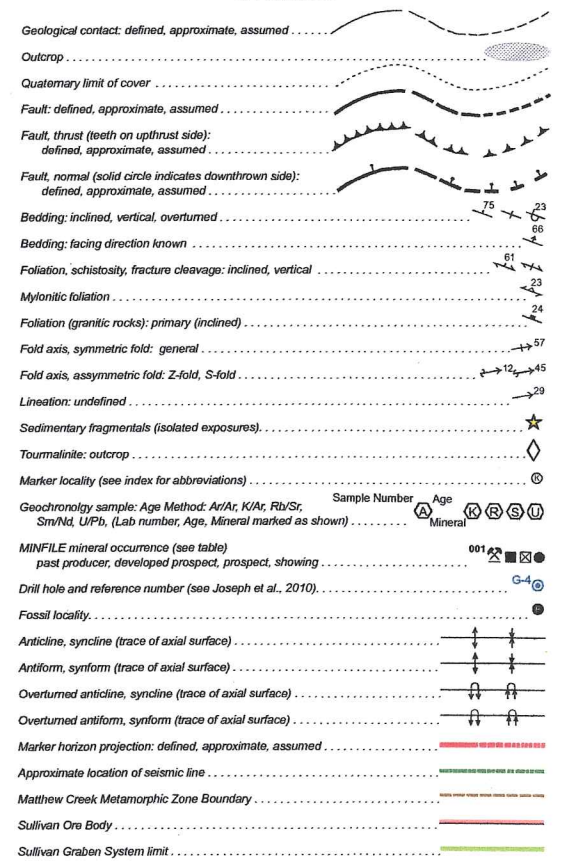
Mpb

Mafic sills and rare dikes hosted in Kilchener Formation. Olive green, massive to plagioclase porphyritic.

MpM

MOYIE INTRUSIONS
 "Moyie Sills". Dark green to black, medium- to fine-grained gabbro and hornblende quartz diorite sills and minor dikes. Zircon U-Pb dates circa 1467 Ma (Anderson and Davis, 1995).

SYMBOLS



group hosts tungsten and molybdenum mineralization in greisen style veining. To the west of this several copper/silver Minfile showings occur in hangingwall stratigraphy to the Meachen Bend property.

Several government funded aerial geophysical surveys were flown in the region and provide coverage of the existing claim group. A single seismic line runs through the valley bottom roughly in an east west direction from east of Kimberley to the head waters of Meachen Creek. Reprocessing of this line data by Fred Cook identified a seismic anomaly along the line at the possible Lower/Middle Aldridge contact at depth with similar properties to the “Sullivan” massive sulfide deposit at Kimberley and provided the impetus for staking the original claim block. A subsequent Magneto-Telluric survey was run along the trace of the seismic line to help with interpretation of geology at depth.

Several conductive features of interest were found including a strong near surface anomaly near Fiddler Creek and several conductive “corridors” emanating from the seismic anomaly at depth. This work is described in ARIS reports: 36666, 37566.

2.50 Purpose of work

The purpose of the prospecting program was to investigate middle Aldridge stratigraphy for indications of potential mineralization associated with both magneto-telluric anomalies and seismic reflectors.

3.00 GEOLOGY

The Meachen Bend claim is underlain by sediments and gabbro intrusive rocks assigned to the Precambrian Aldridge formation. Middle to Upper divisions of this formation has been mapped on or adjacent to the claim (Figure 3.). The contact between the Lower and Middle Aldridge units is the host stratigraphy to the world class Sullivan lead/zinc deposit at Kimberley BC and is inferred to occur at depth on the claims.

Several north northwest trending faults cross the property with most significant off set occurring along the Fiddler creek fault. Sediments across the property are tightly folded into synclines and anticlines parallel to the mapped faults.

Region wide significant alteration and mineralization appears to be controlled by similar faults.

4.00 PROSPECTING

Prospecting was initiated on the Meachen Bend property in the summer of 2018. Tenure 1055800 had been added to the original core claims of the Meachen Bend property following a 2017 geophysical survey (ARIS report 37566). The geophysical survey indicated a potential conductive target at a shallow depth. Prospecting was conducted in an effort to locate indications of alteration and /or mineralization within hangingwall rocks associated with this anomaly as well as to determine the nature of the Fiddler Creek fault projected to occur just to the east of the anomaly.

The anomaly occurs within a complex geological domain dominated by previously mapped faults and folds cutting and deforming Middle Aldridge sediments in the

postulated hangingwall of the Fiddler Creek Fault. Middle Aldridge marker beds were noted in the area prospected, and if they correlate with known marker occurrences these markers represent lithologies above the upper Middle Aldridge sill package, likely the "R" through "Shaft" horizons.

Bedrock within this stratigraphic panel is mainly medium bedded turbidites with dirty fine to medium grained bases and thin silty argillaceous tops. Tops can host minor amounts of wispy pyrite and or pyrrhotite, while the bases can host pyrite grains and clusters with a wide spread carbonate, sericite alteration.

Where evident fractures occur, narrow quartz veins can be found in both turbidite tops and bases. Smokey, crystalline narrow quartz veins are often host to vugs with pyrite and carbonate clusters, rare grains of galena, sphalerite and/or chalcopyrite occur associated with pyrite. The carbonate sericite flooding is a prevalent alteration and possibly is related to the projection of the Fiddler Creek fault. The occurrence of base metals, with the carbonate and quartz vein alteration, is a positive indication of a metal fertile hydrothermal system.

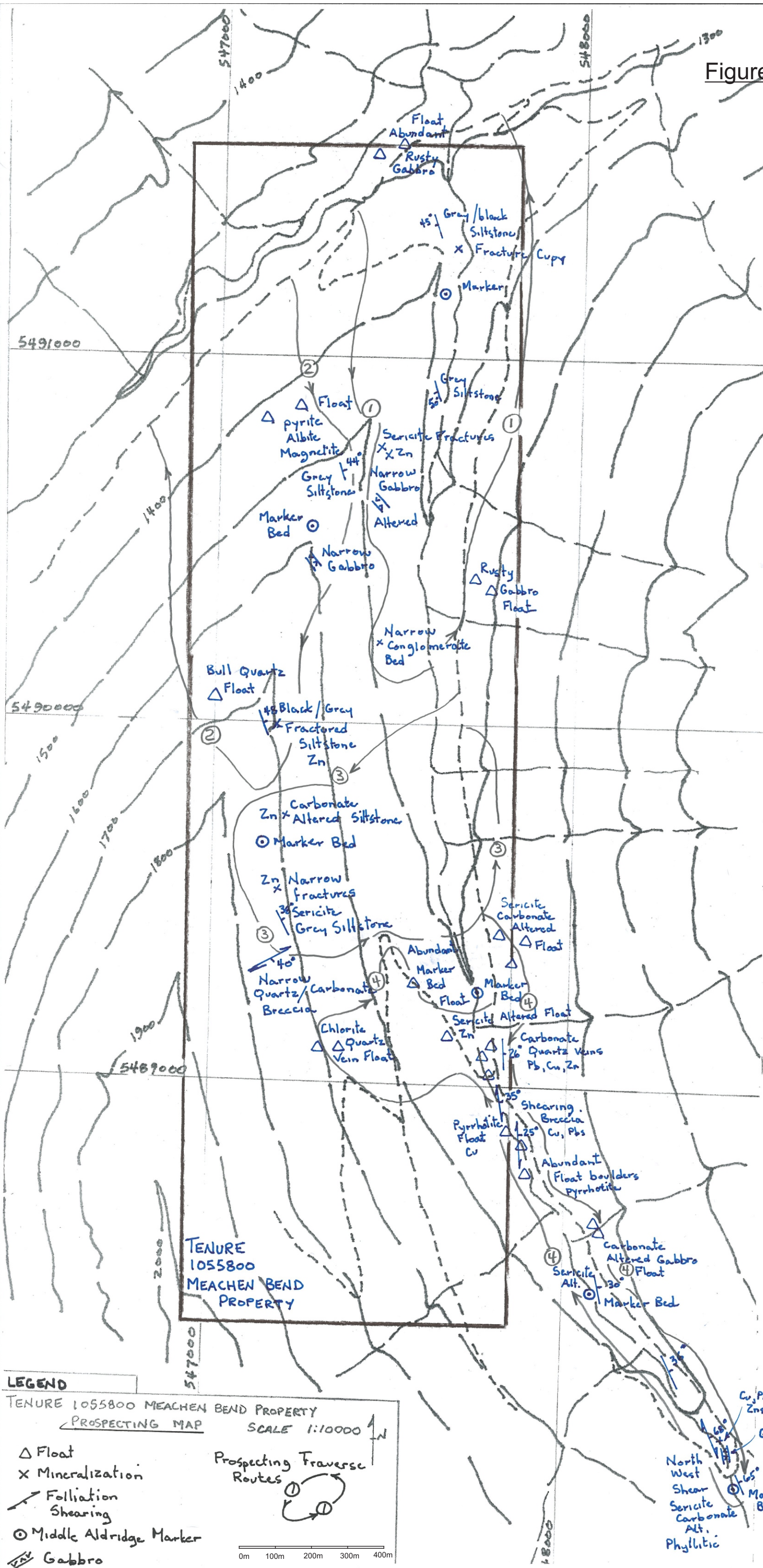
As indicated above wide spread carbonate, sericite alteration with quartz veining is at present thought to be an indicator to the Fiddler Creek fault. Near the southeast corner of the tenure 1055800(Figure 4) a 1 to 3 meter wide zone of black argillaceous, silty breccia is located along the western side of the bed of Fiddler creek. The breccia zone can be traced up the creek for 75 to 100 meters. The character of the breccia indicates a component of milling with narrow zones hosting fine monolithic fragments, some rounded others angular. The majority of the breccia system hosts larger angular clasts of black finely bedded argillaceous siltstone; the matrix is a combination of white grey silica with lesser amounts of carbonate.

Of interest are patches and gashes of massive pyrite and/or pyrrhotite, the latter being quite magnetic. Boudin like massive sulphide accumulations are often seen as float in the creek bed and in exposures of till along the creek. Float boulders of this nature can be traced up the creek in excess of 100 meters beyond the last exposure of breccia. Rare galena and chalcopyrite grains were noted with pyrite while the pyrrhotite had minor amounts of chalcopyrite.

Further up the creek, on tenure subsequently added to the claim group a good exposure of faulting and shearing is exposed in the creek bed and side cut. This is an important exposure, with evident zones of silicification with strongly phyllitic textures; narrow stockwork quartz veining and associated pyrite mineralization can be seen in a number of areas. Middle Aldridge marker bed material is also prevalent, one area with silicified and sericite altered marker hosted grains of purple sphalerite with more pyrrhotite rich material. Chalcopyrite and rare galena were also noted within the quartz vein pyrite zones.

The shear structure strikes 160 degrees and dips steeply to the east at 75 degrees. This zone is probably related to the breccia zone described further downstream to the north. It is not known at this time whether these structural zones are part of the Fiddler Creek fault or are sympathetic structures. With both above mentioned structural zones have eastern dips and yet the seismic imaging indicates a western dip to the Fiddler fault. It is possible that these represent splays or rolls of the Fiddler Creek fault. More work is required to bring clarity and understanding to this structural situation.

Figure 4. Prospecting Map



LEGEND

TENURE 1055800 MEACHEN BEND PROPERTY
 PROSPECTING MAP SCALE 1:10000

- △ Float
- x Mineralization
- ↗ Foliation
- ↘ Shearing
- Middle Aldridge Marker
- ▬ Gabbro

Prospecting Traverse Routes

0m 100m 200m 300m 400m

The other area prospected in the summer of 2018 was the Fiddler Creek valley bottom from the Meachen creek haul road upstream approximately 2 km. Bed rock encountered along this traverse does not in general show as much carbonate alteration as further upstream in the afore mentioned area of faulting. This may be due to a number of factors most importantly that the stratigraphy encountered is a thin bedded sequence of siltstone and argillite which hosts numerous lenses of marker bed material. Bedding trends parallel to the direction of the creek bed and with intermittent outcrops it is possible that the same stratigraphic interval was traversed along its strike up the creek. The collection of and matching of marker beds would help to determine if this is the case. Another explanation for the lack of alteration is that this area is west of the Fiddler Creek fault and distal to the alteration observed proximal to the fault further upstream. Despite the lack of obvious fault alteration and brecciation, thin zones of fracturing with sericite, carbonate and chlorite with occasional grains of sphalerite and chalcopyrite.

4.00 CONCLUSIONS AND RECOMMENDATIONS

Prospecting on the Meachen Bend property encountered a series of structures exposed in the Fiddler creek bed. These structures are in the vicinity of the mapped projection of the Fiddler Creek fault. Where measured these structures dip to the east where as inferred trends to the Fiddler Creek fault as mapped by the GSC and indicated by seismic reprocessing dip to the west.

Abundant carbonate, sericite and pyrite alteration with veining and brecciation was noted in and proximal to these fault structures. Galena, sphalerite and chalcopyrite were found within this zone and coupled with the above alteration indicates that the projection of the Fiddler creek fault was a major conduit for mineralization. To the immediate east of this fault zone previous work recognized a relationship between chalcopyrite mineralized veins in gabbro sills to faulting, further emphasizing the importance of the Fiddler Creek fault in localizing mineralization.

Future work should include prospecting, rock sampling and geology. Middle Aldridge markers should be collected and matched to help develop a stronger structural understanding, which would also help in the interpretation of geophysical anomalies identified in previous geophysical surveys (ARIS reports 37566, and 36666)

5.00 STATEMENT OF COSTS

Craig Kennedy:	2 days (Aug.2,6)@ \$500.00/day	\$1000.00
	2 days (Report) @ \$500.00/day	\$1000.00
Mike Kennedy:	1 day (Aug.6)@\$500.00/day	\$500.00
Vehicle:	2 days@\$150.00/day	\$300.00
TOTAL:		<u>\$2800.00</u>

6.00 AUTHOR'S QUALIFICATIONS

As author of this report I, Craig Kennedy certifies that:

- 1) I am an independent consulting prospector residing at 2290 DeWolfe Ave. Kimberley, B.C.
- 2) I have been actively involved in mining and mineral exploration for more than 40 years.
- 3) I have been employed by individuals as well as Junior and Major mining companies.
- 4) I have created and optioned numerous grass-roots mineral exploration properties.

Craig Kennedy

Prospector

REFERENCES

Brown, D. A., MacLeod, R. F., and Wagner, C. L. (compilers) 2011. Geology, St. Mary Lake, British Columbia, Geological Survey of Canada Open File 6308, scale 1:50000.

ARIS assessment reports:

37566: Cook, F. Acquisition, Processing and Inversion of a Magneto-telluric Profile: Meachen Bend Property

36666: Cook, F. Integration of Geophysical and Geological Data: Meachen Bend Property