

Ministry of Energy and Mines BC Geological Survey



Assessment Report Title Page and Summary

AUTHOR(S): Douglas Anderson NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): 5478806/November STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S) PROPERTY NAME: Sweet Spot CLAIM NAME(S) (on which the work was done): Sweet Spot: Sweet S	signature(s): <u>DA</u> er 28,2013	YEAR OF WORK: <u>2013</u>
NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): <u>5478806/Novembe</u> STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S) PROPERTY NAME: <u>Sweet Spot</u> CLAIM NAME(S) (on which the work was done): Sweet Spot: Sweet S	er 28,2013):	YEAR OF WORK: 2013
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PROPERTY NAME: Sweet Spot		
CLAIM NAME(S) (on which the work was done): Sweet Spot: Sweet S		
882449; 882469; 1022264.	Spot 04-11; Sweet Spot 05-11;S	weet Spot 2013. Numbers 604912
COMMODITIES SOUGHT: Lead, zinc,silver		
MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: None - UTMS	SZone 11 - 576000E 5429500N	4
MINING DIVISION: Fort Steele	NTS/BCGS: 082F010/0820	3001
LATITUDE: 49 ° 01 ' LONGITUDE: 116	0 ' " (at ce	ntre of work)
OWNER(S):		
1) S.J. Kennedy	2) D.E. Lavoie	
	-	
MAILING ADDRESS: 2290 DeWolfe Ave., Kimberley B.C. V1A 1P5	2290 DeWolfe Ave., Kimbo	erley, B.C. V1A 1P5
OPERATOR(S) [who paid for the work]: 1) Kootenay Silver Inc.	2)	
MAILING ADDRESS: 550-999 Hastings St., Vancouver, B.C.		
V6E ZE9		
PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structur Underlain by the Aldridge Formation of the Purcell Supergroup	e, alteration, mineralization, size and . All three sub-divisions are pres	attitude): sent from Lower (Ramparts Facies
in part) to Middle Aldridge to Upper Aldridge on the east flank of	of the property. Target is Sedex	Pb-Zn-Ag. Alteration includes:
biotite, sericite, and garnet. Weakly disseminated galena and s	phalerite is present in outcrop/fl	oat and in drill holes within the
Middle Aldridge turbidites.		

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 18 square k	kilometres	604912,882449,882469	9610.00
Photo interpretation			
GEOPHYSICAL (line-kilometres)			·
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric		-	
Seismic			
Other			
Airborne			3
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			3
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric			
Legal surveys (scale, area)			
Road, local access (kilometres)/t	rail		
Trench (metres)			
Other	No. Second Second		
Other			
		TOTAL COST:	9610.00

SWEET SPOT PROPERTY

GEOLOGICAL MAPPING ASSESSMENT REPORT

Fort Steele Mining Division

BCGS 082G001

Tenure Numbers - 1022264,604912,882449,882469

UTM's Zone 11 576000E 5429500N

BCGS Map Sheet 082G001

NTS Map Sheet 082F010

Claim Owners: S. J. Kennedy & D. E. Lavoie 2290 DeWolfe Ave. Kimberley, B.C. V1A 1P5

Operator: Kootenay Silver Inc. Suite 1820 - 1055 W. Hastings St. Vancouver, BC V6E 2E9

Consultant and Author: D. Anderson #100 – 2100 13th. Street South Cranbrook, B.C. V1C 7J5

December 16, 2013 Geology of the Sweet Spot Property Southeastern B.C.

BC Geological Survey Assessment Report 34340

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Geology of the Sweet Spot Property

Southeastern B.C. – Purcell Mountains

1.0 Introduction

The Sweet Spot property is a group of four claims located in southeastern B.C. bounded on the south by the border with the United States. The property was staked to cover the potential for lead-zinc-silver within the Aldridge Formation with the target being a Sedex-style deposit similar to the Sullivan Mine at Kimberley. The mapping was done at 1:10000 scale over an area of about 21 square kilometers.

2.0 Claims

The claims stretch east-west along the 49°th parallel. 79 units are included within the four claims. The claims are owned by S.J. Kennedy and D.E. Lavoie of Kimberley, B.C. The operator is Kootenay Silver Inc. Consultant to the program was Douglas Anderson, P.Eng. Competitor claims bound the property on the north and east.

3.0 Location and Access

Sweet Spot is located about 57 air-kilometres SSW from Cranbrook, B.C. and nine kilometers east of the village of Yahk. Access is gained from Highway 3 at Yahk by driving a well developed system of logging roads up the Hawkins Creek drainage and then south on either the America Creek or South Hawkins Creek roads. The area is of moderate relief from 1000 to 1900 metres. Heavily forested, there has been extensive logging throughout the area.



4.0 Exploration History

The Sweet Spot property covers some of the area originally staked and held by Cominco Ltd. from 1989 through 1993. The ground was acquired because of a soil geochemical anomaly for lead and zinc, identified by a regional soil program. A follow-up soil grid defined a soil anomaly for lead and zinc which is about 1.5 kilometres long, south to north. The anomaly lies on the east flank of the ridge which extends east down into the South Hawkins creek drainage. The area was mapped at 1:20000 scale. The next exploration step over the several years the claims were held by Cominco (as the Canam property) included UTEM ground geophysics (a deep probing EM system) done on established cut line grids. This work did not result in identification of a conductor warranting further exploration. However, it did identify several crossover responses and some weak anomalies. Because of the intensity and size of the soil anomaly, two drill holes were completed in 1991, testing the uphill, south end of the soil anomaly. Hole C-91-1 was drilled at the south end to a depth of 343.6 metres.

It was entirely in Middle Aldridge rocks, intersecting weakly disseminated (lesser fracture and vein filling) galena and sphalerite intermittent over its entire length. Hole C-91-3 downslope and to the east intersected less, but similar mineralization. As a consequence of the UTEM survey, an anomaly was located east of South Hawkins creek. It was drilled as C-91-2 and intersected pyrrhotite laminations in higher stratigraphy. The following years resulted in extended UTEM surveys to the north down to and north of the main Hawkins Creek valley. The property was allowed to lapse.

The Hawkins Creek/Cold Creek/Mt. Mahon areas, several kilometres to the north of the Canam claims have been the subject of numerous exploration efforts by a variety of companies including Falconbridge, St. Eugene Mining, Rio Algom, Abitibi Mining, and Klondike Gold Corp. This extensive work history is peripheral to the efforts at the Sweet Spot but will be discussed in the regional geology section.

The most immediate work with significance relative to the Sweet Spot is a drill hole completed downslope 3 kilometres north of the soil anomaly (focus on the Canam). This hole by Abitibi Mining (CA-00-1) was drilled to a depth of 540 metres. Whether the Lower/Middle Aldridge contact was intersected is uncertain. Several Middle Aldridge marker horizons were intersected and matched, suggesting the LMC should have been intersected. The question remains whether there is stratigraphic thickening within the lower Middle

Aldridge or the Ramparts Facies extends this far east, interfering with the standard section recognized farther north.

5.0 Regional Geology

The Sweet Spot lies within the Purcell Anticlinorium, a gently north-plunging structure that is cored by Paleoproterozoic sedimentary and minor volcanic rocks of the Purcell Supergroup and flanked by unconformably overlying Neoproterozoic clastic and carbonate rocks of the Windermere Supergroup. These are often overlain by either Cambrian or Devonian rocks.

The Purcell Supergroup (Belt Supergroup in the US) is comprised of a syn-rift succession, the Aldridge Formation, and an overlying, generally shallow water post-rift or rift fill sequence which includes the Creston and Kitchener Formations followed by some younger Purcell rocks (Hoy, 1993).

The exposed part of the Aldridge Formation comprises more than 3000 metres of mainly turbidite deposits and numerous, laterally extensive gabbroic sills referred to as the Moyie intrusions. The sills can be up to several hundreds of meters thick and are mapped over hundreds of square kilometers. They also occur as dykes. It can be demonstrated that some sills have contact features which suggest intrusion into wet and only partially consolidated sediments. Stratigraphic control within the monotonous Aldridge Formation is largely dependent of the identification of and matching of laminated marker beds.

Structurally the property is within the Foreland Thrust and Fold belt which is the most easterly physiographic belt in the Canadian Cordillera (Monger et al,1982). The belt is characterized by shallow, east verging thrust faults and generally broad open folds in rocks that range from middle Proterozoic Purcell Supergroup to Phanerozoic miogeoclinal rocks. Most prominent are northeast trending, right lateral reverse faults such as the Moyie, St. Mary, and Hall Lake which cut across the Purcell Anticlinorium. This composite structural zone crosses the Rocky Mountain trench and extends northeastward across the Foreland Thrust belt. This belt appears to have focused a variety of deposits and metallotects that range in age from the stratiform, middle Proterozoic Sullivan deposit to Paleozoic carbonate replacement deposits to gold and copper mineralization related to Jurassic and Cretaceous magmatism (Hoy,1982).



6.0 Property Geology

6.10 Stratigraphy

The Sweet Spot claims cover the upper part of Lower Aldridge equivalent stratigraphy known as the Rampart Facies east across about 1200 metres of the Middle Aldridge. The Ramparts Facies are dominantly thick bedded, quartzitic rocks which are the southwest equivalent of Lower Aldridge farther north in the basin. The progradation of the Ramparts is not well established but it thins from about 800 metres south of Creston, B.C. to a few hundred metres west of the Sweet Spot property. Several Moyie sills are present, known within the Aldridge basin as the Sundown and Meadowbrook intrusions.

6.20 Structure

The property occurs on the east limb of the broad Moyie anticline. The sediments generally dip moderately east. The sequence is cut by NNE trending faults and an east-west fault in the main Hawkins Creek valley. These structures have been established by previous exploration programs including the work on the original Canam property.

6.30 Alteration and Mineralization

Previously established by mapping and the drilling is the presence of extensive sericite and garnet alteration, locally there is chlorite and epidote. Often associated with quartz veining, but also quite ubiquitous within the bedding of certain sediments the alteration is also recognized to have a spatial association with the lead-zinc mineralization which pervades drill hole C-91-1 in particular. There are no grades recorded for the previous drilling but visually, low percentage level Pb and or Zn are present over short intervals.

7.0 Geological Mapping - 2013

The 21 square kilometre area was mapped at 1:10000 scale using a topographic base with drainages, roads and gps as control. All locations were recorded as UTM coordinates. Exposures on logging roads and some natural outcrops were recorded for the compilation.

The geological mapping was commissioned by Kootenay Silver due to the significant soil anomaly and previous drill results but also because of extensive new logging roads which exposed much more rock than had previously been available for viewing. The 2013 mapping covered an area

from just west of America Creek to about 1.5 kilometres east of South Hawkins Creek.

The property is entirely underlain by Aldridge Formation rocks from Ramparts Facies on the west to about 1200 metres above the Lower Middle Contact (Sullivan Time) on the east. Ramparts Facies is the equivalent to upper Lower Aldridge in the west/southwest part of the Purcell Basin in B.C. It represents a distinct thickening of the upper Lower Aldridge to the west, reaching an approximate thickness of 800 metres near Creston, B.C. about 35 kilometres from Sweet Spot. On the west edge of the property it is estimated as 200 to 250 metres thick, based on more regional data. Ramparts is predominantly light grey, thick bedded, quartz wackes. At Sweet Spot, it frequently displays non-rusty weathering, muscovite and manganese garnet alteration of the more argillaceous components. The America Creek Fault is a NNE-trending, steep-dipping, normal along the America Creek drainage which limits the Ramparts Facies on the property. To the east is Lower Aldridge stratigraphy, dipping shallowly to the east. Within this section is a gabbro-granofels complex up to 300 metres thick. Granofels describes a highly altered sediment which takes on the appearance of an intrusive. (Such an intrusive complex underlies the Sullivan deposit and cross-cuts the footwall rocks beneath it.)

Mapping east of America Creek is inadequate due to poor access and a low percentage of outcrop so the existence of the LMC has not been demonstrated. Proceeding east, Middle Aldridge is exposed in outcrop and roadcuts. Bedding has steepened to the east and structural complications are present locally with faults and folding on the west side of the Canam Fault which is one of a series of NNE-trending faults on the Sweet Spot claims. Middle Aldridge markers were located on the west flank of the Canam fault but they remain unmatched.

East of the Canam Fault is the soil anomaly documented by Cominco Ltd. Previous information indicates the soil anomaly is just above the Moyie marker, part of the Middle Aldridge suite of stratigraphic markers. Downslope of the soil anomaly to the east are two gabbro sills in the hangingwall. East of them is another of the NNE-trending faults named the South Hawkins Fault. It is probably a normal fault, down on the west. Continuing east, a series of gabbro sills occupy the section which reaches Meadowbrook marker time. One of the sills (Meadowbrook) shows how a sill can cross-cut stratigraphy along a NNE-trending fault. The structure appears to be early in the sedimentation cycle as soft sediment deformation occurs along the east side of this fault.



See page 14 for map to scale



8.00 Conclusions and Recommendations

The additional logging roads have greatly improved the geological database through roadcuts and the location of outcrops in clearcuts but also by facilitating access to outcrops. The Sweet Spot property covers western facies stratigraphy on the west and Middle Aldridge to the east. It overlies three significant NNE-oriented faults which divide the property into four distinct stratigraphic blocks. From west to east, Ramparts Facies bounds the property on the west as Lower Aldridge facies equivalent. Across the America Creek fault to the east, are the footwall rocks of the Lower Aldridge (footwall to Sullivan Time) with the included gabbro/granofels intrusive complex. The second block ranges up through LA to about 500 metres above the LMC before encountering the Canam Fault system. East of this fault (likely normal movement) is younging stratigraphy to the east from Moyie marker up to above Meadowbrook marker, before the South Hawkins Creek Fault brings below Sundown stratigraphy back up on the east. The property east boundary is well above Meadowbrook time. The lead-zinc mineralization defined by soils and drilling in the early 1990's has not been further defined by this work.

There is an excellent opportunity to do more detailed mapping on the property which will provide a more complete understanding of the geological setting and evaluate the potential for Sedex mineralization at depth.

9.0 References

Hoy,T. (1982): Stratigraphic and structural setting of stratabound lead-zinc deposits in southeastern B.C.; Canadian Institute of Mining and Metallurgy, Volume 75, pages 114-134.

Hoy, T. (1983): Geology of the Purcell Supergroup in the Fernie W-half map area, southeastern B.C.;B.C. Ministry of Energy and Mines, Bulletin 84, 157 pages.

Anderson, D. (1991): Diamond Drilling Report, Canam Property, Fort Steele M.D.; Ministry of Energy and Mines, Assessment Report#21786, 20 pages.

Rodgers, G. (2000): Diamond Drill Report on the Canam Property, Fort Steele M.D.; Ministry of Energy and Mines, Assessment Report#26396, 18 pages.

Appendix A

Statement of Costs: Sweet Spot Property

Event Number: 5478806 Start- End Dates: June 29 to October 15, 2013 Tenure work done on: 604912,882449,882469 Type of work done: Geological Consultant: Douglas Anderson, P.Eng. Dates: June 29,30; July 6,28,30,31; August 3,14,15,30 10 man days @ \$500/d \$5000.00 Vehicle charge 1230.00 Assistant 5 days @\$200/d 1000.00 Map preparations 380.00 Report – 4 days (DA) 2000.00 Total Cost= \$9610.00

Appendix B

Author's Qualifications

I, Douglas Anderson, Consulting Geological Engineer, have my office at #100 – 2100 13th St. South in Cranbrook, B.C. V1C 7J5.

I graduated from the University of British Columbia in 1969 with a Bachelor of Applied Science in Geological Engineering.

I have practiced my profession since 1969, mainly with one large mining company, in a number of capacities all over Western Canada and since 1998 within southeastern B.C. as a mineral exploration consultant.

I am a Registered Professional Engineer and member of the Association of Professional Engineers and Geoscientists of B.C., and I am authorized to use their seal.

D. Anderson Douglas Anderson, P. Eng.

Appendix C

List of Claims:

Tenure #	Name	Issue Date	Good to date	New Good to Date	Area(ha)
604912	Sweet Spot	2009/may/24	2013/nov/30) 2015/jul/31	423.76
882449	Sweet Spot	2011/aug/05	2013/nov/30	0 2015/jul/31	444.91
882469	Sweet Spot	2011/aug/05	2013/nov/30) 2015/jul/31	296.67
1022264	Sweet Spot	2013/sept/12	2014/sept/1	2	508.48

