YMEP Target Evaluation Report

2021 Gravity Survey on the OGI ZINC PROPERTY

Owned by Fox Exploration Ltd.
Operated by Sitka Gold Corp.

Claim	Grant No.	Claim	Grant No.
OGI 36	YD145136	OGI 107	YD145207
OGI 38	YD145138	OGI 109	YD145209
OGI 40	YD145140	OGI 111	YD145211
OGI 42	YD145142	OGI 113	YD145213
OGI 44	YD145144	OGI 115	YD145215
OGI 48	YD145146	OGI 117	YD145217
OGI 50	YD145148	OGI 119	YD145219
OGI 52	YD145150	OGI 121-164	YD145221-YD145264
OGI 54	YD145152	OGI 171	YD145271
OGI 56	YD145154	OGI 173	YD145273
OGI 60	YD145156	OGI 175	YD145275
OGI 69-94	YD145169-YD145194	OGI 177	YD145277
OGI 96	YD145196	OGI 179	YD145279
OGI 103	YD145203	OGI 181	YD145281
OGI 105	YD145205	OGI 183	YD145283

Claim Sheet No 116B/01
UTM Zone 7 – NAD 83: 627,500 E; 7,115,800 N
Latitude 64º 8’ 36” N and Longitude 138º 23’ 50” W
Dawson Mining District
Yukon, Canada

Work Performed during the period August 30th to September 6th, 2021

YMEP Grant # 21-070

Report by

John Greg Dawson, M.Sc., P.Geo.
January 22, 2022

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SUMMARY

The OGI Zinc property (the “Property”) is situated in the Dawson Mining District and consists of 99 contiguous quartz claims registered in the name of Fox Exploration Ltd. (“Fox”). Sitka Gold Corp. (“Sitka Gold”) has acquired an option to earn a 100% interest in the Property.

The area of the OGI Property was originally staked as a gold prospect in 1989 and various exploration programs were carried out through 2011. In 2012 Fox extended a soil grid to the south of the main gold target area and encountered a large Zn-Ag soil anomaly. This discovery has led to the current program, where the target is a stratabound, sedimentary exhalative (SedEx) base and precious metal deposit such as Howards Pass and possibly also the Nick occurrence, in Road River stratigraphy within the Selwyn Basin. The OGI soil anomaly is strongly anomalous in Zn (2,000 to +10,000 ppm), Ag (10 ppm to +50 ppm) and enriched in several other elements including Ni, As, Mo, Ba, P and V.

The 2021 exploration program consisted of a 194 station gravity survey which was completed by a crew of two from SJ Geophysics between August 30 and September 6 2021. The crew was based in Dawson City with daily set outs and pick-ups were provided by Fireweed Helicopters in Dawson City. The total cost of the program was $90,321.18

The survey identified 3 gravity high anomalies and 2 gravity low anomalies that justify further investigation by way of a more detailed compilation of geological and geochemical data, ground truthing and more detailed gravity surveying.

INTRODUCTION

In August, 2020 Sitka Gold entered into an option agreement with Fox whereby it would have the right to earn a 100% interest in the OGI Property, subject to a retained royalty. Fox had previously applied for and received YMEP support (Project 20 - 041) for a 2020 exploration program on the Property from the Yukon Government.

The purpose of the gravity survey was to attempt to identify massive sulphide (likely sphalerite) minerialization within a strongly anomalous argillite which trends east – west across the survey area. Since sphalerite is not conductive, a gravity survey to define density contrast between the host argillite and a possible denser body of sphalerite was considered the best geophysical method to use.

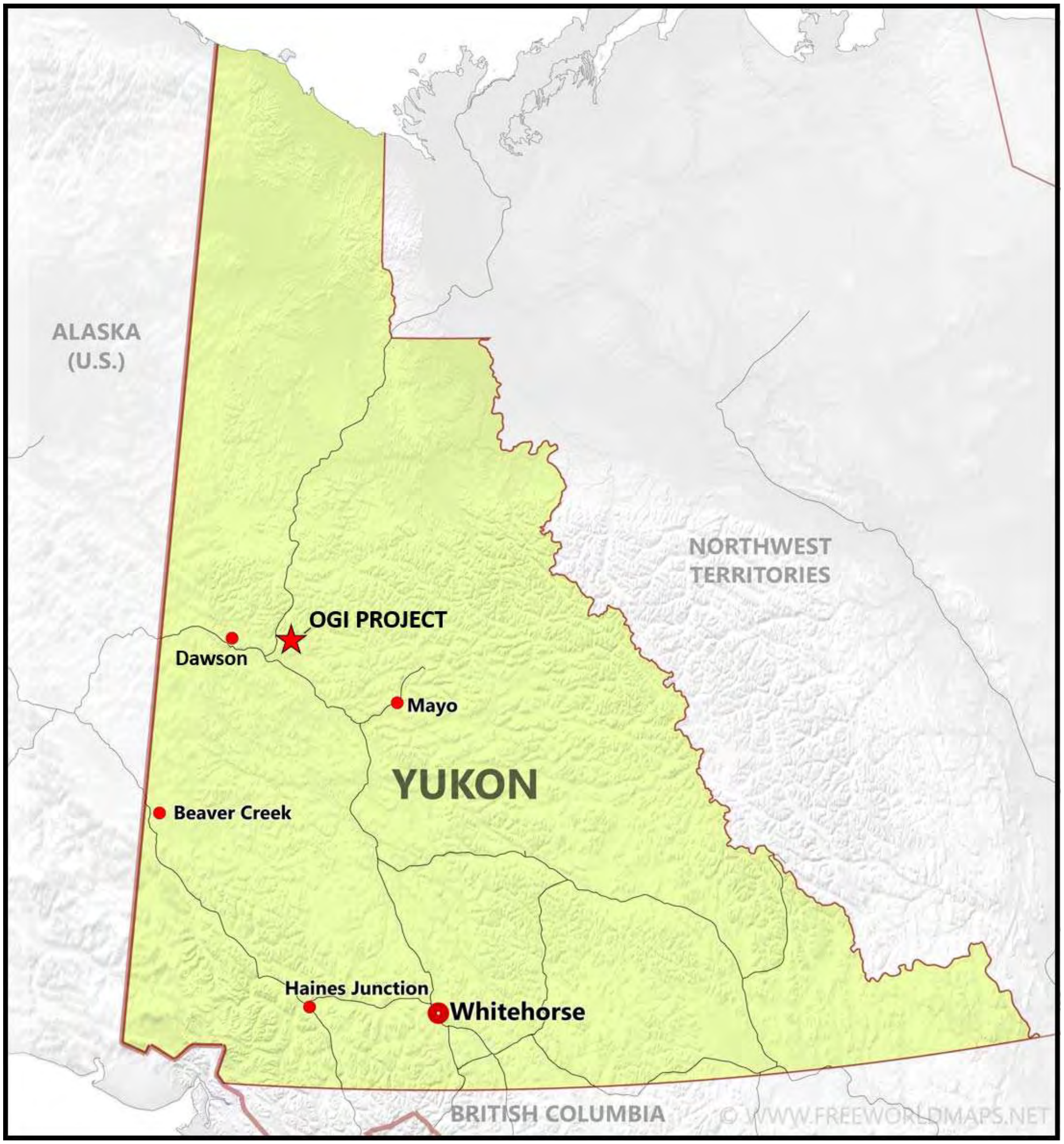

Figure 1. OGI Zinc project location.

PROJECT LOCATION

The OGI Property is located approximately 51 kilometres east of Dawson City, Yukon and 4 kilometres northwest of Golden Predator's Brewery Creek Mine. The Property is located on NTS map sheet 116B01 and centered at UTM NAD 83 Zone 7: 627,500 E; 7,115,800 N or at latitude 64º 8' 36" N and longitude 138º 23' 50" W.

ACCESS

Access to within 8 kilometres of the Property is by paved road from Whitehorse or Dawson to the Dempster highway and then by good all-season gravel road up the Dempster highway for 25 kilometres. A helicopter is then required for the remaining 8 kilometres east to the Property (Figure 1).

PROJECT DESCRIPTION

Sitka has entered into an option agreement (the "Agreement") with Fox Exploration Limited ("Fox") whereby Sitka can acquire a 100% interest in the OGI claims from Fox by making payments totaling $225,000, issuing 1,000,000 shares and completing $2.5 million in exploration over a 5-year period, with an initial payment of $10,000 and issuance of 100,000 shares. The Company must also issue a bonus of 500,000 shares if 1.0 million ounces of gold equivalent in any category is defined in a published NI 43-101 resource estimate. Fox also retains a 2% NSR on the OGI claims, half of which can be purchased for $2 million.

The OGI Property is situated in the Dawson Mining District and consists of 99 contiguous quartz claims, listed in Appendix I and shown in Figure 2. The claims are registered in the name of Fox Exploration Ltd.

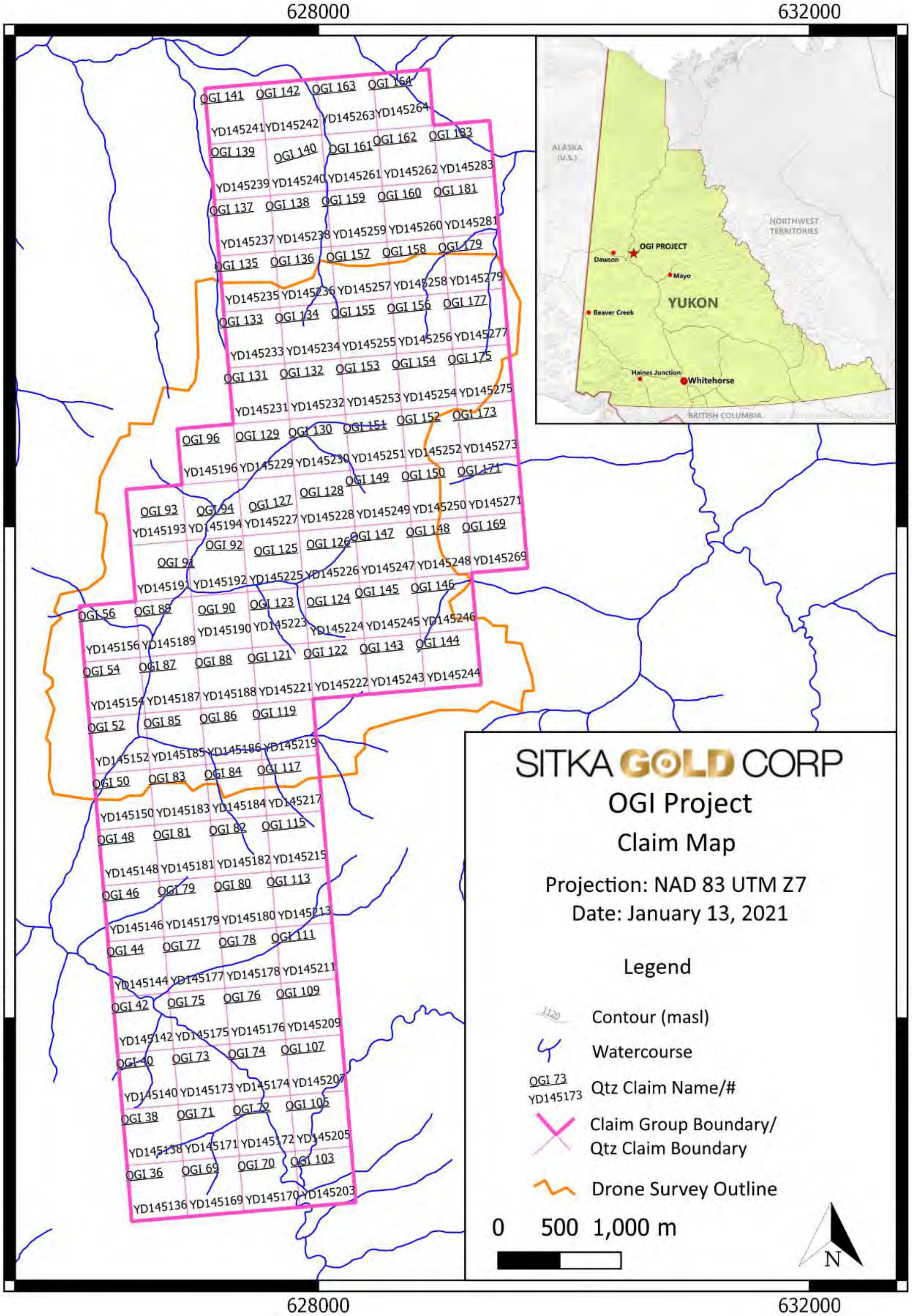

Figure 2. OGI Zinc Property Claim Map.

The OGI Zinc property (the "Property") is in the Ogilvie Mountains. The Property is characterized by steep to moderate relief and is generally below 1200 metres in elevation. The Property is covered by black spruce, pine, popular, birch and alder trees with abundant willows and buck brush at lower elevations. Outcrop on the Property is sparse and exists primarily along ridges and steeper areas of relief and in the creeks.

The climate of the Property area is generally dry during the summer months with most of the limited precipitation occurring in July and August. Temperatures range from -45º C in the winter months to 30º C in the summer. Snow accumulation begins generally in late September and is mostly melted by mid-May. The area was subject to partial glaciation and the surrounding area is known to have accumulations of loess within the overburden profile.

PROJECT HISTORY

The area of the OGI Property was originally staked as a gold prospect in 1989 by Tombstone Explorations Company Ltd., who carried out limited prospecting and geochemical silt sampling in 1990 (Minfile 116B 165).

A large area including the Property was re-staked in 1996 as the Oki claims, also known as the Ridgeway prospect. The claim group was optioned to International Kodiak Resources Ltd. ("Kodiak") and in 1997 Kodiak carried out a regional program of geochemical stream sediment sampling of secondary drainages, soil sampling of drainage divides, prospecting, geological mapping and airborne geophysical surveying. Concurrently with this work Kodiak staked numerous additional claims, to expand the project boundaries eastward, and completed additional reconnaissance geochemical silt sampling.

In 2011, Fox staked the OGI claims to cover the most prospective area where the previous operators had identified a 30 ppb gold silt geochemical anomaly over approximately 3 km2 and coincident with an aeromagnetic high and a low K/Th ratio anomaly, interpreted to be a buried intrusion. A grab sample taken by Kodiak from float in the center of the target area returned 895 ppb Au, 1065 ppm As, 10 ppm Sb and 3650 ppm Hg.

In 2012, Fox conducted a soil sampling geochemical survey consisting of 13 east-west lines with 50 metre station spacing and 150 metre line spacing over the Ridgeway target area. Limited prospecting and geological mapping were also conducted. The survey identified a northeast trending corridor of greater than 20 ppb gold, with one 3,700 ppb Au result, that measures approximately one km by three km. The survey also identified an area of strongly anomalous Zn and Ag values in the southeast corner of the soil grid.

In 2013, Fox expanded the soil survey grid and completed additional prospecting and trenching to fill in and extend the anomalous Zn-Ag anomaly.

The 2012 and 2013 exploration programs were partially funded through the Yukon Mining Incentive Program

In 2017 Pacific Ridge Exploration entered into an option agreement to acquire the property and completed geological mapping, collected 97 soil samples, dug and sampled 11 test pits and completed 6.1 km of Mag/VLF surveying. This work confirmed but did not expand the Zn-Ag soil anomaly. The prospect pits confirmed that the black argillite is metal-enriched, containing up to 3,000 ppm Zn and up to 6.3 ppm Ag. No sulphide mineralization of significance was noted.

REGIONAL GEOLOGY

The OGI project lies within Selwyn Basin rocks just to the east of the Robert Service Thrust, which bounds the basin on the west (Figure 3). This basin is characterized by deep water, off-shelf sedimentary strata that are transitional eastward and northward into shelf carbonate and clastic sedimentary rocks of the Mackenzie Platform. To the southwest, the Selwyn Basin is separated from volcanic stratigraphy of the exotic Yukon Tanana Terrane by the Tintina Fault Zone.

The Property is underlain by rocks of the Road River Formation (pale blue in Figure 3) with underlying Rabbit Kettle Formation (pale grey) and Hyland Group (tan) to the immediate west.

The basal unit of Selwyn Basin consists of clastic rocks of the Proterozoic to lower Cambrian Hyland Group. These rocks include green-grey phyllite, sandstone and less common conglomerate and calcareous rocks.

The Cambro-Ordovician Rabbit Kettle Formation unconformably overlies older lithologies and forms a prominent laterally continuous white weathering carbonate marker horizon. The limestone is primarily a platy thin to medium marble with lesser dolomitic phyllite deposited in a transitional setting.

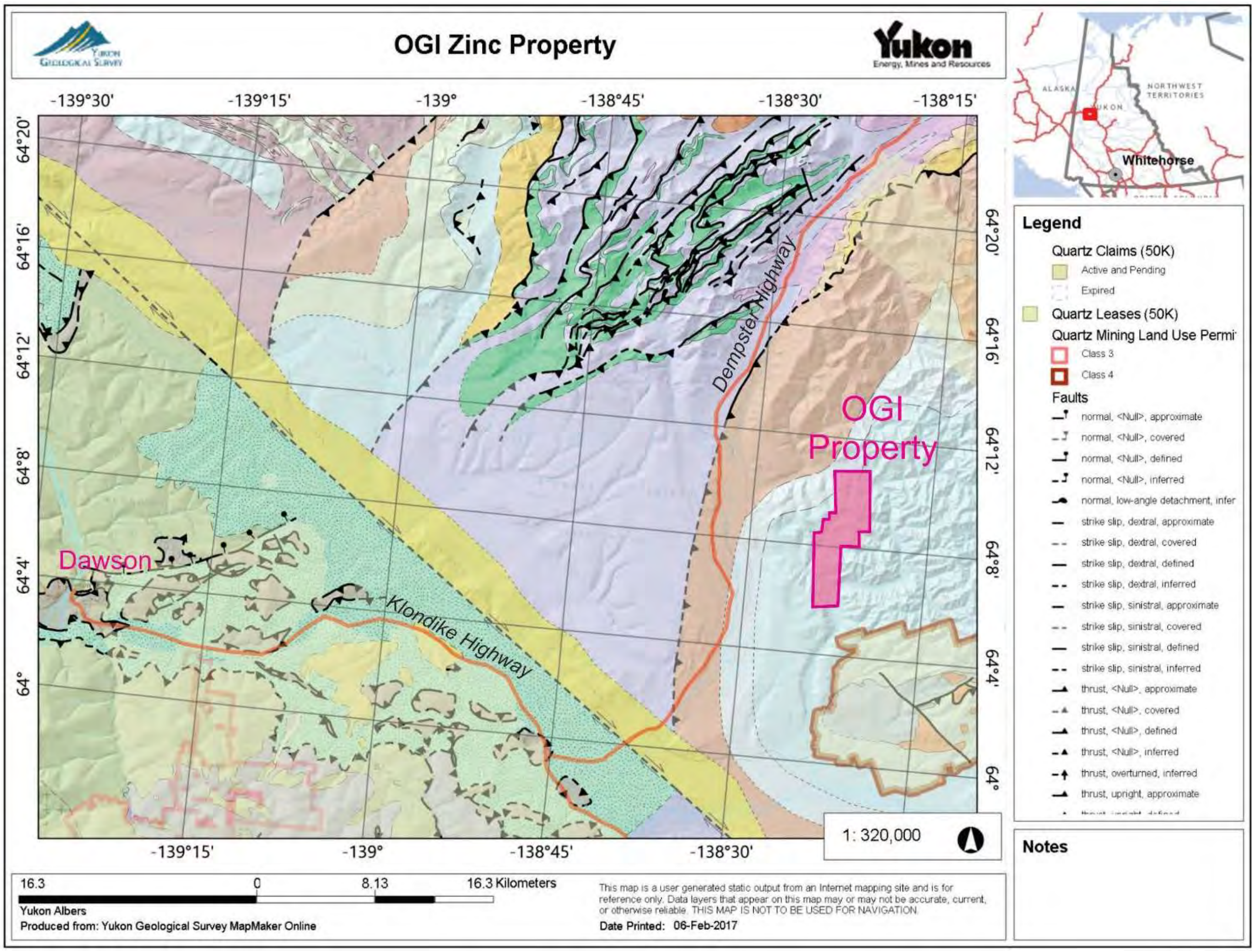

Figure 3. Regional Geology, OGI Property (from Yukon Geological Survey MapMaker)

Overlying the Rabbit Kettle Formation is the Silurian to Ordovician Road River Group. The basal Duo Lake Formation comprises gray to black to brown, brown weathering, phyllitic shale, cherty shale, chert and rare quartz augen phyllite. The overlying Steel Formation consists of limy mudstone, phyllitic mudstone and siltstone with lesser fine grained calcareous quartz sandstone and thin sandy limestone. Road River Formation is host to numerous Zn-Pb-Ag occurrences, the most well-known of which is Howards Pass, and unique nickeliferous stratabound mineralization, the Nick occurrence (Minfile 106D 092).

Unconformably overlying the Road River Formation is the Devono-Mississippian Earn group consisting mostly dark grey to black shale with subordinate and variable amounts of chert, siltstone, sandstone, limestone, bedded barite, chlorite muscovite phyllite and chert pebble conglomerate. This unit is exposed to the southeast of the Property, just off the area shown in Figure 3. The Earn Group strata are also host to numerous Zn-Pb-Ag occurrences throughout Selwyn Basin, the most well-known of which are the Tom and Jason deposits in the Macmillan Pass area.

The Selwyn Basin strata have been intruded by felsic to intermediate Cretaceous stocks and small plutons of the Tombstone and McQuesten Suites, forming an arcuate band that spans the Yukon from north of Dawson to the NWT border. Gold mineralization of the Tintina Gold Belt is associated with these intrusive rocks.

PROPERTY GEOLOGY

There has been no comprehensive geological mapping on the OGI Property and outcrop is scarce.

The area of the soil anomaly is underlain by a sequence of chert and argillite believed to belong to the Duo Lake member of the Road River Formation. Bedding consistently strikes east to east-southeast (range 90° to 140°) and dips south (30° to 75°).

The main lithology exposed along the ridge through the old camp site and bordering the north side of the soil geochemical anomaly is light to medium grey chert to siliceous argillite. Assuming the bedding is upright, this would be the basal unit within the mapped area and would underlie the source of the soil anomaly. The chert often shows an indistinct brecciated texture, probably tectonic in origin, and it is often cut by thin, irregular quartz veinlets. It ranges from massive to well bedded on a scale of 3 to 5 cm thick beds. Outcrops are typically quite rubbly.

Interbedded within the chert horizon is a distinctive orange-brown rusty weathering pale grey argillite (RA) that is often quite fissile. The thickness of this unit could not be measured, but it is not likely more than 5 to 10 m and may pinch and swell or be discontinuous.

The chert unit grades upwards into a thick succession of grey (GA) to black argillite (BA), locally rusty weathering. Although outcrop is scarce on the south facing slope, outcrops on the ridge to the east of the anomaly area indicate that chert horizons, on the order of 5 m or more in thickness, occur within this argillite sequence. A nodular unit, with 2 to 3 cm diameter nodules, possibly of baritic material, were observed in subcrop at two locations near the base of this unit and possibly close to the underlying chert.

EXPLORATION TARGET

The Road River Formation that underlies the Property is known throughout the Selwyn Basin to host SedEx style base and precious metal mineralization. The geochemical signature at OGI (Zn-Ag-Mo-Ni-As-Sb-V-P; Pt, Pd and Se were not analyzed) has similarities to Howards Pass (Zn-Pb-Ag-Cd-Mo-Co-Ni-Ba-V-P) and Nick (Ni-Pt-Pd-Ag-Zn-Mo-As-Ba-Se). This metal association suggests that the source of the OGI soil anomaly is a SedEx style target and not simply a Zn-rich seep or ferricrete associated with a fault zone or a small intrusive.

The soil anomaly has been defined by sampling conducted by Fox over the past several years (Coe 2012, 2013, 2016). The anomaly is more than 1 km long and 500 m wide. The shape of the anomaly, elongated in an east-west direction, but sinuous, suggests that it may be reflecting a source within folded or faulted strata. The anomaly is open to the south, where soil sampling is challenged due to permafrost on the north-facing slope.

The strongest portion of the anomaly contains Zn values ranging from 3,000 to over 15,000 ppm and Ag ranging from 10 to 53.5 ppm. All the anomalous elements show a good correlation in their spatial distribution. Zinc, barium and phosphorus show a broader dispersion than silver, nickel, arsenic and antimony, due either to their wider distribution in underlying bedrock or enhanced dispersion characteristics in the soil profile.

2021 EXPLORATI0N PROGRAM

The 2021 exploration program consisted of a 194 station gravity survey which was completed by a crew of two from SJ Geophysics between August 30 and September 6 2021. The crew was based in Dawson City with daily set outs and pick-ups were provided by by Fireweed Helicopters in Dawson City. The total cost of the program was $90,321.18.

Gravity Survey

The purpose of the gravity survey was to attempt to identify massive sulphide (likely sphalerite) mineralization within the strongly Zn anomalous argillite which trends east – west across the survey area (Figure 4). Since sphalerite, the most likely Zn mineralization to be encountered in this setting is not conductive, a gravity survey to define density contrast between the host argillite and a possible denser body of sphalerite was considered the best geophysical method to use.

A Logistics Report describing the methods and procedures of the gravity survey and an Interpretation Memo describing the results of are included in Appendix II.

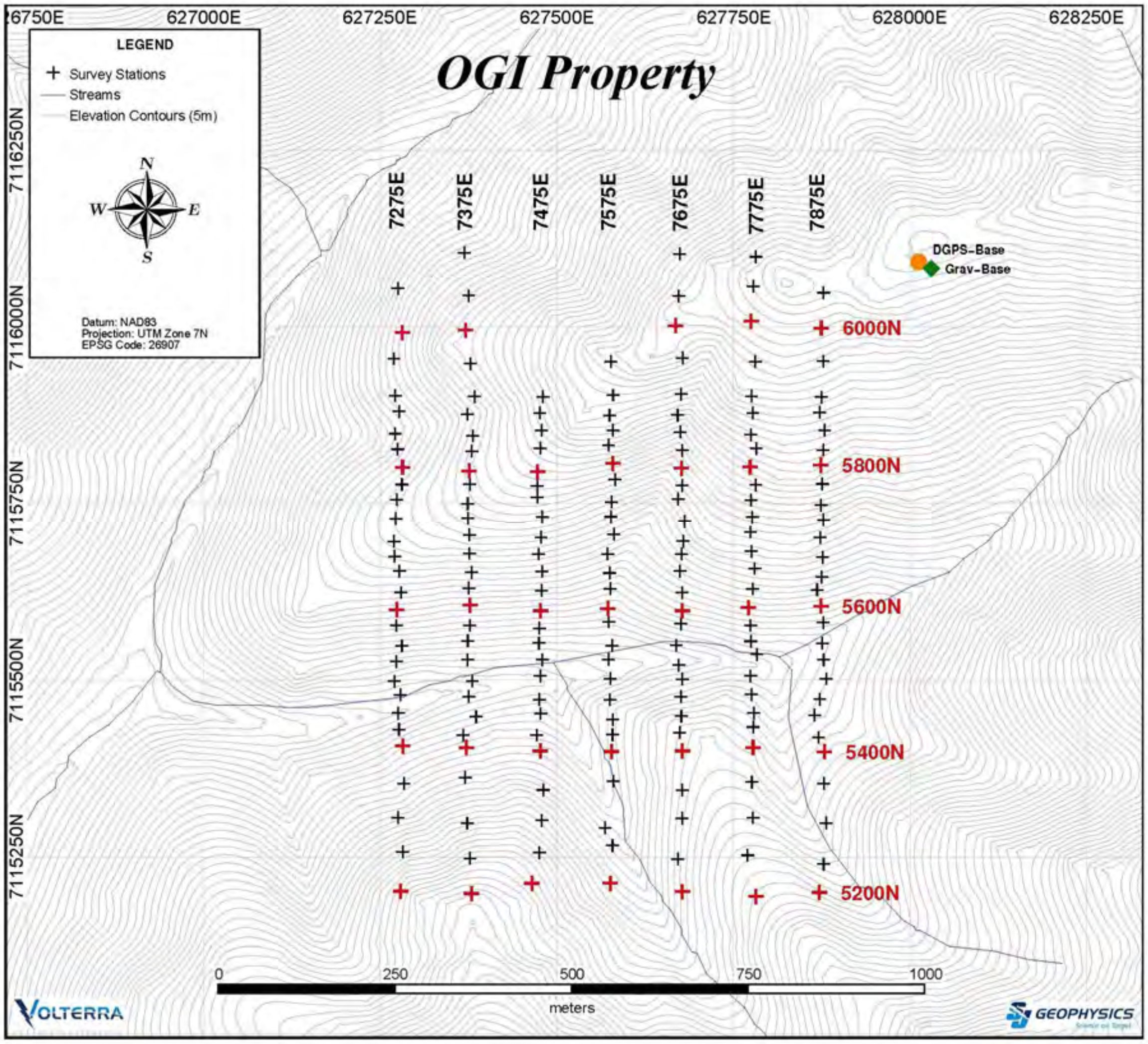

Figure 4. Gravity Survey Grid

Figure 5 shows the defined gravity anomalies. The discussion and recommendations below are extracted from the SJ Geophysics Interpretation Memo.

G1 anomaly appears to extend from the valley bottom to the north along lines 7675E and 7575E. The anomaly is almost 500 m long and 200 m wide and +0.7 mgal in amplitude. Higher readings are concentrated in the southern half of the anomaly. On the inversion model the source appears to separate into southern and northern sections and suggests a source body as a plate like layer dipping ~20° to the south. While a compelling gravity anomaly, it represents a source that is perpendicular to the known strike of the geology and therefore the expected strike of possible Zn rich massive sulphide mineralization.

VLF-EM trends coincide with northern and southern edges of the southern section of G1. It coincides with a portion of the Zn soil anomaly (Figure 5), with the highest concentrations along the eastern edge of the gravity high.

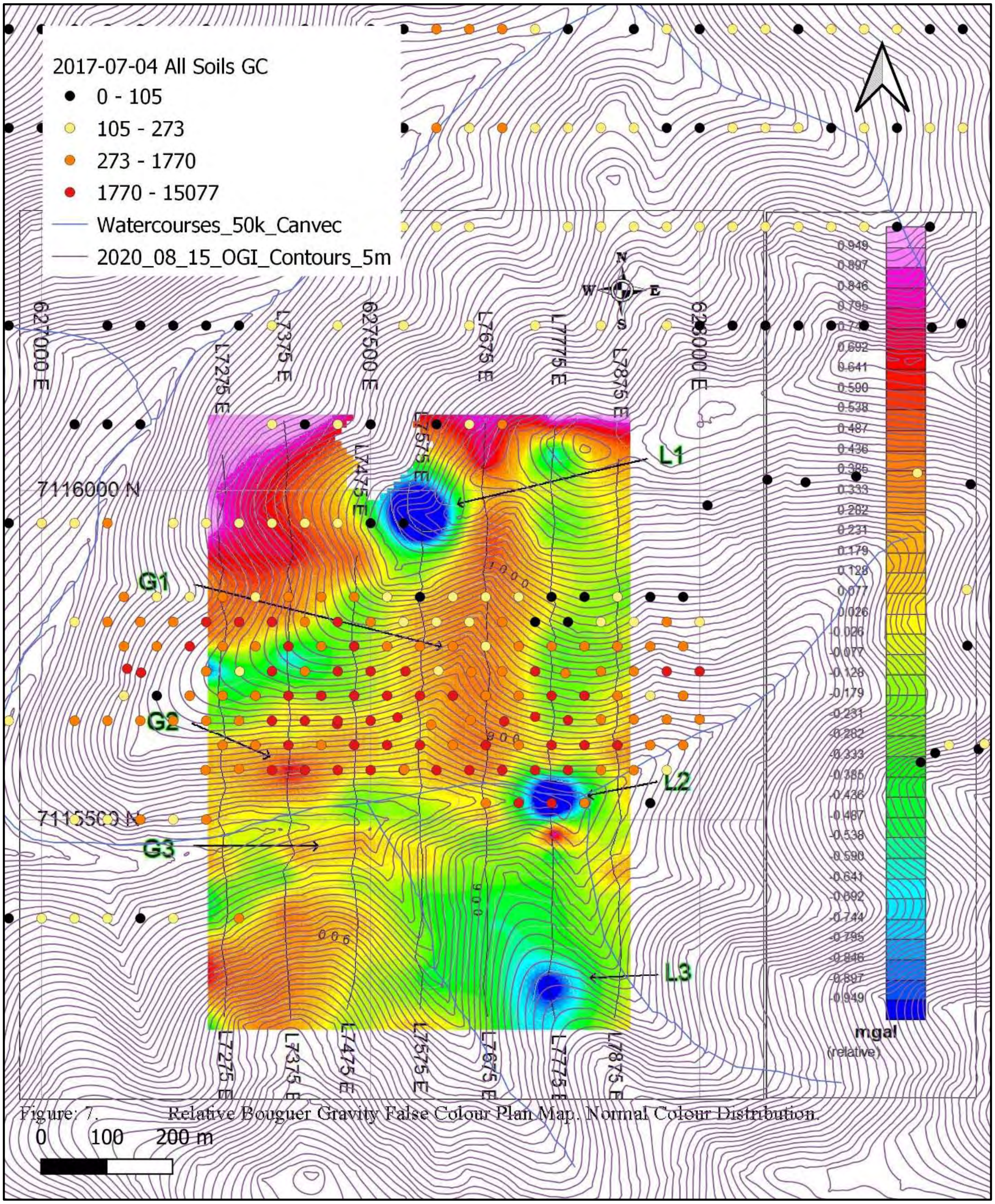

Figure 5. Gravity Anomalies on Zn Geochemistry

Analysis would benefit from east-west survey lines to help define the edges (width) of the anomaly but as it stands it should be considered an area of interest as a potential plate like target.

The **G2 anomaly** is mostly evident on line 7375E but subtle responses on adjacent lines produce an E-W ellipsoid centred at 7375E / 5575N on the plan maps. The inversion model shows the source of the G2 anomaly appears to form a steep, northerly plunging body which does not agree with the target deposit model.

The **G3 anomaly** is comprised of 3 weak gravity highs that possibly form a thin (< 100m) linear high at 5450N. It is located along the southern side of the creek on lines 7375E to 7575E and runs at a slight angle to topography as it extends into the hill to the east. The inversion model suggests 3 small pods of high density material. It is suspected that these anomalies reflect a continuous zone, but more detailed surveying would be required to confirm this assumption. In either event, low amplitude downgrades the target.

The **L2 gravity low** models as a localized near surface feature, but is a single line anomaly and additional surveying is needed for it to be properly defined.

Inversion modelling suggests the southern end of the G1 high trend and the L2 low could be associated. Together, **G1 and L2** appear to outline a low density core surrounded by a high density ring some 300 m across. It is important to note that this interpretation is based on several single line responses and more detailed surveying is required to properly delineate the anomaly or dismiss it as noise. Regardless, the combined responses outline an area of significant size with respect to the target parameters.

RECOMMENDATIONS

Correlate this data and the interpretation with existing geological and geophysical data.

Obtain measured specific gravities of relevant rock units. This could refine the modelling and re-working the data with a different Bouguer density could produce different patterns and interpretations.

Ground prospecting and geological mapping across anomalies should be reviewed or undertaken. Priority should be given to the targets G1 and L2.

Additional gravity surveying would assist the geophysical interpretation, however correlation of this data with existing geological and geophysical data should be the first priority.

EXPENDITURES

Total expenditures for the OGI program were $90,321.18 as summarized in Table 1 and detailed in Appendix IV

Table 1. Expenditure Summary

2021 Statement of Expenditures for OGI		
Company	**Description**	**Amounts**
Fireweed Helicopters (Inv. 5812)	Helicopter Support	$17,015.37
SJ Geophysics (Inv. SJ211793)	Gravity Survey (crew, equipment, mobilization…)	$41,561.49
Fox Exploration (Inv. 21028)	Geologist, project supervision & consulting, report, R&B, truck, consumables… ($42,999.69 less helicopter invoice = $25,984.32)	$25,984.32
SJ Geophysics	Gravity Survey Report (est.)	$5,760.00
TOTAL:		**$90,321.18**

REFERENCES CITED

Carlson, Gerald G., 2017 Geology, Soil Geochemistry and Geophysics Assessment Report on the OGI Zinc Property.

Coe, C., 2012, Assessment Report for the OGI Claim Property, YMIP #12-070, Dawson Mining District, Yukon.

Coe, C., 2013, Assessment Report for the OGI Claim Property, YMIP #13-067, Dawson Mining District, Yukon.

Coe, C., 2016, Geochemical Assessment report for the OGI Claim Property.

Dawson, J.G, 2021; 2020 RAB Drilling and Drone Imagery Report on the OGI Zinc Property, YMEP 20-041.

Geological Survey of Canada, 1998, Airborne geophysical survey (NTS 116 B/1, A/4 and 115 P/13), Brewery Creek Area, Yukon Territory. Open Files 3551 and 3607.

Van Damme, V.P., B.T. Malahoff and C.A. Klaus, 1997, Geological, Geophysical, and Geochemical Assessment Report on the OKI-DOKI Project Claims, report for International Kodiak Exploration Ltd.

Yukon Geological Survey. MinFile 116B 165 - Ridgeway occurrence.

Yukon Geological Survey, 2016, Open File 2016-1 Yukon Bedrock Geology Map 2016

CERTIFICATE OF QUALIFICATIONS

I, John Gregory Dawson, do hereby declare that:

1. I am currently working as a consultant based out of my home in Courtenay, British Columbia.
2. I graduated with a Bachelor Science degree from the University of British Columbia in 1987 and a Master of Science degree from Queens' University in 1991.
3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia, Registration Number 19882.
4. I have worked as a geologist for a total of 34 years since graduation from University, and prior to graduation, as a student and or geo-technician for a period of 11 additional years.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101("NI 43-101") and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I am not aware of any material fact or material change with respect to the subject matter of this report, the omission to disclose which makes this report misleading.
7. I am not independent of the Sitka Gold Corp. applying all tests in Section 1.5 of NI 43-101 in that I have share options in the Company and am a Director of the Company.

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Dated this 27 day of January, 2022

John Gregory Dawson, P. Geo.

APPENDIX I

OGI Property
Claim List

District	Grant #	Name	Claim #	Owner	Expiry	Grouping #
Dawson	YD145136	OGI	36	Fox Exploration	2026-10-28	HD03382
Dawson	YD145138	OGI	38	Fox Exploration	2026-10-28	HD03382
Dawson	YD145140	OGI	40	Fox Exploration	2026-10-28	HD03382
Dawson	YD145142	OGI	42	Fox Exploration	2026-10-28	HD03382
Dawson	YD145144	OGI	44	Fox Exploration	2026-10-28	HD03382
Dawson	YD145146	OGI	46	Fox Exploration	2026-10-28	HD03382
Dawson	YD145148	OGI	48	Fox Exploration	2026-10-28	HD03382
Dawson	YD145150	OGI	50	Fox Exploration	2026-10-28	HD03382
Dawson	YD145152	OGI	52	Fox Exploration	2026-10-28	HD03382
Dawson	YD145154	OGI	54	Fox Exploration	2026-10-28	HD03382
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Dawson	YD145170	OGI	70	Fox Exploration	2026-10-28	HD03382
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Dawson	YD145180	OGI	80	Fox Exploration	2026-10-28	HD03382
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Dawson	YD145182	OGI	82	Fox Exploration	2026-10-28	HD03382
Dawson	YD145183	OGI	83	Fox Exploration	2026-10-28	HD03382
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Dawson	YD145185	OGI	85	Fox Exploration	2026-10-28	HD03382
Dawson	YD145186	OGI	86	Fox Exploration	2026-10-28	HD03382
Dawson	YD145187	OGI	87	Fox Exploration	2026-10-28	HD03382
Dawson	YD145188	OGI	88	Fox Exploration	2026-10-28	HD03382
Dawson	YD145189	OGI	89	Fox Exploration	2026-10-28	HD03382
Dawson	YD145190	OGI	90	Fox Exploration	2026-10-28	HD03382
Dawson	YD145191	OGI	91	Fox Exploration	2026-10-28	HD03382
Dawson	YD145192	OGI	92	Fox Exploration	2026-10-28	HD03382
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Dawson	YD145205	OGI	105	Fox Exploration	2026-10-28	HD03382
Dawson	YD145207	OGI	107	Fox Exploration	2026-10-28	HD03382
Dawson	YD145209	OGI	109	Fox Exploration	2026-10-28	HD03382

District	Grant #	Name	Claim #	Owner	Expiry	Grouping #
Dawson	YD145211	OGI	111	Fox Exploration	2026-10-28	HD03382
Dawson	YD145213	OGI	113	Fox Exploration	2026-10-28	HD03382
Dawson	YD145215	OGI	115	Fox Exploration	2026-10-28	HD03382
Dawson	YD145217	OGI	117	Fox Exploration	2026-10-28	HD03382
Dawson	YD145219	OGI	119	Fox Exploration	2026-10-28	HD03382
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Dawson	YD145222	OGI	122	Fox Exploration	2026-10-28	HD03382
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Dawson	YD145224	OGI	124	Fox Exploration	2026-10-28	HD03382
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Dawson	YD145230	OGI	130	Fox Exploration	2026-10-28	HD03382
Dawson	YD145231	OGI	131	Fox Exploration	2026-10-28	HD03382
Dawson	YD145232	OGI	132	Fox Exploration	2026-10-28	HD03382
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Dawson	YD145234	OGI	134	Fox Exploration	2026-10-28	HD03382
Dawson	YD145235	OGI	135	Fox Exploration	2026-10-28	HD03382
Dawson	YD145236	OGI	136	Fox Exploration	2026-10-28	HD03382
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Dawson	YD145240	OGI	140	Fox Exploration	2026-10-28	HD03382
Dawson	YD145241	OGI	141	Fox Exploration	2026-10-28	HD03382
Dawson	YD145242	OGI	142	Fox Exploration	2026-10-28	HD03382
Dawson	YD145243	OGI	143	Fox Exploration	2026-10-28	HD03382
Dawson	YD145244	OGI	144	Fox Exploration	2026-10-28	HD03382
Dawson	YD145245	OGI	145	Fox Exploration	2026-10-28	HD03382
Dawson	YD145246	OGI	146	Fox Exploration	2026-10-28	HD03382
Dawson	YD145247	OGI	147	Fox Exploration	2026-10-28	HD03382
Dawson	YD145248	OGI	148	Fox Exploration	2026-10-28	HD03382
Dawson	YD145249	OGI	149	Fox Exploration	2026-10-28	HD03382
Dawson	YD145250	OGI	150	Fox Exploration	2026-10-28	HD03382
Dawson	YD145251	OGI	151	Fox Exploration	2026-10-28	HD03382
Dawson	YD145252	OGI	152	Fox Exploration	2026-10-28	HD03382
Dawson	YD145253	OGI	153	Fox Exploration	2026-10-28	HD03382
Dawson	YD145254	OGI	154	Fox Exploration	2026-10-28	HD03382
Dawson	YD145255	OGI	155	Fox Exploration	2026-10-28	HD03382
Dawson	YD145256	OGI	156	Fox Exploration	2026-10-28	HD03382
Dawson	YD145257	OGI	157	Fox Exploration	2026-10-28	HD03382
Dawson	YD145258	OGI	158	Fox Exploration	2026-10-28	HD03382
Dawson	YD145259	OGI	159	Fox Exploration	2026-10-28	HD03382

District	Grant #	Name	Claim #	Owner	Expiry	Grouping #
Dawson	YD145260	OGI	160	Fox Exploration	2026-10-28	HD03382
Dawson	YD145261	OGI	161	Fox Exploration	2026-10-28	HD03382
Dawson	YD145262	OGI	162	Fox Exploration	2026-10-28	HD03382
Dawson	YD145263	OGI	163	Fox Exploration	2026-10-28	HD03382
Dawson	YD145264	OGI	164	Fox Exploration	2026-10-28	HD03382
Dawson	YD145269	OGI	169	Fox Exploration	2026-10-28	HD03382
Dawson	YD145271	OGI	171	Fox Exploration	2026-10-28	HD03382
Dawson	YD145273	OGI	173	Fox Exploration	2026-10-28	HD03382
Dawson	YD145275	OGI	175	Fox Exploration	2026-10-28	HD03382
Dawson	YD145277	OGI	177	Fox Exploration	2026-10-28	HD03382
Dawson	YD145279	OGI	179	Fox Exploration	2026-10-28	HD03382
Dawson	YD145281	OGI	181	Fox Exploration	2026-10-28	HD03382
Dawson	YD145283	OGI	183	Fox Exploration	2026-10-28	HD03382

APPENDIX II

Gravity Survey Logistics Report and Interpretive Memo

Logistics Report Prepared

for

Sitka Gold Corp.

Gravity Survey

on the

OGI Property

Dawson City, Yukon, Canada

Survey Conducted by SJ Geophysics Ltd.
August – September, 2021

Report Prepared
October 2021

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1. Survey Summary

SJ Geophysics Ltd. was contracted by Sitka Gold Corp. to acquire gravity data on their OGI property. Table 1 provides a brief summary of the project.

Client	Sitka Gold Corp.
Project Name	OGI
Project Number	SJ899
Location (approx. centre of grid)	Latitude: 64° 08' 37.152" N Longitude: 138° 22' 39.799" W 627575E 7115650 N; NAD83 UTM Zone 7N
Survey Type	Gravity
Stations Surveyed	194 unique stations
Total Line Kilometers	5.9 km
Production Dates	August 30 – September 6, 2021

Table 1: Survey Summary

The gravity survey was designed to follow up on a soil sampling program which identified elevated gold levels in the central area of the proposed survey grid. The gravity survey was anticipated to map density contrasts over the survey area to assist with exploration on the project.

2. Location and Access

The OGI property is located in Yukon, Canada. It is situated 50 km east of Dawson City, Yukon. (Figure 1).

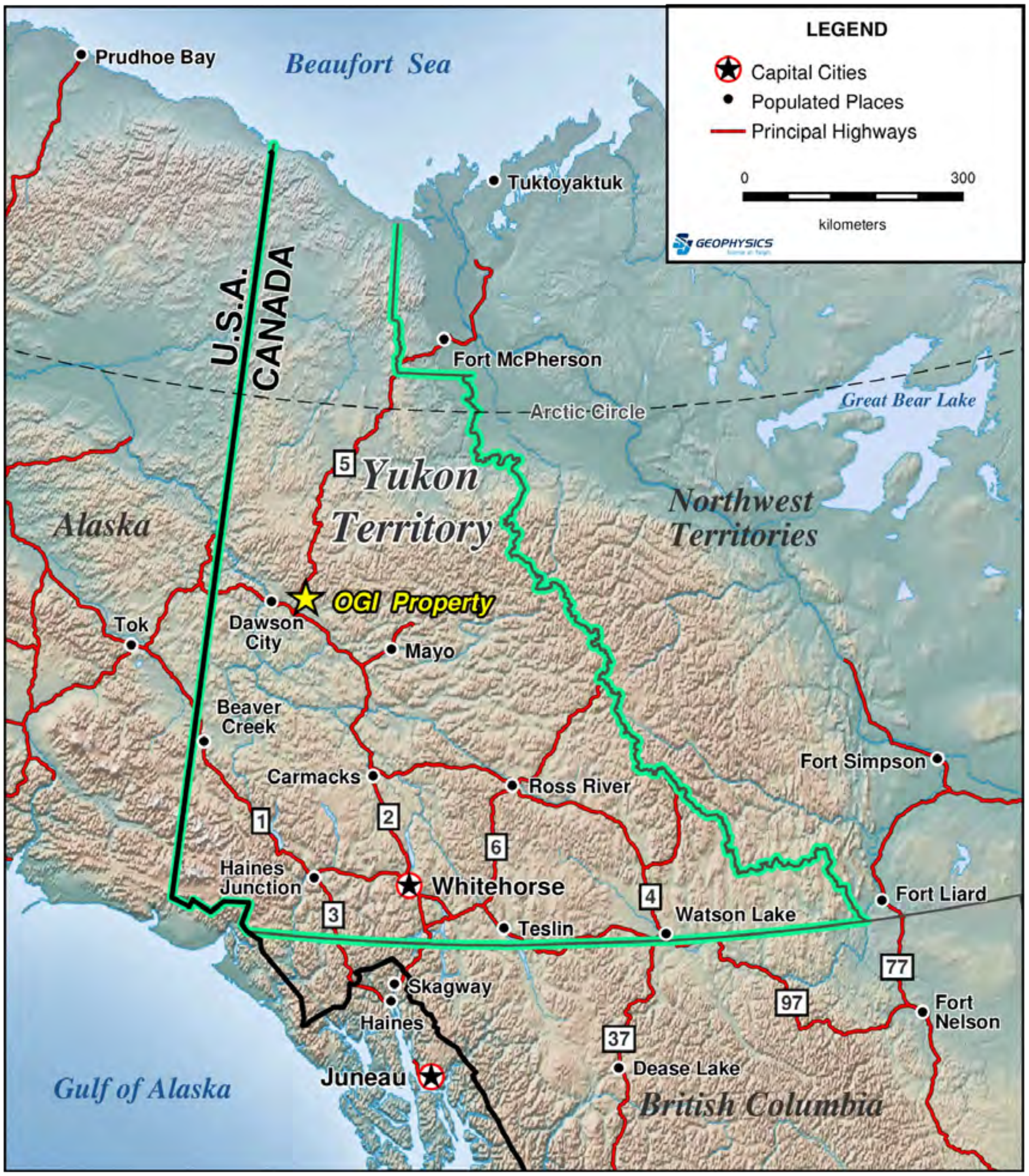

Figure 1: Overview map of the OGI Property

The project area can only be accessed by helicopter, with the nearest airport and helicopter service providers based in Dawson City. A map of the project area is shown in Figure 2.

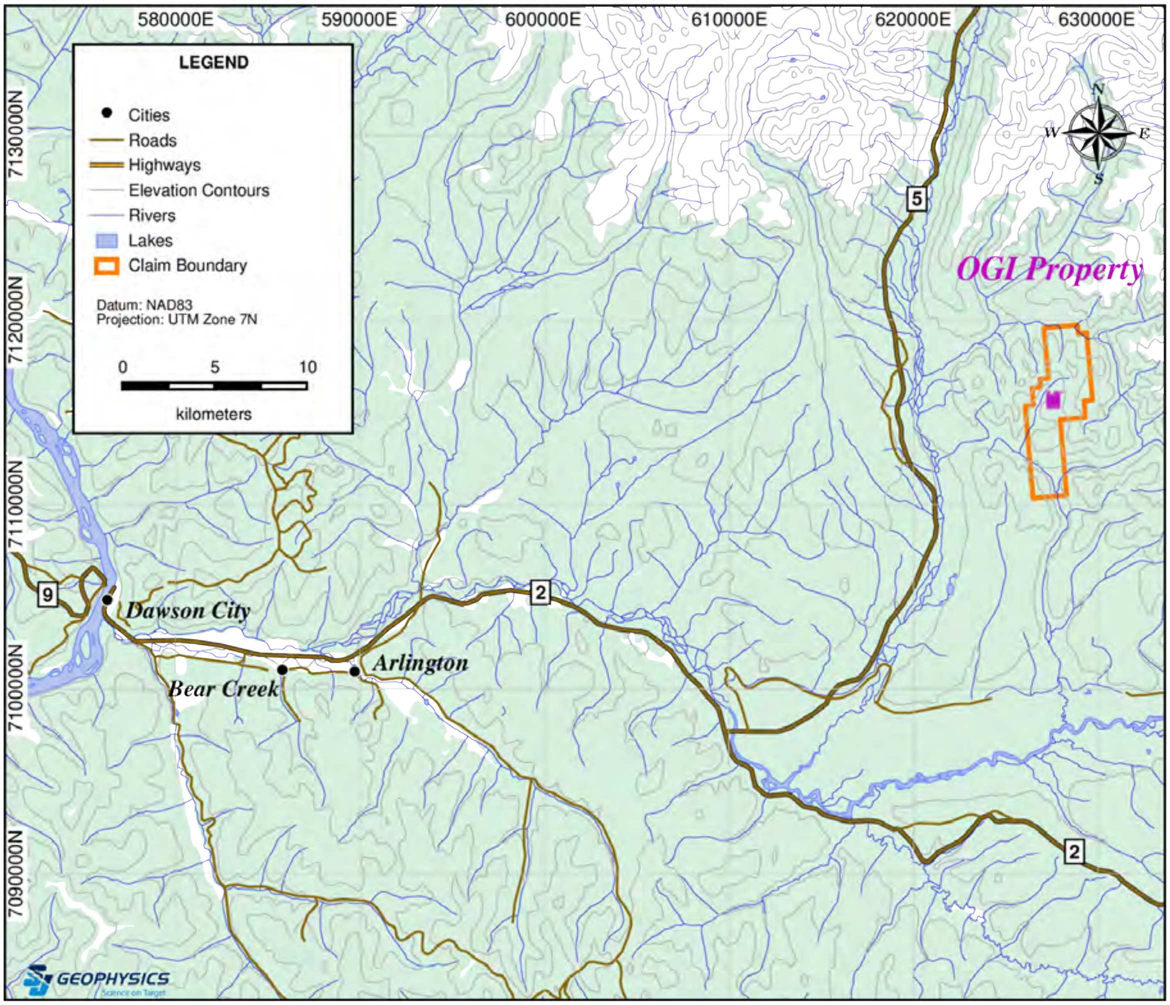

Figure 2: Location map for the OGI Property

3. Survey Grid

The gravity survey grid consisted of seven, north-south oriented lines. The lines were 900 m in length and spaced 100 m apart. The central 500 m region of the survey grid had a station spacing of 25 m. This was increased to a 50 m station spacing for 200 m on the north and south ends of each line. The survey grid parameters are summarized in Table 2 and displayed in Figure 3.

No line preparations were completed in advance of the geophysical survey. All survey stations were located in the field in real-time using hand-held GPS units. The line and station labels for the grid formed a local coordinate system based on the last four digits of the UTM easting and northing coordinates. Please refer to Appendix A for a detailed breakdown of the survey lines.

Grid	OGI
Number of Surveyed Lines	7
Survey Line Azimuth	0º
Line Spacing	100 m
Station Spacing	25 & 50 m

Table 2: Grid parameters

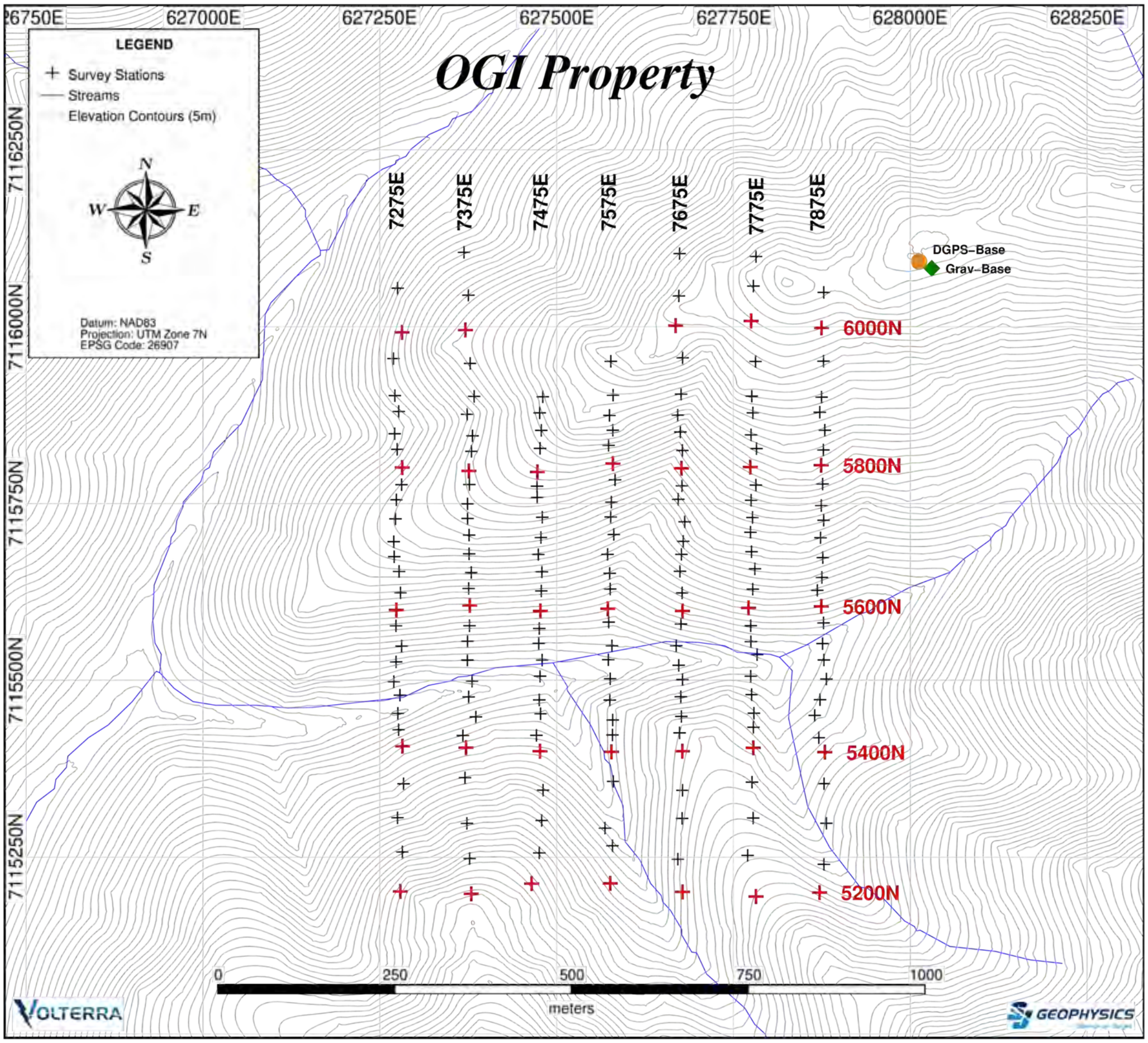

Figure 3: Grid map showing the OGI gravity grid

4. Survey Parameters and Instrumentation

4.1. Gravity

The gravity data was acquired with a Scintrex CG-6 Autograv gravimeter. The instrument parameters are described in Table 3 and the full instrument specifications are listed in Appendix B. The gravity data processing workflow is described in detail in Section 7.

Gravimeter	Scintrex CG-6 Autograv (SN# 000000018040089)
Reading duration	120 s (120 samples)
Reading delay time	10 seconds
Reading frequency	1 sample/second
Automated Corrections and Filters	Tide (T.E.C.), Tilt, Auto Rejection, Instrument drift

Table 3: Gravimeter survey parameters and instrumentation

To account for instrument drift, a gravity reference station was visited and measured at the beginning and end of each survey day. The gravity base station was established at the start of the survey. The location of the gravity base station is listed in Table 4 in the NAD83(CSRS) UTM Zone 7N coordinate system.

Name	Easting	Northing	Ellipsoid Height (m)
Gravimeter Base Station	628030.37	7116082.73	1100.19

Table 4: Gravimeter base station location

4.2. DGPS

Real-time kinematic (RTK) differential corrected GPS points were recorded at each survey station using a Stonex S900A New GNSS system. The GNSS rover was set to reject any readings with a standard deviation greater than 0.03 m in the horizontal or vertical dimensions. Thirty samples were recorded at each station to generate accurate statistical results. The majority of the stations achieved RTK Fixed solutions. At eleven stations, located in the southwest corner of the survey grid, only Autonomous solutions were achieved. This was a result of the DGPS base station turning off due to low battery life prior to the last few survey stations being recorded. The number of samples recorded at these stations was increased to 120 to improve the solution. These stations have a reduced accuracy compared to the RTK Fixed solutions. The DGPS survey parameters are listed in Table 5.

GNSS System	Stonex S900A New
Survey Type	RTK
Projection & Datum	NAD83(CSRS) UTM Zone 7N
Elevations	Ellipsoidal (WGS84), metres
Geoid Model	None applied
Rover samples	30 epochs per station (120 if autonomous)
Rover tolerances	SD < 0.05 m in horizontal & vertical
Base station reading time	6 hours

Table 5: DGPS survey parameters and instrumentation

One DGPS base station was used during the survey. The location is listed in Table 6 below in the NAD83(CSRS) UTM Zone 7N coordinate system. Raw DGPS base station data was collected over a 6 hour interval and was submitted to NRCAN's Precise Point Positioning (PPP) online utility to compute high accuracy coordinates for the reading.

Name	Easting	Northing	Ellipsoid Height (m)
DGPS Base Station South	628012.39	7116092.30	1108.68

Table 6: DGPS base station location

5. *Field Logistics*

The SJ Geophysics field crew consisted of one field geophysicist and one field technician. This team oversaw all operational aspects including field logistics, data acquisition and initial field data quality control. Table 7 lists the SJ Geophysics crew members on this project.

Crew Member Name	Role	Dates on Site
Alex Tryon	Field Geophysicist	August 30 – September 6, 2021
Alex Visser	Field Technician	August 30 – September 6, 2021

Table 7: Details of the SJ Geophysics crew on site

The SJ Geophysics crew mobilized to Dawson City, YT from Vancouver, BC between August 26 and August 29. The crew remained on site until September 6 and began demobilization on September 7. Survey production occurred from August 30 through to September 6.

The SJ Geophysics crew was accommodated by the client at the Eldorado Hotel in Dawson City. The hotel provided beds, showers, bagged lunches and a WiFi connection. Communication with the SJ Geophysics office occurred via email and cellphone. The work site was only accessible by helicopter. One truck, provided by SJ Geophysics, was used by the crew to travel to the helicopter base each day and for mobilization. Two helicopter companies, Horizon Helicopters and Fireweed Helicopters, were used to access the site over the course of the project.

Production gravity work began August 30 on line 7675E. The lines were surveyed from north to south for logistical reasons. A few planned survey stations on the north side of the grid, within the 50 m spaced station line segments, were not surveyed due to time constraints on the survey. Overall, the survey proceeded smoothly and without any notable issues. Production was completed on September 6.

To measure the gravity at each survey station the crew would start by locating the station using hand-held GPS instruments (Garmin GPSMap 64s). Once at a survey station they would prepare the station by clearing away any grass and brush then digging a small amount of the topsoil away to expose more consolidated dirt and gravel beneath. Dirt and gravel can be leveled more effectively and provides a stable foundation for quality gravity data to be recorded. With a stable and level surface prepared, the gravimeter was put in place and allowed to settle. The gravimeter reports the standard deviation of 1 Hz measurements for the previous 120 measurements and is updated every second. Once the instrument displayed a sufficiently low standard deviation number, a two minute reading was initiated. During the reading window the operators moved away from the instrument, allowing it to record with as little external influence as possible.

To account for gravimeter instrument drift and to ensure data consistency, a gravity base station was visited and measured at the beginning and end of each survey day. Repeat readings were collected throughout each survey day for comparison purposes. Tie station repeats were acquired on any line that was not completed within single day.

6. Gravity Data Processing

All gravity data was reviewed at the SJ Geophysics head office before continuing processing, using a standard suite of data reductions. The data processing steps carried out on the data are described below:

- **Pin Height Adjustment** – Free air effect to account for variations in the elevation of the gravimeter above the ground. This measurement was recorded by the field crew and entered into the CG-6 data file.
- **Instrument Drift and Tide –** Like most modern gravimeters, the CG-6 does an internal calculation of the tidal and drift corrections, however, there is still a slight remnant instrument drift. This correction is calculated by a linear interpolation between base station data readings taken at the beginning and ending of each day. If required, sub-base stations can be occupied and recorded during the day to monitor and correct for any shorter period drift effects.
- **Latitude Correction** – The latitude correction is applied by calculating the latitude effect in mgals/metre in the survey area and by adding or removing the linearly interpolated latitude effect for stations north or south of the reference location. In this area, the effect was calculated at -0.0006374 mgals/m.

- **Free Air Correction** – The standard free air correction (0.3086 mgal/m) was applied to adjust for the station elevation above the reference ellipsoid.
- **Bouguer Correction** – This correction accounts for the increased gravity due to the mass of the earth between the reference elevation (ellipsoid) and the station location. A suite of Bouguer densities ranging from 2.5 to 3.0 gm/cc were used for the data review.
- **Terrain Corrections** – Topographic variations near the measurement location directly affect the recorded value. The absence of rocks in a valley below the station and addition of mass in a mountain above the station produce a net effect of reducing the gravitational force that would be measured across a flat earth. Detailed topographic information surrounding the station is required to compensate for these effects. The terrain corrections were calculated using the python computer program, Gsolve.
    - Terrain Corrections (INNER). Terrain effects for the topography extending from 5 m to 800 m were calculated using a 2 m resolution DEM. The DEM used was provided by the client and was derived from a 0.60 m drone based survey.
    - Far Terrain Corrections (OUTER). Terrain effects for topography extending from 800 m to 25 km were calculated using a 20 m DEM. This was done separately from the inner terrain correction due to DEM size and number of calculations. The DEM was obtained from the Canadian NTS 50k database. Terrain effects from material further away than 25 km will represent a DC offset on the entire data set and will have no effect on interpretations or inversions.
- **Final Gravity** – This value is calculated by applying all of the above corrections to the base reading from the CG-6 data file.

7. Deliverables

This logistics report and maps are provided digitally in PDF format. The geophysical survey data is provided via a secure FTP site. A brief description of the provided data is below.

- Gravity Data – Processed gravity data as a .txt file
- Gravity Data Raw Dump Files – CG-6 raw dump files
- Locations – Locations of survey stations
- Gravity map (Bouguer gravity at select densities)
- Logistics report

Respectfully Submitted

Alex Tryon, B.Sc

Field Geophysicist

SJ Geophysics Ltd.

Appendix A: Survey Details

OGI Grid

Line	Series	Start Station	End Station	Survey Length (m)	Station Spacing (m)
7275	E	5200	6050	850	50 & 25
7375	E	5200	6100	900	50 & 25
7475	E	5200	5900	700	50 & 25
7575	E	5200	5950	750	50 & 25
7675	E	5200	6100	900	50 & 25
7776	E	5200	6100	900	50 & 25
7875	E	5200	6050	850	50 & 25

Total Linear Meters = 5,850

Appendix B: Instrument Specifications

Scintrex CG-6 Autograv Gravimeter

Reading Resolution:	0.1 µGal
Min Operating Range:	8000 mGals without resetting
Residual Long Term Drift:	<20 µGals/day
Range of Automatic Tilt Correction:	+/-200 arc sec.
Operating Temp:	-40 to +45 deg. C.

Stonex S900A New GNSS Receiver

S900A New TECHNICAL FEATURES

RECEIVER

Signal Tracking	GPS: L1 C/A, L1C, L1P, L2C, L2P, L5
	GLONASS: L1 C/A, L1P, L2 C/A, L2P, L3
	BEIDOU: B1, B2, B3, ACEBOC
	GALILEO: E1, E5a, E5b, ALTBOC, E6
	QZSS: L1 C/A, L1C, L2C, L5, LEX
	IRNSS: L5
	SBAS: L1, L5
L-Band	Atlas H10 / H30 / Basic (optional)[5]
Bridging of RTK outages	aRTK - Works up to 20 minutes
Channels	800
Position Rate	10 Hz (optional 20-50Hz)[5]
Signal Reacquisition	< 1 s
RTK Signal Initialization	Typically < 10 s
Hot Start	Typically < 15 s
Initialization Reliability	> 99.9 %
Internal Memory	8 GB
Micro SD Card	Expansion slot up to 32 GB
Tilt sensor	E-Bubble IMU (optional)[5]

POSITIONING[1]

HIGH PRECISION STATIC SURVEYING	
Horizontal	2.5 mm + 0.1 ppm RMS
Vertical	3.5 mm + 0.4 ppm RMS
CODE DIFFERENTIAL POSITIONING	
Horizontal	0.25 m RMS
Vertical	0.45 m RMS
SBAS POSITIONING[2]	
Horizontal	0.30 m RMS
Vertical	0.60 m RMS
REAL TIME KINEMATIC (< 30 Km) - NETWORK RTK[2]	
Fixed RTK Horizontal	5 mm + 1 ppm RMS
Fixed RTK Vertical	10 mm + 1 ppm RMS

INTEGRATED GNSS ANTENNA

High accuracy four constellation micro-strip antenna, zero phase center, with internal multipath suppressive board

INTERNAL RADIO (optional)[5]

Type	Tx - Rx
Frequency Range	410 - 470 MHz 902.4 - 928 MHz
Channel Spacing	12.5 KHz / 25 KHz
Range	3-4 Km in urban environment Up to 10 Km with optimal conditions[4]

INTERNAL MODEM

Band	LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/ B13/B18/B19/B20/B25/B26/B28 LTE TDD: B38/B39/B40/B41 UMTS: B1/B2/B4/B5/B6/B8/B19 GSM: B2/B3/B5/B8 Nano SIM card

COMMUNICATION

I/O Connectors	7-pins Lemo and 5-pins Lemo interfaces. Multifunction cable with USB interface for PC connection
Bluetooth	2.1 + EDR, V4.1
Wi-Fi	802.11 b/g/n
Web UI	To upgrade the software, manage the status and settings, data download, etc. via smartphone, tablet or other electronic device with Wi-Fi capability
Reference outputs	RTCM 2.3, 3.2 CMR, CMR+, ROX
Navigation outputs	NMEA 0183

POWER SUPPLY

Battery	2 rechargeable and replaceable 7.2 V - 3,400 mAh Intelligent lithium batteries
Voltage	9 to 28 V DC external power input with over-voltage protection (5 pins Lemo)
Working Time	Up to 12 hours (2 batteries hot swap)
Charge Time	Typically 4 hours

PHYSICAL SPECIFICATION

Dimensions	φ 157 mm x 76 mm
Weight	1.19 Kg (with one battery) 1.30 Kg (with two batteries)
Operating Temperature	-40°C to 65°C (-40°F to 149°F)
Storage Temperature	-40°C to 80°C (-40°F to 176°F)
Waterproof/Dustproof	IP67
MIL- STD	MIL-STD-810H
Shock Resistance	Designed to endure to a 2 m pole drop on concrete floor with no damage
Vibration	Vibration resistant

STANDARD MIL-STD 810H

Appendix C: Geophysical Techniques

Gravity Method

All materials in the earth influence gravity but because of the inverse-square law behaviour, rocks that lie close to the point of observation will have a much greater effect than those farther away. The bulk of the gravitational pull of the earth (g) has little to do with the rocks of the earth's crust but rather is caused by the enormous mass of the mantle and core. Only about 0.3% of g is due to materials contained within the crust and of this small amount roughly 15% (0.05g) is accounted for by the uppermost 5 kilometres of rock. Changes in the densities of rocks within this region will produce variations in g which generally do not exceed 0.01% of its value anywhere. Fluctuations in the value of g which may be associated with bodies that have a commercial mineral value are unlikely to exceed even a small fraction of this minute amount, perhaps 10-5 g altogether. Thus, geological structures contribute very little to the earth's gravity, but the importance of that small contribution lies in the fact that it has a point-to-point variation that can be mapped.

The gravitational field of the earth has a world-wide average of ~980 gals with a total range of variation from equator to pole of about 5 gals, or 0.5%. Mineral ore bodies and geological structures of interest seldom produce fluctuations in g exceeding a few milligals and for practical purposes of exploration, a reading sensitivity of 0.01 milligals is required. This represents about 1 part in 100,000 of the gravitational field of the earth. No instrumentation is available that can measure g absolutely to this accuracy. Modern day gravimeters respond to variations in g by measuring minute changes in the weight of a small object as it is moved from place to place and can achieve reading sensitivities of 0.001 mgals.

Surface gravity measurements are affected by several factors, including such things as the tidal forces generated by the moon, local topography, and the ellipticity of the earth. These factors can generate changes in the measured gravity that are several orders of magnitude greater than those generated by the density variations in the underlying rocks. Compensation for these factors requires precise geographical survey precision. For a typical survey, the distance from the equator must be measured to within ~3 metres and the absolute elevation to within 2-3 cm. For small, localized surveys, topographic features within several hundred metres of the measurement location are considered. For more regional surveys, major topographic features (mountains, lakes, oceans) within a radius of 150 kilometres must be included in the data reduction procedures. In the past, topographic surveys of this accuracy often accounted for the bulk of survey costs. Recent advances in global positioning (GPS) technology have reduced these costs considerably.

Gravity Surveys

Gravity exploration typically involves taking measurements of the earth's gravimetric field across a surface grid. These data are processed to compensate for the various effects described above to produce a map showing the relative strength of the earth's gravity across the area of interest. The presence of an anomalous mass beneath the surface will be superimposed on the background field. By estimating this regional field and subtracting it from the observed data, one obtains the field due to this anomalous mass. Characteristics of this field can be used to estimate the properties of the anomalous body.

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WWW.SJGEOPHYSICS.COM

MEMORANDUM

Date: December 7, 2021.

From: E. Trent Pezzot, P.Geo.

To: Sitka Gold Corp.

Attention: Greg Dawson

SUBJECT: Interpretation of Gravity survey on the OGI Property, Yukon.

As requested, we have reviewed, processed and interpreted the gravity survey data collected on the OGI property in the Yukon Territories. This memo details this study.

Details concerning the gravity survey, including acquisition and data reduction procedures are documented in the SJ Geophysics Logistics report, dated October, 2021. The survey deliverables included the processed gravity data as a spreadsheet in OpenDocument Format. The document can be opened with LibreOffice Calc or Microsoft Excel. Maps of the Bouguer anomaly were provided for a suite of densities as pdf files.

The processed geophysical data base was merged with GIS and other exploration data in several programs including Oasis Montaj, MapInfo, QGIS, and Paraview. Snapshots from these programs are included as figures with the text of this memo.

Details concerning the property, its historical exploration, geological assessments and other topics normally associated with formal reports are not included in this study.

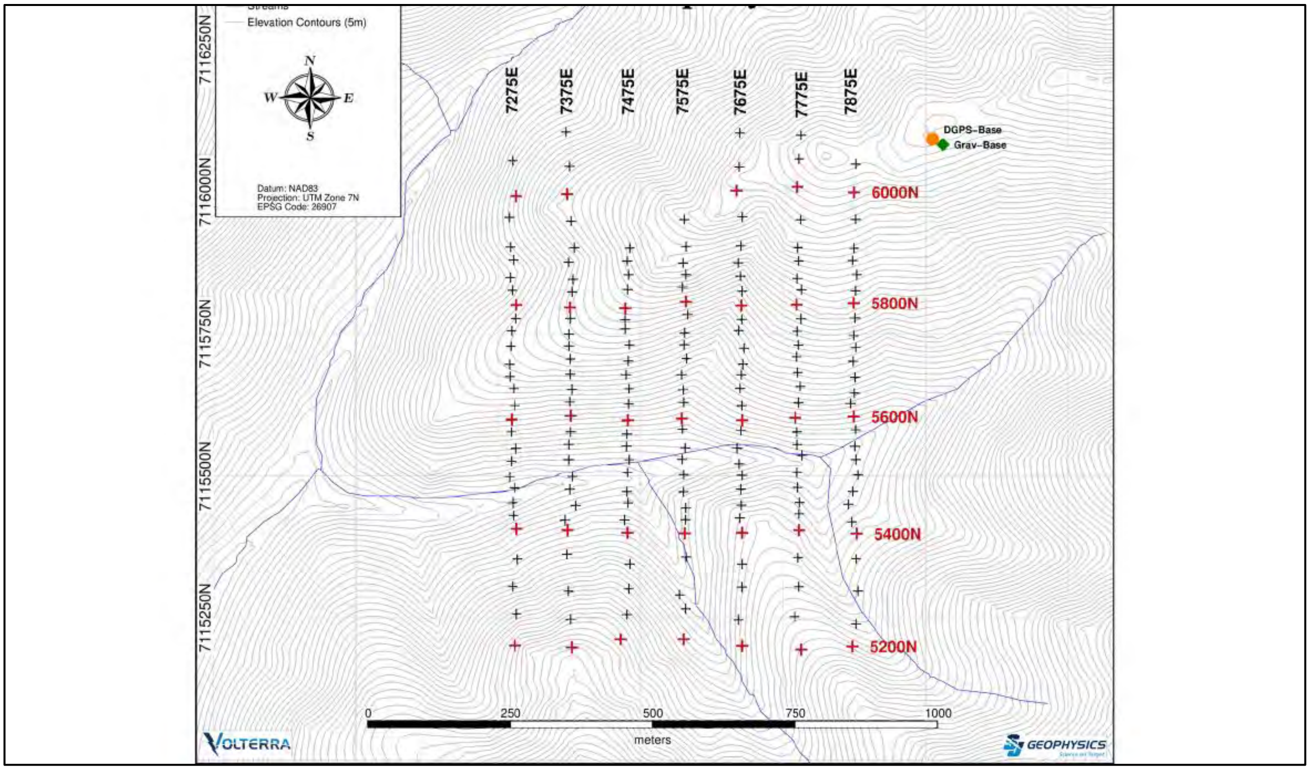


Figure: 1. Survey Grid over DEM (1;50000 scale)

A plot of the survey lines show data was gathered on 7 N-S oriented lines varying from 700 to 900 metres and spaced nominally at 100 metre intervals. Lines were labelled using the last four digits of the NAD83/Zone 7N UTM coordinate system as (62)7275E to (62)7875E with station numbers (711)5200N to (711)6100N. Data was gathered at nominal station intervals of 25 and 50 metres.

The geobase DEM for map sheet 82E/11E was downloaded from the NRCAN website and used as a base map. This map shows the survey lines are centred across a westerly flowing drainage and extend up the valley slopes. Elevations of the gravity stations ranged between 813 m to 1089 m. the grid encompasses and area roughly 800m north by 600m east.

Two targets on this property include an intrusion related gold deposit and a SEDEX style stratabound zinc, lead and silver deposit.

A stream and soil sampling program across the area detected a significant Ag-Zn soil anomaly located along the south facing slopes on the north side of the creek.

A VLF-EM survey covering the same area as the soil sampling grid detected 7 east-west trending conductivity lineations generally following topographic trends.

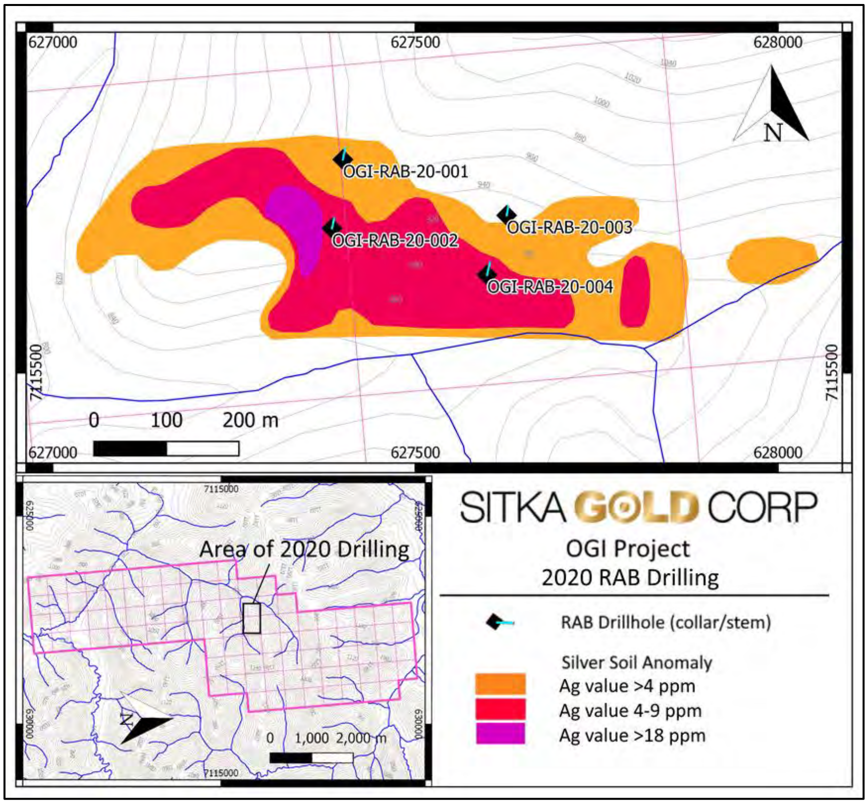


Figure: 2. Soil Survey – Silver

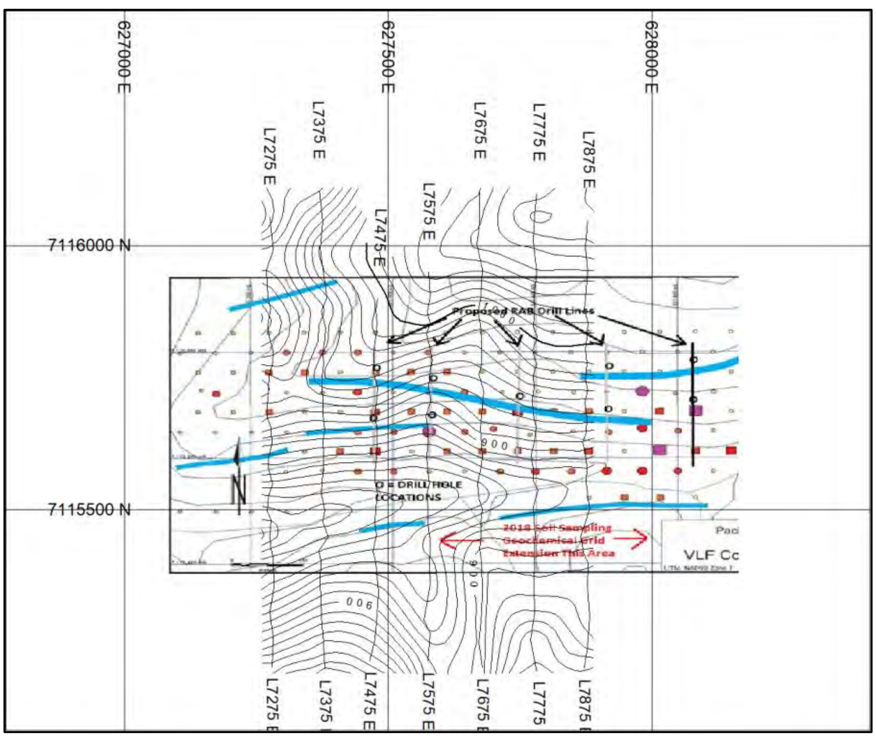


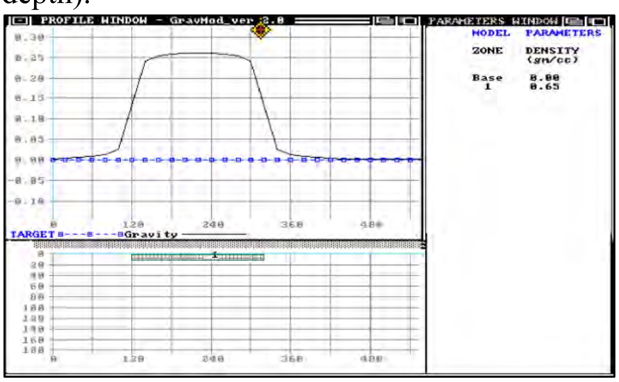
Figure: 3. Soil Survey – (Zinc), VLF-EM conductors. Overlay of Gravity survey Grid.

Greg Dawson, project geologist for Sitka, described their deposit model as a body of sphalerite mineralization within a less dense east-west trending package of argillite and chert (with the sphalerite likely in the argillite). Geology suggests the rock package could dip ~30° to the south. The target would be a massive zinc body at least 200m per side, but probably longer EW than NS, on the order of 10-30 m thick and dipping 30° to 60° to south. It will be comprised of interbedded cherts and argillites with sphalerite (~ 50%) mixed in with argillite. No semi-massive mineralization has been found yet. No geological maps or data files were provided.

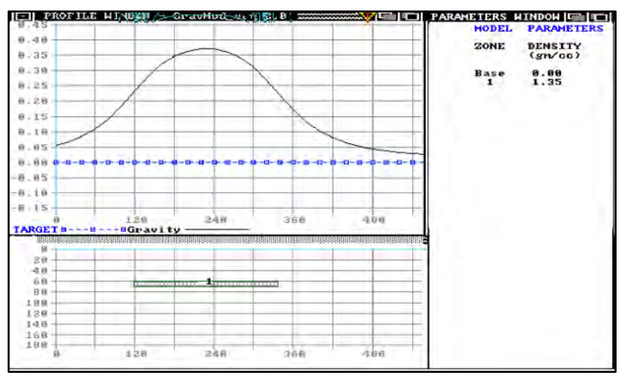
Both 2D and 3D forward modelling studies were undertaken to predict the amplitude and shape of a gravity anomaly associated with the proposed target model. A detailed discussion of this study is provided under a separate document.

The study showed the minimum sized expected target, (a 10m thick plate of 50% sphalerite, some 200 metres across, located at ground surface) would produce a relative Bouguer Gravity anomaly amplitude of ~0.32 mgal (3D modelling) to ~0.26 mgal (2D modelling). Amplitude and the edge resolution would decrease as the depth to the body increased. These amplitudes are very close to the 0.35 mgal that has been often used as a minimum threshold for gravity anomalies.

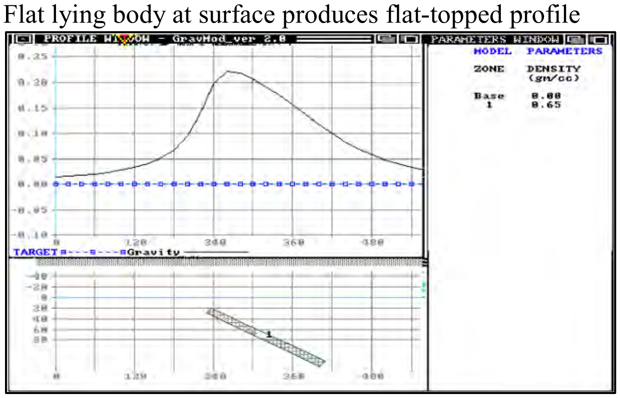
Increasing the thickness to 30m produces an amplitude of 0.78 mgal (decreasing to 0.35 at 60m depth).



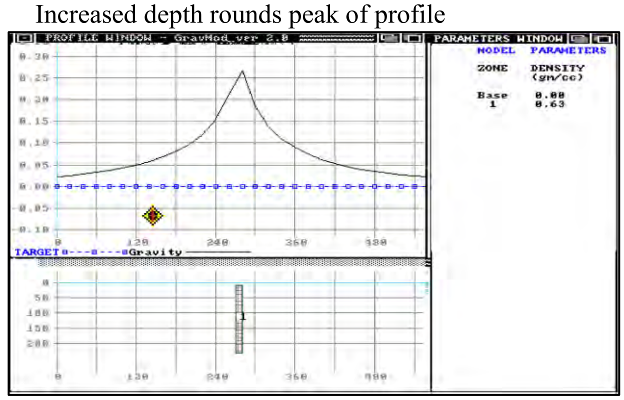
Flat lying body at surface produces flat-topped profile



Increased depth rounds peak of profile

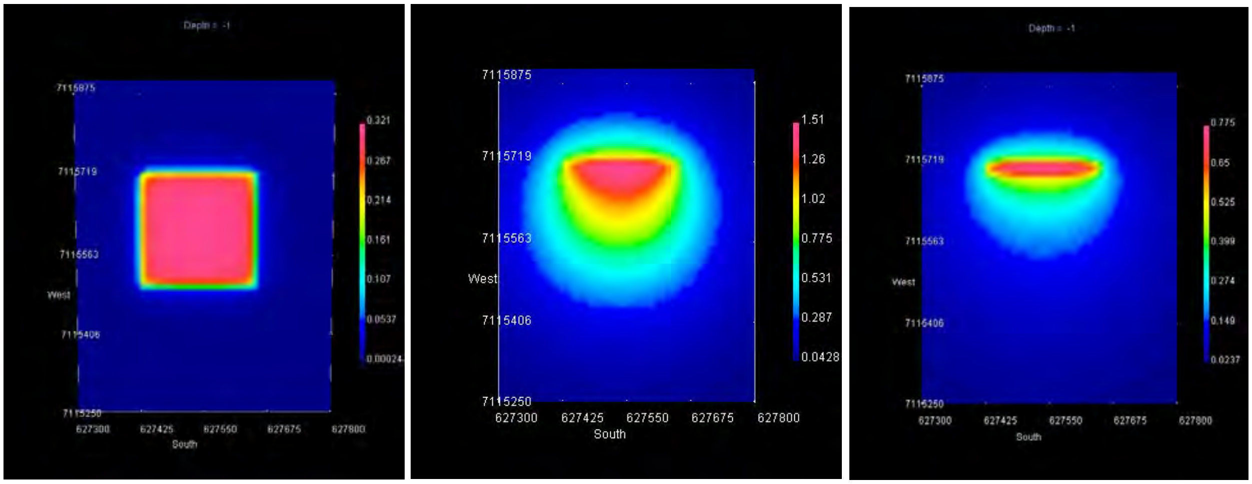


Dipping source produces asymmetrical response



Vertical source produces bell-curve response, steepness depends on the depth to the top.

Figure: 4. 2D forward modelling – Varying depth and dip.



(a) (b) (c)

Figure: 5. 3D forward modelling – (a) Flat-near surface (b) dipping 30° south (c) dipping 60° south.

Modelling shows how a dipping plate would produce asymmetric profiles and plan maps, with peak amplitudes near the updip edge of the body.

The actual survey data has mapped higher amplitude responses than were indicated by modelling of the minimum size target. This suggests either thicker or denser (higher than 50% sphalerite) source bodies could be the targets.

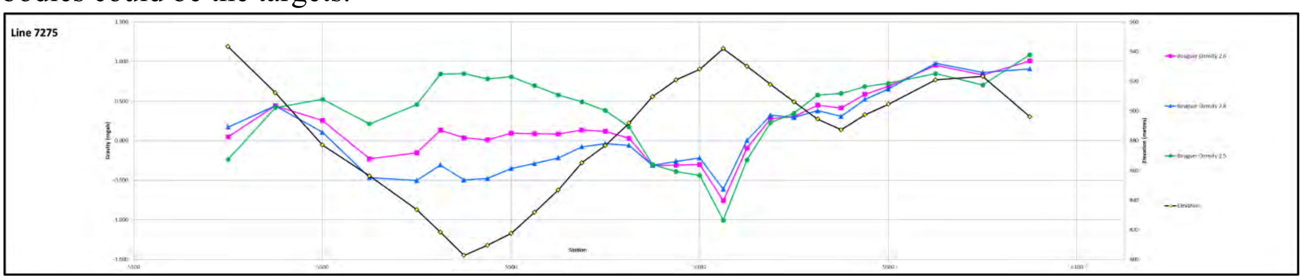


Figure: 6. Gravity Profiles using range of Bouguer Densities.
Black = topo, Magenta=BG2.6, Green = BG2.5, Blue = BG2.8.

Data analysis suggested using a Bouguer density value of 2.60 gm/cc in the data reduction (Figure 6). Analysis of the data was completed using this value.

The gravity data base provided includes a range of Bouguer densities and is available for analysis.

The geophysical data is presented below as plan contour, stacked profile, topography draped and 3D perspective maps.

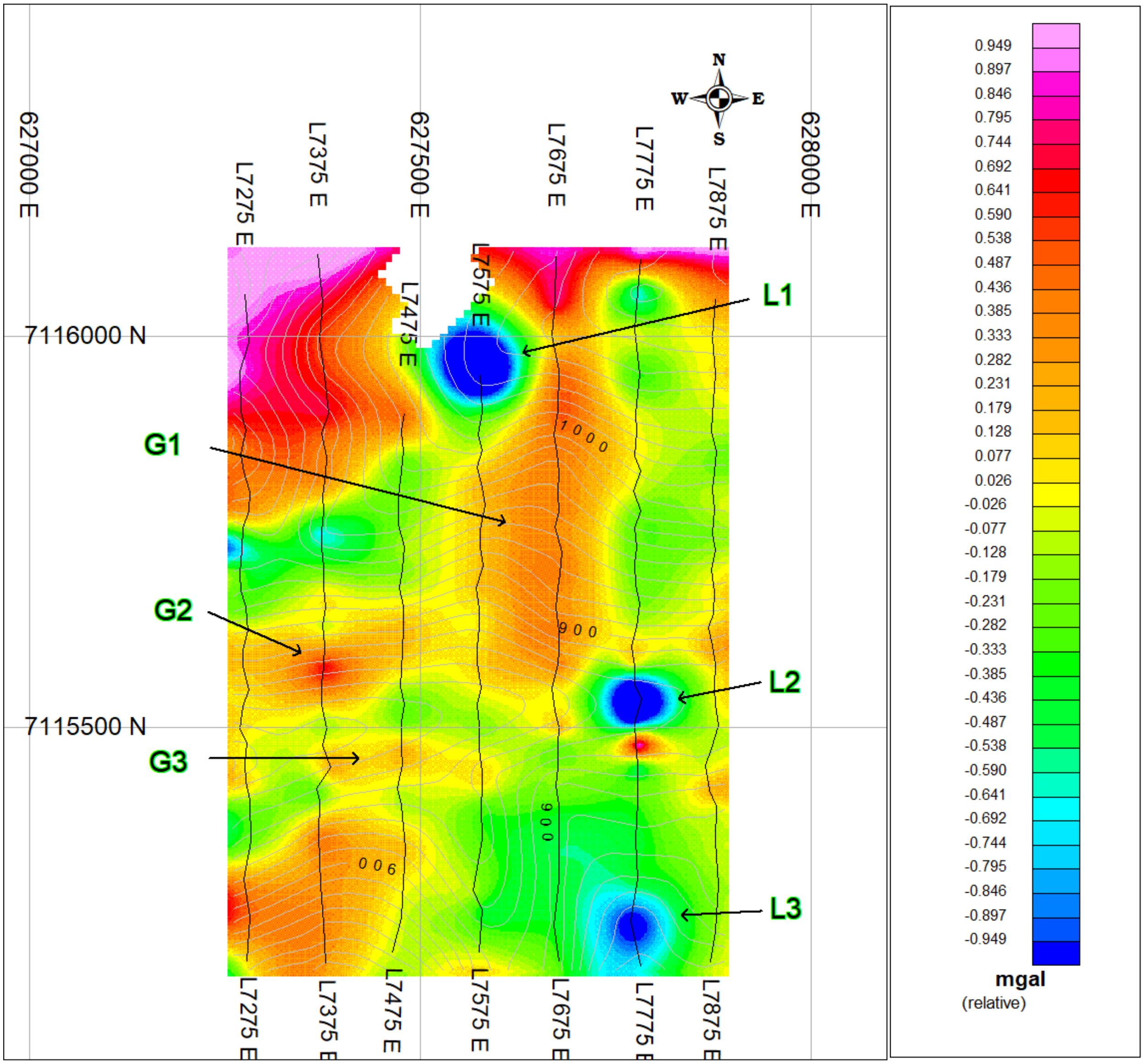


Figure: 7. Relative Bouguer Gravity False Colour Plan Map. Normal Colour Distribution.

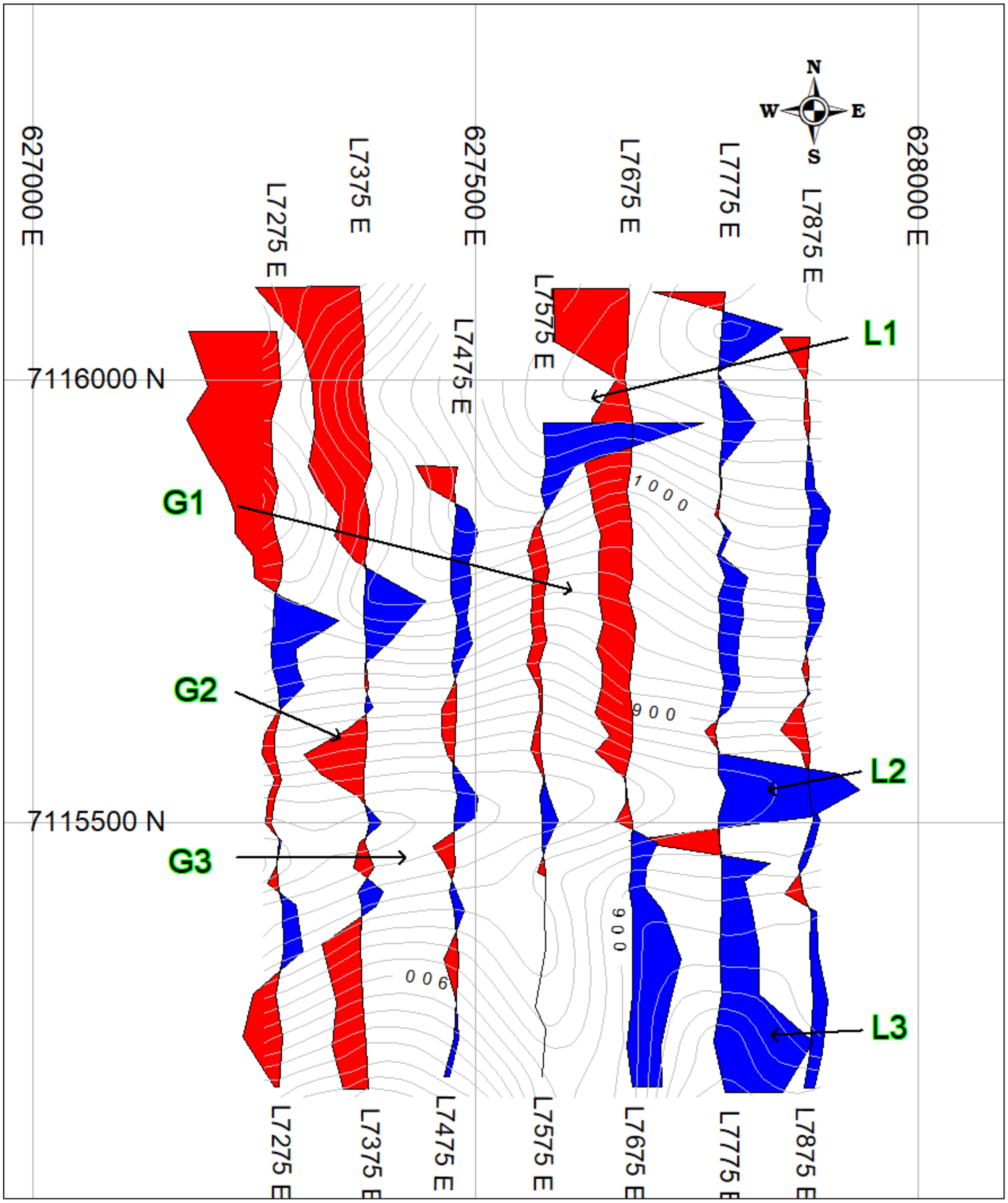


Figure: 8. Relative Bouguer Gravity. Stacked Profile Map.
Bouguer Gravity (2.6 gm/cc). Base line = 0, Vertical Scale = 1 mgal/100 metres (line separation)

Presenting the data as a colour contour map draped over topography provides a different perspective showing the relationship between the gravity and topography.

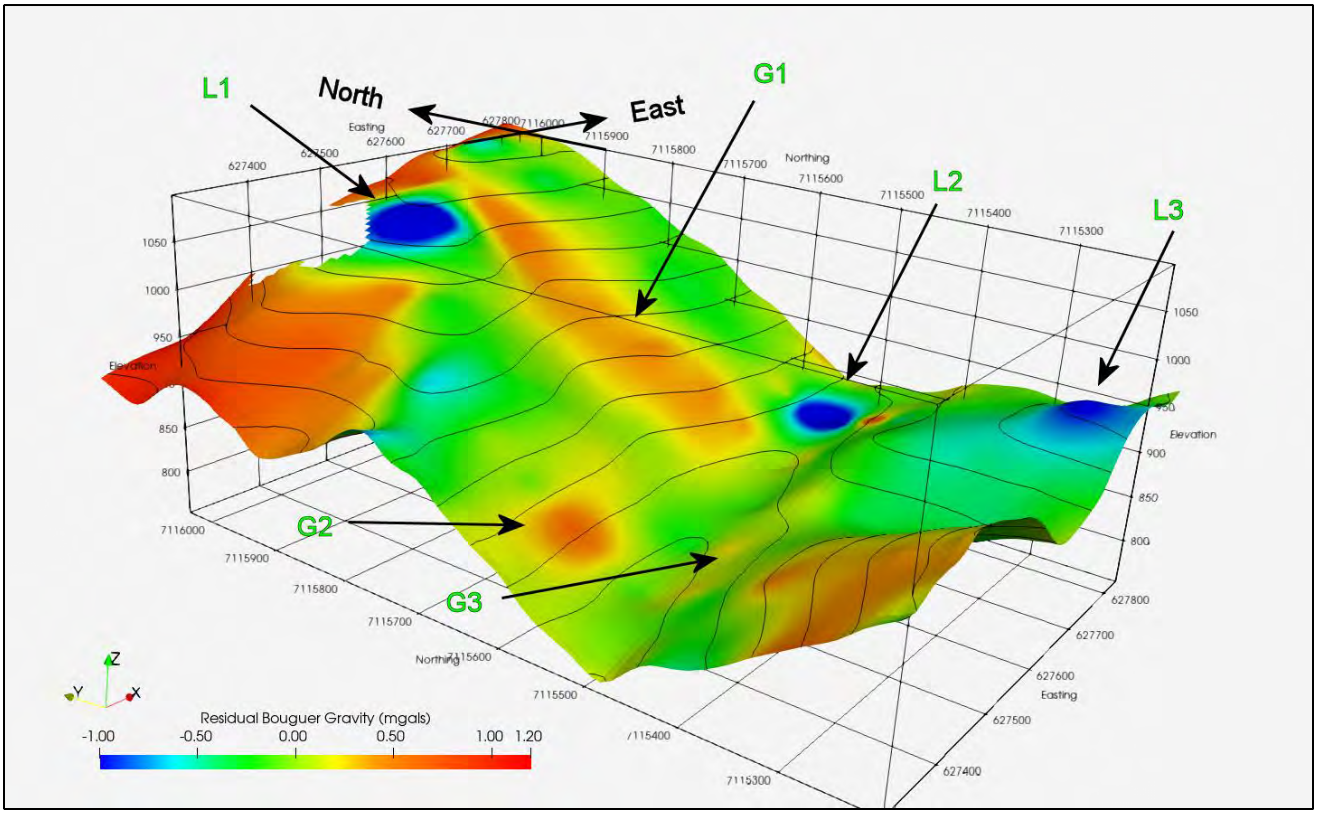


Figure: 9. Relative Bouguer Gravity draped over topography. View from southwest.

Strong gravity highs along northern edge of survey are partially defined. They indicate the presence of a high density zone to the north. A similar but weaker gravity high is mapped in the southwest corner of the grid. These anomalies require additional surveying to be properly defined and are not considered further.

There are 3 strong localized lows evident.

L1: North end of Line 7575E. This anomaly is associated with the last couple of stations on the line and the size is exaggerated by the gridding algorithm

L2: 7775E/5525N – broad low, over 100m across coincides with topo structures (valley at top of the creek). A single gravity high reading at the south end of low could be noise. More detailed surveying is required to properly define the anomaly. A localized source is expected.

L3: South end of 7775E / 5250N coincides with a topo high. This likely reflects a geological change to the southeast.

77% of data lies within a narrow range of -0.3030 mgal to +0.4778 mgal. Above the -0.3000 mgal threshold, 3 relative gravity highs are mapped as outlined by the 0 mgal contour (yellow zones) in Figures 7 and 9.

G1: Northerly elongated high north end of lines 7675 and 7575. Almost 500m long and 200m wide. Amplitudes +0.7 mgal over background

G2: E-W ellipsoid centred at 7375E / 5575N

G3: 3 weak gravity highs possibly form a thin linear high at 5450N (Lines 7375E-7575E). Located along southern side of the creek.

3D gravity inversion modelling was completed on the data. These efforts produced a 3 dimensional voxel model showing one possible distribution of density that could produce the observed data. 3D perspective images of the relative high and low density isosurfaces are presented in Figures 10 and 11.

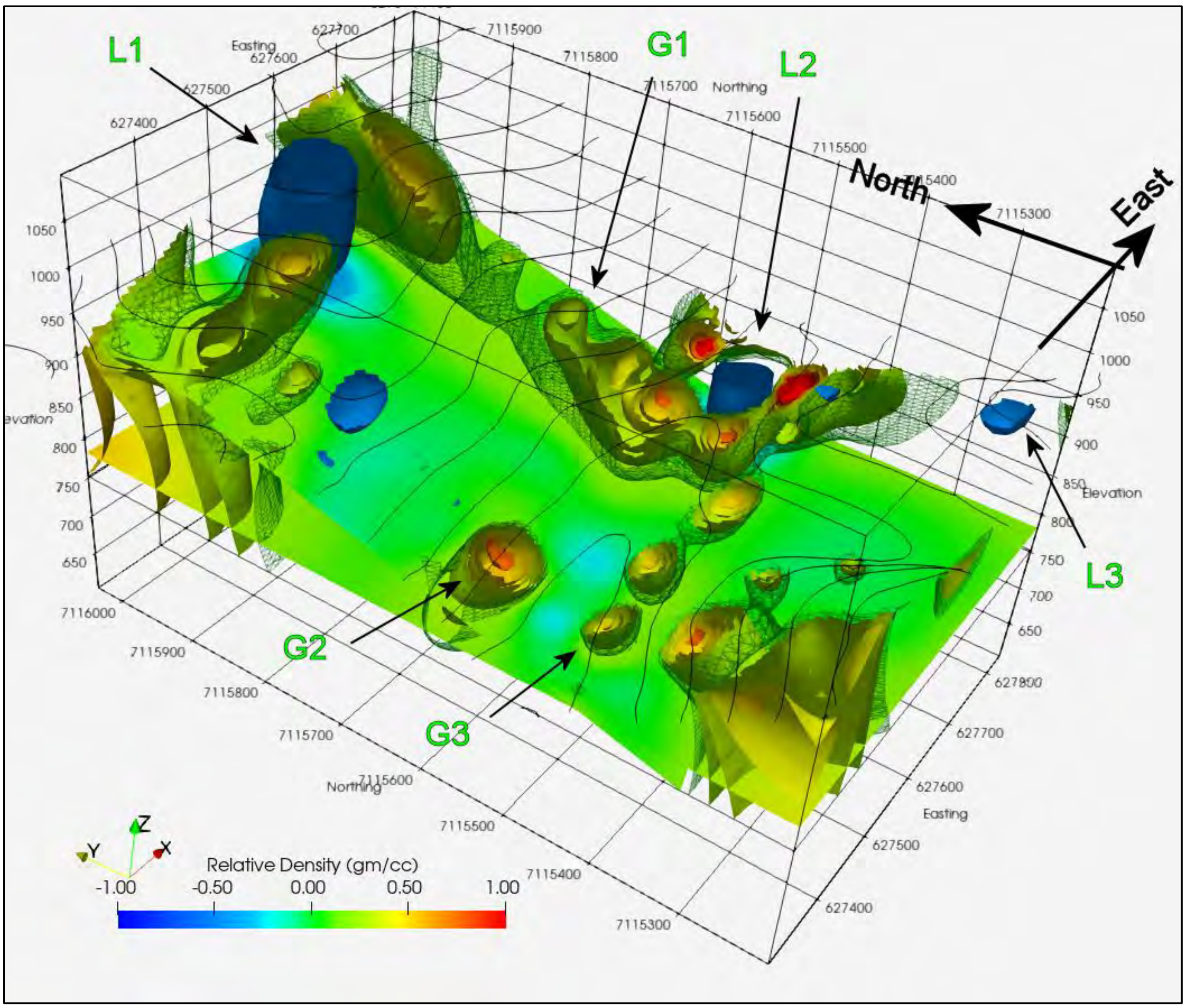


Figure: 10. Grav3D 3D Isosurfaces viewed from Southwest.
The black mesh isosurface reflects the 0.2 mgal isosurface.

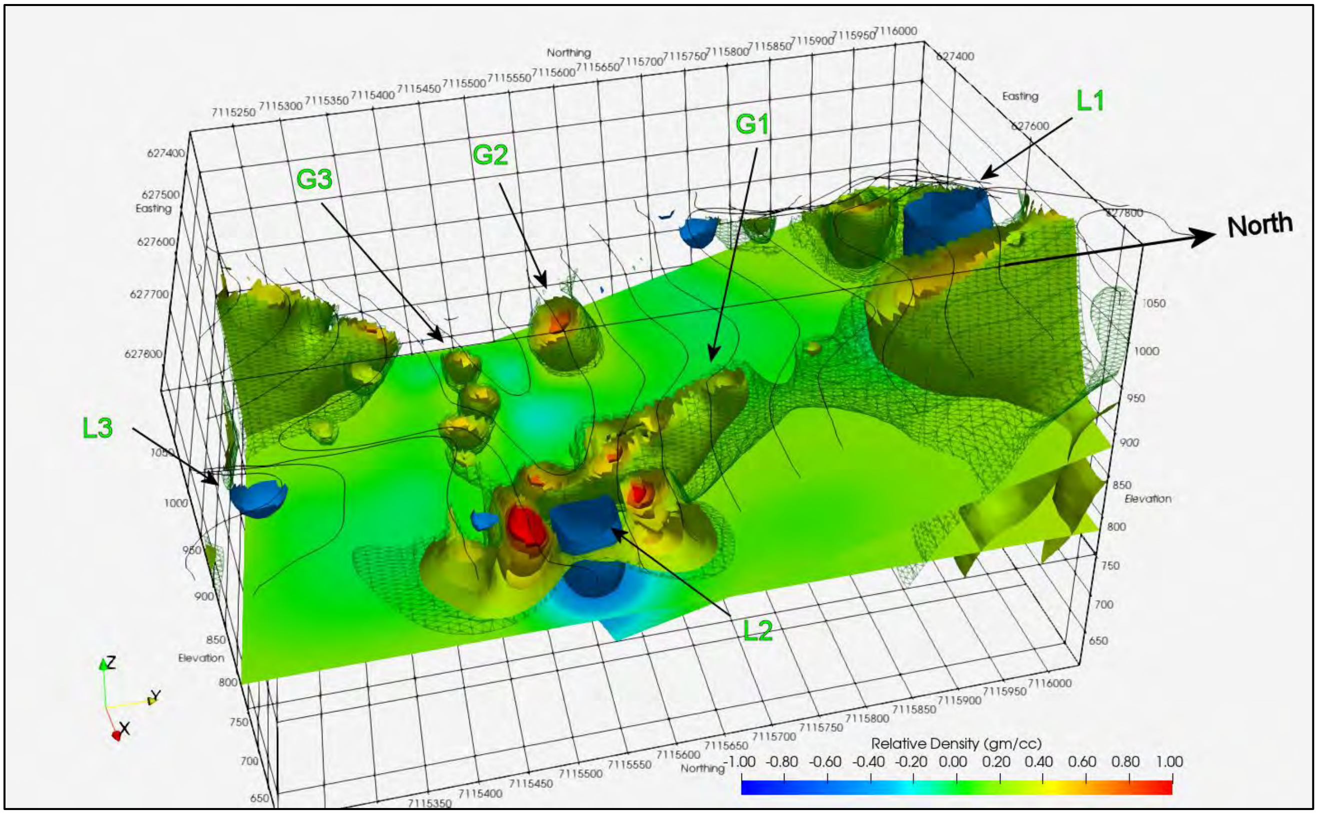


Figure: 11. Grav3D 3D Isosurfaces viewed from East.
The black mesh isosurface reflects the 0.2 mgal isosurface.

On the plan and profile maps the **G1 anomaly** appears to extend from the valley bottom to the north along lines 7675E and 7575E. The anomaly is almost 500m long and 200m wide and +0.7 mgal in amplitude. Higher readings are concentrated in the southern half of the anomaly. On the inversion model the source appears to separate into southern and northern sections and suggests a source body as a plate like layer dipping ~20° to the south.

VLF-EM trends coincide with northern and southern edges of the southern section of G1. It coincides with a portion of the Zn soil anomaly (Figure 3), with the highest concentrations along the eastern edge of the gravity high.

Analysis would benefit from east-west survey lines to help define the edges (width) of the anomaly but as it stands it should be considered an area of interest as a potential plate like target.

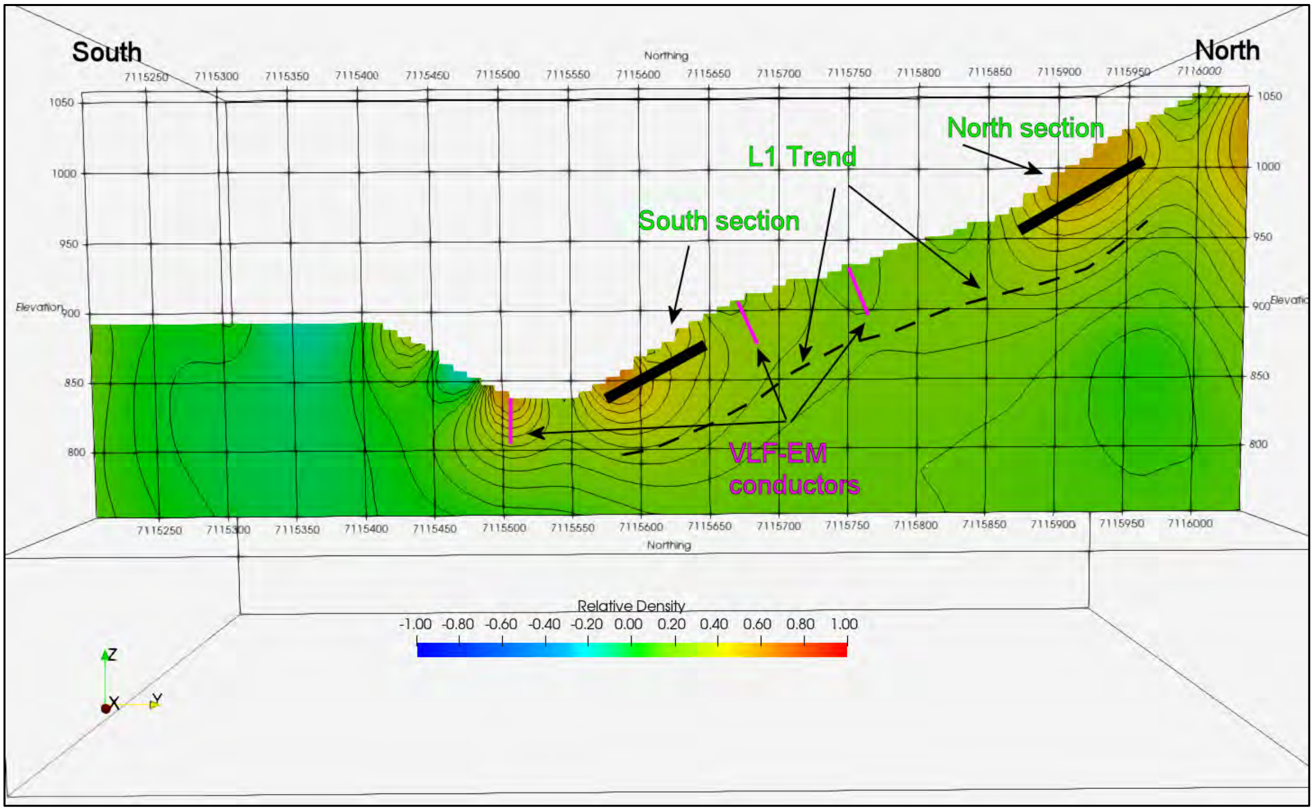


Figure: 12. Longitudinal X-section through inversion model at 7675E looking towards West.
Overlay showing possible interpretation schematic of the G1 anomaly and vlf-em conductor interpretation.

The **G2 anomaly** is mostly evident on line 7375E but subtle responses on adjacent lines produce an E-W ellipsoid centred at 7375E / 5575N on the plan maps. The inversion model shows the source of the G2 anomaly appears to form a steep, northerly plunging body which does not agree with the target deposit model.

The **G3 anomaly** is comprised of 3 weak gravity highs that possibly form a thin (< 100m) linear high at 5450N. It is located along the southern side of the creek on lines 7375E to 7575E and runs at a slight angle to topography as it extends into the hill to the east. The inversion model suggests 3 small pods of high density material. It is suspected that these anomalies reflect a continuous zone, but more detailed surveying would be required to confirm this assumption. In either event, low amplitude downgrades the target.

The **L2 gravity low** models as a localized near surface feature, but is a single line anomaly and additional surveying is needed for it to be properly defined.

Inversion modelling suggests the southern end of the G1 high trend and the L2 low could be associated. Together, **G1 and L2** appear to outline a low density core surrounded by a high density ring some 300 metres across (Figures 10, 11). It is important to note that this interpretation is based on several single line responses and more detailed surveying is required to properly delineate the anomaly or dismiss it as noise. Regardless, the combined responses outline an area of significant size with respect to the target parameters.

Recommendations

Correlate this data and the interpretation with existing geological and geophysical data.

Obtain measured specific gravities of relevant rock units. This could refine the modelling and re-working the data with a different Bouguer density could produce different patterns and interpretations.

Ground prospecting and geological mapping across anomalies should be reviewed or undertaken. Priority should be given to the targets G1 and L2,

Additional gravity surveying would assist the geophysical interpretation, however correlation of this data with existing geological and geophysical data should be the first priority.

Modelling Study

This document formalizes notes and results of 2D and 3D gravity modelling study completed on the SJV1246 project (Sitka Gold Corp, OGI project). Results and selected images reported in the Geophysical Interpretation Memo dated Dec 7, 2021.

Greg Dawson, project geologist for Sitka, described their deposit model as a body of sphalerite mineralization within a less dense east-west trending package of argillite and chert (with the sphalerite likely in the argillite). Geology suggests the rock package could dip ~30° to the south. The target would be a massive zinc body at least 200m per side, but probably longer EW than NS, on the order of 10-30 m thick and dipping 30° to 60° to south. It will be comprised of interbedded cherts and argillites with sphalerite (~ 50%) mixed in with argillite. No semi-massive mineralization has been found yet. No geological maps or data files were provided.

Both 2D and 3D forward modelling studies were undertaken to predict the amplitude and shape of a gravity anomaly associated with the proposed target model.

The study showed the minimum sized expected target, (a 10m thick plate of 50% sphalerite, some 200 metres across. located at ground surface) would produce a relative Bouguer Gravity anomaly amplitude of ~ 0.32 mgal (3D modelling) to 0.26 mgal (2D modelling). Amplitude and the edge resolution would decrease as the depth to the body increased. These amplitudes are very close to the 0.35 mgal that has been often used as a minimum threshold for gravity anomalies.

Increasing the thickness to 30m produces an amplitude of 0.78 mgal (decreasing to 0.35 at 60m depth).

Modelling shows how a dipping plate would produce asymmetric profiles and plan maps, with peak amplitudes near the updip edge of the body.

The actual survey data has mapped higher amplitude responses than were indicated by modelling of the minimum size target. This suggests either thicker or denser (higher than 50% sphalerite) source bodies could be the targets.

The basic target is a rectangular plate, 300 metres wide (across).

- Variations on this model were drawn by varying the following parameters
- thicknesses of 10m, 20m and 30m.
- depth to the top of 0, 10, 20, 40 and 60 metres.
- Orientation of the model varied from flat lying to dipping 30°, 60° and 90°.

The target body is assumed to be comprised of sphalerite in argillite. This unit lies within a chert (sedimentary) host. Assuming a host density of 2.7 gm/cc and a sphalerite density of 4.0 gm/cc models were run using density contrasts based on an assumed percentage of sphalerite being 100% sphalerite (1.3 gm/cc), 75% sphalerite (.975 gm/cc), 50% sphalerite (0.65 gm/cc), 25% sphalerite (0.325 gm/cc).

2D Modelling

2D modelling completed using the Geosci Data Analysis Gravmod program. This software calculates the theoretical gravity profile across a constructed body. The user defines a target body by drawing its outline on a cross-section drawn perpendicular to the strike of the body. The program assumes the source body extends in and out of the plane of the cross-section such that its’ strike length is at least 10 times the width. A theoretical gravity responses are calculated at defined points along the ground surface and displayed as a profile.

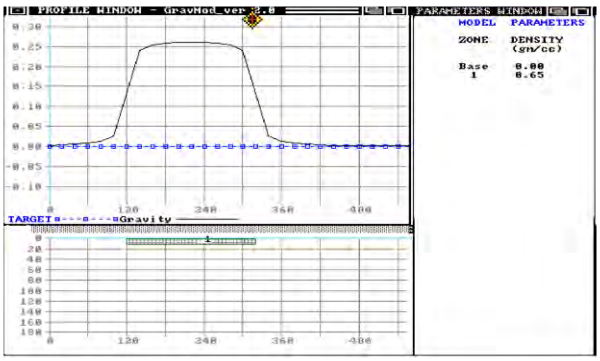
Multiple models were run using the parameters described above.

Scenario 1: A plate-like source body. Models were run varying the depth to the top, density contrast, dip angle and thickness of the plate. Amplitude results are posted in the Table below.

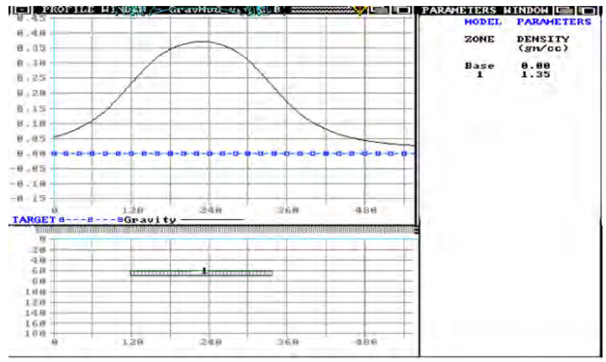
Source	thickness	dip	Gravity amplitude at depth to top				
% sphalerite			surface	10m	20m	40m	60m
Compare response 10m thick flat lying body varying depth to top and % sphalerite							
25	10	0	0.13	0.12	0.115		
50	10	0	0.26	0.25	0.23	0.2	0.18
75	10	0	0.39	0.37			0.26
100	10	0	0.53	0.52	49	0.42	0.38
Compare response to flat-lying plate by varying thickness and depth to top							
50	10	0	0.26	0.25	0.23	0.2	0.18
50	20	0	0.52	0.49	0.43	0.39	0.35
50	30	0	0.78	0.71	0.68	57	0.5
Compare response to 30°plate by varying thickness and depth to top							
50	10	30	0.29	0.23	0.19	0.15	0.1
50	20	30	0.45	0.4	0.35	0.3	0.25
50	30	30	0.68	0.59	0.54	0.43	0.39
Compare response to 10m thick plate by varying dip and depth to top							
50	10	0	0.26	0.25			0.18
50	10	30	0.29	0.23	0.19	0.15	0.1
50	10	60	0.28	0.25	0.23	0.19	0.14
50	10	90		0.24	0.22	0.17	0.13

Table: compare results of Gravmod 2.5D forward modelling.

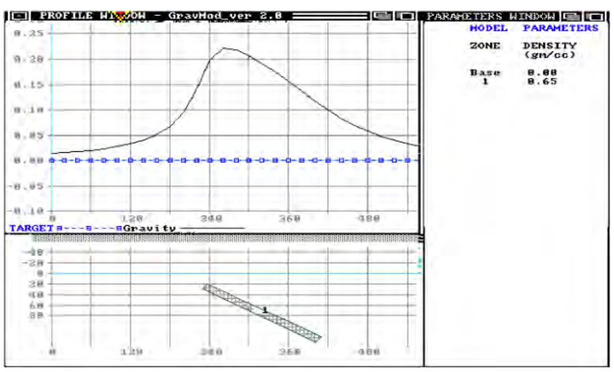
- A flat-lying plate produces a symmetrical profile.
- At shallow depths the profile presents with a flattened peak which sharpens as depth to the source increases. Figures 1, 2.
- Amplitudes are proportional to the percentage of sphalerite and inversely proportional to the depth to the target.
- Amplitudes are also proportional to the thickness of the body.



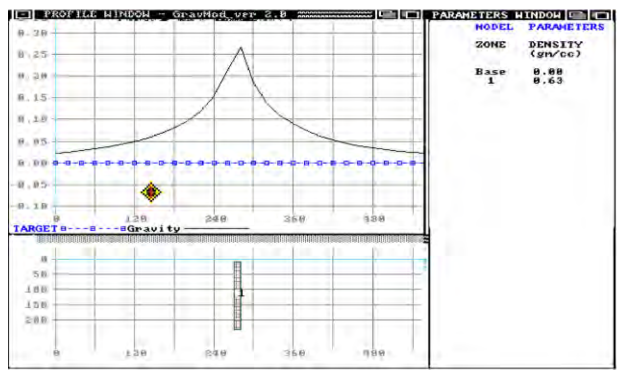
Flat lying body at surface produces flat-topped profile



Increased depth rounds peak of profile



Dipping source produces asymmetrical response steepness depends on the depth to the top.



Vertical source produces bell-curve response,

Figure 1: Forward 2D Model profiles

Horizontal dimensions are not critical, they just expand the aerial footprint of the anomaly but do not change the amplitude significantly. More critical component is the thickness of the layer, and the amount of sphalerite.

Note: The 2D and 3D forward modelling techniques produced similar amplitudes for comparable models. 3D modelling predicts slightly higher amplitudes.

3D Modelling

3D modelling was completed using the UBC GIF forward modelling algorithm. A model was constructed, using the meshtools3d mesh building functions. Theoretical relative Bouguer gravity readings are calculated for locations across the ground surface.

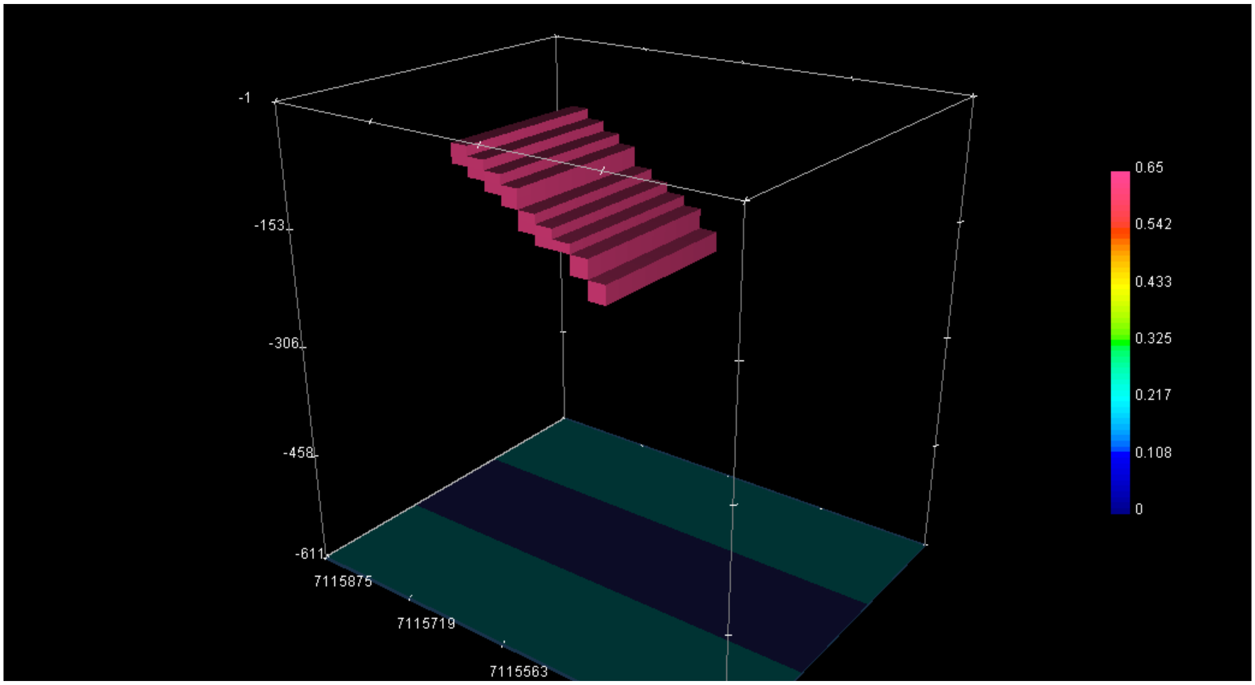
Model mesh: E 627300-627800 (500m), N 7115250 – 7115900 (650m), Z -1 to -611

Create observation data grid.

- Obs_flat.prn: 25m x 25m 627425-627650 (225)

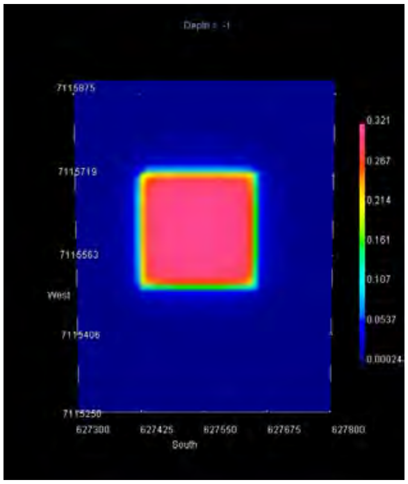
Create Models

- M1: 627425-627650 x 7115500-7115725 x 10 x 0° south dip. Outcrop at surface Density = 1.3 (background 2.7, sphalerite 4.0 @ 50% = 3.35 gm/cc). difference = 0.65 gm/cc
- M2: 627425-627650 x 7115500-7115725 x 10 x 30° south dip. Outcrop at surface at north end (7115725). Density = 1.3 (background 2.7, sphalerite 4.0 @ 50% = 3.35 gm/cc). difference = 0.65 gm/cc
- M3: 627425-627650 x 7115500-7115725 x 10 x 60° south dip. Outcrop at surface at north end (7115725). Density = 1.3 (background 2.7, sphalerite 4.0 @ 50% = 3.35 gm/cc). difference = 0.65 gm/cc
- M4: 627425-627650 x 7115500-7115725 x 10 x 30° south dip. Outcrop at 20m depth at north end (7115725). Density = 1.3 (background 2.7, sphalerite 4.0 @ 50% = 3.35 gm/cc). difference = 0.65 gm/cc
-



3D model – Plate (relative 0.65 gm/cc in 0 background) 30m thick, dipping 45° south.

Solutions:

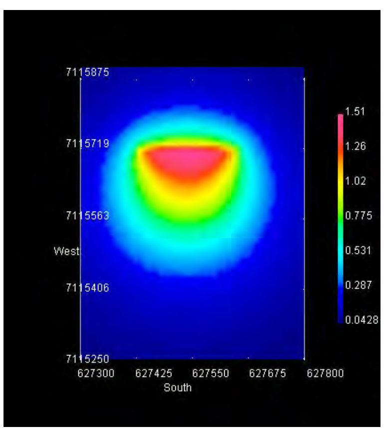


Basic model: flat lying sulphide layer 10m thick (50% sphalerite) produces anomaly amplitude depth to top (m1_depth) – Sharp edges /gradients fade as depth to body increases,

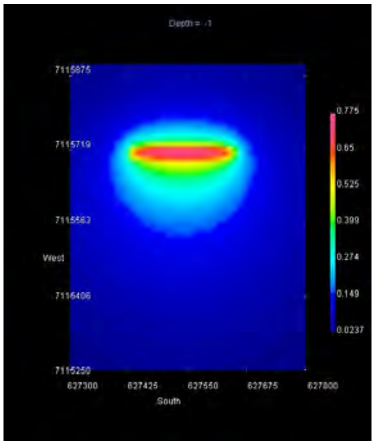
0	0.321 mgal.
10	0.287
20	0.256
40	0.226

Basic model: flat lying sulphide layer 20m thick (50% sphalerite) produces anomaly amplitude depth to top (m1a_depth)

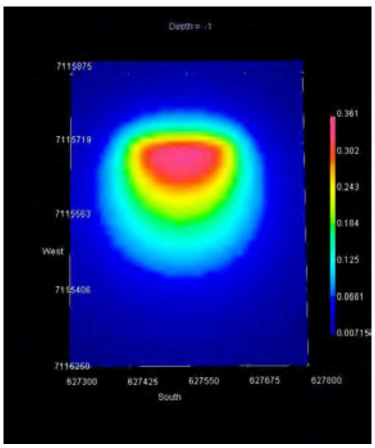
0	0.61 mgal.
10	
20	0.425
40	



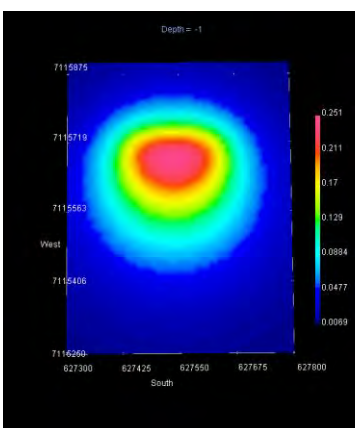
M2.grv: Mesh2, obs_flat m2: Source dips 30° South
Anomaly forms sharp edge on up dip side. Peak amplitude of 1.51 mgal at updip edge (surface).



M3.grv: Mesh2, obs_flat m3: Source dips 60° South
Anomaly forms sharp edge on up dip side. Peak amplitude of 0.775 mgal at updip edge (surface).



M4.grv: Mesh2, obs_flat m4:
Anomaly forms sharp edge on up dip side. Peak amplitude of 0.361 mgal at updip edge (surface). Depth now 20m below surface.



M5.grv: Mesh2, obs_flat m5: Deep source, slight southerly dip.
Anomaly forms sharp edge on up dip side. Peak amplitude of 0.25 mgal at updip edge (surface). Depth now 50m below surface. Likely not detectable within errors (0.35mgal threshold???)