

Ministry of Energy and Mines  
BC Geological Survey

Assessment Report  
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Technical Placer, Geophysical Magnetometer.

TOTAL COST: \$4,356.00

AUTHOR(S): Nicolai Goepfel,

SIGNATURE(S): 

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): N/A

YEAR OF WORK: 2019

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): Event Number 5749504, July 01 - July 20/2019.

PROPERTY NAME: Gold Pan Creek

CLAIM NAME(S) (on which the work was done): 1062169,1064402.

COMMODITIES SOUGHT: Magnetic in the placer ground for gold deposits.

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:

MINING DIVISION: Liard

NTS/BCGS: 104105

LATITUDE: 129 ° 41 '43.394 " LONGITUDE: 58 ° 26 '51.617 " (at centre of work)

OWNER(S):

1) Marvin Lorenzo Hawley

2)

MAILING ADDRESS:

2466 Summerset Rd, Nanoose Bay , B.C. v9p-9e4.

OPERATOR(S) [who paid for the work]:

1) Marvin Hawley

2) Bill Harris

MAILING ADDRESS:

2466 Summerset Rd Nanoose Bay , B.C.

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

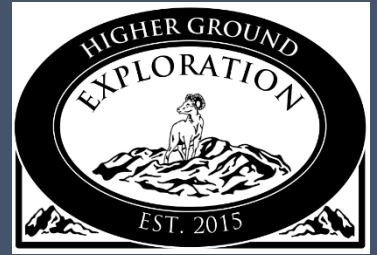
Orogenic gold rich quartz veins, underlain by lithologies of the cache creek terrane.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: BC minfile 2003.

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
<b>GEOLOGICAL (scale, area)</b>			
Ground, mapping			
Photo interpretation			
<b>GEOPHYSICAL (line-kilometres)</b>			
Ground			
Magnetic	0.5 kms.	1062169,1064402	\$4,356.00
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
<b>GEOCHEMICAL (number of samples analysed for...)</b>			
Soil			
Silt			
Rock			
Other			
<b>DRILLING (total metres; number of holes, size)</b>			
Core			
Non-core			
<b>RELATED TECHNICAL</b>			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
<b>PROSPECTING (scale, area)</b>			
<b>PREPARATORY / PHYSICAL</b>			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
<b>TOTAL COST:</b>			<b>4,356.00</b>

# GOLDPAN CREEK 2019 ASSESSMENT REPORT

Tenure Numbers 1062169 & 1064402  
Dease Lake Area, BC



By Nicolai Goepfel of  
Higher Ground  
Exploration Services

## Abstract

The Goldpan creek project consists of 2 placer claims (1062169 & 1064402) on Goldpan creek, covering approximately 101.6 hectares. The Goldpan Creek placer claims are 4x4 road accessible and lie approximately 19 km east of the community of Dease Lake, BC.

Historic values include \$13.88 per running foot of creek over 565 feet (BC Minfile records, 2003). The recorded gold production on Goldpan Creek from 1924 to 1940 totalled 2,716 ounces, and the largest nugget found during that period weighed 3 ounces.

In 2019, a brief one-day exploration program was carried out on the 12<sup>th</sup> of July, 2019; consisting of a ground geophysical magnetometer survey coupled with hand test pitting and panning. The Magnetometer survey yielded several areas with a higher magnetic response and offer targets for later testing. All test pans returned trace gold and one yielded four colours. Pans are representative of surface gravels. The total assessment valuation for the 2019 program is \$4,356.00.

The location and ground conditions on the Goldpan creek property are favorable for cost effective mining and exploration; however further work is required to determine the full gold potential of the area. Future work consisting of an initial phase of prospecting, mapping, and magnetometer survey is warranted in preparation for later test pitting and bulk sampling. A thorough and systematic follow up program would delineate pay and be essential in producing an effective and efficient mining and development plan.

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## Introduction

Placer gold was first reported to be discovered on Goldpan creek in 1924, when 2.5 ounces of gold were found in 2 days of hand sluicing, at a location approximately half of a mile from its mouth.

The source of placer gold in the Dease Lake area is primarily attributed to orogenic gold-rich quartz veins. The region is underlain by lithologies of the Cache Creek terrane. This unit is an exotic accreted terrane consisting of an ophiolite oceanic sequence of ultramafic, volcanic and sedimentary rocks. Historically the unit is known as the “gold series” rocks due to a strong association with gold in placer deposits from California through British Columbia and into the Yukon. In more recent history the Cache Creek terrane has become a prominent source of Nephrite Jade in BC and identified as a potential source of Nickel-alloy and PGE (platinum group elements) mineralization. The Goldpan Creek area specifically is underlain by argillaceous sediments and limestone lenses of the Cache Creek Terrane. Nearby volcanogenic massive sulphide bedrock mineral occurrence (104I 077) may also allude to the primary source of gold in the area.

Gold eroded from bedrock sources has accumulated in various types of placer deposits on Goldpan Creek. The primary pay channels consist of enriched high-energy glaciofluvial gravel and interglacial deposits on bedrock. Most specifically were high energy glacial fluvial gravels are deposited to bedrock cutting underlying glaciolucustian sediments. Higher levels of Goldpan creek has historically indicated primary gold accumulation on a shallow clay horizon with less gold in deeper gravels. Pre-glacial Tertiary creek channel deposits form a significant source of the placer gold in the Dease Lake area and may occur as remnant channels locally. Post glacial influences have likely re-concentrated and redistributed these ancient pay streaks.

The total assessment valuation for the 2019 program is \$4,356.00. The purpose of this report is to detail the findings and results of the 2019 exploration program.

## Location and Access

Goldpan Creek is a right limit tributary of Little Eagle River, and rises on the eastern slope of Dome Mountain. The Goldpan Creek placer claims lie 19 km east of the community of Dease Lake, along a secondary 4-wheel drive road (Appendix I, Figure 1&2). The claim group consists of 2 placer claims totaling 101.6 hectares. The tenures lie in the Liard Mining Division on NTS map sheet 104I05, and lie non-contiguously along two forks; Goldpan Creek and a right fork of Little Eagle River. The Goldpan creek claims are centered around 129°41'43.394"W, 58°26'51.617"N.

## Tenure Information

The full tenure information is tabulated below.

Tenure Number	Claim Name	Tenure Type	Issue Date	Expiry Date	Hectares	Owner
1064402	GOLDPAN	Placer	2018-11-10	2021-11-10	67.762	HAWLEY, MARVIN LORENZO - 100%
1062169	GOLDPAN	Placer	2018-08-03	2021-08-03	33.8749	HAWLEY, MARVIN LORENZO - 100%

## Previous Work History

The discovery in 1873 of rich gold-bearing gravel on Thibert Creek led to the finding of placer gold on Dease Creek and in the same year on McDame Creek in 1874. Chinese immigrants mined in many areas throughout the Cassiar region after 1885, and some of their early boulder piles are still visible. The British Columbia Minister of Mines Annual Report for 1925 states that Goldpan Creek was discovered in August 1924, when 2.5 ounces of gold were found in 2 days of hand sluicing, approximately half of a mile from its mouth. A total of \$7,500 in gold was recovered in 1925 by hand methods when the gold price was \$20 per troy ounce. This included 278 ounces mined from the Discovery claim by 4 men in two 105ft by 50 ft cuts; 85 ounces mined by 3 men on No. 2 Below Discovery, and 57 ounces mined on No. 1 Above Discovery in a cut measuring 200 ft. by 30 ft. Reported values were \$13.88 per running foot of creek over 565 feet. According to BC Minfile records (2003), recorded gold production on Goldpan Creek from 1924 to 1940 totalled 2,716 ounces. The largest nugget found at that time weighed 3 ounces.

Some limited hard rock exploration was carried out in the area in the mid 70s and intermittently into the 90s. The closest minfile occurrence, 104I 077 or the Castle showing is located approximately 2km southwest of the Goldpan creek claims. Exploration mainly consisted of prospecting and geophysical work targeting VMS-style mineralization. Samples from a pyritic layer in chlorite schist containing chalcopyrite-pyrite as lenses and disseminated blebs yielded 9.33 per cent copper and 6 grams per tonne silver.

## Regional Geology

The Goldpan Creek area is underlain by the Lower Jurassic Laberge group (Inklin Formation) which consists of mainly slate, greywacke and conglomerate. Upper Triassic Stuhini Group (Sinwa Formation) limestone and commonly argillaceous (Appendix I, Figure 3). The regional foliation strikes on average WNW to ESE and influenced by the Nahlin thrust fault to the north and the King Salmon thrust fault to the south.

## 2019 Exploration Program

In 2019, a brief one-day exploration program was carried out on the 12<sup>th</sup> of July, 2019; consisting of a ground geophysical magnetometer survey coupled with hand test pitting and panning. The four-man crew consisting of one geologist, one prospector and two labourers accessed the site by atv. An approximately 0.5-line km magnetometer survey was completed; as well as, 5 test pans from surface gravels in various locations. The total assessment valuation for the 2019 program is \$4,356.00.

### *Test Pan Results*

Part of the program consisted of taking several test pans were from various locations shown in Figure 4. Short approximately 0.25m holes were dug or pulled from cut banks and the material was then panned. Results contained trace colours and one pan with 4 colours. Based on the small sample volume, pans contained a fair amount of black sands. Results are only representative of surface gravels and are tabulated below.

<b>Name</b>	<b>Easting</b>	<b>Northing</b>	<b>Result</b>
Test 1	459068.5	6479105	trace
Test 2	459098.1	6479109	4-colours
Test 3	459307.9	6479063	trace
Test 4	459305.7	6479047	trace
Test 5	459259.5	6479119	trace



## Geophysical Survey

In 2019 a ground based magnetic and gradiometer survey was carried out on the Goldpan Creek property. The magnetometer unit is a GEM systems GSM-19 (serial number 7022236) proton precession magnetometer. The magnetometer survey measures magnetic susceptibility of the subsurface, the greater the accumulation of magnetic minerals the greater the magnetic response. In this case, higher magnetic susceptibility represents potential pay streaks as higher velocity fluvial flows would have concentrated gold and other heavy minerals by washing away lighter minerals (heavy minerals ie: magnetite, ilmenite, platinum, other PGEs, cobalt, Ni-alloy, sheelite, etc). It should be noted that the computer generation of the geophysical maps uses an interpolation between points; therefore, data is extrapolated between readings and has less confidence as distance between reading increases. The smaller the distance between readings the greater the resolution in the projection and the higher the accuracy of the data. To reduce these effects separate maps have been generated for the different areas surveyed.

A total of 0.5-line kilometers were completed with readings taken every 10 meters. Two areas were surveyed. Survey 1 consisted of two shorter 25m spaced lines where the drainage becomes narrow. Survey 2 entailed two longer 50m spaced lines, upstream in a broader part of the valley. Figures 2-4, Appendix II, outlines the preliminary results of the magnetometer survey. The survey one area shows a higher broad response near the confluence with a left limit tributary towards the right limit. Survey 2 area indicated a broader magnetic high east to west through the center of the survey and several isolated highs. The broader magnetic high may outline a larger potential melt water channel, were as the isolated high responses may signify more localized pay streaks. Results require a physical determination to test gravels and confirm the accuracy of the survey.

## 2019 Expenditures

The 2019 expenditures totaled \$4,356.00 and is tablated below.

Items	Rate	Subtotal
Food/Lodging	\$100 x 4 per day	\$400.00
Atv	\$100 x 3 per day	\$300.00
Chainsaw	\$30 per day	\$30.00
Magnetometer	\$150 per day	\$150.00
Transportation	20% of expenses	\$726.00
	<b>Total:</b>	<b>\$1,606.00</b>
<b>Personel</b>		
Geologist / Geophysical equipment operator	\$50/hr x 15hrs	\$750.00
Prospector	\$40/hr x 10hrs	\$400.00
Labourers	2 x \$30/hr x 10hrs	\$600.00
Geophysical data processing and map generation		\$500.00
Report writing		\$500.00



	<b>Total:</b>	<b>\$2,750.00</b>
<b>Total Assessment Valuation:</b>		<b>\$4,356.00</b>

## Conclusion and Recommendations

The Goldpan creek historically produced a significant amount of gold in a short period of time by hand methods during its initial discovery in 1924, when 2.5 ounces of gold were found in 2 days of hand sluicing. Limited recent exploration and mining has been done and much of the area within the Goldpan creek claims have not been mechanically mined. The Magnetometer survey have outlined some notable areas of higher magnetic susceptibility and should be confirmed by test pitting or drilling.

Further exploration work is warranted to delineate economic zones and in order to produce an effective and efficient mining plan. Exploration should be carried out in multiple phases. The initial phase consisting of prospecting, surficial mapping, UAV survey and magnetometer survey. Mapping, prospecting, and drone imagery would aid in identifying the distribution of boulder horizons, alternate benches and potential bedrock reefs. Identified features would receive initial testing by hand or small equipment depending on accessibility. The completion of the first phase of exploration would lay out the ground work for the latter phase of exploration. The latter phase of exploration would comprise of mechanical test pitting and bulk sampling. Due to a lack of permafrost and shallow bedrock observed mechanical test pitting should be an effective method. In place of test pitting where bedrock is deeper, a seismic or ground penetrating radar survey could be applied to constrain depths to bedrock. Bulk sampling would be carried out to test surface concentrations, test magnetometer survey results and areas with near surface bedrock. Bulk sampling will also help in determining amounts of concentrate and best methods for recovery. The larger the sample volume the more accurate the yield.

## Statement of Qualifications

I Nicolai Goepfel, of the city of Whitehorse, Yukon, certify that:

1. I worked and carried out work on the Goldpan Creek Property in 2019
2. I have completed an Earth Sciences B.Sc. at Memorial University of St. John's, Newfoundland in 2014
3. I have worked in the mineral exploration industry in the Yukon, Newfoundland, and British Columbia since 2009
4. I have been involved in the placer industry my entire life and engaged in placer gold exploration in the Yukon and BC since 2009
5. Owner and founder of Higher Ground Exploration Services since 2015

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Appendix I

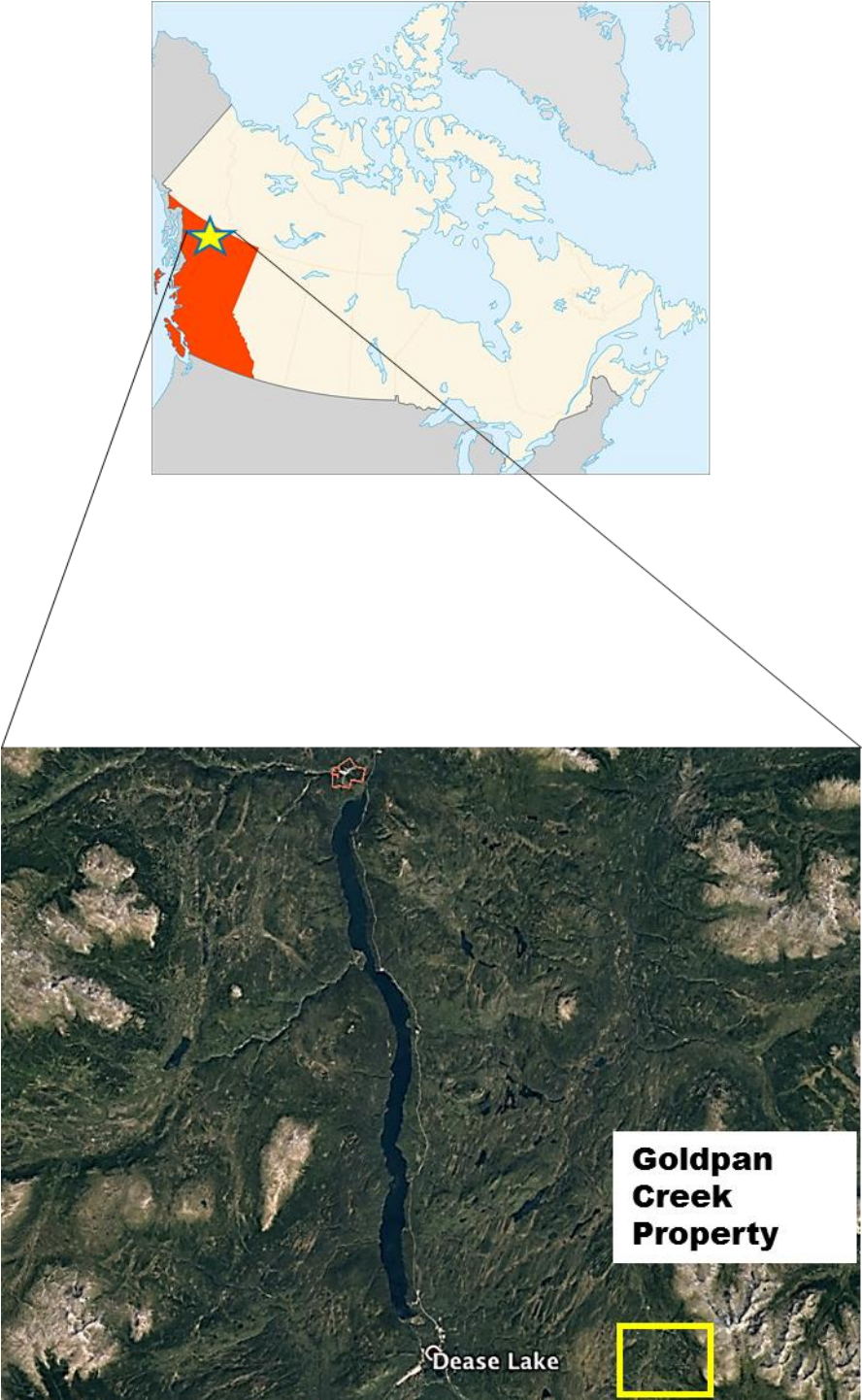


Figure 1. Location



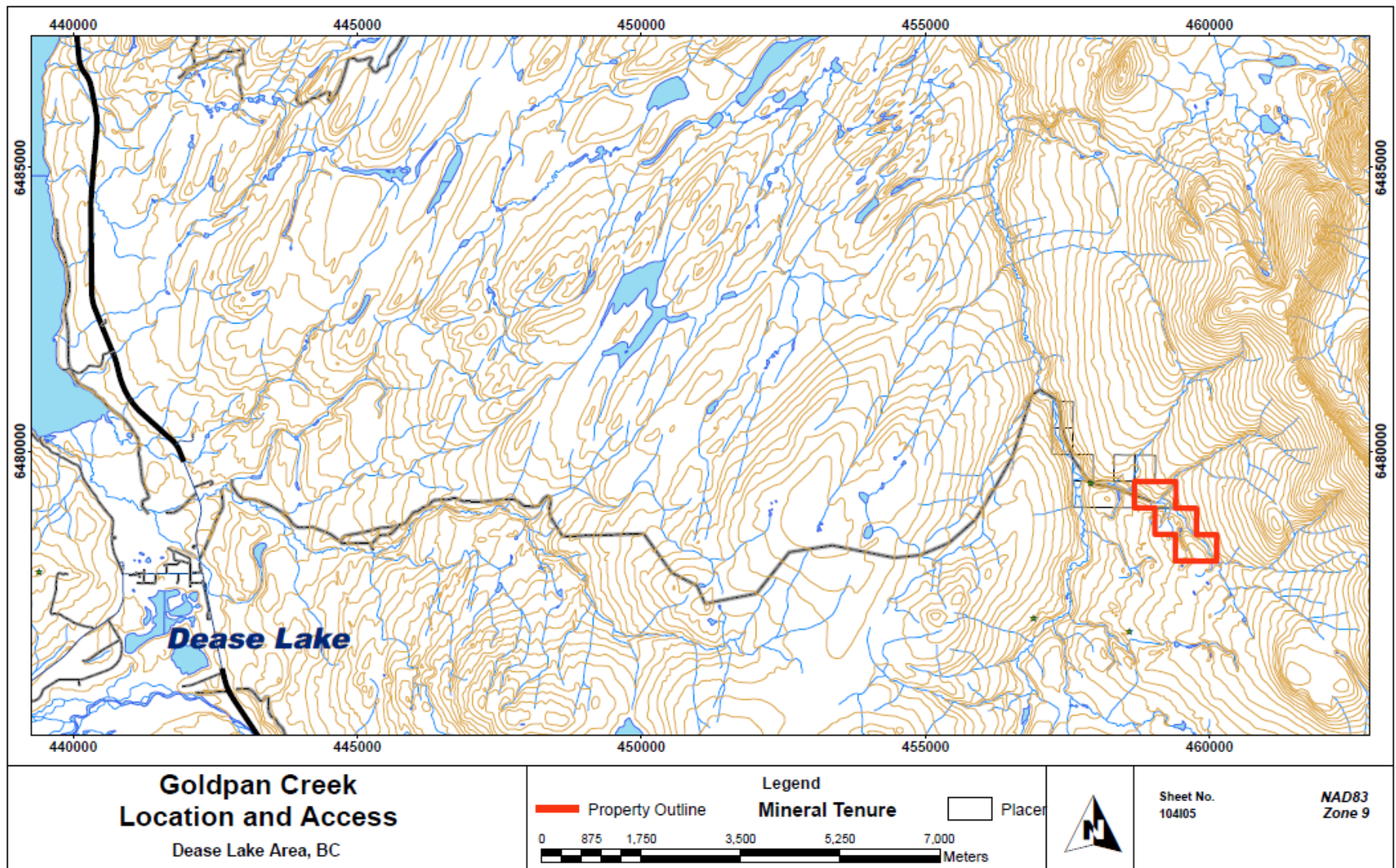


Figure 2. Detailed Location and Access

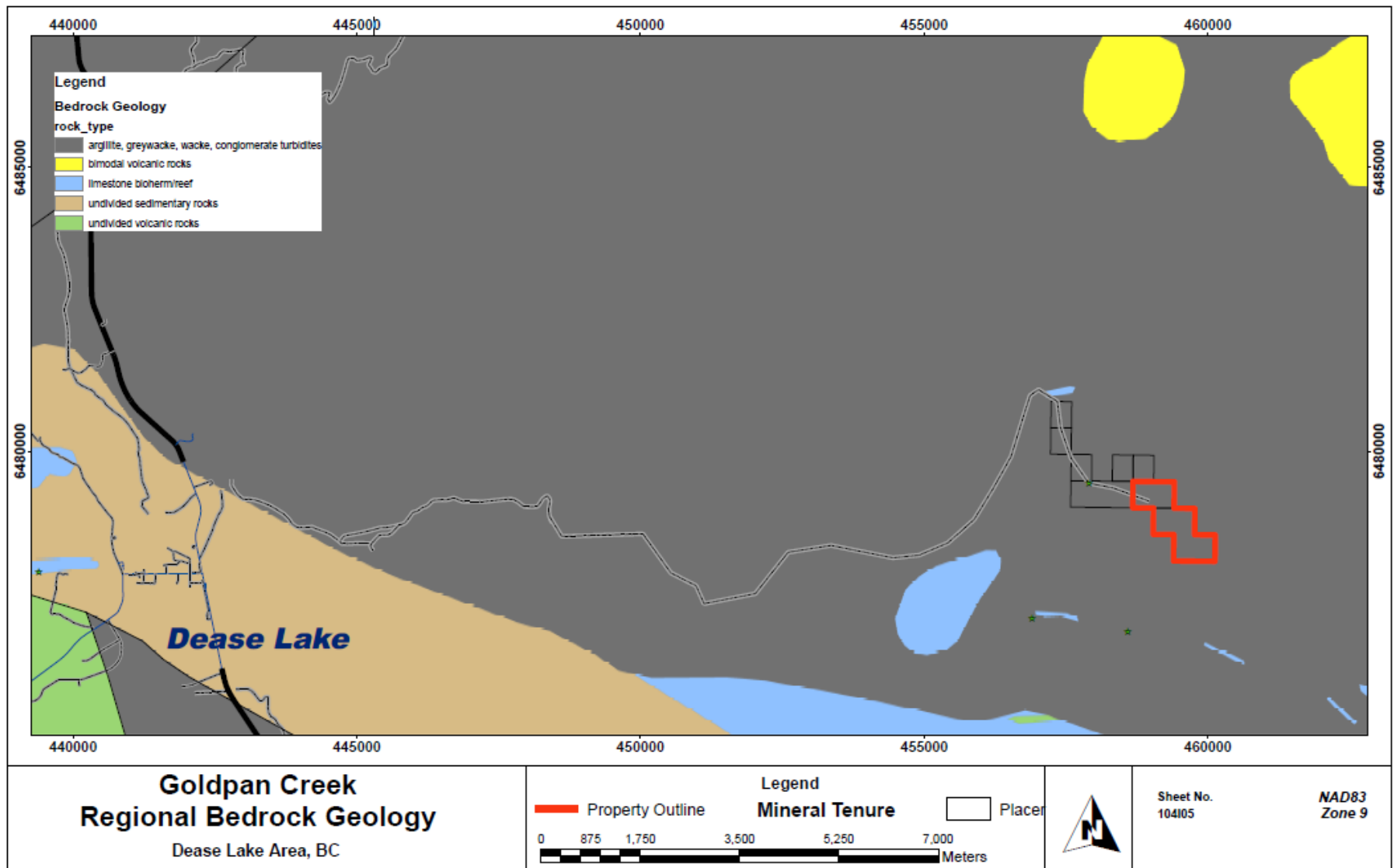


Figure 3. Regional Geology

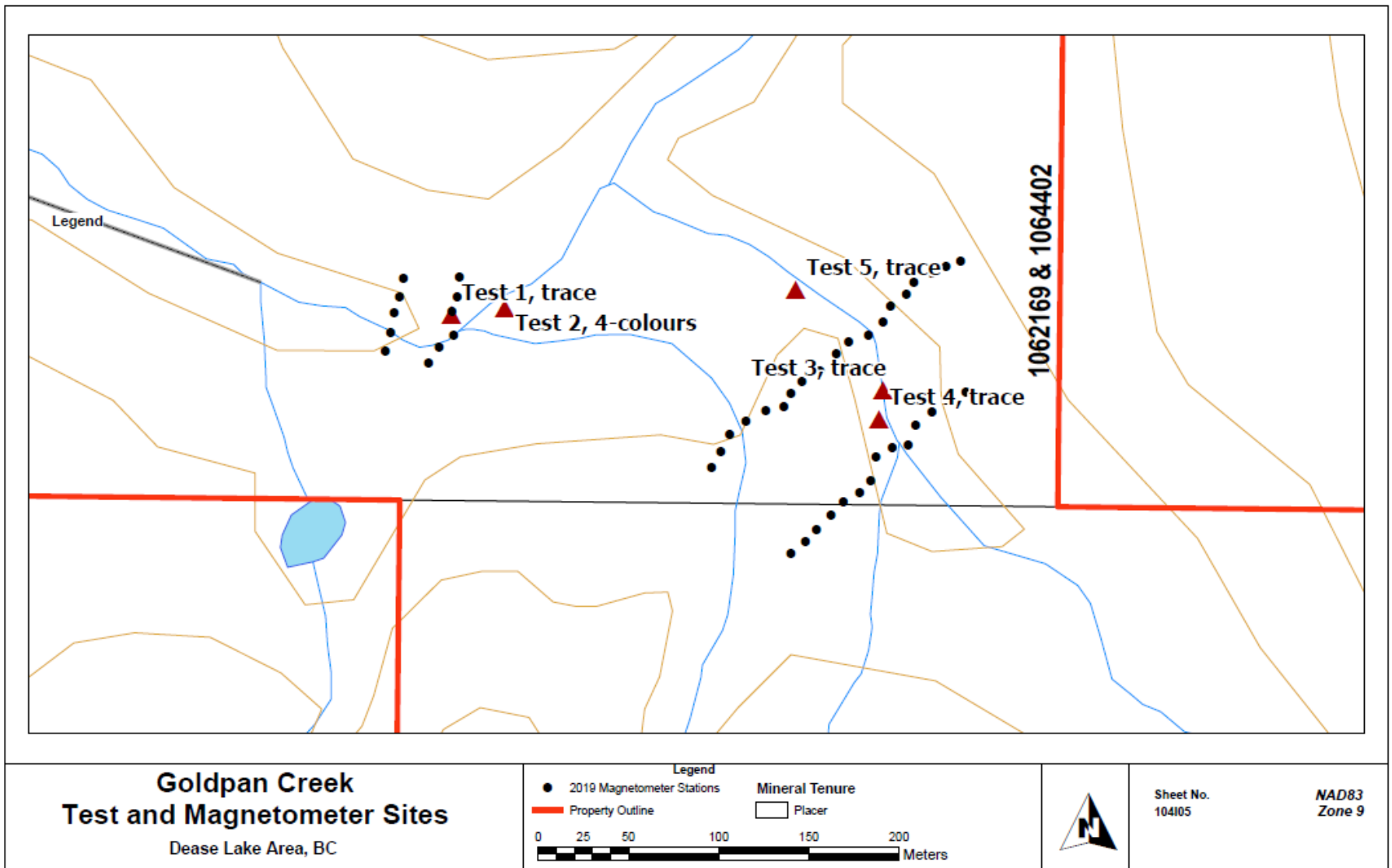


Figure 4. 2019 Test and Magnetometer Sites



# Appendix II

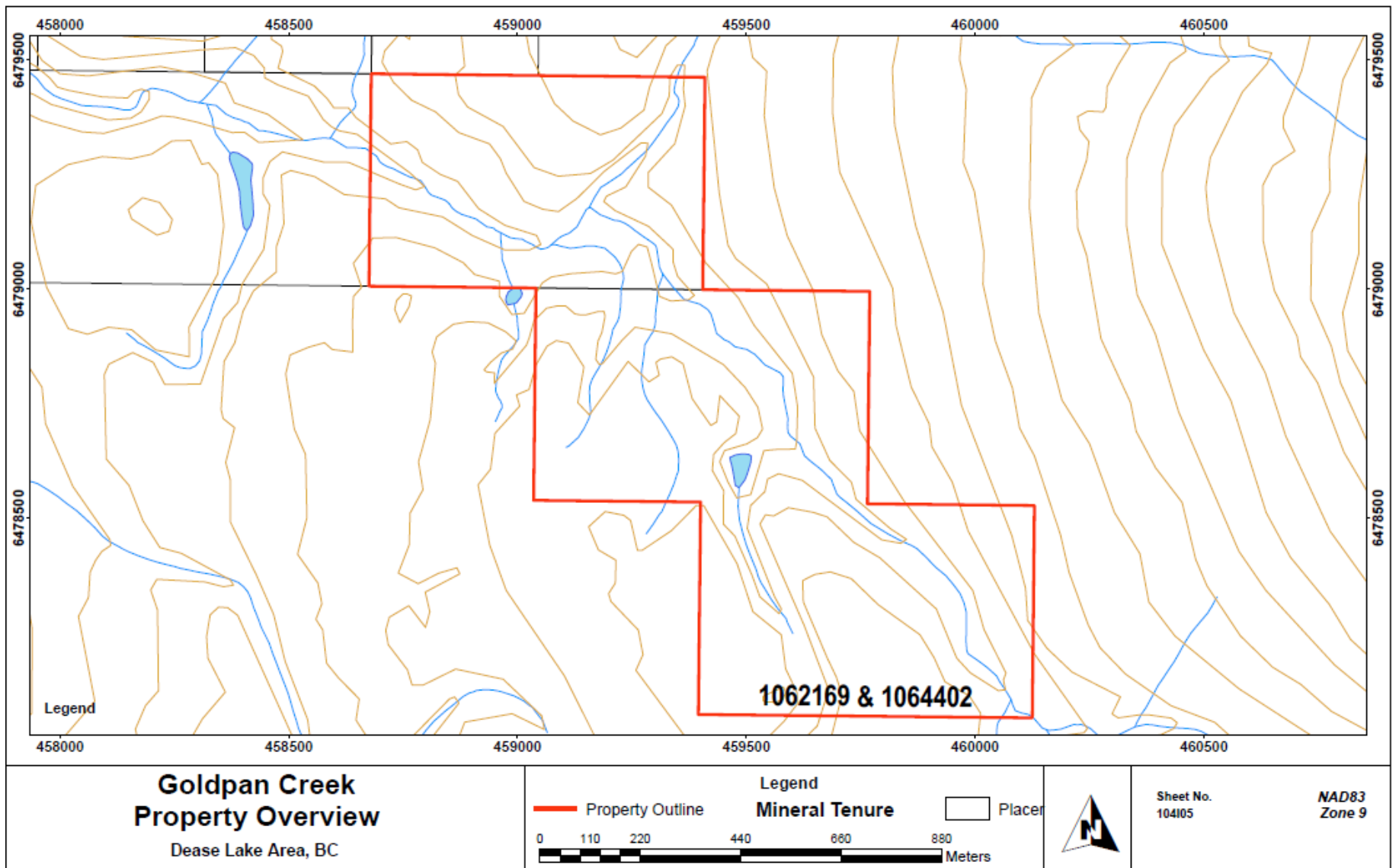


Figure 1. Property Overview

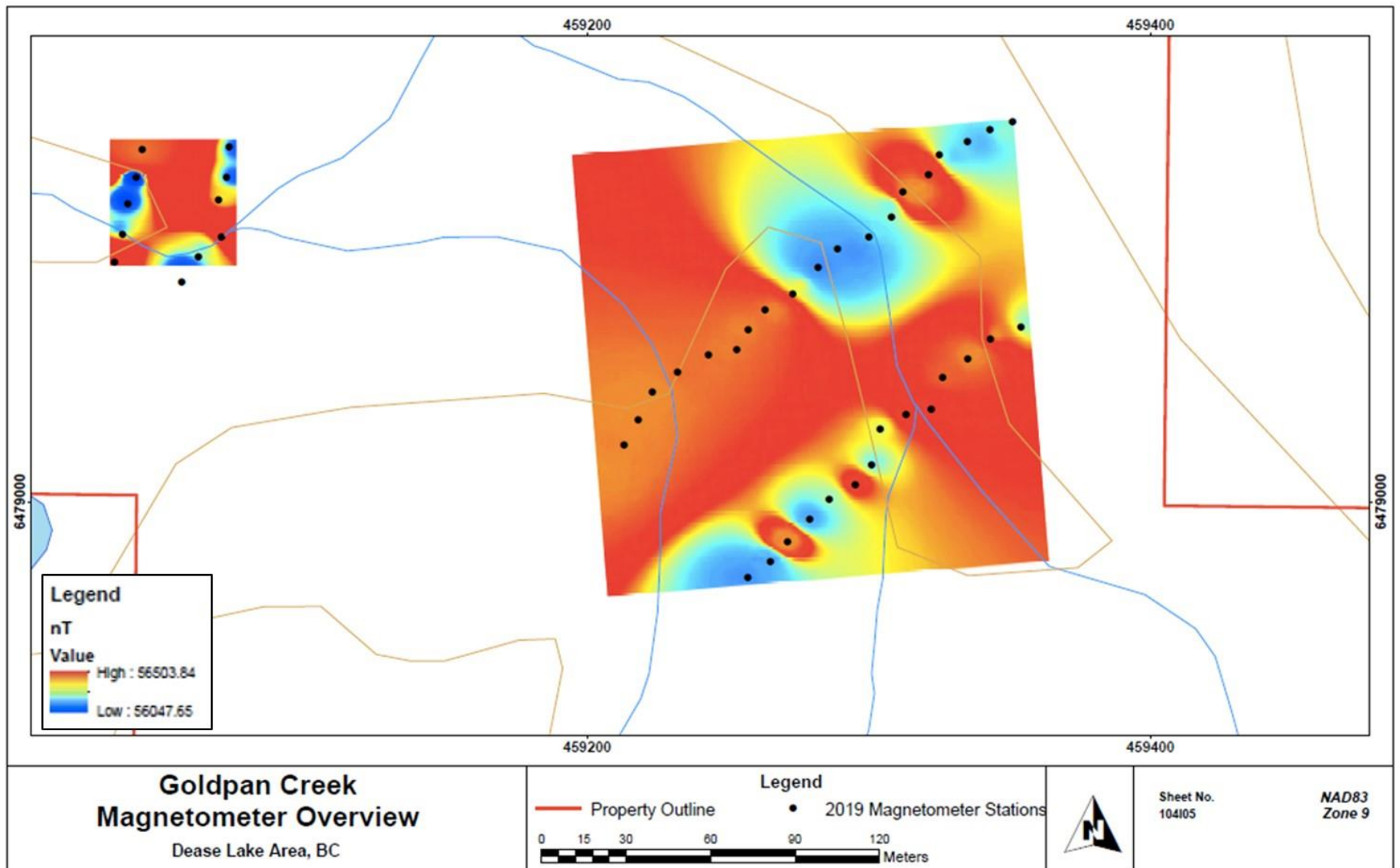


Figure 2. Map of all combined Magnetometer readings

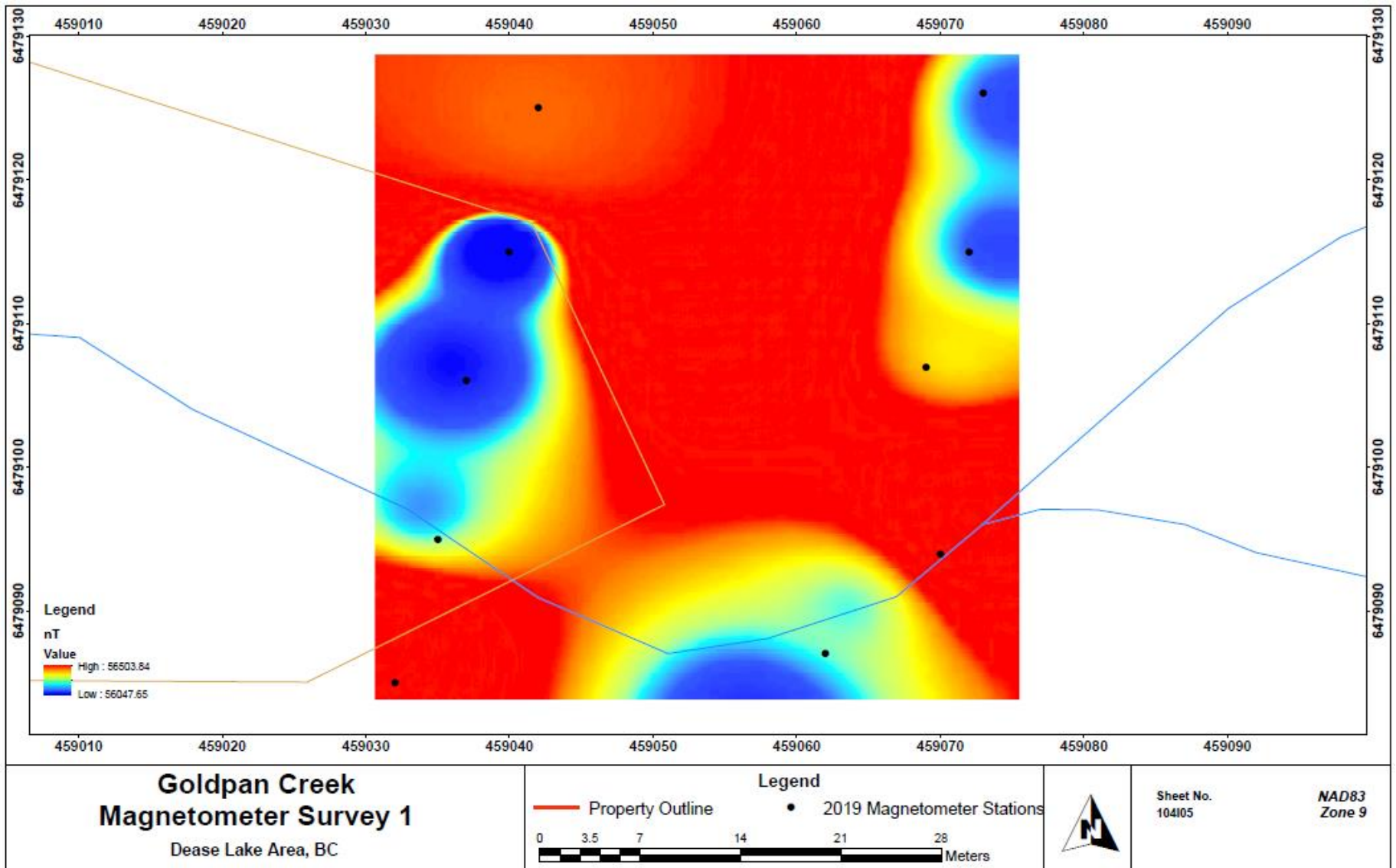


Figure 3. Total magnetic intensity map - Survey 1

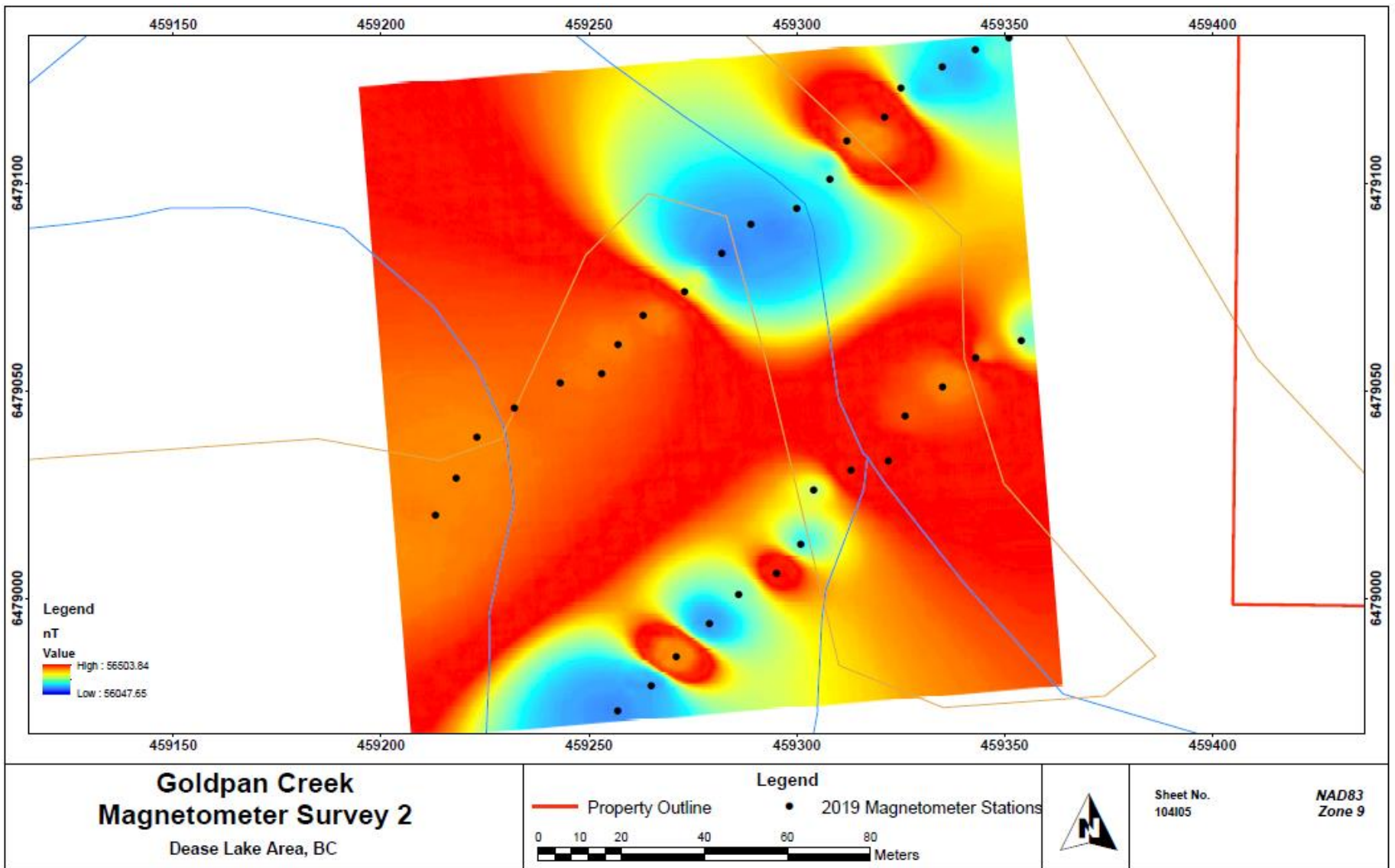


Figure 4. Total magnetic intensity map - Survey 2

<b>ID</b>	<b>Easting</b>	<b>Northing</b>	<b>NT</b>
477	459042	6479125	56344.87
478	459040	6479115	56047.65
479	459037	6479106	56059.33
480	459035	6479095	56072.19
481	459032	6479085	56095.1
482	459056	6479078	56063.45
483	459062	6479087	56074.54
484	459070	6479094	56096.41
485	459069	6479107	56078.67
486	459072	6479115	56068.35
487	459073	6479126	56068.5
488	459257	6478973	56056
489	459265	6478979	56073
490	459271	6478986	56125.89
491	459279	6478994	56070.76
492	459286	6479001	56088.69
493	459295	6479006	56101.26
494	459301	6479013	56085.99
495	459304	6479026	56091.19
496	459313	6479031	56099.98
497	459322	6479033	56097.54
498	459326	6479044	56107.3
499	459335	6479051	56117.96
500	459343	6479058	56094.22
501	459354	6479062	56088.11
502	459351	6479135	56087.51
503	459343	6479132	56077.64
504	459335	6479128	56081.93
505	459325	6479123	56101.76

506	459321	6479116	56128.22
507	459312	6479110	56086.29
508	459308	6479101	56084.25
509	459300	6479094	56053.77
510	459289	6479090	56049.42
511	459282	6479083	56092.21
512	459273	6479074	56113.26
513	459263	6479068	56113.61
514	459257	6479061	56111.7
515	459253	6479054	56110.02
516	459243	6479052	56109.23
517	459232	6479046	56122.48
518	459223	6479039	56124.22
519	459218	6479029	56114.54
520	459213	6479020	56126.56
477	459042	6479125	56344.87
478	459040	6479115	56047.65
479	459037	6479106	56059.33
480	459035	6479095	56072.19
481	459032	6479085	56095.1
482	459056	6479078	56063.45
483	459062	6479087	56074.54
484	459070	6479094	56096.41
485	459069	6479107	56078.67
486	459072	6479115	56068.35
487	459073	6479126	56068.5

**Figure 5.** Magnetometer readings and coordinates (UTM zone 09V, NAD 83)