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Report

Dundonald Property

Magnetometer Survey



Prepared for:

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Introduction

Dundonald Property is held by C. Villeneuve Construction Co. Ltd. Back in January, 2015 UAV Timmins completed a geochem sampling program on the property. Nickel and zinc anomalies were identified during the program.

This report covers magnetometer work carried-out over the nickel and zinc anomalies.

Property Description

Claim Number **4273950** is a 4-unit claim located in Dundonald Township, Porcupine Mining Division, approximately 53km driving distance from Timmins.

Refer to **Figure 1** (Location and Access map) for more detailed claim location.

Access

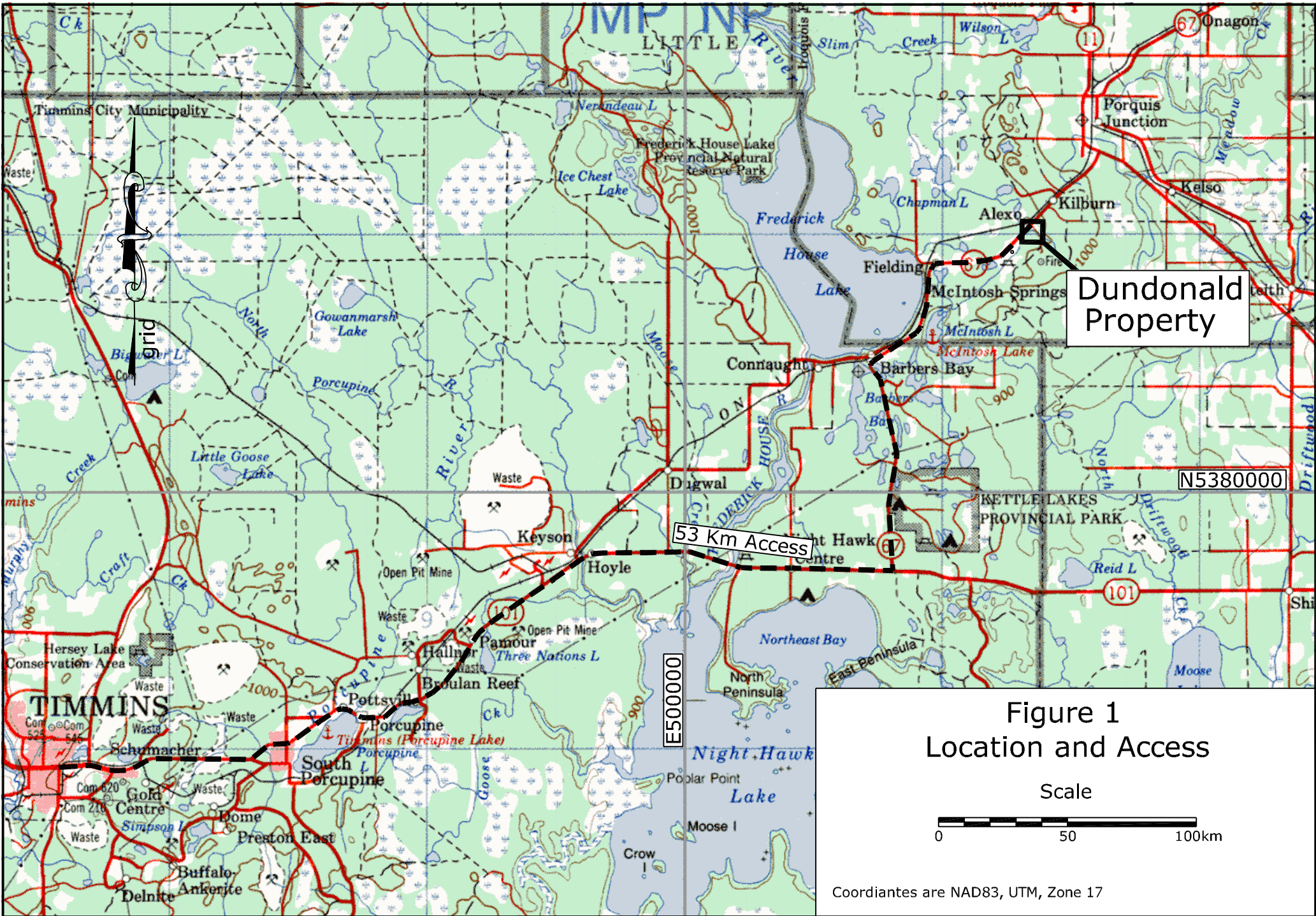
The property was accessed from Timmins by travelling East on HWY 101 to the intersection with HWY 67, then North on HWY 67 to the property, as shown on **Figure 1** (Location and Access map).

Work Program

Background

Areas surrounding Dundonald Property have undergone considerable exploration in the past, mainly with regards to nickel and copper. The Alexo Mine sits 800m to the east. Within a few kilometer radius of the property, there are at least 8 other mineral showings.

The **Mineral Deposits Map** (on Page 5) presents a summary of nearby mineral deposits according to the Mineral Deposits Inventory database (MDI).

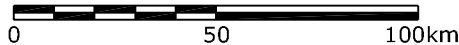


Dundonald Property

53 Km Access

Figure 1
Location and Access

Scale



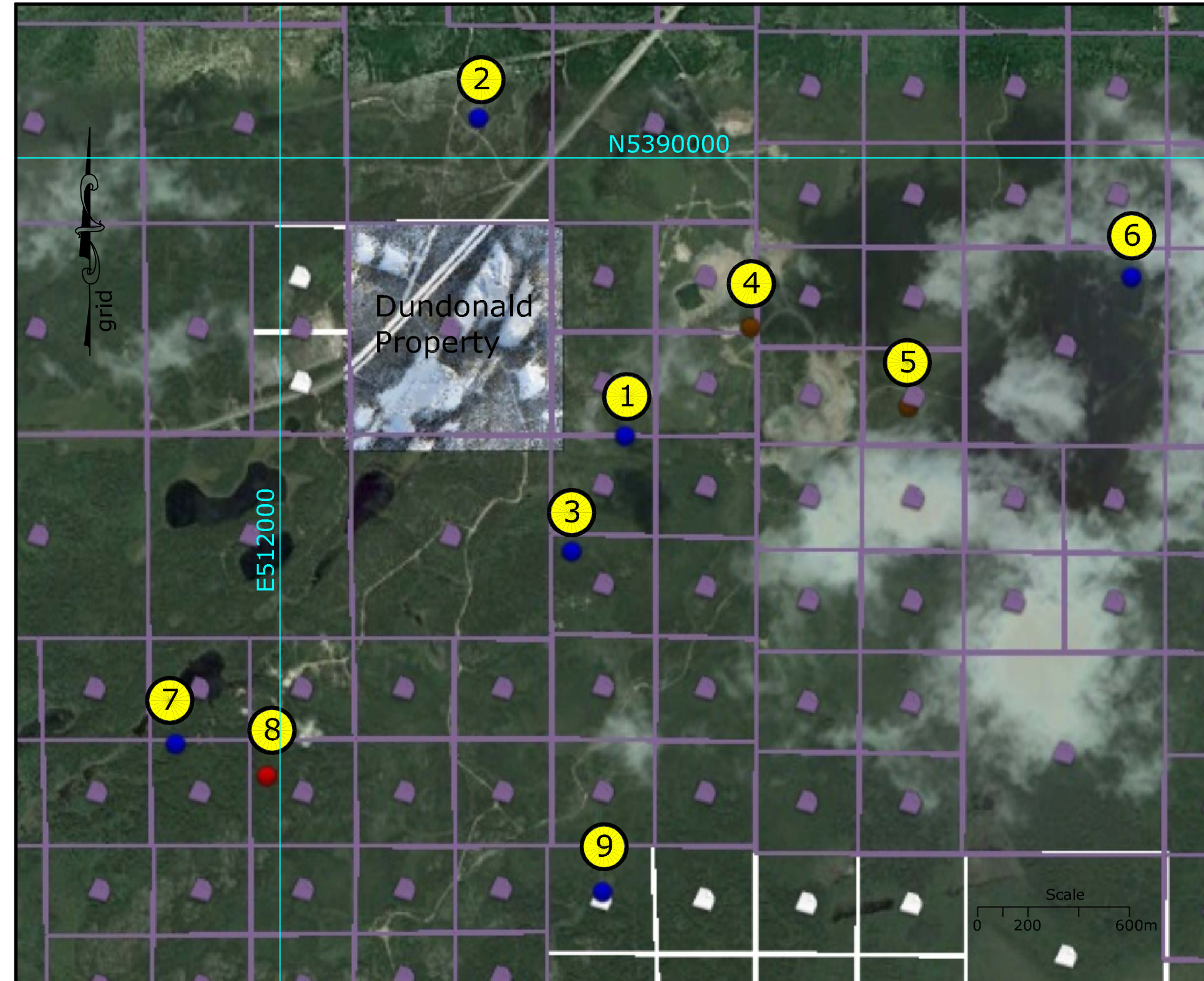
Coordiantes are NAD83, UTM, Zone 17

Mineral Deposits Map

Credit: This map is a summary based on MDI database. Details are available from the OGS through resources such as OGS Earth.

- ① Hollinger DDH DUS-1-71
Zinc / Nickel
1820 ppm Ni over 5ft
Ni values range from 114ppm to 1825 ppm over the 513ft hole.
Best Zn value returned 1380 ppm over 5ft
- ② Alsop Mines DDH 64-5
Nickel
0.263% Ni over 7ft
0.211% Ni over 11ft
0.223% Ni over 10ft
0.320% Ni over 11ft
- ③ Hucamp Mines DDH HUF1-01
Nickel
4925 ppm over 1m
3118 ppm over 1m
- ④ Alexo Mine
Nickel / Copper
Past Producing Mine with Reserves
See MDI42A10NW00002 for details
- ⑤ Kelex Nickel Zone
Nickel / Copper
Past Producing Mine with Reserves
See MDI42A10NW00044 for details
- ⑥ Scott Option
Cobalt / Copper / Nickel
0.15% Cu
0.25% Co
0.27% Ni
- ⑦ Terminus Cu-Zn Zone
Copper / Zinc
7.53% Zn / 1.37% Cu per 10m
- ⑧ Dundead Deposit
Nickel / Platinum
Developed Mineral Prospect with Reserves
See MDI42A10NW00011 for details
- ⑨ Hucamp Mines DDH HUF13-01
Copper / Palladium / Platinum
1364 ppm Cu over 1.3m
315 ppm Pd over 1.3m
253 ppm Pt over 1.3m

Coordinates are NAD83, UTM, Zone 17



grid

Dundonald
Property

N5390000

E512000

Scale

0 200 600m

Work Program ...continued

Magnetometer Program

A magnetometer survey was designed to cover nickel and zinc anomalies identified through previous work. The grid was designed to cover six (6) nickel and zinc anomalies, including reasonable distance on all sides in an attempt to delineate local bedrock structure.

Nickel and zinc anomalies identified in 2015 are relatively weak. This may be due to overburden conditions present across the property. One of the objectives of the mag survey was to identify possible bedrock structure on-strike with the nearby Alexo deposit.

A grid was flagged using handheld GPS, with lines at 50 metre spacing and flags were labeled at 25 metre intervals. A Garmin etrex 20 was used for laying-out flags, to a degree of accuracy typical of a good quality handheld GPS. Specifications for Garmin etrex 20 can be found in **Appendix 1**.

Each flag was then surveyed, using an Ashtec GPS receiver in Kinematic mode. Operating in Kinematic mode, the Ashtec receiver allows you to post-process GPS data using differential processing methods. This method provides a “corrected fix” more accurate than using handheld GPS alone. Specifications for Ashtec Promark 2 receiver can be found in **Appendix 2**.

Appendix 3 shows the ideal flag locations laid-out using handheld GPS, compared to final survey locations. Corrected locations show improvement of between 0 and 11 metres. This helps to improve overall accuracy of the magnetometer survey.

Base Station used for differential GPS corrections

A GPS base station was operated at control point DU01. Base station data was processed using CSRS (Canadian Spatial Reference System) online PPP utility.

The online PPP utility effectively ties the base station (at DU01), into an active control network of GPS stations operated by NRCAN (Natural Resources Canada). Processing statistics for DU01 can be found in **Appendix 4**, as provided from NRCAN.

Work Program ...continued

Key statistics in **Appendix 4** include;

- Base station at Du01 operated for 5h 47m 40s
- Estimated positional accuracy in NAD83 (CSRS) UTM Zone 17
- Northing accuracy of 0.422m
- Easting accuracy of 0.274m

The corrected location at DU01 was used as a base point to apply differential correction to flag locations surveyed using Ashtec rover. Final survey locations have been rounded to nearest 1m for Northing and Easting. This is in line with metre-range accuracy of Ashtec rovers operating in kinematic mode, along with overall positioning accuracy provided from NRCAN.

Magnetometer Survey

A Geometrics G856AX magnetometer was used to obtain readings at 25m intervals. A second G856AX ran continuously throughout the survey to provide diurnal correction.

Specification for magnetometers can be found in **Appendix 5**.

Figure 2 shows a plot of flag locations surveyed by differential GPS.

Figure 3 shows colour shaded mag, contours and posted mag readings.

Work Dates

- 11-05-16 – Flagged lines 3075E to 2825E
- 11-08-16 – Flagged lines 2775E to 2575E
- 11-09-16 – Computer drafting, plot initial flag locations, start spreadsheet
- 11-10-16 – Survey flag locations using Ashtec rover. Establish base DU01
- 11-10-16 – Data processing. Process base to CSRS and diff proc. flags
- 11-11-16 – Mag survey all stations
- 11-11-16 – Download and process mag data, update spreadsheet
- 11-18-16 – Report writing and prepare figures
- 11-19-16 – Report writing, prepare figures and Appendices
- 11-20-16 – Appendices, figures, agents letter, MNDM formwork

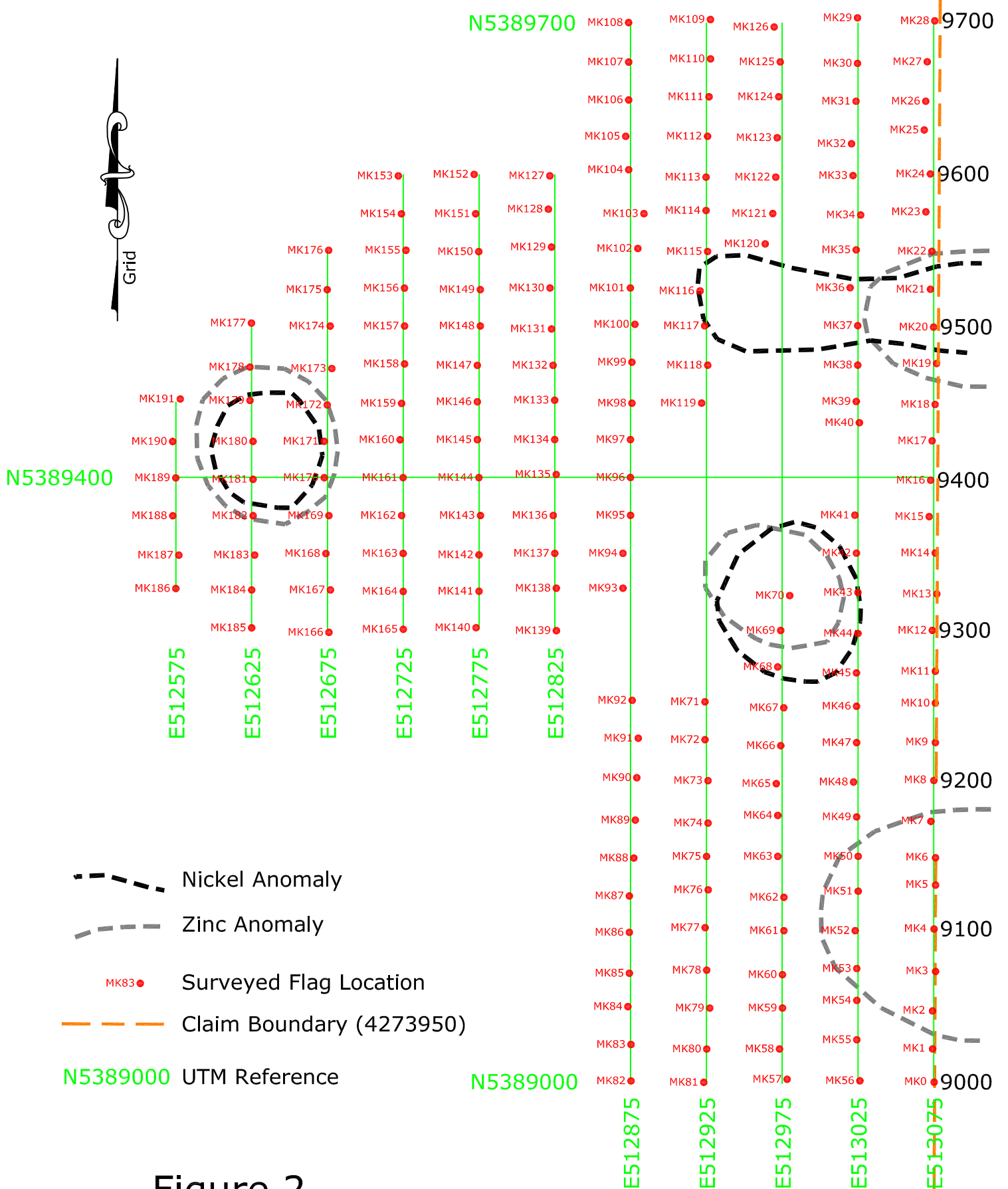
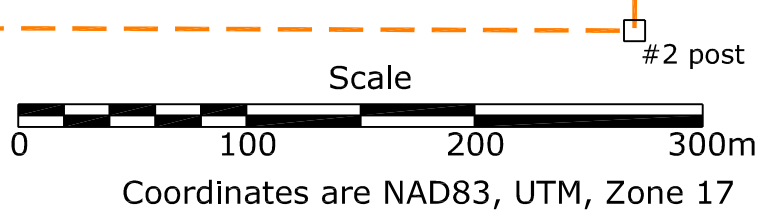


Figure 2
Surveyed Flag Locations
 (see Appendix 3 for flag coordinates)



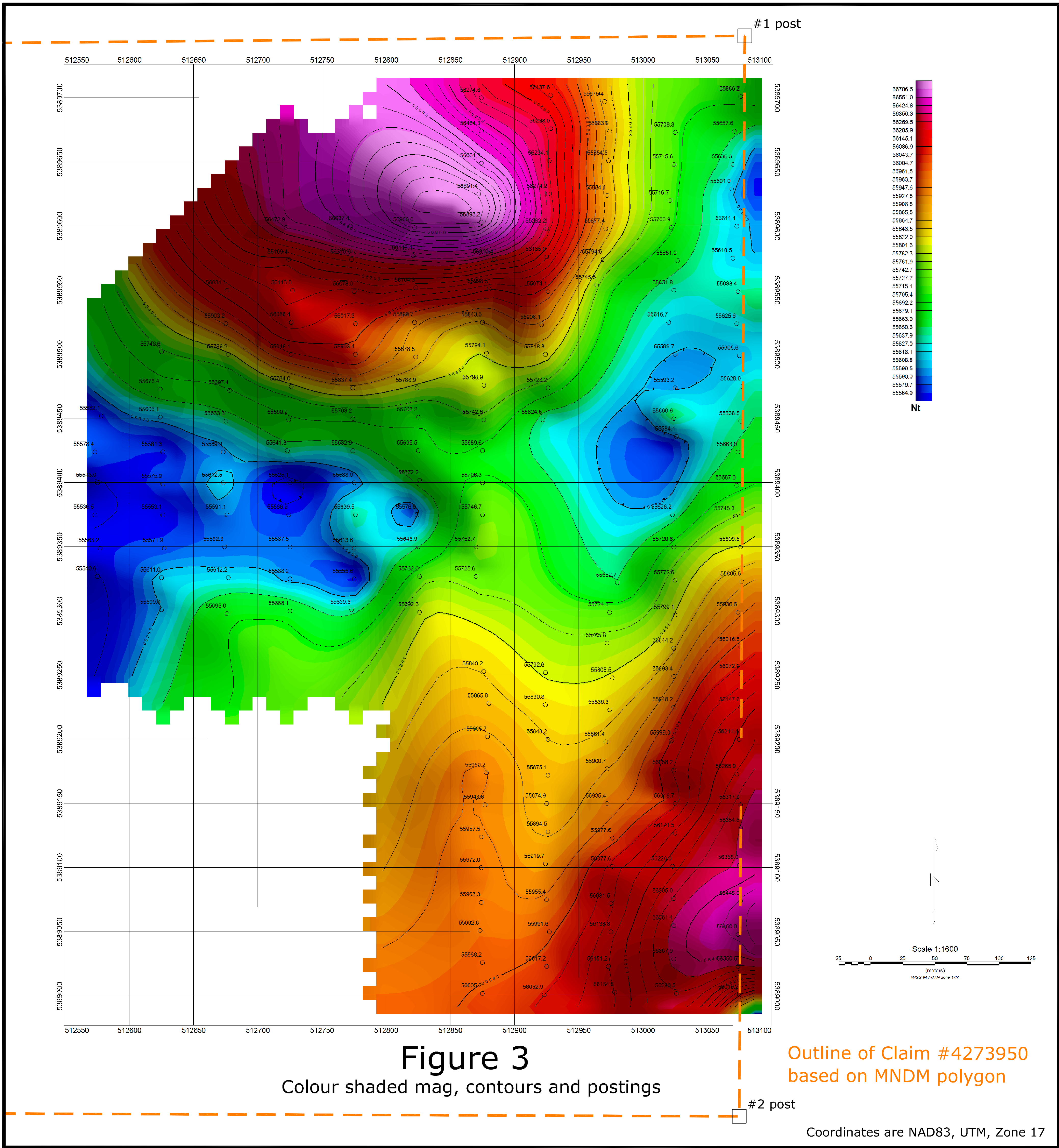


Figure 3
Colour shaded mag, contours and postings

Outline of Claim #4273950
based on MNM polygon

Coordinates are NAD83, UTM, Zone 17

Methods

Magnetometer survey using flagged GPS grid

No grid cutting was carried out during the program.

Cutting a conventional grid is one way to improve accuracy of a mag survey, as clear access and line-of-sight allow straight measurement (chaining) between grid pickets.

In the absence of a conventional grid, flags were surveyed using Ashtec rover to improve accuracy of the mag survey. Modern magnetometers are available on the market with built-in GPS, including the ability to apply differential correction to the location of mag readings.

The methods used during the program, provide a few cost-saving advantages;

- No grid cutting expense
- Reduced admin cost, by not requiring a permit or plan
- Lower daily rate on G856AX mags, compared to mags with built-in GPS

The corrected flag locations presented in **Appendix 3** indicate improved accuracies, between **0 to 11** metres at any station.

Given that some corrections are (+) and some corrections are (-), the average correction (expressed over 192 stations) was an impressive -0.9m in Easting and -0.3m in Northing.

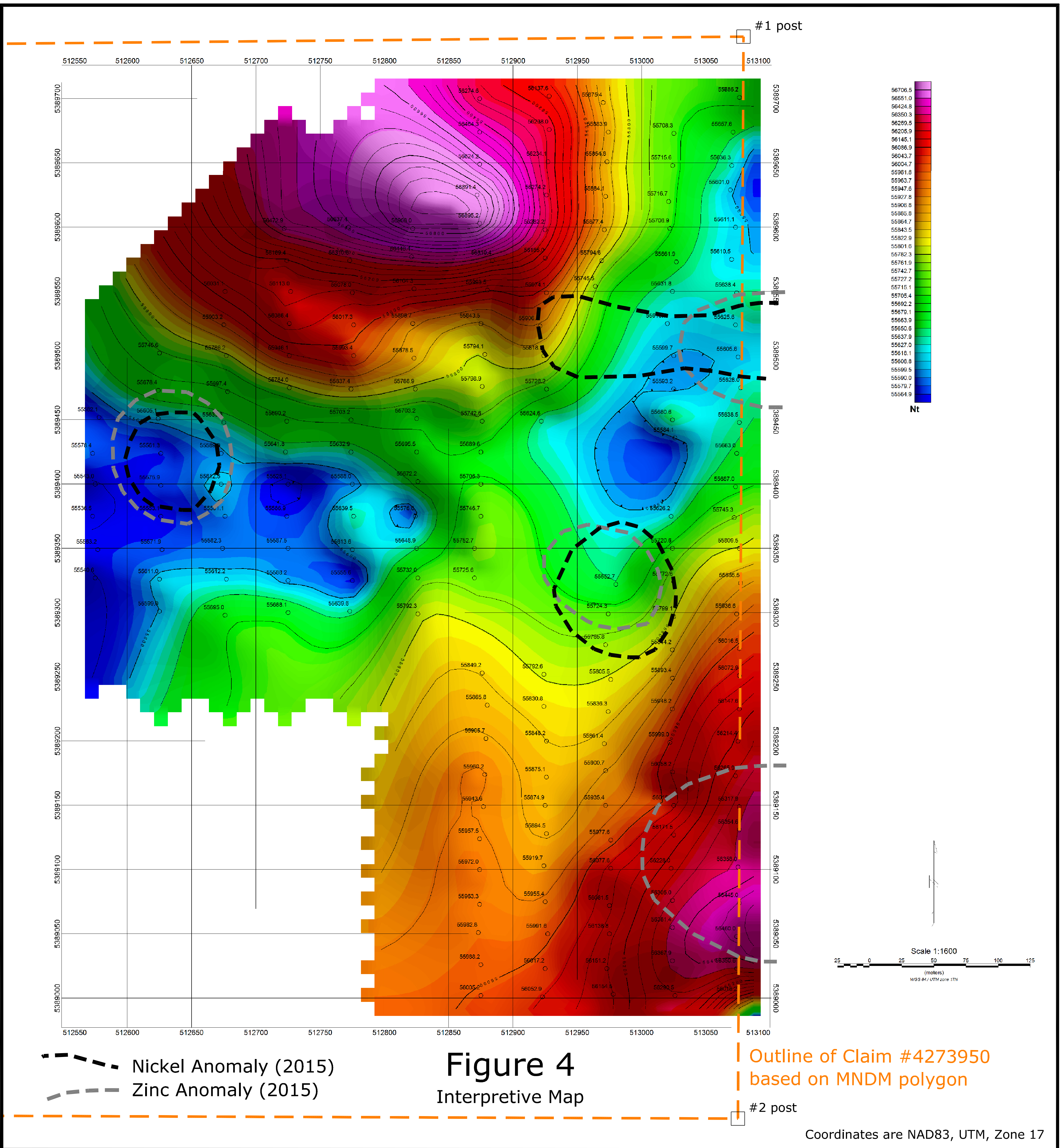
This shows good overall agreement between handheld Garmin GPS and differentially-corrected Ashtec GPS. However, the adjustment of any station by a few metres (5 to 11m in some cases) has an effect on plotted magnetic gradient, particularly in areas with steep magnetic gradient.

Results / Interpretation

Figure 4 presents an interpretive map with nickel and zinc anomalies identified in 2015, overlaid on current mag survey.

With the exception of southernmost zinc anomaly, remaining five (5) nickel and zinc anomalies coincide reasonably well with magnetic lows.

Magnetic-lows trend E-W with relatively higher readings to the north and south.



Recommendations

Five out of six nickel and zinc anomalies identified in 2015, sit within an east-west magnetic low trend. The Alexo deposit sits 800 metres directly east of Dundonald Property.

During the 2015 sampling program and 2016 mag survey, no bedrock exposure was noted within the extent of either program. This part of Dundonald Property is covered by overburden of unknown thickness.

Other geochemical methods, such as SGH (Soil Gas Hydrocarbon) have the potential to detect mineralization at greater depth through overburden.

A future SGH program would help to delineate any broader anomaly that may exist within the property. Unlike the 2015 soil geochem program, SGH does not rely directly on finding trace nickel or zinc within the soil. SGH looks for hydrocarbons associated with mineralization at greater depth.

Stepping back and looking for a broader trend through SGH, may help to see if the east-west magnetic low has any real association to the Alexo deposit sitting 800m to the east.

Appendix 1

Garmin eTrex 20 Specifications

Note: Garmin does not provide specifications for accuracy. Physical specifications are provided below.

During flag layout for this project, the "accuracy" field on the eTrex 20 reported between 2m and 5m accuracy.

Device Information

Specifications

Water resistance	Rugged plastic, waterproof to IEC 60529 IPX7
Battery type	2 AA batteries, (alkaline, NiMH, lithium, or precharged NiMH)
Battery Life	Up to 25 hours
Operating temperature range	From -4°F to 158°F (-20°C to 70°C)

About the Batteries

WARNING

The temperature rating for the device ([page 41](#)) may exceed the usable range of some batteries. Alkaline batteries can rupture at high temperatures.

Do not use a sharp object to remove batteries.

CAUTION

Contact your local waste disposal department to properly recycle the batteries.

NOTICE

Alkaline batteries lose a significant amount of their capacity as temperature decreases. Therefore, use lithium batteries when operating the device in below-freezing conditions.

Maximizing Battery Life

You can do various things to increase the battery life.

- Leave the backlight off when not needed.
- Lower the backlight brightness ([page 40](#)).
- Decrease the backlight timeout ([page 40](#)).

Appendix 2

Ashtec Promark2 Specifications

Specifications

Table 1.1 lists performance and physical specifications for the ProMark2 system.

Table 1.1 Performance and Physical Specifications

Parameter	Specification
GPS survey mode supported	Static, Stop-and-go, kinematic
Survey accuracy (RMS) - Static	Horizontal: 0.005m + 1 ppm Vertical: 0.010m + 2 ppm
Survey accuracy (RMS) – Stop-and-go	Horizontal: 0.012m + 2.5 ppm Vertical: 0.015m + 2.5 ppm
Navigation accuracy (RMS)	<3 m with external antenna (with WAAS) 5 m with internal antenna (with WAAS)
Survey point spacing - Static (vector length)	Up to 20 kilometers Over 20 kilometers possible during periods of low ionospheric activity
Survey point spacing – Stop-and-go (vector length)	Up to 10 kilometers
Observation time - Static	20 to 60 minutes typical, depending upon vector length
Observation time – Stop-and-go	15 seconds typical
Initialization time – Stop-and-go	15 seconds on known points 5 minutes on initializer bar
GPS satellite channels	10
WAAS/EGNOS satellite channels	2
GPS satellite elevation mask	10 degrees
Recording interval	1 – 999 seconds
Operating temperature range	-10 to +60 degrees C
Battery type	2 AA, 1.5 VDC alkaline or lithium, or Rayovac® IC3 rechargeable. Other rechargeable batteries are not recommended.

APPENDIX 3

Comparison of Survey GPS VS handheld GPS - Dundonald Property

Mag	Mag Read. (Nt)	Ashtec Surveyed	Ashtec Surveyed	(Flag Labelled)		Improved Accuracy by		Notes
				Garmin Lay-out	Garmin Lay-out	Differential Processing		
Station	Corrected	Easting	Northing	Easting	Northing	Easting (m)	Northing (m)	
191	55582.1	512578	5389452	512575	5389450	3	2	
190	55578.4	512573	5389424	512575	5389425	-2	-1	
189	55543.0	512575	5389400	512575	5389400	0	0	
188	55536.5	512573	5389375	512575	5389375	-2	0	
187	55563.2	512577	5389349	512575	5389350	2	-1	
186	55540.6	512575	5389327	512575	5389325	0	2	
185	55599.0	512625	5389301	512625	5389300	0	1	
184	55611.0	512625	5389326	512625	5389325	0	1	
183	55571.9	512627	5389349	512625	5389350	2	-1	
182	55553.1	512626	5389375	512625	5389375	1	0	
181	55575.9	512626	5389399	512625	5389400	1	-1	
180	55561.3	512626	5389424	512625	5389425	1	-1	
179	55605.1	512624	5389451	512625	5389450	-1	1	
178	55678.4	512624	5389473	512625	5389475	-1	-2	
177	55746.6	512625	5389502	512625	5389500	0	2	
176	56031.1	512676	5389550	512675	5389550	1	0	
175	55903.2	512675	5389524	512675	5389525	0	-1	
174	55786.2	512677	5389500	512675	5389500	2	0	
173	55697.4	512678	5389472	512675	5389475	3	-3	
172	55633.3	512675	5389448	512675	5389450	0	-2	
171	55589.9	512673	5389424	512675	5389425	-2	-1	
170	55612.5	512673	5389400	512675	5389400	-2	0	
169	55591.1	512676	5389375	512675	5389375	1	0	
168	55582.3	512674	5389350	512675	5389350	-1	0	
167	55612.2	512677	5389326	512675	5389325	2	1	
166	55695.0	512676	5389298	512675	5389300	1	-2	
165	55688.1	512725	5389300	512725	5389300	0	0	
164	55588.2	512725	5389325	512725	5389325	0	0	
163	55587.5	512725	5389350	512725	5389350	0	0	
162	55566.9	512724	5389375	512725	5389375	-1	0	
161	55525.1	512725	5389400	512725	5389400	0	0	
160	55641.8	512723	5389425	512725	5389425	-2	0	
159	55690.2	512724	5389449	512725	5389450	-1	-1	
158	55784.0	512726	5389475	512725	5389475	1	0	
157	55946.1	512726	5389500	512725	5389500	1	0	
156	56086.4	512726	5389525	512725	5389525	1	0	
155	56113.0	512727	5389550	512725	5389550	2	0	
154	56169.4	512724	5389574	512725	5389575	-1	-1	
153	56472.9	512722	5389599	512725	5389600	-3	-1	
152	56637.4	512772	5389600	512775	5389600	-3	0	
151	56310.6	512773	5389574	512775	5389575	-2	-1	
150	56078.0	512775	5389549	512775	5389550	0	-1	
149	56017.3	512776	5389524	512775	5389525	1	-1	
148	55993.4	512776	5389500	512775	5389500	1	0	
147	55837.4	512774	5389474	512775	5389475	-1	-1	
146	55703.2	512774	5389450	512775	5389450	-1	0	
145	55632.9	512774	5389425	512775	5389425	-1	0	
144	55588.0	512775	5389400	512775	5389400	0	0	
143	55639.5	512776	5389375	512775	5389375	1	0	
142	55613.6	512775	5389349	512775	5389350	0	-1	
141	55555.6	512775	5389325	512775	5389325	0	0	
140	55639.6	512773	5389301	512775	5389300	-2	1	
139	55792.3	512826	5389299	512825	5389300	1	-1	
138	55732.0	512826	5389327	512825	5389325	1	2	

137	55648.9	512825	5389350		512825	5389350	0	0
136	55576.6	512824	5389375		512825	5389375	-1	0
135	55672.2	512826	5389402		512825	5389400	1	2
134	55695.5	512825	5389425		512825	5389425	0	0
133	55703.2	512825	5389451		512825	5389450	0	1
132	55788.9	512824	5389474		512825	5389475	-1	-1
131	55878.5	512823	5389498		512825	5389500	-2	-2
130	55896.7	512822	5389525		512825	5389525	-3	0
129	56104.3	512823	5389552		512825	5389550	-2	2
128	56440.4	512821	5389577		512825	5389575	-4	2
127	56906.0	512822	5389599		512825	5389600	-3	-1
126	55875.4	512970	5389697		512975	5389700	-5	-3
125	55883.9	512974	5389674		512975	5389675	-1	-1
124	55854.8	512973	5389651		512975	5389650	-2	1
123	55884.1	512972	5389624		512975	5389625	-3	-1
122	55877.4	512971	5389598		512975	5389600	-4	-2
121	55794.6	512969	5389574		512975	5389575	-6	-1
120	55745.5	512964	5389554		512975	5389550	-11	4
119	55624.6	512922	5389449		512925	5389450	-3	-1
118	55728.2	512926	5389474		512925	5389475	1	-1
117	55818.8	512924	5389500		512925	5389500	-1	0
116	55906.1	512921	5389523		512925	5389525	-4	-2
115	55974.1	512926	5389549		512925	5389550	1	-1
114	56165.0	512925	5389576		512925	5389575	0	1
113	56282.2	512925	5389598		512925	5389600	0	-2
112	56274.2	512926	5389625		512925	5389625	1	0
111	56234.1	512927	5389651		512925	5389650	2	1
110	56238.0	512928	5389676		512925	5389675	3	1
109	56137.6	512928	5389702		512925	5389700	3	2
108	56274.6	512874	5389700		512875	5389700	-1	0
107	56464.3	512874	5389674		512875	5389675	-1	-1
106	56624.2	512874	5389649		512875	5389650	-1	-1
105	56891.4	512872	5389625		512875	5389625	-3	0
104	56895.2	512874	5389603		512875	5389600	-1	3
103	56310.4	512884	5389574		512875	5389575	9	-1
102	55993.5	512880	5389551		512875	5389550	5	1
101	55843.5	512875	5389525		512875	5389525	0	0
100	55794.1	512878	5389501		512875	5389500	3	1
99	55798.9	512876	5389476		512875	5389475	1	1
98	55742.6	512876	5389449		512875	5389450	1	-1
97	55689.6	512875	5389425		512875	5389425	0	0
96	55706.3	512875	5389400		512875	5389400	0	0
95	55746.7	512875	5389375		512875	5389375	0	0
94	55752.7	512870	5389350		512875	5389350	-5	0
93	55725.6	512870	5389327		512875	5389325	-5	2
92	55849.2	512876	5389253		512875	5389250	1	3
91	55865.8	512880	5389228		512875	5389225	5	3
90	55905.7	512879	5389202		512875	5389200	4	2
89	55960.2	512878	5389174		512875	5389175	3	-1
88	55943.6	512877	5389149		512875	5389150	2	-1
87	55957.5	512874	5389124		512875	5389125	-1	-1
86	55972.0	512874	5389100		512875	5389100	-1	0
85	55963.3	512874	5389073		512875	5389075	-1	-2
84	55982.8	512873	5389051		512875	5389050	-2	1
83	55988.2	512875	5389026		512875	5389025	0	1
82	56005.2	512875	5389002		512875	5389000	0	2
81	56052.9	512923	5389001		512925	5389000	-2	1
80	56017.2	512925	5389023		512925	5389025	0	-2
79	55991.6	512927	5389050		512925	5389050	2	0
78	55955.4	512925	5389075		512925	5389075	0	0

77	55919.7	512924	5389103		512925	5389100	-1	3	
76	55894.5	512926	5389128		512925	5389125	1	3	
75	55874.9	512925	5389150		512925	5389150	0	0	
74	55875.1	512926	5389172		512925	5389175	1	-3	
73	55848.2	512926	5389200		512925	5389200	1	0	
72	55830.8	512924	5389227		512925	5389225	-1	2	
71	55792.6	512924	5389252		512925	5389250	-1	2	
70	55652.7	512980	5389322		512975	5389325	5	-3	
69	55724.3	512974	5389299		512975	5389300	-1	-1	
68	55765.8	512972	5389275		512975	5389275	-3	0	
67	55805.5	512976	5389248		512975	5389250	1	-2	
66	55836.3	512974	5389223		512975	5389225	-1	-2	
65	55861.4	512971	5389198		512975	5389200	-4	-2	
64	55900.7	512972	5389177		512975	5389175	-3	2	
63	55935.4	512972	5389150		512975	5389150	-3	0	
62	55977.6	512976	5389123		512975	5389125	1	-2	
61	56077.6	512976	5389101		512975	5389100	1	1	
60	56081.5	512975	5389072		512975	5389075	0	-3	
59	56138.8	512975	5389050		512975	5389050	0	0	
58	56151.2	512973	5389023		512975	5389025	-2	-2	
57	56154.5	512978	5389003		512975	5389000	3	3	
56	56290.5	513026	5389002		513025	5389000	1	2	
55	56367.9	513024	5389029		513025	5389025	-1	4	
54	56361.4	513024	5389055		513025	5389050	-1	5	
53	56305.0	513024	5389076		513025	5389075	-1	1	
52	56228.0	513023	5389101		513025	5389100	-2	1	
51	56171.5	513025	5389127		513025	5389125	0	2	
50	56018.7	513025	5389150		513025	5389150	0	0	
49	56058.2	513024	5389176		513025	5389175	-1	1	
48	55999.0	513022	5389199		513025	5389200	-3	-1	
47	55948.2	513024	5389225		513025	5389225	-1	0	
46	55893.4	513024	5389249		513025	5389250	-1	-1	
45	55844.2	513024	5389271		513025	5389275	-1	-4	
44	55799.1	513025	5389297		513025	5389300	0	-3	
43	55772.6	513025	5389324		513025	5389325	0	-1	
42	55720.6	513024	5389350		513025	5389350	-1	0	
41	55626.2	513023	5389375		513025	5389375	-2	0	
40	55584.1	513026	5389436		513025	5389436	1	0	odd Northing due to pond
39	55660.6	513024	5389450		513025	5389450	-1	0	
38	55593.2	513025	5389474		513025	5389475	0	-1	
37	55599.7	513025	5389500		513025	5389500	0	0	
36	55616.7	513020	5389525		513025	5389525	-5	0	
35	55631.8	513024	5389550		513025	5389550	-1	0	
34	55661.9	513027	5389573		513025	5389575	2	-2	
33	55706.9	513022	5389599		513025	5389600	-3	-1	
32	55716.7	513021	5389620		513025	5389625	-4	-5	
31	55715.6	513024	5389648		513025	5389650	-1	-2	
30	55708.3	513025	5389673		513025	5389675	0	-2	
29	55736.2	513076	5389701		513075	5389700	1	1	
28	55686.7	513076	5389701		513075	5389700	1	1	
27	55657.6	513071	5389674		513075	5389675	-4	-1	
26	55636.3	513070	5389648		513075	5389650	-5	-2	
25	55601.0	513069	5389629		513075	5389625	-6	4	
24	55611.1	513073	5389600		513075	5389600	-2	0	
23	55610.5	513070	5389575		513075	5389575	-5	0	
22	55638.4	513074	5389549		513075	5389550	-1	-1	
21	55625.6	513073	5389524		513075	5389525	-2	-1	
20	55605.6	513075	5389499		513075	5389500	0	-1	
19	55628.0	513077	5389475		513075	5389475	2	0	
18	55638.5	513076	5389448		513075	5389450	1	-2	

17	55663.0	513074	5389424		513075	5389425	-1	-1	
16	55687.0	513073	5389398		513075	5389400	-2	-2	
15	55745.3	513072	5389374		513075	5389375	-3	-1	
14	55809.5	513076	5389350		513075	5389350	1	0	
13	55885.5	513077	5389323		513075	5389325	2	-2	
12	55936.6	513074	5389299		513075	5389300	-1	-1	
11	56016.5	513076	5389272		513075	5389275	1	-3	
10	56072.9	513076	5389251		513075	5389250	1	1	
9	56147.6	513076	5389225		513075	5389225	1	0	
8	56214.4	513075	5389200		513075	5389200	0	0	
7	56265.9	513073	5389173		513075	5389175	-2	-2	
6	56317.9	513076	5389149		513075	5389150	1	-1	
5	56354.6	513076	5389131		513075	5389125	1	6	
4	56358.0	513075	5389102		513075	5389100	0	2	
3	56445.0	513076	5389074		513075	5389075	1	-1	
2	56460.0	513074	5389048		513075	5389050	-1	-2	
1	56350.6	513074	5389023		513075	5389025	-1	-2	
0	56016.2	513075	5389001		513075	5389000	0	1	
							-0.923913	-0.27173913	Average Correction / 192

APPENDIX 4

CSRS Processing Statistics



CSRS-PPP (V 1.05 34613)



????

Data Start	Data End	Duration of Observations
2016-11-10 15:47:40.000	2016-11-10 21:35:19.999	5h 47m 40.00s

Apri / Aposteriori Code Std

2.0m / 4.260m

Observations	Frequency	Mode
Code	L1	Static
Elevation Cut-Off	Rejected Epochs	Observation & Estimation Steps
10.000 degrees	0.34 %	10.00 sec / 10.00 sec
Antenna Model	APC to ARP	ARP to Marker
	Ant. not in PPP (0 m)	0.000 m

(APC = antenna phase center; ARP = antenna reference point)

Estimated Position for 26523151.160

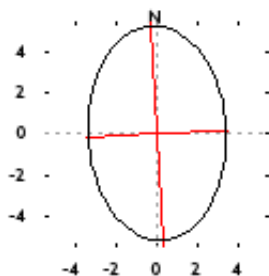
	Latitude (+n)	Longitude (+e)	Ell. Height
NAD83(CSRS) (2016)	48° 39' 17.8169''	-80° 49' 25.0819''	266.538 m
Sigmas(95%)	0.422 m	0.274 m	0.742 m
Apriori	48° 39' 18.185''	-80° 49' 25.221''	289.340 m
Estimated - Apriori	-11.363 m	2.849 m	-22.802 m

Orthometric Height CGVD 2013

303.756 m

(click for height reference information)

95% Error Ellipse (dm)
 semi-major: 5.280dm
 semi-minor: 3.420dm
 semi-major azimuth: -2° 57' 23.04''



UTM (North) Zone 17

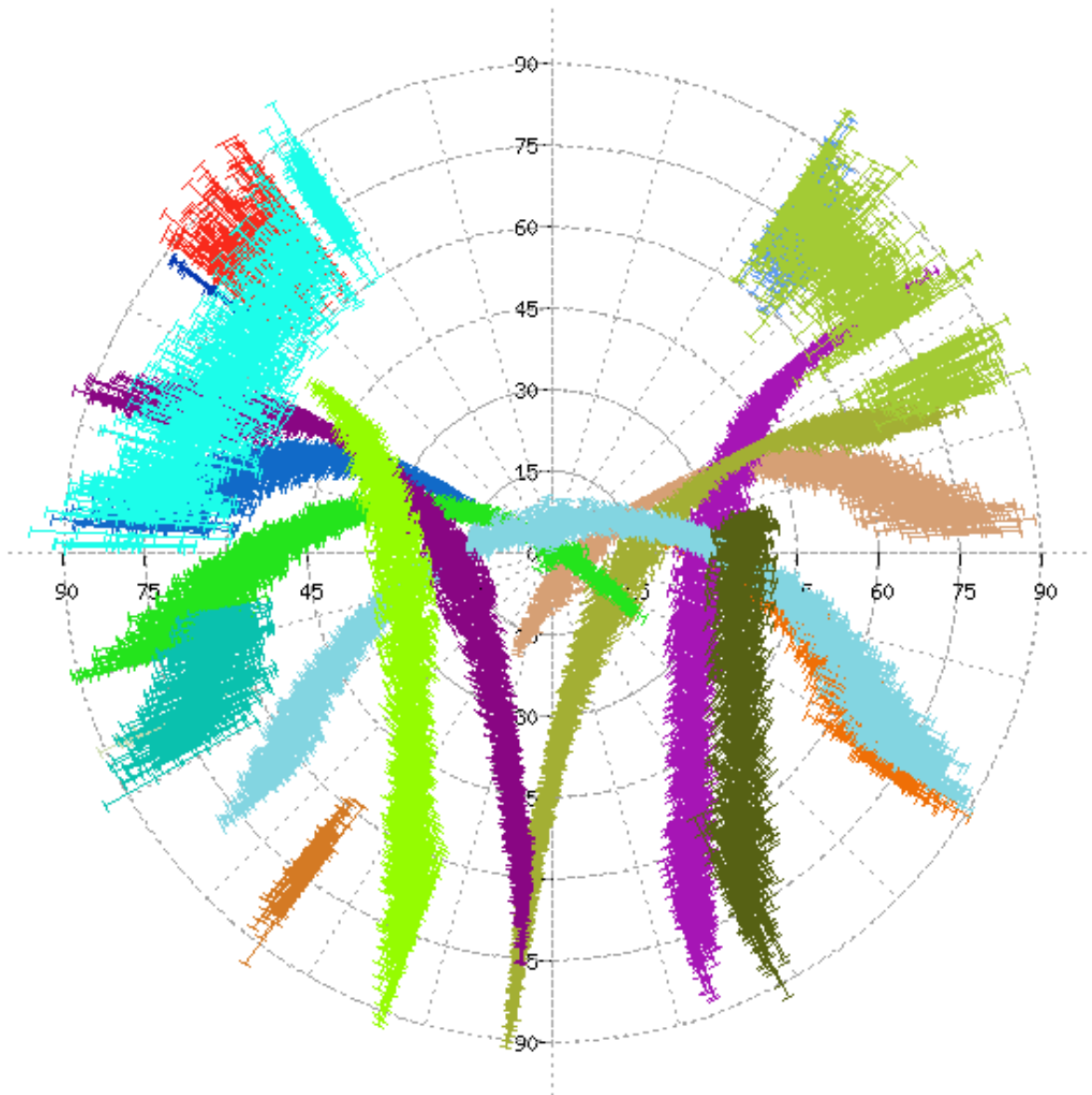
5389114.276m (N) 512988.735m (E)

Scale Factors
 0.99960207 (point)
 0.99956025 (combined)

(Coordinates from RINEX file used as apriori position)

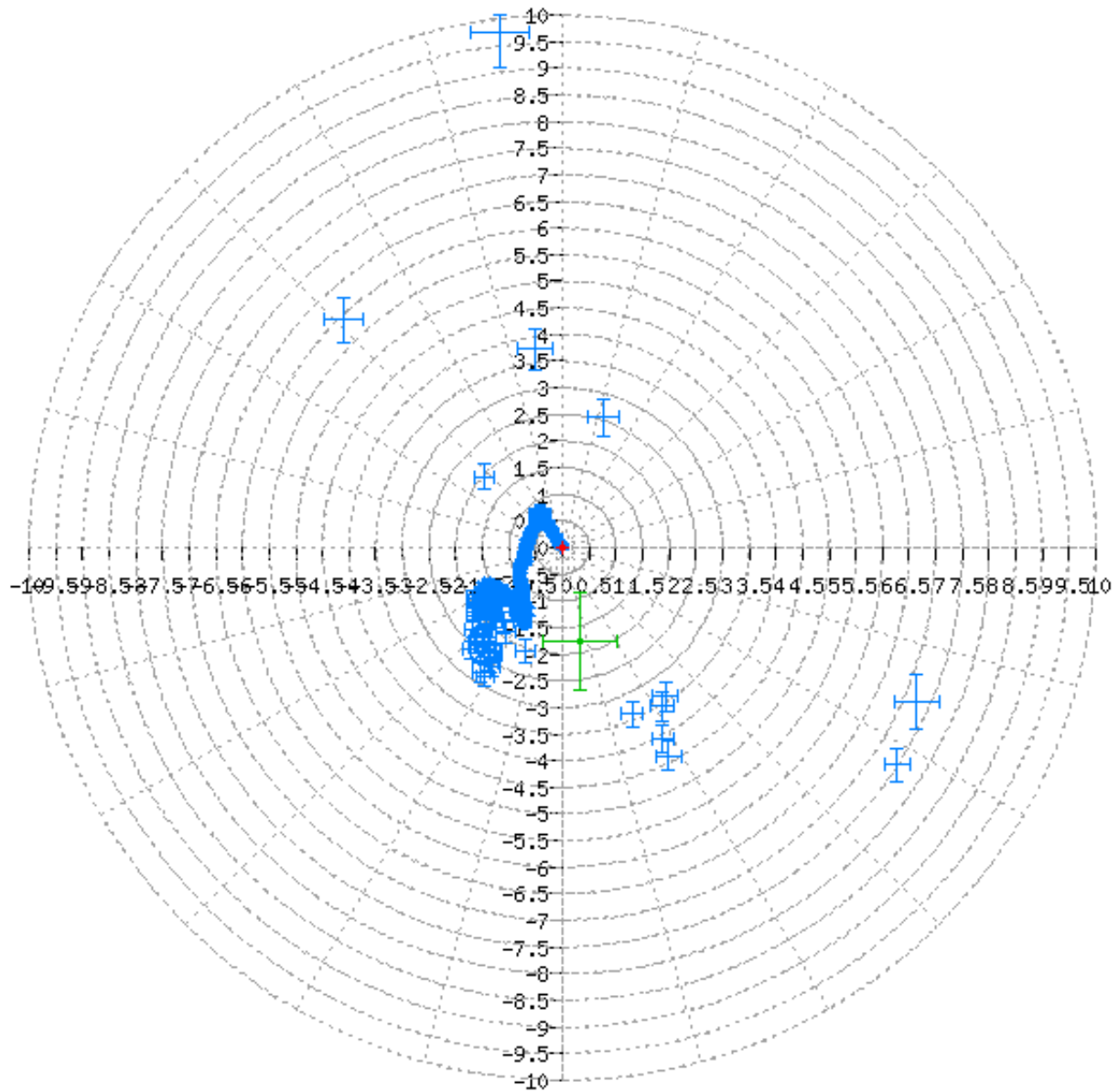
Estimated Parameters & Observations Statistics

Pseudo-Range Residuals Sky Distribution



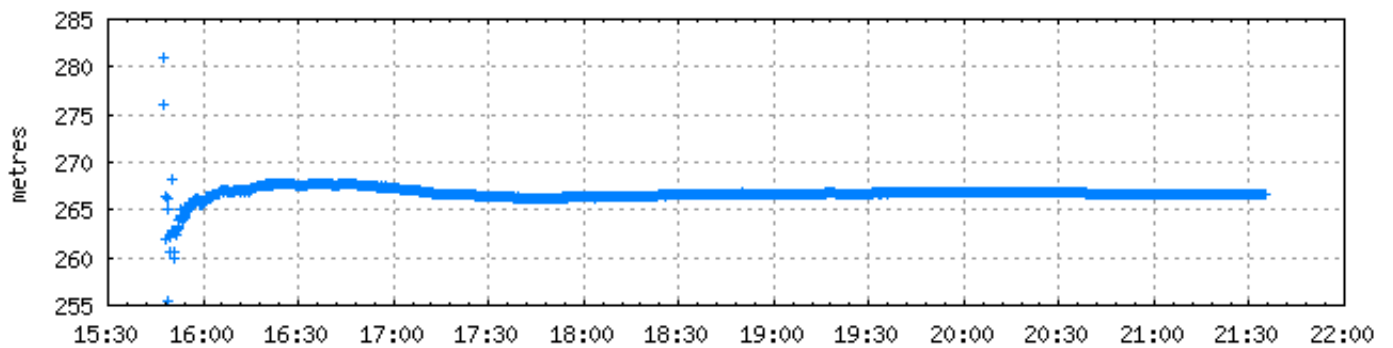
PRN02	PRN09	PRN13	PRN18	PRN24	PRN27	PRN29
PRN05	PRN10	PRN14	PRN20	PRN25	PRN26	PRN30
PRN08	PRN12	PRN15	PRN21	PRN22	PRN23	PRN28

Corrections to a priori position (minus final corrections) (metres)

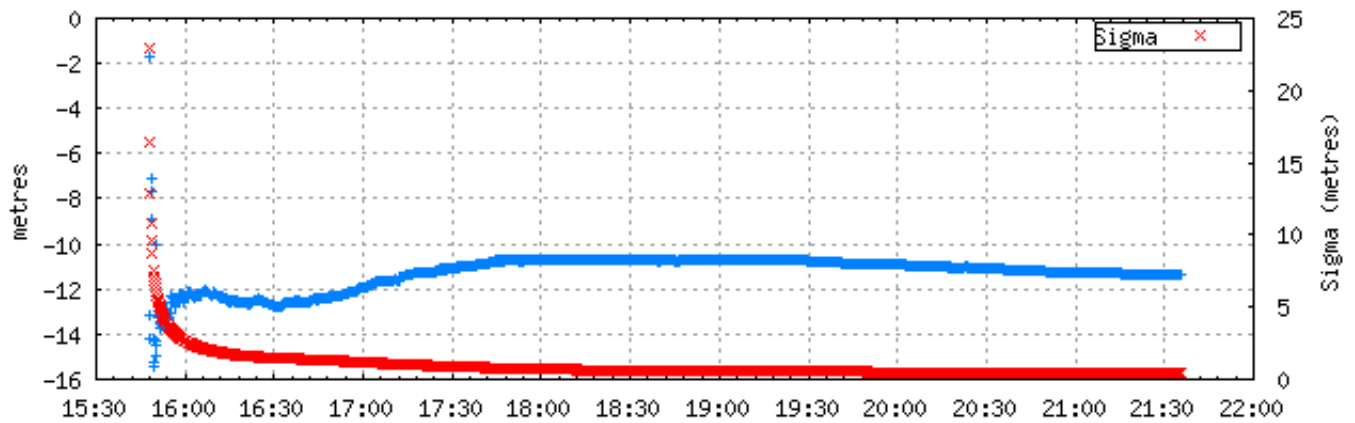


(1 sigma std of position corrections) / 25 +
 (1 sigma std of initial position correction) / 25 +
 (1 sigma std of final position correction) / 25 +

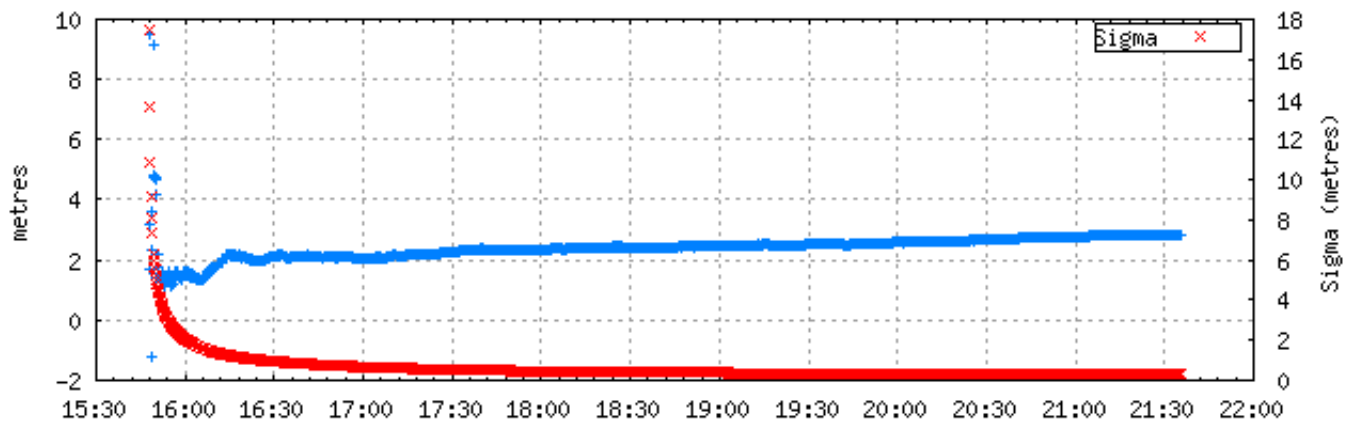
Ellipsoidal Height Profile (2016-11-10 15:47:40.000 GPS)



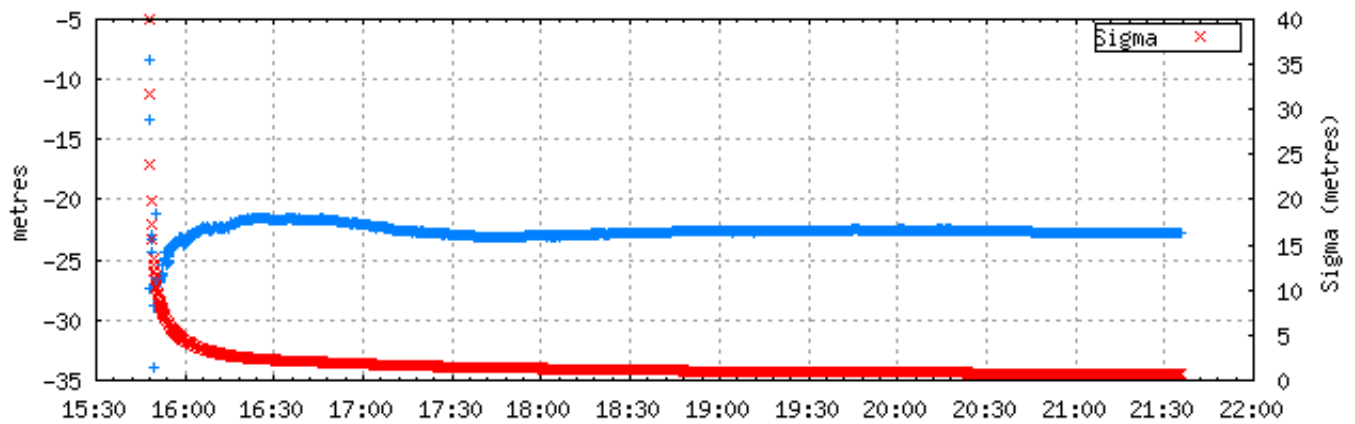
Latitude Differences (2016-11-10 15:47:40.000 GPS)



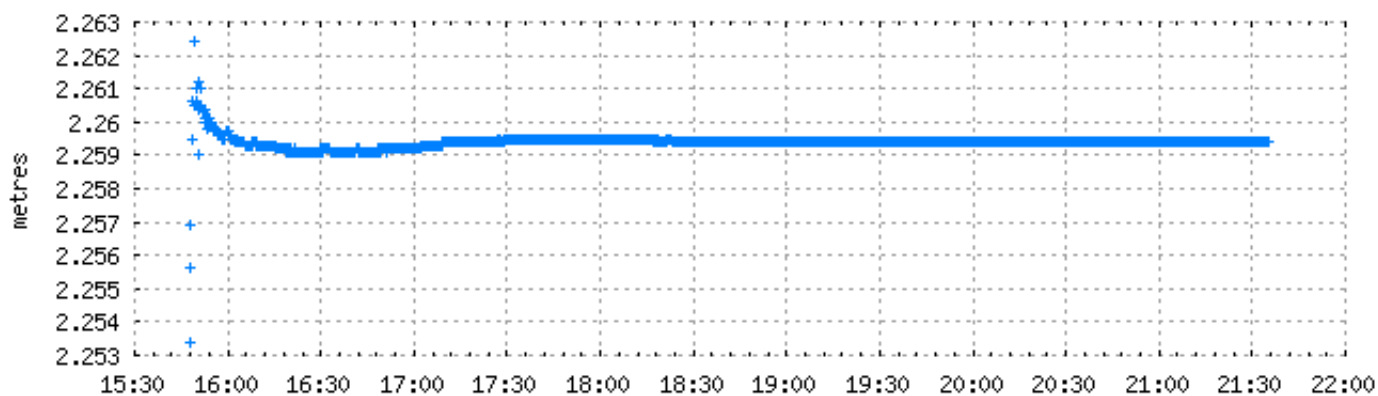
Longitude Differences (2016-11-10 15:47:40.000 GPS)



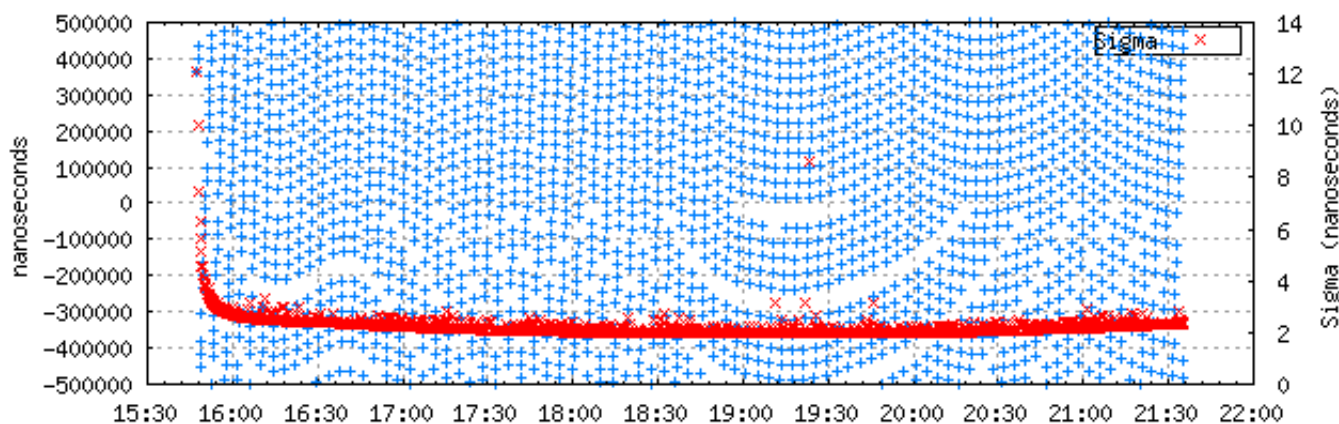
Height Differences (2016-11-10 15:47:40.000 GPS)



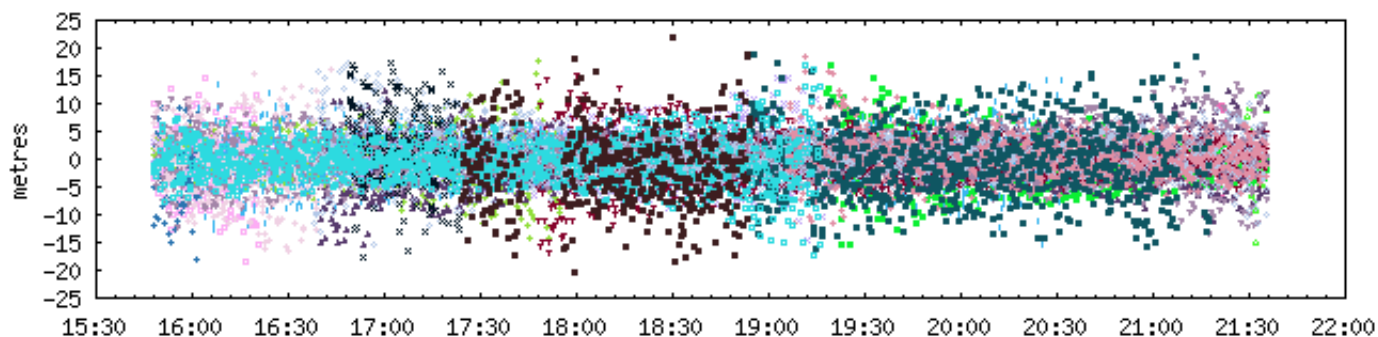
Modelled Tropospheric Zenith Delay (2016-11-10 15:47:40.000 GPS)
(Global Mapping Function (GMF))



Station Clock Offset (2016-11-10 15:47:40.000 GPS)



Pseudo-Range Residuals (2016-11-10 15:47:40.000 GPS)



- | | | | | | | | | | | | | | | | | | |
|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|
| PRN02 | + | PRN08 | ■ | PRN10 | ■ | PRN13 | ■ | PRN15 | ▲ | PRN20 | ▼ | PRN24 | ● | PRN26 | × | PRN29 | ■ |
| PRN05 | × | PRN09 | ■ | PRN12 | + | PRN14 | ● | PRN18 | ▼ | PRN21 | ■ | PRN25 | ● | PRN27 | ■ | PRN30 | ■ |

~~~ Disclaimer ~~~

**Natural Resources Canada does not assume any liability deemed to have been caused directly or indirectly by any content of its PPP-On-Line positioning service.**

**If you have any questions, please feel free to contact:**

**Geodetic Survey Division  
Canada Centre for Remote Sensing  
Natural Resources Canada  
Government of Canada  
615 Booth Street, Room 440  
Ottawa, Ontario K1A 0E9  
Phone:613-995-4410 FAX: 613-995-3215  
EMail: [information@geod.nrcan.gc.ca](mailto:information@geod.nrcan.gc.ca)**



Natural Resources  
Canada

Ressources naturelles  
Canada

Canada

# APPENDIX 5

## Magnetometer Specifications

### Geometrics G-856AX

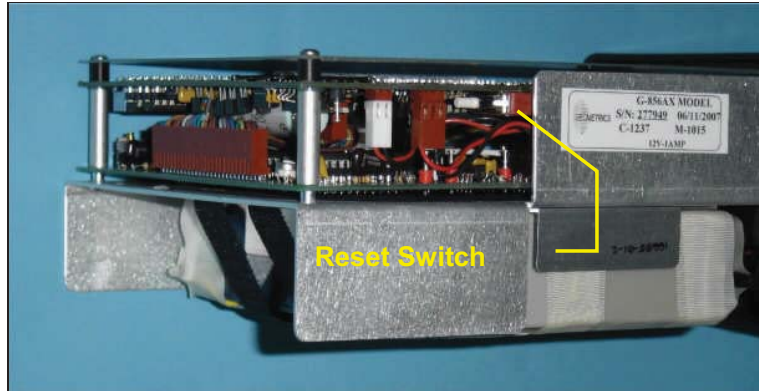


Figure 23. Internal reset switch.

## Specifications

- Displays - Six digit display of magnetic field to resolution of 0.1 gamma or time to nearest second. Additional three-digit display of station, day of year, and line number.
- Resolution - Typically 0.1 gamma in average conditions. May degrade to lower resolution in weak fields, noisy conditions or high gradients.
- Absolute accuracy - One gamma, limited by remnant magnetism in sensor and crystal oscillator accuracy.
- Clock - Julian clock with stability of 5 seconds per month at room temperature and 5 seconds per day over the temperature range of -20 to +50 degrees Celsius.
- Tuning - Push button tuning from keyboard with current value displayed on request. Tuning range 20 to 90  $\mu$ T.
- Gradient - Tolerates gradients to 1800 gammas/meter. When high Tolerance gradients truncate count interval, maintains partial reading to an accuracy consistent with data.
- Cycle Time - Complete field measurement in three seconds in normal operation. Internal switch selection for faster cycle (1.5 seconds) at reduced resolution or longer cycles for increased resolution.
- Manual Read - Takes reading on command. Will store data in memory on command.
- Memory - Stores more than 5700 readings in survey mode, keeping track of

time, station number, line number day and magnetic field reading. In base station operation, computes for retrieval but does not store time of recording designated by sample interval, allowing storage of up to 12,000 readings.

- Output - Plays data out in standard RS-232 format at selectable baud rates. Also outputs data in real time byte parallel, character serial BCD for use with digital recorders.
- Inputs - Will accept an external sample command.
- Special - An internal switch allows:
  - adjustment of Functions polarization time and count time to improve performance in marginal areas or to improve resolution or speed operation
  - three count averaging
  - choice of lighted displays in auto mode.
- Physical -
  - Instrument console: 7 x 10 ½ x 3 ½ inches (18 x 27 x 9 cm), 6 LB (2.7 kg)
  - Sensor: 3 1/2 x 5 inches (9 x 13 cm), 4 LB (1.8 kg)
  - Staff: 1 inch x 8 feet (3cm x 2.5m), 2 LB (1kg)
- Environmental: Meets specifications from 1 to 40°C. Operates satisfactorily from -20 to 50°C.
- Power - Depending on version, operates from internal rechargeable Gel-cells or 9 D-cell flashlight batteries . May be operated from external power ranging from 12 to 18 volts external power. Power failure or replacement of batteries will not cause loss of data stored in memory.
- Standard system (P/N 16600-02) components:
  - Sensor (P/N 16076-01) and sensor cable (P/N 16134-01)
  - Console (P/N 16601-01)
  - Staff, one top section (P/N 16535-01), two middle sections (P/N 16536-01) and 1 bottom section (P/N 16537-01)
  - Carry harness (P/N 16002-02)
  - Two sets of rechargeable batteries (P/N 16697-01) and battery charger (P/N 16699-01)
  - Carrying case (P/N 16003-01)
  - Download cable (P/N 16492-01)
  - Hardcopy operation manual (P/N 18101-02)
  - Magnetometer CD (P/N 26648-01)
- Optional accessories:
  - Tripod kit for base-station operation (P/N 16708-02)
  - Gradiometer kit (P/N 166651-01)
  - Gradiometer carry/storage case (16003-01)

# APPENDIX 6

## Author Qualifications

## Appendix 6

Author: Kevin Cool    Revised June, 2014    \*Date corrected from previous version: Rev1Dec28/2008

### *Qualifications and Experience*

1982 Graduated from Timmins High and Vocational School

1983 Studied photography at Humber College, Toronto, Ontario

1984 to 1988 Worked for family owned transportation business in Moosonee, Ontario

1988 to 1990\* Studied Survey at Northern College, South Porcupine, Ontario

1990\* Graduated with Survey Engineering Technician Diploma

### **1990\* to 2001**

Owned and operated General Surveys and Exploration based in Timmins, Ontario. The company provided contract survey, computer and information management services to the exploration and mining industry. Software includes Acad, Gemcom and Surpac, with specialization in using computers for the mining and exploration industry.

Work included volumetric survey of land areas to be used as tailing basins, where computerized 3D models were utilized. Diamond drillhole, underground engineering and mechanical design/construction surveys were common contracts for mining and exploration companies. Significant accomplishments include the design and construction of the 110km winter road from Attawapiskat to the Victor Project.

Clients included;

DeBeers Canada Exploration (Monopros), Southernera Resources, Dome Exploration, Placer Dome Detour Lake, Musselwhite and Dome Mines, Exall Glimmer Mine, Claude Rundle Gold Mine, TVX Mines' projects in Northern Greece, Moneta Porcupine Mines, Black Pearl Minerals, St. Andrew Goldfields, Battle Mountain Gold, Pentland Firth, Kinross Gold, Band-Ore Resources, McKinnon Prospecting and many other companies and individual prospectors.

## **2000 to 2005**

Began collaborative work with Brian K. Polk (Polk Geological Services) and established a private exploration company called Big Red Diamond Company. This small company began to stake property near Attawapiskat and Coral Rapids. Eventually the survey business was put aside to focus full time on diamond exploration.

Big Red Diamond Company entered into a Joint Venture with a private company owned by Dr. Charles Fipke of Kelowna, B.C. on a group of properties near DeBeers' Victor Project in the Attawapiskat region. Dr. Fipke is the renowned geologist who found Canada's first diamond mine, the Ekati Mine in Northwest Territories.

Since 2001 the author has been exposed to all aspects of diamond exploration including;

Claim staking, field work, camp construction, airborne and ground magnetometer survey, planning and management of large scale geophysical programs, planning, management and interpretation of regional and property scale sampling programs.

Exposure to the industry includes training and field work under the discretion of Dr. Fipke. Introduction to kimberlite mineral identification from Dr. Fipke was expanded by personal research and study, which continues to current and lead to the establishment of True North Mineral Laboratories in Timmins, Ontario.

Advanced analysis, beyond the stage of heavy mineral separation, or observation using binocular microscope, is handled by other certified analytical laboratories, such as *CF Minerals*, of Kelowna, B.C.

## **2002**

Big Red Diamond Company became a publicly traded corporation.

The author is one of the co-founders of Big Red Diamond Corporation, which trades on the TSX Venture Exchange under the symbol DIA.

The author continues to actively stake mining claims and process sample material for private and public companies.

## **2005 to 2009**

Established True North Mineral Laboratories, at 475 Railway Street, Timmins, Ontario and added Actlabs-Timmins in early 2006. Lab processes, equipment setup and procedures are now supervised by Actlabs, based in Ancaster, Ontario.

The management and employees of True North Mineral Laboratories / Actlabs-Timmins, receive ongoing support and training directly from Actlabs - Ancaster. The laboratory processes fall under Actlabs certification, providing analysis is carried out by the main facility in Ancaster. In this capacity, True North Mineral Laboratories acts as a preparation facility for Actlabs and is qualified to handle material preparation prior to direct analysis by Actlabs.



## **2009 to 2011**

Sold prep facility to Cattarello Assayers Inc., who now operate a gold fire assay facility at 475 Railway Street, Timmins. True North Mineral Laboratories opened a small, private facility at 68 Bruce Avenue, South Porcupine in early 2011.

True North Mineral Laboratories utilizes the services of Actlabs and CF Mineral Research, for projects where an accredited laboratory is required. True North Mineral Laboratories continues to offer a wide range of field services to the exploration Industry.

## **2011 to Current**

True North Mineral Laboratories Inc. changed names to ***UAV Timmins*** in June, 2014.

***UAV Timmins*** provides aerial mapping services to mining and exploration companies, along with geochem sampling and other services.

November 1, 2016

Ministry of Northern Development and Mines  
Willet Green Miller Centre  
933 Ramsey Lake Road  
3<sup>rd</sup> Floor  
Sudbury, Ontario  
P3E 6B5

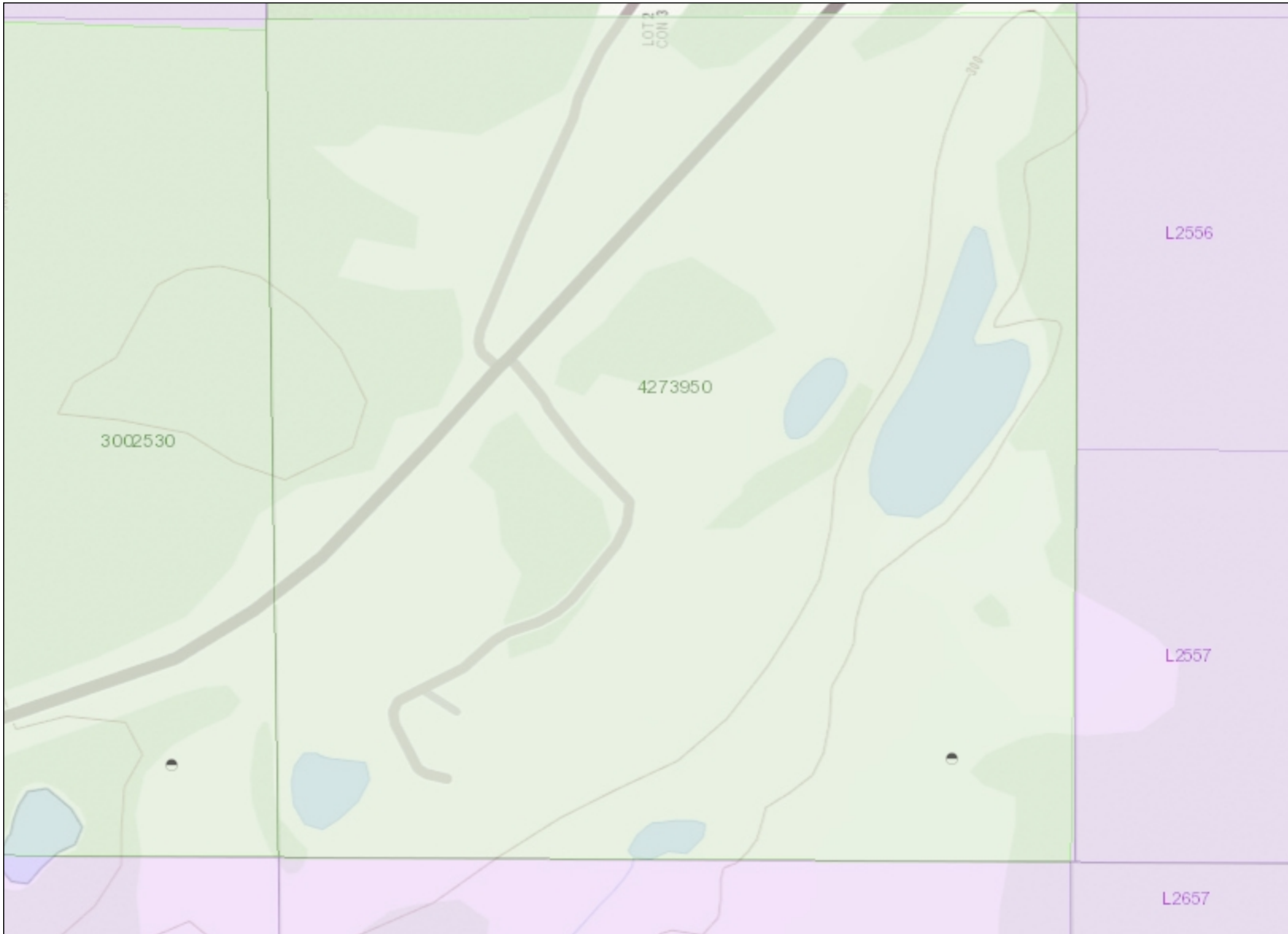
To Whom It May Concern;

This letter is to confirm that Mr. Kevin S Cool is authorized as acting agent on behalf of C. Villeneuve Construction Co. Ltd., with regards to filing of assessment work for the Dundonald Property (Claim #4273950, Dundonald Twp, Porcupine Mining Division)

Authorized Signatory



Name (Print) GHISLAIN LACROIX



### Legend

**Administration Boundaries**

- Mining Divisions
- Resident Geologist District
- Townships and Areas
- UTM Grid
- Geographic Lot Fabric
- Other Federal Land

**Mineral Tenure Grid**

- OM TG Tenure Grid

**Alienations**

- Withdrawal
- Notice

**Unpatented Claim**

- Active
- Reconciled
- Pending

**Disposition**

- Disposition

**Disposition Symbols**

- Camp
- Disposition Unknown/Pending
- Freehold Patent Mining Rights Only
- Freehold Patent Surface Rights Only
- Freehold Patent Surface and Mining Rights
- Land Use Permit
- Leasehold Patent Mining Rights Only
- Leasehold Patent Surface Rights Only
- Leasehold Patent Surface and Mining Rights
- License of Occupation Mining Use Only
- License of Occupation Surface Use Only
- License of Occupation Surface and Mining Rights
- License of Occupation Uses Not Specified
- Order in Council
- Tower
- WPLA

**Geology Layers**

- AMIS Sites
- AMIS Features
- Drill Holes
- Mineral Occurrences



Projection: Web Mercator



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## Report Completion Date

Report was completed on November 20, 2016.