Bulk Sample Site Descriptions

Notch Bulk Sample Site

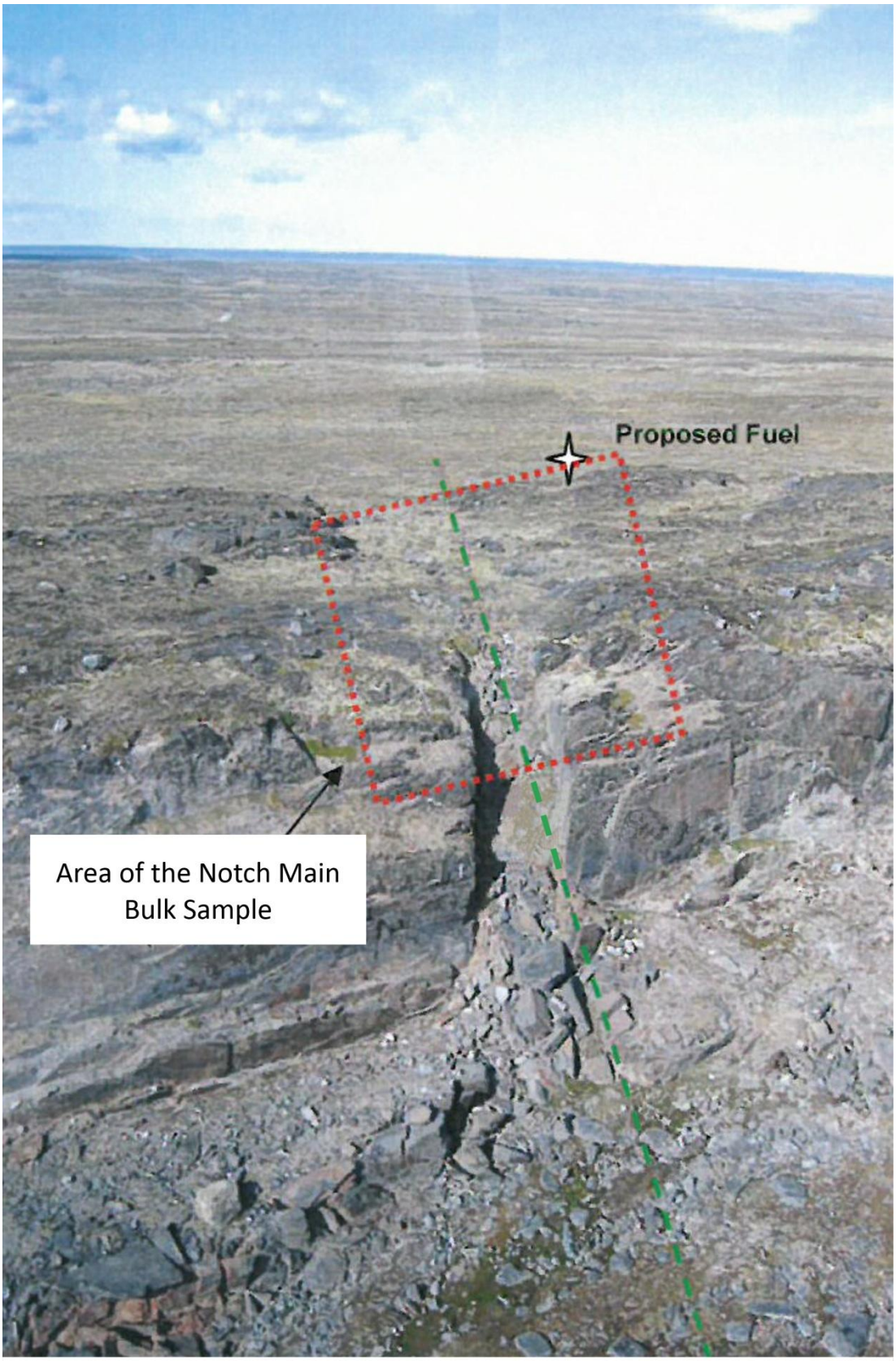
The Notch kimberlite was discovered by Shear Minerals Ltd in 2006 during a reconnaissance prospecting program. The discovery outcrop is located in an overburden covered grassy area within a prominent east-west trending outcrop ridge of iron formation (Figure 6). The discovery showing is located approximately 2 kilometers to the northeast of the PST kimberlite dyke and 10 kilometers southwest of the Kahuna kimberlite dyke.

The Notch kimberlite is a NNE-SSW trending dyke that averages 1.5 meters in width (Figure 7). Detailed ground magnetic surveys describe the Notch kimberlite as having a weak magnetic geophysical signature that can be traced over a distance of more than 3 kilometers based on geophysical interpretations (Figure 8). The Notch kimberlite has been intersected in 11 diamond drill holes (759.0m) collared from 6 different locations along its strike. A mini bulk sample was extracted from the Notch North location in 2006 and a larger mini bulk sample was extracted in 2008. Both of the mini bulk samples were collected using hand tools.

The 2016 bulk sample program is planned to extract up to 150 tons of kimberlite from this area in combination with the Central and Southern Notch bulk sample sites described below.

Notch North

The site is located atop a prominent east-west trending outcrop ridge that is approximately 15 to 20 meters in height and approximately 80 meters across in width (Figure 6). The immediate area along the top of the ridge is dominated by exposed bedrock (80%) with a thin sandy till veneer (20%) infilling depressions or the weathered out surface expression of the Notch kimberlite dyke. The ground to the north of the ridge consists of a flat till blanket that is covered in sandy frost boils, boulder patches and local vegetation. The ground to the south of the ridge is covered by large angular boulders eroded from the ridge which gently slopes towards a shallow lake located approximately 175 meters to the south.



Notch Main Bulk Sample Site Looking to the North

Figure 6. Notch North Bulk Sample Site

Two mini bulk samples were extracted from the Notch North location. In 2006, a 4.93 dry tonne mini bulk sample returned a sample grade of 0.69 cpt which was later upgraded to 0.82 cpt during the tailings audit of the original sample. A second bulk sample from the Notch North site in 2008 totaled 17.26 tonne returning a sample grade of 0.86 carat per tonne (cpt).

The Notch kimberlite is described as a macrocrystic kimberlite with numerous coarse indicator minerals including pyrope with kelphite rims, olivine, diopside and phlogopite.

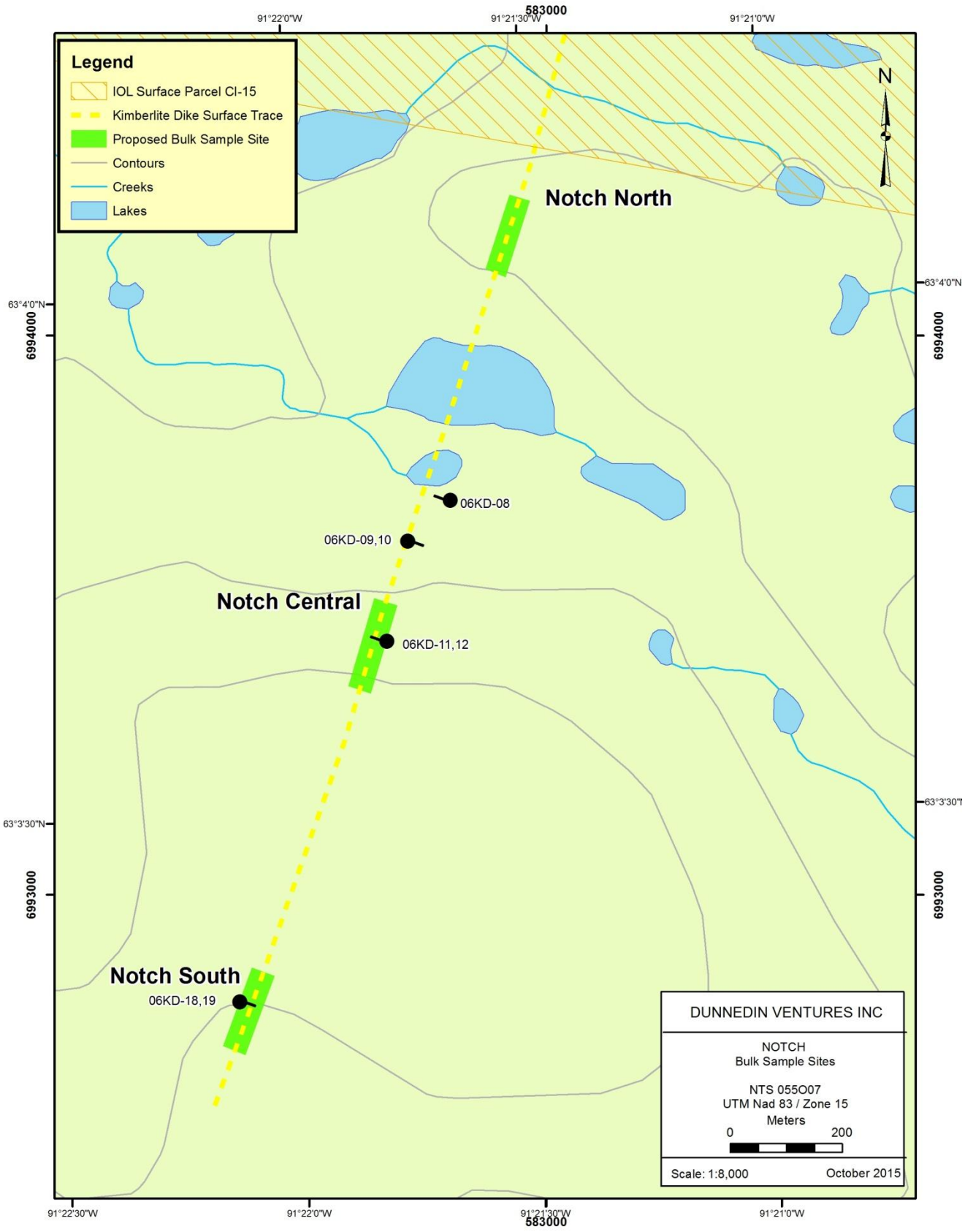


Figure 7. Notch Bulk Sample Site Locations.

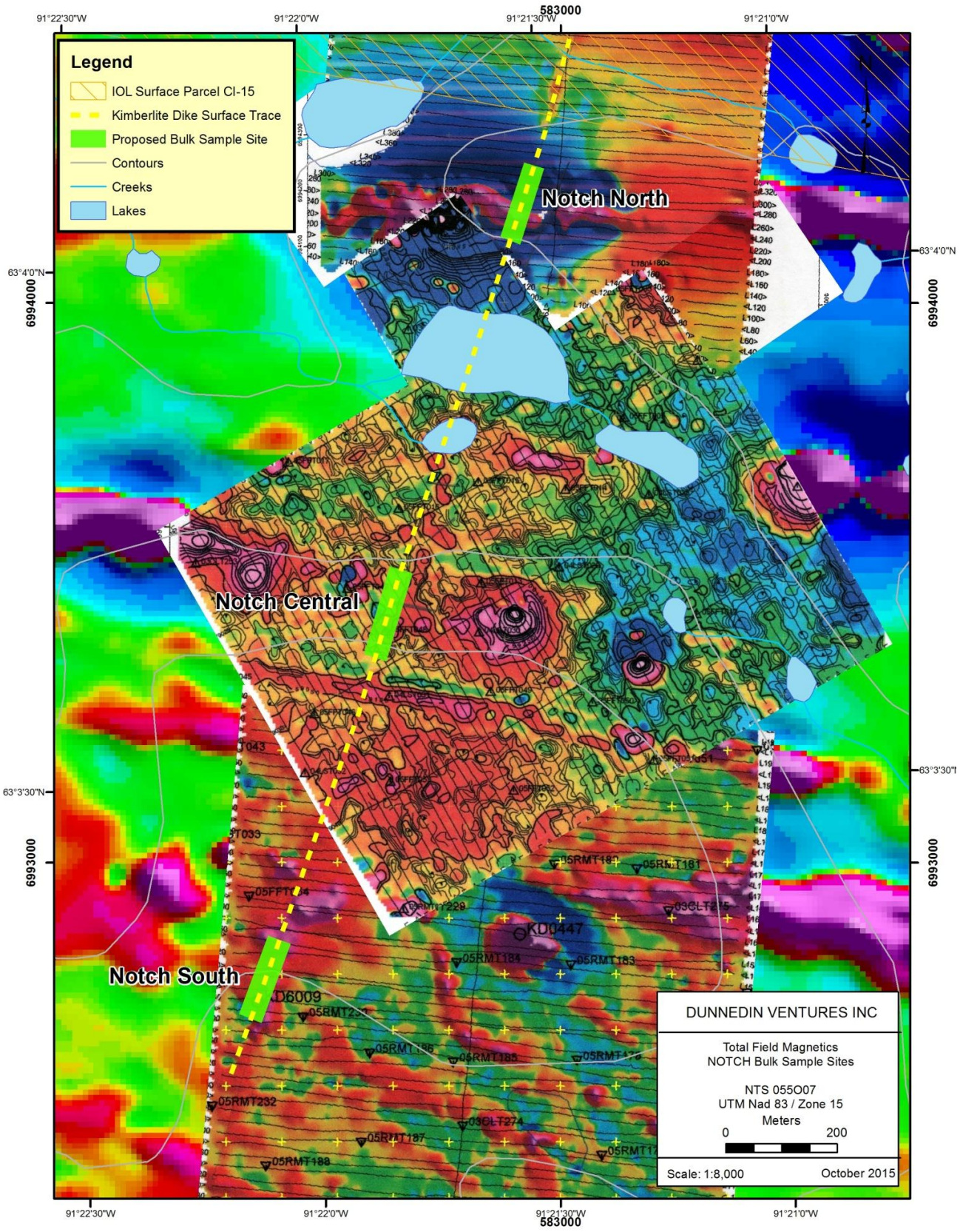
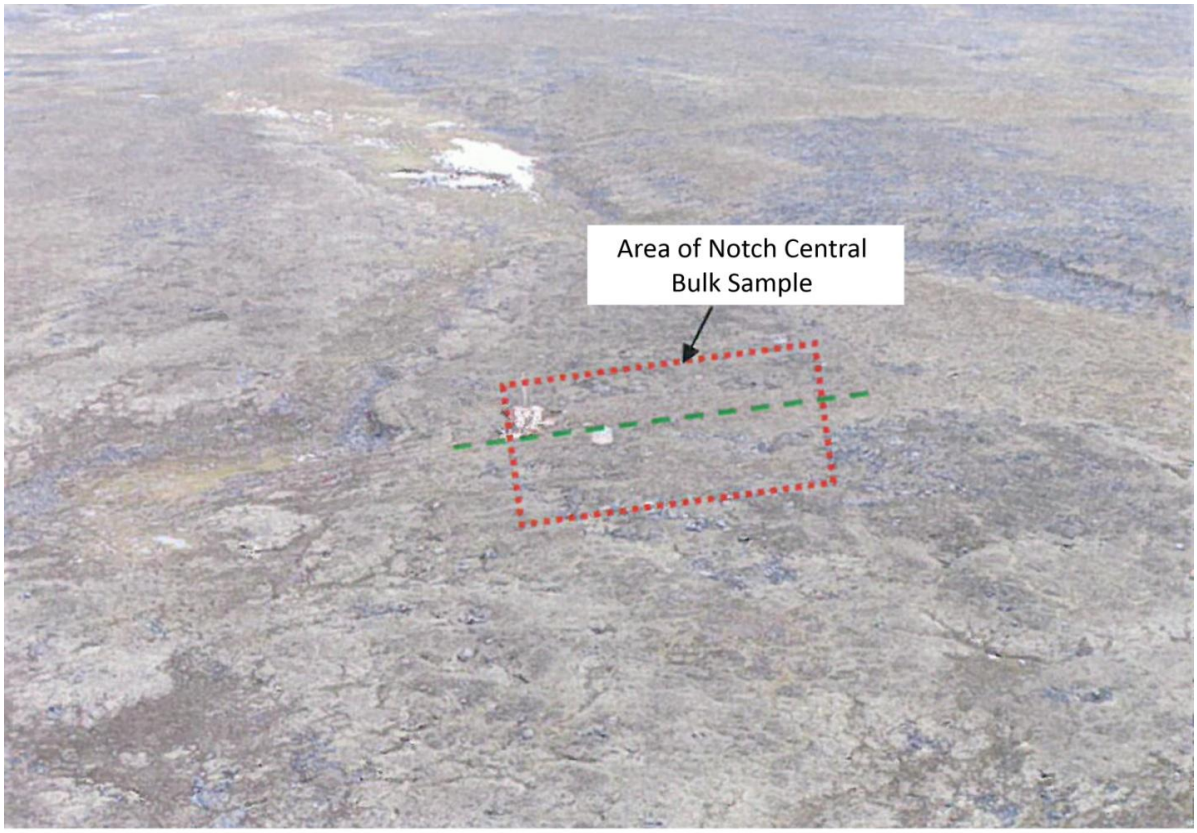


Figure 8. Total Field Magnetics, Notch Bulk Sample Sites.

Notch Central

The Notch Central bulk sample site is located 800 meters to the southwest of Notch North in an area of higher ground that slopes gently upwards towards the south. In the area of the Notch Central bulk sample site, the overburden is 2 to 4 meter thick consisting of a sandy clay rich till and has typical tundra vegetation growing around frost boils and boulder piles. Outcropping bedrock is exposed 35 meters to the north of the proposed bulk sample site. There is a small shallow lake located approximately 350 meters to the north of the sample site. There is a small creek that feeds into the lake and comes within 50 meters of the proposed Notch Central bulk sample.



Notch Central Bulk Sample Site Looking to the Southeast

Figure 9. Notch Central Bulk Sample Site.

Notch South

The Notch South bulk sample site is located approximately 1.5 kilometers to the southwest of Notch North and approximately 700 meters to the southwest of the Central Notch bulk sample site in an area of higher ground that is relatively flat. The South Notch bulk sample site is located in an area of sandy clay till exhibiting scattered frost boils, boulders and typical tundra

vegetation. Overburden thickness is estimated to be 2 to 4 meters thick. There are no water bodies or stream drainages in the area.

Notch South Bulk Sample Site Looking to the East

Figure 10. Notch South Bulk Sample Site.

The corner coordinates for the Notch Bulk sample sites are as follows:

Table 3: Notch South Bulk Sample Corner Coordinates (0.64 ha)

Bulk Sample Location	Northing (Nad 83, Zone 15)	Easting (Nad 83, Zone 15)	Longitude (W)	Latitude (N)
Notch South (NW)	6992869.12	582475.45	-91.3685	63.0559
Notch South (NE)	6992854.47	582515.81	-91.3677	63.0558
Notch South (SE)	6992713.18	582463.84	-91.3688	63.0545
Notch South (SW)	6992729.44	582423.36	-91.3696	63.0547

Table 4: Notch Central Bulk Sample Corner Coordinates (0.70 ha)

Bulk Sample Location	Northing (Nad 83, Zone 15)	Easting (Nad 83, Zone 15)	Longitude (W)	Latitude (N)
Notch Central (NE)	6993517.28	582734.70	-91.3630	63.0617
Notch Central (NW)	6993530.26	582693.25	-91.3638	63.0618
Notch Central (SE)	6993359.37	582687.25	-91.3640	63.0603
Notch Central (SW)	6993372.75	582647.00	-91.3648	63.0604

Table 5: Notch North Bulk Sample Corner Coordinates (0.52 ha)

Bulk Sample Location	Northing (Nad 83, Zone 15)	Easting (Nad 83, Zone 15)	Longitude (W)	Latitude (N)
Notch North (SE)	6994104.35	582927.86	-91.3589	63.0669
Notch North (SW)	6994118.87	582891.63	-91.3596	63.0671
Notch North (NW)	6994251.73	582934.64	-91.3587	63.0682
Notch North (NE)	6994240.94	582970.70	-91.3580	63.0681

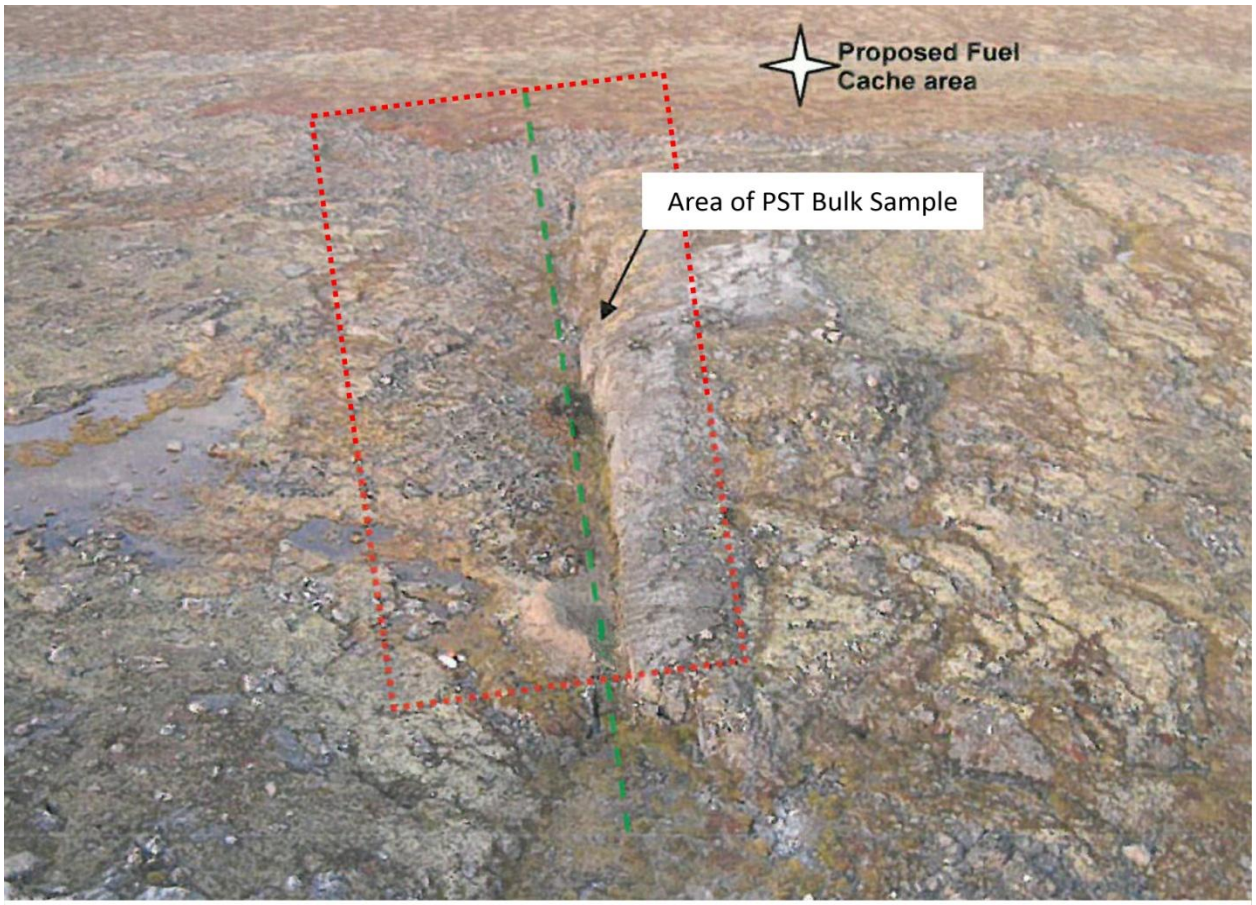
PST Bulk Sample Site

The PST kimberlite dyke was first discovered by drilling in 2006. A total of seven drill holes (381.0 meters) evaluated the PST showing from three set ups over a strike length 150 meters (Figure 12). The PST dyke is described as a 0.8m wide vertical dyke estimated to extend for 500 meters along strike based on detailed magnetic interpretation. The extent of the strike length and width has not been confirmed due to limited exposure and a muted magnetic geophysical signature (Figure 13). The PST dyke is described as a macrocrystic kimberlite with numerous coarse indicator minerals including pyrope with kelphite rims, olivine, diopside and phlogopite.

In 2006 a mini bulk sample totaling 3.55 dry tonne was extracted and processed from the PST dyke returning a sample grade of 2.18 cpt, returning the highest kimberlite grade received to date from the Kahuna Diamond project.

The PST dyke is located in an area of rough terrain that has been stripped of its till cover (Figure 11). The area is interpreted to be to be at the margin of a glacial melt water channel that was bounded by higher ground made up of stream lined till deposits on either side. The area can be described as dominated by exposed bedrock with boulder fields, sandy hummocky mounds or deposits with a thin till veneer hosting typical tundra vegetation. The PST dyke lies under a thin veneer of grass and soil from 8-12 inches thick and is bounded to the east by an outcrop

exposure of granite. Further to the northeast, a streamlined till feature ie esker or drumlin can be seen to climb in elevation. In the immediate bulk sample area, outcrop exposure is estimated at 85% with 15% overburden cover. The ground to the west of the PST dyke is predominately exposed bedrock with a thin veneer of till and tundra vegetation. Water is trapped in low lying ground and flanked by outcrop to the west of the PST dyke. This accumulation drains to the south during the spring melt, to a small lake that is located 300m to the south. The ground gently slopes down immediately to the south of the 2006 surface trench and is described as a thin sandy till with numerous boulders and polished bedrock exposures. The closest lake is located approximately 300 meters to the south of the PST surface trench.



PST Bulk Sample Site Looking to the Northeast

Figure 11. PST Bulk Sample Site.

Corner coordinates for the PST bulk sample site are as follows:

Table 6: PST Dyke Bulk Sample Corner Coordinates (0.42 ha)

Bulk Sample Location	Northing (Nad 83, Zone 15)	Easting (Nad 83, Zone 15)	Longitude (W)	Latitude (N)
PST NW corner	6991480.15	580394.33	-91.4103	63.0439
PST NE corner	6991456.10	580420.03	-91.4098	63.0437
PST SW corner	6991390.00	580305.06	-91.4121	63.0432
PST SE corner	6991367.78	580329.61	-91.4116	63.0429

Killiq Bulk Sample Site

The Killiq kimberlite was first discovered during a 2008 reverse circulation (RC) drill program in an area of high interest mineral chemistry. Based on geophysical data, the Killiq kimberlite is described as a magnetic high dyke-like kimberlite interpreted to be a 1.1 kilometer long, north-south trending kimberlite dyke (Figure 13). A total of five (5) angled RC drill holes from three drill pads totalling 161.0 meters tested the Killiq kimberlite dyke over a strike length of 25 meters (Figure 12). RC drill hole intercepts interpret the dyke to average 0.75 meters wide. Based on visual observations, the Killiq kimberlite is described as a high diamond potential kimberlite with olivine macrocrysts, green-blue phlogopite and visible pyrope garnets. To date, no surface sampling has been completed on the Killiq kimberlite dyke.

Killiq is located 300 meters down ice of the PST kimberlite dyke in similar terrain and is also located 150 meters up ice from the highest count mineral indicator sample (07C411) collected in 2007 with 245 picked grains including 136 pyrope garnets. A 29.9 kilogram composite chip sample from two of the five RC drill holes was submitted to the Saskatchewan Research Council for diamond analysis. Based on the examined samples, the Killiq kimberlite is described as being similar in character to the high grade PST kimberlite returning a total of 176 diamonds including 5 macrodiamonds. Additional high count down ice indicator mineral results suggest additional undiscovered multiple kimberlite sources nearby.

Corner coordinates for the Killiq bulk sample site are as follows:

Table 7: Killiq Dyke Bulk Sample Corner Coordinates (0.18 ha)

Bulk Sample Location	Northing (Nad 83, Zone 15)	Easting (Nad 83, Zone 15)	Longitude (W)	Latitude (N)
Killiq NW corner	6991224.84	580560.44	-91.4071	63.0416
Killiq NE corner	6991203.81	580593.59	-91.4065	63.0414
Killiq SE corner	6991162.85	580568.90	-91.4070	63.0411
Killiq SW corner	6991184.51	580536.61	-91.4076	63.0413

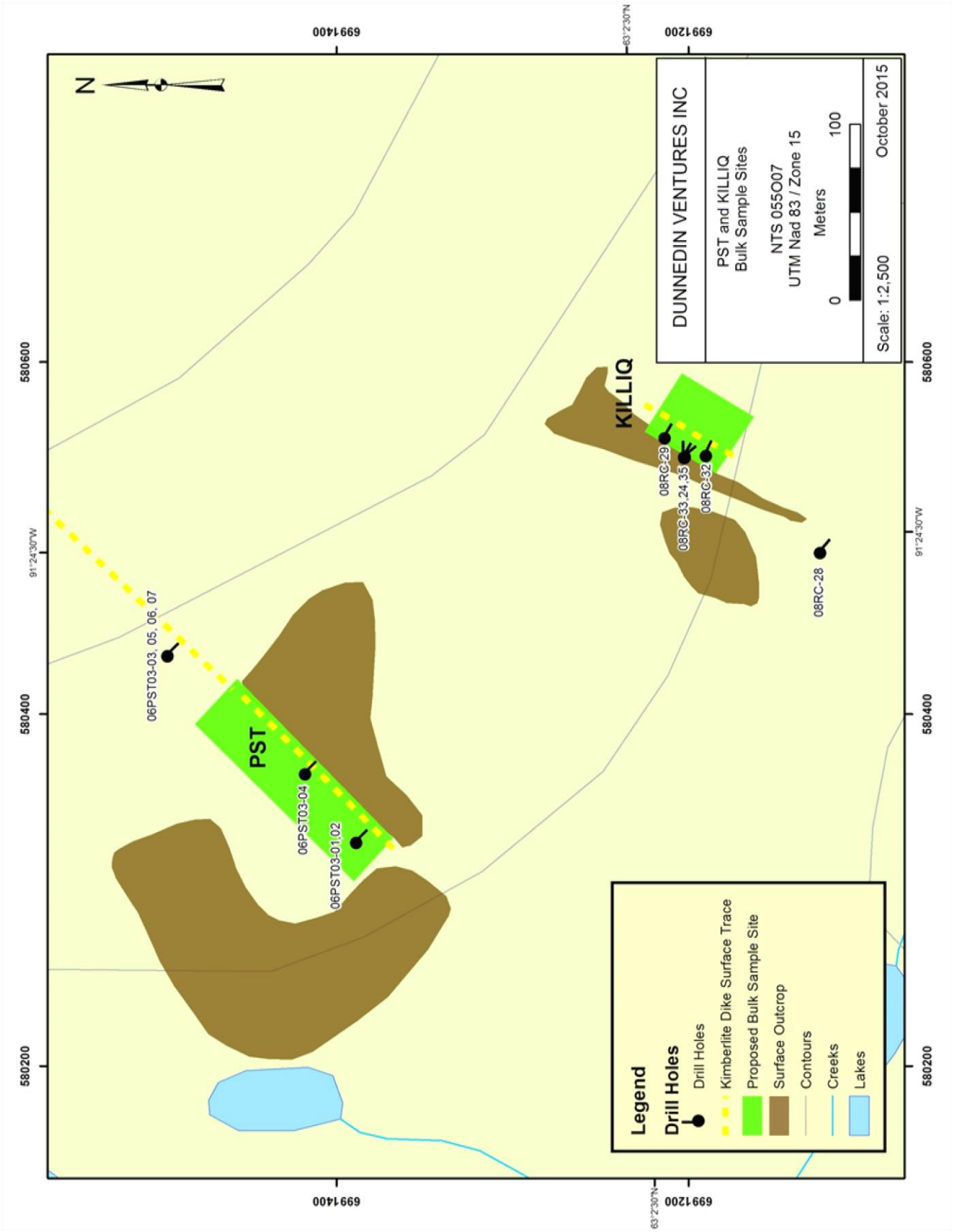


Figure 12. PST and Killiq Bulk Sample Sites.

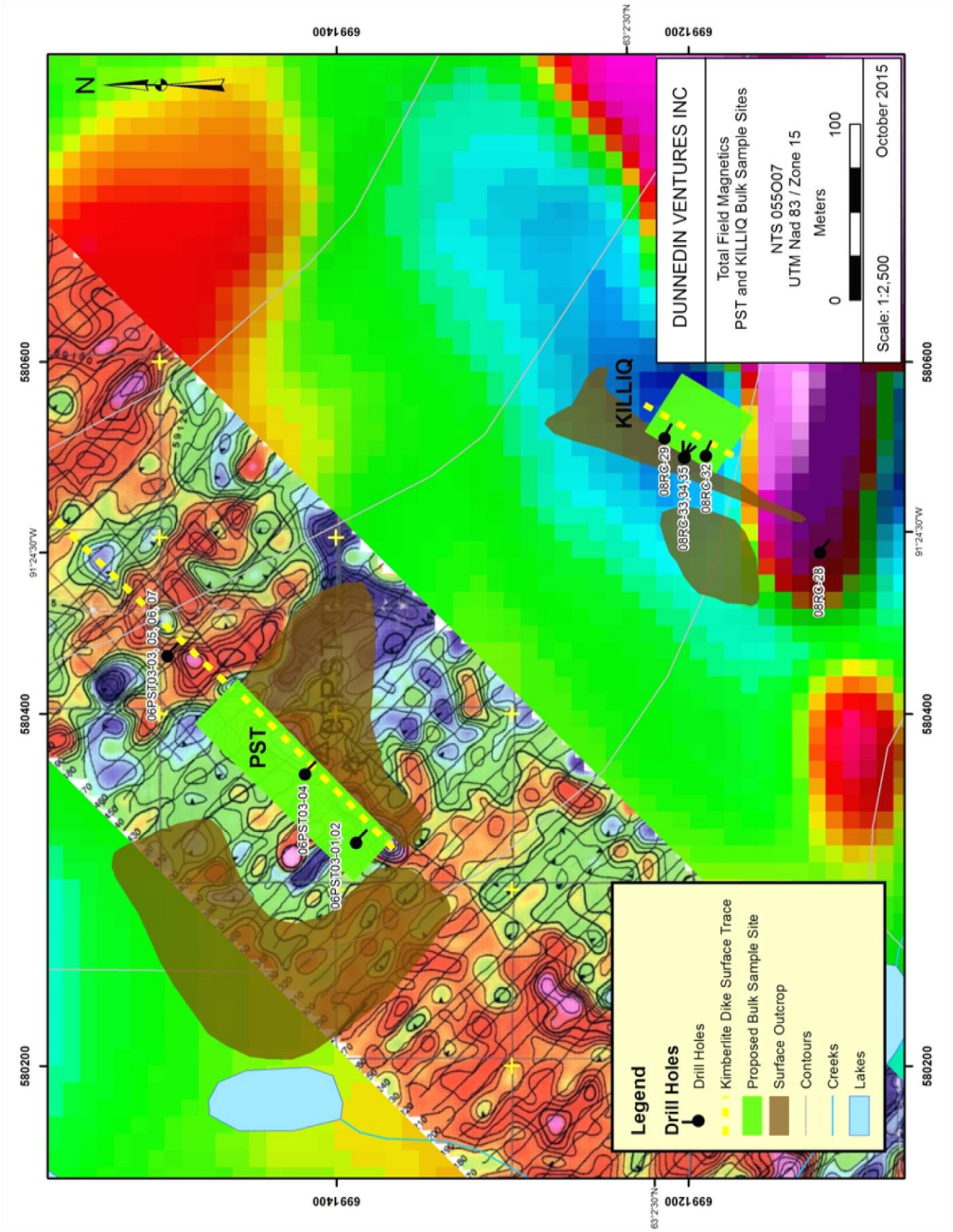


Figure 13. Total Field Magnetics, PST and Killiq Bulk Sample Sites.