2009 Titan-24 DC-IP Report on the Porphyry Pearl Project (AMENDED)

BC Geological Survey
Assessment Report
31751

Toodoggone River Area
Omineca Mining District
British Columbia

NTS 094E/06 & 094E/11
Latitude 57° 28' N
Longtitude 127° 13' W

In support of Event Number 4873887
(original report filed on November 10, 2010)
(File Number 13825-03-2361)

For work done on Tenures:
406022 (Pearl 2); 406023 (Pearl 3);
406024 (Pearl 4); 409181 (Pearl 5);
414658 (PP-1); and 414659 (PP-2)

Owner: Starfire Minerals Inc.

Philip J. Rush, P.Geo.
March 10, 2011

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Summary

The 2009 geophysical program at Porphyry Pearl was carried out as a result of the recommendation of James Turner, P.Geo. in his assessment report of July 26, 2009 (#31359) wherein he recommended a program consisting initially of "a Titan IP survey … on lines 3400, 3800, 4200, and 4600 of the existing geophysical grid…. in an attempt to provide more precise targeting of the follow-up drilling."

A total of 10,100 meters of Quantec Titan 24 DC-IP was surveyed on the lines recommended by Turner during the period August 5 – August 15, 2009. The author was onsite during the period August 5 – August 13. Climactic conditions consisting of smoke from forest fires and heavy cloud cover inhibited access to the property.

Interpretation of the previous drilling in the context of the modeled results of the survey provides encouragement to proceed with the second phase of Turner's recommendation. Consequently a two-phase program of follow-up NQ drilling (10,440 meters in 22 holes (19 new holes and three deepenings) is planned.

Introduction

Starfire Minerals Inc. had conducted two drilling campaigns on the "PP Zone" of the Porphyry Pearl Property in 2007 and 2008 totaling 3,922 meters in 11 holes. Significant intervals of gold were intersected (up to 208.18 meters at 0.701 g/Au/tonne). However, the resolution of the IP survey done in 2006 was not sufficient to allow confident placement of further drill holes.

This report interprets the results of the Quantec DC-IP survey in the context of the prior drilling on the PP Zone.

Location (Figure 1) (From Turner, 2009)

The PP Property is situated just north of the Toodoggone River in the Omineca Mining Division of northern British Columbia, 300 kilometres north of Smithers. The claims are located on NTS Map Sheets 094E/06, and 094E/11 and are centered at 57^{o} 27' 51" N latitude and 127^{o} 12' 31" W longitude. The Index Map (Figure 1) is presented on the UTM projection in grid zone 9. The horizontal datum is NAD 83 and the vertical datum is NGVD 1983. All figures in this report are presented in this datum.

Access (Figure 2) (From Turner, 2009)

Access to the Property is by helicopter from the Sturdee Airstrip located 33 km south of the Property. Sturdee Airstrip is accessible from the South Kemess Mine by a 35-km gravel-surfaced road. The South Kemess mine, in turn, is approximately 400 kilometers by road to Mackenzie and access to the provincial highway system. Flying distance from Smithers to the Sturdee

Airstrip is 265 km. Access on the Property is by foot or by all terrain vehicle (ATV) on trails that are constructed for the drill programs and naturally revegetate within a few years after last use.

Climate and Physiography (From Turner, 2009)

Most portions of the Property are covered alpine type vegetation. Aspen birch, and willows occur on most of the Property area. Some areas are covered with dense clusters of fir and spruce. Alpine flora is prominent in late July and early August. Relief is of the order of 1500 m vertically with the highest mountains approaching 2500 m. Thin overburden occurs on the higher elevations

The topography in the vicinity of the PP Zone is fairly flat, consisting of ridges trending roughly northwest, generally parallel to the drainage pattern. Very few outcrops occur in the area which is covered by thick layers (up to 75 m) of drift and glacial till.

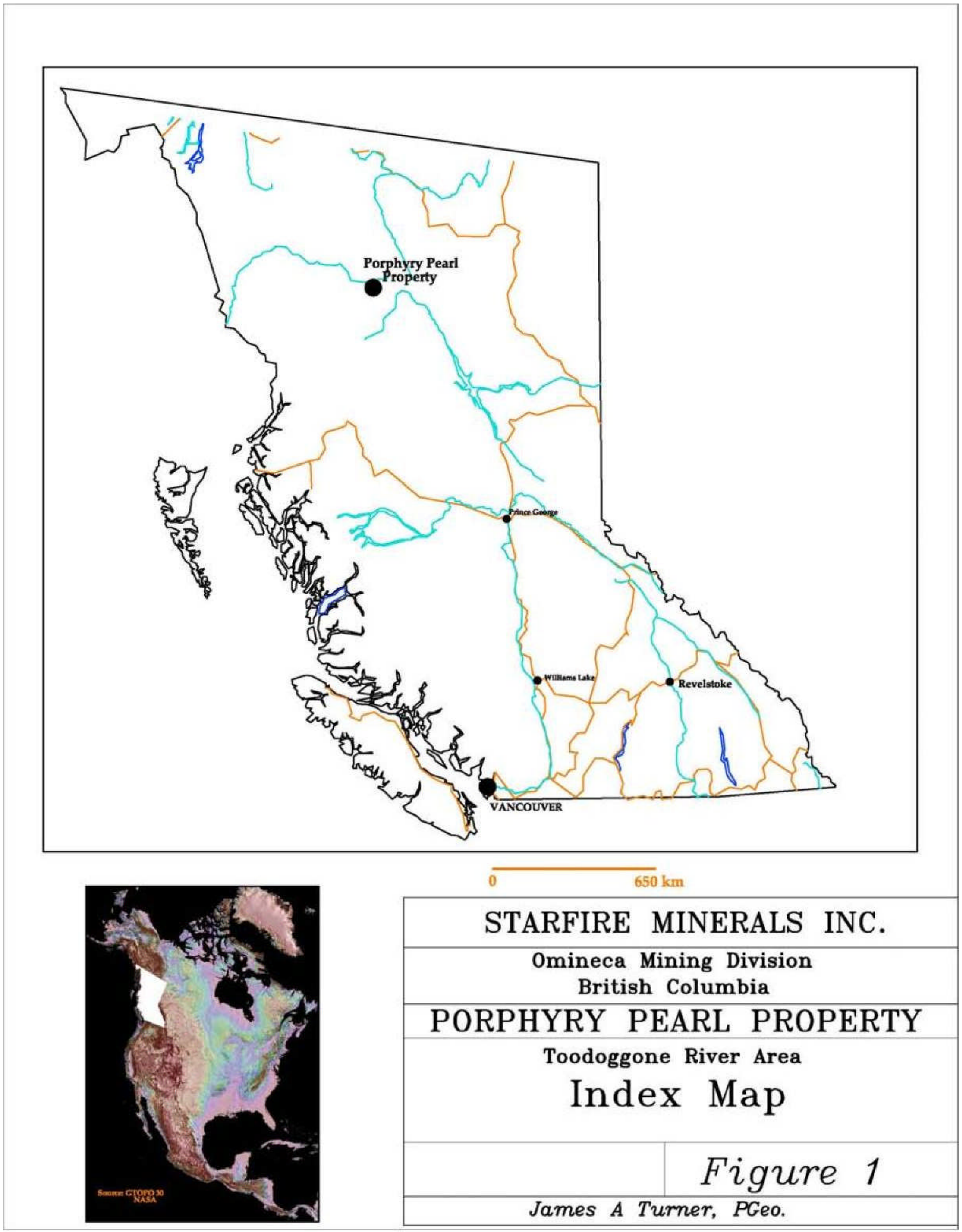
Several post-glacial drainage features or depressions are now swamps and streams. Retreating glaciers have left moraines and eskers. Small glaciers are quite remote from the work area. While relief over the entire property is high, all of the work covered in this report is in the broad U-shaped valley floor where relief is minimal.

The climate is typical of northern British Columbia. Winters in the area are usually severe and bring several feet of snow-pack. The highest average temperatures occur in July at 23^{o} C and average lowest temperatures occur in January at $–30^{o}$ C.

The field season lasts from mid-June to the latter part of September.

Property Description (Figures 2 and 3) (From Turner, 2009)

The Property consists of 14 unpatented claims totaling 6,024 hectares in the Omineca Mining Division of northern British Columbia. The claims were staked in 2003, 2004, 2005 and 2006 and filed under the name of A.O. Birkeland. Claim data is presented in Table 1.


Porphyry Pearl Property
Prince George
Williams Lake
Revelstoke
VANCOUVER
0
650 km
Source: GTOPO 30 NASA
STARFIRE MINERALS INC.
Omineca Mining Division
British Columbia
PORPHYRY PEARL PROPERTY
Toodoggone River Area
Index Map
Figure 1
James A Turner, PGeo.

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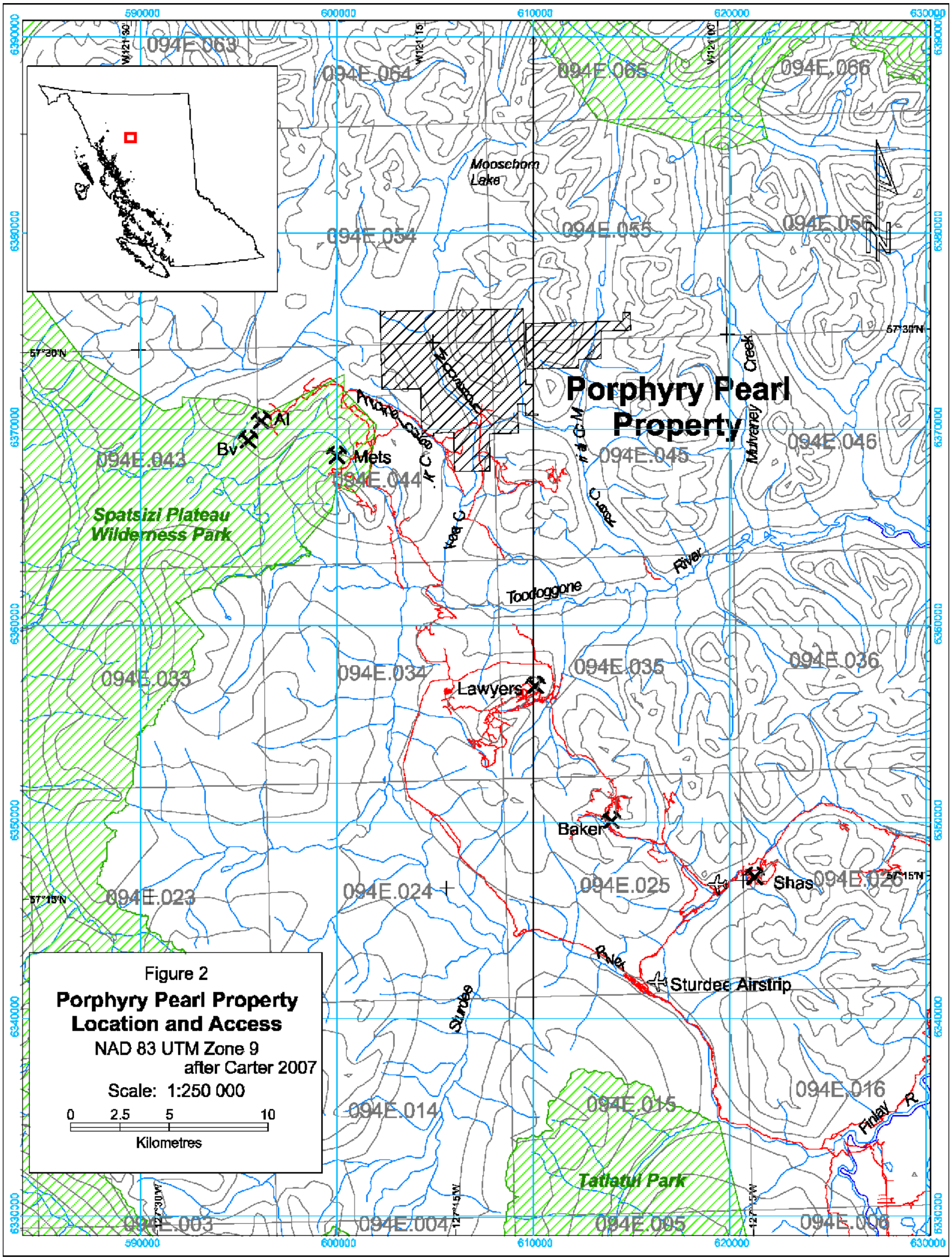
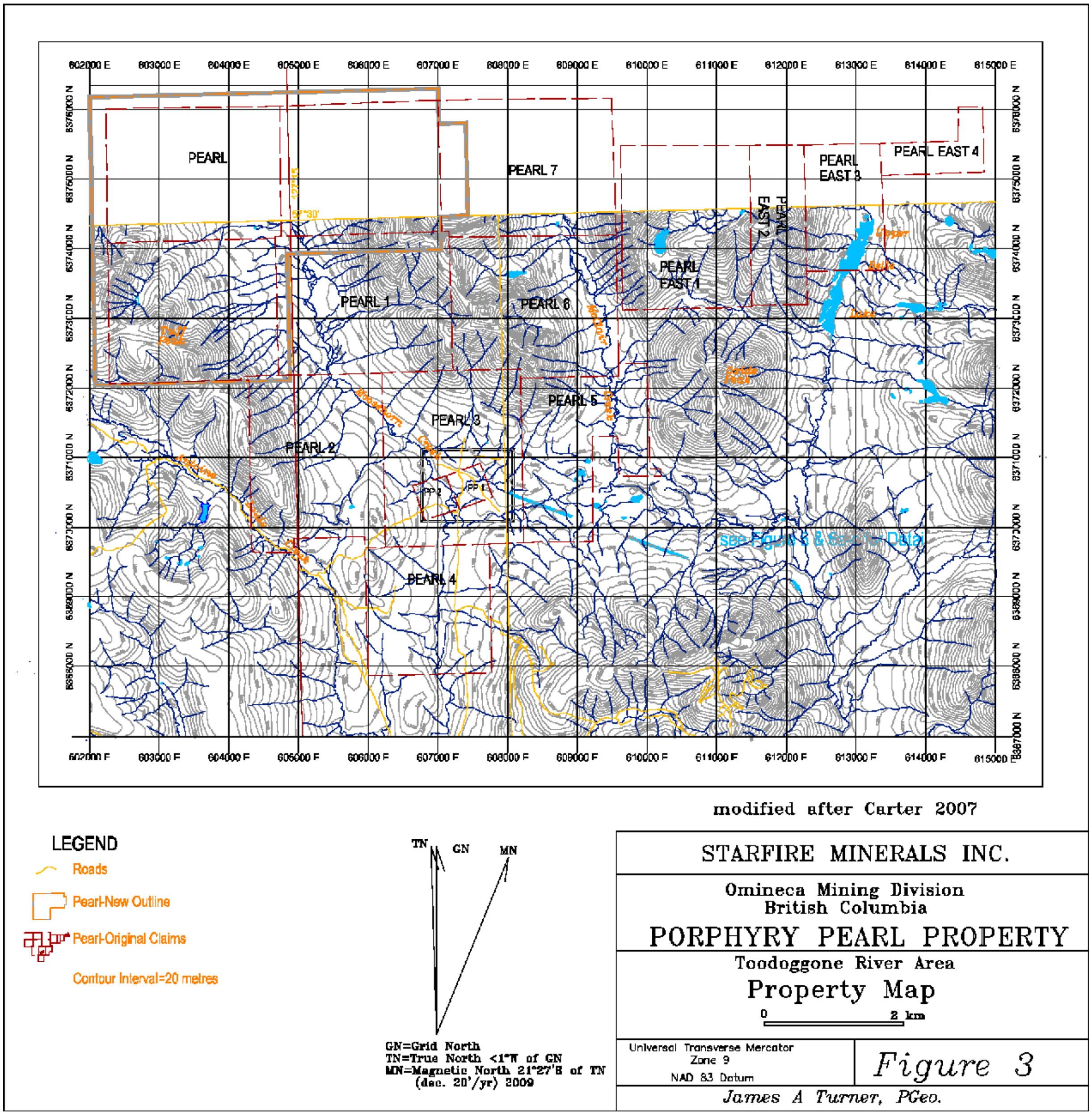


Figure 2
Porphyry Pearl Property
Location and Access
NAD 83 UTM Zone 9
after Carter 2007
Scale: 1:250 000
Kilometres
Porphyry Pearl
Property
Spatsizi Plateau
Wilderness Park
Tatlatui Park
Mooseborn
Lake
Toodoggone
River
Lawyers
Baker
Shas
Mets
Al
Bv
Sturdee Airstrip
Mulvaney
Creek



602000 E
603000 E
604000 E
605000 E
606000 E
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614000 E
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6376000 N
6375000 N
6374000 N
6373000 N
6372000 N
6371000 N
6370000 N
6369000 N
6368000 N
6367000 N
PEARL
PEARL 7
PEARL EAST 3
PEARL EAST 4
PEARL EAST 2
PEARL EAST 1
PEARL 1
PEARL 6
PEARL 5
PEARL 3
PEARL 2
PEARL 4
PP 1
PP 2
see Figure 5 & 6 for Data
modified after Carter 2007
LEGEND
Roads
Pearl-New Outline
Pearl-Original Claims
Contour Interval=20 metres
TN
GN
MN
GN=Grid North
TN=True North <1°W of GN
MN=Magnetic North 21°27'E of TN
(dec. 20'/yr) 2009
STARFIRE MINERALS INC.
Omineca Mining Division
British Columbia
PORPHYRY PEARL PROPERTY
Toodoggone River Area
Property Map
0
2 km
Universal Transverse Mercator
Zone 9
NAD 83 Datum
Figure 3
James A Turner, PGeo.

Table 1 Porphyry Pearl Property Summary

Tenure No.	Claim Name	Record Date	Good to Date	Area (ha)	Recorded Owner
406021	Pearl 1	Oct. 11, 2003	Oct. 3, 2020	500	A.O. Birkeland
406022	Pearl 2	Oct. 12, 2003	Oct. 3, 2020	500	A.O. Birkeland
406023	Pearl 3	Oct. 12, 2003	Oct. 3, 2020	500	A.O. Birkeland
406024	Pearl 4	Oct. 12, 2003	Oct. 3, 2020	400	A.O. Birkeland
409181	Pearl 5	Mar. 23, 2004	Oct. 3, 2020	500	A.O. Birkeland
409182	Pearl 6	Mar. 23, 2004	Oct. 3, 2020	500	A.O. Birkeland
409183	Pearl 7	Mar. 23, 2004	Oct. 3, 2020	500	A.O. Birkeland
414658	PP 1	Sep. 29, 2004	Oct. 3, 2020	25	A.O. Birkeland
414659	PP 2	Sep. 29, 2004	Oct. 3, 2020	25	A.O. Birkeland
502951	Pearl East 1	Jan. 13, 2005	Oct. 3, 2020	435	A.O. Birkeland
502954	Pearl East 2	Jan. 13, 2005	Oct. 3, 2020	174	A.O. Birkeland
502957	Pearl East 3	Jan. 13, 2005	Oct. 3, 2020	209	A.O. Birkeland
502961	Pearl East 4	Jan. 13, 2005	Oct. 3, 2020	87	A.O. Birkeland
524927	Pearl	Jan. 9, 2006	Oct. 3, 2020	1669	A.O. Birkeland
Total				6024	

The “Good to Date” in Table 1 above reflects application of the 2009 expenditures per event ID number 4783887.

History (after Turner, 2009)

1971 - The earliest record of work within the area of the present property dates back to 1971 when Sumac Mines Ltd. (an exploration entity of Sumitomo Metal Mining Company) located claims east of Moosehorn Creek to cover anomalous base and precious metals values indicated by a reconnaissance stream sediment geochemical survey.

1974 - Work on what was known as the Moose property through 1974 included grid construction, the preparation of orthophoto base maps, soil geochemistry, induced polarization and magnetic surveys and 493.5 metres of diamond drilling in four holes.

1978 - Sumac's claims lapsed in 1977 and were re-staked in 1978 by T.C. Scott and Petra-Gem Exploration Ltd.

1979 - Energex Minerals Ltd. acquired the re-staked Sumac property by way of an option agreement and carried out some hand trenching and bedrock and drill core sampling in 1979.

1980 thru 1982 - TexasGulf Canada Ltd. (later known as Kidd Creek Mines Ltd.) entered into an option agreement with Energex in early 1980 and over the subsequent three field seasons completed soil and rock geochemical surveys, geological mapping, limited geophysical surveys and 494.5 metres of diamond drilling in two holes on the (then) Moose property.

Exploration programs within and adjacent to the current Pearl East 1 and 2 mineral claims were undertaken in 1980 and 1981 by Serem Ltd. and included the collection of stream sediment samples, contour soil and rock sampling, prospecting and geological mapping on Oxide Peak and the southern part of the area now covered by the current claims.

1984 - Additional work by Newmont of Canada Exploration in 1984 included rock sampling within the area of the Pearl East 2 claim.

1985 - Energex Minerals Ltd. entered into a joint venture agreement with New Ridge Resources Ltd. in early 1985 for the purpose of carrying out additional exploratory work on the Moose property. A comprehensive program completed that year included soil and rock geochemistry, prospecting, geological mapping and the testing of two mineralized zones by way of 914.6 metres of diamond drilling in eighteen holes.

Much of the geological mapping and bedrock sampling completed by Geostar Mining Corp. in 1985 was directed to the area of the current Pearl East 1 and 2 mineral claims.

1987 - Geochemical and geophysical surveys were carried out by Shayna Resources Ltd. in the area of the current Pearl East 1 and 2 mineral claims.

1990 - Cipper Minerals Ltd. held property now covered by the Pearl East 1 and 2 claims between 1990 and 1994 and reportedly carried out prospecting and hand trenching in addition to a limited Induced Polarization survey.

1991 - The most recent exploratory work on the previous Moose property (now the Pearl 1-10 mineral claims) was in 1991 when Golden Rule Resources Ltd. and partner Manson Creek Resources Ltd. were party to an option agreement with Energex Minerals Ltd. 1123.7 metres of diamond drilling was completed in seven vertical holes.

Mid 1990's - The Moose claims lapsed in the mid-1990s as did a number of other claims throughout the Toodoggone district. More than 90% of exploration expenditures documented by assessment reports were spent on the former Moose property which is now covered by the Pearl and Pearl 1-7 mineral claims.

2001 - A.O. Birkeland located the PP1 and PP2 claims in 2001

2003 & 2004 - A.O. Birkeland located the Pearl 1-10 claims in 2003 and 2004.

2005 - A.O. Birkeland acquired the Pearl East 1-4 claims early in 2005.

2005 - A GIS compilation was undertaken in mid-2005 by A.O. Birkeland. The database used included assessment reports detailing the results of historic exploration work completed between 1971 and 1991, the results of a 2004 airborne geophysical survey and government sponsored geological mapping programs for the Toodoggone River area which are available on websites (including MapPlace) maintained by the BC Ministry of Energy Mines and Petroleum Resources. The GIS compilation of surface data was undertaken using MapInfo Professional Version 7.5 SCP while 3-dimensional models incorporating previous diamond drilling results were constructed using SurPac Version 5.0 software (Birkeland, 2006).

2006 - The Pearl 8, 9 and 10 "legacy" claims were converted to a large "cell" claim (the "Pearl") in January of 2006.

Starfire Minerals Inc. entered into an option to purchase agreement with A.O. Birkeland effective February 21, 2006. Starfire commissioned magnetic and induced polarization surveys on portions of the Porphyry Pearl Property that were carried out by Peter E Walcott & Associates during the period August 22 to September 16, 2006. The surveys were conducted over approximately a 60 line-kilometer grid. Survey specifications, results and conclusions are contained in "A Report on Induced Polarization & Magnetic Surveying" by Peter E Walcott and Associates dated December, 2006 and appended to Carter (2007).

2007 - Starfire Minerals Inc. commissioned Arnex Resources Limited of North Vancouver, B.C. to conduct a diamond drilling program on the Pearl 1 and 3 claims. Six holes were drilled (PP-07-01through -06) totaling 1,805 meters. The results from this program encouraged Starfire to continue drilling in 2008.

2008 - Starfire Minerals Inc. commissioned On Track Exploration Ltd. of Surrey, B.C. to continue the program initiated by Arnex in 2007. Six holes were drilled (including the deepening of PP-07-06 and the drilling of PP-08-07 through -11) totaling 2,117 meters.

2009 - Starfire Minerals Inc., on the recommendation of Turner's (2009) 43-101 compliant report on the 2007 and 2008 drilling campaigns, commissioned Quantec Geoscience to undertake a Titan 24 DC-IP survey. That survey is the subject of this assessment report.

Regional and Local Geological Setting (from Turner (2009))

The Porphyry Pearl property, situated in the northeastern part of the Intermontane tectonic belt of the Canadian Cordillera, is west of a fault contact between Quesnel terrane of the Omineca crystalline belt on the east and Stikine terrane on the west (Figure 4). Stikine terrane includes Devonian to Jurassic volcanic and sedimentary rocks which are intruded by coeval and younger plutonic rocks and are locally overlain by younger volcanic and sedimentary units.

The oldest rocks in the area illustrated by Figure 4 are intensely deformed late Carboniferous to Permian Asitka Group volcanic and sedimentary rocks. These have their greatest distribution north of Stikine River where they consist of mafic to felsic volcanic rocks which are mainly converted to chlorite and sericite schists, phyllites derived from clastic sedimentary rocks and younger rhyolites, cherts and carbonate sediments. Remnants of Asitka Group carbonates and cherts, too small to be shown on Figure 4, are present in the vicinity of Baker Mine and north and south of Finlay River and, as noted in the subsequent section of this report, may be present in the eastern part of the subject property.

Volcanic rocks of the late Triassic, Takla (Stuhini) Group, which form mountainous terrain south of Chukachida and Finlay Rivers, are comprised mainly of augite phyric basalt, andesitic flows, tuffs and breccias and subordinate interflow clastic sedimentary rocks and some limestone. Smaller areas underlain by Takla Group rocks include remnants marginal to a granitic stocks in the southern part of the area and east of the Porphyry Pearl property. The volcanic rocks marginal to such plutons feature limonite-rich alteration zones.

Previous geological interpretations, shown on Figure 4, suggested that early Jurassic andesite and dacite flows and volcaniclastic rocks of the Hazelton Group underlie the eastern part of the area between Chuckachida and Finlay Rivers (Figure 4). Recent geological mapping by Diakow et al (2004, 2005) indicates that the Hazelton Group in this part of Stikine terrane is entirely comprised entirely of Toodoggone Formation volcanic rocks featuring distinctive lithologies and contained in a northwest-trending, 90 by 20-25 km belt centred on Toodoggone River. These subaerial volcanic rocks unconformably overlie, or are in fault contact with older rocks and consist principally of high potassium, calc-alkaline latites and dacites (Diakow et al, 1993).

Two eruptive cycles have been recognized and Jurassic plutons, numerous throughout the district, are co- magmatic with the earlier volcanic cycle.

Cretaceous clastic sedimentary rocks, part of the Sustut Group, unconformably overlie older rocks and form the western boundary of the area illustrated on Figure 4.

The numerous gold-silver deposits of the district are related to the early Jurassic, Hazelton Group (Toodoggone Formation) magmatic event which took place between 190 and 200 million years ago. Extensional tectonics, in the form of regional northwest faults, provided channels for the circulation of precious metals-rich hydrothermal fluids.

Several styles of mineralization are present in the Toodoggone district including volcanic-hosted epithermal gold-silver deposits, porphyry copper-gold deposits and some precious metals-bearing skarns. Epithermal deposits and occurrences are typical of the district and include two principal types of which the low sulphidation, adularia-sericite type is the best known. The Baker Mine, Lawyers and Shas deposits, plus numerous other prospects, are examples of this type and all feature quartz veins emplaced along faults and fracture zones in volcanic host rocks which feature adularia-sericite alteration marginal to the precious metals-bearing veins. Host rocks are Toodoggone Formation latite flows and dacite tuffs with the exception of Baker mine where veins are developed in older, Takla Group volcanic rocks.

The second type of epithermal mineralization is represented by high sulphidation, acid sulphate gold-silver deposits which feature alunite and barite alteration zones formed near surface or above the alunite-sericite types. Examples include the BV (Al) north of Toodoggone River (Figure 4) and the Silver Pond prospect adjacent to the Lawyers deposit.

Porphyry copper-gold mineralization, within and marginal to early Jurassic granitic plutons, has been recognized at a number of localities in the southern part of the district. The best example of this style of mineralization is the currently producing South Kemess mine where chalcopyrite, pyrite, magnetite and minor molybdenite occur as disseminations and in quartz stockwork veinlets both within a gently-dipping, tabular monzonite sill and bordering Takla Group volcanic rocks. This deposit features a 25- metre thick supergene zone containing enhanced copper and gold values.

Production of gold and copper at Kemess South through to the end of 2008 are reported in the preceding section; remaining proven reserves as of December 31, 2007 are reported by Northgate Minerals Corporation as being 51.84 million tonnes grading 0.17% copper and 0.47 gram/tonne gold (Skrecky (2008)).

The adjacent Kemess North deposit features pyrite, chalcopyrite and minor molybdenite in quartz-K-feldspar stockwork veinlets and as disseminations related to quartz monzonite dykes which cut Takla Group volcanic rocks. The Northgate Minerals Corporation website (July 6, 2009) reports measured and indicated resources for Kemess North totaling 719 million tonnes averaging 0.15% copper and 0.30 gram/tonne gold. These reserve estimates were prepared by a qualified person and are in accordance with Section 1.3 of National Instrument 43-101.

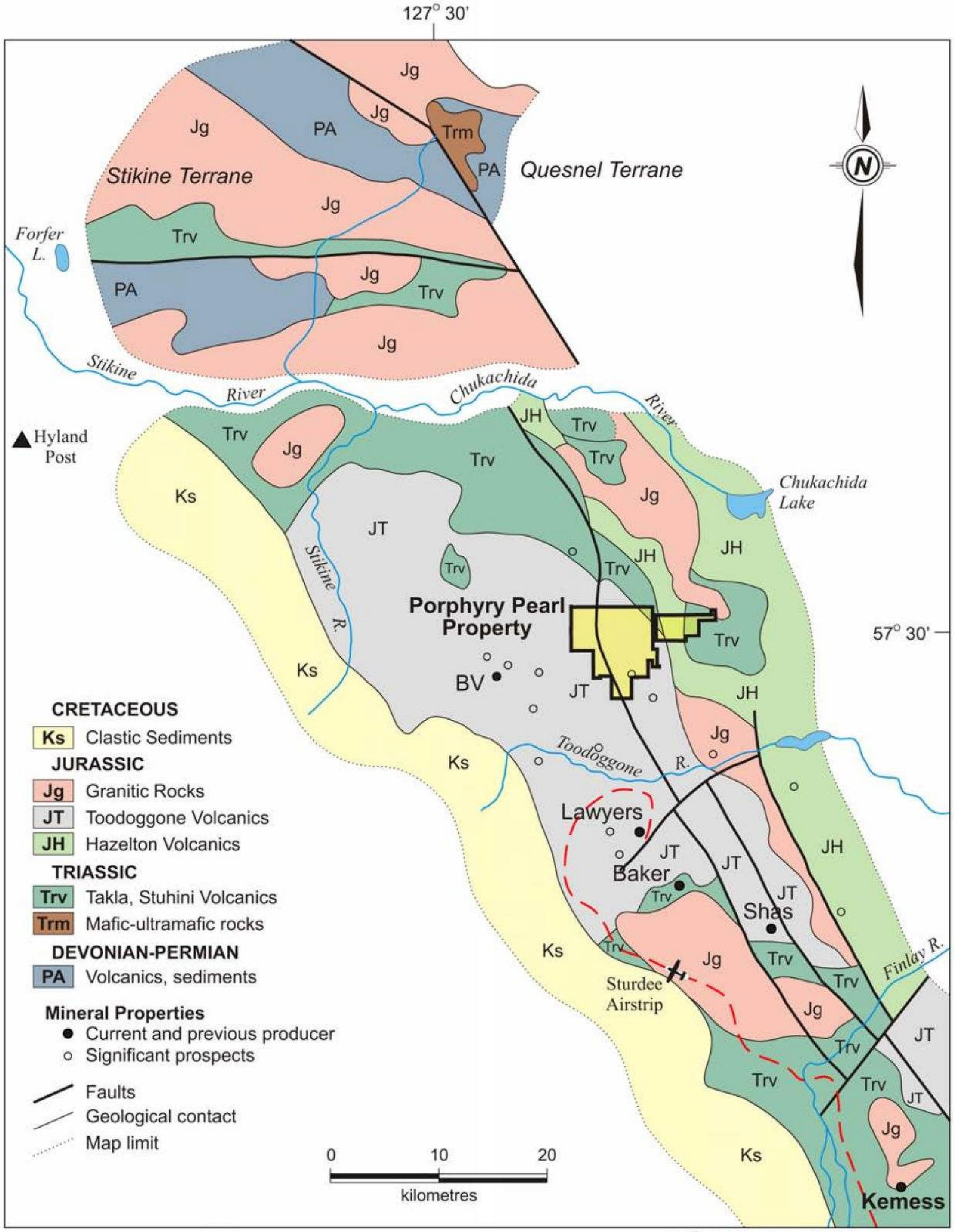


Figure 4: Porphyry Pearl Property - Regional Geological Setting *after Carter 2007*

Geology of the Porphyry Pearl Property

The geological setting of the Porphyry Pearl property is illustrated on Figure 5. As indicated, most of the bedrock exposure is restricted to higher areas bordering the broad, alluvium filled valleys occupied by Moosehorn, McClair and Belle Creeks. Much of the property area is underlain by Toodoggone Formation volcanic rocks which are part of the lower volcanic cycle (Diakow et al, 1993). These unconformably overlie and/or are in fault contact with older lithologic units and all units are intruded by early Jurassic granitic rocks.

The geology of the PP Property consists of a northwest-striking, gently northeast dipping sequence of middle Toodoggone volcanic flows, pyroclastic rocks and intrusive equivalents. Narrow basalt dykes cut all rocks.

Faults of regional extent trend north to north-northwest; examples include those faults along and immediately east of Moosehorn Creek (The Moosehorn Creek Fault, with which the PP Zone mineralization appears associated) and along the Belle Creek valley (Figure 5). Subsidiary faults strike both northeast and northwest.

The oldest lithologic units present within the current property area include a fault-bounded wedge of Late Triassic, Takla Group volcanic rocks and intercalated sediments which are exposed in the eastern part of the Current Pearl East 1 claim (Figure 5) . As described by Lyman (1988), these include plagioclase phyric andesite flows, intravolcanic siltstones and 1 to 6 metres thick limestone lenses. The latter may be part of the older Asitka Group but are more likely part of the Takla Group, comparable to similar limestones noted within Takla Group volcanics elsewhere by Diakow et al (2004).

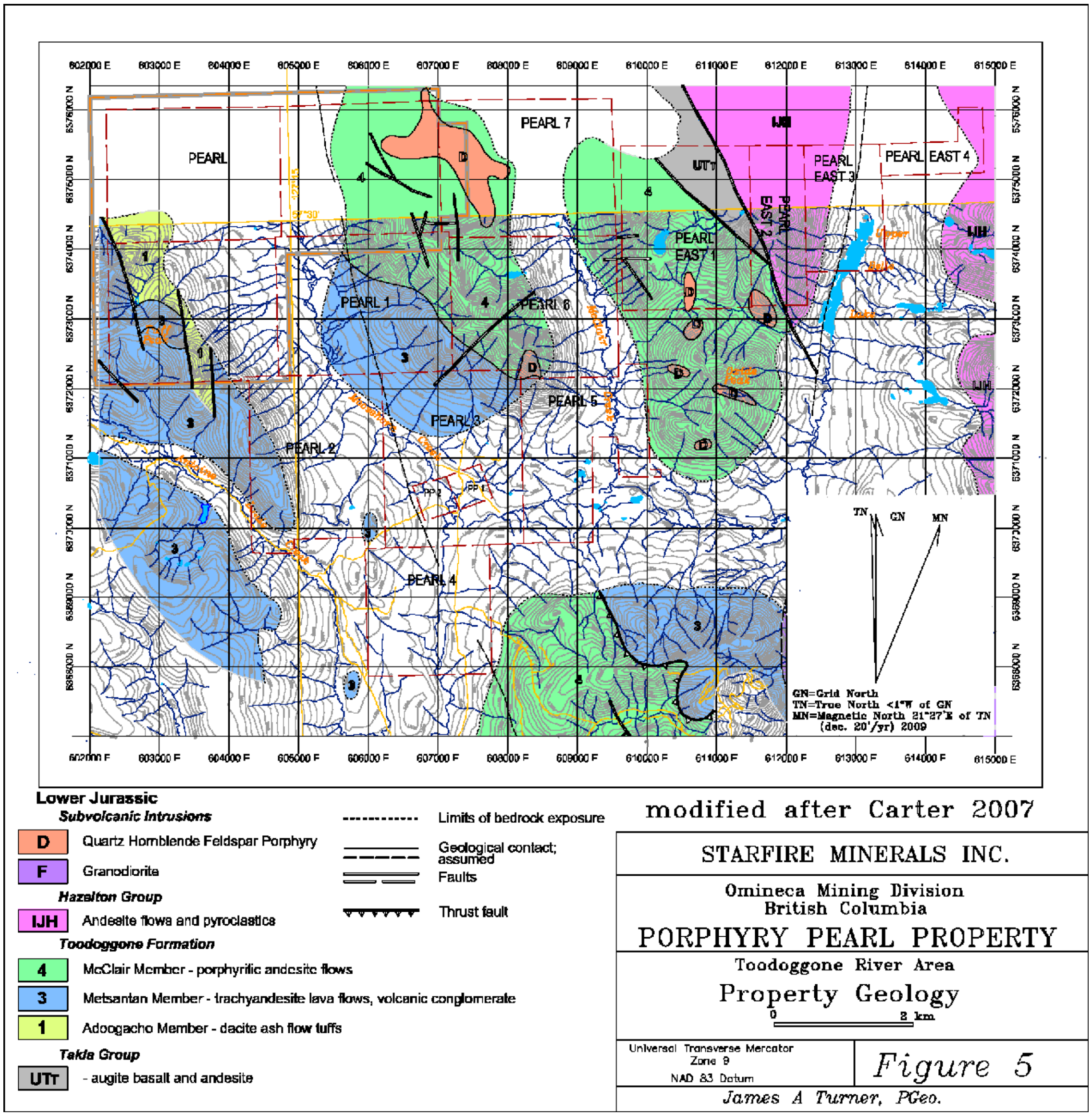
Toodoggone Formation volcanic rocks within the property area represent a homoclinal succession which strikes northwesterly and dips gently northeast. Three members of the lower volcanic cycle are present including the Adoogacho Member, the oldest stratigraphic division of the Toodoggone Formation recognized north of Toodoggone River. This member, which was observed disconformably overlying Takla Group volcanic rocks 15 kilometres northwest of the Porphyry Pearl property (Diakow et al, 1993), is exposed in the western part of the property (Pearl Claim – Figure 5) and consists mainly of reddish to purple welded ash-flows and lapilli tuffs.

The Metsantan Member, which unconformably overlies the Adoogacho Member north of Tuff Peak in the southwestern portion of the Pearl claim (Figure 5), is comprised of green and purple, porphyritic latite flows and intercalated epiclastic and pyroclastic rocks. This member is overlain by the McClair Member in the central and eastern parts of the property. McClair Member consists of grey to green, homogeneous, porphyritic andesitic flows which locally exhibit good trachytic flow textures.

Undivided Hazelton Group volcanic rocks, immediately east of the fault-bounced wedge of Takla Group volcanics on the Pearl East 1 and 2 mineral claims (Figure 5), are currently thought (Diakow et al,2005) to be upper units of the Toodoggone Formation.

Layered rocks of the Toodoggone Formation, principally the McClair Member, are intruded by a number of dykes and irregular bodies of quartz-hornblende-feldspar porphyry in the northern and eastern property areas (unit D – Figure 5). These are subvolcanic intrusions coeval with the enclosing volcanic rocks. Toodoggone Formation volcanic rocks are also intruded by equigranular granodiorites and quartz monzonites south and east of the current property and a buried intrusion of similar composition has been intersected by previous drilling adjacent to Moosehorn Creek on the PP2 claim.

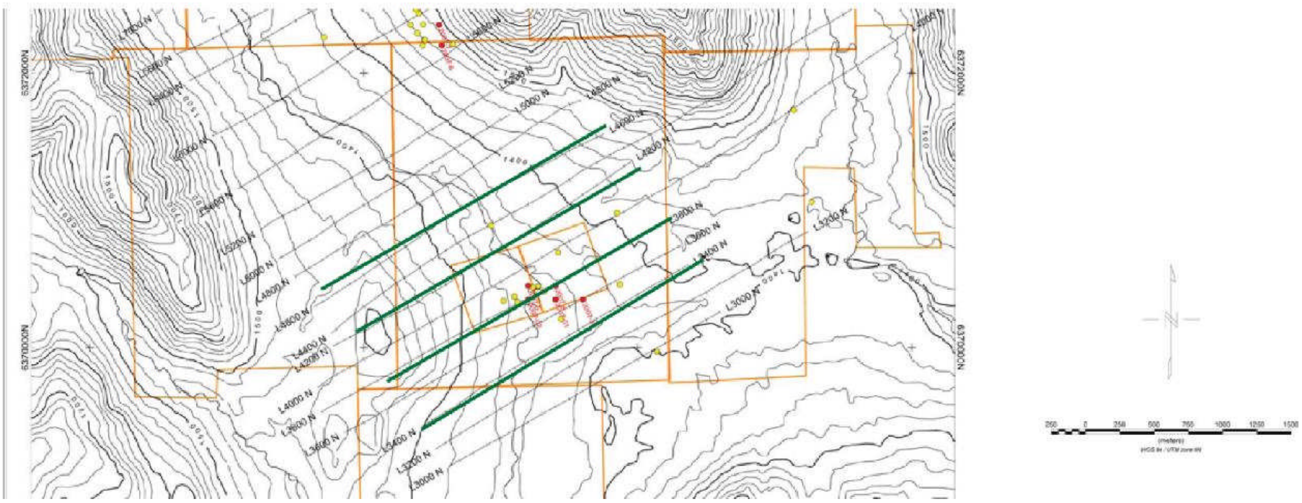
These intrusions are also considered to be comagmatic with the volcanic rocks. Late basalt dykes, generally less than 1 metre wide, occupy faults and represent the youngest intrusive event.



2009 Quantec Titan 24-DC-IP Survey

The Quantec Titan 24-DC-IP Survey was conducted during the period August 4 – 15, 2009. All personnel involved were housed and boarded at Northgate's Kemess Mine Camp. Daily access to the Property (60 km) was via helicopter (AS 350-BA) contracted from Canadian Helicopters Ltd. Climactic conditions during the survey (very low ceilings in the mornings and/or smoke from nearby forest fires) caused significant delays and uncertainties resulting in the survey taking twice as long as anticipated. The survey was completed as designed (Figure 6).

Figure 6 – Grid Lines Selected for Titan 24 DC-IP Survey (highlighted)



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The survey called four lines totaling 10.1 kilometers and spaced at 400 meter intervals. The survey methodology and results are presented in Appendices I and 2 respectively.

Interpretation of Modeled Results

Quantec provided the author with profiles from the 3D inversion model on lines 3400N, 3600N, 3800N, 4000N, 4200N, 4400N, and 4600N, complete with the drill data that had been provided by Starfire. A summary of the drilling is shown in Table 2 to be used as a reference with the Titan 24 profiles.

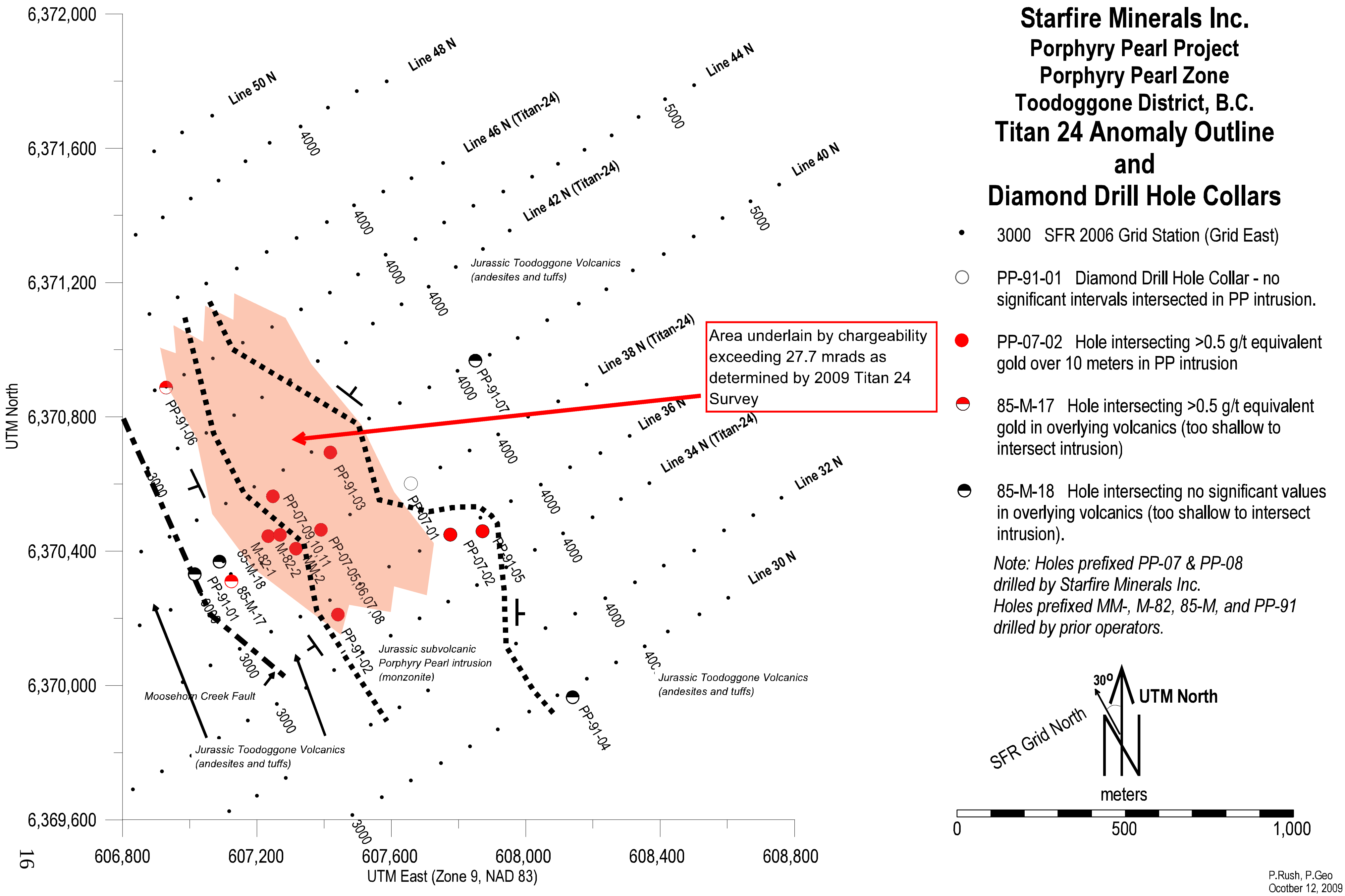
The author determined that the modeled chargeability of the Titan 24 DC-IP survey produced a persistent anomaly traceable over a strike of 1,200 meters in the Porphyry Pearl intrusion which, when the drilling results were overlaid on the no-reference chargeability sections, provided an encouraging combination of anomaly definition and explanation of Starfire's and previous operator's drill results. The "best fit envelope" correlating with mineralized vs. unmineralized quartz monzonite as supported by the diamond drill results correlates with a chargeability threshold of 27.7 mrads and defines a target over an 800-meter strike (see Figure 7).

Table 2. 2007 & 2008 Drill Hole Summary

Hole #	From	To	Meters	Au (g/t)[1]	Cu %	Zn %	eqAu[2] (g/t)	Remarks
1								no significant results
2	194.00	209.00	15.00	0.352	0.033	0.104	0.504	
2	328.00	356.00	28.00	0.423	0.027	0.271	0.718	
includes	341.00	356.00	15.00	0.634	0.037	0.313	0.983	
3								not on PP zone
4								not on PP zone
5	51.83	128.00	76.17	0.463	0.054	0.056	0.607	
includes	51.83	111.76	59.93	0.431	0.050	0.061	0.574	
and	118.00	128.00	10.00	0.768	0.088	0.047	0.962	
6	103.02	311.20	208.18	0.701	0.046	0.095	0.867	
includes	299.92	301.90	1.98	13.570	0.027	0.140	13.744	Au by metallic assay
7	89.31	99.97	10.66	0.617	0.058	0.053	0.765	
7	124.36	264.72	140.36	0.668	0.066	0.233	0.995	
7	294.44	304.34	9.90	0.863	0.069	0.102	1.074	
7	328.12	340.00	11.88	0.508	0.051	0.650	1.189	
7	381.61	395.48	13.87	1.078	0.012	0.130	1.216	
8	90.98	154.84	63.86	0.604	0.047	0.165	0.835	
8	295.50	324.92	29.42	1.125	0.080	0.167	1.415	
8	367.59	395.94	28.35	0.362	0.046	0.255	0.674	
9	110.03	183.18	73.15	0.396	0.049	0.116	0.586	
9	250.24	321.56	71.32	0.496	0.054	0.194	0.764	
9	347.32	361.49	14.17	0.277	0.022	0.657	0.915	
10	175.26	311.96	136.70	0.915	0.051	0.157	1.147	
includes	258.47	260.45	1.98	23.820	0.040	0.930	24.739	Au by fire assay
11	89.92	99.06	9.14	0.721	0.042	0.047	0.836	
11	117.35	260.60	143.25	0.508	0.054	0.141	0.729	

(1) g/t = grams per tonne.
(2) equiv Au = Equivalent gold calculations use metal prices of US$1.50 for copper (Cu), $US 0.80 for zinc (Zn) and US$600/oz for gold (Au). Metallurgical recoveries and net smelter returns for all metals are assumed to be 100%. Equivalent gold = Au g/t + (Cu% x 33.07/19.29) + (Zn% x 17.64/19.29).

A legend for the Titan 24 profiles is presented in Figure 8. Grid-north facing sections 3400N, 3600N, 3800N, 4000N, 4200N, 4400N, and 4600N are presented as figures 9 thru 15.

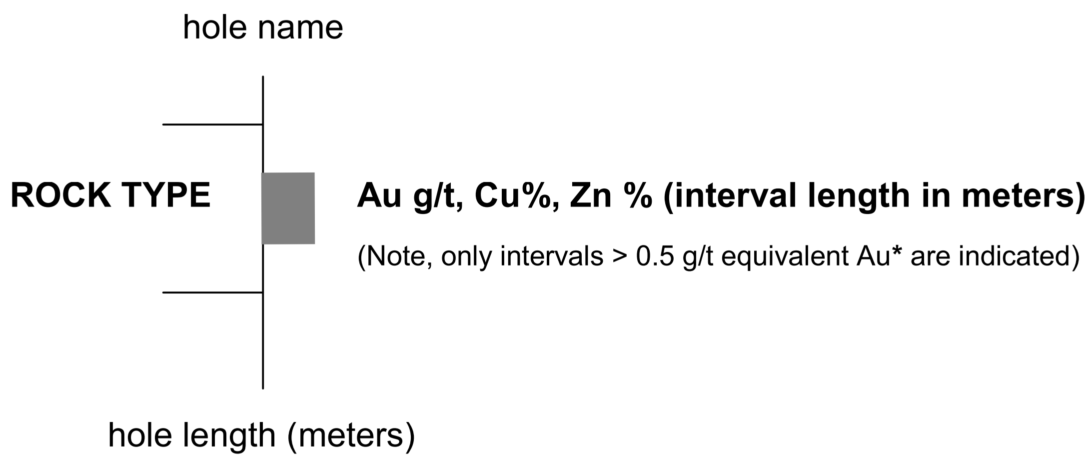

Starfire Minerals Inc.
Porphyry Pearl Project
Porphyry Pearl Zone
Toodoggone District, B.C.
Titan 24 Anomaly Outline
and
Diamond Drill Hole Collars
3000 SFR 2006 Grid Station (Grid East)
PP-91-01 Diamond Drill Hole Collar - no significant intervals intersected in PP intrusion.
PP-07-02 Hole intersecting >0.5 g/t equivalent gold over 10 meters in PP intrusion
85-M-17 Hole intersecting >0.5 g/t equivalent gold in overlying volcanics (too shallow to intersect intrusion)
85-M-18 Hole intersecting no significant values in overlying volcanics (too shallow to intersect intrusion).
Note: Holes prefixed PP-07 & PP-08 drilled by Starfire Minerals Inc.
Holes prefixed MM-, M-82, 85-M, and PP-91 drilled by prior operators.
Area underlain by chargeability exceeding 27.7 mrads as determined by 2009 Titan 24 Survey
Line 50 N
Line 48 N
Line 46 N (Titan-24)
Line 44 N
Line 42 N (Titan-24)
Line 40 N
Line 38 N (Titan-24)
Line 36 N
Line 34 N (Titan-24)
Line 32 N
Line 30 N
Jurassic Toodoggone Volcanics (andesites and tuffs)
Jurassic subvolcanic Porphyry Pearl intrusion (monzonite)
Moosehorn Creek Fault
PP-91-06
PP-91-03
PP-91-07
PP-07-01
PP-07-02
PP-91-05
PP-07-09,10,11
PP-07-05,06,07,08
PP-91-02
PP-91-01
PP-91-04
M-82-1
M-82-2
MM-2
85-M-18
85-M-17
UTM North
UTM East (Zone 9, NAD 83)
6,372,000
6,371,600
6,371,200
6,370,800
6,370,400
6,370,000
6,369,600
606,800
607,200
607,600
608,000
608,400
608,800
30°
UTM North
SFR Grid North
meters
0
500
1,000
P.Rush, P.Geo
Ocotber 12, 2009

Starfire Minerals Inc.

Porphyry Pearl Project, British Columbia

Titan 24 DC/IP Survey – PP Zone

Legend for Drill Hole Data



Rock Type Codes in drill holes

ALT	altered section, rock not determined	QMON	quartz monzonite
AND	andesite	RUBL	rubble zone
BX	breccia	SILC	silicified zone
DYKE	dike - usually andesite	STXW	stockworks
FLT	fault zone	STRG	stringer zone
GDRT	granodiorite	TRNS	transition zone
INTBX	intrusive breccia	TUFF	tuff
MON	monzonite	VOL	volcanic, undifferentiated
OB	overburden		

* equivalent Au = Equivalent gold calculations use metal prices of US$1.50 for copper (Cu), $US 0.80 for zinc (Zn) and US$600/oz for gold (Au). Metallurgical recoveries and net smelter returns for all metals are assumed to be 100%. Equivalent gold = Au g/t + (Cu% x 33.07/19.29) + (Zn% x 17.64/19.29).

Contact and Target Interpretations

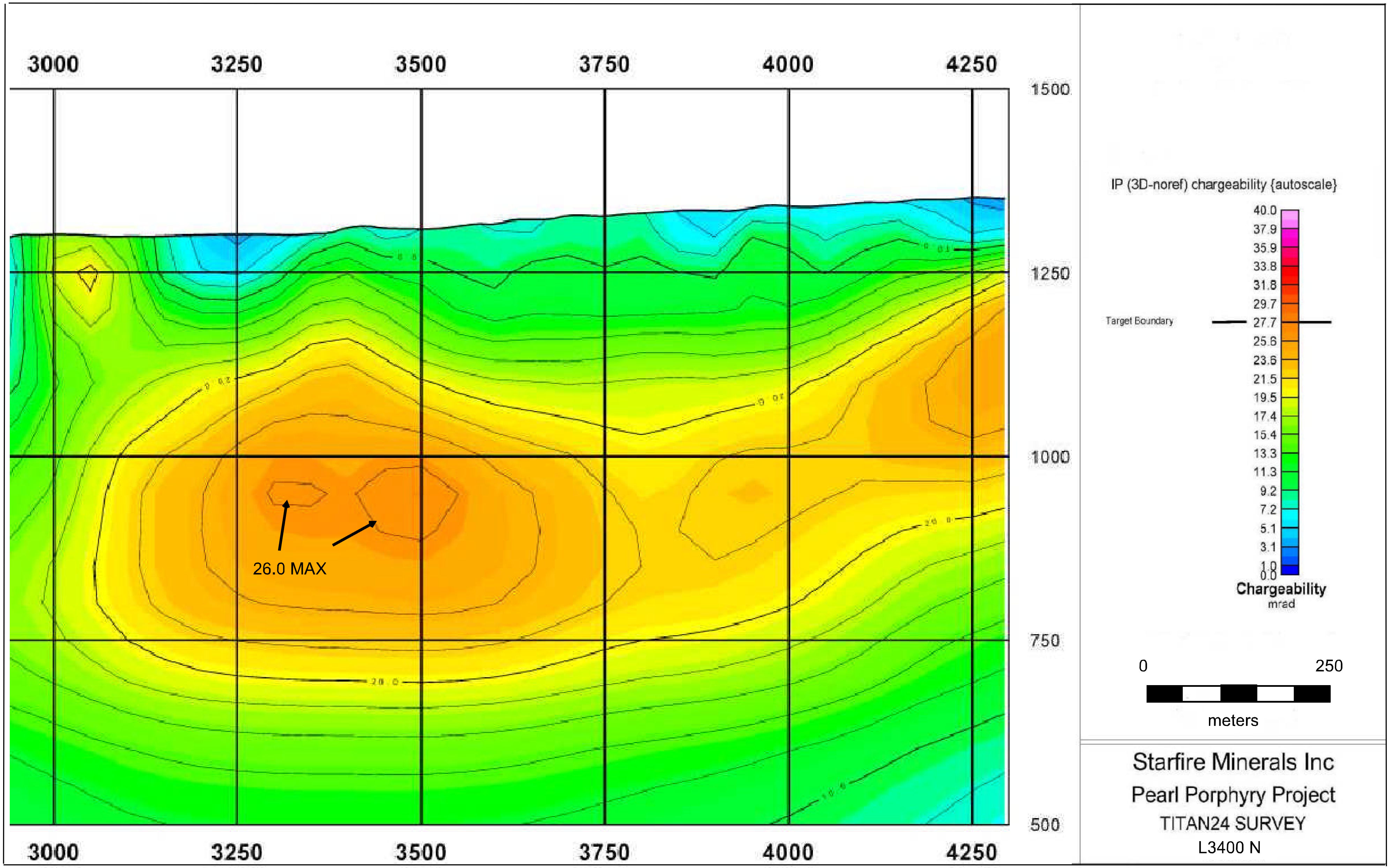
Fault ▬ ▪ ▬ ▪ ▬ ▪

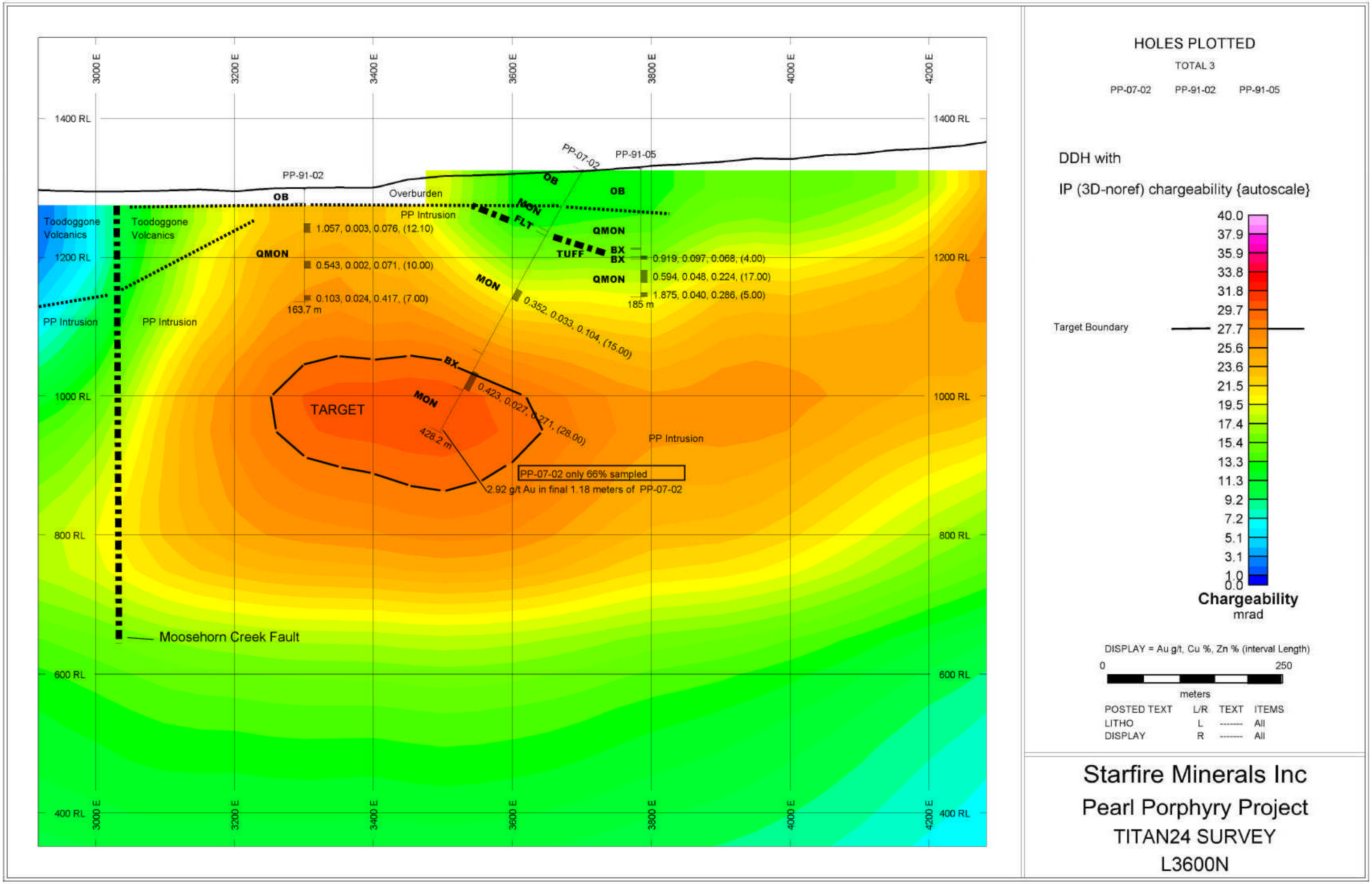
Contact ....

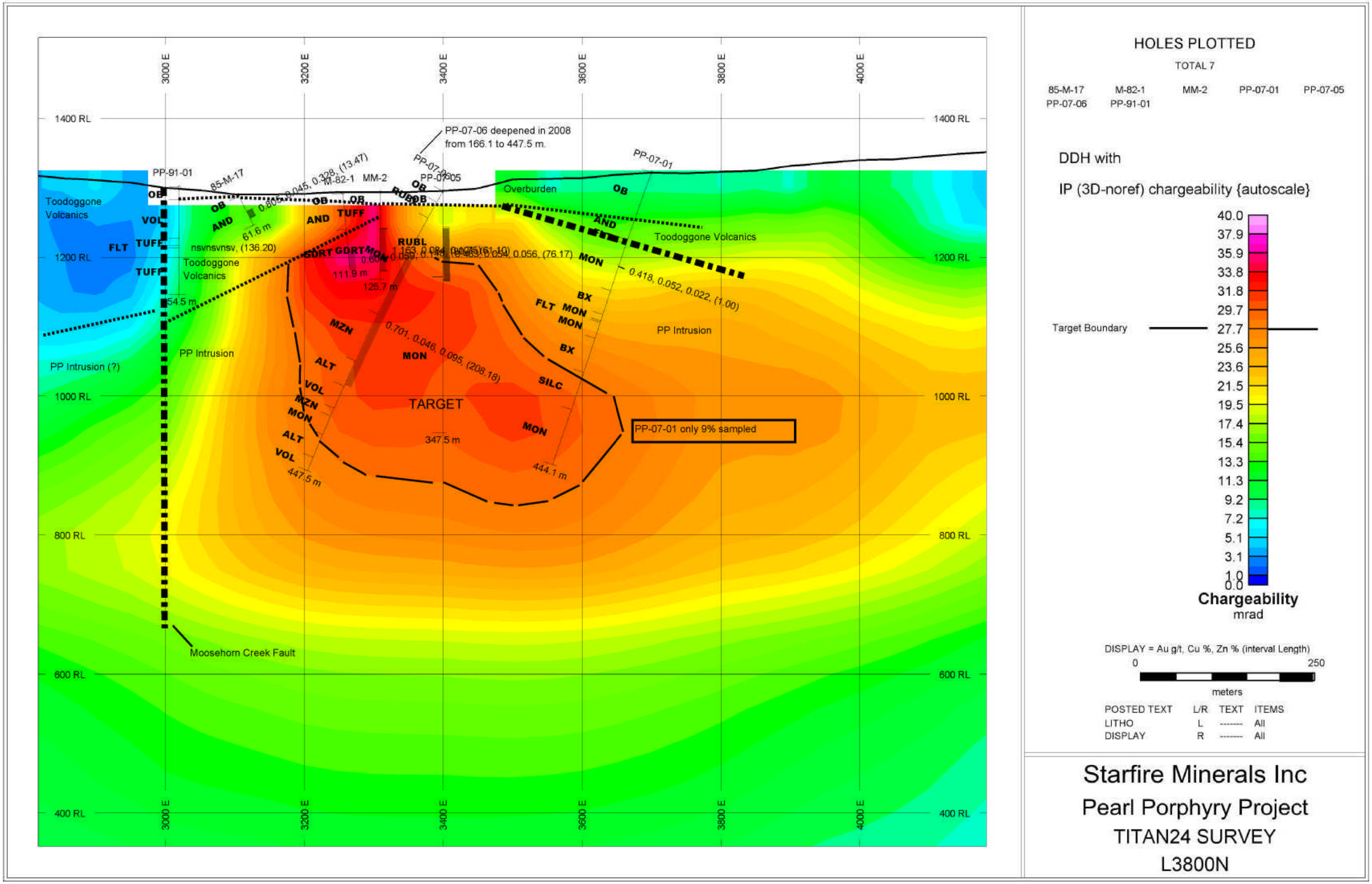
Target Boundary — — — — — — —

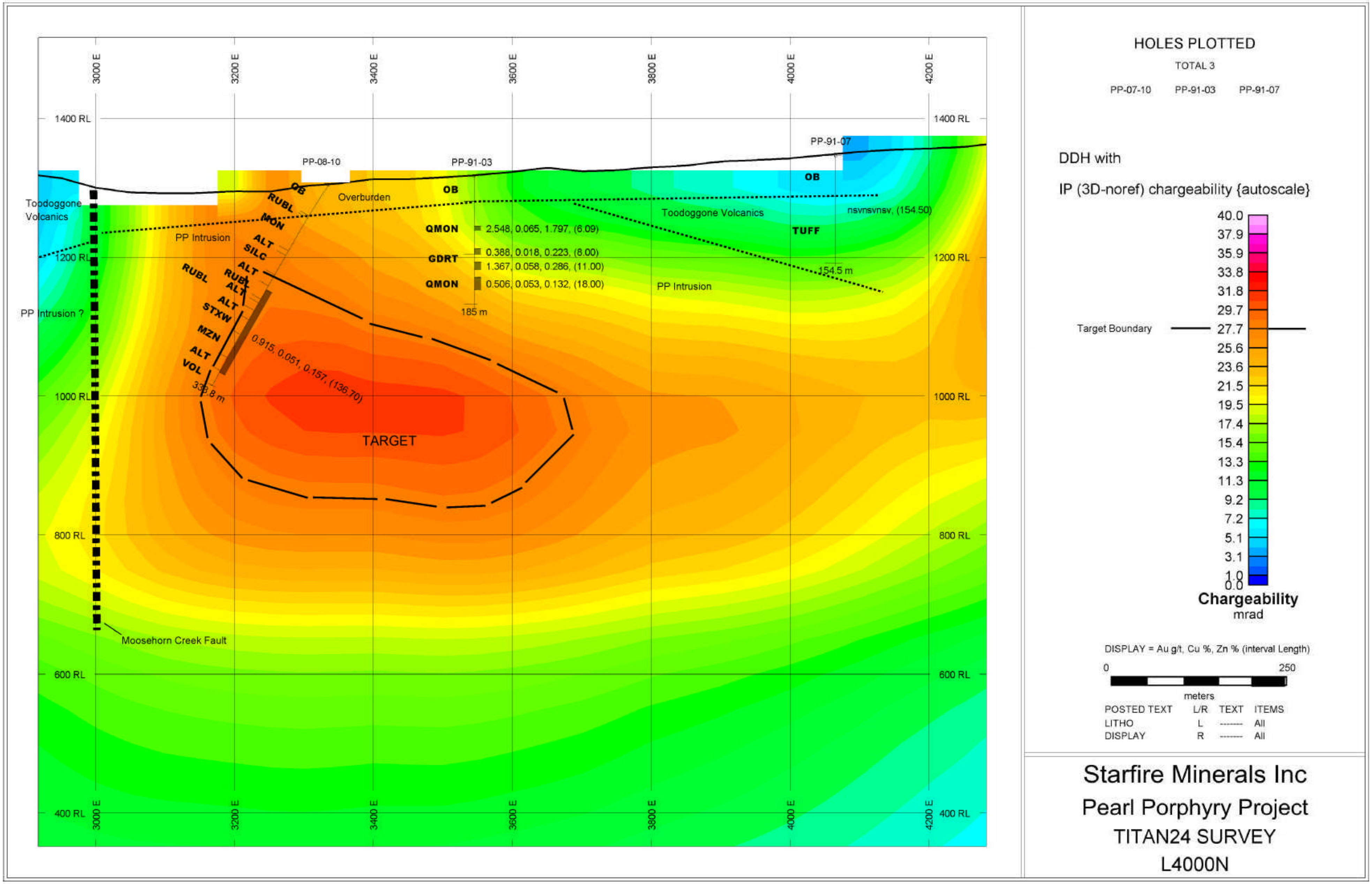
P.J. Rush, P.Geo.

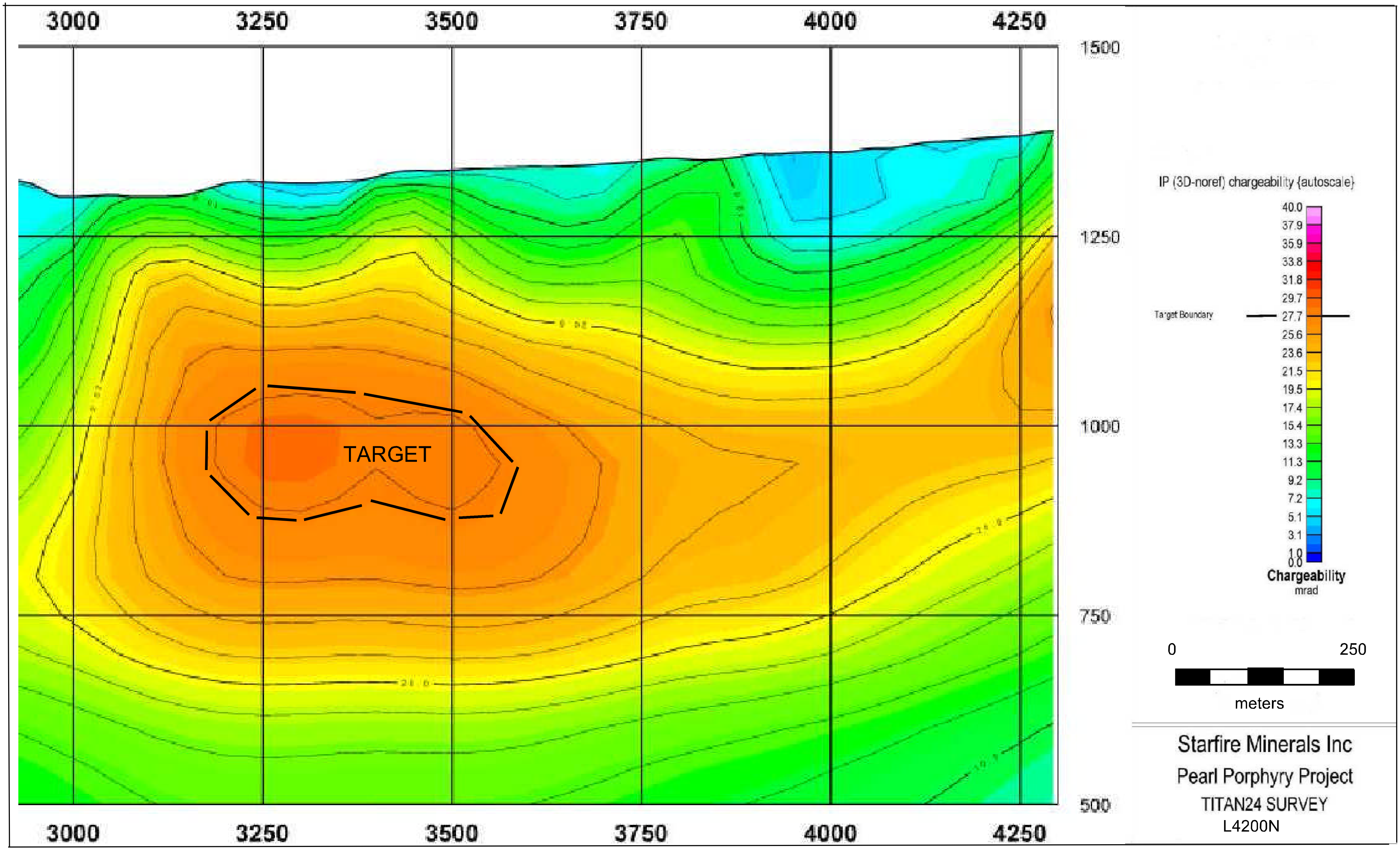
October 2, 2009

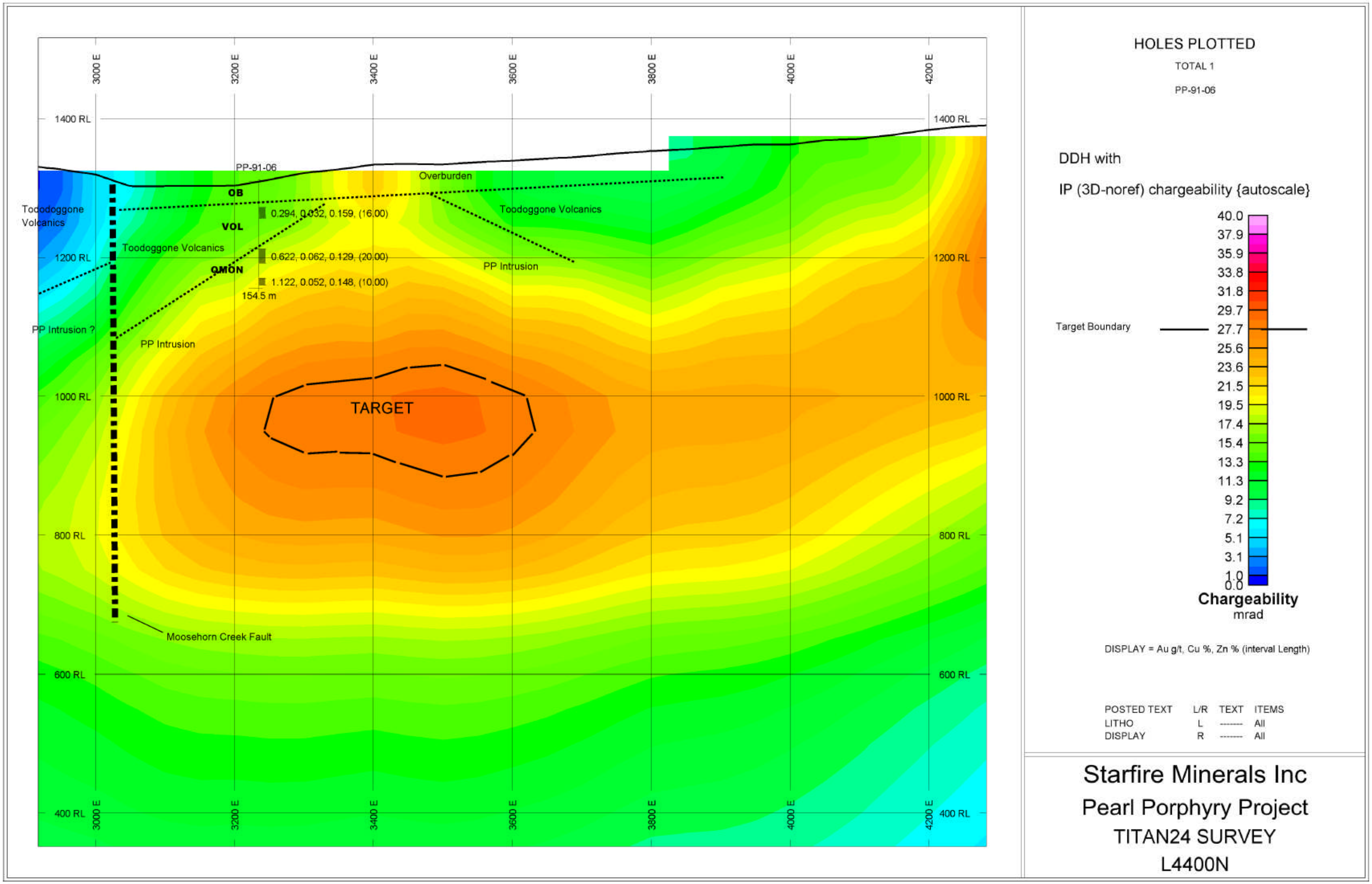

3000
3250
3500
3750
4000
4250
1500
1250
1000
750
500
26.0 MAX
IP (3D-noref) chargeability {autoscale}
40.0
37.9
35.9
33.8
31.8
29.7
Target Boundary
27.7
25.6
23.6
21.5
19.5
17.4
15.4
13.3
11.3
9.2
7.2
5.1
3.1
1.0
0.0
Chargeability
mrad
0
250
meters
Starfire Minerals Inc
Pearl Porphyry Project
TITAN24 SURVEY
L3400 N

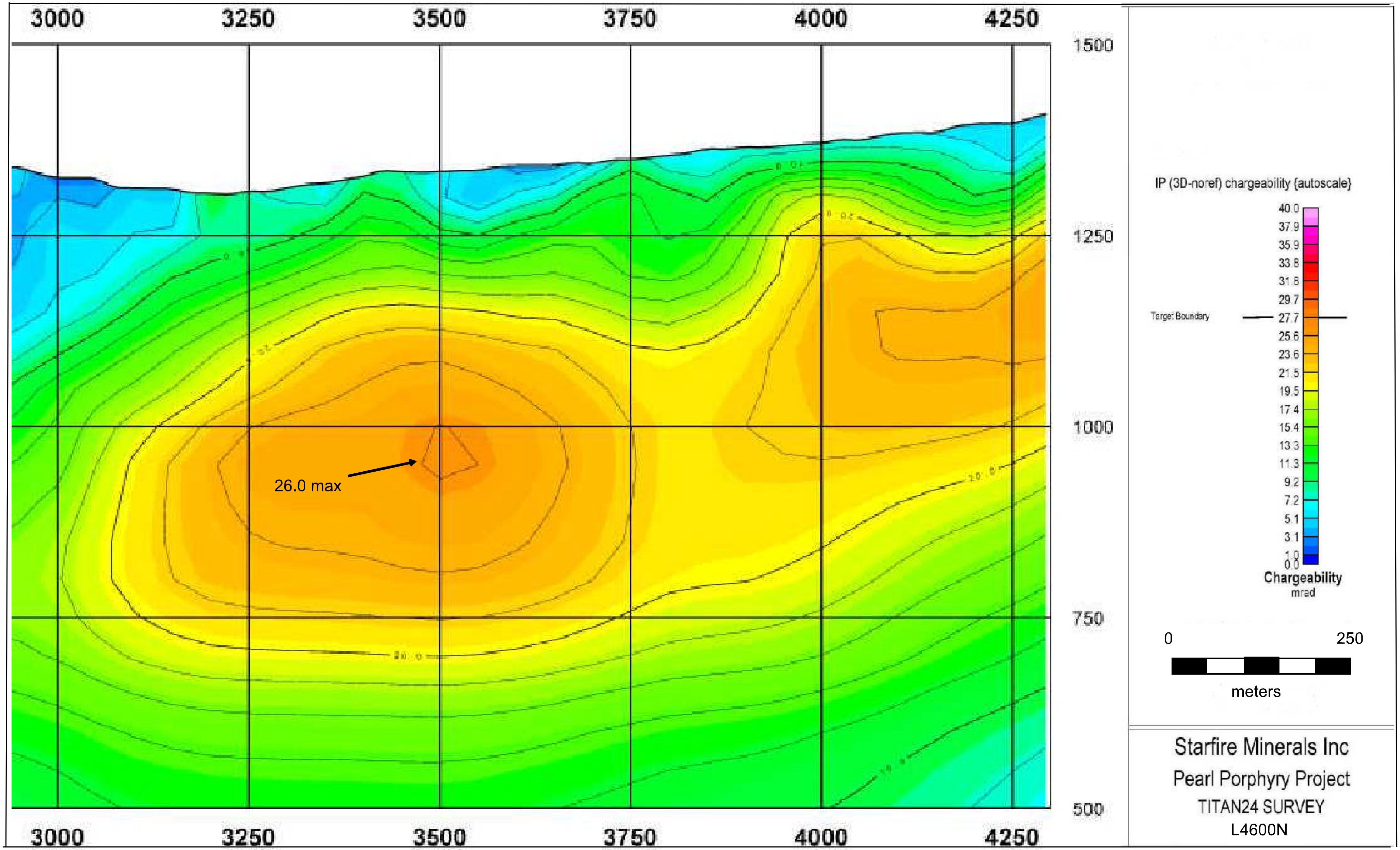

3000 E
3200 E
3400 E
3600 E
3800 E
4000 E
4200 E
1400 RL
1200 RL
1000 RL
800 RL
600 RL
400 RL
PP-91-02
PP-07-02
PP-91-05
OB
Overburden
PP Intrusion
Toodoggone Volcanics
QMON
MON
FLT
TUFF
BX
1.057, 0.003, 0.076, (12.10)
0.543, 0.002, 0.071, (10.00)
0.103, 0.024, 0.417, (7.00)
163.7 m
0.919, 0.097, 0.068, (4.00)
0.594, 0.048, 0.224, (17.00)
1.875, 0.040, 0.286, (5.00)
185 m
0.352, 0.033, 0.104, (15.00)
0.423, 0.027, 0.271, (28.00)
428.2 m
TARGET
PP-07-02 only 66% sampled
2.92 g/t Au in final 1.18 meters of PP-07-02
Moosehorn Creek Fault
HOLES PLOTTED
TOTAL 3
PP-07-02 PP-91-02 PP-91-05
DDH with
IP (3D-noref) chargeability {autoscale}
Target Boundary
40.0 37.9 35.9 33.8 31.8 29.7 27.7 25.6 23.6 21.5 19.5 17.4 15.4 13.3 11.3 9.2 7.2 5.1 3.1 1.0 0.0
Chargeability
mrad
DISPLAY = Au g/t, Cu %, Zn % (interval Length)
0 250
meters
POSTED TEXT L/R TEXT ITEMS
LITHO L ------- All
DISPLAY R ------- All
Starfire Minerals Inc
Pearl Porphyry Project
TITAN24 SURVEY
L3600N


HOLES PLOTTED
TOTAL 7
85-M-17 M-82-1 MM-2 PP-07-01 PP-07-05
PP-07-06 PP-91-01
DDH with
IP (3D-noref) chargeability {autoscale}
Target Boundary
Chargeability
mrad
DISPLAY = Au g/t, Cu %, Zn % (interval Length)
meters
POSTED TEXT L/R TEXT ITEMS
LITHO L ------- All
DISPLAY R ------- All
Starfire Minerals Inc
Pearl Porphyry Project
TITAN24 SURVEY
L3800N
PP-07-06 deepened in 2008
from 166.1 to 447.5 m.
Toodoggone Volcanics
Overburden
PP Intrusion
PP Intrusion (?)
TARGET
PP-07-01 only 9% sampled
Moosehorn Creek Fault
0.418, 0.052, 0.022, (1.00)
0.701, 0.046, 0.095, (208.18)
347.5 m
444.1 m
447.5 m
111.9 m
125.7 m
61.6 m
54.5 m


HOLES PLOTTED
TOTAL 3
PP-07-10 PP-91-03 PP-91-07
DDH with
IP (3D-noref) chargeability {autoscale}
Target Boundary
40.0 37.9 35.9 33.8 31.8 29.7 27.7 25.6 23.6 21.5 19.5 17.4 15.4 13.3 11.3 9.2 7.2 5.1 3.1 1.0 0.0
Chargeability
mrad
DISPLAY = Au g/t, Cu %, Zn % (interval Length)
0 250
meters
POSTED TEXT L/R TEXT ITEMS
LITHO L ------- All
DISPLAY R ------- All
Starfire Minerals Inc
Pearl Porphyry Project
TITAN24 SURVEY
L4000N
3000 E 3200 E 3400 E 3600 E 3800 E 4000 E 4200 E
1400 RL 1200 RL 1000 RL 800 RL 600 RL 400 RL
PP-08-10
PP-91-03
PP-91-07
Toodoggone Volcanics
Overburden
OB
PP Intrusion
QMON
GDRT
TUFF
2.548, 0.065, 1.797, (6.09)
0.388, 0.018, 0.223, (6.00)
1.367, 0.058, 0.286, (11.00)
0.506, 0.053, 0.132, (18.00)
185 m
154.5 m
nsvnsvnsv, (154.50)
PP Intrusion ?
RUBL MON ALT SILC STXW MZN VOL
0.915, 0.051, 0.157, (136.70)
338.8 m
TARGET
Moosehorn Creek Fault


3000
3250
3500
3750
4000
4250
1500
1250
1000
750
500
TARGET
IP (3D-noref) chargeability {autoscale}
40.0
37.9
35.9
33.8
31.8
29.7
Target Boundary
27.7
25.6
23.6
21.5
19.5
17.4
15.4
13.3
11.3
9.2
7.2
5.1
3.1
1.0
0.0
Chargeability
mrad
0
250
meters
Starfire Minerals Inc
Pearl Porphyry Project
TITAN24 SURVEY
L4200N


3000 E
3200 E
3400 E
3600 E
3800 E
4000 E
4200 E
1400 RL
1200 RL
1000 RL
800 RL
600 RL
400 RL
PP-91-06
Overburden
OB
VOL
QMON
Todoggone Volcanics
Toddoggone Volcanics
Todoggone Volcanics
0.294, 0.032, 0.159, (16.00)
0.622, 0.062, 0.129, (20.00)
1.122, 0.052, 0.148, (10.00)
154.5 m
PP Intrusion ?
PP Intrusion
PP Intrusion
TARGET
Moosehorn Creek Fault
HOLES PLOTTED
TOTAL 1
PP-91-06
DDH with
IP (3D-noref) chargeability {autoscale}
Target Boundary
40.0
37.9
35.9
33.8
31.8
29.7
27.7
25.6
23.6
21.5
19.5
17.4
15.4
13.3
11.3
9.2
7.2
5.1
3.1
1.0
0.0
Chargeability
mrad
DISPLAY = Au g/t, Cu %, Zn % (interval Length)
POSTED TEXT L/R TEXT ITEMS
LITHO L ------- All
DISPLAY R ------- All
Starfire Minerals Inc
Pearl Porphyry Project
TITAN24 SURVEY
L4400N


3000
3250
3500
3750
4000
4250
1500
1250
1000
750
500
26.0 max
IP (3D-noref) chargeability {autoscale}
40.0
37.9
35.9
33.8
31.8
29.7
Target Boundary
27.7
25.6
23.6
21.5
19.5
17.4
15.4
13.3
11.3
9.2
7.2
5.1
3.1
1.0
0.0
Chargeability
mrad
0
250
meters
Starfire Minerals Inc
Pearl Porphyry Project
TITAN24 SURVEY
L4600N

Conclusions and Recommendations

Based on the author's interpretation as illustrated in the previous sections, a two-phase diamond drilling program totaling 10,440 meters is recommended to complete testing the target on nominal 100 by 200-meter centers over a strike of 800 meters from line 3600 North to line 4400 North. Phase 1 would complete 200 by 200 meter centers and Phase 2 (contingent on favorable results from Phase 1) would complete testing on 100 x 200 meter centers.

The estimated "all-in" cost for this program is presented below.

Table 3 – Cost Estimate for Follow-up Drilling

Phase	holes	deepenings	total	meters	Nominal coverage	all-in cost
1	10	1	11	4800	200m x 200m	2,640,000
2	9	2	11	5640	200m x 100m	3,102,000
Total	19	3	22	10,440	200m x 100m	$5,742,000

Should Phase 1 and Phase 2 confirm the target potential at acceptable tenors, then an additional programme of the same magnitude would be required to complete testing the target on 100-meter centers.

Table 4 - List of Contractors – 2009 Program

Company	Position	Name	Days
Quantec Geoscience	Crew Chief - Operator	Steve Wynn	11
Quantec Geoscience	Field Data Processor	Valery Kungurov	11
Quantec Geoscience	Technician	Carmen Vucko	11
Quantec Geoscience	Technician	Charlie Laframboise	11
Quantec Geoscience	Technician	Andrew Casson	11
Quantec Geoscience	Technician	Tyler Fletcher	11
Quantec Geoscience	Technician	Tyler Debruyn	11
Quantec Geoscience	Technician	Dave Gouthro	11
Quantec Geoscience	Technician	Jacques Frenette	11
Quantec Geoscience	Technician	Ethan Peterson	11
Quantec Geoscience	Technician	Sarah de Jonge	7
Canadian Helicopters Ltd.	Pilot	Dean Hargreaves	11
Consultant	Geologist	Philip Rush	10
Total			138

Table 5 - Statement of Costs – 2009 Program

Item	**Units**	**# Units**	**$/Unit**	**Cost**
Contract Quantec Survey*				$ 100,500
Helicopter Support (49.4 hours)**				91,735
Consultant (onsite services August 5-13)	hours	76.4	100	7,640
Consultant (travel time August 4-5 & 13)	hours	24.0	25	600
Food and Accommodation (consultant)	days	9	100	900
Interpretation & Report Preparation (consultant – various dates)	hours	98.3	100	9,830
Printing and Office Supplies (consultant)				58
Travel Expenses (consultant)				1,952
Total				**$ 213,215**

* flat rate, includes room, board, mobilization and demobilization
** room and board included in hourly rate (includes fuel, mobilization, and demobilization).

Statement Of Qualifications

I, Philip James Rush, residing at 31311 NE 108th Street, Carnation, Washington, 98014, USA do declare that:

1. I graduated from the St. Francis Xavier University in 1970 with a Bachelor of Science degree in Geology.

2. I have practiced my profession continuously since June 1970.

3. I am a registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of British Columbia.

4. I was on-site for approximately 80% of the duration of the 2009 Titan 24 Survey at Porphyry Pearl.

7. This report is based on the information gained during the 2009 field season.

8. I am a director of and hold options to purchase shares in Starfire Minerals Inc.

This report may be used for development of the property or raising of funds, provided that no portion of it is used out of context, or in such a manner as to convey a meaning different from that set out in the whole.

Dated this 10th day of March, 2011

P J Rush

Philip J. Rush, P.Geo.

References

Birkeland, A.O. (2007): Geological Report and Geophysical Report on the Porphyry Pearl Property, Omineca Mining Division, British Columbia. BC Ministry of Energy, Mines and Petroleum Resources Assessment Report 28865.

Birkeland, A.O. (2008): Diamond Drilling Report on the Porphyry Pearl Property, Toodoggone River Area, Omineca Mining Division, British Columbia. Assessment Report 30312.

Carter, N.C. (2007): Technical Report on the Porphyry Pearl Property Including a Discussion of the Results of 2006 Geophysical Surveys and Recommendations for Additional Exploratory Work. Technical Report for Starfire Minerals Inc.

Kungurov, Valery and Tournerie, Benoit (2009): Geophysical Survey Logistics Report, TITAN-24 DC/IP Survey over Porphyry Pearl Project, Toodoggone region, BC, for Starfire Minerals Inc., Vancouver, BC. Quantec Private Report for Starfire Minerals Inc.

Skrecky, Gordon (2008): Technical Report on the December 31, 2007 Reserves for the Kemess South Mine. NI 43-101 Report for Northgate Minerals Corporation.

Tournerie, Benoit (2009): Porphyry Pearl Property, Titan 24 DCIP Survey. Quantec Private Report for Starfire Minerals Inc.

Turner, James A. (2009): Technical Report on the Porphyry Pearl Property (PP Property), Toodoggone River Area, Omineca Mining Division, British Columbia. 2007 And 2008 Drill Program Results. NI 43-101 Report for Starfire Minerals Inc.

Appendix 1

Quantec Logistics Report

Quantec Geoscience Ltd.
116 Spadina Ave., Suite 400
Toronto, ON, M5V 2K6
Phone (416) 306 1941
Fax (416) 306 1949

Geophysical Survey Logistics Report

TITAN-24 DC/IP Survey over Porphyry Pearl Project, Toodoggone region, BC, for Starfire Minerals Inc., Vancouver, BC.

Valery Kungurov
Benoit Tournerie
CA00673T
August, 2009

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1. INTRODUCTION

- **Quantec Project No:** CA00673T
- **Project Name:** Porphyry Pearl Project
- **Client**: Starfire Minerals Inc.
- **Client Address:** 520-355 Burrard Street, Vancouver, BC V6C 2G8
- **Client Representative:** Philip J. Rush (425) 765-0803
- **Grid Name:** Starfire
- **Survey Type**: DC Resistivity and Induced Polarization (DCIP).
- **Survey Period:** August 5th, 2009 to August 15 th, 2009
- **Objectives:**

  The exploration objective of the Titan 24 DCIP survey is to detect and map potential porphyry mineralization to depth within the Porphyry Pearl Project grid for drill targeting, delineation and ground condemnation.

  Titan 24 should provide the following benefits:

  - Locating copper rich zones and/or associated alteration to a greater depth
  - Mapping the resistivity and chargeability of the subsurface assisting geologic interpretations
  - Focus drilling thereby reducing overall drilling costs
  - Faster turnover of ground with minimal drilling.

  The Titan 24 IP survey will enable **Starfire Minerals Inc.** to map all potential targets to depths of 700 metres. **Starfire Minerals Inc.** will be able to focus drilling on targets that offer the largest tonnage potential, determine the volume potential and direction to depth of anomalies related to mineral showings.

  The Titan 24 **D**istributed **A**cquisition **S**ystem (**DAS**) (Sheard, N., 1998) employs a combination of multiplicity of sensors, 24-bit digital sampling, and advanced signal processing. It provides independent datasets capable of measuring subsurface resistivities (structure, alteration & lithology) and chargeability (mineralization) to depth.

- **Report Type:**

  Survey logistics, describing the survey parameters and methodology, as well as presenting the survey results in digital/plot forms.

2. GENERAL SURVEY DETAILS

2.1 LOCATION

- **General Location:** 55 km north of Kemess mine, 280km North of Smithers, in the Toodoggone region of British Columbia, Canada (see Figure 1)
- **Province:** British Columbia
- **District:** Toodoggone region
- **Nearest Settlements:** Smithers, BC
- **UTM Zone:** NAD83, zone 9V
- **Latitude / Longitude:** approx.: N57^{0}27'45", W127^{0}12.57"
- **UTM position:** approx.: N6370272, E607034

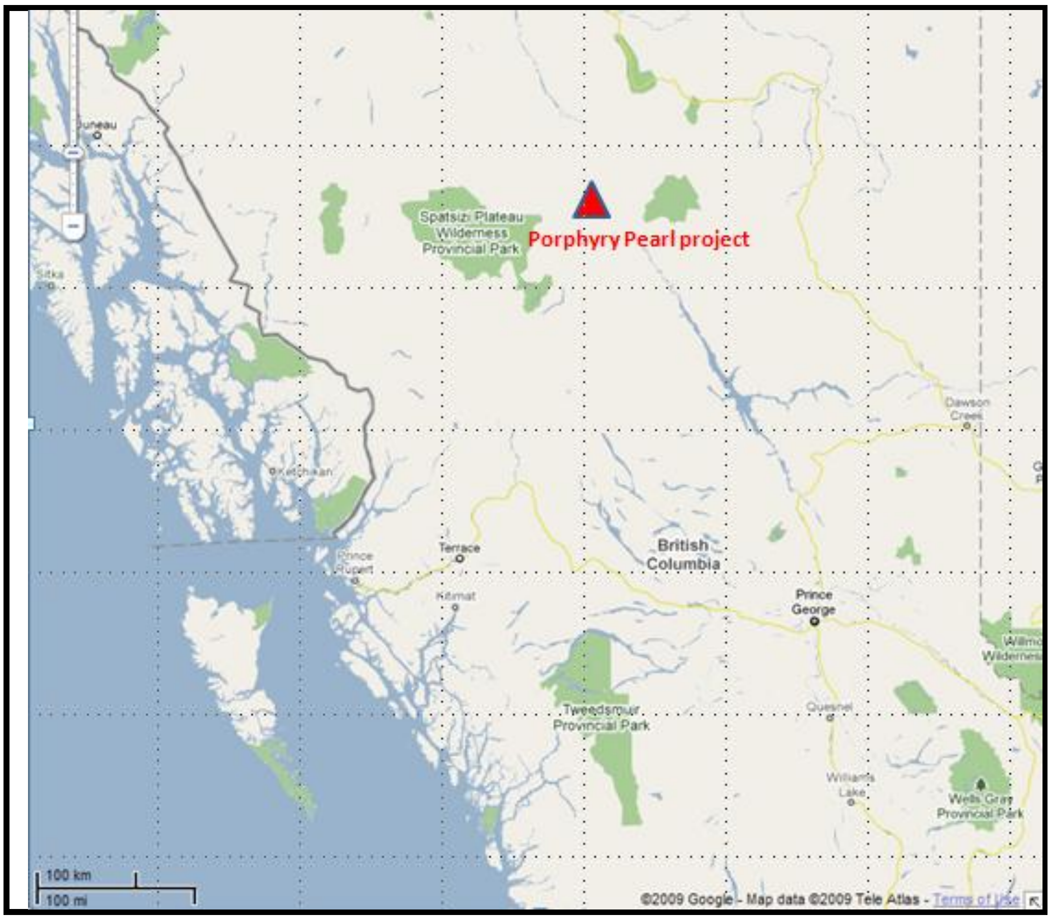


Figure 1: Porphyry Pearl Project General Location Map.

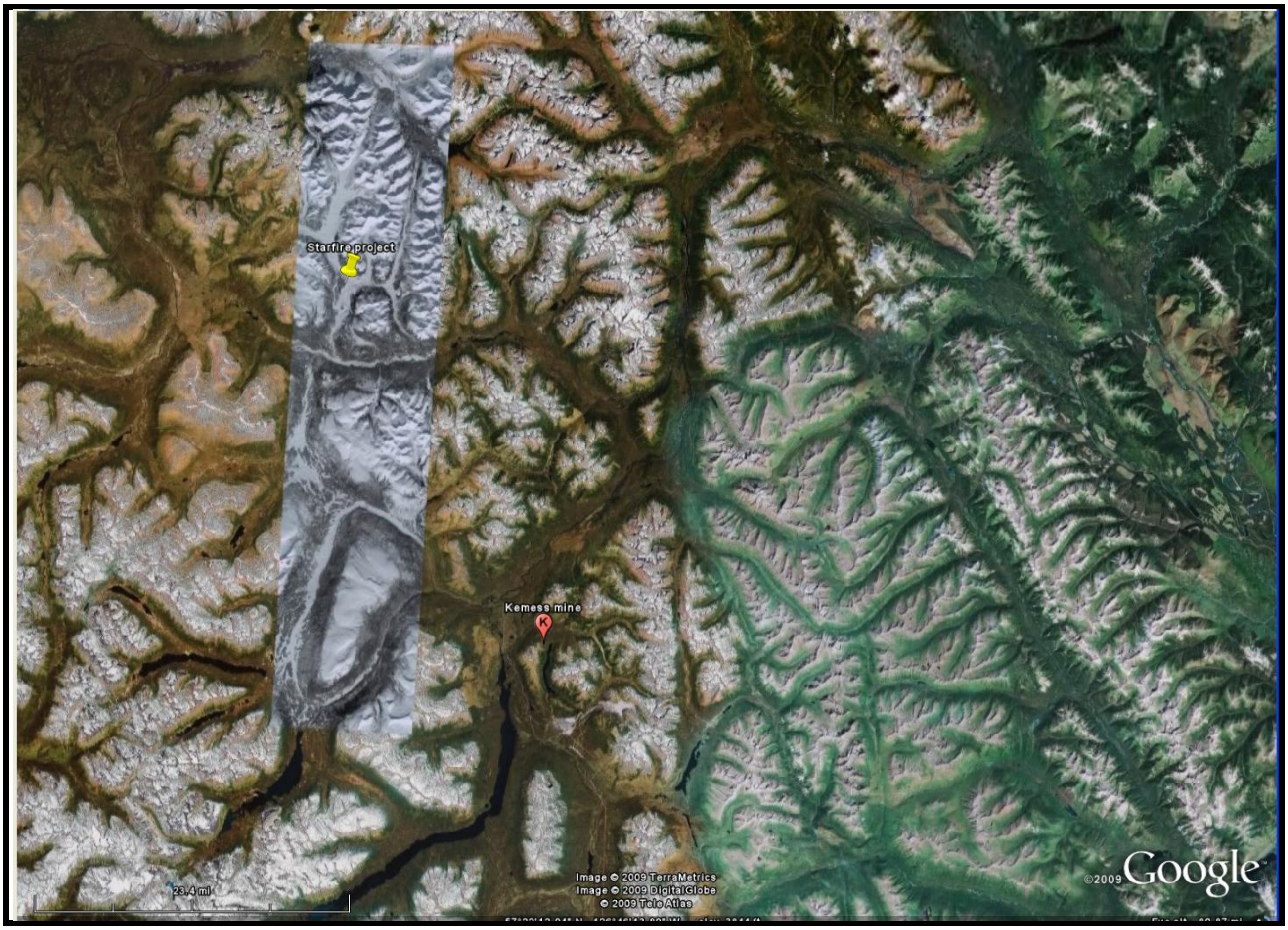


Figure 2: Pophyry Pearl project area location map.

2.2 ACCESS

- **Base of Operations:** Kemess Mining Camp
- **Mode of Access to Grid:** Helicopter, ATV and foot
- **Mode of Access to Lines:** Helicopter, ATV and foot

2.3 SURVEY AREA

- **Established by:** Starfire Minerals Inc
- **Coordinate Reference System:** Survey Grid referenced to UTM Coordinates, (see Figure 3 and Table 1)
- **Datum & Projection:** NAD 83, zone 9
- **Station Interval:** 50m
- **Grid Azimuth:** 60° true
- **Declination:** 23°E
- **Method of Chaining:** Metric, pickets GPS surveyed

Line	Array Coord. Start	Array Coord. End	UTM Coord. Start		UTM Coord. End	
			Easting	Northing	Easting	Northing
L3400N	2000	4300	606416	6369420	608368	6370603
L3800N	1800	4300	605949	6369676	608181	6370896
L4200N	1800	4300	605865	6370058	607952	6371355
L4600N	2000	4300	605808	6370406	607754	6371556

Table 1: **Porphyry Pearl Project Survey Lines (UTM Referenced NAD 83,Zone 9V).**

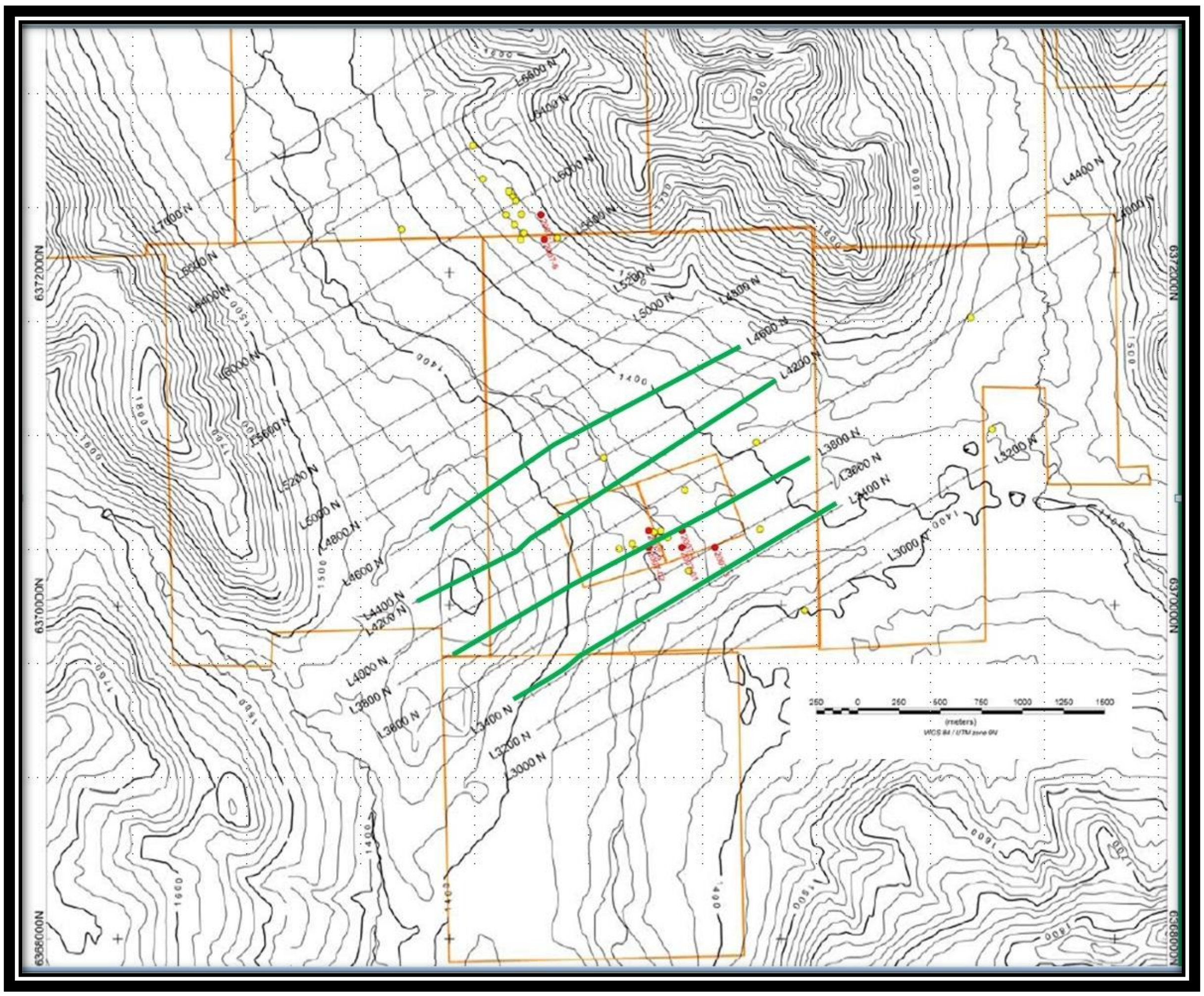


Figure 3: Porphyry Pearl Project Line Location Map[1].

[1] *Porphyry Pearl Project Line Location Map supplied by Starfire Minerals Inc., 2009.*

3. SURVEY WORK UNDERTAKEN

3.1 Generalities

- **Survey Days (read time):** 9
- **Mob/Demob:** -
- **Line Setup/Pickup:** 2
- **Weather/Down Days:** -
- **Number of Lines Surveyed:** 4 lines (see Figure 3 and Table 2)
- **Survey Coverage:** DCIP survey: 10.1 km (see Table 2)

<u>Personnel:</u>

- **Project supervisor:** Benoit Tournerie, Toronto, ON
- **Data Processing (in field):** Valery Kungurov, Toronto, ON
- **Crew Chief:** Steve Wynn, Sturgeon Falls, ON
- **IP Operator:** Steve Wynn, Sturgeon Falls, ON
- **Field Technicians:** Carmen Vucko, Kirkland Lake, ON
  Charlie Laframboise, Englehart, ON
  Andrew Casson, Orangeville, ON
  Tyler Fletcher, North Bay, ON
  Tyler Debruyn, Georgetown, ON
  Dave Gouthro, Sydney, NS
  Jacques Frenette, Beresford, NB
  Ethan Peterson, Sturgeon Falls, ON
  Sarah de Jonge, Ottawa, ON

3.2 Survey Specifications

- **Survey Array:** Dipole-Pole-Dipole Array
  (combined PDR & PDL, see Figure 4)
- **Receiver Configuration**: 47-50 Ex = Continuous In-line voltages (see Figure 5)
- **Array Length:** 2.3-2.5 km
- **Number of Arrays/line:** 1
- **Dipole spacing:** 50m
- **Sampling Interval:** Ex = 50 meters
- **Rx-Tx Separation:** N-spacing (Pn-Cn min) = 0.5 to 55
  Current electrodes at midpoints between potential electrodes (see Figure 5)
- **Infinite Pole Location:** 606223E, 6365729N (UTM coordinates)
  15E, 275N (grid coordinates)
- **Spectral Domain:** Tx = Frequency-domain square-wave current
  Rx = Full waveform time-series acquisition
  Data processing/output in frequency-domain

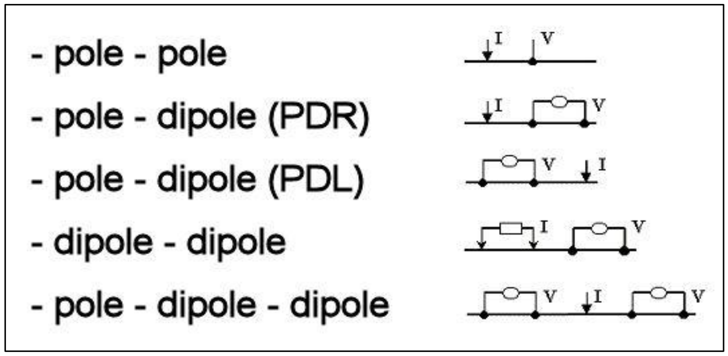


***Figure 4:* Common DCIP Survey Layouts.**

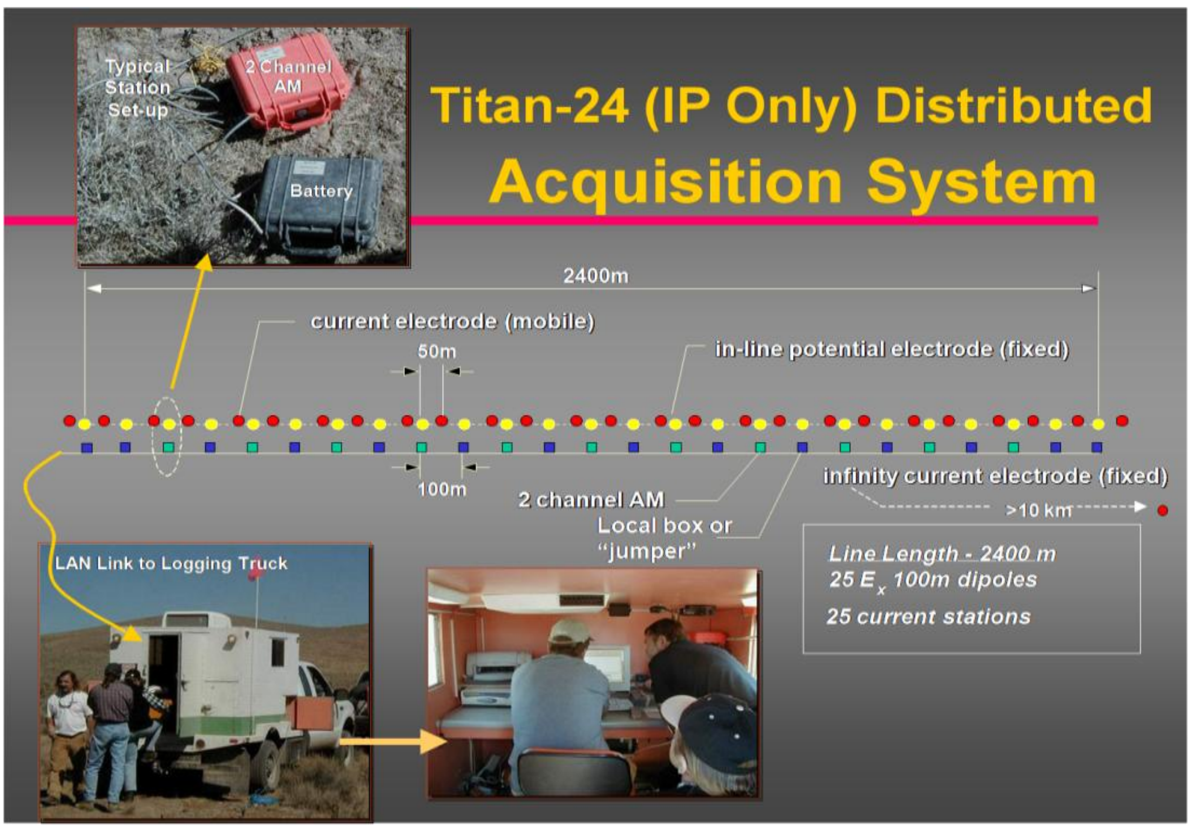


Figure 5: Titan DCIP Schematic Survey Layout.

3.3 Survey Coverage

LINE	SETUP	Min P1	Max P2	Min Tx	Max Tx	Coverage (km)
3400N	1	2000	4300	1975	4325	2.35
3800N	1	1800	4300	1575	4325	2.75
4200N	1	1800	4300	1775	4325	2.45
4600N	1	2000	4300	1775	4325	2.55
					TOTAL	10.1

Table 2: Porphyry Pearl Grid - Max and Min Pole-Dipole Electrode Position.

Note:

L4200N- Tx 2225, 2275, 2325 were not read with coordination and permission of the client.
L4600N- was shortened in the West end with permission of the client.

3.4 Instrumentation

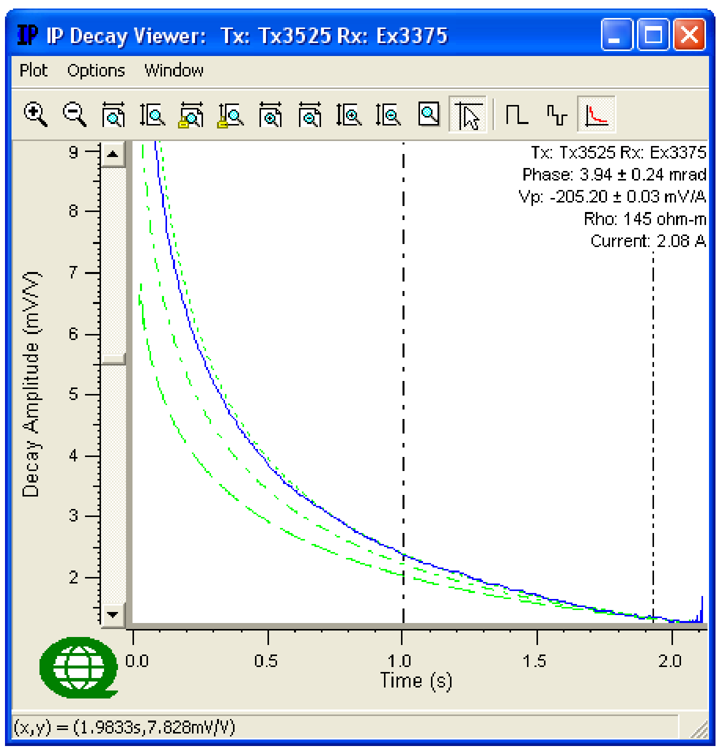
- **Receiver System:** Quantec Distributed Array Acquisition System comprising:
  - 61channels max. per system (55ch operationally with internal A/D conversion (24bit @120db / dual speed @120-48kHz), and buffer memory (6Mb).
  24 x 2-channel Acquisition Modules (AMs)
  13 x 1-channel Acquisition Modules (Ams)
  AM data transmission using LAN cabling
  - 1 Central Recording Units (CRU (140Gb data storage)
- **Transmitter (DCIP Surveys):** ZONGE GGT-10 (10kW) with frequency/waveform control, using CPU, and Current Monitor (CM)
- **Power Supply (DCIP Surveys):** Westinghouse Alternator (30 KVA @ 400 Hz / 220V / 3 phases) with Kolher Command 25 engine (25 HP / 2cyl) and Zonge VR-1 voltage regulator
- **Receiver Electrodes**: Ground contacts using stainless steel rods
- **Transmit electrodes** 4 x 1.2cm diameter 1 meter long stainless steel rods

3.5 Parameters

- **Transmitter Waveform:** 30/256 Hz square waves at 100% duty cycle (~4s +/-)
- **Transmitter Output Current:** min ~0.3 amperes to max ~4 amperes
- **Receiver Sampling Speed:** 240 samples/s (24 bit A/D @ 120 db dynamic range)
- **Tx-Rx Synchronization:** using current monitor (10 μsec time-accuracy)
- **Time-Series Stacking:** 20 cycles (full-waveform)
- **Read Time:** approx 3.0 minutes per event
- **Integration Start Time:** T_O = 1.0 seconds
- **Post-Processing:** using QGL QuickLay™ v.2.30.14

1) Time-series stacking
2) Robust statistics
3) Current waveform deconvolution
4) Digital filtering (60Hz + harmonics)
5) Spectral model decay-curve fitting (see Figure 6)

- **Time-Domain Decay Window:** T_O to T_F= 1.0 to 2 seconds
- **Final Data Output:** 1) Normalized voltage (volts/ampere)
  2) Voltage error (percent)
  3) Phase (milliradians)
  4) Phase error (milliradians)
  5) Apparent Resistivity (Ωm)
- **Spectral Chargeability Model[2]:** Halverson-Wait (see Figure 6)



<u>Figure 6: Spectral Chargeability Model and Calculated Halverson-Wait Decays.[3]</u>

[2] *The Halverson-Wait model chargeability (Halverson et al., 1981) is similar to and improves upon the frequency-domain Cole-Cole model (Pelton et el., 1978) described in the time-domain by Johnson (1984).*

[3] *HW model parameters calculated in frequency domain, with hatched green lines corresponding to theoretical HW decay with spectral r-factors of 0.1, 1.0 (default) & 10, k-factor of 0.2 (default).*

3.6 Data Accuracy and Repeatability

ERROR TYPE	PHASE ERRORS (in %)
1. Portion of Data with phase absolute error:	
less than 5 mrads	97.9
less than 1 mrads	85.2
less than 0.5 mrads	72.3
2. Average absolute phase error (in mrads) taken from points below 1 mrads errors.	0.23
	Vp VOLTAGE PERCENTAGE ERRORS (in %)
1. Portion of Data with Vp voltage percent error:	
less than 1 %	99.8
less than 0.5 %	99.2
less than 0.1 %	91.3
2. Average Vp signal percent error (in %) taken from points below 0.5% errors	0.03

Table 3: Errors Evaluation for DCIP Measurements.

Data QA/QC Comments:

Higher errors values in intervals with **n** more than 25-30 (especially for Tx lagging) due to low signal amplitude, dipole's drift and instability and some subtle power leaks.

3.7 Data Presentation

- **Pseudosection Plots:** In-line[4] DC/IP Resistivity and Chargeability Pseudo sections, posted, contoured (equal area zoning) and plotted in ground units using Quantec's QuickLay viewer (Appendix C).
- **Digital** Raw Data: Raw Event Log File Folders (eg. Eventxxxx.dat). Also contains AU.txt and Event.log files, which contain information on the location and time of the event in QuickLay propriety digital format (output to Matlab format upon request).

  Processed data: DCIP ASCII DATA, in *.CSV (comma delimited) file format, from QuickLay, containing final processed voltage and phase data (Ex)

Line 1:	Column headings
Column 1:	Event name/number (e.g., Event100020)
Column 2:	Transmitter site ID (e.g., Tx150)
Column 3:	Receiver site ID (e.g., Rx150)
Column 4-11:	C1-C2/P1-P2 positions in X and Y meters)
Column 12:	Current (amperes)
Column 13:	Current error (amperes)
Column 14:	Normalized voltage (volts/ampere)
Column 15:	Voltage error (volts/ampere)
Column 16:	Phase (milliradians)
Column 17:	Phase error (milliradians)
Column 18:	Apparent resistivity (ohm-meters)[5].

[4] *Note: Cross-line (YX) values not shown for presentation purposes.*
[5] *Note: Apparent resistivities calculated in 2d space using 4-electrode general array configuration (as per XY electrode positioning in columns 4-11 of csv file) – not based on pole-dipole calculations (K. Nurse, QGL, pers. comm., 07-2004).*

4. REFERENCES

1. Halverson, M.O., Zinn, W.G., McAlister, E.O., Ellis, R., and Yates, W.C. (1981). Assessment of results of broad-band spectral IP field test. In: Advances in Induced Polarization and Complex Resistivity, pp.295-346, University of Arizona.
2. Johnson, I.M (1984). Spectral induced polarization parameters as determined through time-domain measurements. Geophysics, v. 49, pp. 1993-2003.
3. Pelton, W.H., Ward, S.H., Hallof, P.G., Sill, W.R. and Nelson, P.H. (1978). Mineral discrimination and removal of inductive coupling with multi-frequency IP. Geophysics, v.43, pp.588-609.
4. Sheard, N. (1998). MIMDAS: A new direction in Geophysics. Proceedings of ASEG 13 th International Conference, Hobart, Tasmania

RESPECTFULLY SUBMITTED
QUANTEC GEOSCIENCE LTD

August, 2009.

Toronto, ON

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Quantec Geoscience Ltd.

Valery Kungurov, HBSc.
Processor
Quantec Geoscience Ltd.

Appendix 2

Quantec DC-IP Survey Report

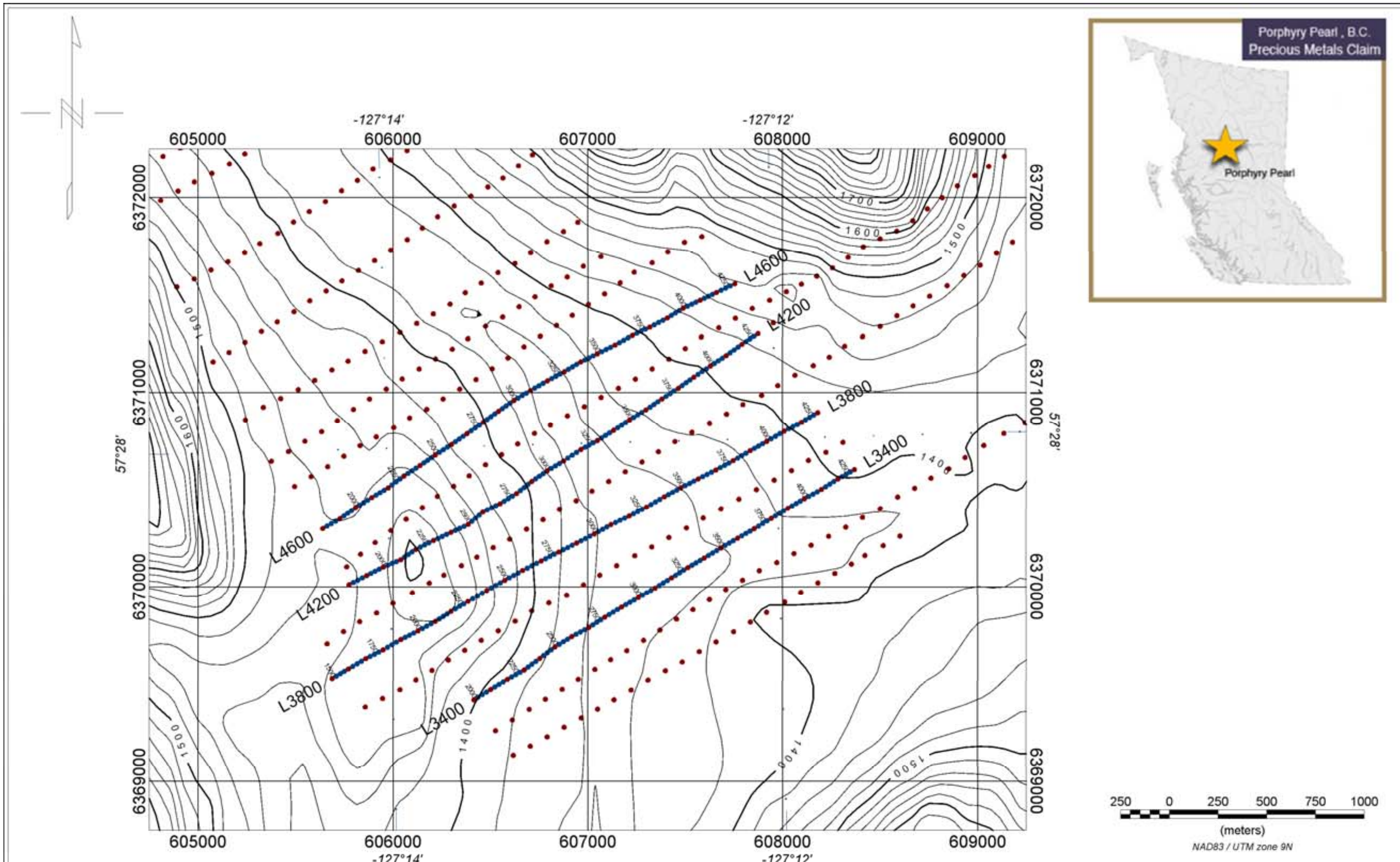
STARFIRE MINERALS INC

Porphyry Pearl Property

Titan24

DCIP survey

Location



STARFIRE MINERALS INC.

Porphyry Pearl Project
General Location
TITAN24 DCIP survey

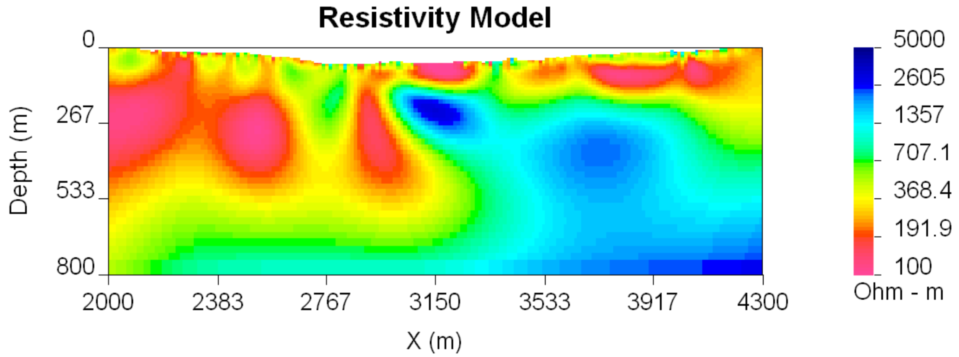
CA00673 / B.Tournerie

titan24 Quantec Geoscience

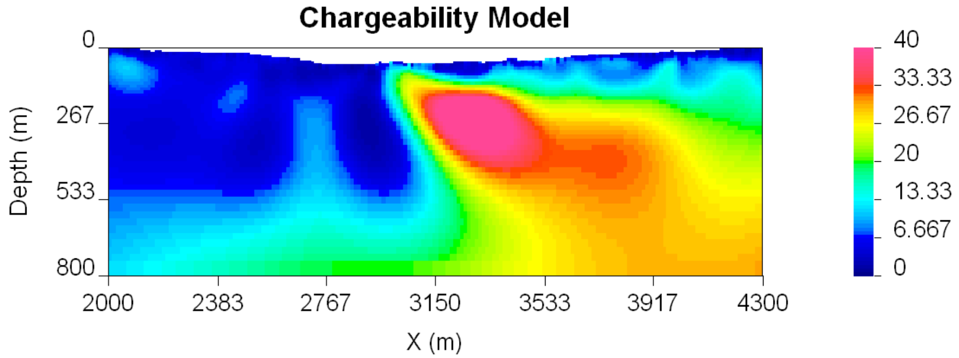
Quantec Geoscience

L3400N – DC & IP inversion results

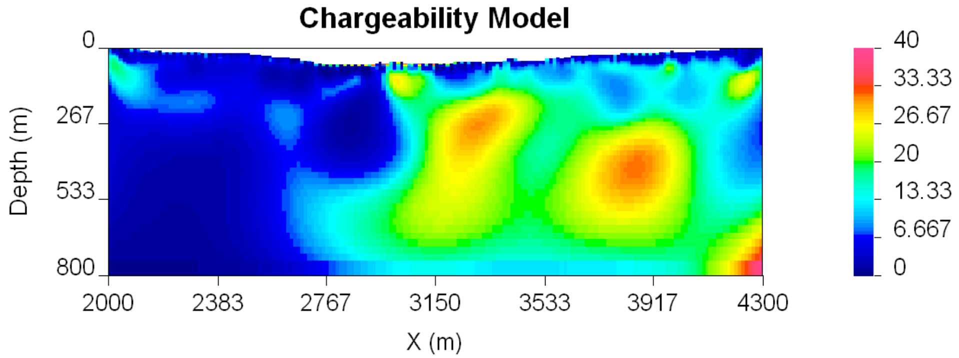
DC



IP dcref



IP noref



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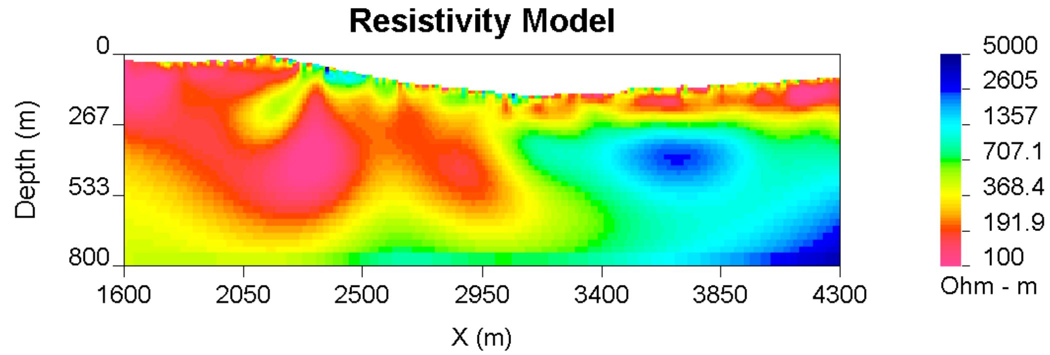
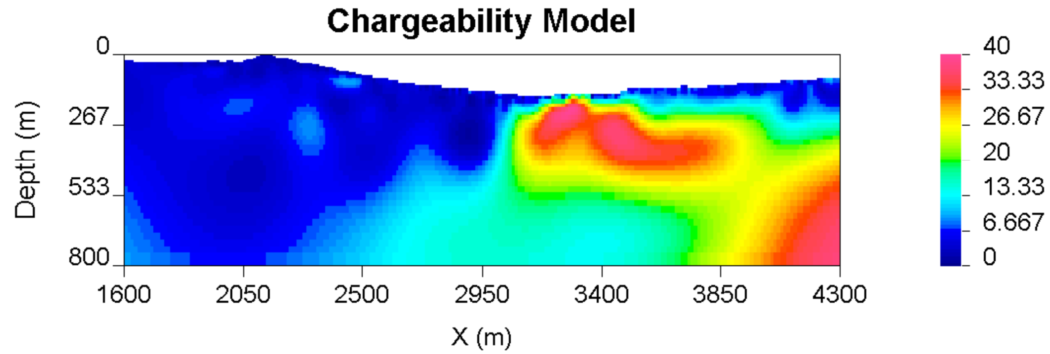
L3800N – DC & IP inversion results

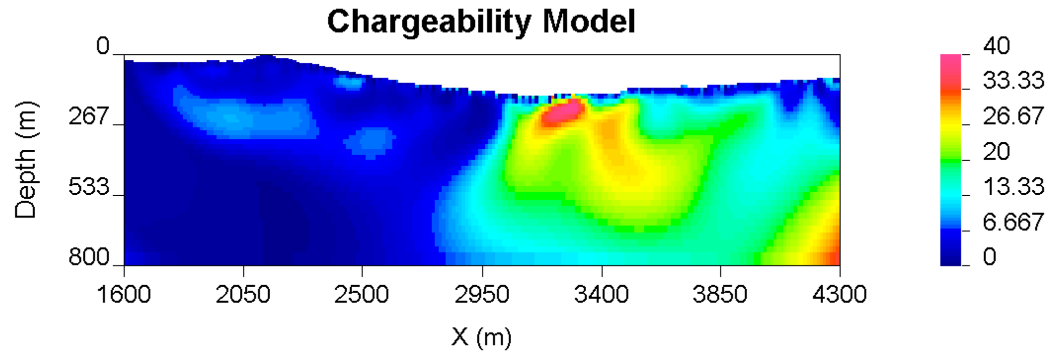
DC



IP dcref



IP noref



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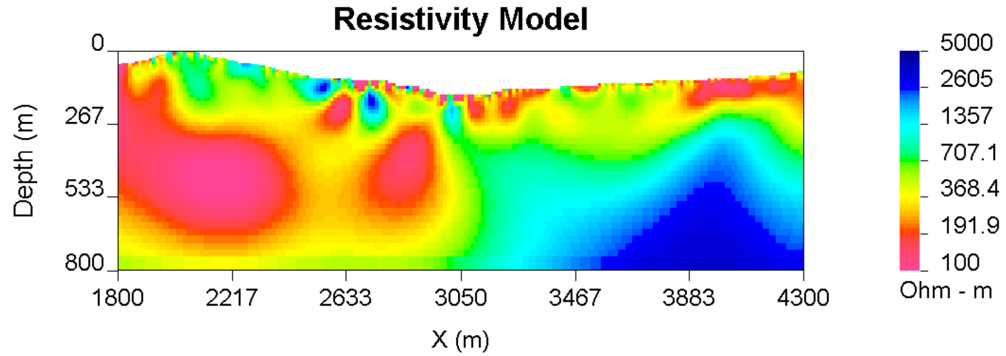
L4200N – DC & IP inversion results

DC



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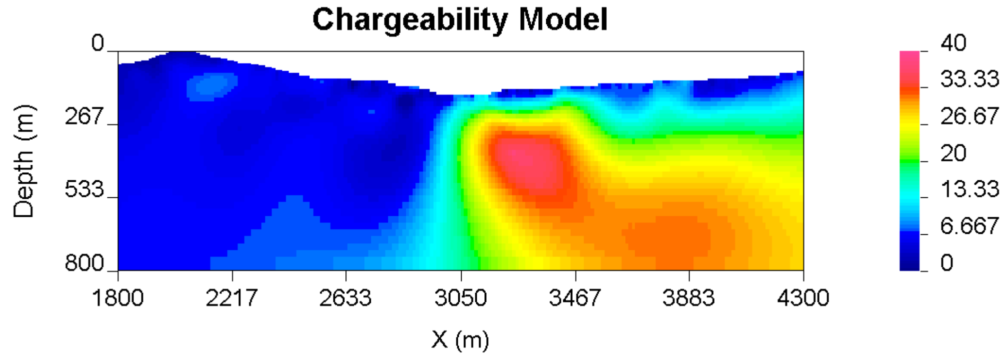
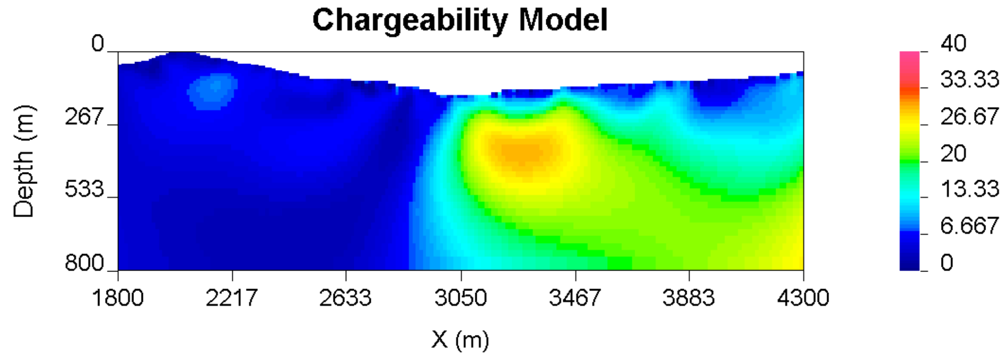
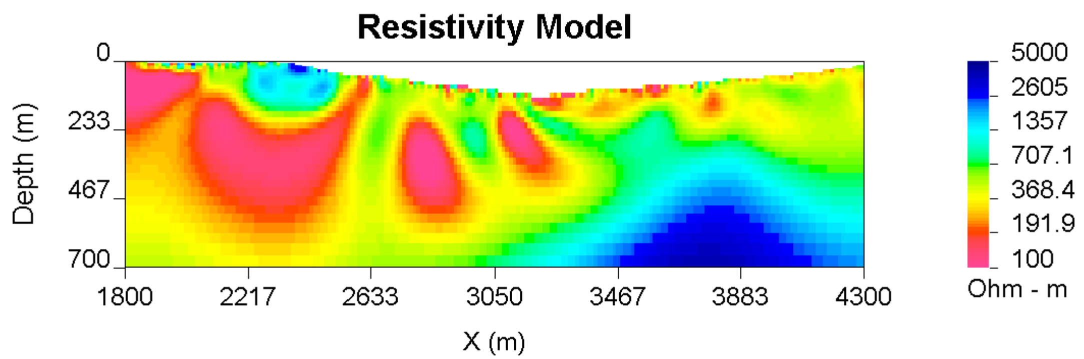


IP noref



L4600N – DC & IP inversion results

DC



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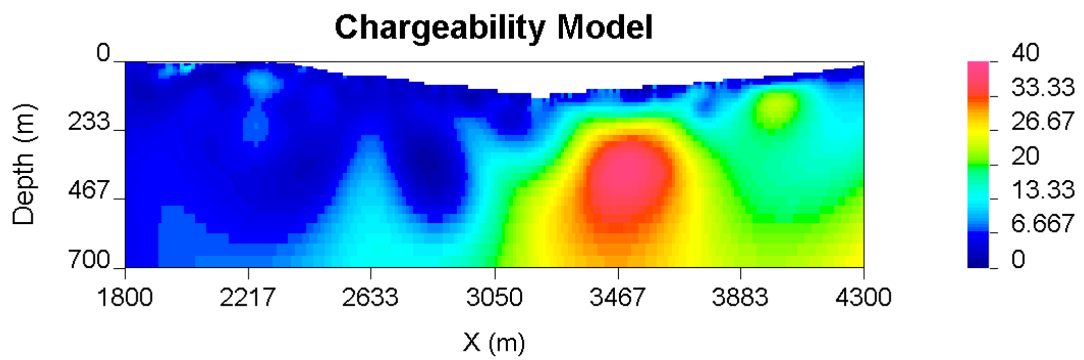
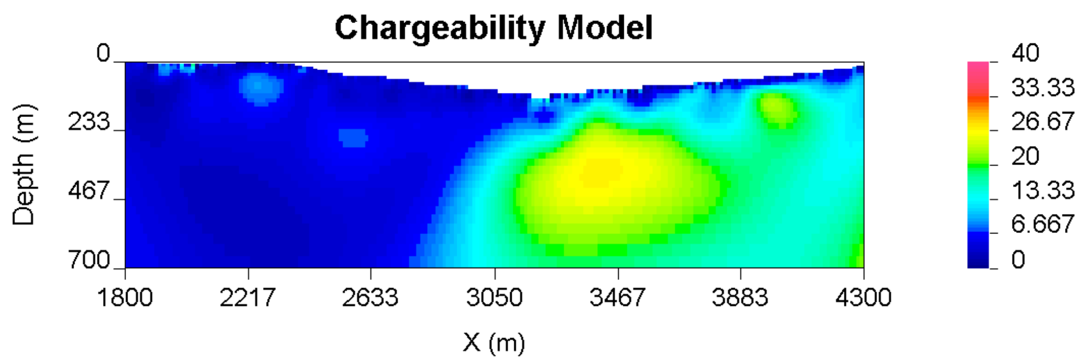


IP noref



Quantec Geoscience

Statement of Qualification

I, Benoît Tournerie, declare that:

- I am a Geophysicist with residence in Toronto, Ontario and am presently employed in this capacity with Quantec Geoscience Ltd., Toronto, Ontario;
- I obtained a License (equivalent to B.Sc.) in 1989, a DEA (equivalent to M.Sc.) in 1991, and a Doctorate with Honours (equivalent to Ph.D.) in December 1995, in Earth Sciences, option geophysics, from the University of Rennes 1, Rennes, France;
- I am a registered geophysicist, since 2008, with license to practice in the Province of Ontario (APGO member # 1609); a registered geoscientist, since 2008 with a license to practice in the Province of Quebec (OGQ #1322);
- I have practiced my profession continuously since April, 1996 in North America, and Australia;
- I am a member of the Society of Exploration Geophysicists (SEG), the European Association of Geoscientist and Engineers (EAGE), and the Canadian Exploration Geophysics Society (KEGS);
- I have no interest, nor do I expect to receive any interest in the properties or securities of **STARFIRE MINERALS INC**, its subsidiaries or its joint-venture partners;
- I undertook the 2D DC-IP inversions, and compile this document;
- The statements made represent my opinion based on my consideration of the information available to me at the time of writing this study.

Toronto, Ontario

Benoît Tournerie, D.Sc. , P. Geo.

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