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TECHNICAL REPORT AND UPDATED MINERAL RESOURCE ESTIMATE ON THE EAST BULL PALLADIUM PROPERTY GEROW TOWNSHIP, SUDBURY MINING DIVISION, ONTARIO

UTM NAD 83 17N 405,200 m E 5,141,400 m N
Lat 46° 25' 10" N Long 82° 14' 0" W
NTS 41J 08 – Whiskey Lake

FOR
CANADIAN PALLADIUM RESOURCES INC.

NI 43-101 & 43-101F1
TECHNICAL REPORT

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P&E Mining Consultants Inc.
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1.0 SUMMARY

The following report was prepared to provide a National Instrument ("NI") 43-101 Technical Report and Updated Mineral Resource Estimate for the platinum-group metal ("PGM") and base metal mineralization contained in the East Bull Palladium Property (the "Property" or "East Bull Property") in Gerow Township, Ontario, Canada. The East Bull Palladium Property is located 90 km west of the City of Sudbury in northern Ontario, at UTM NAD 83 Zone 17N, 405,200 m E and 5,141,400 m N or Latitude 46° 25' 10" N and Longitude 82° 14' 0" W, and is shown on NTS map sheet 41J 08.

1.1 PROPERTY DESCRIPTION, LOCATION, ACCESS AND PHYSIOGRAPHY

The East Bull Palladium Property is comprised of 86 contiguous staked claims (60 single cell claims and 26 boundary cell claims) covering approximately 1,460 ha in central Gerow Township, Sudbury Mining Division. Canadian Palladium Resources Inc. ("Canadian Palladium") is earning 100% interest in the East Bull Palladium Property through an option agreement dated February 23, 2019.

The East Bull Palladium Property benefits from close proximity to the City of Sudbury and is accessible by Route 553/810 an all-weather road extending north from Trans-Canada Highway 17 at Massey, Ontario. Massey has a population of 3,214 (Canada 2016 Census) and is located on Highway 17 and the rail corridor on the north shore of Lake Huron between Sudbury and Sault Ste. Marie. Greater Sudbury, with a population of 161,531 (Canada 2016 Census), is the largest city in northern Ontario. Sudbury is home to the fully integrated base metal and precious metal mining, processing, smelting and refining complexes of Vale Canada Limited and Glencore plc.

The East Bull Palladium Property is located in the Great Lakes watershed. The topography of the area is typical of the Canadian Shield and consists of a peneplaned surface with low rocky ridges separated by poorly drained ground. The Property lies within the Boreal Forest vegetation zone. The area is at an elevation of approximately 370 m asl with local relief ranging from 360 m to 400 m asl. The climate of the area is characterized by cold winters and warm summers. The Köppen-Geiger climate classification is *Dfb* (continental warm summer).

1.2 Geology and Mineralization

The East Bull Palladium Property is underlain by gabbroic rocks of the Paleoproterozoic East Bull Lake Intrusive Suite. The ca. 2.48 Ga East Bull Intrusive Suite consists of several intrusions of dominantly gabbronorite to gabbroic anorthosite that occur in both the Southern and Grenville provinces in the Sudbury area between Elliot Lake and North Bay. The East Bull Lake Intrusive Suite is part of a regional, Paleoproterozoic, bimodal magmatism resulting from a mantle-plume driven, intracontinental rifting event. This event formed a major basin, filled by sedimentary and igneous rocks of the Huronian Supergroup.

The East Bull Palladium Property is located on the southern contact of the larger western magma chamber of the East Bull Lake Intrusion. In this area, the igneous stratigraphy of the East Bull Lake Intrusion is divided into the Marginal, Lower, Main and Upper Series. On Canadian

Palladium's East Bull Property, the PGM and base metal mineralization is associated with disseminated sulphides that are primarily hosted in the Varitextured Melagabbro Zone (also locally known as the Inclusion-Bearing Zone) at the base of the Lower Series.

On the Property, drilling and surface trenching has defined significant precious metal and base metal mineralization in the Varitextured Melagabbro Zone of the East Bull Intrusion over a strike length of 3.5 km. The Valhalla Zone, named after the original Freewest Resources Canada Inc. ("Freewest") discovery in 1998, is the largest mineralized zone with a strike length of >2.5 km. The Valhalla Zone, locally up to 60 m wide, strikes at approximately 265°, dips 55° north on the eastern portion and 45° north at the western end. The Hanging Wall Zone occurs as a 20 m to 25 m wide mineralized zone, parallel to the Valhalla Zone, in the eastern part of the Deposit. The Garden Zone mineralization is defined over a 1.0 km strike length by trenching and drilling in the western part of the Property. The Garden Zone strikes at 265° and dips approximately 40° north. The Valhalla and Garden Zones were probably originally continuous, but have been offset along 120° striking faults. The EOH Zone was discovered in 2021 and is a 060° striking, subvertical mineralized zone hosted in a melagabbro breccia that underlies the Garden Zone. The EOH Zone is interpreted to be a mineralized feeder conduit for the overlying Garden Zone and associated mafic rocks.

Opportunities for expanding the Valhalla and Garden Zones contact-type PGM-base metal mineralization are present along strike and down-dip. Additionally, there is significant potential for expanding the EOH Zone conduit-type mineralization and the discovery of other mineralized feeder conduits. There are several strong untested VTEM™ and borehole EM responses in the footwall of the Valhalla Zone that may be related to EOH-type targets.

Mineralization locally contains up to 10% sulphide, but more typically it consists of 0.1% to 1.0% sulphide and rarely exceeds 2%. The sulphides consist of finely disseminated grains and coarser blebs up to 5 cm in diameter with chalcopyrite and pyrrhotite that appear to have initially formed as primary magmatic sulphides. The major sulphide phases are pyrrhotite, chalcopyrite, pentlandite and pyrite. The PGM minerals identified are froodite ($PdBi_2$), kotulsite (PdTe), merenskyite ($PdTe_2$), michenerite (PdBiTe), an unidentified Pd arsenide, sperrylite ($PtAs_2$), platarsite (PtAsS), and hollingworthite (RhAsS). The PGM and gold occur as small grains ranging from 1 μm to 30 μm in size and occur as inclusions in all the major sulphide minerals.

1.3 Exploration and Drilling

The East Bull Intrusion has been sporadically explored for base metals and PGM since 1952. Previous exploration work on the East Bull Property was mainly by Freewest and Mustang Minerals Corp. ("Mustang") in 1999 and 2000 and by Pavey Ark Minerals in 2017. Freewest completed 27 drill holes for a total of 2,902 m and carried out extensive surface trenching on legacy claim 4272475 covering the western part of the Property. Work by Mustang on the eastern part of the Property (legacy claim 1227910) included 11 drill holes for a total of 1,766 m. In 2017, Pavey Ark resampled drill core from the 27 BQ and NQ drill holes from the Freewest drilling program, completed new channel sampling, and completed three drill holes for 320 m to twin Mustang drill holes. Additionally, in 2017 Pavey Ark completed a differential GPS survey of all located historical drill hole casings and channel samples. This work resulted in an Initial Mineral Resource Estimate and Technical Report on the East Bull Deposit by P&E Mining Consultants Inc. ("P&E")

in 2018 for Pavey Ark. Canadian Palladium (formerly 21C Metals Inc.) optioned the East Bull Property from Pavey Ark in 2019. The 2018 Initial Mineral Resource Estimate and Technical Report was re-issued and filed by Canadian Palladium (then 21C Metals Inc.) in April 2019. This previous Mineral Resource Estimate was prepared with a cut-off of 0.8 g/t PdEq (palladium equivalent) and reported estimated Inferred Mineral Resources of 11.1 million tonnes at a grade 0.58 g/t Pd, 0.26 g/t Pt, 0.05 g/t Au, 0.04 g/t Rh, 0.14% Cu, 0.05% Ni and 0.01% Co. The previous Mineral Resource Estimate is superseded by the Mineral Resource Estimate reported herein.

In 2020 and 2021, Canadian Palladium completed 84 drill holes totaling over 19,000 m and completed an airborne magnetic survey over the Property. The current Mineral Resource Estimate is a result of this drill program, which is the largest completed on the Property. Four of the Canadian Palladium drill holes were completed late in 2021 and were not included in the current Mineral Resource Estimate.

1.4 MINERAL PROCESSING AND METALLURGICAL TESTING

In 2000, a detailed mineralogical study of East Bull samples identified sphalerite, galena, marcasite, hematite, cobaltite, arsenopyrite, native gold, baddeleyite (ZrO_2) and nine platinum-group ("PGM") minerals. The PGM identified were palladium tellurides and bismuthides, a palladium arsenide, and a palladium sulphide. Cobaltite and arsenopyrite were determined to be palladium- and rhodium-bearing. The PGM and PGE-bearing sulpharsenides and gold occur as inclusions in the sulphide minerals, mainly pyrrhotite. The sulphide minerals were observed to be present in sizes ranging from <1 µm up to >22 µm.

Two composite samples of the East Bull Mineral Resource were assembled, crushed, sampled and assayed at the SGS Laboratories ("SGS"). The composite sample grades were a close match to the overall average grade of the current Mineral Resource Estimate. QEMSCAN high-definition analyses were performed on the two composites by SGS in 2021. Composites 1 and 2 had been ground to P_{80} of 37 µm and 30 µm, respectively. The sulphide content, mean grain size and percent liberated at the grind size were determined. From the mineralogical study and QEMSCAN results, fine-grinding is expected to be required to obtain a high-grade PGM and copper flotation concentrate.

The ball mill and abrasion indices results indicate a fairly hard, tough and abrasive material. These results suggest higher than average crushing and grinding costs, similar to highly siliceous mineralized material for Composite 1. Composite No. 2 was measured to be significantly less hard and abrasive.

Eleven rougher flotation tests were performed by SGS. The first four tests indicated that fine grinding (P_{80} <40 µm) positively influenced grade and recovery of palladium and copper. Nickel recovery was not significantly affected. Gold, platinum, cobalt and rhodium were not followed in this initial flotation testing program. Various flotation reagent combinations were tested with the combined use of PAX (potassium amyl xanthate), Aero 3477 and a silicate depressor provided the best results. Palladium and copper recoveries in rougher concentrates exceeded 80% and 90%, respectively, with approximately 20% mass pull for both composites.

Seven multi-stage cleaning tests were also conducted. The results indicate a very high concentration ratio of 85:1 for palladium for composite no. 1, and 110:1 for copper from both composites. The concentrate grades are high and suitable for smelter feed. Whereas platinum and gold were not followed in the flotation testing, these metals could be expected to be of high enough grade in the concentrate to exceed the minimum deduction of 1 g/t for gold and 3 g/t for platinum. The nickel concentrate level may not be high enough to be payable.

Based on current information, palladium recoveries into a smelter feed will exceed 70% and possibly be as high as 75%. Copper recoveries can be expected at 90%.

1.5 UPDATED MINERAL RESOURCE ESTIMATE

The database compiled by P&E for this Mineral Resource Estimate consisted of 127 surface drill holes and 6 channels totalling 24,806 m, of which 80 drill holes totalling 19,141 m were completed in 2020 and 2021, subsequent to the previous 2019 Mineral Resource Estimate. A total of 121 drill holes intersected the Mineral Resource wireframed domains. The database contained 10,134 assays for Pd, Pt, Cu Ni, and Au, 7,329 assays for Co, and 1,129 assays for Rh. Industry standard validation checks were completed on the compiled database and the authors of this Technical Report consider that the database is suitable for Mineral Resource estimation.

Local topography was derived from the Ontario Mining Land tenure map. A total of five mineralization domain models were generated by the authors of this Technical Report from successive polylines spaced along drill hole cross-sections created every 50 m and oriented perpendicular to the general trend of the mineralization. The constraining domain outlines were influenced by the selection of mineralized material grading above 0.2 g/t PdEq that demonstrated lithological and grade continuity along strike and down dip.

A compositing length of 1.0 m was selected for Mineral Resource estimation. The presence of high-grade outliers for the composite data was evaluated by a review of composite summary statistics, histograms and probability plots. Based on this analysis, a very small number of composites were grade capped for Pd, Pt, Au, Cu, Ni, Rh and Co in most of the domains.

An average in-situ bulk density of 2.97 t/m^3 was applied to the mineralized domains based on an average of 60 density measurements on drill core by Actlabs. The East Bull PGM Deposit Mineral Resource model was divided into a block model framework with blocks extending 5 m in the X-direction, 2.5 m in the Y-direction, and 5 m in the Z-direction. A volume percent block model was set up to accurately represent the volume and subsequent tonnage that was occupied by each block inside the constraining wireframe domain. The Pd, Pt, Au and Rh grades were interpolated into the blocks using Inverse Distance weighting to the third power ("ID^3"), whereas Cu, Ni and Co grades were interpolated into the blocks using Inverse Distance weighting to the second power ("ID^2"). Nearest Neighbour ("NN") was interpolated for validation purposes.

Mineral Resources were estimated and classified in compliance with guidelines established by the Canadian Institute of Mining, Metallurgy and Petroleum (2014) and Best Practices Guidelines (2019). Mineral Resource classification was implemented by generating three-dimensional domains around those parts of the block model for which the drill hole spacing and grade estimates met the required continuity criteria. The Mineral Resources were classified as Indicated and

Inferred based on the geological interpretation, variogram performance, and drill hole spacing. The Indicated Mineral Resource was classified for the blocks interpolated with Pass I, that used at least two drill holes within a spacing of 50 m. The Inferred Mineral Resource was classified for the block interpolated with Passes II and III that were estimated with at least one drill hole.

In the opinion of the authors of this Technical Report section, all the drilling, assaying and exploration work on the East Bull Project supports this Mineral Resource Estimate and is based on spatial continuity of the mineralization within a potentially mineable shape are sufficient to indicate a reasonable potential for economic extraction, thus qualifying it as a Mineral Resource under the 2014 CIM Definition Standards.

The East Bull Mineral Resource Estimate was derived from applying NSR cut-off values to the block models and reporting the resulting tonnes and grades for potentially mineable areas.

The following parameters were used to calculate the NSR cut-off values that determine open pit and out-of-pit mining potentially economic portions of the constrained mineralization: Pd metal price - US$1,840/oz; Pt metal price - US$1,180/oz; Au metal price - US$1,640/oz; Rh metal price - US$8,000/oz; Cu metal price - US$3.75/lb; Ni metal price - US$7.75/lb; Co metal price - US$24.00/lb; Currency exchange rate - C$:US$=0.80; Pd concentrate recovery - 82%; Pt concentrate recovery - 80%; Au concentrate recovery - 75%; Rh concentrate recovery - 80%; Cu concentrate recovery - 85%; Ni concentrate recovery - 30%; Co concentrate recovery - 50%; Pd smelter payable - 90%; Pt smelter payable - 90%; Au smelter payable - 85%; Rh smelter payable - 90%; Cu smelter payable - 85%; Ni smelter payable - 90%; Co smelter payable - 50%; Pd refining charge - US$7.50/oz; Pt refining charge - US$7.50/oz; Au refining charge - US$7.50/oz; Rh refining charge - US$7.50/oz; Cu refining charge - US$0.08/lb; Ni refining charge - US$0.50/lb; Co refining charge - US$3.00/lb; Open pit mining cost - C$2.50/t; Underground mining cost - C$35/t; Processing cost - C$13/t; and G&A - C$2/t.

The NSR cut-off value of the pit-constrained Mineral Resource Estimate is C$15/t. The NSR cut-off value of the out-of-pit Mineral Resource Estimate is C$50/t.

The Mineral Resource Estimate is reported with an effective date of March 2, 2022 and is tabulated in Table 1.1. The authors of this Technical Report section consider the mineralization of the East Bull Property to be potentially amenable to open pit and out-of-pit mining methods.

TABLE 1.1
MINERAL RESOURCE ESTIMATE [1-4]

Class	Tonnes (Mt)	Pd (g/t)	Pd (koz)	Pt (g/t)	Pt (koz)	Cu (%)	Cu (Mlb)	Au (g/t)	Au (koz)	Ni (%)	Ni (Mlb)	Co (%)	Co (Mlb)	Rh (g/t)	Rh (koz)	PdEq (g/t)	PdEq (koz)	NSR (C$/t)
Pit Constrained Mineral Resource @ C$15/t NSR Cut-off																		
Indicated	16.3	0.49	257.7	0.19	102.0	0.11	38.5	0.05	24.6	0.05	17.4	0.006	2.3	0.016	8.3	0.92	484.6	50.29
Inferred	12.7	0.49	200.6	0.18	75.6	0.10	27.0	0.05	20.3	0.04	11.7	0.006	1.8	0.016	6.6	0.90	367.8	48.92
Out-of-Pit Mineral Resource @ C$50/t NSR Cut-off																		
Indicated	0.2	0.60	4.1	0.22	1.5	0.14	0.6	0.05	0.4	0.05	0.2	0.007	0.0	0.018	0.1	1.09	7.5	59.56
Inferred	3.6	0.75	86.9	0.26	29.7	0.13	10.0	0.07	7.9	0.05	4.3	0.008	0.6	0.025	2.9	1.31	151.8	71.20
Total Mineral Resource @ C$15/t and C$50/t NSR Cut-off																		
Indicated	16.5	0.49	261.8	0.19	103.5	0.11	39.2	0.05	24.9	0.05	17.7	0.006	2.3	0.016	8.4	0.93	492.1	50.41
Inferred	16.3	0.55	287.4	0.20	105.4	0.10	37.0	0.05	28.2	0.04	16.0	0.007	2.4	0.018	9.5	0.99	519.6	53.84

Notes: *class = classification.*

1. *Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.*
2. *The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*
3. *The Inferred Mineral Resource in this estimate has a lower level of confidence than that applied to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of the Inferred Mineral Resource could potentially be upgraded to an Indicated Mineral Resource with continued exploration.*
4. *The Mineral Resources were estimated in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions (2014) and Best Practices Guidelines (2019) prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council.*

1.6 Environmental Studies, Permits and Social or Community Impact

An East Bull Project will include the planning, construction, operation, and closure of a PGM mining operation that will utilize open pit mining methods to extract mineralized material at a rate of >5,000 tonnes per day ("tpd"). Mineralized material will be fed to an on-site processing plant, where a valuable concentrate, representing approximately 1% of the process feed tonnage would be produced, stockpiled, and transported to either a Canadian smelter or an off-shore facility.

In addition to a process plant, mine requirements include: mine maintenance, maintenance and administration buildings, and other structures. Additional supporting infrastructure that will be developed includes site access and haul roads, a power transmission line and transformer station, water management infrastructure, tailings and waste rock and overburden/topsoil storage areas. On-site accommodation for workers is not expected to be required due the close proximity to nearby communities.

The Property can be described as "greenfield" with no significant, existing environmental liabilities from previous exploration activity.

An East Bull Project can be expected to require both federal and provincial regulatory approvals. The federal and provincial Environmental Assessment ("EA") processes and permitting framework for metal mining in Canada are well established. Following EA approval, the East Bull Project will enter a permitting phase that will regulate the Project through all phases of development, including construction, operation, closure, and even post-closure. Throughout all of these processes, consultation with and, advice from, local First Nations and communities is considered essential. The nearest First Nation and communities are the Sagamok Anishnawbek First Nation and the Town of Massey, 30 km and 26 km, respectively, south-southeast of the East Bull Property.

The following studies, reviews and activities that will be required to support of an EA preparation and submission include: land and resource use; archeological assessment; indigenous engagement and consultation; and public and government agency consultation. The environmental baseline studies anticipated to be performed to support the future development of an East Bull Project include: climate and atmospheric environment; surface water hydrology and quality; hydrogeology and groundwater quality; aquatic environment; terrestrial environment; and geochemical characterization.

A Closure Plan, with financial assurance, will be required to be filed with the Ministry of Northern Development, Mines, Natural Resources and Forestry ("MNDMNRF") before project development can proceed. The Plan will include: site decommissioning and asset removal, demolition and disposal, rehabilitation, and reporting of monitoring. Progressive rehabilitation will be completed throughout the life of the East Bull Project whenever feasible. Following closure, the mine site will be made as safe as possible and permit unrestricted public access.

1.7 CONCLUSION AND RECOMMENDATIONS

The East Bull Palladium Project contains a significant PGM and base metal Mineral Resource that is associated with a well-defined layered gabbroic intrusion and associated magma conduits. The Property has potential for delineation of additional Mineral Resources associated with extension of known contact-type mineralization zones and for discovery of high-grade magma conduit-type mineralization.

Based on the current Mineral Resource Estimate, the authors of this Technical Report recommend that Canadian Palladium advance development studies at East Bull including further metallurgical testwork, initiate base line environmental studies and complete a Preliminary Economic Assessment ("PEA") to evaluate development potential. A program totalling C$2,753,000 is recommended (Table 1.2).

TABLE 1.2
RECOMMENDED PROGRAM AND BUDGET

Program	Units	Unit Cost (C$)	Budget (C$)
Borehole Geophysics - Cross hole IP (EOH Zone)	8 x - drill hole pairs	$10,000/ drill hole pair	80,000
Borehole Geophysics - BHEM (GAP Target)	6 drill holes	$8,000 drill hole	48,000
Mineral Resource Expansion and In-fill Drilling	20 drill holes - 5,000 m	$200/m all-in	1,000,000
Exploration EOH and GAP Zones Drilling	12 drill holes - 4,000 m	$200/m all-in	800,000
Program Management	5 months	$15,000/month	75,000
Baseline Environmental and ABA			125,000
Metallurgical Testwork			125,000
Update MRE and Complete PEA			250,000
Sub-Total			**2,503,000**
Contingency (10%)			250,000
Total			**2,753,000**

2.0 INTRODUCTION AND TERMS OF REFERENCE

2.1 TERMS OF REFERENCE

The following report was prepared to provide a National Instrument ("NI") 43-101 Technical Report and updated Resource Estimate for the platinum group metal ("PGM") and base metal mineralization contained in the East Bull Palladium Property ("Property"), Gerow Township, Sudbury Mining Division, Ontario. Canadian Palladium Resources Inc. ("Canadian Palladium") has an option to earn a 100% ownership in the Property.

This Technical Report was prepared by P&E Mining Consultants Inc. ("P&E") at the request of Mr. Wayne Tisdale, President and CEO, of Canadian Palladium, a British Columbia registered corporation, trading under the symbol of "BULL" on the CSE, "DCR1" on the FSE and "DCNNF" on the OTCQB Exchange. Canadian Palladium's head office is located at:

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This Technical Report has an effective date of March 2, 2022.

The present Technical Report is prepared in accordance with the requirements of National Instrument 43-101 (NI 43-101) and in compliance with Form NI 43-101F1 of the Ontario Securities Commission ("OSC") and the Canadian Securities Administrators ("CSA"). The Mineral Resources in the estimate are considered compliant with the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM"), CIM Standards on Mineral Resources and Reserves, Definitions (2014) and Best Practices Guidelines (2019) prepared by the CIM Standing Committee on Reserve Definitions.

2.2 SITE VISIT

Mr. Antoine Yassa, a Qualified Person under the regulations of NI 43-101, conducted a site visit to the Property on October 14, 2021. At that time, an independent verification sampling program was conducted by Mr. Yassa. Mr. Yassa previously visited the Property on October 31 and November 1, 2017 for the previous, 2019 NI 43-101 Technical Report.

2.2 SOURCES OF INFORMATION

In addition to the site visit, the authors of this Technical Report held discussions with technical personnel from the Company regarding all pertinent aspects of the Project and carried out a review of available literature and documented results concerning the Property. The reader is referred to those data sources, which are outlined in the References section of this Technical Report, for further details.

This Technical Report is based, in part, on internal company technical reports, and maps, published government reports, company letters, memoranda, public disclosure and public information as listed in the References at the conclusion of this Technical Report. Sections from reports authored by other consultants have been directly quoted or summarized in this Technical Report, and are so indicated where appropriate.

Table 2.1 presents the authors and co-authors of each section of this Technical Report, who in acting as independent Qualified Persons as defined by NI 43-101, take responsibility for those sections of this Technical Report as outlined in the "Certificate of Author" included in Section 28 of this Technical Report. Sections 2, 3, 4, 5, 6, 7 ,8, 9, 10 and 23 of this Technical Report were prepared by Canadian Palladium, under the supervision of William Stone, Ph.D., P.Geo., who acting as a Qualified Person, as defined by NI 43-101, takes responsibility for those sections of this Technical Report as outlined in the "Certificate of Author" included in this Technical Report.

TABLE 2.1
QUALIFIED PERSONS RESPONSIBLE FOR THIS TECHNICAL REPORT

Qualified Person	Contracted By	Sections of Technical Report
Mr. William Stone, Ph.D., P.Geo.	P&E Mining Consultants Inc.	2-10, 15-16, 18-19, 21-24 and Co-author 1, 25-26
Mr. Eugene Puritch, P.Eng., FEC, CET	P&E Mining Consultants Inc.	Co-author 1, 14, 25-26
Mr. Yungang Wu, P.Geo.	P&E Mining Consultants Inc.	Co-author 1, 14, 25-26
Ms. Jarita Barry, P.Geo.	P&E Mining Consultants Inc.	11 and Co-author 1, 12, 25-26
Mr. D. Grant Feasby, P.Eng.	P&E Mining Consultants Inc.	13, 20 and Co-Author 1, 25-26
Mr. Antoine Yassa, P.Geo.	P&E Mining Consultants Inc.	Co-author 1, 12, 14, 25-26

2.3 UNITS AND CURRENCY

Unless otherwise stated all units used in this report are metric. Precious metal assay values (Au, Pd, Pt, Rh) are reported in grams of metal per tonne ("g/t"), parts per million ("ppm") and in parts per billion ("ppb"). Silver ("Ag") is reported in grams of metal per tonne ("g/t") and parts per million ("ppm"). One (1) g/t is equal to 1 ppm or 1,000 ppb. The C$ is used throughout this report unless the US$ is specifically stated. At the effective date of this Technical Report, the rate of exchange between the US$ and the C$ is 1 US$ = 1.27 C$. Geographic coordinates are based on NAD 83, Zone 17N.

The following list shows the meaning of the abbreviations for technical terms used throughout the text of this report, Table 2.2.

TABLE 2.2
TERMINOLOGY AND ABBREVIATIONS

Abbreviation	Meaning
$	dollar
°	degree
°C	degree Celsius
$	dollar
<	less than
>	greater than
µm	micrometre/micron (1 µm = 0.001 mm)
%	percent
1SD	one standard deviation
2-D	two-dimensional
3-D	three-dimensional
2SD	two standard deviations
AA	atomic absorption
Actlabs	Activation Laboratories Ltd.
AECL	Atomic Energy of Canada Ltd.
Ag	silver
AGAT	AGAT Laboratories Ltd.
AGZ	Anorthositic Gabbro Zone
Ai	abrasion index
ALI	Agnew Lake Intrusion
ALS	ALS Laboratories, part of the ALS Laboratory Group
As	arsenic
asl	above sea level
Au	gold
BHEM	borehole electromagnetic
BWI	bond ball mill work index
BQTK	BQ size, core 36.4 mm diameter, thin kerf diamond drill hole
°C	degree Celsius
C$	Canadian Dollar
Canadian Palladium	Canadian Palladium Resources Inc.
CDN	CDN Resource Laboratories Ltd.
CEAA	Canadian Environmental Assessment Act
CIM	Canadian Institute of Mining, Metallurgy, and Petroleum
Cliffs	Cliffs Natural Resources Inc.
cm	centimetre(s)
Co	cobalt
Company, the	Canadian Palladium Resources Inc., the company that the report is written for
CoV	coefficient of variation
CoV_{AV}	average coefficients of variation

TABLE 2.2
TERMINOLOGY AND ABBREVIATIONS

Abbreviation	Meaning
CRM	certified reference material
CSA	Canadian Securities Administrators
Cu	copper
DCP	direct current plasma
DDH	diamond drill hole
DGPS	differential GPS
$M	dollars, millions
E	east
EA	Environmental Assessment
East Bull Property or the Property	East Bull Palladium Property
EBLI	East Bull Lake Intrusion
ECCCan	Environment and Climate Change Canada
EDS	energy dispersive spectrometer
EM	electromagnetic
FLEM	fixed loop EM (electromagnetic)
Freewest	Freewest Resources Canada Inc.
g	gram
Ga	Giga annum or billions of years
g/t	grams per tonne
GPS	global positioning system
Grid Claim	Legacy Claim 1227910 acquired from Grid Metals Corp.
Grid Metals	Grid Metals Corp.
ha	hectare(s)
HW	hanging wall
IBZ	Inclusion-Bearing Zone
ICP-AES	inductively coupled plasma – atomic emission spectroscopy
ICP-AES/MS	inductively coupled plasma – atomic emission spectroscopy/mass spectrometry
ICP-OES	inductively coupled plasma – optical emission spectrometry
ICP-MS	inductively coupled plasma – mass spectrometry
ID	identification
ID^2	Inverse Distance squared, Inverse Distance weighting to the second power
ID^3	Inverse Distance cubed, Inverse Distance weighting to the third power
IP	induced polarization
ISO	International Organization for Standardization
ISO/IEC	International Organization for Standardization and the International Electrotechnical Commission
JV	joint venture
k	thousand(s)

TABLE 2.2
TERMINOLOGY AND ABBREVIATIONS

Abbreviation	Meaning
km	kilometre(s)
koz	thousands of ounces
kW	kilowatt
kWh/t	kilowatt hour per tonne
lb	pound (weight)
M	millions
m	metre(s)
m^3	cubic metre(s)
Ma	millions of years
mag	magnetic
MECP	Ministry of Environment Conservation and Parks
Mlb	millions of pounds
MLAS	Ontario Government's Mining Lands Administration System
MLEM	moving in-loop EM (electromagnetic)
MMER	Metal Mining Effluent Regulations
MNDM	Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry, previously Ministry of Northern Development and Mines
MNDMNRF	Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry
Moz	million ounces
Mt	millions of tonnes
MT	magnetotellurics
Mtpy	millions of tonnes per year
Mustang	Mustang Minerals Corp. now renamed Grid Metals Corp.
Noront	Noront Resources Ltd.
N	north
NAD	North American Datum
NE	northeast
Ni	nickel
NI	National Instrument
NN	Nearest Neighbour
NRCan	Natural Resources Canada
NSR	net smelter return
NTS	National Topographic System
NW	northwest
OSC	Ontario Securities Commission
OTCQB	OTCQB Venture Exchange
oz	Troy ounce
P_{80}	80% passing
P&E	P&E Mining Consultants Inc.
Pavey Ark	Pavey Ark Minerals Inc.

TABLE 2.2
TERMINOLOGY AND ABBREVIATIONS

Abbreviation	Meaning
Pavey Ark Royalty	NSR royalty in favour of Pavey Ark Minerals Inc. on the Grid Claim
PAX	potassium amyl xanthate
Pd	palladium
PdEq	palladium equivalent
PEA	Preliminary Economic Assessment
P.Eng.	Professional Engineer
PGE	platinum group elements
P.Geo.	Professional Geoscientist
PGM	platinum group metals
ppb	part per billion
ppm	parts per million
Prospector Royalty	NSR royalty in favour of the original prospector stakers on the Grid Claim
Property, the	East Bull Palladium Property
Pt	platinum
QA	quality assurance
QA/QC	quality assurance/quality control
QC	quality control
QEMSCAN	quantitative evaluation of materials by scanning electron microscopy
R^2	coefficients of determination
REE	rare-earth elements
Rh	rhodium
RQD	rock quality determination
S	sulphur
Se	selenium
SEDAR	System for Electronic Document Analysis and Retrieval
SGS	SGS Laboratories, part of SGS Canada Inc., SGS SA
t	metric tonne(s)
tpd	tonnes per day
TDEM	Time-Domain EM (electromagnetic)
US$	United States dollar(s)
UTM	Universal Transverse Mercator grid system
VLF	very low frequency
VT Melagabbro	Varitextured Melagabbro
VTEM™	Versatile Time Domain Electromagnetic
W	west
ZTEM™	Z-Axis Tipper Electromagnetic

3.0 RELIANCE ON OTHER EXPERTS

The authors of this Technical Report have assumed, and relied on the fact, that all the information and existing technical documents listed in the References section of this Technical Report are accurate and complete in all material aspects. Whereas the authors have carefully reviewed all the available information presented to us, its accuracy and completeness cannot be guaranteed. The Technical Report authors reserves the right, but will not be obligated to revise the Technical Report and conclusions if additional information becomes known to us subsequent to the date of this Technical Report.

Copies of the tenure documents, operating licenses, permits, and work contracts were not reviewed. Information relating to tenure was reviewed by means of the public information available through the Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry ("MNDM" or "MNDMNRF") website at: https://www.mndm.gov.on.ca/en/mines-and-minerals/land-tenure-and-geoscience-resources. The Technical Report authors have relied upon this public information, and tenure information from Canadian Palladium and has not undertaken an independent detailed legal verification of title and ownership of the East Bull Palladium Property ownership. The authors have not verified the legality of any underlying agreement(s) that may exist concerning the licenses or other agreement(s) between third parties, but have relied on, and considers that it has a reasonable basis to rely upon Canadian Palladium to have conducted the proper legal due diligence.

Select technical data, as noted in the Technical Report, were provided by Pavey Ark and Canadian Palladium and the Technical Report authors have relied on the integrity of such data.

A draft copy of this Technical Report has been reviewed for factual errors by the client and the Technical Report authors have relied on Canadian Palladium's knowledge of the Property in this regard. All statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false and misleading at the date of this Technical Report.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 LOCATION

The East Bull Palladium Property is located in Gerow Township, 26 km northwest of the Town of Massey, Ontario and 90 km west of the City of Sudbury, Ontario (Figure 4.1). The Property is accessed by Route 553/810, an all-weather road that extends north from the Trans-Canada Highway 17 at the Town of Massey, Ontario.

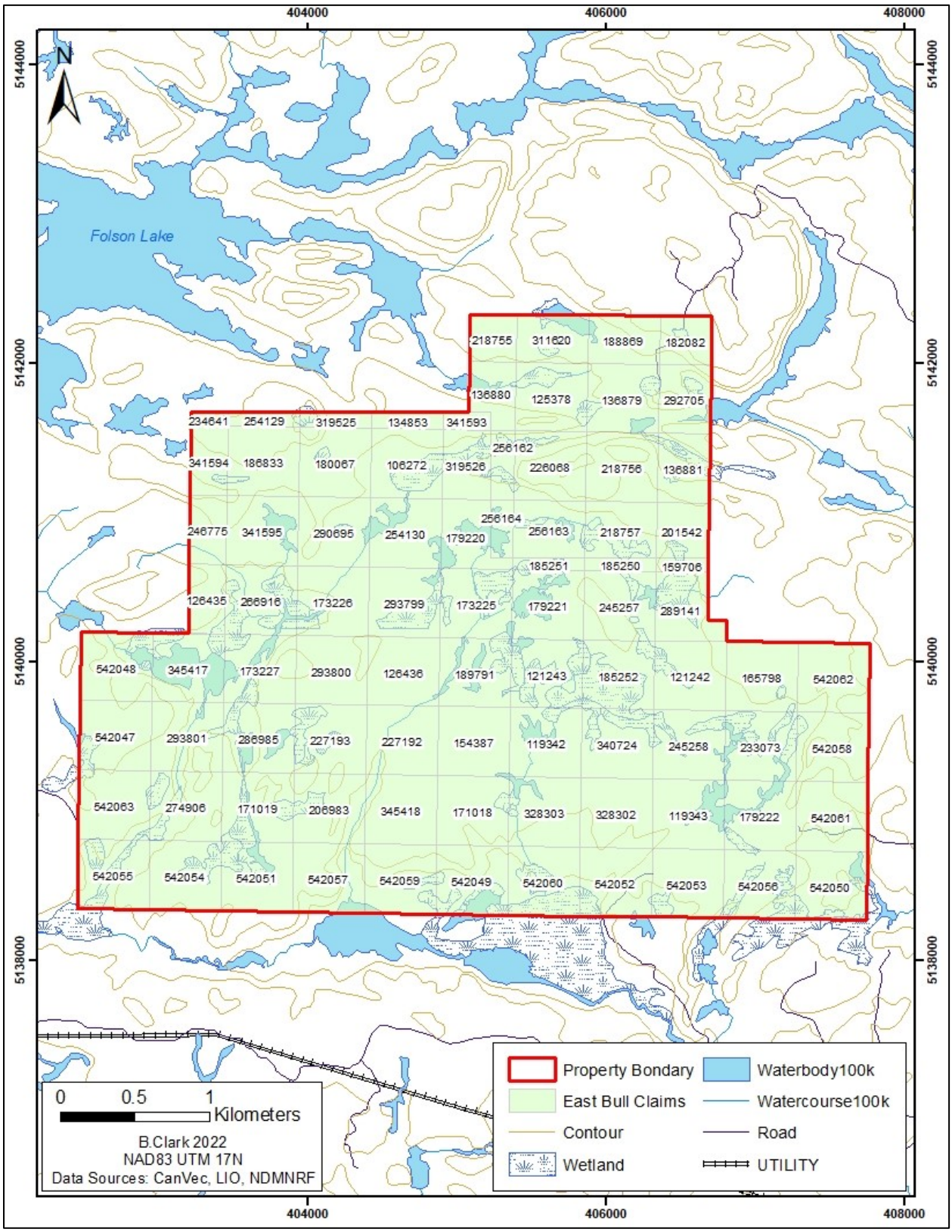
FIGURE 4.1 LOCATION MAP OF THE EAST BULL PALLADIUM PROPERTY

Source: *Pavey Ark (2018) and Google Earth (2018)*

4.2 PROPERTY DESCRIPTION AND TENURE

The East Bull Palladium Property is comprised of 86 contiguous staked mining claims (60 cell claims and 26 boundary claims) covering an area of approximately 73 claim units (approximately 1,606 ha) in central Gerow Township, Sudbury Mining Division (Figure 4.2 and Table 4.1).

FIGURE 4.2 EAST BULL PALLADIUM PROPERTY MAP



Source: *Canadian Palladium (March 2022)*

TABLE 4.1
EAST BULL PALLADIUM PROPERTY CLAIMS LIST, GEROW TOWNSHIP

Tenure ID	Legacy Claim ID	Claim Type	Anniversary Date	Tenure Status	Tenure (%)	Work Required (C$)	Work Applied (C$)	Total Reserve (C$)
311620	1227910	Boundary Cell	09/06/2023	Active	100	$200	$400	$0
292705	1227910	Boundary Cell	09/06/2023	Active	100	$200	$400	$500
256164	1227910	Boundary Cell	09/06/2023	Active	100	$200	$400	$0
256163	1227910	Boundary Cell	09/06/2023	Active	100	$200	$400	$0
256162	1227910	Boundary Cell	09/06/2023	Active	100	$200	$400	$140,264
226068	1227910	Single Cell	09/06/2023	Active	100	$400	$800	$264,692
218757	1227910	Boundary Cell	09/06/2023	Active	100	$200	$400	$26,320
218756	1227910	Single Cell	09/06/2023	Active	100	$400	$800	$24,650
218755	1227910	Boundary Cell	09/06/2023	Active	100	$200	$400	$294
201542	1227910	Boundary Cell	09/06/2023	Active	100	$200	$400	$406
188869	1227910	Boundary Cell	09/06/2023	Active	100	$200	$400	$14,742
182082	1227910	Boundary Cell	09/06/2023	Active	100	$200	$400	$0
136881	1227910	Boundary Cell	09/06/2023	Active	100	$200	$400	$1,500
136880	1227910	Boundary Cell	09/06/2023	Active	100	$200	$400	$162,650
136879	1227910	Single Cell	09/06/2023	Active	100	$400	$800	$3,292
125378	1227910	Single Cell	09/06/2023	Active	100	$400	$800	$357,500
341595	4272475	Single Cell	17/11/2023	Active	100	$400	$1,200	$150
341594	4272475	Boundary Cell	17/11/2023	Active	100	$200	$600	$800
341593	4272475	Boundary Cell	17/11/2023	Active	100	$200	$600	$116,092
319526	4272475	Boundary Cell	17/11/2023	Active	100	$200	$600	$107,352
319525	4272475	Boundary Cell	17/11/2023	Active	100	$200	$600	$148,070
293799	4272475	Single Cell	17/11/2023	Active	100	$400	$1,200	$26,459
290695	4272475	Single Cell	17/11/2023	Active	100	$400	$1,200	$6,486
266916	4272475	Single Cell	17/11/2023	Active	100	$400	$1,200	$0

TABLE 4.1
EAST BULL PALLADIUM PROPERTY CLAIMS LIST, GEROW TOWNSHIP

Tenure ID	Legacy Claim ID	Claim Type	Anniversary Date	Tenure Status	Tenure (%)	Work Required (C$)	Work Applied (C$)	Total Reserve (C$)
254130	4272475	Single Cell	17/11/2023	Active	100	$400	$1,200	$829
254129	4272475	Boundary Cell	17/11/2023	Active	100	$200	$600	$771
246775	4272475	Boundary Cell	17/11/2023	Active	100	$200	$600	$941
234641	4272475	Boundary Cell	17/11/2023	Active	100	$200	$600	$428
186833	4272475	Single Cell	17/11/2023	Active	100	$400	$1,200	$5,074
180067	4272475	Single Cell	17/11/2023	Active	100	$400	$1,200	$282,173
179220	4272475	Boundary Cell	17/11/2023	Active	100	$200	$600	$2,648
173226	4272475	Single Cell	17/11/2023	Active	100	$400	$1,200	$2,501
173225	4272475	Single Cell	17/11/2023	Active	100	$400	$1,200	$0
134853	4272475	Boundary Cell	17/11/2023	Active	100	$200	$600	$354,750
126435	4272475	Boundary Cell	17/11/2023	Active	100	$200	$600	$0
106272	4272475	Single Cell	17/11/2023	Active	100	$400	$1,200	$158,000
345418	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
345417	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
293801	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
293800	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
286985	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
274906	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
227193	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
227192	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
206983	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
189791	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$337
173227	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
171019	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
171018	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0

TABLE 4.1
EAST BULL PALLADIUM PROPERTY CLAIMS LIST, GEROW TOWNSHIP

Tenure ID	Legacy Claim ID	Claim Type	Anniversary Date	Tenure Status	Tenure (%)	Work Required (C$)	Work Applied (C$)	Total Reserve (C$)
154387	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
126436	4288039	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
340724	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
328303	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
328302	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
289141	4288040	Boundary Cell	15/01/2023	Active	100	$200	$600	$0
245258	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
245257	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$680
233073	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
185252	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
185251	4288040	Boundary Cell	15/01/2023	Active	100	$200	$600	$0
185250	4288040	Boundary Cell	15/01/2023	Active	100	$200	$600	$0
179222	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
179221	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$3,589
165798	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
159706	4288040	Boundary Cell	15/01/2023	Active	100	$200	$600	$0
121243	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
121242	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
119343	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
119342	4288040	Single Cell	15/01/2023	Active	100	$400	$1,200	$0
542063		Single Cell	13/02/2023	Active	100	$400	$800	$0
542062		Single Cell	13/02/2023	Active	100	$400	$800	$0
542061		Single Cell	13/02/2023	Active	100	$400	$800	$0
542060		Single Cell	13/02/2023	Active	100	$400	$800	$0
542059		Single Cell	13/02/2023	Active	100	$400	$800	$0

TABLE 4.1
EAST BULL PALLADIUM PROPERTY CLAIMS LIST, GEROW TOWNSHIP

Tenure ID	Legacy Claim ID	Claim Type	Anniversary Date	Tenure Status	Tenure (%)	Work Required (C$)	Work Applied (C$)	Total Reserve (C$)
542058		Single Cell	13/02/2023	Active	100	$400	$800	$0
542057		Single Cell	13/02/2023	Active	100	$400	$800	$0
542056		Single Cell	13/02/2023	Active	100	$400	$800	$0
542055		Single Cell	13/02/2023	Active	100	$400	$800	$0
542054		Single Cell	13/02/2023	Active	100	$400	$800	$0
542053		Single Cell	13/02/2023	Active	100	$400	$800	$0
542052		Single Cell	13/02/2023	Active	100	$400	$800	$0
542051		Single Cell	13/02/2023	Active	100	$400	$800	$0
542050		Single Cell	13/02/2023	Active	100	$400	$800	$0
542049		Single Cell	13/02/2023	Active	100	$400	$800	$0
542048		Single Cell	13/02/2023	Active	100	$400	$800	$0
542047		Single Cell	13/02/2023	Active	100	$400	$800	$0
Total		86				$29,200	$76,800	$2,214,940

Source: *MLAS website https://www.mndm.gov.on.ca/en/mines-and-minerals/land-tenure-and-geoscience-resource , accessed March 16, 2022.*

On February 23, 2019, Canadian Palladium signed an option agreement with Pavey Ark Minerals Inc. to acquire a 100% interest in the East Bull Palladium Property. Under the terms of the option agreement, in order to acquire the 100% interest, Canadian Palladium is required to make payments of C$1,000,000 cash, issue a total of 4,500,000 shares, and complete C$1,750,000 exploration expenditures on the Property on or before March 1, 2023. As of the effective date of this Technical Report, Canadian Palladium has completed the exploration requirements in full and has issued 3,500,000 shares and made C$500,000 in cash payments.

The claims are currently registered in the name of Pavey Ark Minerals Inc. Pavey Ark originally acquired legacy claim 4272475 by staking in 2016, purchased legacy claim 1227910 from Mustang Minerals Corp. in 2017, and staked legacy claims 4288039 and 4288040 in January 2018. Additional claims were subsequently acquired by on-line staking in late 2019. Details of claim due dates, work requirements, and work credits are shown in Table 4.1.

The 86 claims that form the East Bull Palladium Property are all active, in good standing and do not require further assessment credits be applied until at least January 15, 2023. The Property requires a total annual assessment of C$29,200 to be maintained in good standing, however, the Property currently has a total reserve of C$2,224,940 that are available for distribution and are sufficient to maintain the Property for several decades after the claim due dates in Table 4.1.

Legacy Claim 1227910 that was acquired from Grid Metals Corp. ("Grid Metals") (formerly known as Mustang Minerals) ("Grid Claim") and is subject to a 0.5% NSR royalty in favour of Grid Metals plus a 3.0% NSR royalty in favour of the original prospector stakers ("Prospector Royalty"). Canadian Palladium has a right to purchase up to 2% of the Prospector Royalty at a rate of C$1.0M for each 1.0% of the NSR royalty.

Canadian Palladium's option agreement is subject to an NSR royalty in favour of Pavey Ark ("Pavey Ark Royalty"). The Pavey Ark Royalty is calculated at one-half percent (0.5%) of the Net Smelter Returns on any mineral production from legacy mineral claim 1227910 (Grid Claim) and calculated at two percent (2.0%) of the Net Smelter Returns on any mineral production from legacy mineral claims 4272475, 4288039 and 4288040.

Canadian Palladium has provided the authors of this Technical Report with the information relating to the unpatented claims. Ownership of the unpatented claims has been independently verified by the authors of this Technical Report utilizing public information available through the MNDM website at: http://www.mndm.gov.on.ca/en/mines-and-minerals/applications. The East Bull Palladium Property claims are on Crown Land and comprise mineral rights only.

4.3 ONTARIO MINERAL TENURE

The Ministry of Energy, Northern Development and Mines implemented the new Mining Lands Administration System (MLAS) that provides for on-line staking and claim management on April 10, 2018. The MLAS system replaced the former ground staking system with physical claim posts. All legacy claims that were acquired under the former system were redefined as cell claims and boundary cell claims with a new tenure number for identification.

Ontario Crown lands are available to licensed prospectors for the purposes of mineral exploration. A licensed prospector must first stake a mining claim to gain the exclusive right to explore on Crown land. Claim staking is governed by the Ontario Mining Act and is managed on-line through MLAS and administered through the Provincial Mining Recorder and Mining Lands offices of the MNDM.

Mining claims can be staked either in a single cell or in a block consisting of several cells. Cells are pre-determined by a provincial grid system that is based on the NTS map grid system. Consequently, the claim dimensions are not uniform across the Province. In Gerow Township, a single cell claim has an area of approximately 22 ha.

Upon completion of staking and payment of a C$50/cell registration fee, a claim remains valid as long as the claim holder properly completes and files the assessment work as required by the Mining Act. A claim holder is not required to complete any assessment work within the first year of recording a mining claim. After the first year, in order to keep an unpatented mining claim current, the mining claim holder must perform C$400 worth of approved assessment work per mining claim cell per year. Claims are forfeited if the assessment work is not done.

A claimholder may prospect or carry out mineral exploration on the land under the claim. However, the land covered by these claims must be converted to leases before any development work or mining can be performed. Mining leases are issued for 21-year terms and may be renewed for further 21-year periods. Leases can be issued for surface and mining rights, mining rights only or surface rights only. Once issued, the lessee pays an annual rent to the province. Furthermore, prior to bringing a mine into production, the lessee must comply with all applicable federal and provincial legislation.

4.4 ENVIRONMENTAL AND PERMITTING

Canadian Palladium currently holds an exploration permit (PR-20-000092) for the Property that was issued by the Ontario MNDM for airborne geophysical surveys, ground geophysical surveys, line cutting, mechanized drilling, mechanized stripping, pitting and trenching of bedrock, and trail construction. The permit was effective on April 28, 2020 and is valid until April 27, 2023.

There has been no prior production on the East Bull Palladium Property and there are no environmental liabilities associated with the Canadian Palladium claim holdings.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 ACCESS

The East Bull Palladium Property is located 26 km northwest of the Town of Massey, Ontario and 90 km west of the City of Sudbury, Ontario. The Property is accessed by Route 553/810, an all-weather road that extends north of the Trans-Canada Highway 17 at Massey (Figure 5.1).

FIGURE 5.1 EAST BULL PALLADIUM PROPERTY ACCESS

Source: *Ontario Ministry of Transportation (2018)*

At approximately 31 km north of Massey on route 553, the Project is accessed by turning left onto a gravel bush road known locally as the "AECL Road". The AECL Road extends from Route 553 for a total distance of four km and terminates in the northeast corner of the Property. The AECL Road is readily passable by vehicles during the spring through autumn, but is not maintained in winter. From the terminus of the AECL Road, an ATV trail continues west through the Property to the western boundary of the Property.

5.2 CLIMATE

The Property area has a humid continental climate (Koppen climate classification *Dfb*) with temperatures averaging approximately 24° C in summer and -9° C in winter. Extreme temperatures range from >30° C in summer and <-40° C in winter. Annual precipitation consists of approximately 60 cm of rain and 240 cm of snow. Exploration and mining can be carried out year-round.

5.3 INFRASTRUCTURE

The Property benefits from close proximity to the City of Sudbury. Greater Sudbury, with a population 166,004 (2021 Census), is the largest city in northern Ontario.

Sudbury is home to the fully integrated base metal and precious metal mining, mineral processing, smelting and refining complexes of Vale Canada Limited and Glencore plc. There are numerous companies based in Sudbury that are involved in mining related activities and offer expertise covering all areas of exploration, mining, mineral processing, smelting and environmental rehabilitation. Sudbury is serviced by major highways, rail infrastructure, and daily commercial air service to Toronto and other major centres.

Limited food, fuel, and lodging are available at the East Bull Lake Wilderness Resort, located approximately four km northeast of the Property. Food, fuel, and most supplies required for exploration are available in Massey, with a population of 3,214 (Canada 2016 census), located 32 km to the south. Espanola is the regional centre, has a population of 4,996 (2016 census), and is located 30 km east of Massey. A full range of equipment, supplies and services required for any mining development is available in Sudbury, a distance of 120 km from the Property by road.

Abundant water resources are present in the lakes, rivers, creeks, and beaver ponds on the Property. There is sufficient land on the Property to build and extend mining infrastructure. A major power transmission line is located four km south of the Property. Rail line and power infrastructure are located 24 km due south of the Property along the Trans-Canada Highway.

5.4 PHYSIOGRAPHY

The Property is located on the Canadian Shield in the north shore region of Lake Huron. The area is characterized by hilly terrain comprised of rock ridges with limited glacial overburden and intervening wetlands (Figure 5.2). The area is at an elevation of approximately 370 m asl, with local relief ranging from 360 m to 400 m. Higher ground is characterized by extensive outcrop exposure with mixed forest. Between the ridges are areas of wetland comprised of flooded beaver ponds with black spruce and muskeg.

Numerous rivers and lakes drain in overall easterly direction into the River aux Sables that is located immediately east of the Property. The River aux Sables joins the Spanish River at Massey and subsequently flows into the North Channel of Lake Huron.

FIGURE 5.2 EAST BULL PALLADIUM PROPERTY, VIEW LOOKING EAST ALONG MINERALIZED ZONE SHOWING OUTCROPPING RIDGE WITH INTERVENING WETLANDS

Source: *Pavey Ark (late October 2017), Dr. Colin Bowdidge establishing DGPS base station.*

6.0 HISTORY

6.1 INTRODUCTION

Moore and Armstrong (1943) completed the initial geological mapping of the East Bull Lake area and recognized the East Bull Lake Intrusion as a Proterozoic gabbroic intrusion. Between 1952 and 1962, a number of mining and exploration companies including Noranda Mines Inc., El Pen Ray Oil and Mines, Silcross Copper Mines Ltd., and Mining Corporation of Canada undertook ground magnetometer and EM surveys, trenching and diamond drilling to explore for Cu-Ni sulphide mineralization in the southeastern part of the East Bull Lake Intrusion (Wood, 2001: Soever, 2001 and Foy 2012). This work identified pyrrhotite-chalcopyrite mineralization in gabbroic rocks and diabase dykes along the southern margin of the intrusion, in what is now recognized as the Parisien Lake Deformation Zone, and in the area to the east of Moon Lake. Between 1982 and 1989 Atomic Energy of Canada Ltd. ("AECL") completed mapping, outcrop stripping, ground and airborne geophysics, and completed four drill holes (2,618 m) to assess the East Bull Lake Intrusion as a potential radioactive waste storage/disposal site.

6.2 EXPLORATION HISTORY

A summary of exploration history related to PGM mineralization on the East Bull Palladium Property is provided in Table 6.1.

The first documentation of PGM mineralization in the East Bull Lake area was by Gallo Exploration in 1989 to 1990. Gallo completed stripping, blasting, mapping and sampling of the sulphide occurrences plus VLF-EM and airborne magnetic surveys. This work identified significant PGM mineralization with assays from trenches of up to 1.3 g/t Pt and 4.2 g/t Pd associated with contact-type mineralization and values up to 0.8 g/t Pt, 3.9 g/t Pd, 0.68 g/t Au, 9.4% Cu, and 5.3% Ni in remobilized semi-massive sulphides in Parisien Lake Deformation Zone. This work was conducted to the east of the East Bull Palladium Property.

The East Bull Lake Intrusion was explored by Inco Exploration between 1991 and 1992. Work included mapping and diamond drilling (five drill holes for 1,512 m) with assays that included 0.2 g/t Pt, 0.95 g/t Pd, 0.57% Cu, 0.22% Ni and 0.35 g/t Pt, 3.08 g/t Pd, 14.7% Cu, 0.49% Ni. In 1995, WMC International Ltd. completed mapping, rock, soil, and till sampling. The "Neck Zone" (former Peck Grid) was reported to contain a continuous zone of 5% blebby sulphides with a best assay of 0.91 g/t Pt, 4.45 g/t Pd, 0.39 g/t Au, 0.53% Cu, and 0.11% Ni.

TABLE 6.1
SUMMARY OF EXPLORATION ON THE EAST BULL PD PROPERTY

Date	Performed By	Work Performed	Results
1991-1992	Inco Exploration	Mapping and prospecting covered the western lobe of the East Bull Intrusion including present claim group. Assessment file 41J08NE9720.	Best value on south zone - 589 ppm Cu, 258 ppm Ni, 193 ppb Au, 288 ppb Pt and 205 ppb Pd on present claim 4272475.
1995	WMC International Limited	Mapping and sampling covered the western lobe including the present claim group. Assessment file 41J08NE0022.	Best value on south zone (CR103535) yielded 0.11% Ni, 0.18% Cu, 0.04 g/t Au, 0.23 g/t Pt, and 0.68 g/t Pd on present claim 4272475.
1998	Freewest Resources Canada Inc.	Regional prospecting including area south of Folson Lake and discovery of Valhalla Zone. Assessment file 41J08NE2005.	Best value of 0.22 g/t Au, 1.34 g/t Pt, 3.15 g/t Pd at Valhalla Zone on present claim 4272475.
1998-1999	Freewest Resources Canada Inc.	Blast trenching, additional prospecting, five-hole 401.8 m BQ drilling program, HEM ground survey, IP survey. Assessment file 41J08NE2005.	DDH 99-01 intersected 50.4 m of 0.62 g/t Pt+Pd including 2.8 m of 1.93 g/t Pt+Pd, similar results in 99-02 and 99-03 on present claim 4272475.
1999-2000	Mustang Minerals Corp.	Completed 11 NQ drill holes for 1,766 m. Defined "Bullfrog" Zone over 800 m strike length. Assessment files 41J08NE2007 and 41J08NE2019.	DDH ME00-17 intersected 20 m @ 1.6 g/t PGM, ME00-19 with 12 m @ 2.5 g/t PGM on present claim 1227910.
2000	Freewest Sparton JV	Geological mapping, trenching, 22-hole 2,500 m NQ drilling program. Valhalla and Garden Zones defined over 1.5 km strike length. Never filed for assessment.	DDH 00-21 intersected 1.96 g/t Pt+Pd+Au over 24 m, similar results in other drill holes on present claim 4272475.
2001	Mustang Minerals Corp.	Geological mapping and sampling on East Bull Intrusion, east extension of "Bullfrog" Zone identified. Assessment file 41J08NE	Best grab sample 35324 with 1.7 g/t PGM from Bullfrog Extension on claim 1227910
2007	Mustang Minerals Corp.	Airborne VTEM and Mag survey, 867 line-km at 100 m spacing over East Bull Intrusion. Assessment file 20003502.	Several VTEM conductors parallel to and south of Valhalla Zone on claims 4272475 and 1227910.
2009	Mustang Minerals Corp./ Western Areas	Geophysical Compilation and Interpretation. Assessment file 20006286.	Priority VTEM conductive targets identified on claim 1227910 and proposed drill holes for follow-up.

TABLE 6.1
SUMMARY OF EXPLORATION ON THE EAST BULL PD PROPERTY

Date	Performed By	Work Performed	Results
2012	Mustang Minerals Corp./ Western Areas	Drilled six new holes and extended two drill holes for a total of 3,171 m. Drilling on "Bullfrog" includes a 239 m extension of ME00-19 and a 99 m extension of ME00-21. Assessment file July 20, 2012.	Both ME00-19 ME00-21 have good off-hole conductors, but no significant sulphides in-hole.
2012	Mustang Minerals Corp.	Quantec Titan-24 MT Survey over East Bull Intrusion. Assessment file 20010302.	Inversion models identify shallow dipping conductive targets.
2012	Mustang Minerals Corp.	Quantec TEM borehole and surface surveys. Borehole surveys include ME00-19 and ME00-21 on "Bullfrog" Zone. Assessment file 20011500.	Conductors identified in both ME00-19 extension, and ME00-21 extension on present claim 1227910.
2017	Pavey Ark Minerals Inc.	Completed 3 drill holes for a total of 320 m to twin selected Mustang drill holes, channel sampling, re-logging and assaying of Freewest holes, Differential GPS survey of historical drill holes and channels	Completed Initial Mineral Resource Estimate on East Bull Palladium Deposit

***** *A Qualified Person has not carried out sufficient work to verify historical results prior to the Mustang and Freewest programs in 1999/2000.*

In parallel with the exploration work, a number of studies of the East Bull Lake Intrusion and associated PGM-Cu-Ni mineralization were completed at Laurentian University in Sudbury. These studies included an M.Sc. thesis by Born (1979) on the Geology of the East Bull Lake Layered Complex, District of Algoma, Ontario, an M.Sc. thesis and geological mapping by Chubb (1994) on the Petrogenesis of the Eastern Portion of the Early Proterozoic East Bull Lake Intrusion, and Ontario Geological Survey sponsored studies of the East Bull Lake Intrusion by Peck and James between 1990 to 1995.

The main historical exploration effort on the area covering the current Canadian Palladium East Bull Palladium Property was completed by Freewest Resources Canada Inc. ("Freewest") (on legacy claim 4272475) and Mustang Minerals Corp. ("Mustang") (on legacy claim 1227910) between 1998 and 2000. Mustang is now renamed Grid Metals Corp. and still holds adjacent property on the East Bull Lake Intrusion.

The Freewest claim was formerly known as the Folson Lake Property. In 1998, Freewest discovered the Valhalla showing and obtained surface grab samples that assayed up to 1.35 g/t Pt, 3.15 g/t Pd, 0.23 g/t Au and 0.7% Cu. Subsequently, between 1999 and 2000, Freewest completed prospecting, blasting, ground geophysics, and completed 27 drill holes for a total of 2,902 m. Most of the drill holes intersected PGM mineralization and included drill hole 00-21 with 1.96 g/t

Pt+Pd+Au over 24 m. This drilling outlined the Valhalla and Garden Zones mineralization over a strike length of 1.5 km.

Samples from the 2000 Freewest program were analyzed by XRAL Laboratories, Rouyn-Noranda, Quebec. Gold, Pt, Pd were analyzed by fire assay on a 30 g sample with a direct current plasma ("DCP") finish. The lower reporting limits for this method were 1 ppb for Au and Pd and 10 ppb for Pt. Silver, Cu and Ni were reportedly analyzed with a partial digestion with an atomic absorption ("AA") finish. Detection limits are 0.02 ppm for Ag and 2 ppm for Cu and Ni (Lariviere, 2001).

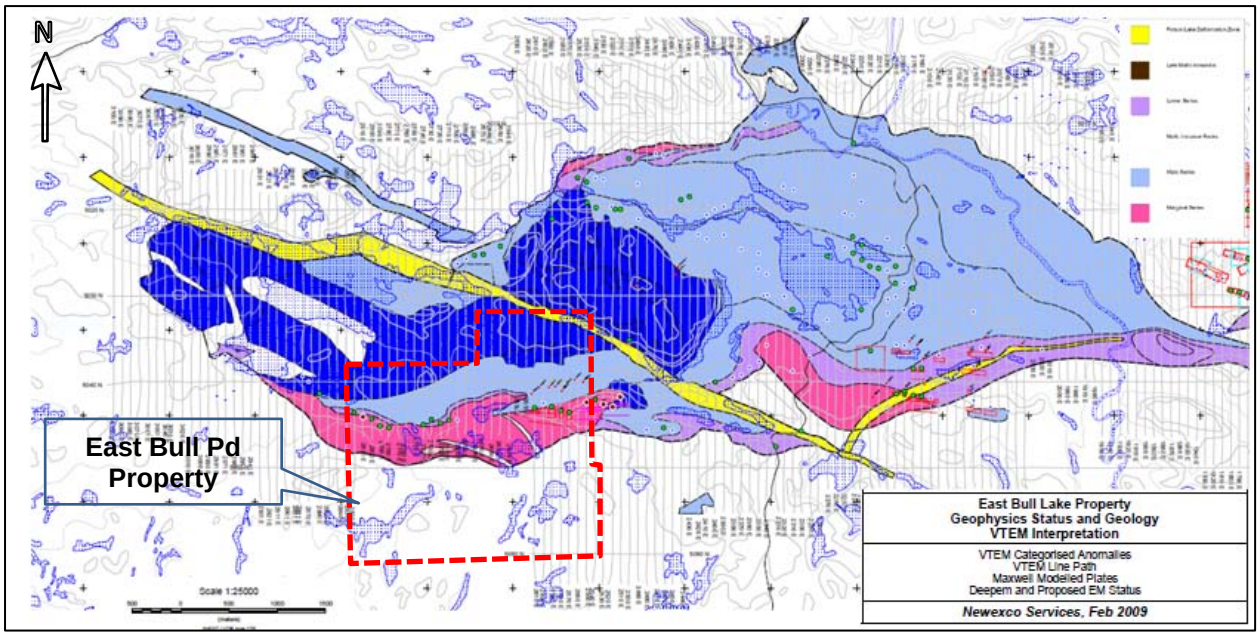
In 1998, Mustang acquired the former Gallo Property and newly staked claims from a group of Sudbury area prospectors. Mustang re-logged the AECL drill holes and initiated drilling on the Moon Lake grid east of the current Canadian Palladium Property.

In 1999, Mustang started work on the Bullfrog Grid that was located on legacy claim 1227910. Between 1999 and 2000, Mustang completed mapping, magnetic and IP surveys and completed 11 drill holes for a total of 1,766 m on the Bullfrog Grid and outlined the Bullfrog Zone. Mustang intersections included ME00-17 with 20 m at 1.6 g/t Pt+Pd+Au+Rh and ME00-19 with 12 m at 2.5 g/t Pt+Pd+Au+Rh. The exploration results demonstrated that the Freewest Valhalla Zone was contiguous with the Mustang Bullfrog Zone and that Valhalla and Bullfrog mineralization had a combined strike length of >2.5 km. Subsequent mapping and prospecting by Mustang in 2001 identified additional surface mineralization to the southeast of the Bullfrog Zone. This area has not been drilled.

In 2001, Falconbridge Limited optioned the Property from Mustang. Between 2001 and 2002, Falconbridge completed prospecting, mapping, trenching, ground and airborne geophysics, and completed six drill holes for a total of 860 m. Drilling was completed on the Parisien Lake grid, east of the Property, and encountered anomalous PGM values.

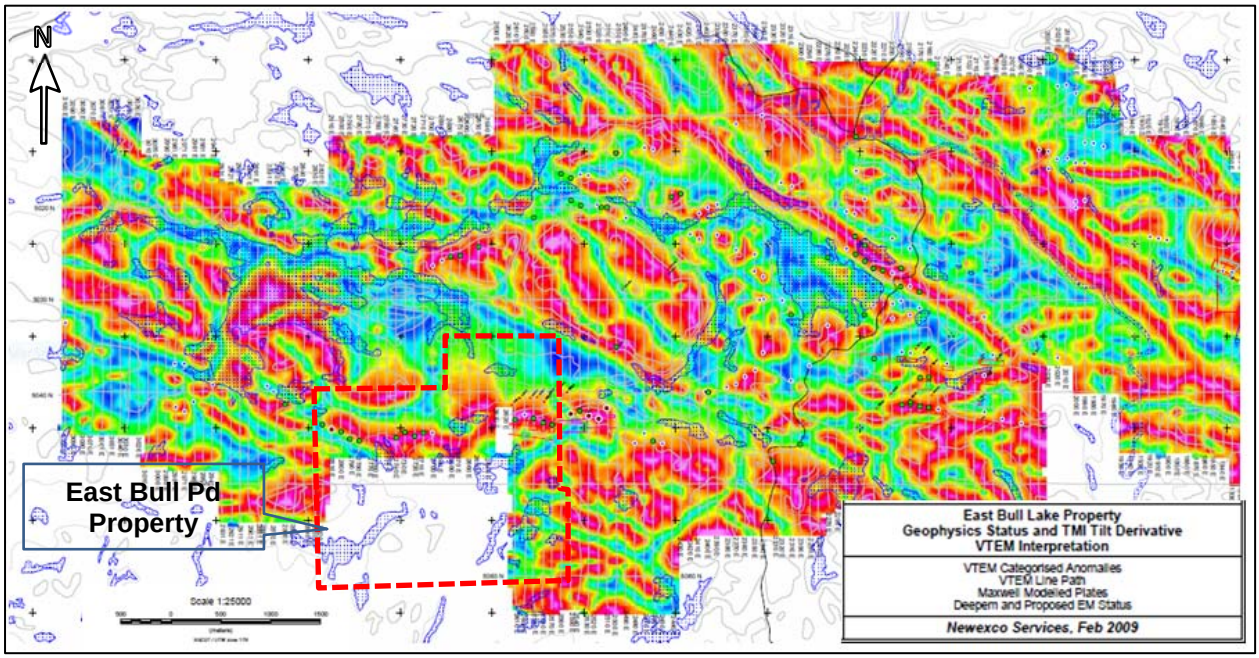
In 2007, Mustang optioned the Property to Western Areas NL, an Australian company. Between 2007 and 2012, Mustang and Western Areas completed geological compilation work (Figure 6.1), helicopter Magnetics/VTEM™ survey (Figure 6.2), borehole EM, Moving In-Loop, Fixed Loop EM (MLEM and FLEM), and ground TDEM surveys on the areas covering the Parisien and Bullfrog Grids. A geophysical compilation in 2009 identified priority VTEM™ targets on the Bullfrog Grid and on adjacent Freewest ground. These EM targets were mainly in the footwall of the Bullfrog/Vallhala mineralization. In 2012, at the Bullfrog Grid, three existing Mustang drill holes (ME00-14, ME00-19, and ME00-21) were extended to test TDEM anomalies in the footwall of the Bullfrog trend. Although no significant sulphide mineralization was intersected, BHEM surveys identified additional off-hole conductors. There has been no follow-up on these off-hole conductive targets.

FIGURE 6.1 MUSTANG MINERALS GEOLOGICAL COMPILATION OF EAST BULL LAKE INTRUSION



Source: *Mustang assessment (2009)*

FIGURE 6.2 MUSTANG MINERALS TILT DERIVATIVE OF TOTAL MAGNETIC FIELD WITH VTEM™ RESPONSES



Source: *Mustang assessment (2009)*

For the 1999 and 2000 drill programs, Mustang Minerals used XRAL Laboratories in Rouyn-Noranda, Quebec for analyses. Samples were assayed Au, Pt, Pd, Rh, Cu and Ni. All precious metal concentrations were determined using fire assay (30 g charge) followed by a direct-coupled plasma/mass spectrometer (DCP) finish. The detection limits for a one assay ton (30 g) sample are 1 ppb for Au and Pd, and 10 ppb for Pt. Base metal concentrations were determined by atomic absorption spectrometry (AA) after 0.25 to 0.30 g of the pulp was subjected to an aqua regia digestion (Wood 2001).

Additionally, in 2012, Western Areas NL drill tested two deep airborne ZTEM™ magnetic-magnetotelluric ("MT") targets in the central part of the East Bull Gabbro Intrusion. Drill holes EB12-05 (955 m) and EB12-06 (973 m) targeted coincidental ZTEM™-magnetic and Titan 24 MT anomalies in two separate locations. Drill hole EB12-05 intersected disseminated chalcopyrite grading 15,677 ppb Pd, 2,602 ppb Pt and 0.44% Cu, but no other sulphides or lithological features to explain the anomalies. A BHEM survey of drill hole EB12-06 also detected an anomalous response at the bottom of the drill hole.

6.3 PAVEY ARK (2017) VALIDATES HISTORICAL EXPLORATION

In 2017, Pavey Ark Minerals Inc. (Pavey Ark) completed 77 metres of channel sampling to replicate six blast trenches sampled by Freewest in 1999/2000 on the former Freewest Folson Property lines 3+50W, 4+70W, 6+40W, 7+40W, 13+50W and 14+00W (Garden Zone). The channels were cut using a diamond blade saw and samples were nominally 1.0 m in length. Results validated the Freewest trenching results and provided channel sample intervals for the drilling database.

In 2017, Pavey Ark completed three BQTK diamond drill holes for a total of 320 m. Drill Holes EB17-01 and EB17-03 twinned Mustang drill holes ME00-19 and ME99-16, respectively. Drill hole EB17-02 was an in-fill drill hole completed below EB17-01. The drill holes were drilled toward the south at an inclination of -45° and intersections represent approximate true widths. Down-hole surveys were conducted using a Devi-shot tool. Casings were left in the drill holes. A total of 92 samples of sawn ½ core with a nominal length of 1.0 m with additional QA/QC samples were submitted for assay. Significant assay results are provided in Table 6.2. These results validated the historical drilling by Mustang.

TABLE 6.2
SUMMARY OF SIGNIFICANT 2017 DRILL INTERSECTIONS

Diamond Drill Hole	From (m)	To (m)	Width (m)*	Au (ppb)	Pd (ppb)	Pt (ppb)	Rh (ppb)	Ag (ppm)	Cu (ppm)	Ni (ppm)	Co (ppm)	PGM+Au (ppb)
EB17-01	29.0	41.0	12.0	71	2,082	665	49	0.91	2,258	1,344	92	2,867
incl.	36.0	37.0	1.0	75	8,090	1,820	130	1.70	3,660	2,940	168	10,115
EB17-02	86.0	92.0	6.0	37	644	242	16	0.78	1,690	1,008	88	939
EB17-03	60.0	71.0	11.0	78	1,148	501	32	0.51	1,403	576	116	1,759
and	80.0	87.0	7.0	111	2,243	788	72	0.34	1,578	705	89	3,214

** Intersection widths are approximate true widths.*

In 2017, Pavey Ark also conducted a program to recover, catalogue and resample the drill core from Freewest drill holes completed in 1999-2000. The Freewest drill core (27 drill holes for a total of 2,902 m) had been stored outdoors at the East Bull Lodge since the 1999-2000 drill program. Freewest only submitted the 1999 drill logs and assay certificates for assessment and consequently, at the start of the program, only the 1999 data were available. Recovery of the data for the 2000 program proved to be challenging, since Freewest was acquired by Cliffs Natural Resources Inc. ("Cliffs") in 2009. Subsequently, Cliffs sold its Canadian assets to Noront Resources Ltd. ("Noront"). In August 2017, R.H. Sutcliffe located copies of the Freewest logs and assay certificates for all of the Freewest drill holes. Geologists with Clark Exploration (Thunder Bay) spent approximately two weeks in 2017 recovering, reorganizing, and cataloguing the drill core. At the end of this work, approximately 92% of the Freewest core boxes had been catalogued, including four complete 321-99 series drill holes and four complete 321-00 series drill holes. As a result of this work, Pavey Ark was able to resample a total of 241 Freewest assay intervals from eight Freewest holes drilled in 1999-2000, in order to validate the Freewest historical assay results. Seven drill holes for a total of 217 assay intervals were resampled by Pavey Ark and assayed at ActLabs, Ancaster. An additional 24 samples from drill hole 321-00-21 were independently sampled by Mr. Antoine Yassa, P.Geo., of P&E and delivered to ALS Laboratories.

6.3 PREVIOUS MINERAL RESOURCE ESTIMATES

The 2017 data and validation of historical results enabled P&E Mining Consultants Inc. to complete an NI 43-101 Mineral Resource Estimate and Technical Report for Pavey Ark in 2018. The database for the 2018 estimate as implemented by P&E contained results of 41 diamond drill holes and six surface channels for a total of 2,864 drill core assays and 79 surface channel assays. Eleven drill holes were completed by Mustang Minerals in 1999 and 2000, 27 drill holes were completed by Freewest Resources in 1999 and 2000, three drill holes were completed by Pavey Ark in 2017, and six channels were cut by Pavey Ark in 2017. Industry standard validation checks were completed on the supplied databases.

The Mineral Resource Estimate was derived by applying a PdEq cut-off grade to the block model and reporting the resulting tonnes and grade for potentially economic pit-constrained Mineral Resources. Near-surface Mineral Resources are constrained within an optimized conceptual pit-shell that utilized the Inferred Mineral Resources.

The resulting Mineral Resource Estimate for the East Bull PGM Deposit at a 0.8 g/t PdEq cut-off is summarized in Table 6.3. The Property had an estimated pit-constrained Inferred Mineral Resource of 11.1 million tonnes (Mt) at grades of 0.58 g/t Pd, 0.26 g/t Pt, 0.05 g/t Au, 0.04 g/t Rh, 0.14% Cu, 0.05% Ni and 0.01% Co.

TABLE 6.3
PREVIOUS (2018) EAST BULL PALLADIUM DEPOSIT PIT-CONSTRAINED MINERAL RESOURCE ESTIMATE AT A 0.8 G/T PDEQ CUT-OFF [1-5]

Class	Tonnes (Mt)	Au (g/t)	Pt (g/t)	Pd (g/t)	Rh (g/t)	Cu (%)	Ni (%)	Co (%)	PdEq (g/t)
Inferred	11.1	0.05	0.26	0.58	0.04	0.14	0.05	0.01	1.46

Notes: *class = classification.*

1) *Mineral Resources, which are not Mineral Reserves, do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues, although Pavey Ark is not aware of any such issues.*
2) *The Inferred Mineral Resource in this estimate has a lower level of confidence that that applied to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of the Inferred Mineral Resource could be upgraded to an Indicated Mineral Resource with continued exploration.*
3) *The Mineral Resources were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines.*
4) *Values in the table may differ due to rounding.*
5) *This 2018 Mineral Resource is superseded by the 2022 Mineral Resource*

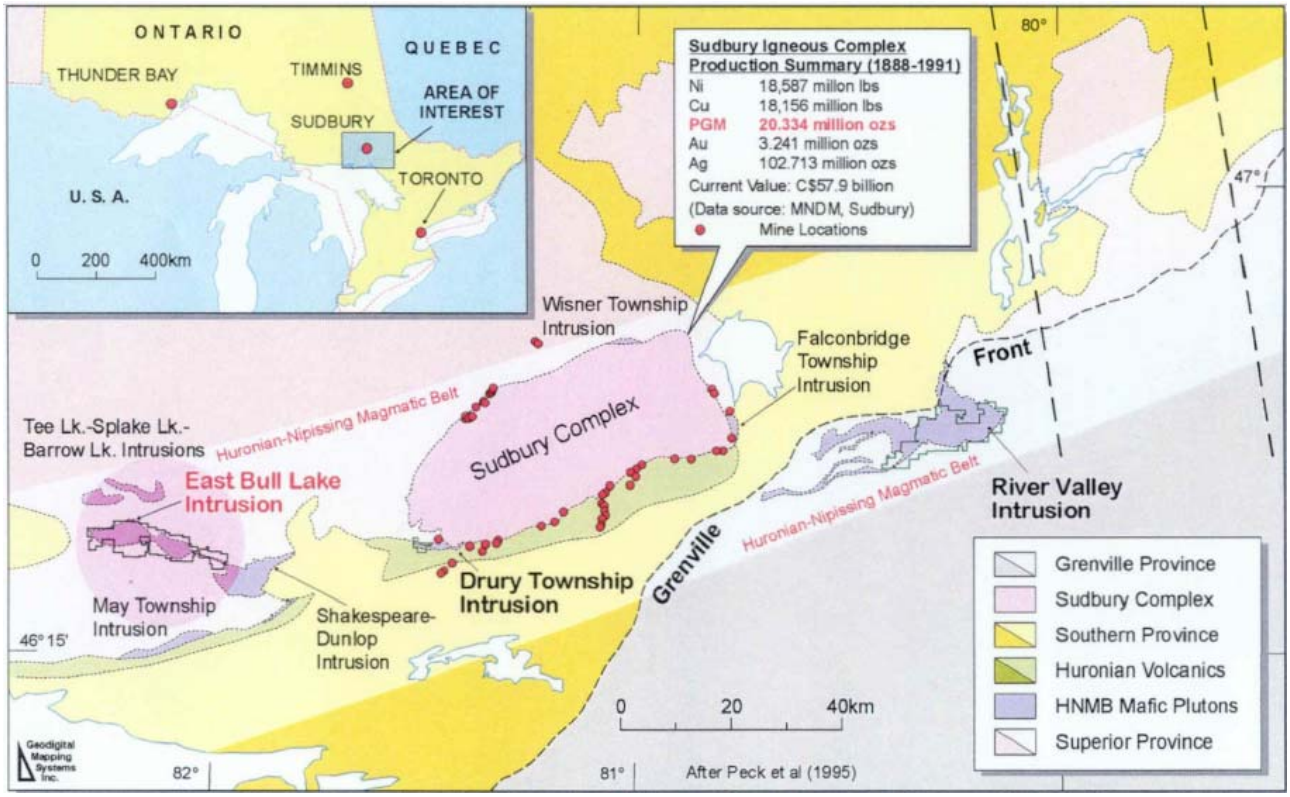
Canadian Palladium (formerly 21C Metals Inc.) optioned the East Bull Property from Pavey Ark in 2019. The 2018 Initial Mineral Resource Estimate and Technical Report was re-issued and filed on SEDAR by Canadian Palladium in April 2019. The previous Mineral Resource Estimate is superseded by the Mineral Resource Estimate reported herein.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

The East Bull Palladium Property is underlain by gabbroic rocks of the Paleoproterozoic East Bull Lake Intrusive Suite. The ca. 2.48 Ga East Bull Intrusive Suite (Easton *et al.*, 2010) consists of several intrusions of dominantly gabbronorite to gabbroic anorthosite that occur in both the Southern and Grenville Provinces in the Sudbury area between the communities of Elliot Lake and North Bay (Figure 7.1). The three largest intrusive bodies of the Suite are the East Bull Lake and Shakespeare Dunlop (or Agnew Lake) Intrusions in the Southern Province and the River Valley Intrusion in the Grenville Province. These bodies formed during a major, global-scale episode of mafic and ultramafic magmatic activity that produced significant palladium, copper-nickel sulphide and chromite deposits in Canada, Scandinavia, Russia and Brazil at approximately 2.5 Ga.

FIGURE 7.1 LOCATION OF EARLY PROTEROZOIC GABBROIC ROCKS OF THE EAST BULL INTRUSIVE SUITE



Source: *(Peck et al. 1995; Wood, 2001)*

Easton *et al.* (2010) consider that the intrusions of the East Bull Lake Intrusive Suite occur as an east-northeast-trending belt along the boundary of the Archean Superior and the Proterozoic Southern provinces in Ontario, Canada. The East Bull Lake Intrusive Suite is part of a regional, Paleoproterozoic, bimodal magmatic event resulting from mantle-plume driven, intracontinental rifting. This event formed a major basin, filled by sedimentary and igneous rocks of the Huronian Supergroup. Intrusions of similar age and composition in Finland and Wyoming were contiguous

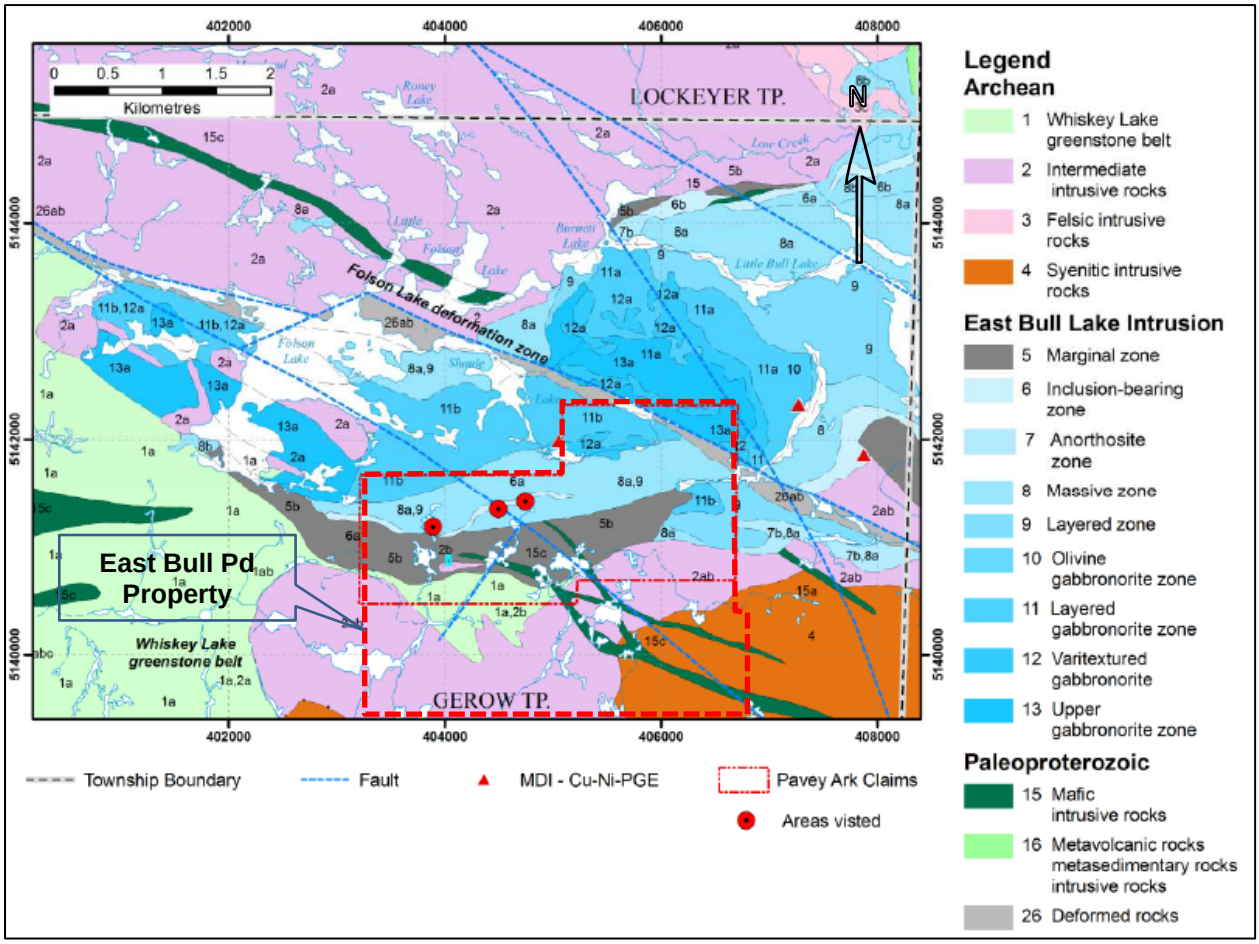
with the East Bull Lake Intrusive Suite prior to tectonic dispersion during the Proterozoic. Several younger magmatic events post-date the East Bull Lake Intrusive Suite: the 2.15 Ga Nipissing Magmatic Event; the 1.85 Ga Sudbury Igneous Complex; and 1.25 Ga olivine diabase dykes.

Easton *et al.* (2011) describe the East Bull Lake Intrusion as consisting of two interconnected magma chambers, referred to as the Western Lobe and the Eastern Lobe, which are connected by a dyke like conduit striking 120°. The East Bull Lake Intrusion outcrops over an area of approximately 43 km^2, is 20 km long, and up to 4 km wide. The Intrusion is a layered lopolith with shallow inward dips from the northeast and southwest contacts, and steeper inward dips from the northwest and southeast contacts. The Intrusion was emplaced into Archean meta-volcanic and plutonic rocks of the Superior Province.

7.2 PROPERTY GEOLOGY

Canadian Palladium's East Bull Property is located on the southern contact of the larger western magma chamber of the East Bull Lake Intrusion (Figure 7.2).

FIGURE 7.2 GEOLOGY OF THE EAST BULL PALLADIUM PROPERTY

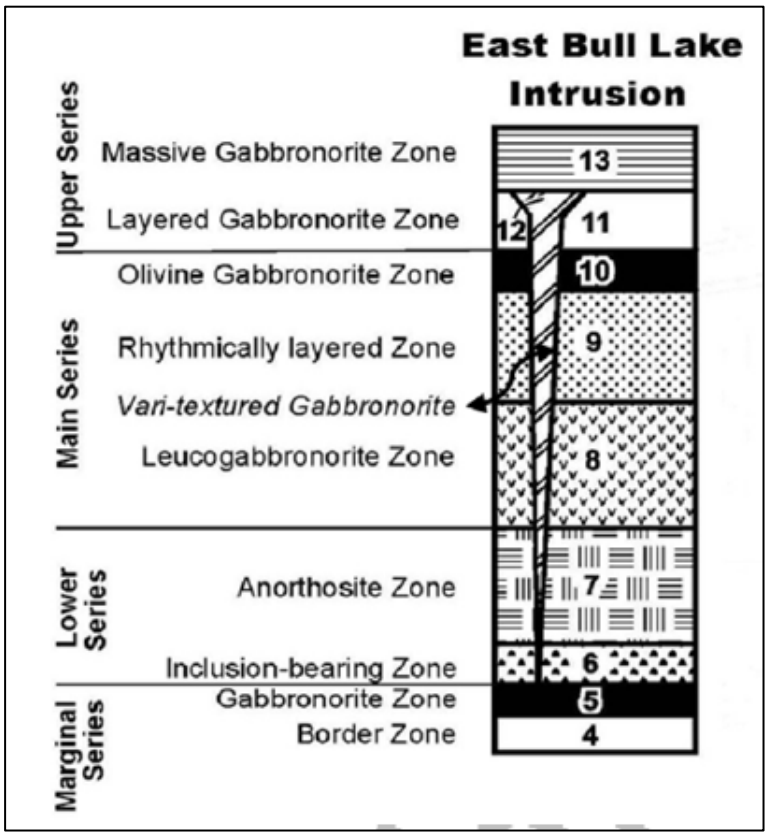


Source: *Modified from Easton et al. (2011)*

7.2.1 Igneous Stratigraphy of the East Bull Lake Intrusion

As documented by Easton *et al.* (2010), the stratigraphy of the East Bull Lake Intrusion ("EBLI") is divided into the Marginal, Lower, Main, and Upper Series (Figure 7.3). On the East Bull Property, the PGM and base metal mineralization is primarily hosted in the Varitextured Melagabbro Zone (defined by Easton as the Inclusion Bearing Zone) at the base of the Lower Series. This is the main host rock for PGM in the East Bull Lake Intrusion.

FIGURE 7.3 IGNEOUS STRATIGRAPHY OF THE EAST BULL LAKE INTRUSION



Source: *Easton et al. 2011*

At the base of the EBLI, the **Marginal Series** is transitional from Archean footwall rocks to the Lower Series rocks and may be absent with the Lower Series in direct contact with the footwall. The Marginal Series consists of:

> **Border Zone** - is developed as a breccia up to tens of metres thick composed of locally derived Archean footwall blocks (granite, tonalite, syenite, basalt) hosted in fine to coarse grained leucogabbro, gabbro, melanogabbro and anorthosite; and
>
> **Gabbronorite Zone** - overlies the Border Zone and is typically only a few metres thick and may have developed as a chill margin on the EBLI or from late injections of mafic magma that were unable to penetrate the overlying Lower Series.

The overlying **Lower Series** is composed of a lower xenolith and autolith-bearing unit (Inclusion-Bearing Zone) and an overlying Anorthositic Gabbro Zone.

> **Inclusion Bearing Zone (IBZ)** - occurs as either a chaotic, multi-stage breccia, or distinctive blue quartz bearing gabbro or relatively massive leucogabbro or gabbro with rare inclusions. The IBZ is typically more mafic than the overlying anorthositic gabbro. **On the East Bull Property this unit was mapped and logged as the Varitextured Melagabbro ("VT Melagabbro") and is the host rock for the majority of contact-style PGE sulphide mineralization;** and
>
> **Anorthositic Gabbro Zone (AGZ)** - a plagioclase-rich unit composed mostly of leucogabbro and anorthositic gabbro.

The overlying **Main Series** of the EBLI is composed of three units:

> **Leucogabbro Zone** - composed of massive leucogabbro with poorly developed layering in the upper portion;
>
> **Rhythmically Layered Zone** - composed of gabbro and leucogabbro layers (up to tens of metres thick); and
>
> **Olivine Gabbronorite Zone** - comprises the upper portion of the Main Series.

The overlying **Upper Series** of the EBLI is composed of two units:

> **Layered Gabbronorite Zone** - is characterized by common irregular textural and modal layering; and
>
> **Massive Gabbronorite Zone** - consists of massive to varitextured gabbro with grain size textural heterogeneity, pegmatoidal pods, and dendritic pyroxene masses. Similar varitextured gabbros occur throughout the EBLI as metre-sized pods.

On the East Bull Property, the gabbroic units strike approximately 085° and dip approximately 45° north. From north to south, the main units encountered in the area of trenching and drilling expose the transition from the Lower Series Anorthositic Gabbro and Inclusion Bearing Zones to the Marginal Series Gabbronorite. The main lithologies are characterized as follows:

> **Anorthositic gabbro** - Medium-grained to coarse-grained and pegmatitic leuco-gabbro, locally anorthosite patches, locally with 5 to 10% intercumulus leucoxene, dark green to grey, altered plagioclase and mafics;
>
> **Varitextured Melagabbro (VT Melagabbro)** *(also known as the Inclusion Bearing Zone)* – Medium-grained, equigranular, dark green melagabbro, clots of coarse plagioclase, traces to 2% chalcopyrite plus minor pyrrhotite in fine-grained clusters. On the East Bull Property inclusions in this unit are locally present, but are not ubiquitious and not always discernable in drill core; and
>
> **Gabbronorite** – Medium- to fine-grained gabbro, traces of sulphide, mainly pyrite.

Pink to buff coloured, medium- to fine-grained equigranular to porphyritic syenite is a minor intrusive phase into the Varitextured melagabbro in the vicinity of the mineralized zone.

7.2.2 Dykes and Mineralized Feeder Conduits

Medium-grained diabase dykes and porphyritic diabase dykes, with plagioclase phenocrysts up to 5 cm, intrude the EBGI. The dykes range from metre-scale to tens of metres wide, and strike at approximately 060° and 120°. In drill core intersections (e.g., drill hole EB17-02), these dykes have aphanitic chilled margins adjacent to medium-grained gabbroic rocks of the East Bull Gabbro. Regionally, Easton *et al.* (2011) interpret the 120º trending dykes as 2.47 Ga to 2.45 Ga dykes of the Matachewan swarm, which are approximately contemporaneous with the EBLI.

Drilling in 2021 defined a 060° striking, steeply-dipping composite dyke beneath the Varitextured Melagabbro at the west end of the Property. Portions of the dyke consist of sulphide mineralized inclusion-rich melagabbro that is interpreted to be a feeder to the mineralization in the overlying Varitextured Melagabbro.

7.3 STRUCTURE

The East Bull Palladium Property is on the southern contact of the western lobe of the East Bull Lake Intrusion. The western lobe has the form of a layered lopolith with inward dipping contacts. Legault *et al.* (2011) developed 2-D inversions of ZTEM™ data to generate a north-south resistivity section through the East Bull Lake Intrusion, which shows a basal conductive layer at approximately 800 m, consistent with AECL drill holes that intersected the basement at 770 m. These data indicate the intrusion is approximately 1 km thick.

On the East Bull Property, the gabbroic units strike at approximately 078° to 085° and dip approximately 40° to 45° north. This igneous layering is defined by the geometry of geological units defined from surface mapping and drill core, and also by local macroscopic layering and foliation textures in gabbroic rocks.

In the eastern part of the Property, the gabbroic rocks (including the mineralized zone) are cut by sub-vertical diabase dykes that trend at approximately 120°. These dykes are interpreted to be part of the regional Matachewan dyke swarm that has been radiometrically dated at 2.48 Ga and of similar age to the East Bull Lake Intrusive Suite. In the west and central part of the Property, medium-grained diabase dykes with well-defined chill margins against gabbro host rocks are observed in drill core and interpreted to trend at 060°. Both the 060° and 120° trending dykes are characterized by linear magnetic lows against the stronger magnetic response of the East Bull host rocks.

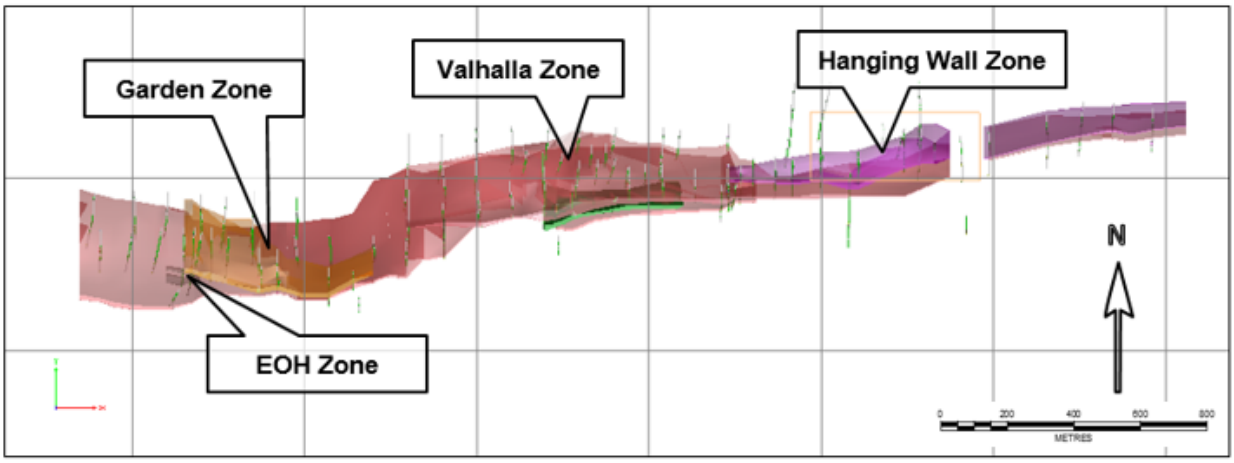
The Folson Lake Deformation Zone strikes 120°, dips steeply-south, and consists of a zone of strong deformation and shearing that cuts the East Bull Gabbro Intrusion in the northeast corner of the Property. Quartz veins and quartz-vein stockworks are a significant component of the deformation zones. As currently defined, the Folson Lake Deformation Zone is east of the East Bull Pd Deposit.

Strongly sheared rocks were also intersected in drill hole EB17-02, where shear zone foliation displays 25° to 30° core angles and is parallel to the chill margin of diabase dykes that are interpreted to strike 060°.

7.4 DEPOSIT GEOLOGY

Sulphide mineralization in the East Bull Intrusion is primarily developed in the Varitextured Melagabbro Zone ("VT melagabbro"), within a few tens of metres of the footwall contact of the East Bull Intrusion with host rocks of the Whiskey Lake greenstone belt. Mineralization also locally occurs disseminated throughout the Anorthosite layer and in the overlying Leucogabbronorite layer at a distance of up to 400 m stratigraphically above the margin of the intrusion (Peck *et al.*, 2000; Wood 2001).

FIGURE 7.4 PLAN VIEW OF EAST BULL PALLADIUM DEPOSIT

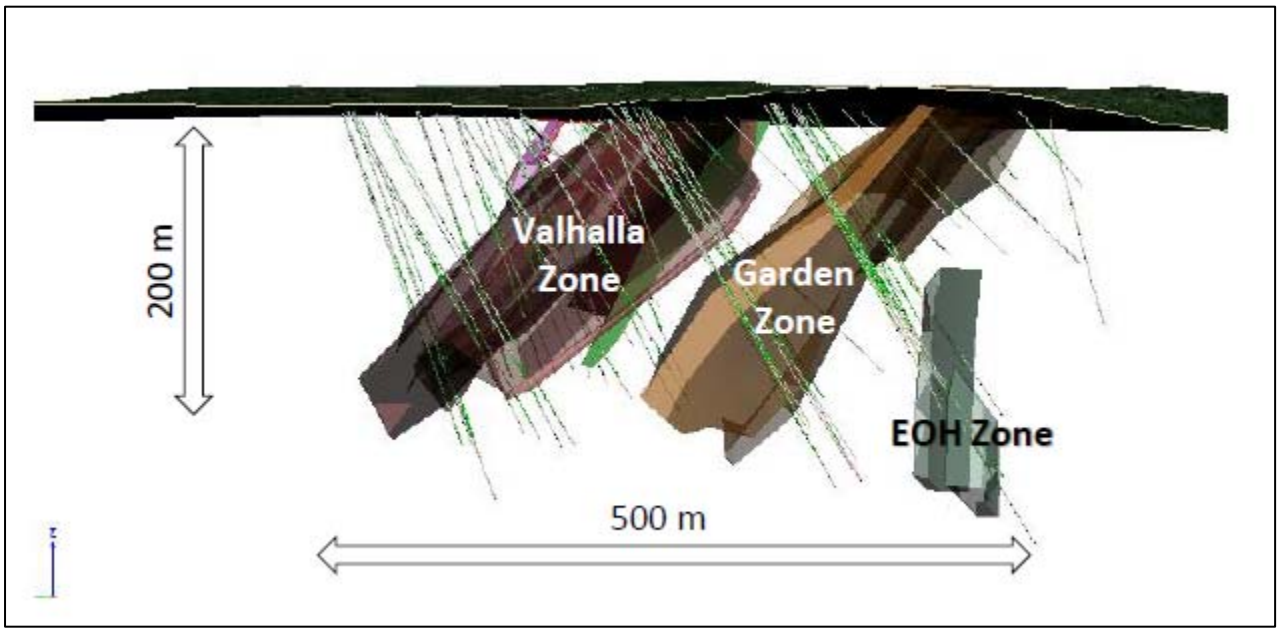


Source: *Pavey Ark (2022)*

On the East Bull Property, significant precious metal and base metal mineralization has been defined by drilling and surface trenching in the Varitextured Melagabbro unit over a strike length of 3.5 km. The Valhalla Zone, named after the original Freewest discovery, is the largest mineralized zone with a strike length of >2,500 m and extends from the former Freewest legacy claim 4272475 onto the former Mustang legacy claim 1227910, where it was previously named the Bullfrog Zone. The Valhalla Zone strikes approximately 078° and dips approximately 45° north. This Zone is typically 20 to 25 m wide, but locally is up to 60 m wide and has been drilled down-dip to a maximum vertical depth of approximately 250 m. The Hanging Wall Zone occurs as 20 m to 25 m wide mineralized zone, parallel to the Valhalla Zone, in the eastern part of the Deposit. The Hanging Wall Zone has been defined in the eastern part of the Property on the former Mustang Property over a strike length of approximately 700 m. The drilling in 2020 and 2021 significantly expanded the Garden Zone to a strike length of >1,000 m in the western part of the East Bull Property. The Garden Zone strikes 085° and dips approximately -40° north. The Valhalla and Garden Zones are both hosted by the Lower Series inclusion-bearing gabbro. They were probably originally continuous, but have been offset along faults striking 120°. Valhalla and Garden Zone mineralization is open along strike and down-dip.

Drilling in 2021 defined a 060° striking, steeply-dipping composite dyke beneath the Varitextured Melagabbro at the west end of the Property. Portions of the dyke consist of sulphide mineralized inclusion-rich melagabbro known as the EOH Zone that is interpreted to be a feeder to the Garden Zone mineralization in the overlying Varitextured Melagabbro. The EOH Zone has been drilled over a strike length of approximately 200 m to a depth of 250 m and has a width of 25 m. The EOH Zone is open on strike and down-dip.

FIGURE 7.5 SECTIONAL PROJECTION VIEW OF VALHALLA, GARDEN AND EOH ZONES, LOOKING EAST

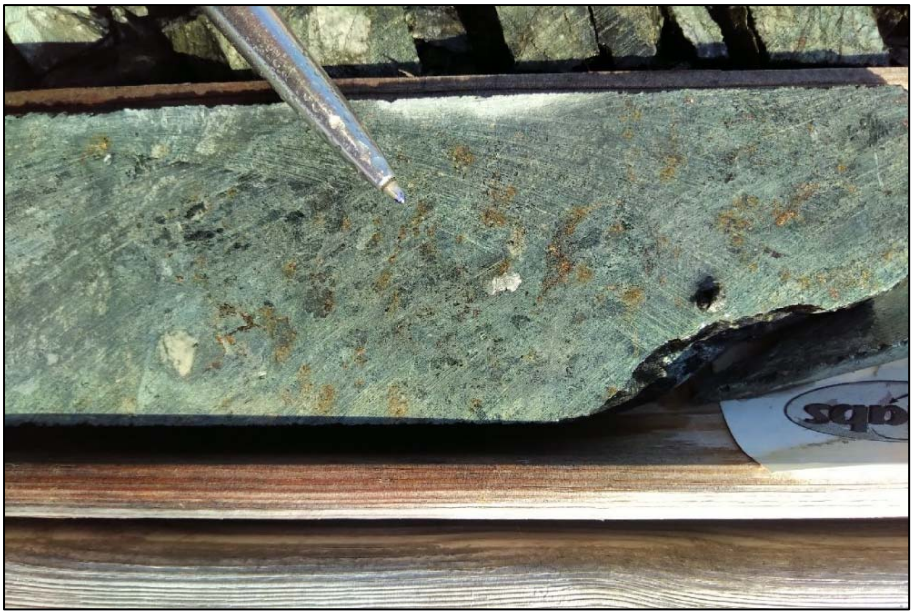


Source: *P&E wireframe model (2022)*

7.5 MINERALIZATION

Mineralization locally contains up to 10% sulphide, but more typically mineralization consists of 0.1 to 1.0% sulphide and rarely exceeds 2%. The sulphides consist of finely disseminated chalcopyrite, pyrrhotite and minor pyrite grains, and coarser blebs up to 5 cm in diameter with chalcopyrite and pyrrhotite and that appear to have formed initially as primary magmatic sulphides. An example of disseminated chalcopyrite-pyrrhotite mineralization from the Valhalla Zone hosted in melagabbro is shown in Figure 7.6. Figure 7.7 shows an example of coarse sulphide blebs hosted in a coarse-grained gabbro in the varitextured unit, in surface trenches exposed by Freewest. This is typical of some of the original discovery exposures of the Valhalla Zone.

FIGURE 7.6 MELAGABBRO WITH DISSEMINATED CHALCOPYRITE PYRRHOTITE FROM VALHALLA ZONE, DRILL HOLE EB21-49 AT 251 M



Source: *Pavey Ark (2017)*

FIGURE 7.7 COARSE SULPHIDE BLEBS IN COARSE GRAINED GABBRO, VARITEXTURED MELAGABBRO UNIT, EXPOSED IN SURFACE TRENCHES, VALHALLA ZONE FREEWEST LINE 7+50W

Source: *Pavey Ark (2017)*

Drilling in 2021 identified coarse, blebby or globular to disseminated sulphide mineralization in inclusion-rich melagabbro dyke underlying the Garden Zone at the west end of the Property. This mineralization is hosted in the EOH Zone (Figure 7.8). Sulphide globules and abundant sub-angular to round autolith gabbroic inclusions suggest that this dyke feature is a magma conduit. In the central part of the Property, drill hole EB21-80 intersected a dyke feature with large semi-massive chalcopyrite-pyrrhotite shown in Figure 7.9. This dyke is known as the GAP Target and warrants further drilling.

FIGURE 7.8 MINERALIZED INCLUSION RICH MELAGABBRO WITH LARGE GLOBULE OF CHALCOPYRITE-PYRRHOTITE IN DRILL HOLE EB21052, 239.5 M IN EOH ZONE

Source: *Pavey Ark (2022)*

FIGURE 7.9 HIGH-GRADE SEMI-MASSIVE CHALCOPYRITE-PYRRHOTITE MINERALIZATION (GAP TARGET) IN DRILL HOLE EB21-80 AT 90 M

Source: *Pavey Ark (2022)*

Cabri (2000) completed a mineralogical study of drill core samples from the East Bull PGM Deposit on the former Freewest claim. Cabri completed reflecting light microscope studies and scanning electron microscope studies to identify the sulphide minerals. The major sulphide phases are pyrrhotite, chalcopyrite, pentlandite and pyrite. Based on energy dispersive spectra, PGM minerals were identified as: froodite ($PdBi_2$); kotulsite (PdTe); merenskyite ($PdTe_2$); michenerite (PdBiTe); an unidentified Pd arsenide; sperrylite ($PtAs_2$); platarsite (PtAsS) and hollingworthite (RhAsS). Gold grains were also identified. The PGM and gold occur as small inclusions ranging in size from 1 µm to 30 µm in all of the major sulphide minerals.

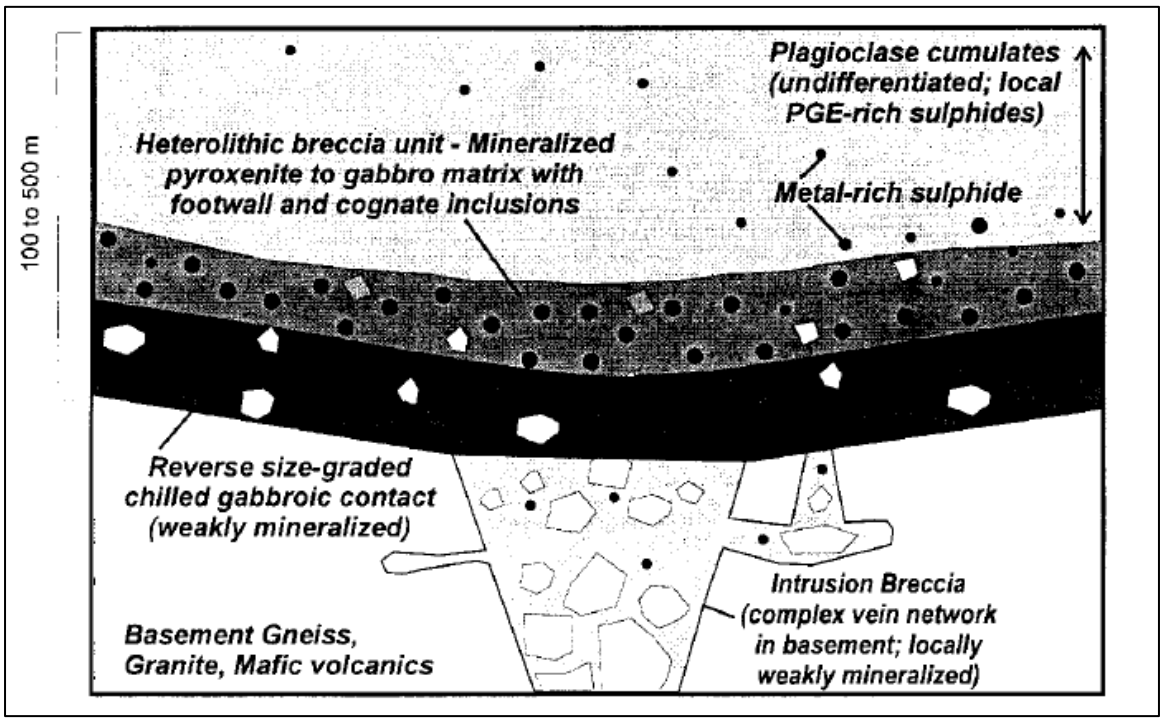
8.0 DEPOSIT TYPES

Based on studies of the distribution, mineralogy and geochemistry of the magmatic sulphides in the East Bull Lake Intrusion, Peck *et al.* (1995, 2001) determined the mineralization to be magmatic "contact-type", with disseminated and blebby PGE-rich sulphides occurring in both the Marginal and Lower Series (Figure 8.1). Sulphides are most abundant in the Varitextured Melagabbro (or inclusion-bearing) Zone of the Lower Series, and generally within a few tens of metres from a contact. The mineralization in the Lower Series is characterized by approximately equal amounts of chalcopyrite and pyrrhotite, whereas in the Marginal series, mineralization is higher in pyrrhotite and pyrite. Where pyrite is a major constituent of the sulphide mineralogy, the PGE concentrations tend to be low.

Primary textures observed by Peck *et al.* (1995) indicate that the PGE-bearing magmatic sulphides formed from a copper-rich immiscible sulphide liquid. Contact-style PGM mineralization develops as the result of sulphur-saturation brought on by the interaction of the fertile parental magma with the surrounding country rock lithologies. The contamination of the initial fertile parental magma by the addition of either silicon dioxide and (or) sulphur can directly result in sulphur saturation and separation of a PGE-rich immiscible sulphide. The addition of silicon dioxide and (or) sulphur is typically achieved by the assimilation of either local country rock lithologies and (or) the assimilation of breccia fragments previously developed along the contact margin.

Examples of other deposits of this type include the mineralization currently being explored by New Age Metals Inc. (formerly Pacific North West Capital Corp.) on the River Valley property, Ontario (Holwell *et al.*, 2014), the Platreef in the Bushveld Complex in South Africa (McDonald and Holwell, 2011), and the Portimo Complex in Finland (Easton *et al.*, 2010).

FIGURE 8.1 CONTACT-TYPE MAGMATIC PGM-CU-NI MINERALIZATION MODEL



Source: *Peck et al. (2001)*

The EOH Zone discovered in 2021 is interpreted to be a mineralized magma conduit for the East Bull layered intrusion. Abundant, rounded to sub-angular, partially resorbed gabbroic inclusions suggest that the rocks formed in a dynamic conduit with high heat flow. The mineralized inclusion-rich melagabbro in the dyke conduit contains disseminated chalcopyrite-pyrrhotite and 2 cm to 3 cm rounded chalcopyrite-pyrrhotite globules. These coarser globules indicate that the conduit may be an environment that could contain semi-massive sulphide accumulations.

9.0 EXPLORATION

9.1 PROSPECTING, AND LINE CUTTING 2019

Canadian Palladium refurbished the historical grid cut originally by Freewest Resources on the East Bull Property in June 2019. In total, 21.3 line-km were refurbished.

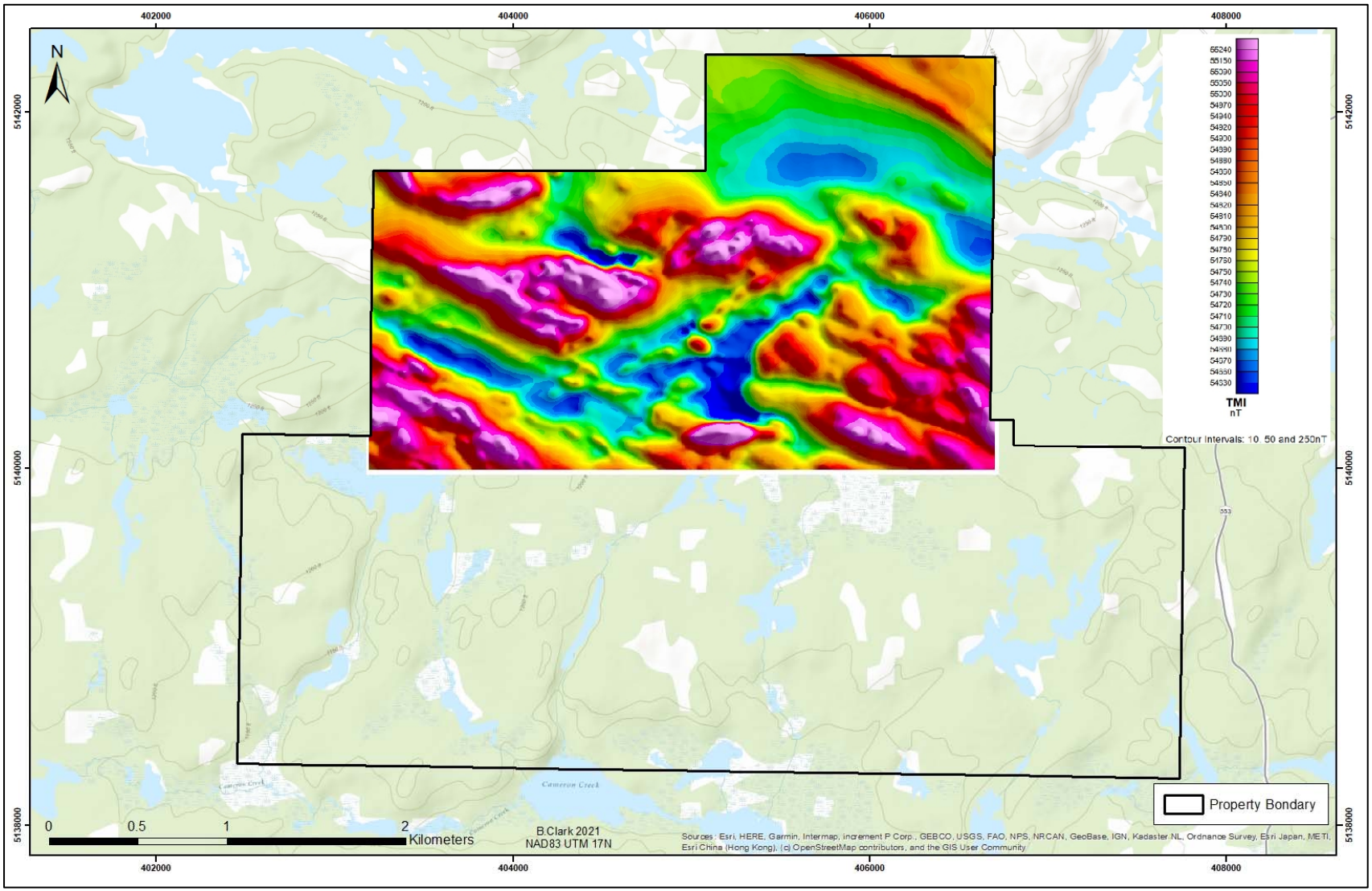
A prospecting program by Clark Exploration and Consulting in the summer of 2019 on the refurbished grid collected 73 grab samples for analysis. Fourteen grab samples returned >1 g/t Pd, with the highest grab assay being 6.57 g/t Pd, 3.34 g/t Pt from Sample E5928415, located at 404,634 m E and 5,141,385 m N.

9.2 HIGH-RESOLUTION AIRBORNE MAGNETIC SURVEY

In November 2020 Canadian Palladium contracted SHA Geophysics Ltd. to carry out a Heli-GT helicopter-towed, three-axis magnetic gradiometer survey over the northern portion of the Property. During the period December 2nd to December 4th, 2020, a total of 225 km of data were collected (Figure 9.1). Survey lines were oriented north-south with 50 m line spacing. Control lines were oriented east-west and spaced 1,400 m apart.

The high-resolution airborne magnetic survey outlined numerous structures on the Property and provides additional insight into lithological contacts within the East Bull Lake Intrusion.

FIGURE 9.1 HELI-GT HELICOPTER-TOWED, THREE-AXIS MAGNETIC GRADIOMETER SURVEY TMI IMAGE



TMI = Total Magnetic Intensity

10.0 DRILLING

10.1 CANADIAN PALLADIUM 2020-2021 DRILLING PROGRAM

Canadian Palladium contracted Vital Drilling of Val Caron, Ontario, to provide drilling services for the East Bull Palladium Property. Beginning in February 2020, until September 2022, Vital completed 84 NQ diamond drill holes totalling over 19,000 m.

The drilling program was carried out under the supervision of Garry Clark, P.Geo., of Clark Exploration Consulting Inc., a Qualified Person as defined in NI 43-101. Drill core samples were cut using a rock saw by company staff, with half retained in the drill core box and stored in the company's facility in Massey, Ontario. The drill core samples were transported in sealed bags by courier to Activation Laboratories in Ancaster, Ontario and to AGAT Laboratories in Mississauga, Ontario. Certified reference materials (CRMs), blanks and crushed duplicates are placed in the sample stream at a rate of one QA/QC sample per 10 drill core samples. In total, 4,235 drill core samples were submitted for analysis. This total includes 400 QA/QC samples; specifically, 132 blanks, 136 CRMs and 132 duplicates.

Drill hole casings were left in the majority of drill holes. Downhole surveys were completed at 100 m intervals with Reflex Downhole instrumentation. D.S, Dorland Ltd, of Sudbury completed a DGPS survey of the Canadian Palladium drill hole locations in August 2021 for drill holes EB-20-01 to EB-21-72.

Figure 10.1 shows the drilling plan superimposed on a total field magnetic map for the Property. Table 10.1 summarizes the drilling results and significant intersections with the mineralized zones identified.

Drill holes targeting the Valhalla and Garden Zones were typically drilled at 180° with inclinations of 45° to 60°, in order to test the east-west striking and 45º north dipping mineralized zone. Step-outs were nominally spaced at 100 m. Over the course of the drilling program, mineralization was significantly extended along strike and at depth in both the Valhalla and Garden Zones.

In the Valhalla and Garden Zones, mineralization was predominately intersected near the upper contact of the Varitextured Melagabbro Unit with the overlying leucogabbro unit. Mineralization mainly consists of disseminated chalcopyrite and pyrrhotite. The lower contact of mineralization is less well defined and the melagabbro grades into medium grained gabbro/gabbronorite with disseminated pyrite. The main Valhalla and Garden Zones strike east-west and are located on the north flank of a magnetic high feature. A magnetic low trending at approximately 120° is associated with a fault that offsets the Valhalla Zone and the Garden Zone.

The EOH Zone was discovered in 2021, trends at 060°, and is interpreted to be a feeder conduit that underlies the Garden Zone. Several thicker and higher-grade Garden Zone intersections, such as in drill holes EB-21-55 and EB-21-78, occur on the northwest side of the projected extension of the EOH Zone and appear to be related to proximity to the EOH Zone. Similarly, the 060° striking GAP Target in the central part of the Valhalla Zone is associated with a number of higher-grade intersections, including drill hole EB-21-80 that intersected the highest-grade mineralization

of the 2020-2021 campaign, with 1 m at 9.8 g/t Pd and 3.0 g/t Pt. Both the EOH Zone and GAP Target warrant further drilling to investigate potential higher-grade zones. These targets are best drilled with northwest or southeast directed holes.

FIGURE 10.1 PLAN VIEW OF SIGNIFICANT INTERSECTIONS FROM THE 2020-2021 DRILLING PROGRAM ON TOTAL FIELD MAGNETIC MAP

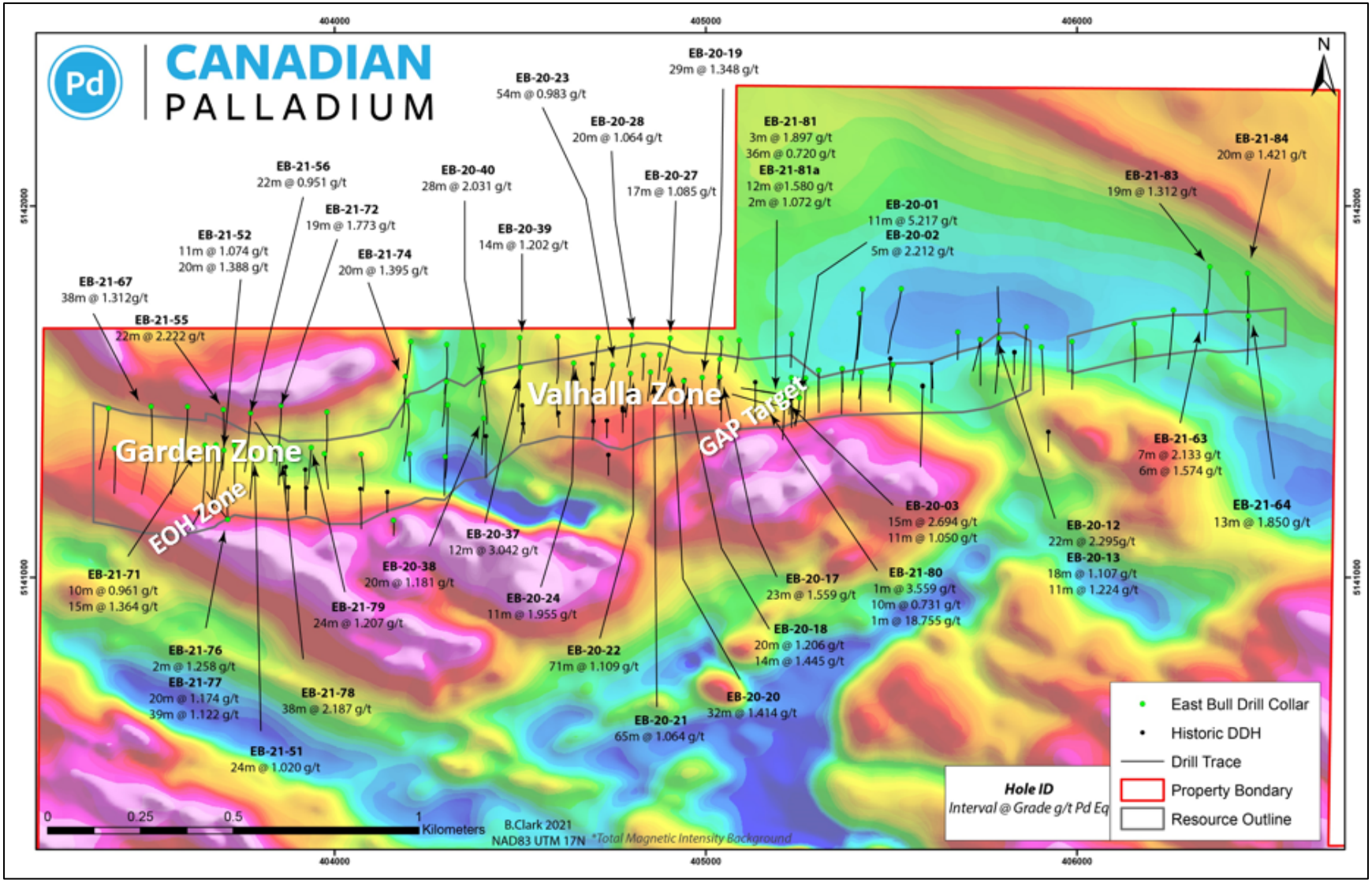


TABLE 10.1
SUMMARY OF INTERSECTIONS FROM THE CANADIAN PALLADIUM 2020-2021 DRILLING PROGRAM

Drill Hole ID	From (m)	To (m)	Width (m)	Pd (g/t)	Pt (g/t)	Rh (g/t)	Au (g/t)	Cu (%)	Ni (%)	Co (%)	3PGM +Au (g/t)	Zone
EB-20-01	27	38	11	2.16	1.039	0.057	0.10	0.16	0.09	0.006	4.088	Valhalla
incl.	27	33	6	3.11	1.614	0.083	0.12	0.12	0.07	0.005	6.299	Valhalla
EB-20-02	37	42	5	1.14	0.385	0.032	0.05	0.14	0.09	0.008	1.573	Valhalla
EB-20-03	27	42	15	1.12	0.472	0.028	0.08	0.18	0.10	0.008	1.869	Valhalla
incl.	28	31	3	2.40	1.307	0.065	0.13	0.22	0.11	0.005	4.854	Valhalla
also	59	70	11	0.17	0.146	0.003	0.06	0.15	0.05	0.008	0.463	Valhalla
EB-20-06	70	74	4	0.78	0.220	0.012	0.04	0.12	0.05	0.005	1.056	Valhalla
EB-20-07	109	118	9	2.14	0.823	0.049	0.14	0.17	0.06	0.007	3.106	Valhalla
incl.	112	115	3	4.22	1.600	0.108	0.23	0.28	0.09	0.008	6.055	Valhalla
also	124	133	9	0.57	0.235	0.018	0.06	0.15	0.05	0.009	0.865	Valhalla
EB-20-08	66	71	5	0.53	0.250	0.025	0.05	0.17	0.05	0.006	0.962	Valhalla
EB-20-09	58	62	4	0.87	0.460	0.03	0.04	0.08	0.02	0.004	1.463	Valhalla
EB-20-10	48	50	2	0.42	0.344	0.01	0.08	0.08	0.02	0.006	0.843	Valhalla
EB-20-11	104	108	4	0.63	0.242	0.014	0.04	0.08	0.02	0.007	0.913	Valhalla
EB-20-12	45	67	22	1.24	0.428	0.042	0.05	0.12	0.06	0.008	1.716	Valhalla
incl.	51	53	2	3.43	1.380	0.153	0.09	0.20	0.11	0.012	4.898	Valhalla
also	76	78	2	0.87	0.326	0.026	0.06	0.08	0.05	0.010	1.286	Valhalla
EB-20-13	58	76	18	0.46	0.137	0.004	0.04	0.12	0.04	0.008	0.629	Valhalla
incl.	58	60	2	0.83	0.216	0.017	0.05	0.15	0.04	0.006	1.095	Valhalla
also	62	73	11	0.49	0.156	0.004	0.04	0.13	0.05	0.008	0.686	Valhalla
EB-20-17	93	116	23	0.62	0.226	0.016	0.07	0.13	0.09	0.009	0.962	Valhalla
incl.	100	111	11	1.00	0.367	0.03	0.09	0.17	0.12	0.101	1.461	Valhalla
EB-20-18	72	92	20	0.52	0.206	0.021	0.03	0.10	0.07	0.006	0.758	Valhalla
incl.	83	92	9	0.60	0.242	0.023	0.05	0.16	0.08	0.007	0.894	Valhalla
also	96	110	14	0.50	0.221	0.015	0.05	0.18	0.09	0.009	0.772	Valhalla

TABLE 10.1
SUMMARY OF INTERSECTIONS FROM THE CANADIAN PALLADIUM 2020-2021 DRILLING PROGRAM

Drill Hole ID	From (m)	To (m)	Width (m)	Pd (g/t)	Pt (g/t)	Rh (g/t)	Au (g/t)	Cu (%)	Ni (%)	Co (%)	3PGM +Au (g/t)	Zone
EB-20-19	69	76	7	1.08	0.386	0.043	0.04	0.10	0.07	0.007	1.505	Valhalla
also	84	113	29	0.55	0.229	0.015	0.05	0.11	0.08	0.009	0.834	Valhalla
incl.	84	87	3	2.26	0.677	0.073	0.08	0.07	0.05	0.006	3.016	Valhalla
EB-20-20	99	131	32	0.54	0.193	0.015	0.07	0.17	0.07	0.007	0.794	Valhalla
EB-20-21	66	131	65	0.41	0.173	0.004	0.04	0.11	0.06	0.007	0.626	Valhalla
also	178	182	4	0.25	0.039	*	0.03	0.13	0.32	0.043	0.322	Valhalla
EB-20-22	62	133	71	0.41	0.155	0.01	0.04	0.13	0.07	0.008	0.605	Valhalla
incl.	95	125	30	0.44	0.178	0.009	0.59	0.20	0.08	0.008	0.673	Valhalla
EB-20-23	89	143	54	0.42	0.154	0.01	0.04	0.09	0.04	0.006	0.620	Valhalla
EB-20-24	114	125	11	0.98	0.272	0.025	0.06	0.16	0.07	0.008	1.318	Valhalla
also	161	164	3	0.49	0.160	0.016	0.05	0.09	0.04	0.007	0.697	Valhalla
also	167	170	3	0.27	0.164	0.002	0.07	0.14	0.05	0.006	0.508	Valhalla
EB-20-25	136	142	6	0.83	0.466	0.025	0.04	0.09	0.07	0.008	1.333	Valhalla
also	168	176	8	0.28	0.176	0.005	0.06	0.16	0.06	0.008	0.520	Valhalla
EB-20-26	117	123	6	0.60	0.252	0.013	0.02	0.02	0.04	0.007	0.873	Valhalla
also	152	171	19	0.25	0.101	0.004	0.04	0.16	0.06	0.008	0.399	Valhalla
EB-20-27	179	196	17	0.35	0.157	0.007	0.05	0.14	0.08	0.008	0.552	Valhalla
includes	187	191	4	0.55	0.230	0.011	0.08	0.21	0.09	0.008	0.852	Valhalla
EB-20-28	161	163	2	1.53	0.550	0.036	0.09	0.04	0.04	0.006	2.174	Valhalla
also	168	172	4	0.37	0.081	-	0.04	0.14	0.07	0.007	0.491	Valhalla
also	190	210	20	0.45	0.151	0.010	0.38	0.11	0.06	0.007	0.637	Valhalla
EB-20-29	75	78	3	0.79	0.306	0.025	0.05	0.11	0.07	0.007	1.146	Valhalla
also	134	138	4	0.58	0.271	0.011	0.02	0.06	0.04	0.007	0.874	Valhalla
EB-20-30	174	175	1	0.40	0.289	-	0.06	0.06	0.04	0.006	0.742	Valhalla
also	181	182	1	0.29	0.115	-	0.04	0.30	0.06	0.006	0.442	Valhalla
also	232	234	2	0.19	0.186	-	0.05	0.19	0.08	0.011	0.430	Valhalla

TABLE 10.1
SUMMARY OF INTERSECTIONS FROM THE CANADIAN PALLADIUM 2020-2021 DRILLING PROGRAM

Drill Hole ID	From (m)	To (m)	Width (m)	Pd (g/t)	Pt (g/t)	Rh (g/t)	Au (g/t)	Cu (%)	Ni (%)	Co (%)	3PGM +Au (g/t)	Zone
EB-20-31	199	208	9	0.34	0.243	0.009	0.04	0.12	0.04	0.007	0.623	Valhalla
EB-20-32	194	196	2	0.37	0.132	-	0.03	0.07	0.04	0.006	0.535	Valhalla
also	215	216	1	0.05	0.037	-	0.02	0.09	0.06	0.009	0.110	Valhalla
EB-20-33	289	291	2	0.59	0.380	-	0.01	0.01	0.02	0.006	0.978	Valhalla
EB-20-34	263	264	1	2.17	0.514	-	0.10	0.01	0.01	0.003	2.790	Valhalla
also	295	302	7	0.17	0.137	-	0.03	0.06	0.02	0.006	0.337	Valhalla
EB-20-35	138	152	14	0.47	0.164	0.025	0.03	0.09	0.05	0.007	0.658	Valhalla
also	156	159	3	0.52	0.164	-	0.03	0.05	0.04	0.006	0.711	Valhalla
also	174	183	9	0.37	0.209	-	0.06	0.07	0.04	0.006	0.642	Valhalla
also	192	193	1	0.43	0.227	-	0.05	0.18	0.07	0.009	0.710	Valhalla
EB-20-36	164	173	9	0.62	0.176	0.017	0.03	0.03	0.03	0.006	0.825	Valhalla
also	180	181	1	0.73	0.157	-	0.05	0.08	0.03	0.005	0.930	Valhalla
also	188	194	6	0.30	0.207	-	0.05	0.07	0.05	0.007	0.554	Valhalla
EB-20-37	128	140	12	1.80	0.499	0.060	0.09	0.14	0.04	0.006	2.389	Valhalla
incl.	133	138	5	3.64	0.924	0.109	0.16	0.22	0.04	0.006	4.723	Valhalla
incl.	137	138	1	6.40	1.566	0.180	0.35	0.30	0.03	0.006	8.316	Valhalla
also	165	166	1	0.08	0.062	*	0.28	0.49	0.09	0.009	0.416	Valhalla
EB-20-38	65	85	20	0.57	0.207	0.020	0.04	0.08	0.04	0.006	0.817	Valhalla
also	98	99	1	0.47	0.479	*	0.02	0.01	0.02	0.007	0.968	Valhalla
EB-20-39	183	197	14	0.58	0.214	0.020	0.05	0.07	0.04	0.006	0.851	Valhalla
EB-20-40	117	145	28	0.97	0.347	0.048	0.09	0.14	0.07	0.007	1.402	Valhalla
incl.	121	126	5	2.85	0.965	0.145	0.20	0.25	0.13	0.008	4.009	Valhalla
also	153	156	3	0.48	0.294		0.03	0.09	0.05	0.007	0.799	Valhalla
EB-20-41	195	197	2	0.34	0.537		0.02	0.06	0.02	0.005	0.897	Valhalla
EB-20-42	216	223	7	0.71	0.250	0.032	0.07	0.12	0.05	0.009	1.027	Valhalla
EB-20-43	192	199	7	0.77	0.331		0.06	0.13	0.08	0.009	1.153	Valhalla

TABLE 10.1
SUMMARY OF INTERSECTIONS FROM THE CANADIAN PALLADIUM 2020-2021 DRILLING PROGRAM

Drill Hole ID	From (m)	To (m)	Width (m)	Pd (g/t)	Pt (g/t)	Rh (g/t)	Au (g/t)	Cu (%)	Ni (%)	Co (%)	3PGM +Au (g/t)	Zone
also	204	214	10	0.77	0.365		0.04	0.04	0.03	0.005	1.166	Valhalla
EB-20-44	169	173	4	0.63	0.296		0.02	0.06	0.02	0.004	0.953	Valhalla
EB-20-46	113	122	9	0.55	0.178		0.05	0.10	0.03	0.007	0.779	Valhalla
EB-20-47	147	154	7	0.48	0.154		0.06	0.17	0.07	0.009	0.692	Garden
EB-20-48	157	163	6	0.32	0.112	-	0.05	0.09	0.04	0.007	0.481	Garden
EB-21-49	248	255	7	1.41	0.388	-	0.11	0.16	0.08	0.009	1.903	Garden
incl.	250	252	2	2.78	0.666	-	0.24	0.16	0.13	0.011	3.686	Garden
EB-21-50	71	72	1	0.01	0.690	-	3.43	0.01	0.01	0.005	3.459	Garden
also	119	121	2	6.47	2.337	-	0.12	0.03	0.04	0.008	8.918	Garden
also	130	154	24	0.46	0.152	-	0.06	0.11	0.03	0.006	0.663	Garden
EB-21-51	83	107	24	0.49	0.170	-	0.04	0.08	0.03	0.006	0.695	Garden
incl.	83	87	4	1.15	0.485	-	0.04	0.05	0.01	0.006	1.670	Garden
also	126	133	7	0.46	0.203	-	0.05	0.12	0.03	0.006	0.710	Garden
EB-21-52	104	108	4	0.59	0.185	-	0.07	0.16	0.04	0.007	0.842	Garden
also	159	170	11	0.49	0.151	-	0.05	0.10	0.05	0.006	0.687	Garden
also	223	243	20	0.40	0.119		0.07	0.29	0.04	0.009	0.583	EOH
EB-21-53	173	179	6	1.23	0.500	-	0.06	0.15	0.05	0.007	1.782	Garden
EB-21-54	152	157	5	0.58	0.105	-	0.04	0.07	0.03	0.005	0.725	Garden
EB-21-55	152	174	22	1.02	0.308	-	0.11	0.24	0.06	0.006	1.447	Garden
incl.	153	163	10	1.46	0.446	-	0.16	0.29	0.08	0.006	2.061	Garden
EB-21-56	188	210	22	0.37	0.109	-	0.07	0.11	0.03	0.007	0.550	Garden
EB-21-57	NSV											
EB-21-58	NSV											
EB-21-59	NSV											
EB-21-60	63	64	1	0.54	0.748	-	0.03	0.08	0.03	0.007	1.324	Valhalla

TABLE 10.1
SUMMARY OF INTERSECTIONS FROM THE CANADIAN PALLADIUM 2020-2021 DRILLING PROGRAM

Drill Hole ID	From (m)	To (m)	Width (m)	Pd (g/t)	Pt (g/t)	Rh (g/t)	Au (g/t)	Cu (%)	Ni (%)	Co (%)	3PGM +Au (g/t)	Zone
EB-21-61	69	73	4	0.51	0.152	-	0.05	0.14	0.06	0.009	0.708	Valhalla
EB-21-62	133	135	2	0.35	0.440	-	0.02	0.07	0.03	0.006	0.808	Valhalla
EB-21-63	109	116	7	1.05	0.439	-	0.08	0.14	0.06	0.007	1.568	Valhalla
	125	131	6	0.69	0.270	-	0.06	0.14	0.07	0.009	1.021	Valhalla
EB-21-64	92	105	13	0.93	0.412	-	0.04	0.10	0.05	0.008	1.383	Valhalla
EB-21-65	98	107	9	0.50	0.166	-	0.13	0.12	0.04	0.006	0.797	Garden
	115	116	1	0.08	0.016	-	1.97	0.01	0.01	0.003	2.061	Garden
EB-21-66	135	138	3	0.46	0.233	-	0.07	0.13	0.04	0.007	0.756	Garden
	176	179	3	1.23	0.357	-	0.06	0.39	0.10	0.008	1.640	Garden
EB-21-67	188	226	38	0.52	0.181	-	0.08	0.15	0.06	0.008	0.782	Garden
incl.	196	202	6	0.88	0.283	-	0.16	0.17	0.08	0.007	1.318	Garden
EB-21-68	93	98	5	0.51	0.209		0.05	0.15	0.06	0.100	0.770	Garden
also	159	172	13	0.37	0.144		0.04	0.11	0.06	0.008	0.556	Garden
also	274	296	22	0.25	0.080		0.06	0.18	0.03	0.007	0.396	EOH
EB-21-69	200	209	9	0.36	0.129		0.06	0.15	0.06	0.009	0.545	Garden
EB-21-70	79	99	20	0.38	0.120		0.10	0.10	0.04	0.007	0.595	Garden
EB-21-71	163	173	10	0.42	0.147		0.05	0.09	0.04	0.006	0.608	Garden
also	236	251	15	0.55	0.138		0.06	0.22	0.03	0.007	0.738	Garden
incl	245	251	6	0.95	0.203		0.08	0.32	0.04	0.009	1.232	EOH
EB-20-72	245	264	19	0.86	0.273		0.09	0.14	0.06	0.008	1.217	Garden
incl.	250	264	14	1.02	0.309		0.10	0.17	0.06	0.008	1.434	Garden
EB-20-73	220	223	3	0.84	0.301		0.06	0.11	0.04	0.007	1.198	Valhalla
EB-20-74	257	277	20	0.67	0.201		0.05	0.12	0.06	0.009	0.920	Valhalla
EB-20-75	NSV											
EB-20-76	105	107	2	0.02	0.011		0.07	0.34	0.13	0.03	0.101	EOH

TABLE 10.1
SUMMARY OF INTERSECTIONS FROM THE CANADIAN PALLADIUM 2020-2021 DRILLING PROGRAM

Drill Hole ID	From (m)	To (m)	Width (m)	Pd (g/t)	Pt (g/t)	Rh (g/t)	Au (g/t)	Cu (%)	Ni (%)	Co (%)	3PGM +Au (g/t)	Zone
EB-20-77	11	31	20	0.54	0.167		0.06	0.11	0.05	0.007	0.763	Garden
also	193	232	39	0.33	0.099		0.05	0.23	0.03	0.008	0.479	EOH
EB-20-78	254	292	38	1.17	0.392		0.11	0.12	0.04	0.007	1.671	Garden
EB-20-79	164	188	24	0.58	0.150		0.05	0.11	0.05	0.008	0.783	Garden
EB-20-80	23	24	1	1.81	1.210		0.04	0.05	0.03	0.005	3.060	GAP Target
also	36	46	10	0.2	0.124		0.03	0.12	0.03	0.006	0.352	GAP Target
also	90	91	1	9.76	2.98		0.32	1.95	0.36	0.014	13.060	GAP Target

Notes: *NSV = no significant values.*

11.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY

11.1 SAMPLE PREPARATION AND SECURITY

11.1.1 Pavey Ark 2017 Drilling Program

The drill core was logged, sawn and sampled at the East Bull Lodge under the supervision of R.H. Sutcliffe, Ph.D., P.Geo., (Pavey Ark) and Mr. Craig Maitland (Core Technician, Clark Exploration, Thunder Bay). Dr. Sutcliffe, logged the drill core and marked out the sample intervals for assay. Mr. Maitland assigned an identification number to each assay sample using uniquely numbered sample tags. Two of the three tags were marked with the date, project, drill hole number, depth from, depth to, and sample interval. The third tag was left blank for inclusion in the sample bag.

When marked, Mr. Maitland cut the drill core for each sample interval using a gas-powered saw with a diamond-impregnated saw blade. One-half of the drill core sample was placed into a plastic bag into which the blank sample tag was placed. The remaining ½ drill core was put back into the drill core box. One of the marked sample tags was placed at the start of the sample interval and stapled to the wooden box. The plastic bag with the sample and unmarked tag was rolled up and taped shut with sturdy packing tape, and marked with the sample tag number.

A total of 92 samples of sawn ½ drill core with a nominal length of 1.0 m, plus an additional four blanks and four certified reference material (CRMs) for quality assurance/quality control ("QA/QC" or "QC") purposes, were submitted for assay.

11.1.2 Pavey Ark Resampling of Historical Freewest Core

Dr. Sutcliffe, P.Geo., and Mr. Maitland completed the drill core resampling program at the East Bull Lodge in October and November 2017, in conjunction with the Pavey Ark drilling program.

Dr. Sutcliffe, reviewed the Freewest drill core, confirmed that the Freewest sample intervals were valid, that historical sample tags were present, that the split drill core was intact, and marked out the sample intervals for re-assay. Mr. Maitland assigned an identification number to each re-assay sample using uniquely numbered sample tags. Two of the three tags were marked with the date, project, drill hole number, depth from, depth to, and sample interval. The third tag was left blank for inclusion in the sample bag.

When marked, Mr. Maitland cut the split drill core for each sample interval using a gas-powered saw with a diamond-impregnated saw blade. One-half of the resulting ¼ drill core sample was placed into a plastic bag into which the blank sample tag was placed. The remaining ¼ drill core was put back into the drill core box. One of the marked sample tags was placed at the start of the sample interval and stapled to the wooden drill core box. The plastic bag with the sample and unmarked tag was rolled up and taped shut with sturdy packing tape, and marked with the sample tag number.

Pavey Ark submitted a total of 217 re-assay samples of ¼ core plus 11 certified reference materials and 10 blanks. Figures 11.1 and 11.2 show comparison of historical Freewest results with the Pavey Ark results for Pd and Pt, respectively, in Freewest drill hole 00-18. These results show excellent reproducibility.

FIGURE 11.1 COMPARISON OF HISTORICAL FREEWEST AND PAVEY ARK PD ASSAYS FOR DDH 00-18

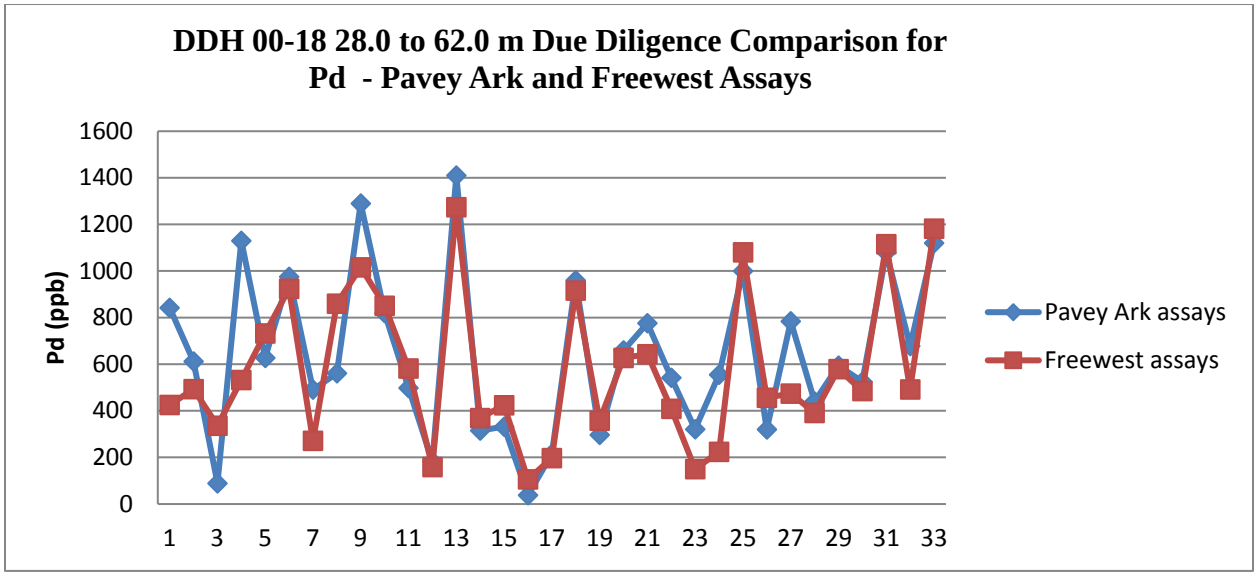
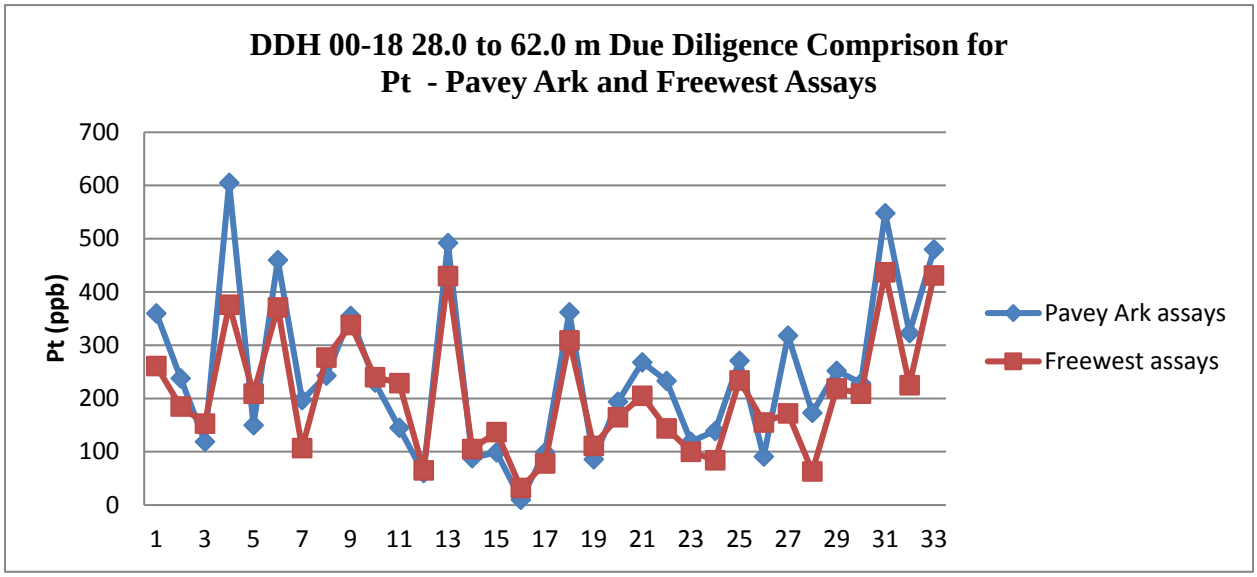


FIGURE 11.2 COMPARISON OF HISTORICAL FREEWEST AND PAVEY ARK PT ASSAYS FOR DDH 00-18



The results of 217 Freewest drill core intervals re-assayed by Pavey Ark resulted in an improvement of overall grade for Au, Pd, Pt, Cu and Ni with good reproducibility. On average, the grade improvement in the 2017 assays over the historical assays for Au, Pd, Pt, Cu, Ni is 2.8%, 9.3%, 8.1%, 4.1% and 28.4%, respectively. The significant improvement in Ni is probably due to improved sample dissolution using a 4-acid digestion.

11.1.3 Canadian Palladium 2020-21 Drilling Program

The East Bull Project drilling program was carried out under the supervision of Mr. Garry Clark, P. Geo., of Clark Exploration Consulting. Drill core samples were transported from the drill site by Company personnel to a large barn, serving as a drill core shack. Drill core information, including RQD measurements and drill core recovery, were logged directly into a paper log and later transferred into Excel format. CRMs, blanks and crushed duplicates were routinely inserted into the sample stream onsite at a rate of one QC sample per 10 drill core samples.

The NQ diameter drill core was sampled in 1.0 m lengths and split by Company staff using a rock saw. One-half of each drill core sample was placed into a uniquely numbered plastic sample bag and the remaining half retained in the drill core box and stored in the Company's facility in Massey, Ontario. Sample bags were subsequently sealed and transported by courier to AGAT Laboratories ("AGAT") in Mississauga, Ontario, or Activation Laboratories ("Actlabs") in Ancaster, Ontario.

11.2 ANALYTICAL METHODS

11.2.1 Pavey Ark 2017 Drilling and Historic Resampling Programs

Pavey Ark's samples were analyzed by Actlabs in Ancaster, Ontario. All samples were transported under the direct supervision of R.H. Sutcliffe and delivered from the Project directly to the laboratory receiving facilities of Actlabs in Ancaster, Ontario. Drill core samples were analyzed for Pt, Pd, Au by 50 g fire assay with ICP-OES finish and for Ag, Co, Cu, Ni by total digestion with an ICP finish at Actlabs, in Ancaster, ON. Rhodium was analyzed separately by 30 g fire assay with ICP-MS finish at Actlabs in Ancaster, ON.

Actlabs also determined the bulk density (Actlabs method code RX-16) on 60 samples of sawn ½ drill core from drill holes EB17-01, EB17-02 and EB17-03.

The Actlabs' Quality System is accredited to international quality standards through ISO/IEC 17025:2017 and ISO 9001:2015. The accreditation program includes ongoing audits, which verify the QA system and all applicable registered test methods. Actlabs is also accredited by Health Canada.

11.2.2 Canadian Palladium 2020-21 Drilling Program

Samples at AGAT were analyzed for Pt, Pd and Au by 50 g fire assay with ICP-OES finish and for Ag, Co, Cu and Ni by 4-Acid Digest with an ICP-OES finish.

PGE analysis was performed at Actlabs using a 30 g fire assay with ICP-MS or ICP-AES finish. Multi-element analyses, including copper and nickel were analysed by 4-Acid Digest using 0.25 g with an ICP-AES finish. Rhodium was analyzed separately by 30 g fire assay with ICP-MS finish.

Actlabs and AGAT are both independent ISO/IEC 17025 certified laboratories.

11.3 QUALITY ASSURANCE/QUALITY CONTROL REVIEW

11.3.1 Pavey Ark 2017 Drilling and Historical Resampling Programs

11.3.1.1 Performance of Certified Reference Materials

Pavey Ark inserted certified reference materials and field blanks into the assay samples at a rate of approximately one CRM and one blank per 20 analyses. The CDN Resource Laboratories Ltd. (CDN) CDN-ME-1310 Certified Reference Standard (CRM) was the primary CRM used. This CRM is an altered peridotite from the Wellgreen Complex with similar PGM grades to the East Bull gabbro. ME-1310 is a CRM for Pd, Pt, Co, Cu and Ni. The ME-1310 value for gold is provisional and silver is indicated. The Ontario Geological Survey LDI-1 CRM from the Lac des Iles PGM Deposit was used as a secondary standard. However, this is considered a provisional CRM for all of the elements tabulated.

Table 11.1 provides the recommended values for the CRMs.

TABLE 11.1
RECOMMENDED CRM VALUES ±2SD

CRM	Au (ppb)	Pd (ppb)	Pt (ppb)	Ag (ppm)	Co (ppm)	Cu (ppm)	Ni (ppm)
ME-1310	63±16	563±40	433±38	1	190±20	2,760±220	3,790±220
LDI-1	84±22	834±54	98±22	--	52±4	413±24	656±28

Note: *2SD = two standard deviations.*
ME-1310 is certified for Pd, Pt, Co, Cu, Ni. ME-1310 Au values are provisional. LDI-1 values are provisional.

Figures 11.3 to 11.6 demonstrate the performance of Pavey Ark's analyses for the CDN-ME-1310 and LDI-1 CRMs for Pd and Pt. High biases were noted for both CRMs and elements.

Two samples (494017 and 494064) for Pd for the CDN-ME-1310 CRM returned with results greater than three standard deviations from the certified mean. Two other CRMs passed in the same batch as sample 494017 and sample 494064 fell relatively close to three standard deviations from the mean and is not considered to be of significant impact. Sample 494017 for Pt also falls above three standard deviations from the mean. However, two additional other CRMs pass for Pt in this batch.

There were three failures greater than three standard deviations from the mean for the LDI-1 CRM for Pd (677080, 677415 and 677150), whose performance was monitored with provisional values only. All three batches with failing CRMs had at least one other CRM passing in same batch.

FIGURE 11.3 RESULTS FOR PD ANALYSIS OF ME-1310 CERTIFIED REFERENCE MATERIAL

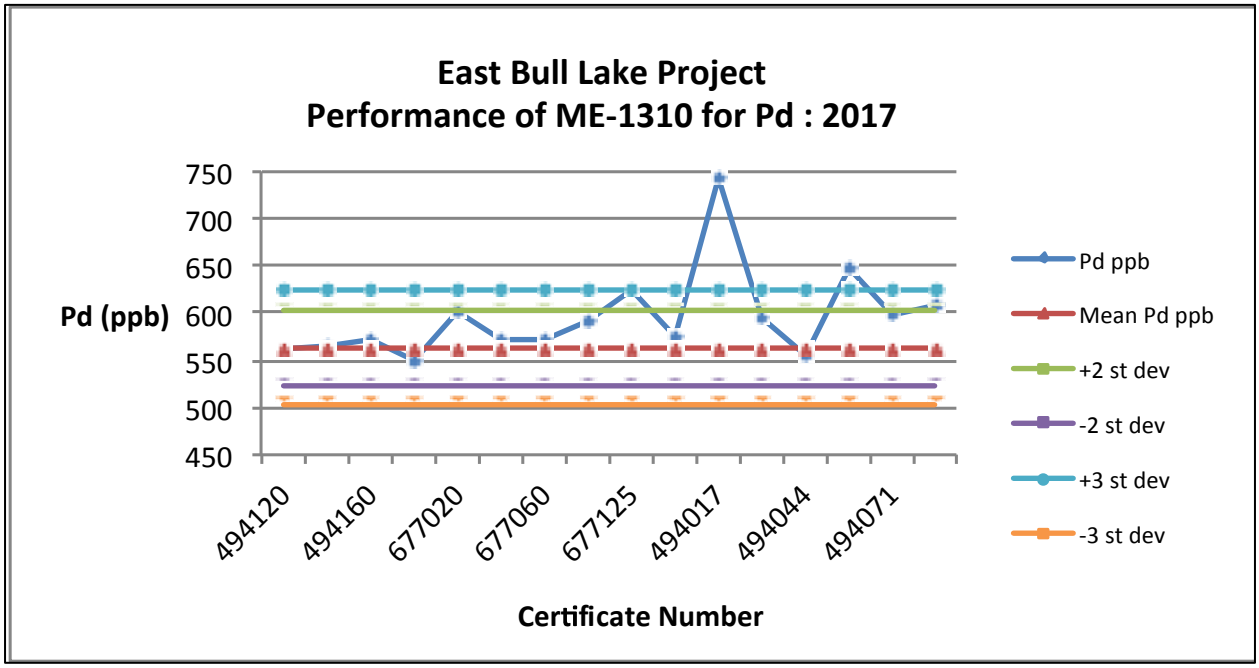


FIGURE 11.4 RESULTS FOR PT ANALYSIS OF ME-1310 CERTIFIED REFERENCE MATERIAL

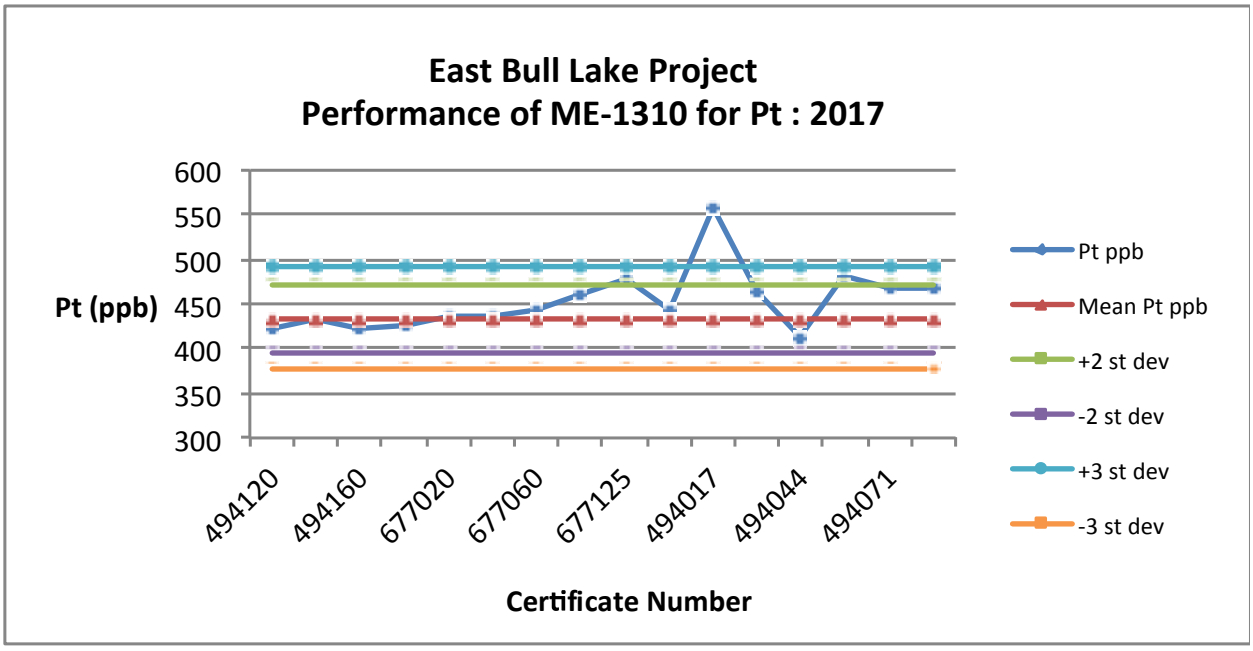


FIGURE 11.5 RESULTS FOR PD ANALYSIS OF LDI-1 REFERENCE MATERIAL

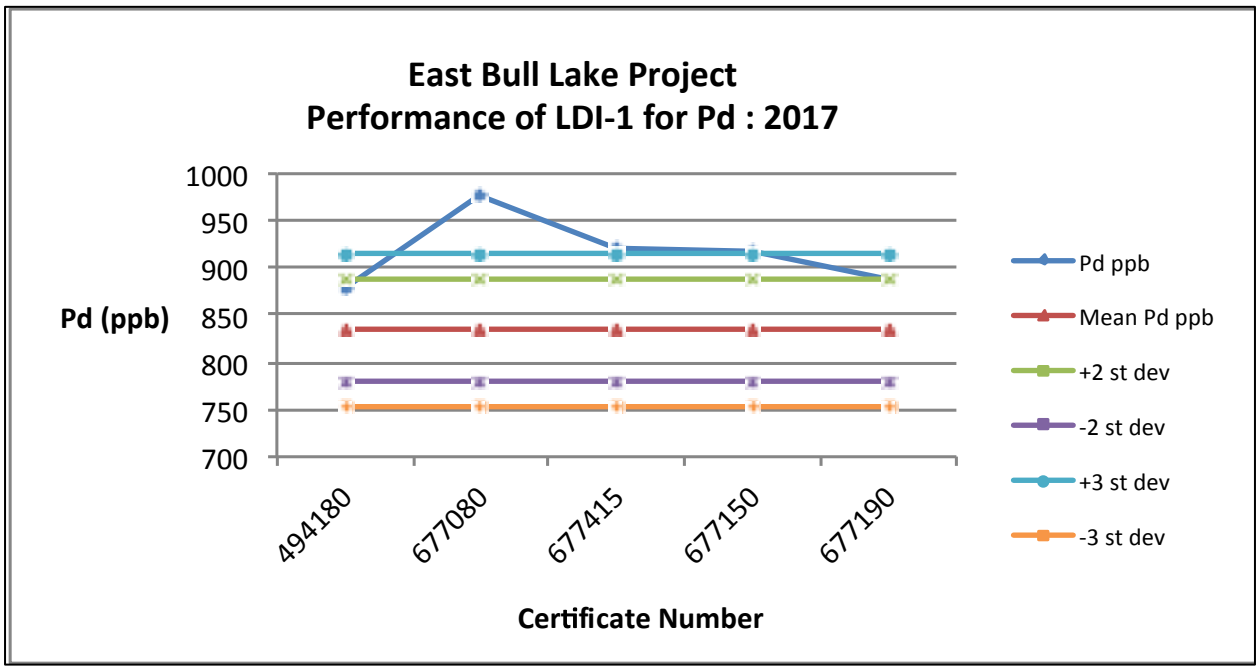
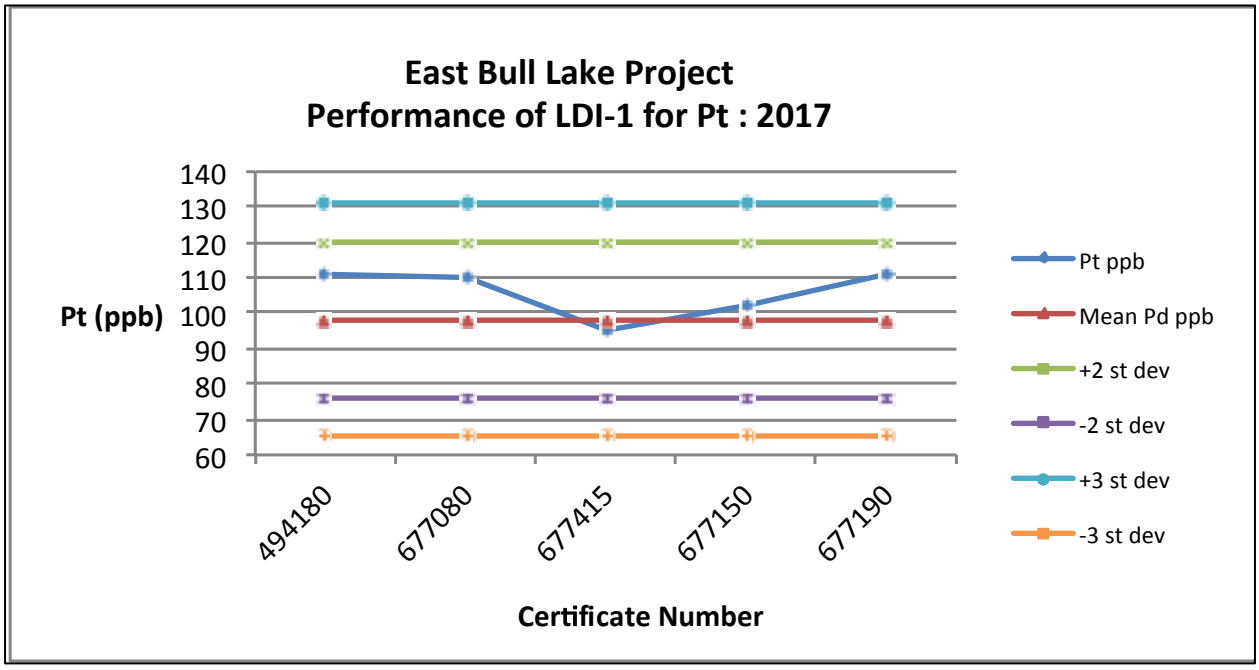


FIGURE 11.6 RESULTS FOR PT ANALYSIS OF LDI-1 REFERENCE MATERIAL



The author considers that the CRMs demonstrate acceptable accuracy.

11.3.1.2 Performance of Blanks

Pavey Ark used syenite from drill core in Freewest drill hole 00-06 for the 2017 drill core re-assay and drilling program and channel samples of an anorthositic gabbro from the hanging wall of the Deposit for the channel sample field blanks.

Results for the syenite field blank are shown in Figures 11.7 and 11.8. All Pd results were <20 ppb Pd and all Pt results were around the lower detection limit. The results are considered acceptable, and the author does not consider contamination to be an issue in the East Bull Project 2017 drilling and historical resampling data.

FIGURE 11.7 RESULTS OF ASSAYS OF SYENITE FIELD BLANKS FOR PD

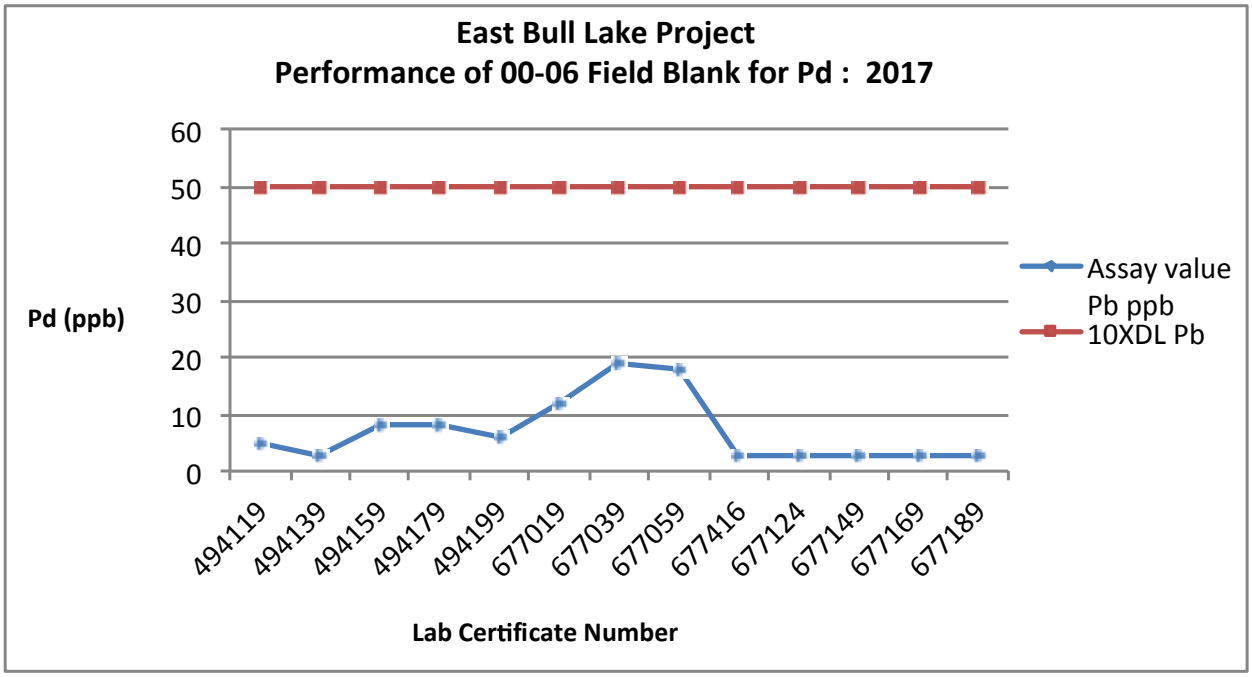
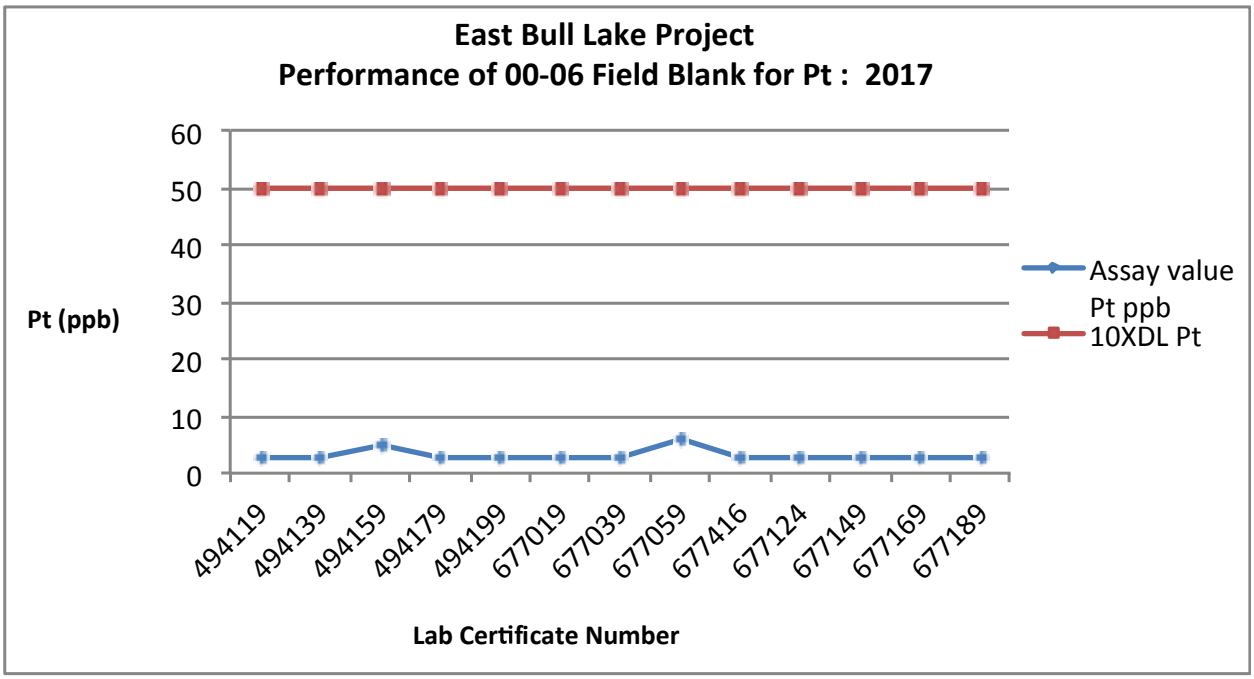


FIGURE 11.8 RESULTS OF ASSAYS OF SYENITE FIELD BLANKS FOR PT



The author of this Technical Report section considers there to be good agreement between Pavey Ark's check assays and Freewest's historically reported values. The results of the 2017 re-sampling program verify the presence of significant Au, Pd, Pt, Cu and Ni in the East Bull Palladium Deposit drill core, and confirm the validity of the historically reported analytical results.

11.3.1.3 Performance of Laboratory Duplicates

Pavey Ark did not insert any ¼ drill core field duplicates into the 2017 drill core-sampling program. However, Actlabs' internal laboratory duplicates were assessed by the author of this Technical Report section.

Actlabs reports both laboratory analytical duplicates and a limited number of pulp duplicates. Results for both Pd and Pt are shown in Figures 11.9 and 11.12 and precision is considered acceptable for both elements.

FIGURE 11.9 ACTLABS' ANALYTICAL DUPLICATES FOR PD

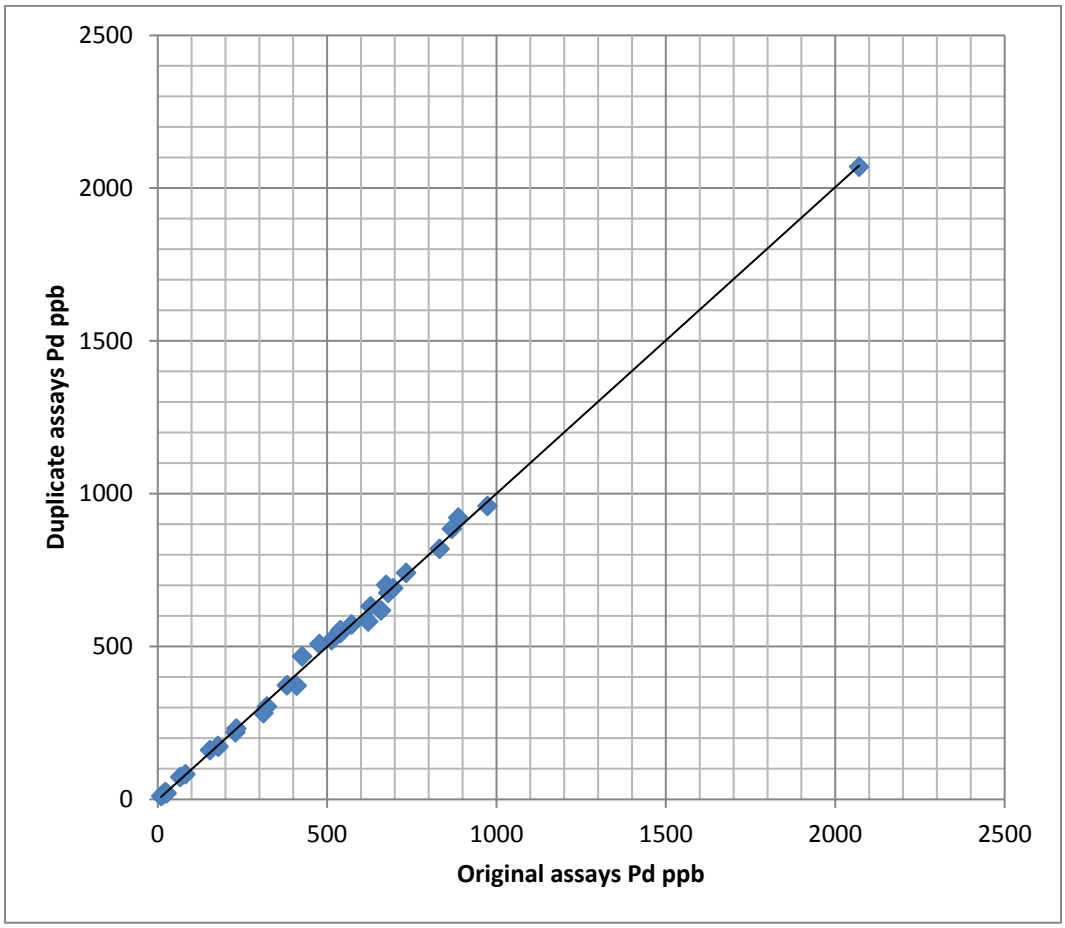


FIGURE 11.10 ACTLABS' PULP DUPLICATES FOR PD

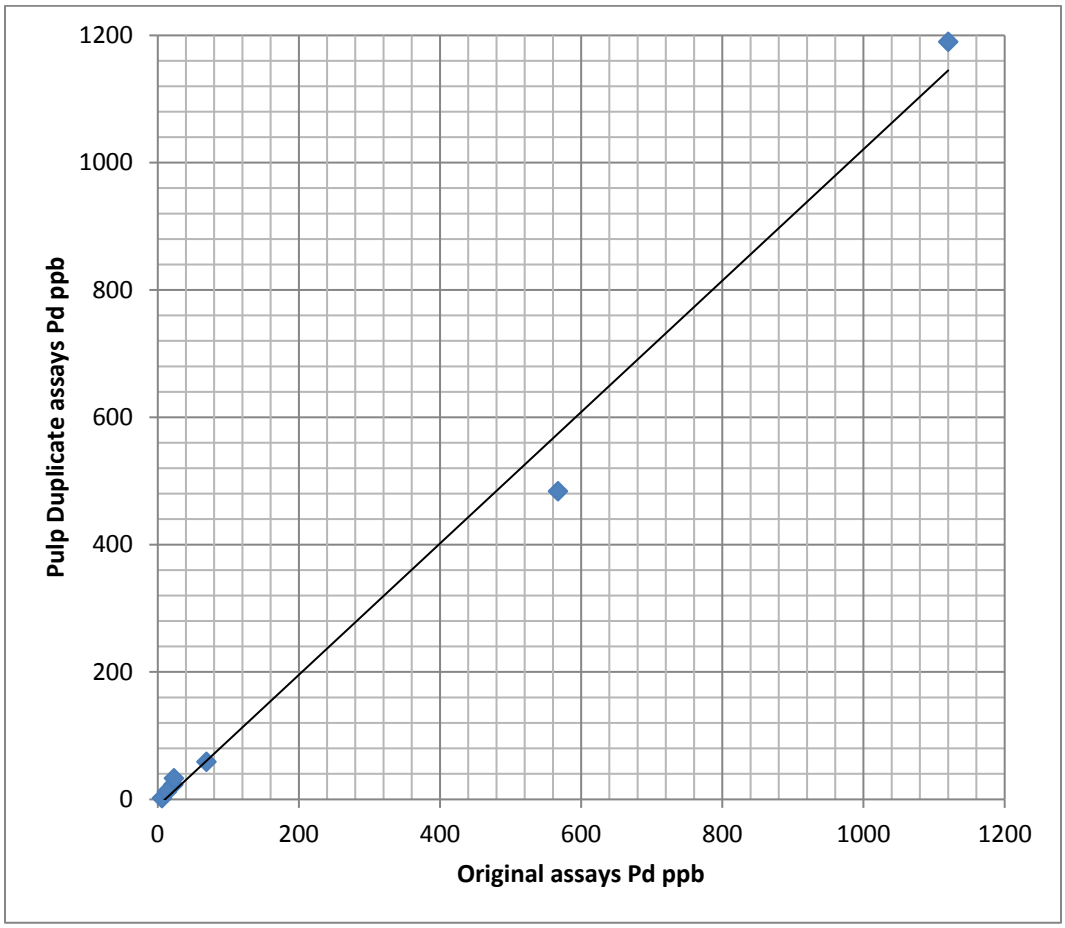


FIGURE 11.11 ACTLABS' ANALYTICAL DUPLICATES FOR PT

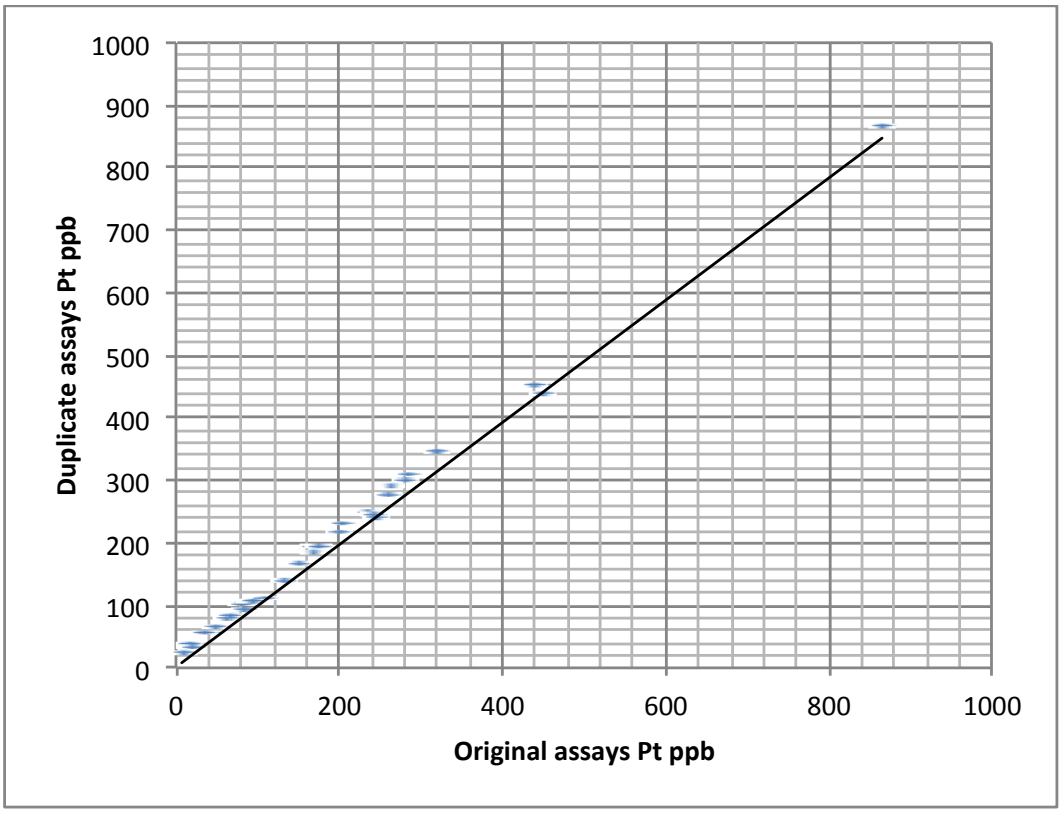
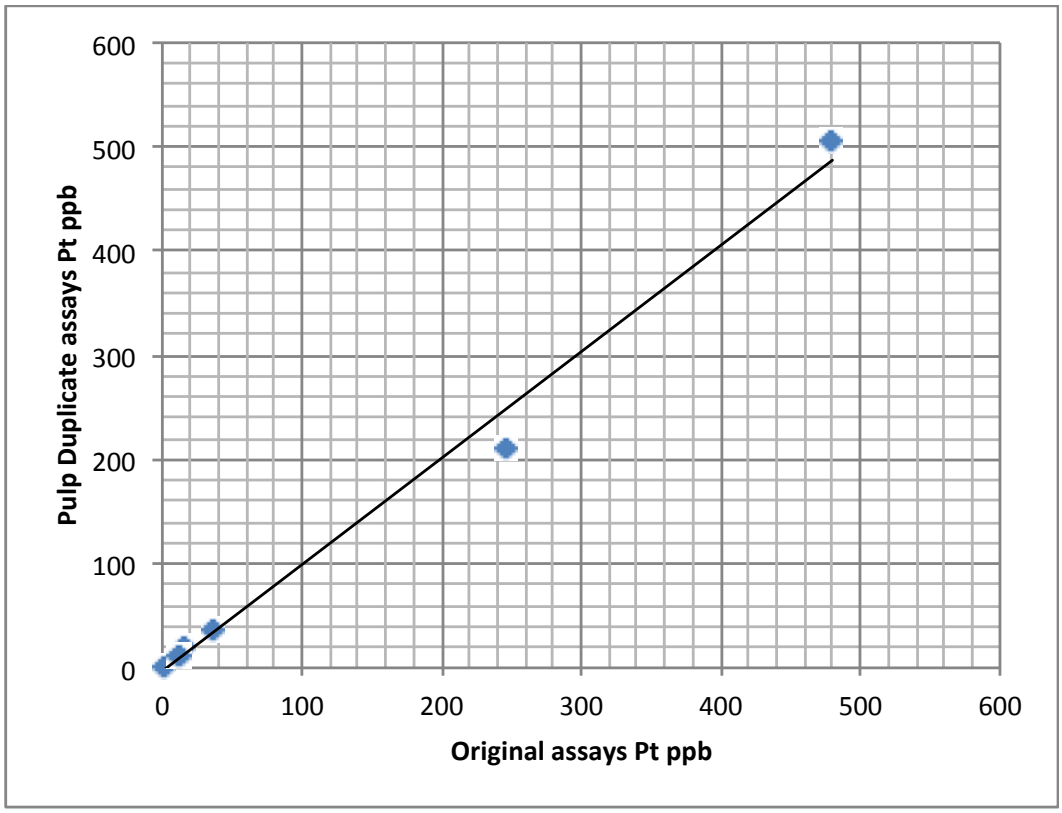


FIGURE 11.12 ACTLABS' PULP DUPLICATES FOR PT



11.3.2 Canadian Palladium 2020-2021 Drilling Program

Canadian Palladium implemented and monitored a thorough QA/QC program for the drilling undertaken at the East Bull Palladium Property during the 2020 to 2021 period. QC protocol included the insertion of QC material by Company personnel into every batch submitted for analysis to monitor for analytical accuracy and precision, including CRMs, blanks and field duplicates. QA/QC protocol included prompt evaluation of QC sample results before analytical results were accepted and imported into the Project database.

11.3.2.1 Performance of Certified Reference Materials

CRMs were inserted into the analysis stream at an average of one in 28 samples and 223 CRMs were analyzed. Three CRMs were used during the 2020-2021 drill program to monitor Au, Pd, Pt, Cu, Ni and Rh performance; the CDN-ME-9 and OREAS 683 CRMs (certified for Au, Pd, Pt, Cu and Ni) and the CDN-PGMS-19 CRM (certified for Au, Pd and Pt). The OREAS 683 CRM is also certified for Rh. The CDN CRMs were purchased from CDN Resource Laboratories Ltd., of Langley, BC, and the OREAS North America Inc., of Sudbury, ON.

All data were graphed and compared to the warning limits of ±2 standard deviations from the between-lab round robin mean and the tolerance limits of ±3 standard deviations from the mean. A summary of CRM results, by laboratory, is presented in Table 11.2. CRM performance charts are presented in Figures 11.13 through 11.26.

TABLE 11.2
SUMMARY OF CERTIFIED REFERENCE MATERIALS USED AT THE EAST BULL PROJECT

Certified Reference Material	Certified Mean Value (ppm)	±1SD (ppm)	±2SD (ppm)	Lab	Lab Results			
					No. Results	No. (-) Failures	No. (+) Failures	Average Result (ppb)
Monitoring Gold								
*CDN-ME-9	0.154	0.021	0.042	Actlabs	50	1	2	0.149
				AGAT	94	0	1	0.161
OREAS 683	0.207	0.008	0.016	Actlabs	37	4	0	0.188
CDN-PGMS-19	0.230	0.015	0.030	Actlabs	40	1	2	0.222
Monitoring Palladium								
CDN-ME-9	1.286	0.051	0.102	Actlabs	50	0	0	1.300
				AGAT	94	0	13	1.355
OREAS 683	0.853	0.041	0.082	Actlabs	37	4	0	0.815
CDN-PGMS-19	0.476	0.021	0.042	Actlabs	40	1	0	0.484
Monitoring Platinum								
CDN-ME-9	0.664	0.029	0.058	Actlabs	50	2	0	0.646
				AGAT	94	0	8	0.686
OREAS 683	1.760	0.113	0.226	Actlabs	37	4	0	1.760
CDN-PGMS-19	0.108	0.006	0.012	Actlabs	40	0	2	0.111
Monitoring Copper								
CDN-ME-9	6,540	180	360	Actlabs	50	2	0	6,340
				AGAT	94	0	9	6,789
OREAS 683	404	10	20	Actlabs	37	0	0	395
Monitoring Nickel								
CDN-ME-9	9,120	130	260	Actlabs	50	25	0	8,252
				AGAT	92	0	0	9,376
OREAS 683	1,181	63	126	Actlabs	37	0	0	1,095
Monitoring Rhodium								
OREAS 683	146	13	26	Actlabs	7	2	0	117

Note: *1SD = one standard deviation, 2SD = two standard deviations.*
** Calculated Reference Material Values are provisional only for gold.*

The majority of CRM results fell within ±2 standard deviations from the certified mean value. Those failures outside of either +3 or -3 standard deviations from the mean were addressed individually and the majority of batch results were accepted due to multiple other CRMs passing within the same batch and/or due to the failures falling below -3 standard deviations from the mean. A higher failure rate was noted for the CDN-ME-9 CRM at AGAT for Pd, Cu and Pt. The failure rate was calculated at 13.8% for Pd, 9.5% for Cu and 8.5% for Pt. There were several batches affected by majority high failures:

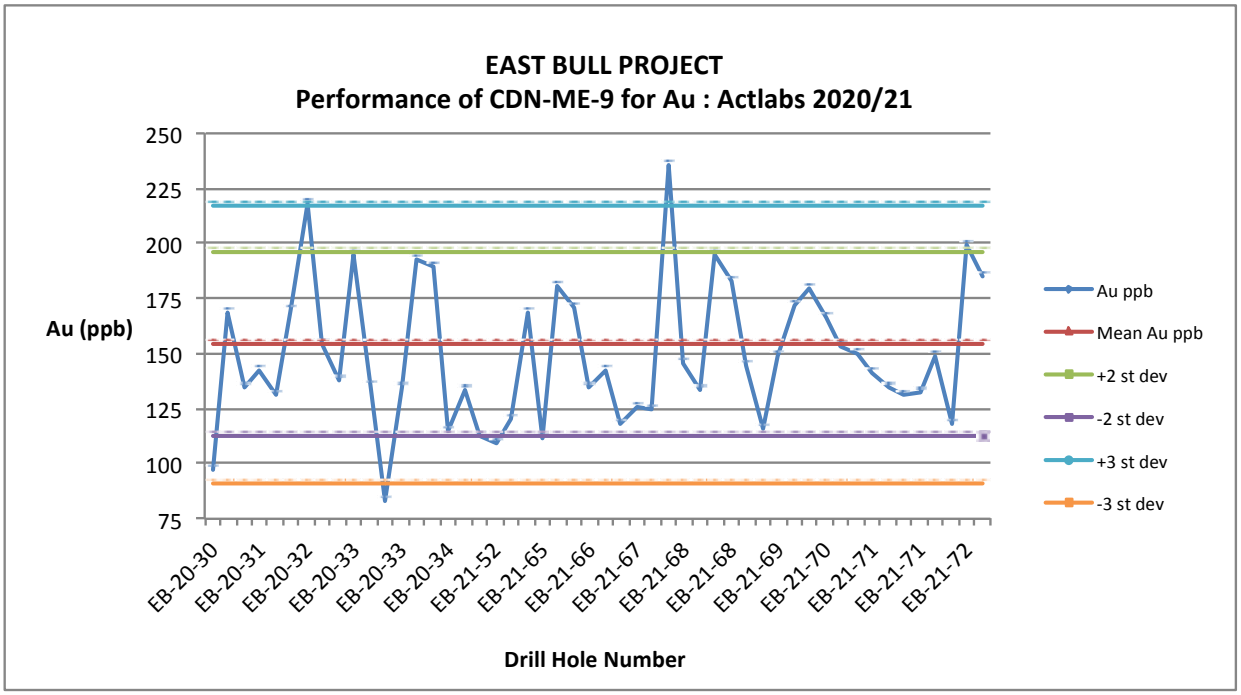
- **Pd:** batches 20T689104, 21T704861, 21T707884, 21T716347 and 21T720327;
- **Cu:** batches 20T690426, 21T704861 and 21T720327; and
- **Pt:** batch 21T707884.

Although results are potentially positively biased on a local level for the stated elements in the specified batches, the author of this Technical Report section considers it unlikely that the failures significantly impact the Project database on a global level.

Low biases were observed in the Actlabs CDN-ME-9 data for Cu and Ni and OREAS-683 data for Au, Cu, Ni and Rh. High biases were observed in AGAT's CDN-ME-9 data for Au, Pd, Pt, Cu and Ni and in Actlabs' CDN-PGMS-19 data for Pd.

The author of this Technical Report section considers that the CRMs demonstrate reasonable accuracy in the 2020-21 data.

FIGURE 11.13 RESULTS FOR AU ANALYSIS OF ME-9 CERTIFIED REFERENCE MATERIAL AT ACTLABS AND AGAT



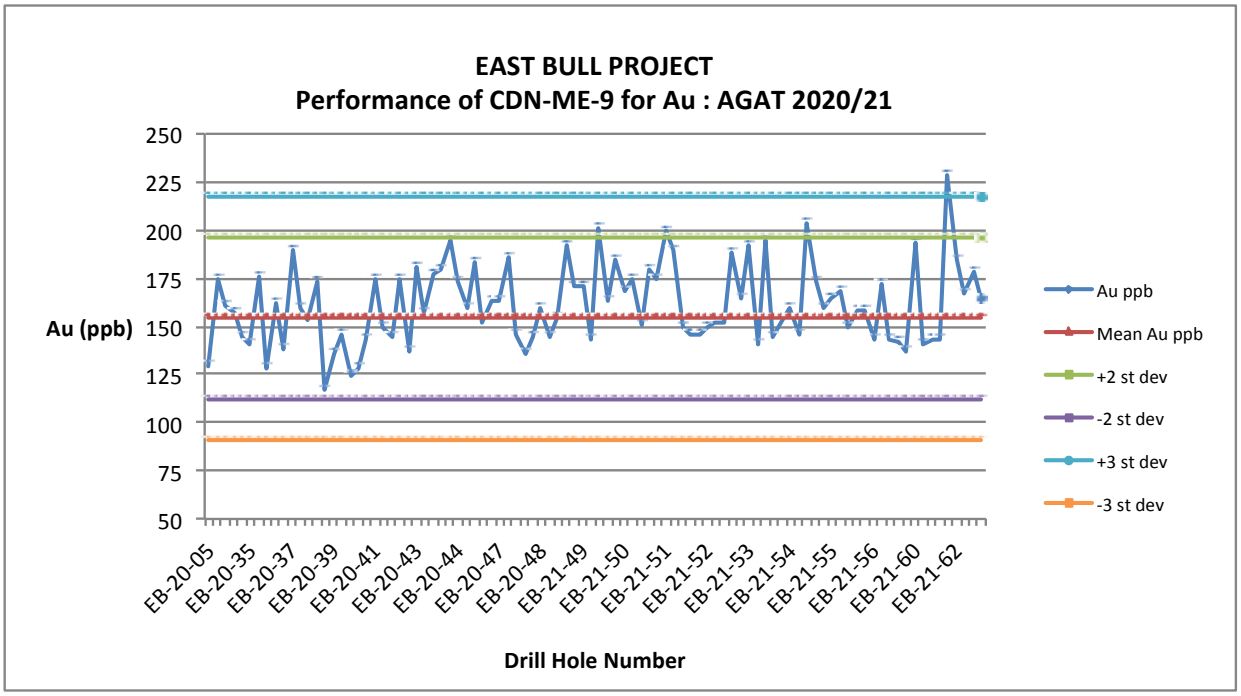
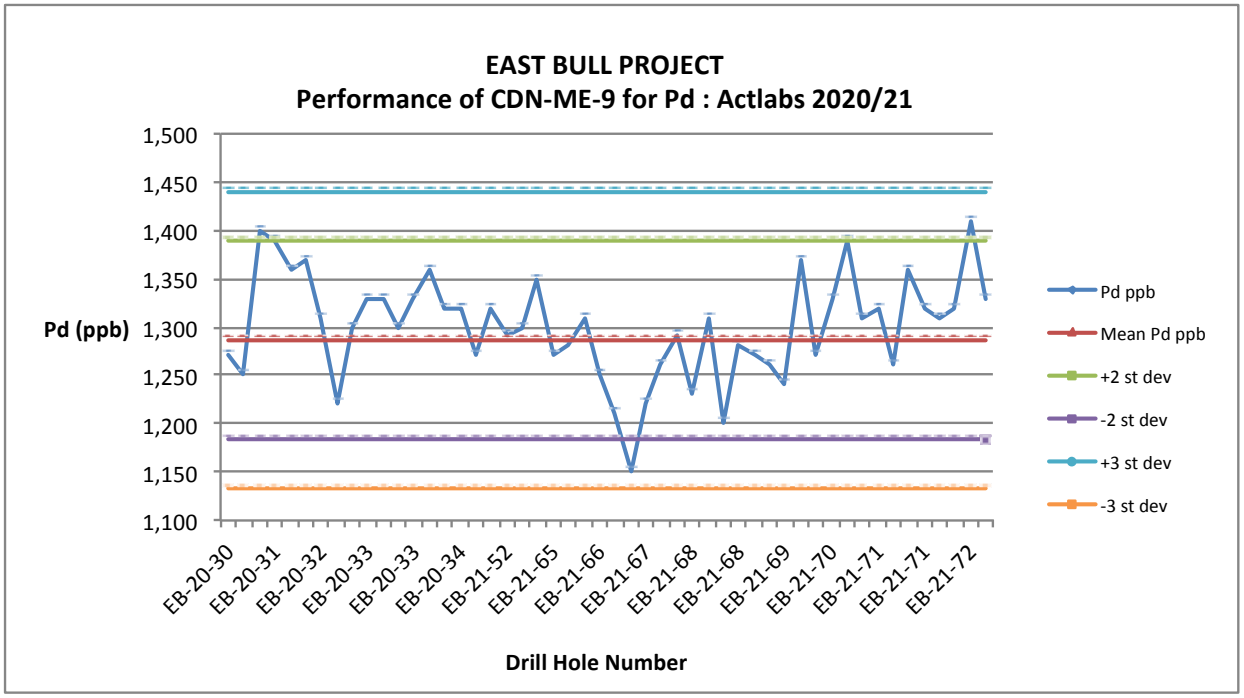


FIGURE 11.14 RESULTS FOR PD ANALYSIS OF ME-9 CERTIFIED REFERENCE MATERIAL AT ACTLABS AND AGAT



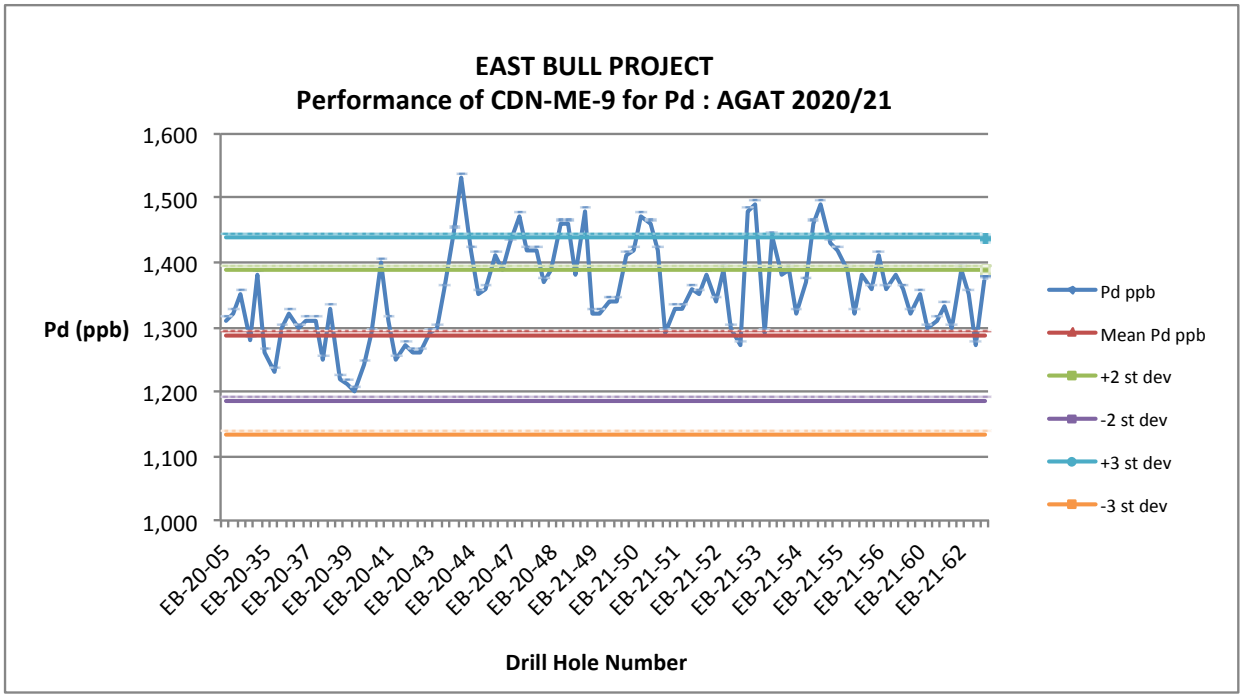
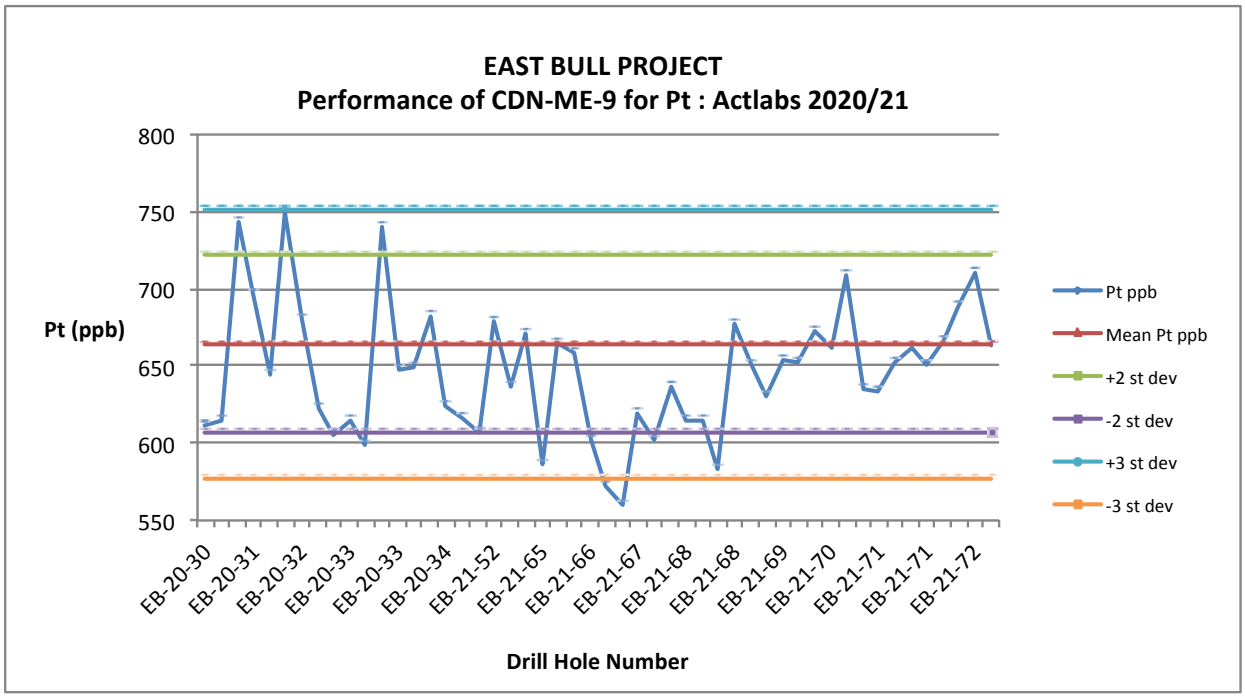


FIGURE 11.15 RESULTS FOR PT ANALYSIS OF ME-9 CERTIFIED REFERENCE MATERIAL AT ACTLABS AND AGAT



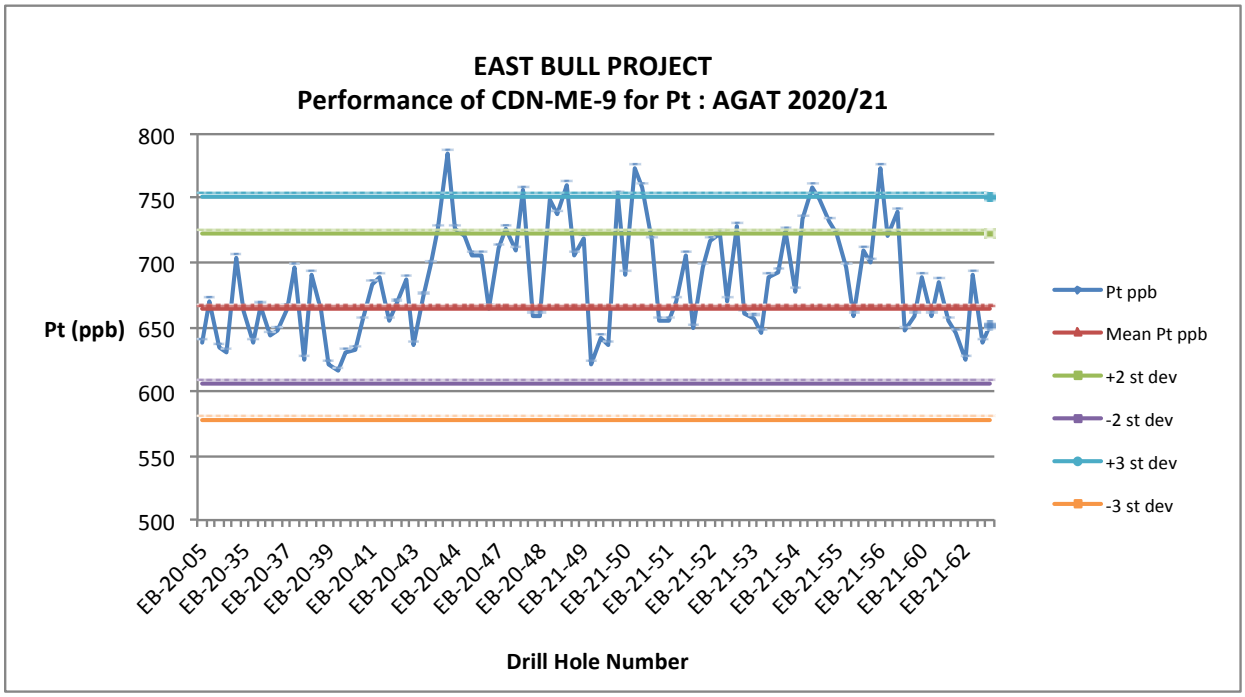
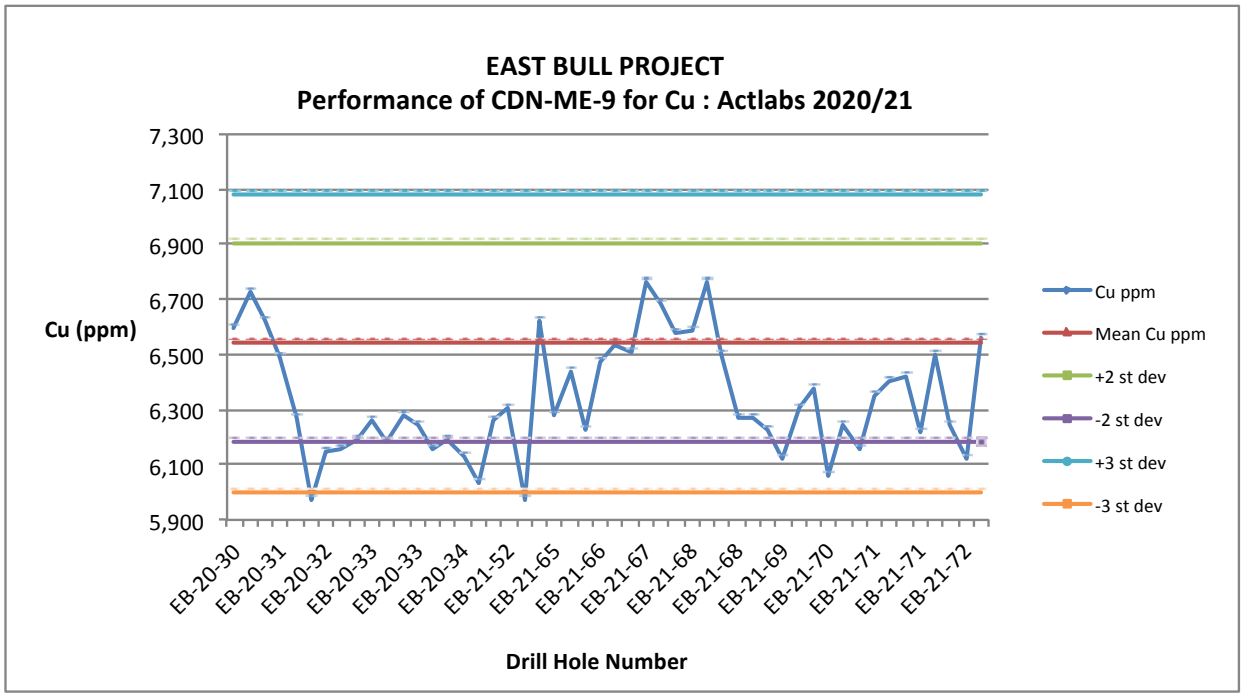


FIGURE 11.16 RESULTS FOR CU ANALYSIS OF ME-9 CERTIFIED REFERENCE MATERIAL AT ACTLABS AND AGAT



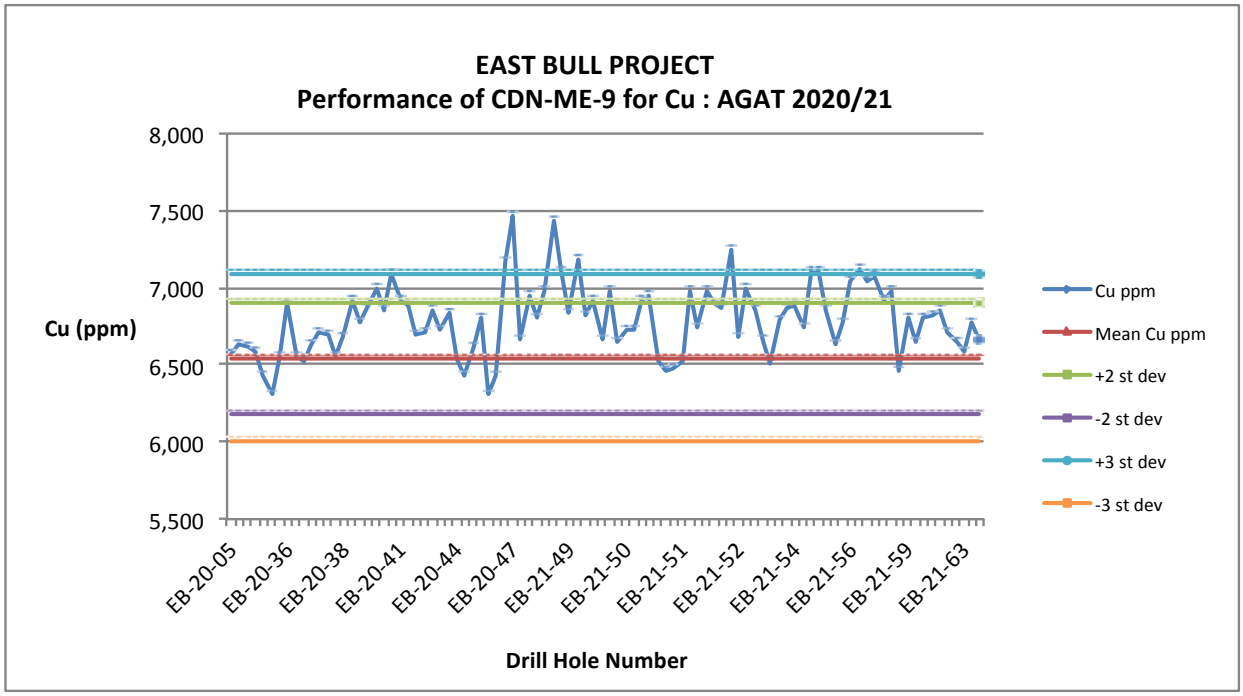


FIGURE 11.17 RESULTS FOR NI ANALYSIS OF ME-9 CERTIFIED REFERENCE MATERIAL AT ACTLABS AND AGAT

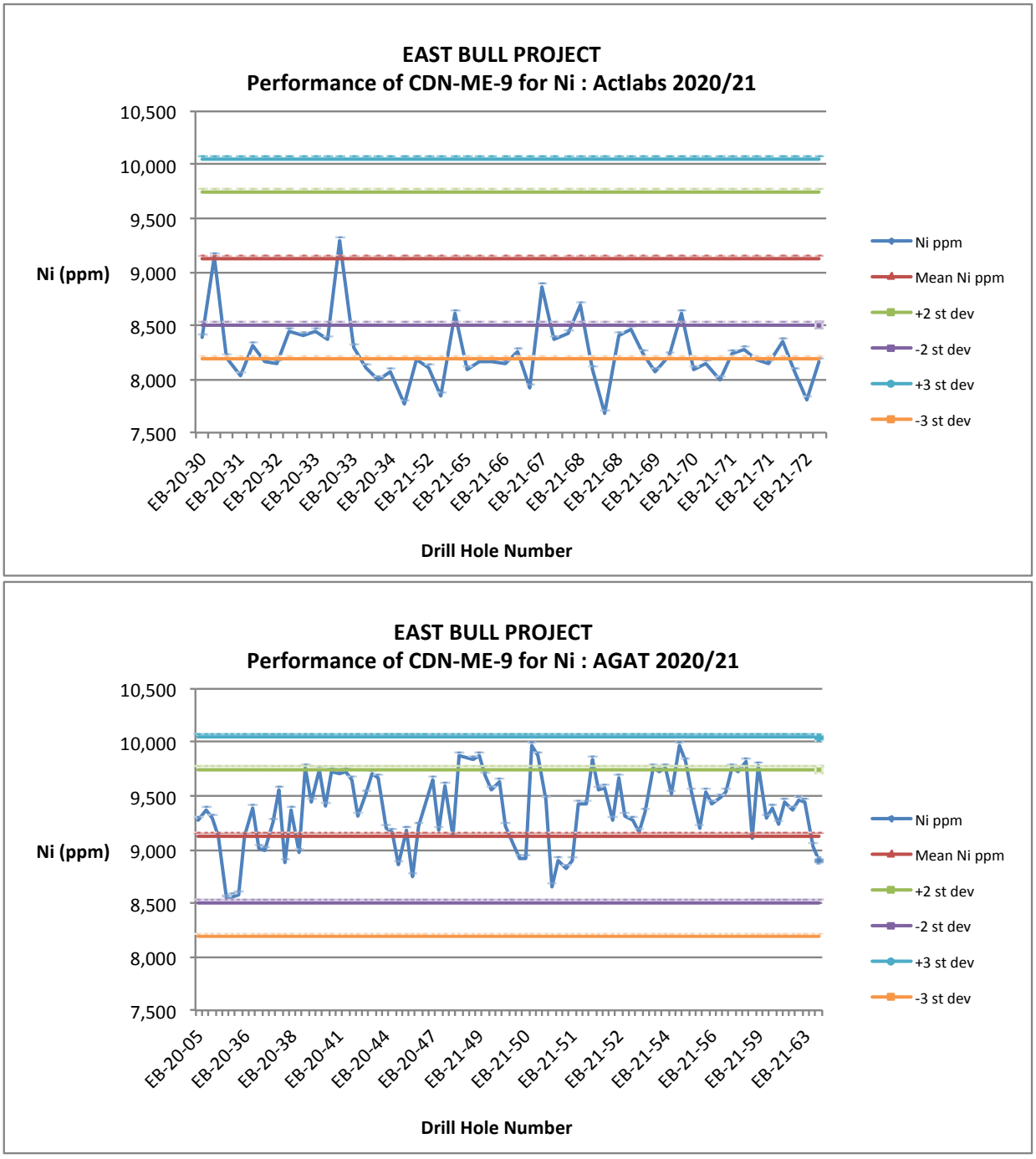


FIGURE 11.18 RESULTS FOR AU ANALYSIS OF OREAS 683 CERTIFIED REFERENCE MATERIAL AT ACTLABS

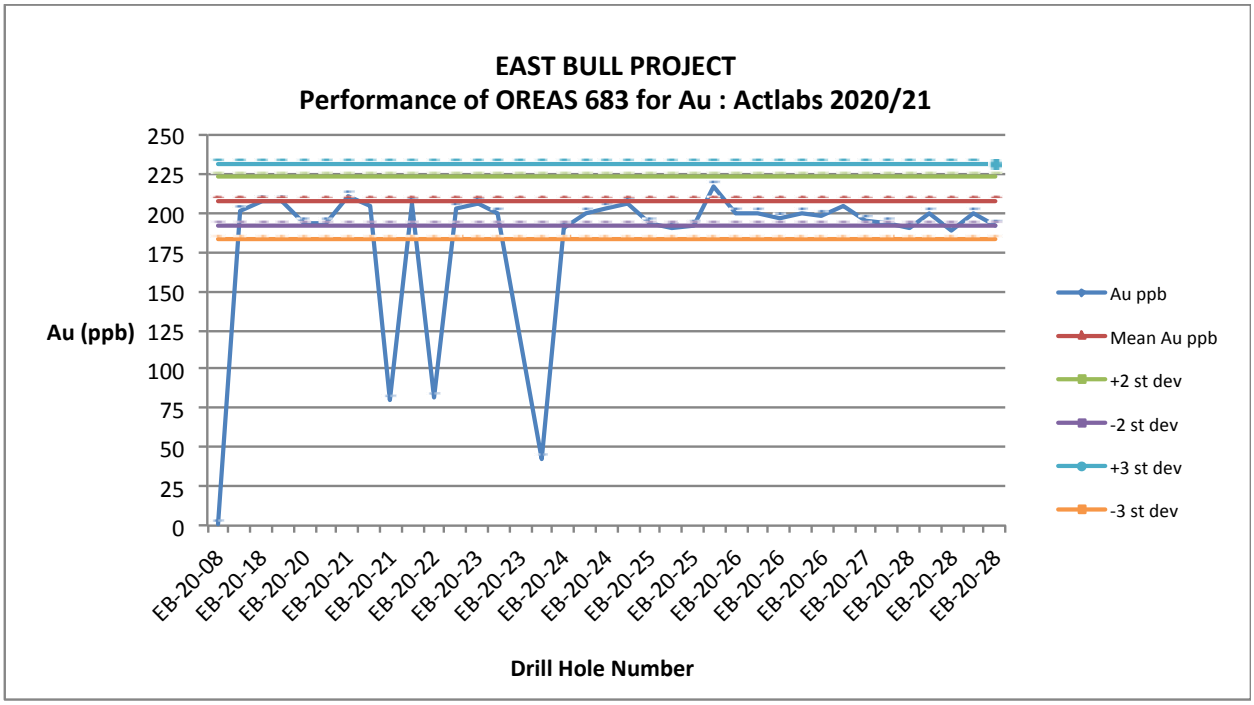


FIGURE 11.19 RESULTS FOR PD ANALYSIS OF OREAS 683 CERTIFIED REFERENCE MATERIAL AT ACTLABS

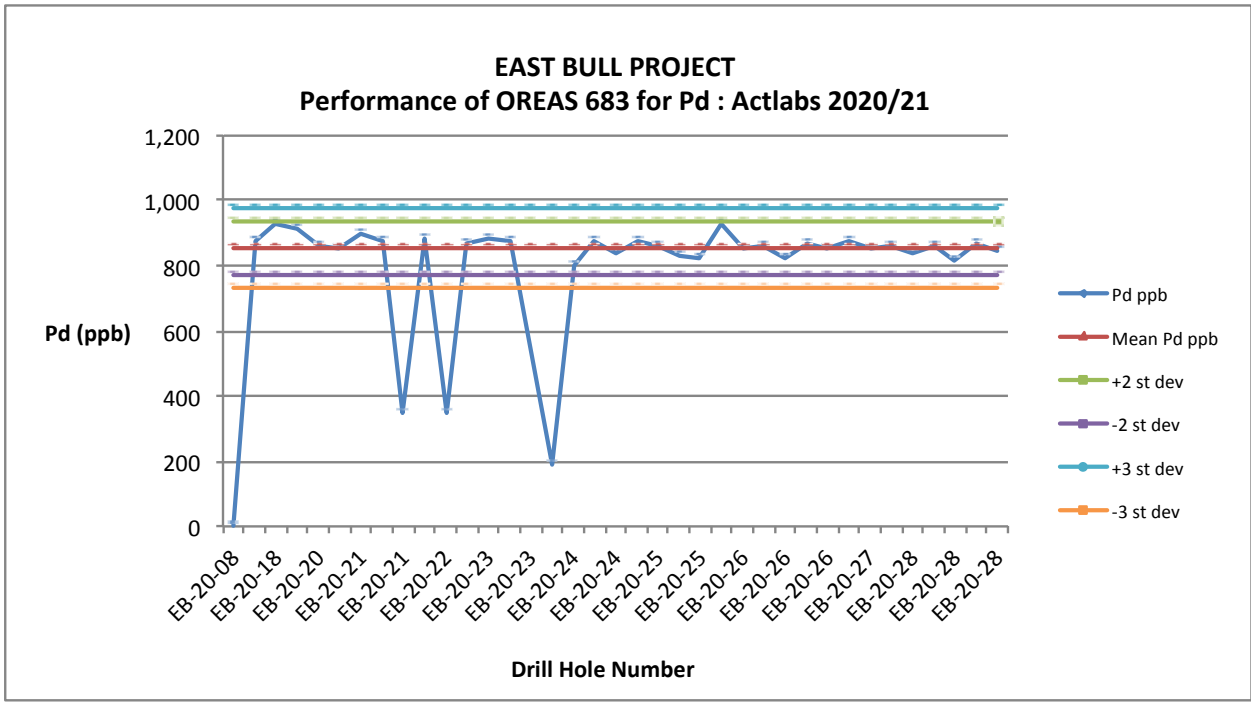


FIGURE 11.20 RESULTS FOR PT ANALYSIS OF OREAS 683 CERTIFIED REFERENCE MATERIAL AT ACTLABS

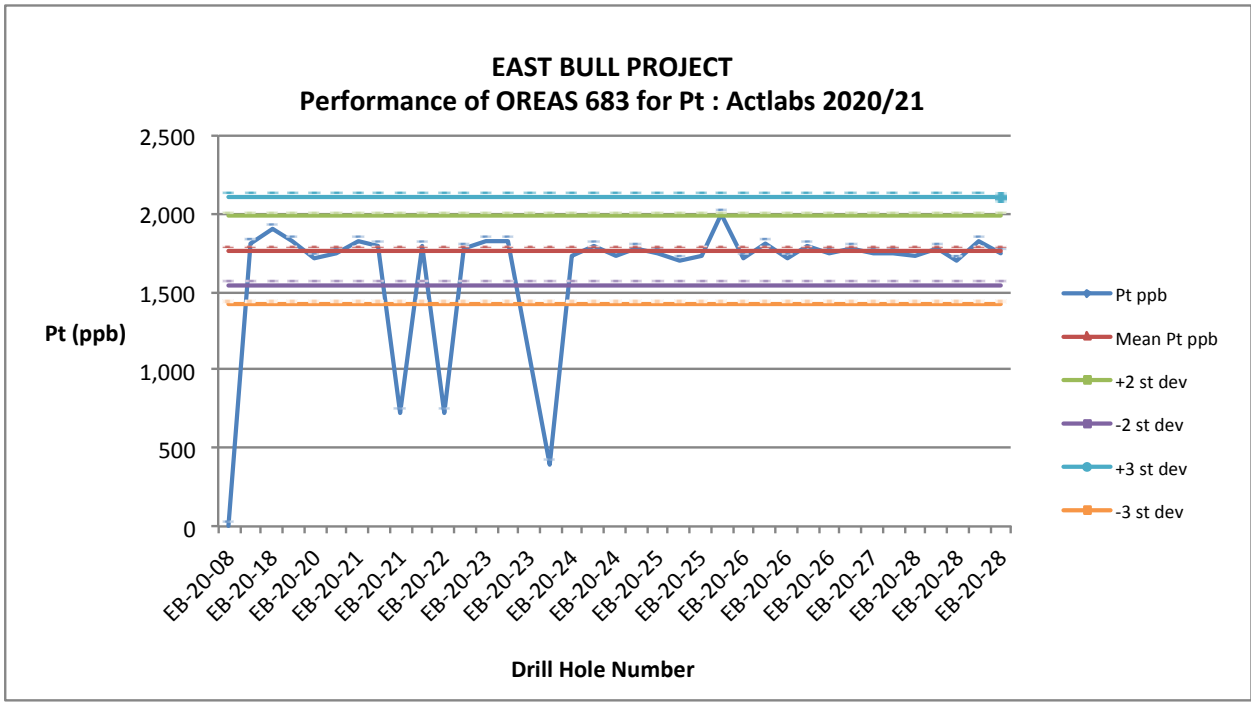


FIGURE 11.21 RESULTS FOR CU ANALYSIS OF OREAS 683 CERTIFIED REFERENCE MATERIAL AT ACTLABS

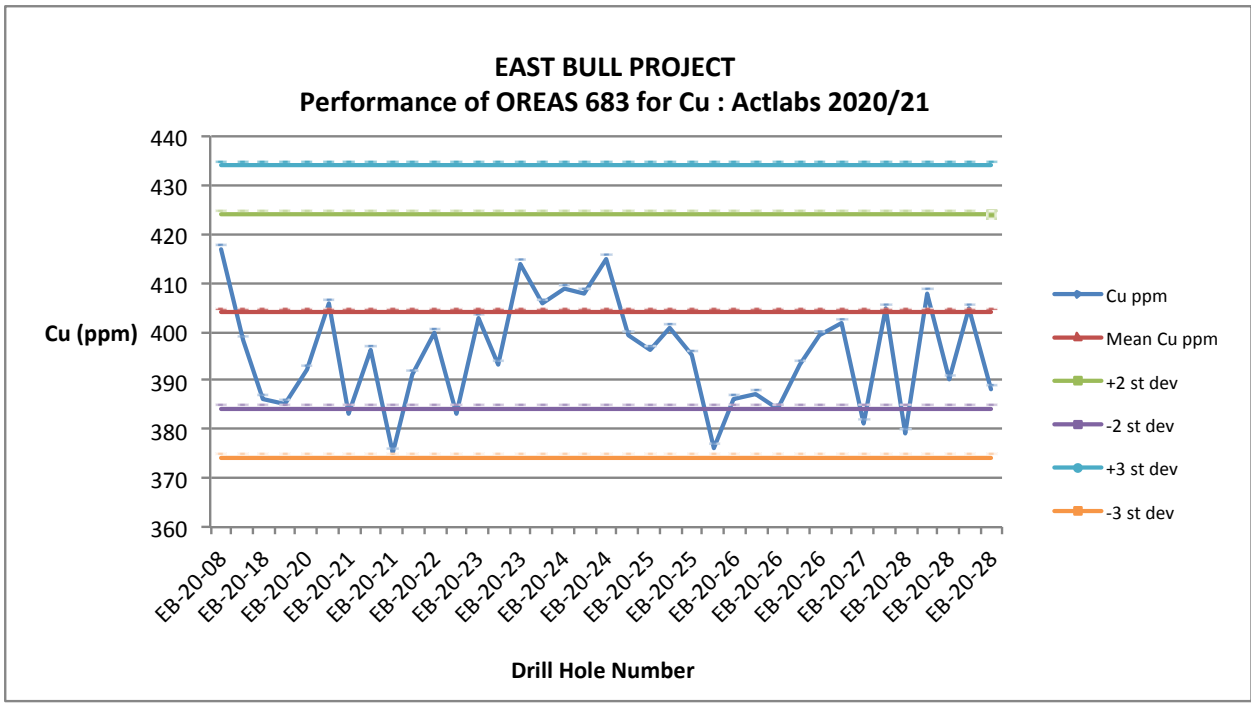


FIGURE 11.22 RESULTS FOR NI ANALYSIS OF OREAS 683 CERTIFIED REFERENCE MATERIAL AT ACTLABS

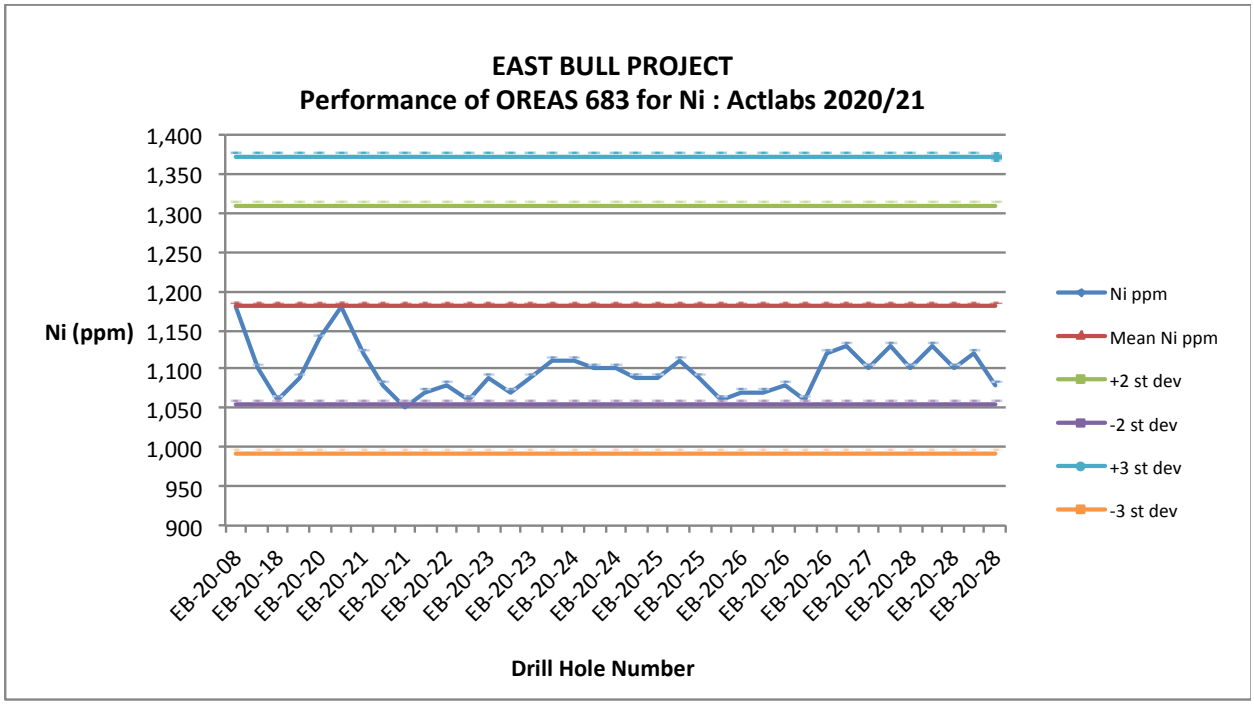


FIGURE 11.23 RESULTS FOR RH ANALYSIS OF OREAS 683 CERTIFIED REFERENCE MATERIAL AT ACTLABS

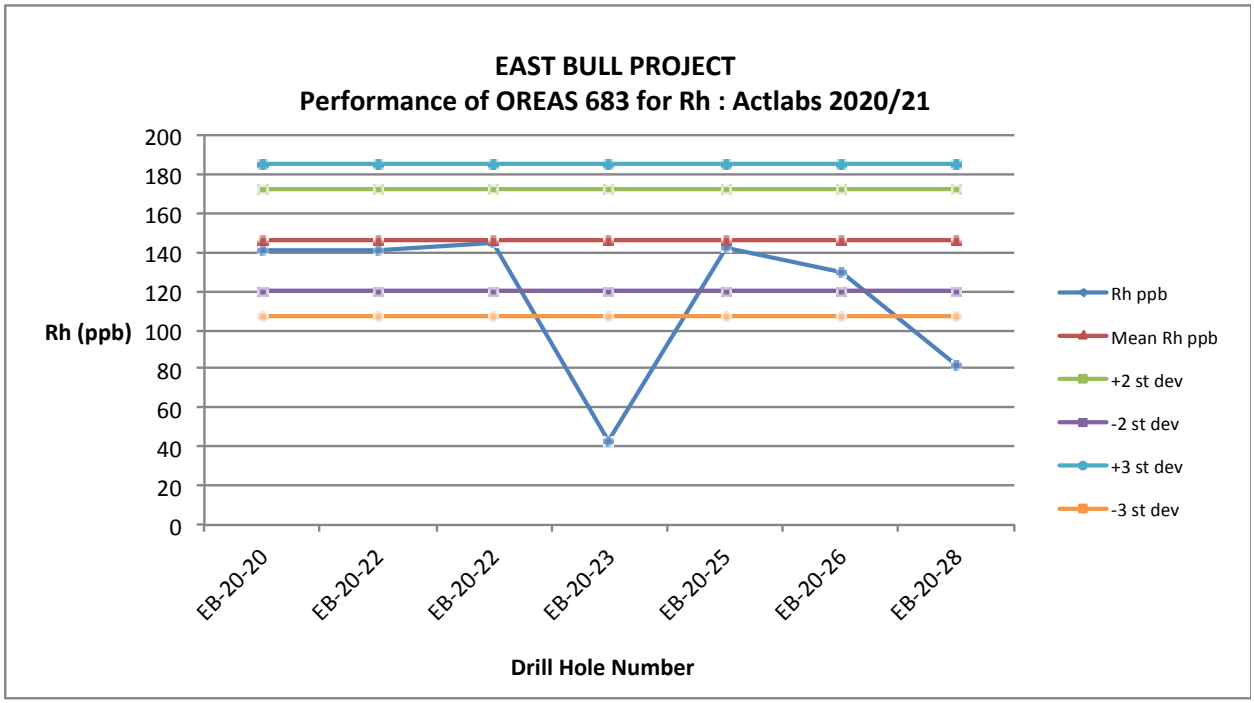


FIGURE 11.24 RESULTS FOR AU ANALYSIS OF CDN-PGMS-19 CERTIFIED REFERENCE MATERIAL AT ACTLABS

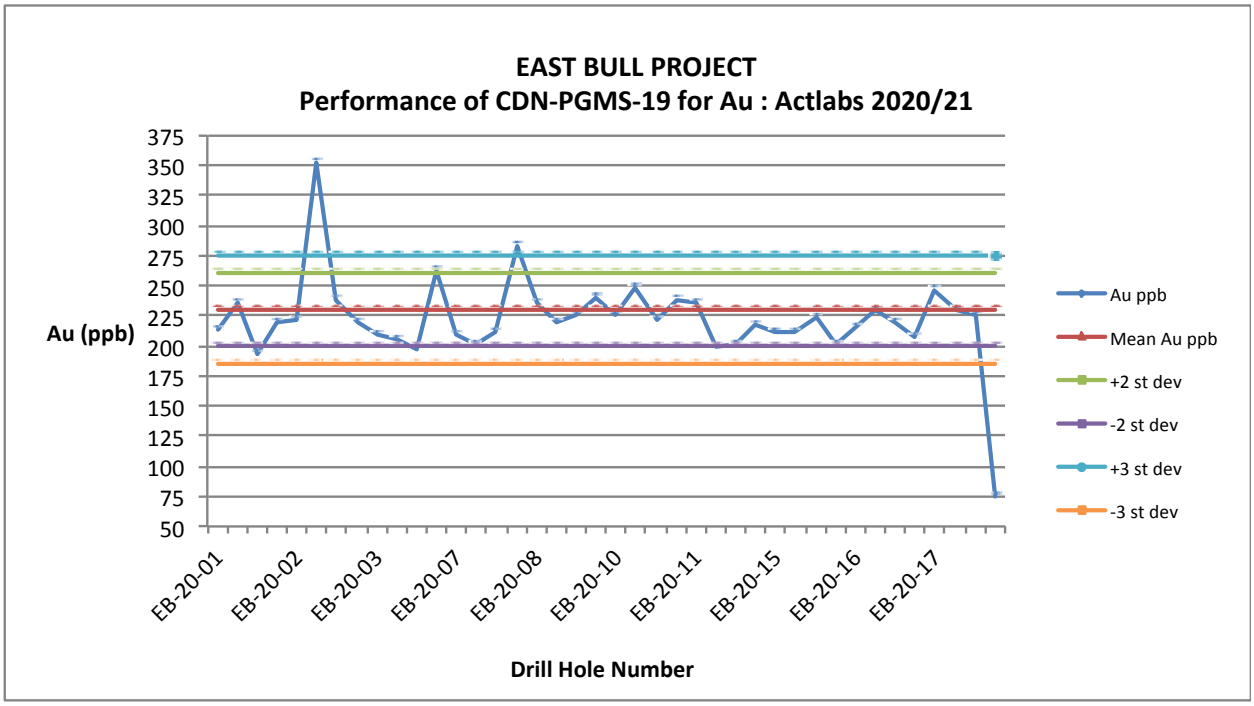


FIGURE 11.25 RESULTS FOR PD ANALYSIS OF CDN-PGMS-19 CERTIFIED REFERENCE MATERIAL AT ACTLABS

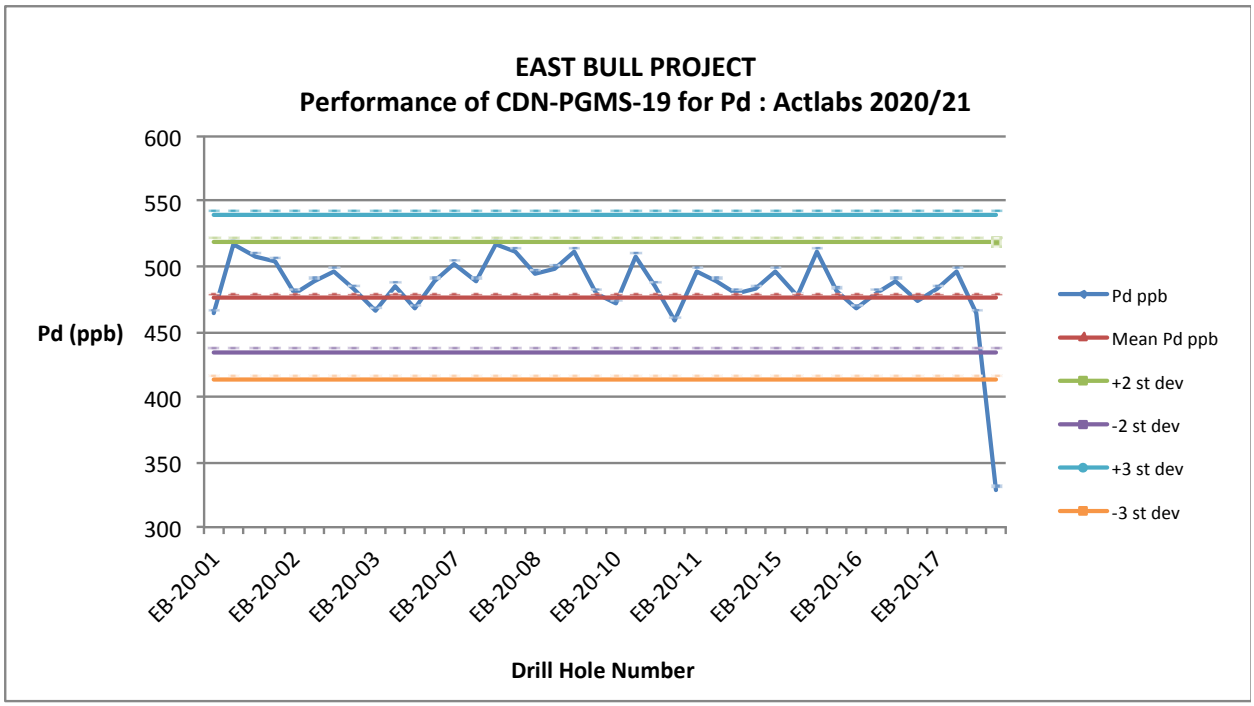
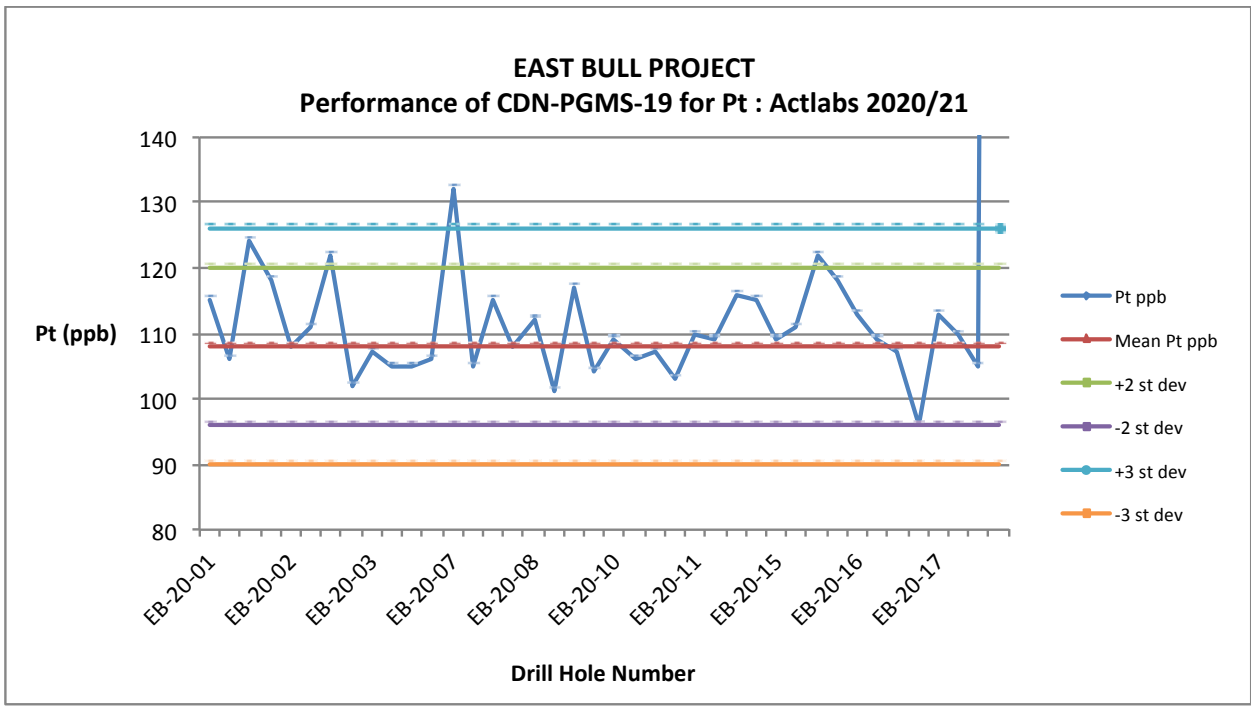


FIGURE 11.26 RESULTS FOR PT ANALYSIS OF CDN-PGMS-19 CERTIFIED REFERENCE MATERIAL AT ACTLABS



11.3.2.2 Performance of Blanks

The blanks are inserted at a frequency of one in 28 samples. All Actlabs and AGAT blank data for Au, Pd, Pt, Cu, Ni and Rh were graphed (Figures 11.27 to 11.32). If the assayed value in the certificate was indicated as being less than detection limit, the value was assigned half the value of the lower detection limit for data treatment purposes. An upper tolerance limit of ten times the detection limit value was set. There were 132 Actlabs data points and 89 AGAT data points for Au, Pd, Pt, Cu and Ni to examine. There were 26 data points for Rh.

The vast majority of data plot at or below set tolerance limits for all elements, with very few isolated blank samples returning results marginally higher than the nominal tolerance limit. A single Actlabs blank Cu data point (sample number 178410 with a result of 531 ppm), lies within a higher-grade interval and likely indicates local contamination that is of no significant impact to the Mineral Resource globally.

The author of this Technical Report section does not consider contamination to be significant to the integrity of the 2020-2021 drilling data.

FIGURE 11.27 RESULTS FOR AU ANALYSIS OF BLANK MATERIAL AT ACTLABS AND AGAT

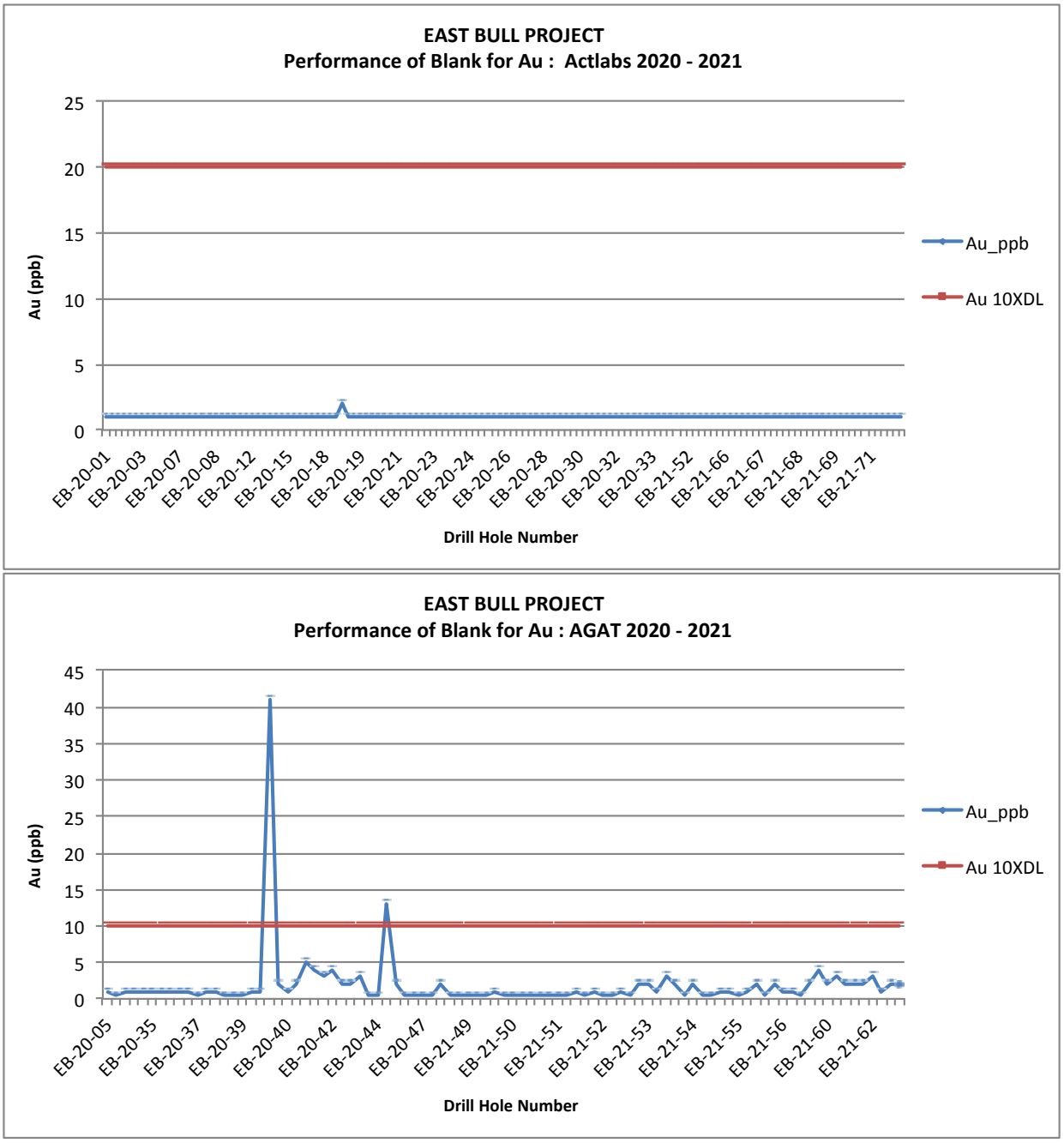
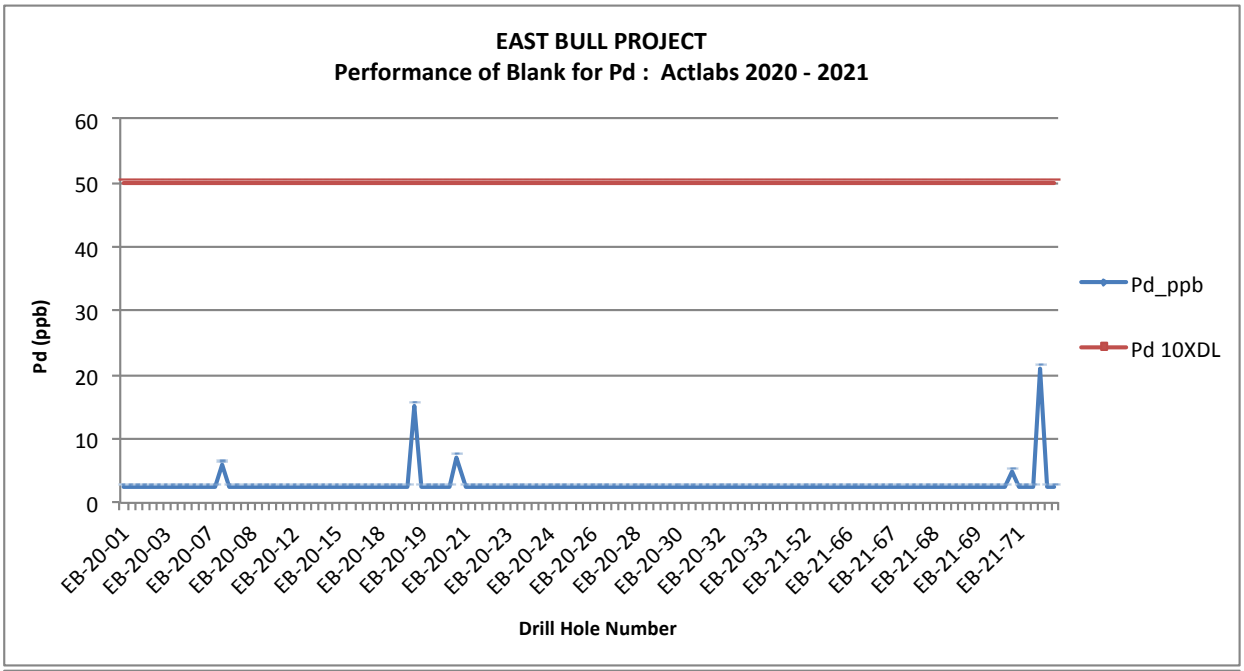


FIGURE 11.28 RESULTS FOR PD ANALYSIS OF BLANK MATERIAL AT ACTLABS AND AGAT



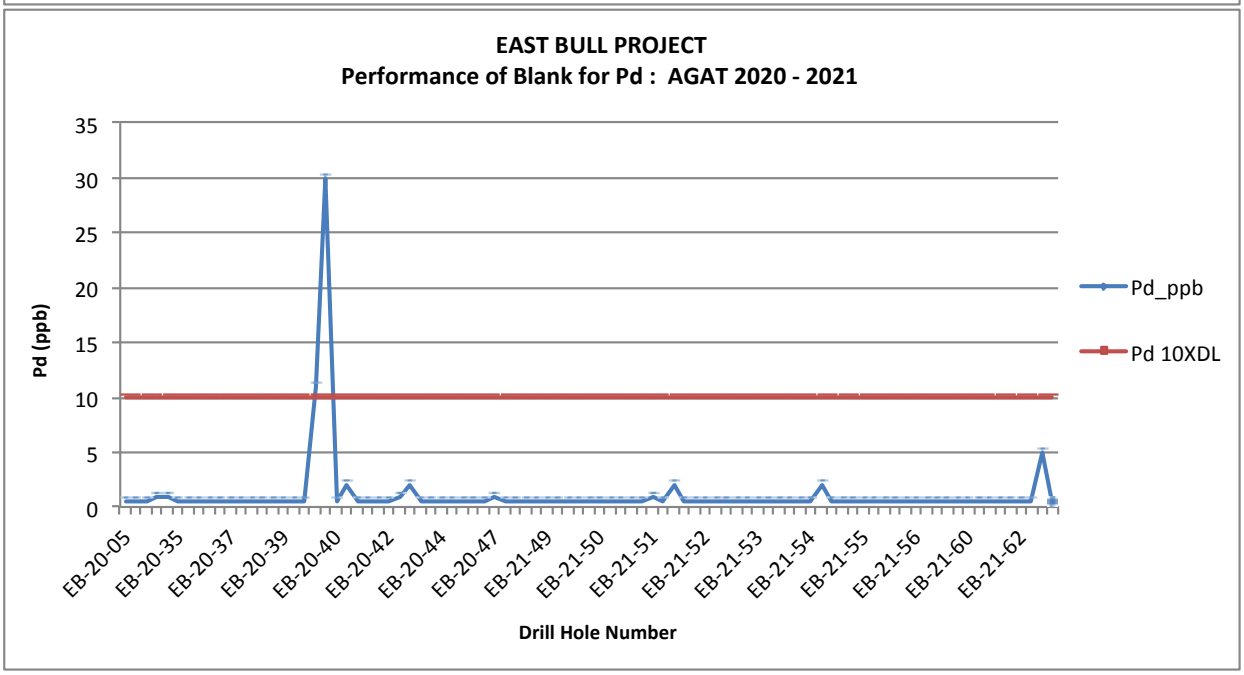
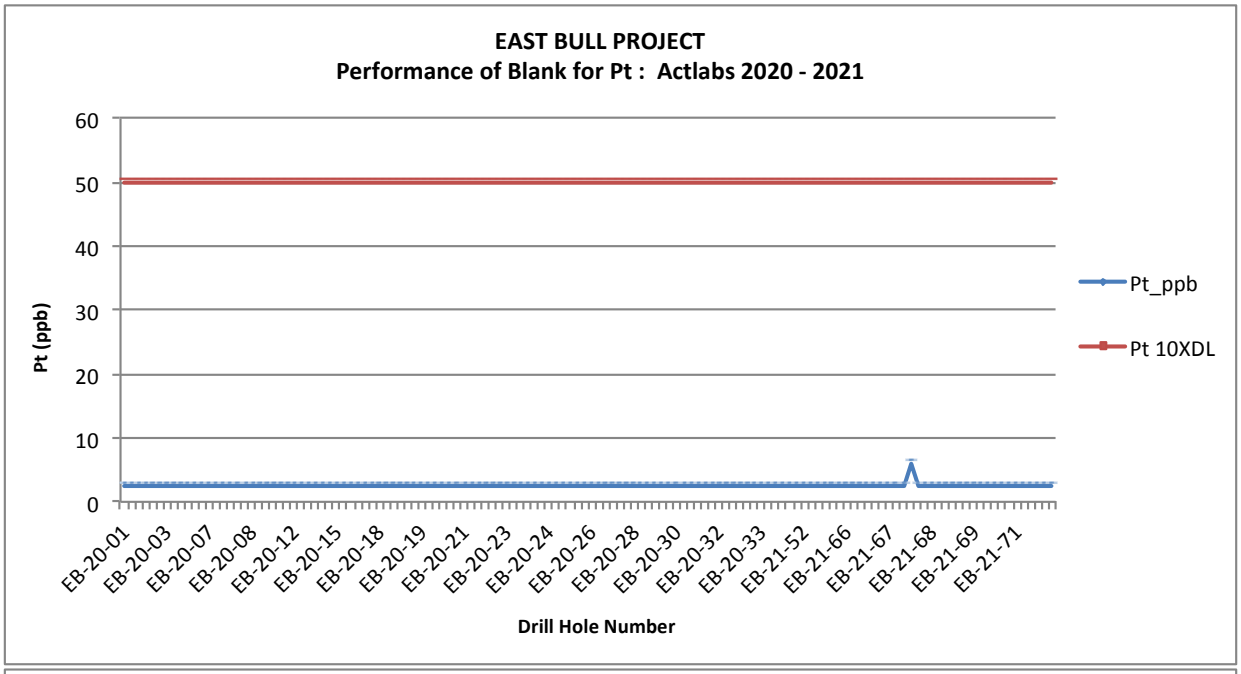


FIGURE 11.29 RESULTS FOR PT ANALYSIS OF BLANK MATERIAL AT ACTLABS AND AGAT



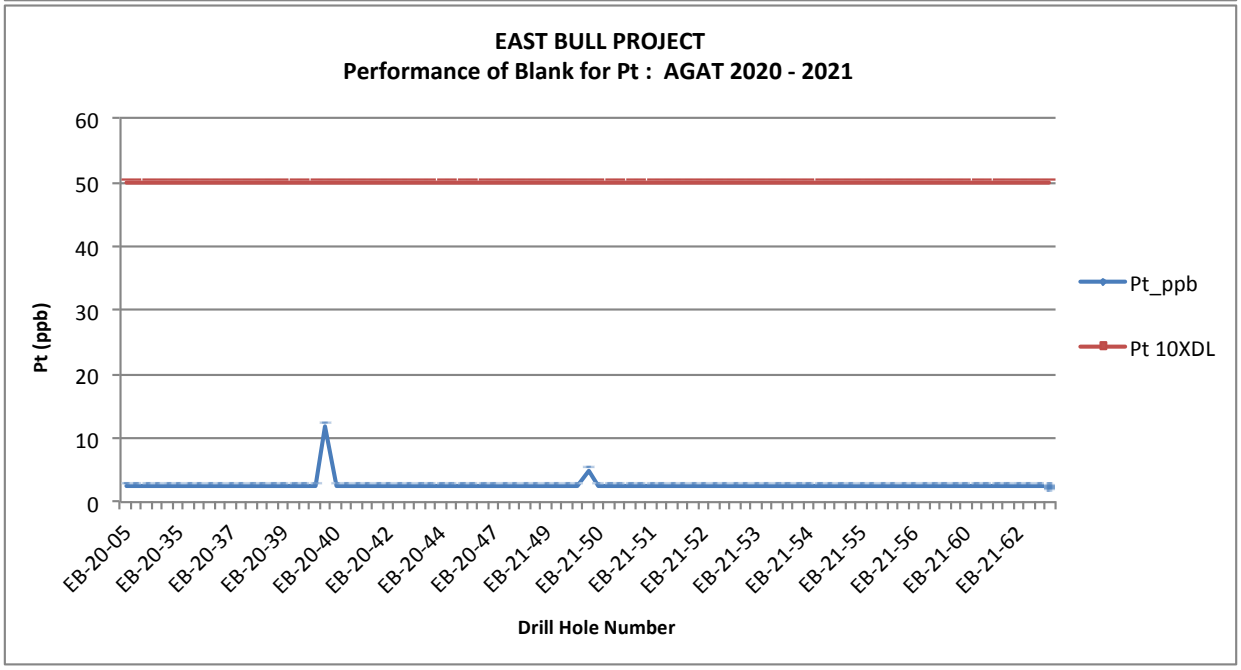
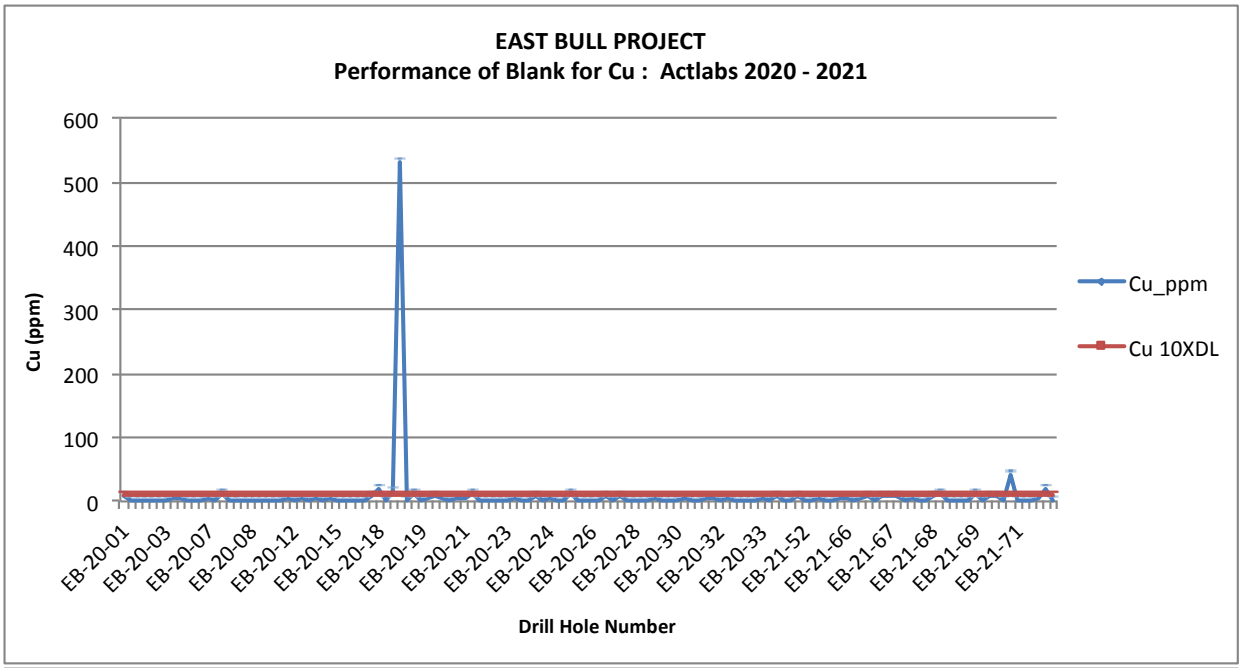


FIGURE 11.30 RESULTS FOR CU ANALYSIS OF BLANK MATERIAL AT ACTLABS AND AGAT



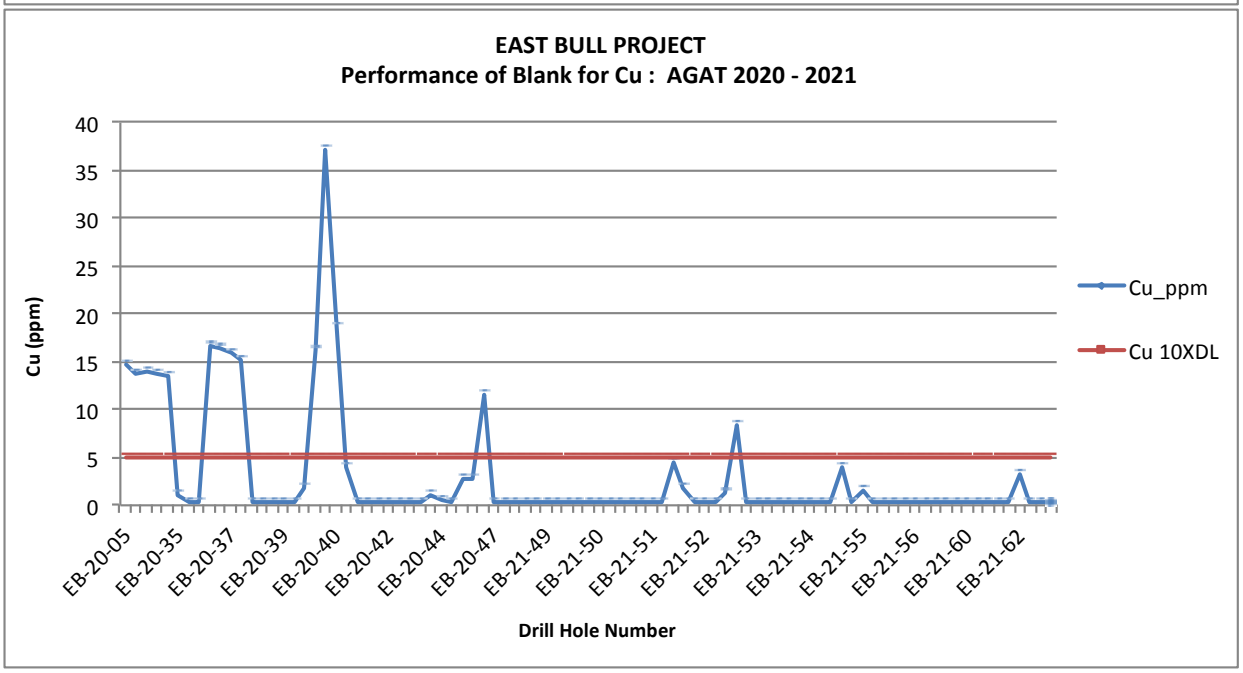
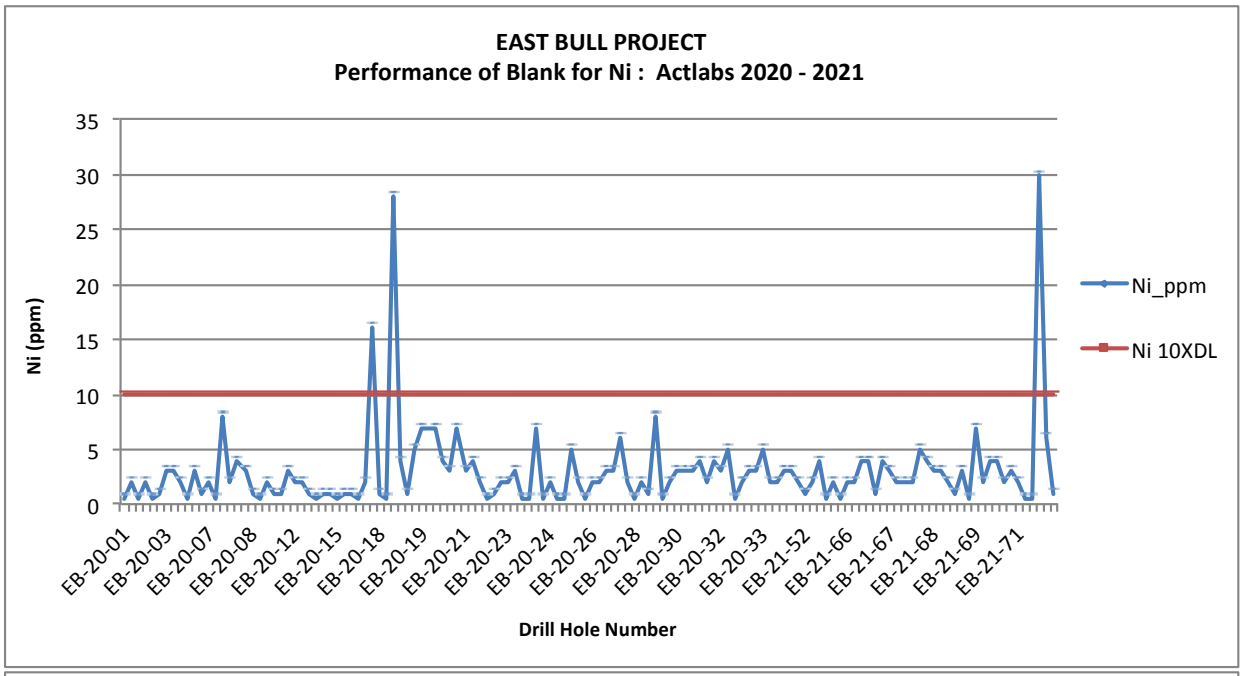


FIGURE 11.31 RESULTS FOR NI ANALYSIS OF BLANK MATERIAL AT ACTLABS AND AGAT



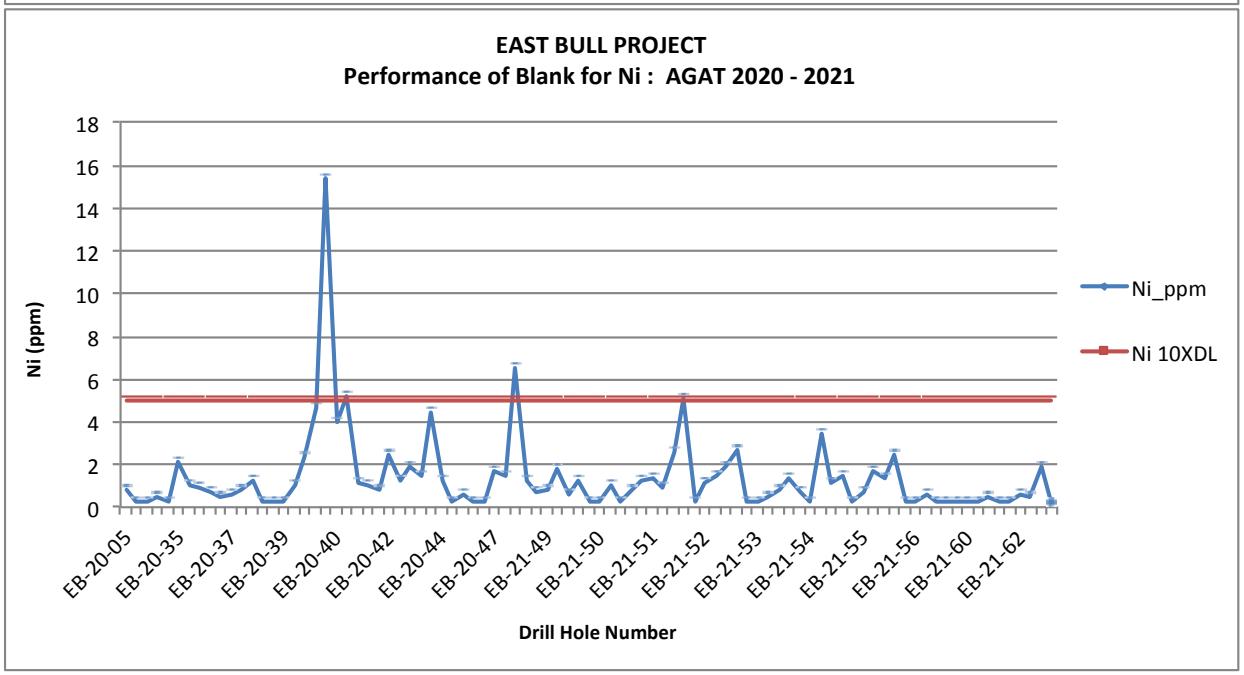
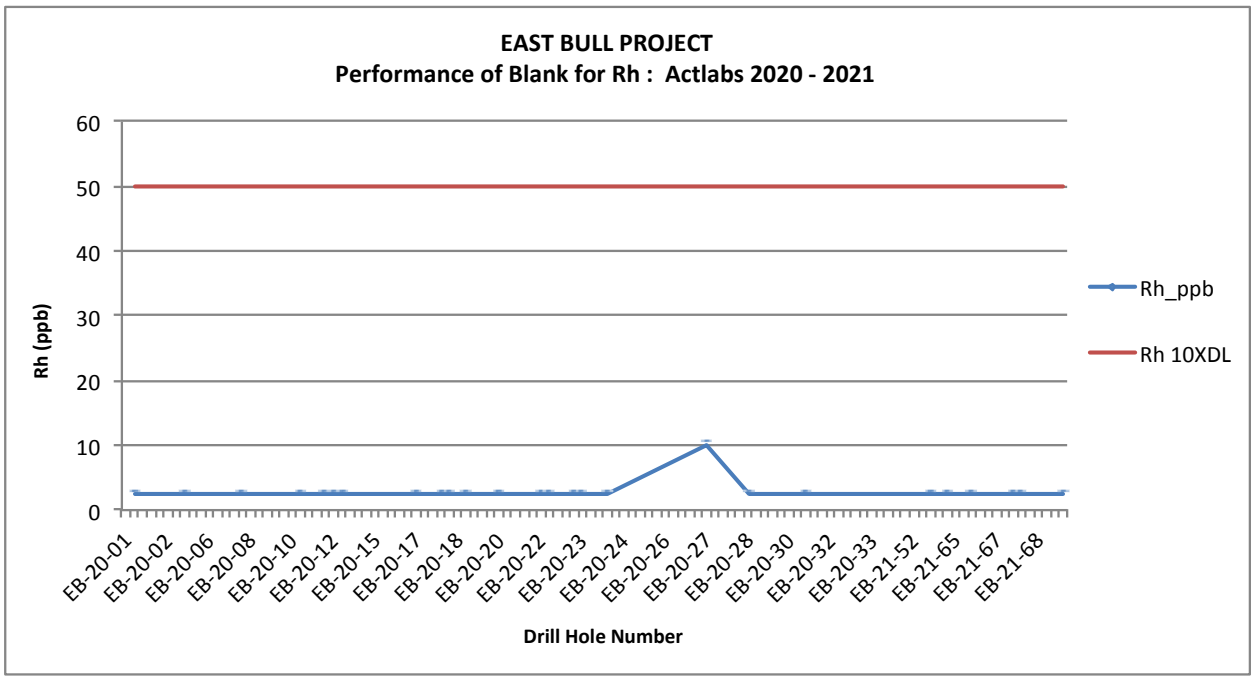


FIGURE 11.32 RESULTS FOR RH ANALYSIS OF BLANK MATERIAL AT ACTLABS



11.3.2.3 Performance of Duplicates

Duplicate data for all elements were examined by the author of this Technical Report section for the 2020-2021 drill program at the East Bull Project. Duplicate data consisted of Company inserted half drill core field duplicates (inserted at a rate of approximately 1 in 30 samples), and Actlabs' internal replicates (crush or coarse duplicates) and pulp duplicates. There were 129 field duplicate data points for Au, Pd, Pt, Cu and Ni to examine in the Actlabs dataset and 83 in the AGAT dataset. There were an additional 32 Rh data points in the Actlabs field duplicate dataset. The lab replicate data included 75 Au, Pd and Pt samples and 77 Cu and Ni samples. There were not enough samples to evaluate Rh replicates. The lab pulp duplicate data included 336 Au and Pt samples, 332 Pd samples, 279 Cu and Ni samples, and 65 Rh samples.

The data were graphed on scatter plots and the coefficients of determination ("R^2") and average coefficients of variation ("CoV_{AV}") were used to estimate precision. Duplicate samples with combined means of <15 times the detection limit were excluded from the CoV_{AV} data, to eliminate the level of influence of the data nearer the detection limit where higher grade variations are more likely to occur. Reducing all low-grade outliers was not possible for the Rh dataset, since most of the data would be excluded. The author of this Technical Report section instead excluded samples with combined means of less than three times the detection limit, to at least have some guidance of precision for this element. A summary of precision analysis is given in Table 11.3.

Improvement in precision from field to pulp level, as well as excellent pulp duplicate precision is evident for all elements, except for Au. Improvement in Au precision is observed from the field to crush duplicates, after which CoV_{AV} precision noticeably decreases from 11.9% to 25.4% at the pulp level (Table 11.3). The author recommends follow-up with Actlabs regarding the reduction in Au precision at pulp level, to ensure that appropriate pulverization and sample reduction

procedures are consistently undertaken. It may also be valuable to obtain AGAT's laboratory duplicate data to compare precision for Au between labs, and to compare protocol between the two laboratories to assess where improvement could be made. A larger fire assay size of 50 g was used at AGAT, which one could reasonably expect to improve precision, but may not be necessary if other procedural improvements alone can improve pulp precision.

The evaluation by the author of this Technical Report section of Rh should only be considered an indication of precision, as the majority of data are considered low-grade and more prone to increased variability. Improvement can be seen from field to pulp level and the author considers it reasonable to assume that actual Rh precision is better than that currently indicated. The author of this Technical Report section recommends that future drill programs include more targeted duplicate sampling, to ensure that a higher proportion of duplicates are sampled from visually mineralized zones (i.e., a mix of random and targeted sampling). It is recommended to not only select field duplicates onsite, but also include on-site selection of preparation and pulp duplicates. This will ensure sufficient samples are used in precision analysis and more meaningful evaluation achieved.

TABLE 11.3
DUPLICATE PERFORMANCE TABLE
(OUTLIERS REMOVED FROM CoV_{AV} DATA)

Duplicate Type	Lab	Gold (Au)		Palladium (Pd)		Platinum (Pt)		Copper (Cu)		Nickel (Ni)		Rhodium (Rh)	
		R^2	CoV_{AV}	R^2	CoV_{AV}	R^2	CoV_{AV}	R^2	CoV_{AV}	R^2	CoV_{AV}	R^2	CoV_{AV}
Field	Actlabs	0.402	38.8	0.959	26.5	0.973	26.5	0.846	26.5	0.953	9.6	0.869	47.6*
	AGAT	0.599	37.4	0.860	42.1	0.681	40.1	0.782	30.5	0.918	10.8	--	--
Crush	Actlabs	0.971	11.9	0.993	8.0	0.998	14.9	0.974	12.4	0.993	3.2	--	--
Pulp	Actlabs	0.701	25.4	0.997	3.1	0.995	5.0	0.999	3.1	0.999	1.8	0.948	20.9*

Notes: ** Outliers 3XLDL and below removed.*
R^2 = coefficients of determination, CoV_{AV} = average coefficients of variation.

11.4 CONCLUSIONS

The Company has implemented and monitored a thorough QA/QC program for the drilling undertaken at the East Bull Project. Examination of QA/QC results for all recent sampling indicates no significant issues with accuracy, contamination or precision in the data.

The author of this Technical Report section recommends Canadian Palladium implement the following protocols for future drilling at the Property:

- Include more targeted duplicate sampling, to ensure that a higher proportion of duplicates are sampled from visually mineralized zones, covering a range of grades (i.e., a mix of random and targeted sampling). It is recommended to not only select field duplicates onsite but also include onsite selection of preparation and pulp duplicates. This action will ensure sufficient samples are used in precision analysis and more meaningful evaluation can be achieved;

- Follow-up with Actlabs regarding the reduction in Au precision at pulp level to ensure that appropriate pulverization and sample reduction procedures are consistently undertaken;

- Obtain AGAT's laboratory duplicate data so that between-lab comparison can be made for Au. This may aid in the evaluation of laboratory procedures at Actlabs in the effort to improve Au pulp precision; and

- Submit a minimum of 5% of past and future samples analyzed at the primary laboratory to a reputable third-party laboratory, ensuring that the appropriate QC samples are inserted into the sample stream to be sent for check analyses, to aid in identifying potential issues with a particular lab.

In the opinion of the author of this Technical Report section, the sample preparation, security and analytical procedures for the East Bull Project are adequate for the purposes of the Mineral Resource Estimate reported in this Technical Report.

12.0 DATA VERIFICATION

12.1 2017 DATABASE VERIFICATION

The authors of this Technical Report section conducted verification of the East Bull assay database by comparison of the database entries with the assay certificates, which were provided in digital format from Pavey Ark.

Assay data from 2017 were verified for the Project and 13% (388 out of 2,945 samples) of the assay data were checked for Pd and Pt, against the laboratory certificates, with 29% (317 out of 1,107 samples) of this data being constrained.

One very minor error, of no material impact to the Mineral Resource, was identified in the assay database.

12.2 2020–2021 DATABASE VERIFICATION

The authors of this Technical Report section conducted verification of the 2020-2021 East Bull drill assays for Au, Pd, Pt, Ag, Cu, Ni and Rh by comparison of the database entries with assay certificates, provided directly to the authors from the Actlabs and AGAT. Assay certificates were provided in comma-separated values (csv) format.

Assay data ranging from 2020 through 2021 were verified for the Project by the authors, with all 6,218 samples for Au, Pd and Pt verified. Approximately 91% (5,647 out of 6,218 samples) of all 2020-2021 data were verified for Ag, Cu and Ni and approximately 92% (1,958 out of 2,133 samples) of the constrained data. Approximately 83% (514 out of 621 samples) of all data were verified for Rh and 82% (485 out of 592 samples) of the constrained data.

No errors were encountered in the data.

12.3 SITE VISIT AND INDEPENDENT SAMPLING

Mr. Yassa, P.Geo., of P&E visited the East Bull Lodge drill core facility and the East Bull Palladium Property from October 31 to November 1, 2017 and again on October 14, 2021, for the purpose of reviewing exploration results and independently sampling drill core from the East Bull Pd Property.

Mr. Yassa independently selected six samples from the Pavey Ark drill hole EB17-01 in 2017, which covered a visually mineralized interval with disseminated chalcopyrite from 31.0 m to 37.0 m. In addition, Mr. Yassa independently selected 24 drill core samples from historical Freewest drill hole 321-00-21 that covered the interval from 63.0 m to 87.0 m. The historical Freewest sample tags were readily visible in the core boxes and the samples collected by Mr. Yassa matched the historical sample intervals originally assayed by Freewest. In Mr. Yassa's follow-up visit in October 2021, a total of twelve samples were selected from four of the Company's drill holes drilled in 2020 to 2021. All samples were nominally 1 m in length.

The independent samples consisted of ¼ drill core that was sawn under the supervision of Mr. Yassa. Mr. Yassa bagged and sealed the samples and transported the samples directly to the sample receiving facilities at ALS Canada Ltd.'s laboratory in Rouyn-Noranda, Quebec. The 2017 and 2021 samples were analyzed for Pt, Pd and Au by a 50 g fire assay with ICP-AES/MS finish, for Rh by 30 g fire assay with ICP-MS finish, and for Ag, Co, Cu, Ni by 4-acid or aqua regia digestion with ICP-AES finish. Bulk density measurements were also taken on all of the 2020-2021 drill core samples.

ALS Minerals has developed and implemented strategically designed processes and a global quality management system at each of its locations that meets all requirements of International Standards ISO/IEC 17025:2017 and ISO 9001:2015. All ALS geochemical hub laboratories are accredited to ISO/IEC 17025:2017 for specific analytical procedures.

The results for the independent due diligence samples are presented in Figures 12.1 through 12.9.

FIGURE 12.1 RESULTS OF 2017 VERIFICATION SAMPLING OF DDH EB17-01 FOR PD

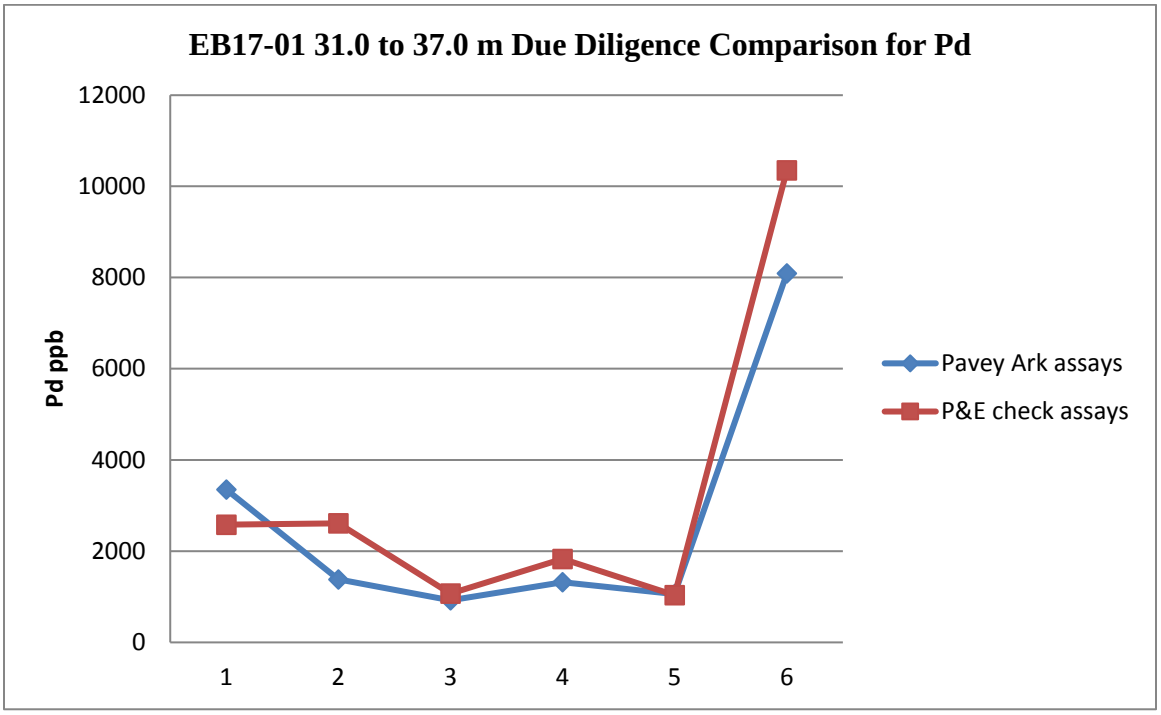


FIGURE 12.2 RESULTS OF 2017 VERIFICATION SAMPLING OF DDH EB17-01 FOR PT

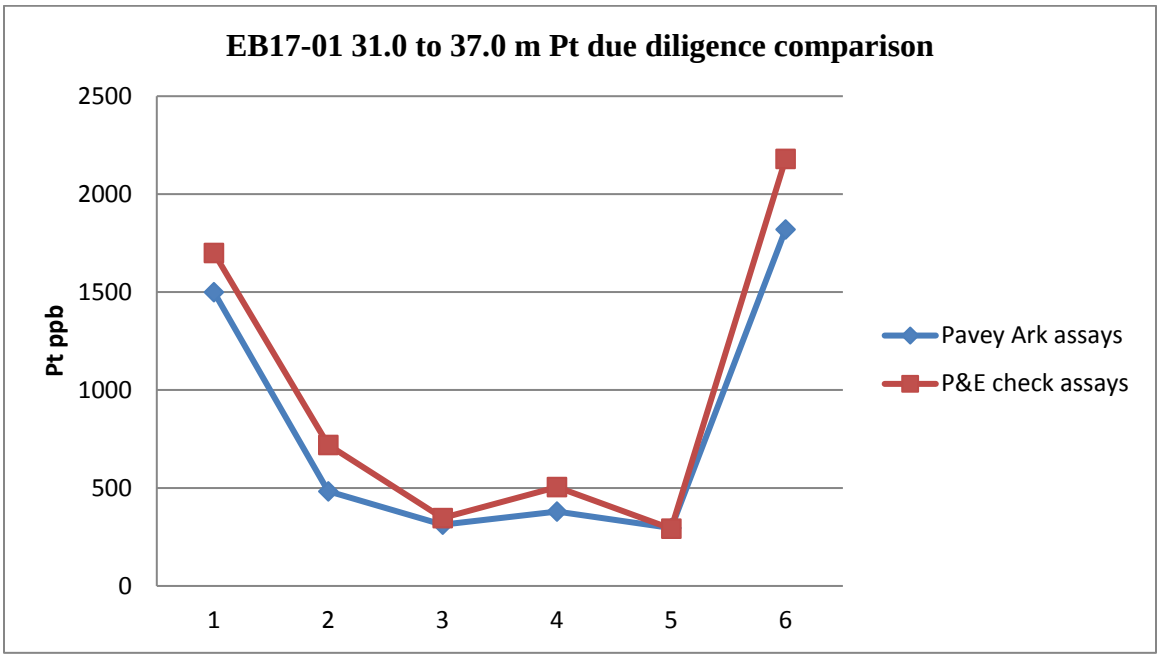


FIGURE 12.3 RESULTS OF 2021 VERIFICATION SAMPLING FOR AU

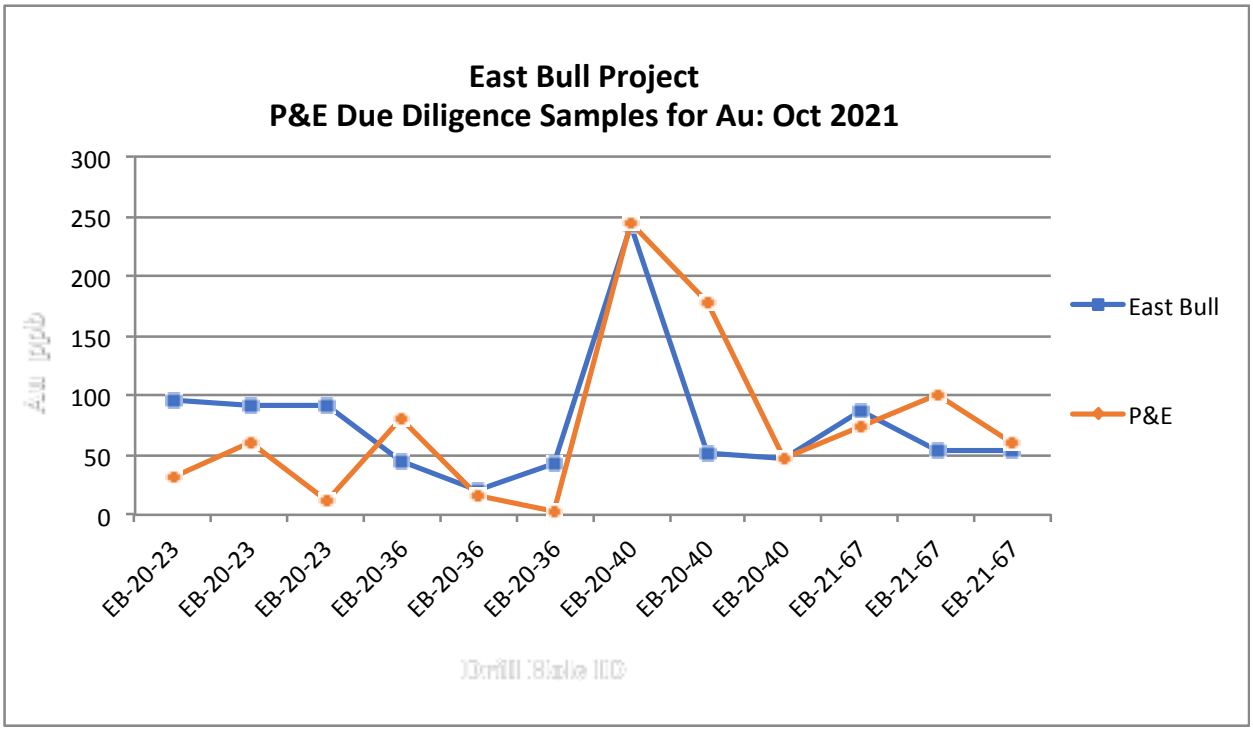


FIGURE 12.4 RESULTS OF 2021 VERIFICATION SAMPLING FOR PD

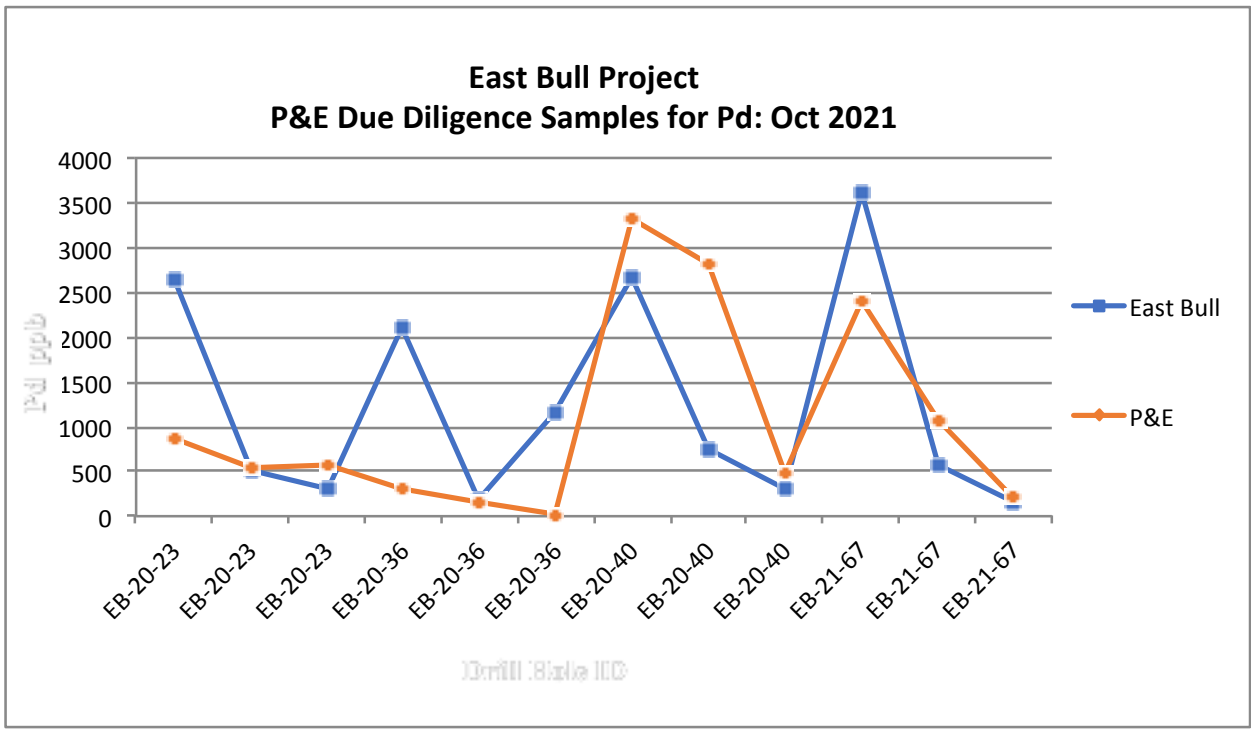


FIGURE 12.5 RESULTS OF 2021 VERIFICATION SAMPLING FOR PT

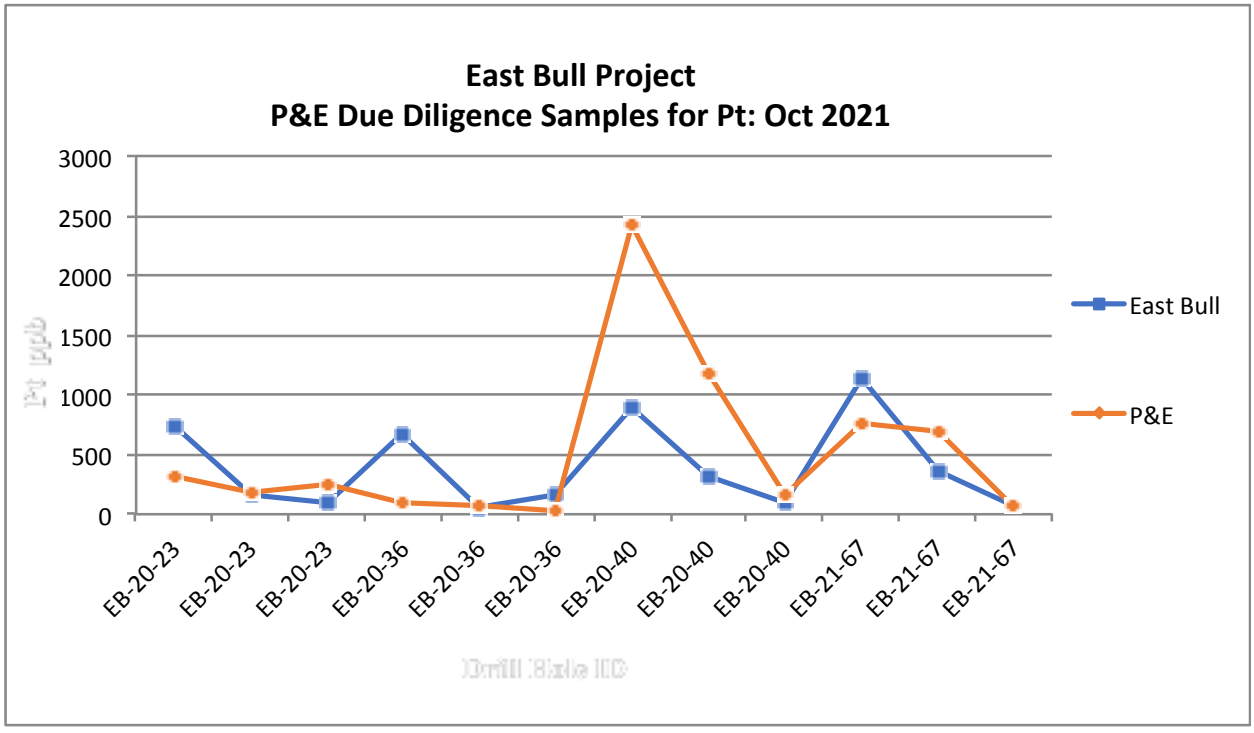


FIGURE 12.6 RESULTS OF 2021 VERIFICATION SAMPLING FOR AG

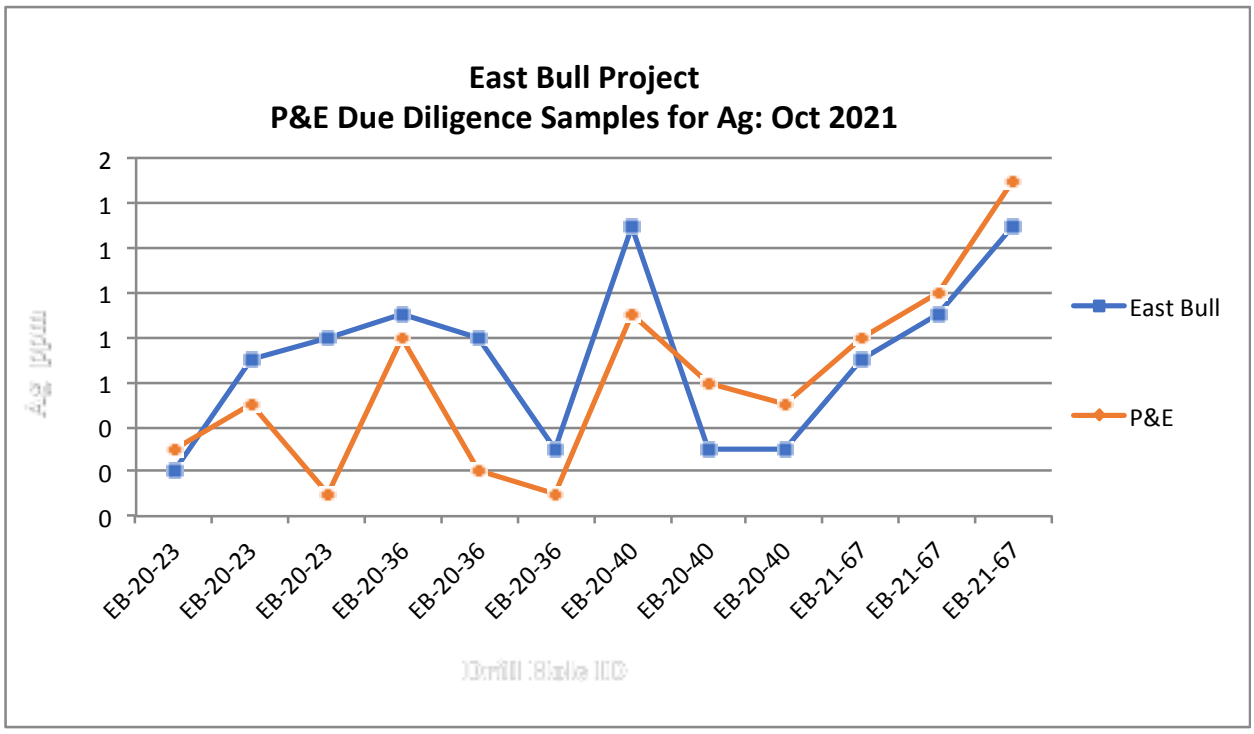


FIGURE 12.7 RESULTS OF 2021 VERIFICATION SAMPLING FOR CU

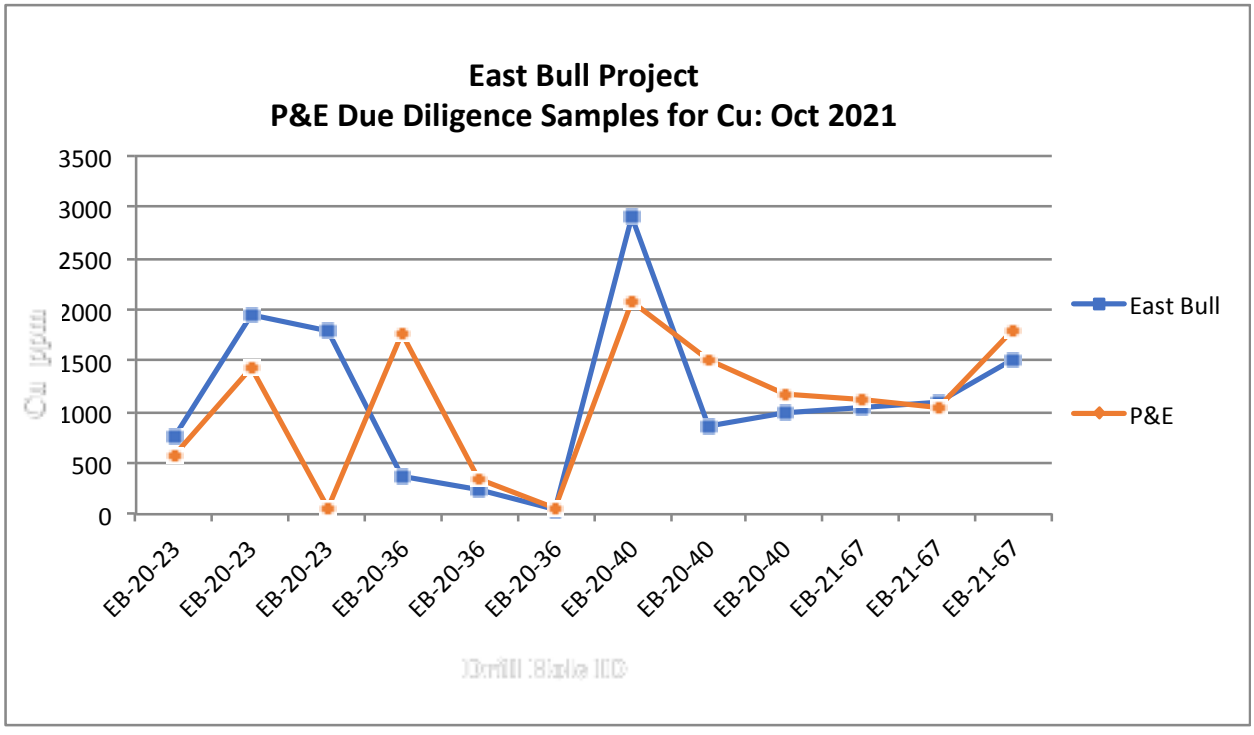


FIGURE 12.8 RESULTS OF 2021 VERIFICATION SAMPLING FOR NI

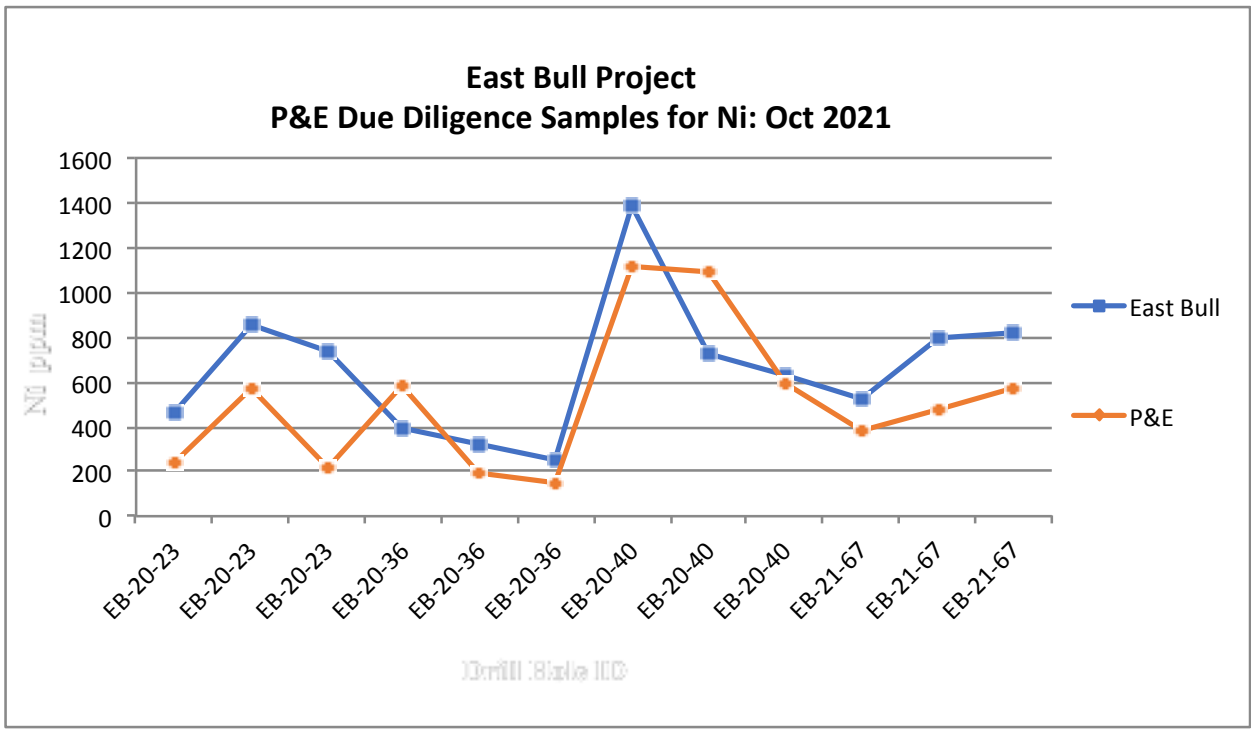
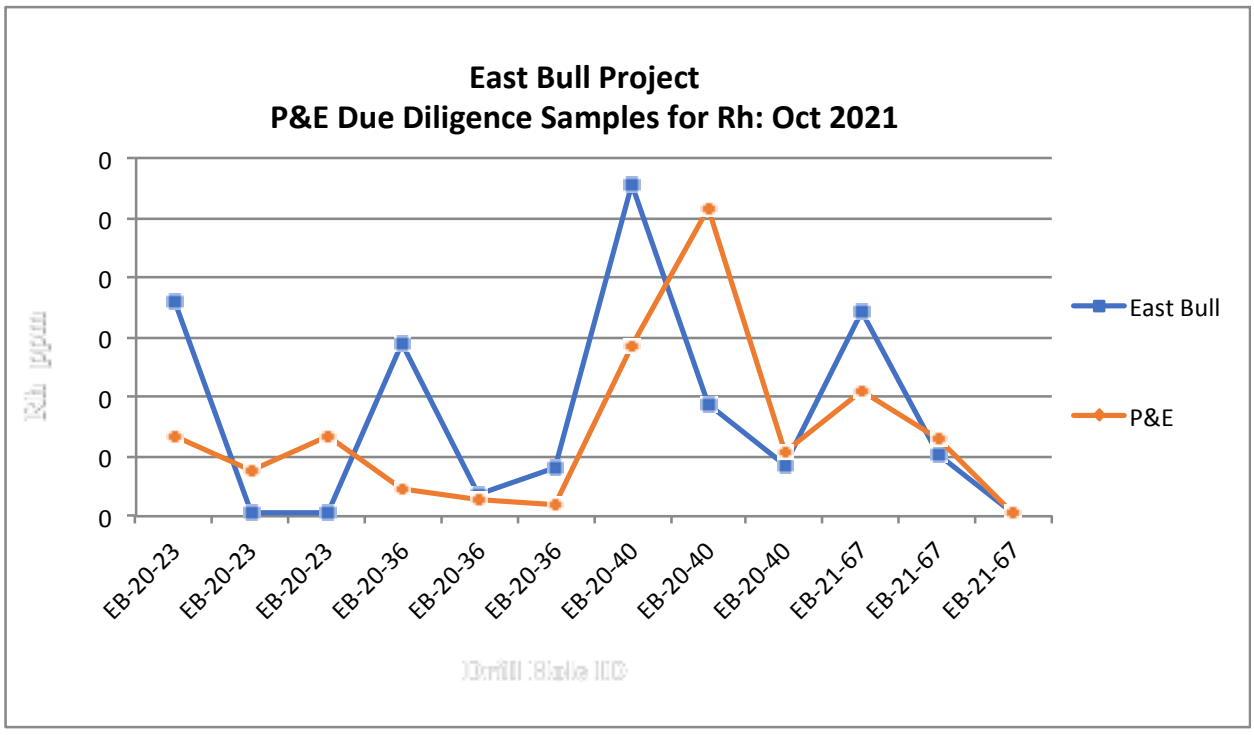


FIGURE 12.9 RESULTS OF 2021 VERIFICATION SAMPLING FOR RH



The results from Mr. Yassa's independent re-sampling of the historical Freewest drill hole are shown in Figures 12.10 and 12.11 for Pd and Pt, respectively, and show excellent reproducibility with Freewest's historical results from XRAL Laboratories, in Toronto.

FIGURE 12.10 COMPARISON OF HISTORICAL FREEWEST VERSUS P&E PD ASSAYS FOR DDH 00-21

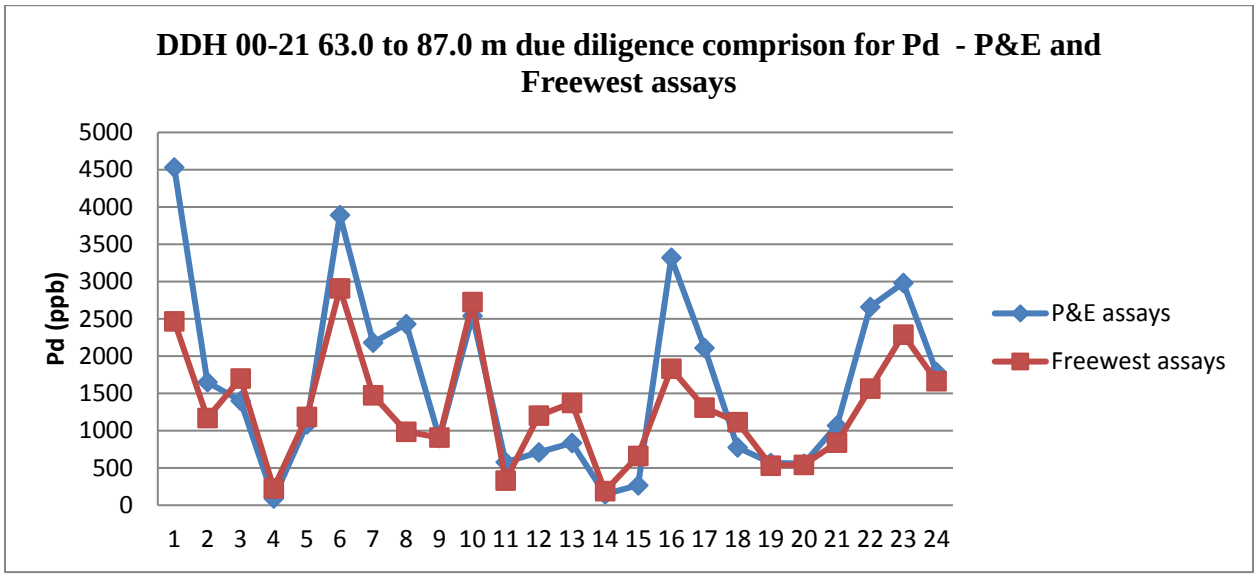
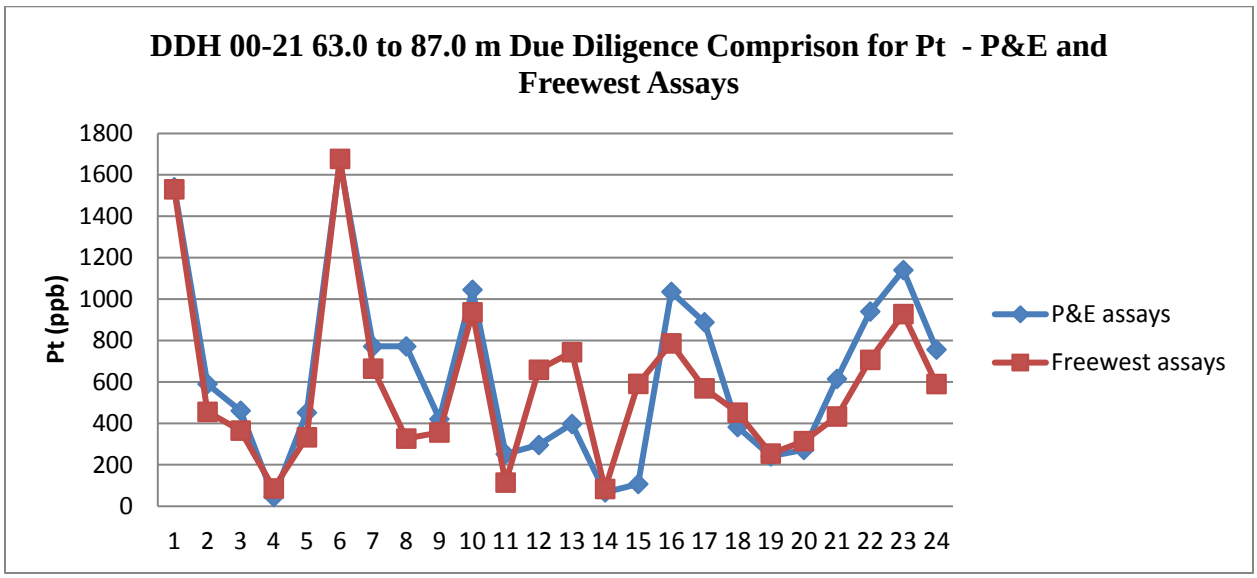


FIGURE 12.11 COMPARISON OF HISTORICAL FREEWEST VERSUS P&E PT ASSAYS FOR DDH 00-21



The authors of this Technical Report section consider there to be good correlation between the assay values in Canadian Palladium's database and the independent verification samples from the 2017 to 2021 and historical drilling programs collected by the authors and analyzed at ALS. It is the authors opinion that the data are of good quality and appropriate for use in the current Mineral Resource Estimate.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 INTRODUCTION

Two composite samples of the East Bull Mineral Resource were assembled, crushed, sampled and assayed at the SGS Laboratories. The analyses are shown in Table 13.1. The composite sample grades were a close match to the Mineral Resource grade.

TABLE 13.1
COMPOSITE ANALYSES

Element	Composite 1 EB-21-55MET	Composite 2 EB20-22MET	Indicated Mineral Resource Grade [1]
PGMs (g/t)			
Au	0.06	0.05	0.05
Pt	0.17	0.15	0.19
Pd	0.58	0.39	0.49
Rh	Missing (possibly below detection)		0.016
Metals, S (%)			
Cu	0.15	0.17	0.11
Co	<0.01	<0.01	0.006
Ni	0.043	0.073	0.05
S	0.26	0.49	
Sulphide S	N.A.[2]		
Oxides (%)			
SiO_2	49.5	49	
Al_2O_3	16.9	14.5	
Fe_2O_3	8.41	11.1	
MgO	8.63	10.4	
CaO	10.4	8.72	
Na_2O	2.45	2	
K_2O	0.39	0.4	
TiO_2	0.24	0.27	
P2O5	0.03	0.02	
MnO	0.15	0.16	
Cr_2O_3	0.03	0.06	
V_2O_5	0.02	0.04	
CO_2	N.A.		
Total Oxide, S	**97.6**	**97.4**	

1 Pit Constrained East Bull Mineral Resource 2022
2 N.A. not analysed

Metallurgical tests at SGS included:

- Ball Mill Work Index ("BWI");
- Abrasion Index ("Ai");
- Modal and Mineral Liberation Analyses; and
- Flotation testwork, 18 tests including grind size effect, reagent selection for optimum rougher and multiple cleaner stages.

13.2 MINERALOGICAL INVESTIGATIONS

In 2000, a detailed mineralogical study was conducted by Dr. Louis Cabri, a well-respected mineralogy expert. Dr. Cabri conducted traditional reflecting light microscopy on a range of polished sections of samples and selectively examined potentially economic minerals with a scanning electron microscope equipped with an energy dispersive spectrometer ("EDS").

As suggested by the recent chemical analyses, the potentially economic minerals were observed to be present in trace amounts – they were identified to be sphalerite, galena, marcasite, hematite, cobaltite, arsenopyrite, native gold, baddeleyite (ZrO_2) and nine platinum-group ("PGM") minerals. Six palladium minerals were identified – palladium tellurides and bismuthides, a palladium arsenide, and a palladium sulphide. Cobaltite and arsenopyrite were identified as palladium- and rhodium-containing. The PGM and PGE-containing sulpharsenides and gold all occur as inclusions in the sulphide minerals, mainly pyrrhotite. The sulphide minerals were observed to be present in sizes ranging from <1 µm to >22 µm.

QEMSCAN[1] high-definition analyses were performed on the two composites (Table 13.1) by SGS in 2021. Composites 1 and 2 had been ground to P_{80} of 37 µm and 30 µm respectively. The sulphide content, mean grain size and percent liberated at the grind size are shown in Table 13.2.

TABLE 13.2
SULPHIDE CONTENT, GRAIN SIZE, PERCENT LIBERATED

Rock Type	Composite 1			Composite 2		
	Mass (%)	Mean Size (µm)	% Liberated	Mass (%)	Mean Size (µm)	% Liberated
Pyrite	0.05	9	25	0.16	11	35
Pyrrhotite	0.25	27	24	0.47	24	42
Chalcopyrite	0.31	17	66	0.51	22	75
Pentlandite	0.04	17	53	0.08	16	60
Other Sulphides	0.00	-		0.02	13	
Total	0.65			1.24		

1 Quantitative Evaluation of Materials by Scanning Electron Microscopy

From the early mineralogical study (Cabri) and the more recent QEMSCAN results, fine grinding is expected to be necessary to obtain a high-grade PGM and copper flotation concentrate.

A mineralogy examination of a flotation concentrate was underway at SGS at the time of this Technical Report writing, but results were not available.

13.3 BALL MILL AND ABRASION INDICES

The ball mill and abrasion indices results indicate a fairly hard, tough and abrasive material, as summarized in Table 13.3. These results suggest higher than average crushing and grinding costs, similar to highly siliceous mineralized material for Composite 1. Composite No. 2 was measured to be significantly less hard and abrasive.

TABLE 13.3
BALL MILL WORK AND ABRASION INDICES

Sample	Ball Mill Work Index (BWI) (kWh/t)	Abrasion Index (Ai)
Composite No. 1	19.5	0.428
Composite No. 2	17.0	0.232

13.4 ROUGHER FLOTATION TESTS

Eleven rougher flotation tests were performed by SGS. The first four tests indicated that fine grinding (P_{80} <40 µm) positively influenced grade and recovery of palladium and copper. Nickel recovery was not significantly affected. Gold, platinum, cobalt and rhodium were not followed in the flotation testing.

Various flotation reagent combinations were tested with the combined use of PAX (potassium amyl xanthate), Aero 3477 and a silicate depressor provided the best results. Palladium and copper recoveries in rougher concentrates exceeded 80% and 90%, respectively, in approximately a 20% mass pull for both composites.

Seven multi-stage cleaning tests were also conducted. The best results are summarized in Table 13.4.

TABLE 13.4
EXAMPLE CLEANER FLOTATION RESULTS

Float Test No. Composite No.	Cleaner Conc Stage No.	Cleaner Weight (%)	Pd (g/t)	Cu (%)	Ni (%)	Recovery (%)			
						Pd	Cu	Ni	S
F14 Comp No. 1	4th	0.79	49.5	16.4	1.99	74.2	90.4	30.5	69.1
F16 Comp No. 1	4th	0.79	46.7	18.6	2.13	70.5	88.2	29.7	68.9
F17 Comp No. 2	3rd	0.77	29.7	16.5	3.54	66.5	92.0	37.1	50.2
F18 Comp No. 1	4th	0.78	50.7	16.9	2.03	73.7	89.6	27.3	70.3

The results above indicate a very high concentration ratio - 85:1 for palladium for composite no. 1, and 110:1 for copper from both composites. The concentrate grades are high and suitable for smelter feed. Whereas platinum and gold were not followed in the flotation testing, these metals could be expected to be high enough grade in the concentrate to exceed the minimum deduction of 1 g/t for gold and 3 g/t for platinum. The nickel concentrate level may not be high enough to be payable.

Whereas the East Bull Mineral Resource has been proven in flotation testing to be prone to a high degree of metal concentration, the small amount of final concentrate ~0.8% weight, is challenging for successful bench-scale testwork. This challenge can be overcome by larger-scale batch testing that results in approximately 250 g of cleaner concentrate. Ideally, locked-cycle flotation testing could also be performed, and this should indicate increased metal recoveries as proportions of cleaner tails and scavenger concentrates would contribute to metal recovery.

A follow-up grinding/flotation, concentrate and tailings characterisation program can be considered to more precisely determine metallurgical and environmental performance. Composite samples and concentrates should be fully analysed – PGM, WRA, ICP-MS including REE, As, Se, sulphide S, and ABA[2]. Fresh and preserved drill core samples would be preferred for flotation tests to reduce the potential negative effect of oxidation – particularly for the PGM-containing pyrrhotite content. Excluding the cost of sample assembly (drilling, splitting and shipment) the follow-up bench-scale test program can be expected to cost up to C$125,000. Pilot-scale testing that can be anticipated to support a Feasibility Study would cost extra.

Based on current information, palladium recoveries into a smelter feed will exceed 70% and possibly be as high as 75%. Copper recoveries can be expected to be 90%.

2 WRA – whole rock analysis, ABA – acid-base accounting

14.0 MINERAL RESOURCE ESTIMATES

14.1 INTRODUCTION

The purpose of this Technical Report section is to update the Mineral Resource Estimate that had an effective date of April 15, 2019, with the 2020-2021 drilling programs completed by Canadian Palladium. Since the previous Mineral Resource Estimate, a total of 80 drill holes have been completed in 2020 and 2021 on the East Bull Palladium Project in Ontario.

The Mineral Resources Estimate presented herein is reported in accordance with the Canadian Securities Administrators' National Instrument 43-101 and were estimated in conformity with the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") "Estimation of Mineral Resource and Mineral Reserves Best Practice Guidelines" (November 2019) and reported using the definitions set out in the 2014 CIM Definition Standards on Mineral Resources and Mineral Reserves. Mineral Resources that are not converted to Mineral Reserves do not have demonstrated economic viability. Confidence in the estimate of Inferred Mineral Resource is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Mineral Resources may be affected by further infill and exploration drilling that may result in increases or decreases in subsequent Mineral Resource Estimates.

This Mineral Resource Estimate was prepared by Yungang Wu, P.Geo., Antoine Yassa, P.Geo., and Eugene Puritch, P.Eng., FEC, CET of P&E, of P&E Mining Consultants Inc., Brampton, Ontario, independent Qualified Persons in terms of NI 43-101. The effective date of this Mineral Resource Estimate is March 2, 2022.

14.2 PREVIOUS MINERAL RESOURCE ESTIMATE

The previous public Mineral Resource Estimate for the East Bull Property was carried out by P&E Mining Consultants Inc. with effective date April 15, 2019. The Mineral Resource Estimate with a cut-off of 0.8 g/t PdEq (palladium equivalent) is presented in Table 14.1. The previous Mineral Resource Estimate is superseded by the Mineral Resource Estimate reported herein.

TABLE 14.1
PIT CONSTRAINED MINERAL RESOURCE ESTIMATE AT A 0.8 G/T PDEQ CUT-OFF
(EFFECTIVE APRIL 15, 2019)

Classification	Tonnes (m)	Au (g/t)	Pt (g/t)	Pd (g/t)	Rh (g/t)	Cu (%)	Ni (%)	Co (%)	PdEq (g/t)	PdEq (koz)
Inferred	11.1	0.05	0.26	0.58	0.04	0.14	0.05	0.01	1.46	523

14.3 DATABASE

All drilling and assay data were provided by Canadian Palladium in the form of Excel data files. The GEOVIA GEMS™ V6.8.4 database compiled by P&E for this Mineral Resource Estimate consisted of 127 surface drill holes and 6 channels, totalling 24,806 m, of which 80 drill holes,

totalling 19,141 m, were drilled in 2020 and 2021, subsequent to the previous Mineral Resource Estimate. A total of 121 drill holes intersected the Mineral Resource wireframes. A drill hole and channel location plan is shown in Appendix A.

The basic raw assay statistics of the database are presented in Table 14.2.

All drill hole survey and assay values are expressed in metric units, with grid coordinates reported using the NAD 83 Zone 17N UTM system.

TABLE 14.2
ASSAY DATABASE STATISTICS SUMMARY

Variable	Pd (ppb)	Pt (ppb)	Cu (ppm)	Ni (ppm)	Au (ppb)	Co (ppm)	Rh (ppb)	Length (m)
Number of Samples	10,134	10,134	10,134	10,134	10,134	7,329	1,129	10,134
Minimum Value*	1	1	0	0	1	0	1	0.10
Maximum Value*	9,760	3,920	10,001	7,900	3,430	993	387	2.40
Mean*	187	83	554	251	25	54	22	1.00
Median*	33	26	214	145	9	52	14	1.00
Variance	188,894.70	29,619.84	572,375.28	88,250.63	3,392.79	1,099.19	796.06	0.03
Standard Deviation	434.62	172.10	756.55	297.07	58.25	33.15	28.21	0.16
Coefficient of Variation	2.33	2.07	1.37	1.18	2.36	0.61	1.28	0.16
Skewness	7.23	6.96	2.72	5.56	26.83	8.11	4.16	1.32
Kurtosis	96.96	86.51	15.95	95.18	1,322.73	205.57	34.62	12.60

14.4 DATA VERIFICATION

P&E previously verified the assay database of pre-2019 drilling programs for the NI 43-101 Mineral Resource Estimate and Technical Report on the Property in 2019.

Verification of the assay database for the 2020-2021 drilling was performed by the authors of this Technical Report section against laboratory certificates that were obtained independently from Activation Laboratories of Ancaster, Ontario. No errors were observed in the assay database.

The authors of this Technical Report section validated the Mineral Resource database in GEMS™ by checking for inconsistencies in analytical units, duplicate entries, interval, length or distance values less than or equal to zero, blank or zero-value assay results, out-of-sequence intervals, intervals or distances greater than the reported drill hole length, inappropriate collar locations, survey and missing interval and coordinate fields. Some minor errors were identified and corrected in the database. The authors of this Technical Report section are of the opinion that the supplied database is suitable for Mineral Resource estimation.

14.5 DOMAIN INTERPRETATION

A total of five mineralization domain models were generated by P&E from successive polylines spaced along drill hole cross-sections created every 50 m and oriented perpendicular to the general trend of the mineralization. The constraining domain outlines were influenced by the selection of mineralized material above 0.2 g/t PdEq that demonstrated lithological and grade continuity along strike and down-dip. Where appropriate, lower-grade mineralization was included for the purpose of maintaining zonal continuity. On each section, polyline interpretations were digitized from drill hole to drill hole, but not typically extended more than 50 m from known mineralization. Mineralization was extended deeper when mineralized intersections were encountered in neighbouring cross-sections. All polyline vertices were snapped directly to drill hole assay intervals, in order to generate a true three-dimensional representation of the extent of the mineralization.

Local topography was derived from the Ontario Mining Land tenure map. An overburden surface was created using the drill hole lithological descriptions and used to limit the amount of reported volumes. Domain wireframes were subsequently clipped above the overburden surface. Post-mineralization mafic dykes were created based on the drill hole lithological logging, which crosscut the mineralization domains and coded as waste in the block model.

The constraining domain wireframes were treated separately for the purpose of rock coding, statistical analysis, compositing limits and definition of the extent of potentially economic mineralization. The 3-D constraining domain wireframes are shown in Appendix B.

14.6 ROCK CODE DETERMINATION

A unique rock code was assigned to each mineralization domain for the Mineral Resource Estimate as presented in Table 14.3.

TABLE 14.3 ROCK CODES AND VOLUMES OF MINERALIZATION DOMAINS		
Domain	**Rock Code**	**Volume (m^3)**
Valhalla	100	7,776,644
HW	200	1,408,407
Garden	300	2,739,228
FW	400	5,157,583
EOH	500	570,042

14.7 WIREFRAME CONSTRAINED ASSAYS

Mineral Resource wireframe constrained assay intervals were back coded in the assay database with model rock codes that were derived from intersections of the mineralization solids and drill holes. The basic statistics of mineralization wireframe constrained assays are presented in Table 14.4.

TABLE 14.4
CONSTRAINED ASSAY STATISTICS SUMMARY

Variable	Pd (ppb)	Pt (ppb)	Cu (ppm)	Ni (ppm)	Au (ppb)	Co (ppm)	Rh (ppb)	Length (m)
Number of Samples	3,936	3,936	3,936	3,936	3,936	2,789	1,061	3,936
Minimum Value*	1	1	0	0	1	0	1	0.10
Maximum Value*	9,760	3,920	10,001	7,900	1,970	630	387	2.00
Mean*	427	175	1051	437	46	64	23	0.99
Median*	243	102	847	367	33	65	15	1.00
Variance	381,676.59	59,484.28	835,373.71	120,936.10	3,434.21	1,018.26	833.65	0.01
Standard Deviation	617.80	243.89	913.99	347.76	58.60	31.91	28.87	0.12
Coefficient of Variation	1.45	1.39	0.87	0.80	1.28	0.50	1.26	0.12
Skewness	5.26	5.10	1.82	5.21	11.58	1.82	4.07	-1.02
Kurtosis	51.96	46.53	10.55	87.67	314.10	39.26	33.19	19.30

14.8 COMPOSITING

In order to regularize the assay sampling intervals for grade interpolation, a 1.0 m compositing length was selected for the drill hole intervals that fell within the constraints of the above-described Mineral Resource wireframes. The composites were calculated over 1.0 m lengths, starting at the first point of intersection between assay data hole and hanging wall of the 3-D zonal constraint. The compositing process was halted upon exit from the footwall of the 3-D wireframe constraint. Un-assayed intervals were set to 0.001 for Pd, Pt, Cu, Ni and Au, whereas missing Co intervals were treated as null.

As shown in Figure 14.1, Rh presents positive correlation with Pd in constrained assays. Therefore, the missing Rh values in the database was calculated using regression formula Rh = 0.0308 x Pd + 0.6292 prior to the compositing.

If the last composite interval in a drill hole was <0.25 m, the composite length for that drill hole interval was adjusted to make all composite intervals equal in length. This process would not introduce any short sample bias in the grade interpolation process. The constrained composite data were extracted to a point area file for grade capping analysis. The composite statistics are summarized in Table 14.5.

FIGURE 14.1 WIREFRAME CONSTRAINED RH AND PD ASSAY CORRELATION

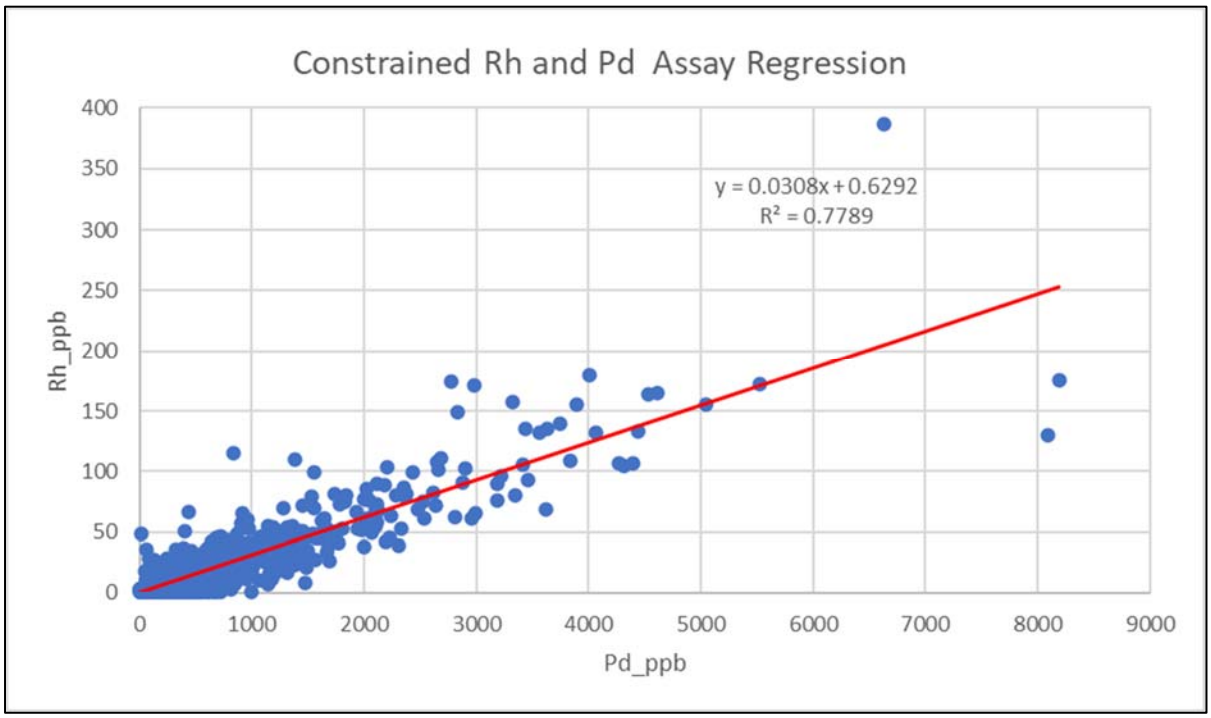


TABLE 14.5
BASIC STATISTICS OF COMPOSITES

Variable	Pd (ppb)	Pt (ppb)	Cu (ppm)	Ni (ppm)	Au (ppb)	Co (ppm)	Rh (ppb)	Length (m)
Number of Samples	3,944	3,944	3,944	3,944	3,944	2,841	3,944	3,944
Minimum Value*	1	1	0	0	1	0	1	0.84
Maximum Value*	9,760	3,920	10,001	3,647	1,970	313	387	1.08
Mean*	418	171	1028	427	45	62	14	1.00
Median*	241	102	846	364	32	65	8	1.00
Variance	368,673.84	55,415.65	797,201.63	97,339.89	3,271.42	969.58	401.05	0.00
Standard Deviation	607.19	235.41	892.86	311.99	57.20	31.14	20.03	0.01
Coefficient of Variation	1.45	1.38	0.87	0.73	1.28	0.50	1.48	0.01
Skewness	5.44	5.28	1.84	1.81	12.25	-0.05	5.95	-3.78
Kurtosis	55.32	51.14	11.19	11.61	345.24	5.65	67.75	67.35

14.9 GRADE CAPPING

Grade capping was performed on the 1.0 m composite values in the database within each constraining domain to mitigate the possible bias resulting from erratic high-grade composite values in the database. Log-normal histograms and log-probability plots for the composites were generated for each mineralization domain. Selected histograms and log-probability plots are presented in Appendix C. The capped composite statistics are summarized in Table 14.6. The grade capping values are detailed in Table 14.7. The capped composites were utilized to develop variograms and for block model grade interpolation.

14.10 VARIOGRAPHY

A variography analysis was attempted using the palladium capped composites as a guide to determine a grade interpolation search distance and ellipse orientation strategy. Selected variograms are presented in Appendix D.

Continuity ellipses based on the observed ranges were subsequently generated and utilized as the basis for estimation search ranges, distance weighting calculations and Mineral Resource classification criteria.

TABLE 14.6
BASIC STATISTICS OF CAPPED COMPOSITES

Variable	Pd (ppb)	Pt (ppb)	Cu (ppm)	Ni (ppm)	Au (ppb)	Co (ppm)	Rh (ppb)
Number of Samples	3,944	3,944	3,944	3,944	3,944	2,841	3,944
Minimum Value*	1	1	0	0	1	0	1
Maximum Value*	6,000	2,130	6,000	2,500	600	200	200
Mean*	413	169	1024	426	44	62	13
Median*	241	102	846	364	32	65	8
Variance	314,510.08	46,766.40	743,608.44	93,019.12	2,140.42	937.67	346.99
Standard Deviation	560.81	216.26	862.33	304.99	46.26	30.62	18.63
Coefficient of Variation	1.36	1.28	0.84	0.72	1.05	0.49	1.39
Skewness	3.96	3.75	1.30	1.41	3.49	-0.35	4.17
Kurtosis	26.48	23.55	5.52	6.71	25.68	3.44	27.85

TABLE 14.7
GRADE CAPPING VALUES

Element	Domains	Total No. of Composites	Capping Value	No. of Capped Composites	Mean of Composites	Mean of Capped Composites	CoV of Composites	CoV of Capped Composites	Capping Percentile
Pd (ppb)	Valhalla	2,059	6,000	4	470	466	1.39	1.3	99.8
	HW	396	no cap	0	536	536	1.29	1.29	100.0
	Garden	504	4,000	1	445	434	1.55	1.34	99.8
	FW	763	2,000	5	251	244	1.42	1.27	99.3
	EOH	222	no cap	0	232	232	0.85	0.85	100.0
Pt (ppb)	Valhalla	2,059	2,000	7	198	196	1.29	1.19	99.7
	HW	396	no cap	0	219	219	1.33	1.33	100.0

TABLE 14.7
GRADE CAPPING VALUES

Element	Domains	Total No. of Composites	Capping Value	No. of Capped Composites	Mean of Composites	Mean of Capped Composites	CoV of Composites	CoV of Capped Composites	Capping Percentile
	Garden	504	1,500	1	151	147	1.6	1.27	99.8
	FW	763	1,000	2	112	112	1.15	1.14	99.7
	EOH	222	no cap	0	74	74	0.66	0.66	100.0
Au (ppb)	Valhalla	2,059	400	3	45	45	0.99	0.98	99.9
	HW	396	300	2	41	40	1.2	1.02	99.5
	Garden	504	400	1	55	55	1.03	0.97	99.8
	FW	763	600	1	42	41	1.99	1.28	99.9
	EOH	222	300	1	36	34	1.57	1.04	99.5
Cu (ppm)	Valhalla	2,059	6,000	3	1,078	1,075	0.84	0.82	99.9
	HW	396	no cap	0	792	792	0.98	0.98	100.0
	Garden	504	no cap	0	1,019	1,019	0.8	0.8	100.0
	FW	763	4,000	3	899	885	0.88	0.78	99.6
	EOH	222	5,500	2	1,455	1,451	0.82	0.82	99.1
Ni (ppm)	Valhalla	2,059	2,500	3	510	508	0.68	0.66	99.9
	HW	396	no cap	0	282	282	0.85	0.85	100.0
	Garden	504	no cap	0	359	359	0.68	0.68	100.0
	FW	763	1,400	3	379	377	0.66	0.64	99.6
	EOH	222	600	1	233	233	0.48	0.47	99.5
Rh (ppb)	Valhalla	2,059	200	2	15	15	1.42	1.32	99.9
	HW	396	no cap	0	17	17	1.44	1.44	100.0
	Garden	504	150	1	14	14	1.55	1.36	99.8
	FW	763	no cap	0	8	8	1.30	1.30	100.0
	EOH	222	no cap	0	8	8	0.78	0.78	100.0
Co (ppm)	Valhalla	1,474	200	1	62	62	0.51	0.5	99.9
	HW	274	no cap	0	48	48	0.8	0.8	100.0

TABLE 14.7
GRADE CAPPING VALUES

Element	Domains	Total No. of Composites	Capping Value	No. of Capped Composites	Mean of Composites	Mean of Capped Composites	CoV of Composites	CoV of Capped Composites	Capping Percentile
	Garden	380	150	1	65	64	0.41	0.37	99.7
	FW	547	no cap	0	66	66	0.46	0.46	100.0
	EOH	166	no cap	0	70	70	0.18	0.18	100.0

Note: *CoV = coefficient of variation.*

14.11 BULK DENSITY

An average in-situ bulk density of 2.97 t/m^3 was applied to the mineralized domains based on an average of 60 bulk density measurements by Actlabs on drill core samples. The samples had a range of bulk density from 2.80 to 3.14 t/m^3. There was no discernable bulk density difference between mineralized material and host rock gabbro.

14.12 BLOCK MODELLING

The East Bull block model was constructed using GEOVIA GEMS™ V6.8.4 modelling software. The block model origin and block size are presented in Table 14.8. The block model consists of separate model attributes for estimated Pd, Pt, Cu, Ni, Au, Co, Rh and PdEq grade and rock type (mineralization domains), volume percent, bulk density, NSR and classification.

TABLE 14.8
BLOCK MODEL DEFINITION

Direction	Origin	No. of Blocks	Block Size (m)
X	403,105	730	5
Y	5,140,955	394	2.5
Z	410	70	5
Rotation	0 º (No rotation)		

Note: *Origin for a block model in GEMS™ represents the coordinate of the outer edge of the block with minimum X and Y, and maximum Z.*

All blocks in the rock type block model were initially assigned a waste rock code of 99, corresponding to the surrounding country rocks. The mineralization domain was used to code all blocks within the rock type block model that contain 0.01% or greater volume within the wireframe domain. These blocks were assigned individual model rock codes as presented in Table 14.3. The overburden and topographic surfaces were subsequently utilized to assign rock codes 10 and 0, corresponding to overburden and air, respectively, to all blocks 50% or greater above the respective surfaces. The crosscutting dykes were coded as waste to remove the barren blocks within the mineralization domains. A volume percent block model was set up to accurately represent the volume and subsequent tonnage that was occupied by each block inside the constraining wireframe domain. As a result, the domain boundary was properly represented by the volume percent model ability to measure individual infinitely variable block inclusion percentages within that domain. The minimum percentage of the mineralization block was set to 0.01%.

The Pd, Pt, Au and Rh grades were interpolated into the blocks using Inverse Distance weighting to the third power ("ID^3"), whereas Cu, Ni and Co grades were interpolated into the blocks using Inverse Distance weighting to the second power ("ID^2"). Nearest Neighbour ("NN") was run for validation purposes. Multiple passes were executed for the grade interpolation to progressively capture the sample points, to avoid over-smoothing and preserve local grade variability. Grade blocks were interpolated using the parameters in Table 14.9.

TABLE 14.9 BLOCK MODEL GRADE INTERPOLATION PARAMETERS						
Pass	No. of Composites			Search Range (m)		
	Min	Max	Max per Hole	Major	Semi-Major	Minor
I	6	20	5	50	50	25
II	2	20	5	100	100	50
III	2	15	5	300	300	150

Palladium equivalent and NSR values of the blocks were derived with the formula below:

PdEq g/t = (Ni % x 0.99)+(Cu % x 1.34)+(Au g/t x 0.77)+(Pt g/t x 0.62)+(Rh g/t x 4.26)+(Co % x 2.66)+(Pd g/t)

NSR C$/t = (Ni % x 53.94)+(Cu % x 73.07)+(Au g/t x 41.82)+(Pt g/t x 33.93)+(Pd g/t x 54.35)+(Rh g/t x 231.27)+(Co % x 144.68)

Selected vertical cross-sections and plans of Pd and NSR blocks are presented in Appendices E and F.

14.13 MINERAL RESOURCE CLASSIFICATION

In the opinion of the author of this Technical Report section, all the drilling, assaying and exploration work on the East Bull Palladium Project supports this Mineral Resource Estimate and is based on spatial continuity of the mineralization within a potentially mineable shape are sufficient to indicate a reasonable potential for economic extraction, thus qualifying it as a Mineral Resource under the 2014 CIM Definition Standards. The Mineral Resource is classified as Indicated and Inferred based on the geological interpretation, variogram performance and drill hole spacing.

The Indicated Mineral Resource was classified for the blocks interpolated with Pass I in Table 14.9, which used at least two holes within a spacing of 50 m.

The Inferred Mineral Resource was classified for the block interpolated with the Passes II and III in Table 14.9, which were estimated with at least one drill hole.

The classifications were manually adjusted on a longitudinal projection of each domain to reasonably reflect the distribution of each classification.

Selected classification block vertical cross-sections and plans are attached in Appendix G. Appendix E shows the palladium block model, vertical cross sections and plans.

14.14 NSR CUT-OFF CALCULATION

The East Bull Mineral Resource Estimate was derived from applying NSR cut-off values to the block models and reporting the resulting tonnes and grades for potentially mineable areas.

The following parameters were used to calculate the NSR cut-off values that determine open pit and underground mining potentially economic portions of the constrained mineralization:

- Pd metal price: US$1,840/oz
- Pt metal price: US$1,180/oz
- Au metal price: US$1,640/oz
- Rh metal price: US$8,000/oz
- Cu metal price: US$3.75/lb
- Ni metal price: US$7.75/lb
- Co metal price: US$24.00/lb
- Currency exchange rate: C$:US$=0.80
- Pd concentrate recovery: 82%
- Pt concentrate recovery: 80%
- Au concentrate recovery: 75%
- Rh concentrate recovery: 80%
- Cu concentrate recovery: 85%
- Ni concentrate recovery: 30%
- Co concentrate recovery: 50%
- Pd smelter payable: 90%
- Pt smelter payable: 90%
- Au smelter payable: 85%
- Rh smelter payable: 90%
- Cu smelter payable: 85%
- Ni smelter payable: 90%
- Co smelter payable: 50%
- Pd refining charge: US$7.50/oz
- Pt refining charge: US$7.50/oz
- Au refining charge: US$7.50/oz
- Rh refining charge: US$7.50/oz
- Cu refining charge: US$0.08/lb
- Ni refining charge: US$0.50/lb
- Co refining charge: US$3.00/lb

- Open pit mining cost: C$2.50/t;
- Underground mining cost: C$35/t;
- Processing cost: C$13/t; and
- G&A: C$2/t.

The NSR cut-off value of the pit-constrained Mineral Resource Estimate is C$15/t and the NSR cut-off value of the out-of-pit Mineral Resource Estimate is C$50/t. The NSR block model vertical cross sections and plans are shown in Appendix F.

14.15 PIT OPTIMIZATION PARAMETERS

The open pit Mineral Resource model was further investigated with a pit optimization to ensure a reasonable assumption of potential economic extraction could be made. The following parameters were utilized in the pit optimization:

Metal Prices	from parameters above
Mining Cost	C$2.50/t mined
Process Cost	C$13/t processed
General & Administration Cost	C$2/t processed
Process Capacity	2 mtpy
Pit Slopes	50°

The resulting pit shell is exhibited in Appendix H.

14.16 MINERAL RESOURCE ESTIMATE

The current Mineral Resource Estimate is reported with an effective date of March 2, 2022 and is tabulated in Table 14.10. The authors of this Technical Report section consider the mineralization of the East Bull Palladium Property to be potentially amenable to open pit and underground mining methods.

TABLE 14.10
MINERAL RESOURCE ESTIMATE [1-4]

Class	Tonnes (Mt)	Pd (g/t)	Pd (koz)	Pt (g/t)	Pt (koz)	Cu (%)	Cu (Mlb)	Au (g/t)	Au (koz)	Ni (%)	Ni (Mlb)	Co (%)	Co (Mlb)	Rh (g/t)	Rh (koz)	PdEq (g/t)	PdEq (koz)	NSR (C$/t)
Pit Constrained Mineral Resource @ C$15/t NSR Cut-off																		
Indicated	16.3	0.49	257.7	0.19	102.0	0.11	38.5	0.05	24.6	0.05	17.4	0.006	2.3	0.016	8.3	0.92	484.6	50.29
Inferred	12.7	0.49	200.6	0.18	75.6	0.10	27.0	0.05	20.3	0.04	11.7	0.006	1.8	0.016	6.6	0.90	367.8	48.92
Out-of-Pit Mineral Resource @ C$50/t NSR Cut-off																		
Indicated	0.2	0.60	4.1	0.22	1.5	0.14	0.6	0.05	0.4	0.05	0.2	0.007	0.0	0.018	0.1	1.09	7.5	59.56
Inferred	3.6	0.75	86.9	0.26	29.7	0.13	10.0	0.07	7.9	0.05	4.3	0.008	0.6	0.025	2.9	1.31	151.8	71.20
Total Mineral Resource @ C$15/t and C$50/t NSR Cut-off																		
Indicated	16.5	0.49	261.8	0.19	103.5	0.11	39.2	0.05	24.9	0.05	17.7	0.006	2.3	0.016	8.4	0.93	492.1	50.41
Inferred	16.3	0.55	287.4	0.20	105.4	0.10	37.0	0.05	28.2	0.04	16.0	0.007	2.4	0.018	9.5	0.99	519.6	53.84

Notes: *class = classification.*

1. *Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.*
2. *The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*
3. *The Inferred Mineral Resource in this estimate has a lower level of confidence than that applied to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of the Inferred Mineral Resource could potentially be upgraded to an Indicated Mineral Resource with continued exploration.*
4. *The Mineral Resources were estimated in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions (2014) and Best Practices Guidelines (2019) prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council.*

14.17 MINERAL RESOURCE SENSITIVITIES

Mineral Resources are sensitive to the selection of a reporting NSR cut-offs and the sensitivities are demonstrated in Table 14.11 and Table 14.12 for In-pit and Out-of-Pit Mineral Resources respectively.

TABLE 14.11
SENSITIVITIES OF PIT-CONSTRAINED MINERAL RESOURCE ESTIMATE

Class	Cut-off NSR (C$/t)	Tonnes (t)	Pd (g/t)	Pt (g/t)	Cu (%)	Au (g/t)	Ni (%)	Co (%)	Rh (g/t)	PdEq (g/t)	NSR (C$/t)
Indicated	100	707,313	1.51	0.56	0.15	0.09	0.07	0.007	0.051	2.43	132.27
	90	1,100,943	1.35	0.49	0.15	0.09	0.06	0.007	0.045	2.18	118.87
	80	1,664,595	1.20	0.44	0.14	0.08	0.06	0.007	0.039	1.97	107.21
	70	2,586,250	1.05	0.39	0.14	0.07	0.06	0.007	0.034	1.76	95.61
	60	4,115,367	0.90	0.34	0.14	0.07	0.06	0.007	0.029	1.54	84.07
	50	6,649,217	0.76	0.29	0.13	0.06	0.06	0.007	0.024	1.34	72.87
	40	10,018,951	0.64	0.25	0.12	0.06	0.06	0.007	0.021	1.17	63.41
	30	13,109,832	0.56	0.22	0.12	0.05	0.05	0.006	0.018	1.04	56.73
	20	15,663,795	0.51	0.20	0.11	0.05	0.05	0.006	0.016	0.95	51.63
	15	16,313,229	0.49	0.19	0.11	0.05	0.05	0.006	0.016	0.92	50.29
	10	16,597,557	0.48	0.19	0.11	0.05	0.05	0.006	0.016	0.91	49.65
Inferred	100	530,939	1.46	0.53	0.17	0.11	0.07	0.007	0.053	2.43	132.02
	90	814,559	1.31	0.47	0.16	0.10	0.07	0.007	0.046	2.18	118.80
	80	1,402,797	1.15	0.42	0.14	0.09	0.06	0.007	0.039	1.92	104.40
	70	2,239,365	1.03	0.38	0.13	0.08	0.06	0.007	0.034	1.71	93.32
	60	3,489,812	0.90	0.33	0.12	0.07	0.05	0.007	0.030	1.52	82.88
	50	4,766,265	0.81	0.30	0.12	0.06	0.05	0.007	0.027	1.38	75.28
	40	6,774,546	0.70	0.26	0.11	0.06	0.05	0.007	0.023	1.22	66.17
	30	9,633,152	0.59	0.22	0.10	0.05	0.05	0.007	0.019	1.05	56.94
	20	12,045,441	0.51	0.19	0.10	0.05	0.04	0.006	0.017	0.93	50.70
	15	12,727,414	0.49	0.18	0.10	0.05	0.04	0.006	0.016	0.90	48.92
	10	12,882,202	0.49	0.18	0.10	0.05	0.04	0.006	0.016	0.89	48.48

Notes: *class = classification.*

TABLE 14.12
SENSITIVITIES OF OUT-OF-PIT MINERAL RESOURCE ESTIMATE

Class	Cut-off NSR (C$/t)	Tonnes (t)	Pd (g/t)	Pt (g/t)	Cu (%)	Au (g/t)	Ni (%)	Co (%)	Rh (g/t)	PdEq (g/t)	NSR (C$/t)
Indicated	100	976	1.34	0.50	0.21	0.11	0.05	0.007	0.038	2.24	122.08
	90	2,326	1.13	0.39	0.20	0.09	0.05	0.007	0.033	1.92	104.65
	80	8,796	0.95	0.27	0.22	0.07	0.04	0.008	0.028	1.66	90.26
	70	18,707	0.85	0.26	0.20	0.06	0.05	0.008	0.025	1.51	81.95
	60	74,194	0.71	0.25	0.14	0.06	0.05	0.007	0.021	1.25	68.11
	50	212,994	0.60	0.22	0.14	0.05	0.05	0.007	0.018	1.09	59.56
	40	515,908	0.47	0.18	0.14	0.05	0.05	0.007	0.014	0.93	50.78
Inferred	100	301,441	1.40	0.44	0.16	0.12	0.07	0.008	0.048	2.28	123.83
	90	397,391	1.32	0.42	0.15	0.11	0.07	0.008	0.044	2.15	116.77
	80	788,708	1.11	0.36	0.14	0.09	0.06	0.008	0.038	1.83	99.46
	70	1,399,023	0.98	0.32	0.13	0.08	0.06	0.007	0.033	1.63	88.88
	60	2,538,010	0.83	0.28	0.13	0.07	0.06	0.008	0.028	1.43	77.90
	50	3,608,598	0.75	0.26	0.13	0.07	0.05	0.008	0.025	1.31	71.20
	40	5,379,531	0.64	0.23	0.12	0.06	0.05	0.007	0.021	1.15	62.71

Notes: *class = classification.*

14.18 MODEL VALIDATION

The block model was validated using a number of industry standard methods including visual and statistical methods:

- Visual examination of composites and block grades on successive plans and cross-sections were performed on-screen to confirm that the block models correctly reflect the distribution of composite grades.

  The review of estimation parameters included:

  - Number of composites used for estimation;
  - Number of drill holes used for estimation;
  - Mean distance to sample used;
  - Number of passes used to estimate grade;
  - Actual distance to closest point;
  - Grade of true closest point; and,
  - Mean value of the composites used.

- The Inverse Distance Cubed (ID^3) estimate was compared to a Nearest-Neighbour (NN) estimate along with composites. A comparison of Pd mean composite grade with the block model at a zero-grade cut-off is presented in Table 14.13.

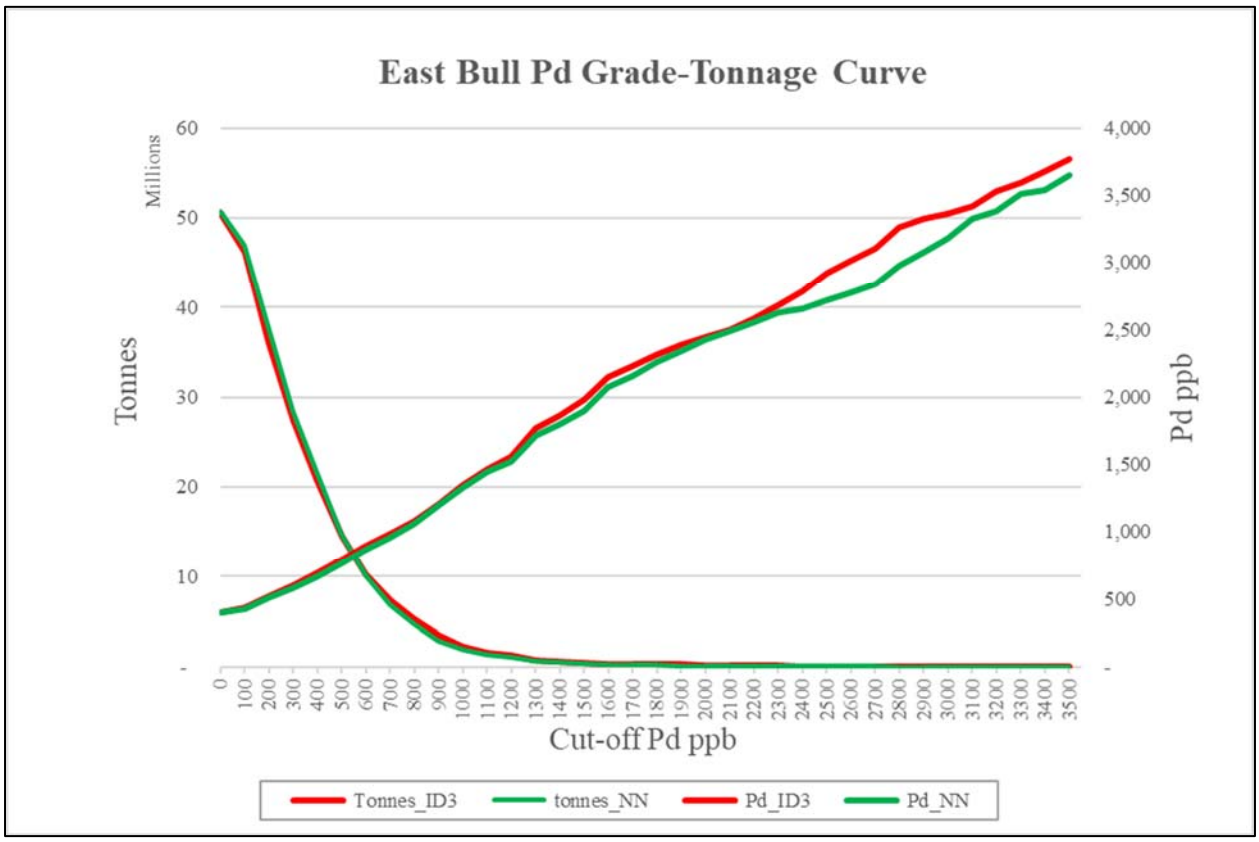
TABLE 14.13
PD AVERAGE GRADE COMPARISON OF COMPOSITES WITH BLOCK MODEL

Data Type	Pd (g/t)
Composites	0.42
Capped composites	0.41
Block model interpolated with ID^3	0.40
Block model interpolated with NN	0.40

- The comparison shows the average Pd grade of block model was slightly lower than that of the capped composites used for the grade estimation. These were most likely due to grade de-clustering and interpolation process. The block model values will be more representative than the composites due to 3-D spatial distribution characteristics of the block models.

- A comparison of the Pd grade-tonnage curves (Figure 14.2) interpolated with ID^3 and NN on a global mineralization basis.

FIGURE 14.2 PD GRADE–TONNAGE CURVE



- Local trends of Pd were evaluated by comparing the ID^3 and NN estimate against the composites. The special swath plots of all domains are shown in Figures 14.3 to 14.5.

FIGURE 14.3 PD GRADE SWATH PLOT EASTING

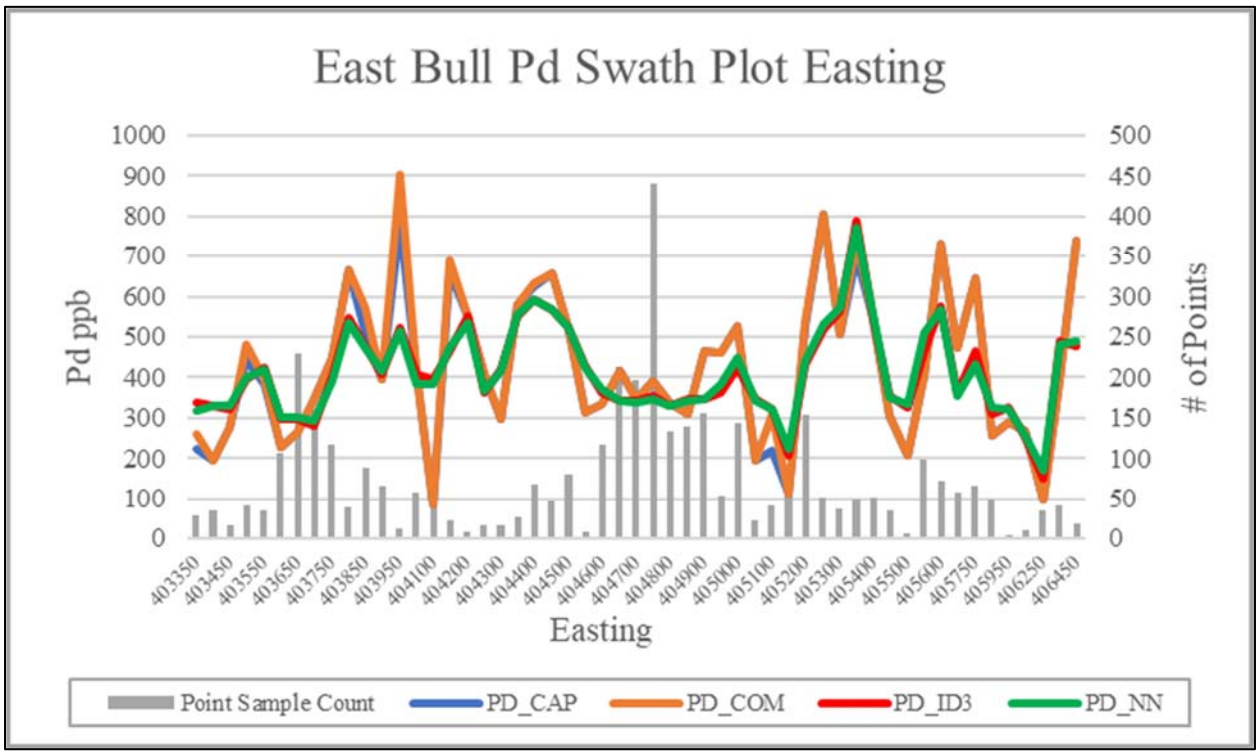


FIGURE 14.4 PD GRADE SWATH PLOT NORTHING

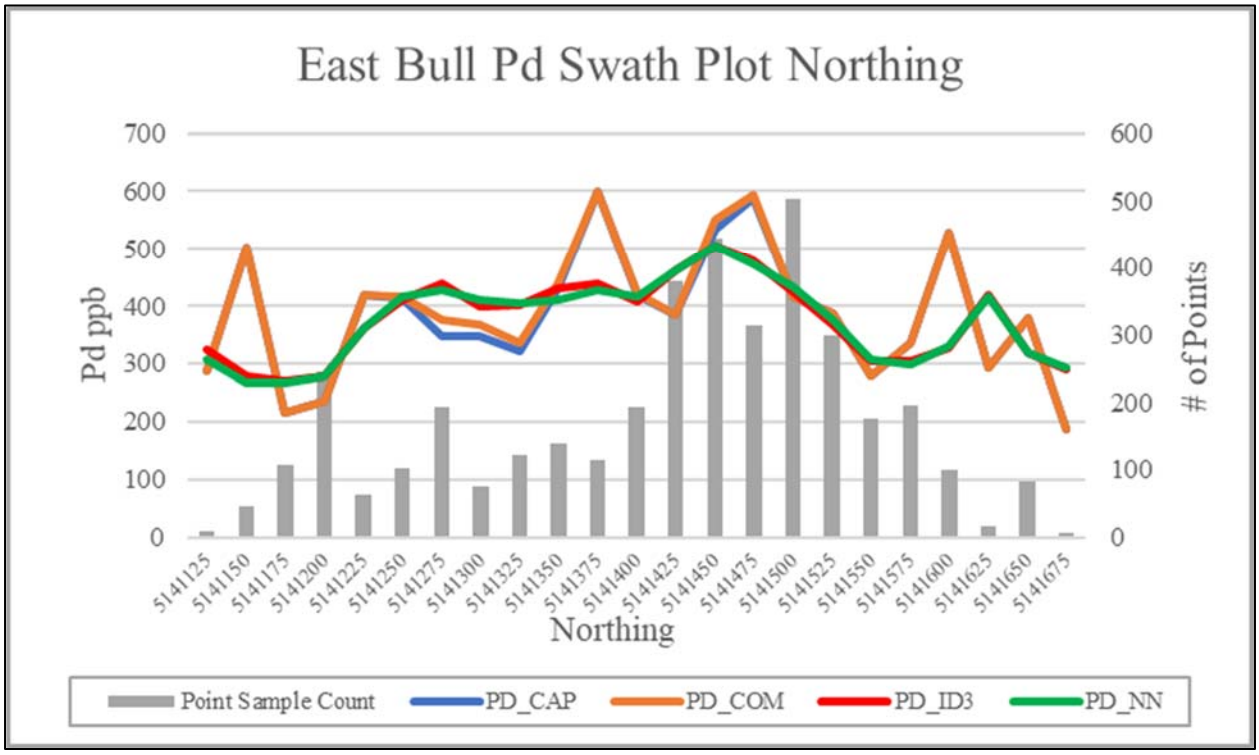
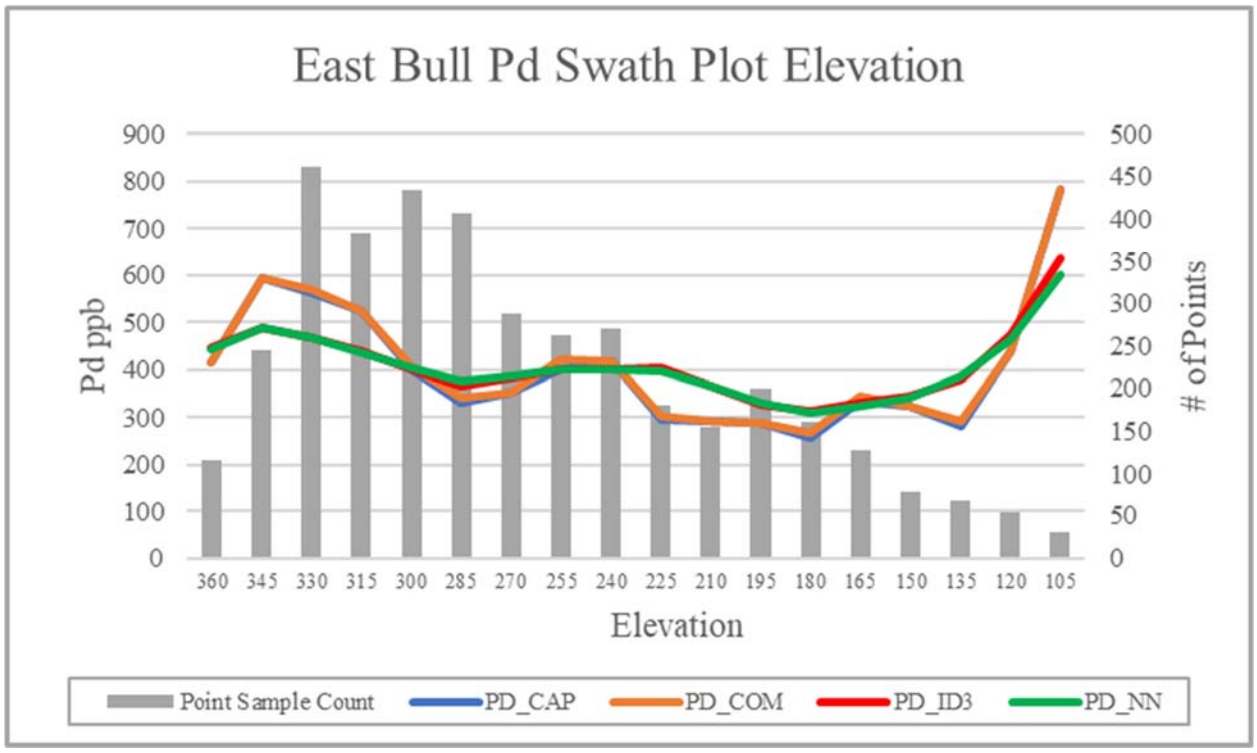


FIGURE 14.5 PD GRADE SWATH PLOT ELEVATION



15.0 MINERAL RESERVE ESTIMATES

This section is not applicable to this Technical Report.

16.0 MINING METHODS

This section is not applicable to this Technical Report.

17.0 RECOVERY METHODS

This section is not applicable to this Technical Report.

18.0 PROJECT INFRASTRUCTURE

This section is not applicable to this Technical Report.

19.0 MARKET STUDIES AND CONTRACTS

This section is not applicable to this Technical Report.

20.0 ENVIRONMENTAL STUDIES, PERMITS, AND SOCIAL OR COMMUNITY IMPACTS

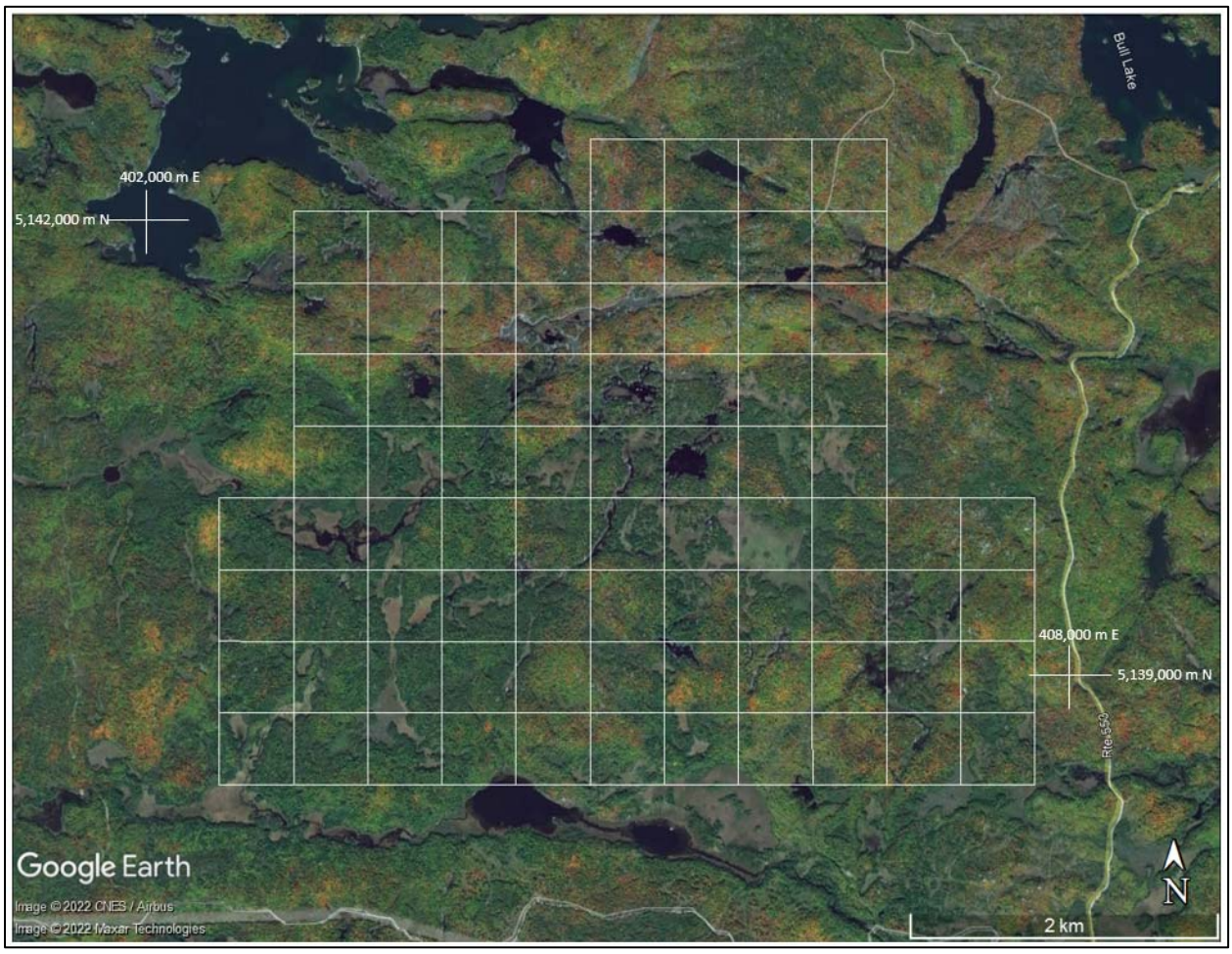
20.1 SUMMARY

An East Bull Palladium Project will include the planning, construction, operation, and closure of a PGM operating mine that will employ open pit mining methods to extract mineralized material at a rate of over 5,000 tonnes per day ("tpd"). Mineralized material will be fed to an on-site processing plant where a valuable concentrate, representing approximately 1% of the process feed tonnage, would be produced, stockpiled and transported to either a Canadian smelter or an off-shore facility.

In addition to a process plant, mine requirements include: mine maintenance, maintenance and administration buildings, and other structures. Additional supporting infrastructure that will be developed includes site access and haul roads, a power transmission line and transformer station, water management infrastructure, tailings and waste rock and overburden/topsoil storage areas. On-site accommodation for workers is not expected to be required due to the proximity of nearby communities.

The East Bull Palladium Project is located 26 km north-northwest of Town of Massey, which is on the Trans-Canada Highway 90 km west of the City of Sudbury. The Property can be described as "greenfield" with no significant, existing environmental liabilities from previous exploration activity. The representation of the Mineral Resource area in forest and wetlands is demonstrated in Figure 20.1. Canadian Palladium reports that recent logging operations have impacted the southern portion of the Property and clear-cut areas have reached to within 1.8 km of the current Mineral Resources. Site access is via all weather road no. 553 (Figure 20.1) and, 4 km west from this road, a summer-passable ATV and 4-wheel drive trail.

FIGURE 20.1 EAST BULL PALLADIUM PROPERTY *



Source: *Google Earth. Maxar Technologies (2022).*
** UTM coordinates NAD83 Zone 17N.*

20.2 REGULATORY FRAMEWORK

An East Bull Palladium Project can be expected to require both federal and provincial regulatory approvals. These aspects are summarized below.

The federal and provincial Environmental Assessment ("EA") processes and permitting framework for metal mining in Canada are well established. Following EA approval, the East Bull Project will enter a permitting phase that will regulate the Project through all phases of development, including construction, operation, closure, and even post-closure. Throughout all of these processes, consultation with and, advice from, local First Nations and communities is considered essential. The nearest First Nation and communities are the Sagamok Anishnawbek First Nation and the Town of Massey, 30 km and 26 km, respectively, south-southeast of the East Bull Property.

20.2.1 Federal Environmental Assessment and Permitting Process

The Canadian Environmental Assessment Act ("CEAA") was recently updated to CEAA 2012. For metal mining projects exceeding 5,000 tpd, the updated Act includes the definition of what aspects may "trigger" a federal EA. These aspects, which are under federal jurisdiction include:

- Protection of fish, fish habitat and other aquatic species;
- Protection of migratory birds;
- Impacts on federal lands and effects of crossing interprovincial boundaries;
- Effects on Aboriginal peoples such as their use of traditional lands and resources; and
- A physical activity that is designated by the Federal Minister of Environment that can cause adverse environmental effects or result in public concern.

With the local abundance of open water and wetlands, the development of open pits and the development and management of waste rock and tailings facilities could be considered to adversely impact fish habitat. A federal EA may be triggered by that aspect alone. However, with careful design, the anticipated impact of the East Bull Project on fisheries could be considered limited. Whereas the Harmful Alteration, Disruption or Destruction of Fish Habitat could be small, a detailed fisheries compensation plan and the addressing of any significant public concern would need to be considered.

The anticipated federal regulatory requirements for the Project are summarized in Table 20.1.

TABLE 20.1
FEDERAL ENVIRONMENTAL REGULATIONS AND COMPLIANCE REQUIREMENTS

Aspect	Applicable Act/Regulation	Federal Agency	Description
Metal Mining Effluent Regulations (MMER)	Fisheries Act	Environment and Climate Change Canada (ECCCan)	Compliance – Environmental monitoring and reporting if discharges exceed a flow rate of 50 cubic metres (m^3) per day.
Migratory Birds	Migratory Birds Convention Act	ECCCan	Protection and conservation of migratory birds and their nests.
Manufacturing, Storage and Transportation of Explosives	Explosives Act	Natural Resources Canada (NRCan)	The explosives contractor will be required to hold any applicable permits.
Perceived Adverse Effects	CEAA	ECCCan	Addressing and mitigation of aspects raised by public

20.2.2 Provincial Permitting Process

There are no specific provincial environmental assessment (EA) requirements for mining projects in Ontario. However, some of the activities related to the development of the Project, including some ancillary infrastructure components, may require approval under one or more provincial regulations. Example provincial permits and approvals are summarized in Table 20.2.

TABLE 20.2
EXAMPLE PROVINCIAL ENVIRONMENTAL PERMITS AND APPROVALS

Item	Applicable Act/Regulation	Responsible Agency	Description
Industrial Sewage Works – Environmental Compliance Approval	Ontario Water Resources Act	Ministry of Environment Conservation and Parks (MECP)	Approval to construct sewage works for the treatment and discharge of water (effluent) to the environment.
Air and Noise – Environmental Compliance Approval	Environmental Protection Act	MECP	Approval for release of atmospheric emissions from the Project
Permit to Take Water	Ontario Water Resources Act	MECP	Taking of surface water for domestic and/or industrial purposes (i.e., mineral processing) at rates greater than 50,000 litres per day.
Work Permits	Public Lands Act	Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF)	Approval for work activities on Crown land and shorelines of lakes and rivers (e.g., construction of an effluent outfall, pumphouse, intake pipe, etc.). Installation of culverts or bridges.
Closure Plan	Mining Act	MNDMNRF	To allow for mine development, operation, and rehabilitation.
Approval for the Construction of Containment Dams and Dykes	Lakes and Rivers Improvement Act/Mining Act	MNDMNRF	Construction of dams and/or dykes for water and tailings management and/or stream diversions.
Forest Resource License or Permit	Crown Forest Sustainability Act	MNDMNRF	Harvesting of merchantable timber as necessary for the construction of the Project.

TABLE 20.2 EXAMPLE PROVINCIAL ENVIRONMENTAL PERMITS AND APPROVALS			
Item	**Applicable Act/Regulation**	**Responsible Agency**	**Description**
Overall Benefit Permit/Notice of Activity	Endangered Species Act	MECP	Permit/approval to authorize activities that are otherwise not allowed under the Endangered Species Act (e.g., harm or harass a species at risk or damage or destroy their habitat).
Environmental Assessment – Disposition of Crown Resources	Public Lands Act	MNDMNRF	Approval to obtain surface rights/easement for the construction of Project related infrastructure on Crown Land (e.g., shoreline or bed of lakes/rivers/streams and any offsite infrastructure located on Crown land).
Environmental Assessment – Electricity Projects	Ontario Environmental Assessment Act	MECP	Construction of a transmission line and transformer stations

20.3 SOCIAL OR COMMUNITY IMPACT

The studies and reviews that will be required to support of an Environmental Assessment preparation and submission are outlined below.

20.3.1 Land and Resource Use

The closest settlement is the East Bull Lake Wilderness Resort located four km northeast of the Mineral Resource. The nearest provincial park is Chutes Provincial Park, located on the northeast edge of the Town of Massey.

Several decades ago, the granites in the Mineral Resource area were considered as a possible location for permanent disposal of high-level nuclear reactor waste. Partially, due to strong public opposition from the Massey community and the local area, this consideration was abandoned. A potential current benefit of this historical concept could be documentation of AECL (Atomic Energy of Canada Ltd.) records of physical and environmental surveys. (P&E has not investigated the existence of this documentation).

20.3.2 Archaeological Resources

Two stages of Archaeological Assessment will be needed as outlined in the Ontario Heritage Act under the direction of the Ministry of Heritage, Sport, Tourism and Culture Industries.

20.3.3 Indigenous Engagement and Consultation

Canadian Palladium will need to engage and consult, regarding all stages of the Project, with Sagamok Anishnawbek First Nation and others, expressing interest in the East Bull Palladium Project. These consultations would be expected to focus on natural resource and environmental protection, employment and business opportunities, and education and training.

20.3.4 Public and Agency Consultation

Ongoing consultation with First Nations, the general public, and provincial and federal agency stakeholders will be required to advance the Project from conception, planning, construction and progression into production. Government Agency consultations can be coordinated by the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF).

20.4 ENVIRONMENTAL STUDIES

A series of environmental baseline studies are anticipated to be performed to support the future development of the East Bull Palladium Project, as outlined below.

20.4.1 Climate and Atmospheric Environment

The East Bull Palladium Project is located within a zone that is characterized by cold winters and warm, relatively short summers. Average summer temperatures are approximately 24ºC in July and -9ºC over the winter. No weather stations are expected to be reported in the Project area or even in Massey. However, detailed and current climate data will be available from Elliot Lake, 25 km west.

20.4.2 Surface Water Hydrology and Quality

The Project is located within the River aux Sables drainage basin that flows through Chutes Provincial Park, Massey and the Sagamok Anishnawbek First Nation. Surface water quality in the Project Area and in the drainage basin is expected to be high.

Testing of mineral content of the East Bull Mineral Resource is anticipated to confirm that the water quality in the drainage basin will not be adversely affected by mining activity. The small amount of sulphide content in the Mineral Resource will be removed into the concentrate, which will be sent to a smelter, leaving an essentially inert mineral matrix on-site.

20.4.3 Hydrogeology and Groundwater Quality

Hydrogeological and groundwater quality baseline studies will be needed to support the environmental impacts of open pit mining and pit water management.

20.4.4 Aquatic Environment

Aquatic baseline studies, particularly those zones potentially disturbed by an East Bull Project including fish habitat and aquatic community assessments, are expected to be needed to support the provincial and federal permitting processes.

20.4.5 Terrestrial Environment

Terrestrial baseline studies will include amphibian, breeding bird, and Species at Risk surveys. Flora and Fauna can be expected to be typical of the Boreal Forest Region. The Property consists of deciduous, coniferous, and mixed forests probably dominated by black spruce, white spruce, poplar, jack pine, and white birch. The less drained portions of the Property consist of wetlands and treed fens. Beaver meadows may be present in areas of previous beaver activity.

20.4.6 Geochemical Characterization

Geochemical characterization of process tailings, waste rock and low-grade mineralized materials are expected to confirm no potential for acid generation and a very low risk for metal leaching.

20.5 MINE CLOSURE PLAN

A Mine Closure Plan, with financial assurance, will need to be filed to the MNDMNRF before development of the Project can proceed. The Plan will include: decommissioning and asset removal, demolition and disposal, rehabilitation and reporting of monitoring. monitoring and reporting.

Progressive rehabilitation will be completed throughout the life of the East Bull Palladium Project whenever feasible. Following closure, the mine site will be made as safe as possible and permit unrestricted public access.

21.0 CAPITAL AND OPERATING COSTS

This section is not applicable to this Technical Report.

22.0 ECONOMIC ANALYSIS

This section is not applicable to this Technical Report.

23.0 ADJACENT PROPERTIES

In the following section, the current Mineral Resource Estimates on adjacent properties are taken from the corporate websites and SEDAR filings. This data has not been verified by the author of this Technical Report section and the information is not necessarily indicative of the mineralization on the Property that is the subject of this Technical Report.

23.1 GRID METALS CORP., EAST BULL LAKE PROPERTY

Grid Metals Corp. (Grid Metals) has a significant property position on the East Bull Lake Intrusion that consists of staked mining claims located east, north, and west of Canadian Palladium's Property. The Grid Metals Property covers the East Lobe of the East Bull Lake Intrusion and the majority of the West Lobe of the Intrusion. Grid Metals has defined significant PGM-Cu-Ni mineralization in several areas of the Intrusion including in the Moon Lake area on the southern contact of the East Bull Gabbro immediately east of the East Bull Palladium Deposit. Much of this mineralization is hosted by similar gabbroic host rocks as the Valhalla and Garden Zones and located at southern contact of the East Bull Intrusion.

Grid Metals has completed several significant drilling campaigns. However, no Mineral Resource Estimate has been completed to date on the Grid Metals' East Bull Lake Property. The Company is currently embarking on a new phase of exploration focused on the discovery of structurally controlled palladium-rich deposits with similar attributes to the Archean Lac des Iles Palladium Mine Deposit in Northwestern Ontario.

23.2 CANADIAN PALLADIUM INC., AGNEW LAKE PROPERTY

Canadian Palladium's Agnew Lake Property is located in the Townships of Shakespeare, Dunlop, Shibananing, Gough, and Porter, Sudbury Mining Division, Ontario. The Property is approximately 20 km east of the East Bull Palladium Property and consists of 269 single cell claims and covers approximately 5,988 ha.

The Agnew Lake Property has occurrences of platinum (Pt), palladium (Pd), rhodium (Rh), gold (Au), copper (Cu), and nickel (Ni) mineralization associated with disseminated sulphides. The mineralization is hosted in inclusion-bearing and varitextured varieties of gabbronorite found along the margin of the Agnew Lake Intrusion ("ALI"). The Agnew Lake Intrusion is part of the same 2.48 Ga gabbroic intrusive suite as the East Bull Lake Intrusion.

Sample programs by Canadian Palladium on the Agnew Lake Property have been successful in confirming mineralization at the A-Zone and B-Zone occurrences that are hosted in fine- to medium-grained gabbroic rocks containing trace sulphides. Highlights from 2019-2020 prospecting on the Agnew Lake Property by Canadian Palladium include grab samples 365659 and 440157 from the "A Zone" that returned 1.20 g/t Pt+Pd+Au and 1.08 g/t Pt+Pd+Au, respectively, and sample 440166 adjacent to the "B-Zone" with 1.22 g/t Pt+Pd+Au.

These occurrences were previously drilled by Pacific Northwest Capital Corporation in 2000-2001 with a 21-drill hole (3,000 m) program. Anomalous PGE sulphide mineralization of significant width and assays of >0.25 g/t Pt+Pd+Au was intersected in 20 of the 21 drill holes.

23.3 RIVER VALLEY PGM DEPOSIT, NEW AGE METALS INC.

The River Valley PGM Deposit owned by New Age Metals Inc. (formerly Pacific Northwest Capital Corporation) is located 150 km east of East Bull and is described here as a geological analogue of the East Bull PGM Deposit. The following is summarized from an NI43-101 Technical Report and Mineral Resource Estimate on the River Valley Property by P&E dated November 19, 2021 (Sutcliffe *et al.*, 2021).

The River Valley Property is a magmatic, contact-hosted platinum-palladium-gold (platinum group element or "PGE") project that is located in northeastern Ontario, approximately 60 km northeast of Sudbury. The River Valley Project is part of the Paleoproterozoic East Bull Lake Intrusive Suite, dated between 2491 and 2475 Ma. In addition to lithology, the River Valley Intrusion shares a number of features in common with the East Bull Lake Intrusive Suite, such as sill-like to lopolithic forms, igneous layering and anomalous PGE content.

At River Valley, mineralization occurs as primarily contact-type PGE mineralization, that is hosted mainly in the Breccia Unit at the lower contact of the intrusion, and as reef-type PGE mineralization, that occurs internally within the River Valley Intrusion. All of the current Mineral Resources are hosted in the Breccia Unit, which occurs on the lower contact of the intrusion and has been identified along most of the 16 km strike length of the contact. Contact-type mineralization consists of blebby to disseminated chalcopyrite and pyrrhotite, typically in modal amounts from 0.5% to 2% and occurs in the matrix of the marginal and brecciated rocks and locally within the more mafic fragments. This sulphide mineralization commonly contains between 1 g/t and 5 g/t combined platinum-palladium-gold.

New Age Metals' current Mineral Resource Estimate is based on a total of 723 drill holes totalling 156,421 m that were drilled in exploration campaigns completed between 2000 and 2020. At an NSR cut-off of C$25/t, the pit-constrained Mineral Resources consist of: 60 Mt grading 0.71 g/t Pd, 0.26 g/t Pt, 0.05 g/t Au and 0.04% Cu, in the Measured and Indicated classifications; and 48 Mt grading 0.48 g/t Pd, 0.20 g/t Pt, 0.05 g/t Au and 0.03% Cu, in the Inferred classification. Contained metal contents are 2.0 Moz Pd+Pt+Au in the Measured and Indicated classifications and 1.1 Moz Pd+Pt+Au in the Inferred classification.

24.0 OTHER RELEVANT DATA AND INFORMATION

To the best of the authors' knowledge there is no other relevant data, additional information or explanation necessary to make this Technical Report understandable and not misleading.

25.0 INTERPRETATION AND CONCLUSIONS

Canadian Palladium's East Bull Palladium Property is located in northern Ontario, 90 km west of the City of Sudbury. The Property benefits from the close proximity to the City of Sudbury, well-developed transportation and power infrastructure, and the fully integrated base and precious metal mining, processing, smelting and refining complexes of Vale Canada Limited and Glencore plc. The Property is accessible by Route 553/810 an all-weather road, extending north from the Trans-Canada Highway 17 at Massey, Ontario.

The East Bull Palladium Property is comprised of 86 contiguous staked mining claims (approximately 1,606 ha) in central Gerow Township, Sudbury Mining Division. Canadian Palladium has an option agreement with Pavey Ark Minerals Inc. to obtain a 100% interest in the East Bull Palladium Property through a combination of exploration expenditures, the issuance of shares, and cash payments. The claims are 100% registered to Pavey Ark Minerals Inc., a private Ontario company. Canadian Palladium holds an exploration permit for drilling and trenching issued by the Ontario MNDM that is valid until August 2023.

The East Bull Palladium Property is underlain by gabbroic rocks of the 2.48 Ga East Bull Lake Intrusive Suite, a regional, Paleoproterozoic, bimodal magmatic suite resulting from a mantle-plume related rift. The East Bull Palladium Property is located on the southern contact of the western magma chamber of the East Bull Lake Intrusion. On the Property, the PGM and base metal mineralization is primarily hosted in the Varitextured Melagabbro Unit at the base of the Lower Series.

Drilling and surface trenching have defined significant precious metal and base metal mineralization in the Varitextured Melagabbro (Inclusion Bearing) Zone of the East Bull Intrusion over a strike length of 3.5 km. The Valhalla Zone, named after the original Freewest discovery in 1998, is the largest mineralized zone with a strike length of over 2,500 m. The Valhalla Zone strikes at approximately 078°, dips approximately -45° north, and is locally up to 60 m wide. The Hanging Wall Zone occurs as a 20 m to 25 m wide mineralized zone, parallel to the Valhalla Zone, in the eastern part of the Deposit. The Garden Zone occurs in the western part of the Property and was probably continuous with the Valhalla Zone prior to being offset by a 120° trending fault. The EOH Zone was discovered in 2021 and is a 060° striking, subvertical zone that underlies the Garden Zone.

Opportunities for expanding the Valhalla and Garden Zones contact-type PGM-base metal mineralization are present along strike and down-dip. Additionally, there is significant potential for expanding the EOH Zone conduit-type mineralization and the discovery of other mineralized feeder conduits.

Mineralization typically consists of 0.1% to 1.0% sulphide. The sulphides consist of finely disseminated grains, and coarser blebs locally up to five cm in diameter with chalcopyrite and pyrrhotite that appear to have initially formed as primary magmatic sulphides. The major sulphide phases are pyrrhotite, chalcopyrite, pentlandite and pyrite. PGM minerals have been identified as: froodite ($PdBi_2$); kotulsite (PdTe); merenskyite ($PdTe_2$); michenerite (PdBiTe); unidentified Pd arsenide; sperrylite ($PtAs_2$); platarsite (PtAsS); and hollingworthite (RhAsS). Gold grains are also identified.

The East Bull Intrusion has been explored for base metals and PGM since 1952. Previous exploration work on the East Bull Pd Property was by Freewest and Mustang in 1999 and 2000 and by Pavey Ark in 2017. Freewest completed 27 drill holes for a total of 2,902 m and carried out extensive surface trenching on legacy claim 4272475. Work by Mustang on the eastern part of the Property (legacy claim 1227910) included 11 drill holes for a total of 1,766 m. Pavey Ark's 2017 exploration included channel sampling, 320 m of diamond drilling in three drill holes to twin Mustang drill holes, and re-sampling of drill core originally completed by Freewest in 1999 and 2000. This work resulted in an Initial Mineral Resource Estimate and Technical Report on the East Bull Deposit by P&E in 2018 for Pavey Ark.

In 2020 and 2021, Canadian Palladium completed 84 drill holes totalling over 19,000 m and an airborne magnetic survey over the Property. The current Mineral Resource Estimate is a result of this drill program, which is the largest drill campaign completed on the Property.

The East Bull Palladium Property was visited by Mr. Antoine Yassa, P.Geo., a Qualified Person under the regulations of NI 43-101, on October 14, 2021, for the purposes of completing an independent site visit. In addition, Mr. Yassa previously visited the Property on October 31 and November 1, 2017 for the 2019 NI43-101 Technical Report.

The database compiled by authors of this Technical Report for this Mineral Resource Estimate consisted of 127 surface drill holes and 6 channels, totalling 24,806 m, of which 80 drill holes, totalling 19,141 m, were completed in 2020 and 2021, subsequent to the previous Mineral Resource Estimate. A total of 121 drill holes intersected the Mineral Resource wireframes. The database contained 10,134 assays for Pd, Pt, Cu Ni and Au, 7,329 assays for Co, and 1,129 assays for Rh.

The East Bull Palladium Deposit is estimated to have a total pit-constrained (estimated at a C$15/t NSR cut-off) and out-of-pit (estimated at a C$50/t cut-off) Indicated Mineral Resources of 16.5 Mt at a grade of 0.49 g/t Pd, 0.19 g/t Pt, 0.05 g/t Au, 0.02 g/t Rh, 0.11% Cu, 0.05% Ni, 0.01% Co plus total in-pit and out-of-pit Inferred Mineral Resources of 16.3 Mt at a grade of 0.55 g/t Pd, 0.20 g/t Pt, 0.05 g/t Au, 0.02 g/t Rh, 0.10% Cu, 0.04% Ni, 0.01% Co. The total Indicated Mineral Resources contain 492.1 koz of PdEq and total Inferred Mineral Resources contain 519.6 koz of PdEq.

The Mineral Resource in this Technical Report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions (2014) and Best Practices Guidelines (2019) prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council. Mineral Resources, which are not Mineral Reserves, do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. The Inferred Mineral Resource component of this estimate has a lower level of confidence than that applied to the Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of the Inferred Mineral Resource could be upgraded to an Indicated Mineral Resource with continued exploration.

26.0 RECOMMENDATIONS

26.1 RECOMMENDATIONS AND PROPOSED BUDGET

The authors of this Technical Report consider that the East Bull Palladium Property contains a significant platinum group metal and base metal Mineral Resource that is associated with a well-defined magmatic mineralization environment. The authors of this Technical Report consider that the Property has potential for delineation of additional Mineral Resources and that further exploration and development is warranted.

26.2 EXPLORATION RECOMMENDATIONS

26.2.1 Contact-Type Mineralization

The 2020-2021 drilling program was very successful in extending contact-type disseminated sulphide mineralization at the East Bull Palladium Deposit along strike and down-dip. There is an opportunity for further incremental expansion of this mineralization type on the Property. In addition to expansion, infill drilling is warranted to increase the Mineral Resource confidence and establish a higher proportion of Indicated Mineral Resources.

26.2.2 Exploration for High-Grade Conduit-Type Mineralization

The East Bull Palladium Property has a significant opportunity for targeting potential high-grade mineralization associated with mineralized feeder conduits, such as the EOH Zone and the GAP Target. High-grade, semi-massive sulphide has been intersected at the GAP Target and follow-up drilling is warranted. Exploration risk for this conduit-type of mineralization can be reduced by utilizing borehole IP geophysics for disseminated mineralization and borehole EM geophysics for conductive massive to semi-massive sulphide mineralization. Drilling the conduit-type mineralization will require deeper drilling with a northwest/southeast orientation to test the 060º and steeply-dipping target trends.

The goal of this exploration approach would be to target a “Lac des Iles-type” development scenario, with bulk-tonnage PGM surface mineralization overlying deeper, higher-grade PGM mineralization.

26.3 DEVELOPMENT RECOMMENDATIONS

This Mineral Resource Estimate shows that the East Bull Palladium Deposit has the potential to be developed as an open pit mining operation. The initial development studies should focus on additional metallurgy, stakeholder and environmental studies, and a Preliminary Economic Assessment (PEA).

26.3.1 Metallurgy

Based upon the results to date, additional flotation testwork is recommended to evaluate process recoveries and payable metal grades associated with potentially saleable copper and bulk copper-nickel concentrates. Work should focus on optimizing the NSR value of the mineralization and subsequent Mineral Resource Estimates. Samples should be obtained from the proposed drilling program.

26.3.2 Stakeholder and Environmental

Canadian Palladium may wish to advance preliminary stakeholder discussions and initiate baseline environmental studies.

26.3.3 Complete NI 43-101 Preliminary Economic Assessment

Based on the current results and additional proposed drilling and metallurgical testwork, the next stage of the East Bull Palladium Project would be to advance early-stage studies through an NI 43-101 Technical Report and Preliminary Economic Assessment (PEA). The PEA will include pit optimization, evaluate stripping ratio, propose a production schedule, and present models for Project economics. Opportunities for developing a high-grade starter pit would be included in the PEA.

The proposed program for C$2,753,000 is summarized in Table 26.1.

TABLE 26.1
RECOMMENDED PROGRAM AND BUDGET

Program	Units	Unit Cost (C$)	Budget (C$)
Borehole Geophysics - Cross hole IP (EOH Zone)	8 x - drill hole pairs	$10,000/ drill hole pair	80,000
Borehole Geophysics - BHEM (GAP Target)	6 drill holes	$8,000 drill hole	48,000
Mineral Resource Expansion and In-fill Drilling	20 drill holes - 5,000 m	$200/m all-in	1,000,000
Exploration EOH and GAP Zones Drilling	12 drill holes - 4,000 m	$200/m all-in	800,000
Program Management	5 months	$15,000/month	75,000
Baseline Environmental and ABA			125,000
Metallurgical Testwork			125,000
Update MRE and Complete PEA			250,000
Sub-Total			**2,503,000**
Contingency (10%)			250,000
Total			**2,753,000**

27.0 REFERENCES

Born, P. 1979. Geology of the East Bull Lake Layered Complex, District of Algoma, Ontario, Unpublished M.Sc. Thesis, Laurentian University, 147p.

Cabri, Louis. 2000. A Mineralogical Study of the Drill Core from the Folson Lake Project, Confidential Report 2000-011 for Freewest Resources Canada Inc. and Sparton Resources Inc., 18 p.

Chubb. RT., Hannila, K.K. and Peck, D.C. 1994. Precambrian Geology, East Bull Lake Gabbro-Anorthosite Intrusion; Ontario Geological Survey, Preliminary Map P.3274, scale 1:20,000.

Easton, R.M., James, R.S. and Jobin-Bevans, L.S. 2010. Geological Guidebook to the Paleoproterozoic East Bull Lake Intrusive Suite Plutons at East Bull Lake, Agnew Lake and River Valley: a Field Trip for the 11th International Platinum Symposium; Ontario Geological Survey, Open File Report 6253, 108p.

Easton, R.M., Josey, S.D., Murphy, E.I. and James, R.S. 2011. Geological Compilation, East Bull Lake and Agnew Intrusions; Ontario Geological Survey, Preliminary Map P.3596, scale 1:50,000.

Foy, R. 2012. 2012 Drill Report, East Bull Lake Option, Mustang Minerals Corp, Western Areas NL, Boon and Gerow Townships, Sudbury Mining Division, Ontario, Assessment Report for Mustang Minerals Corp., July 20, 2012, 185 p.

Holwell, D.A., Keays, R.R., Firth, E.A. and Finlay, J. 2014. Geochemistry and Mineralogy of Platinum Group Element Mineralization in the River Valley Intrusion, Ontario, Canada: A Model for Early-Stage Sulfur Saturation and Multistage Emplacement and the Implications for "Contact-Type" Ni-Cu-PGE Sulfide Mineralization. Economic Geology 109, 689-712.

Lariviere, J. 2001. Report on the Phase One Drill Program, August 2000, Folson Lake Joint Venture Project, Report for Freewest Resources Canada Inc. and Sparton Resources Inc., January 2001, 55 pages plus drill logs.

Legault, J.M., Orta, M., Kumar, H. and Zhao, S. 2011. ZTEM™ and VTEM™ Airborne EM Survey Results over PGM-Cu-Ni Targets at East Bull Lake Anorthositic Complex, Massey, Ontario, Presented at SEG 2011.

McDonald, I. and Holwell, D.A. 2011. Geology of the Northern Bushveld Complex and the Setting and Genesis of the Platreef Ni-Cu-PGE Deposit. Reviews in Economic Geology 17, 297-327.

Moore, E.S. and Armstrong, H.S. 1943. Ontario Department of Mines Annual Report 1943, Vol LII, part 6, accompanied by Map No. 52d, East Bull Lake Area, District of Algoma, Ontario, scale 1:63,360 or 1 inch to 1 mile.

Peck, D.C., James, R.S., Chubb, P.T., Prevec, S.A. and Keays, R.R. 1995. Geology, Metallogeny and Petrogenesis of the East Bull Lake Intrusion, Ontario; Ontario Geological Survey, Open File Report 5923, 124p.

Peck, D.C., Keays, R.R., James, R.S., Chubb, P.T. and Reeves, S.J. 2001. Controls on the Formation of Contact-Type PGE Mineralization in the East Bull Lake Intrusion; Economic Geology, v.96, p.559-581.

Puritch, E., Yassa, A. and Barry J., 2019. NI 43-101 Technical Report and Initial Mineral Resource Estimate on the East Bull Platinum Group Metals Property, Gerow Township, Sudbury Mining Division, Ontario, for21C Metals Inc., Effective date April 15, 2019, 113p.

Puritch, E., Yassa, A. and Barry J., 2018. NI 43-101 Technical Report and Initial Mineral Resource Estimate on the East Bull Platinum Group Metals Property, Gerow Township, Sudbury Mining Division, Ontario, for Pavey Ark Minerals Inc., Effective date February 21, 2018, 110p.

Soever, Alar. 2001. Report on Properties in the Sudbury Area for Mustang Minerals Corp., NI43-101 Technical Report, Watts Griffis and McOuat Limited, Consulting Geologists and Engineers, Toronto, Effective date April 1, 2001, as amended May 28, 2001, 166p.

Sutcliffe, R.H. 2017. Assessment Report on the 2017 Channel Sampling, Drilling, and Historical Core Re-Assay Program, East Bull PGM Property, Gerow Township, Sudbury Mining Division, for Pavey Ark Minerals Inc., December 31, 2017, 62 pages plus appendices and maps.

Sutcliffe, R.H., Puritch, E., Wu, Y., Barry, J., Feasby, D.G. and Yassa, A. 2021. Technical Report and Updated Mineral Resource Estimate of the River Valley Palladium Project, Dana, Janes, Mcwilliams, and Pardo Townships, Sudbury Mining Division, Ontario, for New Age Metals Inc., Effective Date September 14, 2021, 331p.

Wood, P. 2001. Geological and Geochemical Report, Summer 2000 Mapping Program on the East Bull Lake Project, Assessment Report for Mustang Minerals Corp., July 6, 2001, 60p.

28.0 CERTIFICATES

CERTIFICATE OF QUALIFIED PERSON

WILLIAM STONE, PH.D., P.GEO.

I, William Stone, Ph.D., P.Geo, residing at 4361 Latimer Crescent, Burlington, Ontario, do hereby certify that:

1. I am an independent geological consultant working for P&E Mining Consultants Inc.
2. This certificate applies to the Technical Report titled "Technical Report and Updated Mineral Resource Estimate on the East Bull Palladium Property, Gerow Township, Sudbury Mining Division, Ontario", (The "Technical Report") with an effective date of March 2, 2022.
3. I am a graduate of Dalhousie University with a Bachelor of Science (Honours) degree in Geology (1983). In addition, I have a Master of Science in Geology (1985) and a Ph.D. in Geology (1988) from the University of Western Ontario. I have worked as a geologist for a total of 35 years since obtaining my M.Sc. degree. I am a geological consultant currently licensed by the Professional Geoscientists of Ontario (License No 1569).

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

   My relevant experience for the purpose of the Technical Report is:

   - Contract Senior Geologist, LAC Minerals Exploration Ltd. 1985-1988
   - Post-Doctoral Fellow, McMaster University 1988-1992
   - Contract Senior Geologist, Outokumpu Mines and Metals Ltd. 1993-1996
   - Senior Research Geologist, WMC Resources Ltd. 1996-2001
   - Senior Lecturer, University of Western Australia 2001-2003
   - Principal Geologist, Geoinformatics Exploration Ltd. 2003-2004
   - Vice President Exploration, Nevada Star Resources Inc. 2005-2006
   - Vice President Exploration, Goldbrook Ventures Inc. 2006-2008
   - Vice President Exploration, North American Palladium Ltd. 2008-2009
   - Vice President Exploration, Magma Metals Ltd. 2010-2011
   - President & COO, Pacific North West Capital Corp. 2011-2014
   - Consulting Geologist 2013-2017
   - Senior Project Geologist, Anglo American 2017-2019
   - Consulting Geoscientist 2020-Present
4. I have not visited the Property that is the subject of this Technical Report.
5. I am responsible for authoring Sections 2 to 10, 15, 16, 18, 19, and 21 to 24, and co-authoring Sections 1, 25 and 26 of this Technical Report.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
7. I have had no prior involvement with the Property that is the subject of this Technical Report.
8. I have read NI 43-101 and Form 43-101F1 and this Technical Report has been prepared in compliance therewith.
9. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: March 2, 2022
Signed Date: April 14, 2022

{SIGNED AND SEALED}
[William Stone]

_____
William E. Stone, Ph.D., P.Geo.

CERTIFICATE OF QUALIFIED PERSON

EUGENE PURITCH, P. ENG., FEC, CET

I, Eugene J. Puritch, P. Eng., FEC, CET, residing at 44 Turtlecreek Blvd., Brampton, Ontario, L6W 3X7, do hereby certify that:

1. I am an independent mining consultant and President of P&E Mining Consultants Inc.

2. This certificate applies to the Technical Report titled "Technical Report and Updated Mineral Resource Estimate on the East Bull Palladium Property, Gerow Township, Sudbury Mining Division, Ontario", (The "Technical Report") with an effective date of March 2, 2022.

3. I am a graduate of The Haileybury School of Mines, with a Technologist Diploma in Mining, as well as obtaining an additional year of undergraduate education in Mine Engineering at Queen's University. In addition, I have also met the Professional Engineers of Ontario Academic Requirement Committee's Examination requirement for a Bachelor's degree in Engineering Equivalency. I am a mining consultant currently licensed by the: Professional Engineers and Geoscientists New Brunswick (License No. 4778); Professional Engineers, Geoscientists Newfoundland and Labrador (License No. 5998); Association of Professional Engineers and Geoscientists Saskatchewan (License No. 16216); Ontario Association of Certified Engineering Technicians and Technologists (License No. 45252); Professional Engineers of Ontario (License No. 100014010); Association of Professional Engineers and Geoscientists of British Columbia (License No. 42912); and Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists (No. L3877). I am also a member of the National Canadian Institute of Mining and Metallurgy.

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

   I have practiced my profession continuously since 1978. My summarized career experience is as follows:
   - Mining Technologist - H.B.M.& S. and Inco Ltd., 1978-1980
   - Open Pit Mine Engineer – Cassiar Asbestos/Brinco Ltd., 1981-1983
   - Pit Engineer/Drill & Blast Supervisor – Detour Lake Mine, 1984-1986
   - Self-Employed Mining Consultant – Timmins Area, 1987-1988
   - Mine Designer/Resource Estimator – Dynatec/CMD/Bharti, 1989-1995
   - Self-Employed Mining Consultant/Resource-Reserve Estimator, 1995-2004
   - President – P&E Mining Consultants Inc, 2004-Present

4. I have not visited the Property that is the subject of this Technical Report.

5. I am responsible for co-authoring Sections 1, 14, 25, and 26 of this Technical Report.

6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.

7. have had prior involvement with the Project that is the subject of this Technical Report. I was a "Qualified Person" for a Technical Report titled "NI 43-101 Technical Report and Initial Mineral Resource Estimate on the East Bull Platinum Group Metals Property, Gerow Township, Sudbury Mining Division, Ontario", with an effective date of April 15, 2019; and NI 43-101 Technical Report and Initial Mineral Resource Estimate on the East Bull Platinum Group Metals Property, Gerow Township, Sudbury Mining Division, Ontario", with an effective date of February 21, 2018.

8. I have read NI 43-101 and Form 43-101F1. This Technical Report has been prepared in compliance therewith.

9. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: March 2, 2022
Signed Date: April 14, 2022
{SIGNED AND SEALED}
[Eugene Puritch]

_____
Eugene Puritch, P.Eng., FEC, CET

CERTIFICATE OF QUALIFIED PERSON

YUNGANG WU, P.GEO.

I, Yungang Wu, P. Geo., residing at 3246 Preserve Drive, Oakville, Ontario, L6M 0X3, do hereby certify that:

1. I am an independent consulting geologist contracted by P&E Mining Consultants Inc.
2. This certificate applies to the Technical Report titled "Technical Report and Updated Mineral Resource Estimate on the East Bull Palladium Property, Gerow Township, Sudbury Mining Division, Ontario", (The "Technical Report") with an effective date of March 2, 2022.
3. I am a graduate of Jilin University, China, with a Master's degree in Mineral Deposits (1992). I have worked as a geologist for 25 plus years since graduating. I am a geological consultant and a registered practising member of the Association of Professional Geoscientists of Ontario (Registration No. 1681).

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

   My relevant experience for the purpose of the Technical Report is as follows:
   - Geologist –Geology and Mineral Bureau, Liaoning Province, China 1992-1993
   - Senior Geologist – Committee of Mineral Resources and Reserves of Liaoning, China 1993-1998
   - VP – Institute of Mineral Resources and Land Planning, Liaoning, China 1998-2001
   - Project Geologist–Exploration Division, De Beers Canada 2003-2009
   - Mine Geologist – Victor Diamond Mine, De Beers Canada 2009-2011
   - Resource Geologist– Coffey Mining Canada 2011-2012
   - Consulting Geologist 2012-Present
4. I have not visited the Property that is the subject of this Technical Report.
5. I am responsible for co-authoring Sections 1, 14, 25, and 26 of this Technical Report.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101. I am independent of the Vendor and the Property.
7. I have had no prior involvement with the Project that is the subject of this Technical Report.
8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.
9. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: March 2, 2022
Signed Date: April 14, 2022

{SIGNED AND SEALED}
[Yungang Wu]

_____
Yungang Wu, P.Geo.

CERTIFICATE OF QUALIFIED PERSON

JARITA BARRY, P.GEO.

I, Jarita Barry, P.Geo., residing at 4 Creek View Close, Mount Clear, Victoria, Australia, 3350, do hereby certify that:

1. I am an independent geological consultant contracted by P&E Mining Consultants Inc.
2. This certificate applies to the Technical Report titled "Technical Report and Updated Mineral Resource Estimate on the East Bull Palladium Property, Gerow Township, Sudbury Mining Division, Ontario", (The "Technical Report") with an effective date of March 2, 2022.
3. I am a graduate of RMIT University of Melbourne, Victoria, Australia, with a B.Sc. in Applied Geology. I have worked as a geologist for over 15 years since obtaining my B.Sc. degree. I am a geological consultant currently licensed by Engineers and Geoscientists British Columbia (License No. 40875), Professional Engineers and Geoscientists Newfoundland & Labrador (License No. 08399) and Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists (License No. L3874). I am also a member of the Australasian Institute of Mining and Metallurgy of Australia (Member No. 305397);

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

   My relevant experience for the purpose of the Technical Report is:

   - Geologist, Foran Mining Corp. 2004
   - Geologist, Aurelian Resources Inc. 2004
   - Geologist, Linear Gold Corp. 2005-2006
   - Geologist, Búscore Consulting 2006-2007
   - Consulting Geologist (AusIMM) 2008-2014
   - Consulting Geologist, P.Geo. (APEGBC/AusIMM) 2014-Present
4. I have not visited the Property that is the subject of this Technical Report.
5. I am responsible for authoring Section 11, and co-authoring Sections 1, 12, 25, and 26 of this Technical Report.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
7. have had prior involvement with the Project that is the subject of this Technical Report. I was a "Qualified Person" for a Technical Report titled "NI 43-101 Technical Report and Initial Mineral Resource Estimate on the East Bull Platinum Group Metals Property, Gerow Township, Sudbury Mining Division, Ontario", with an effective date of April 15, 2019; and NI 43-101 Technical Report and Initial Mineral Resource Estimate on the East Bull Platinum Group Metals Property, Gerow Township, Sudbury Mining Division, Ontario", with an effective date of February 21, 2018.
8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.
9. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: March 2, 2022
Signed Date: April 14, 2022

{SIGNED AND SEALED}
[Jarita Barry]

_____
Jarita Barry, P.Geo.

CERTIFICATE OF QUALIFIED PERSON

D. GRANT FEASBY, P. ENG.

I, D. Grant Feasby, P. Eng., residing at 12,209 Hwy 38, Tichborne, Ontario, K0H 2V0, do hereby certify that:

1. I am currently the Owner and President of:
   FEAS - Feasby Environmental Advantage Services
   38 Gwynne Ave, Ottawa, K1Y1W9
2. This certificate applies to the Technical Report titled "Technical Report and Updated Mineral Resource Estimate on the East Bull Palladium Property, Gerow Township, Sudbury Mining Division, Ontario", (The "Technical Report") with an effective date of March 2, 2022.
3. I graduated from Queens University in Kingston Ontario, in 1964 with a Bachelor of Applied Science in Metallurgical Engineering, and a Master of Applied Science in Metallurgical Engineering in 1966. I am a Professional Engineer registered with Professional Engineers Ontario. I have worked as a metallurgical engineer for over 50 years since my graduation from university.

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

   My relevant experience for the purpose of the Technical Report has been acquired by the following activities:
   - Metallurgist, Base Metal Processing Plant.
   - Research Engineer and Lab Manager, Industrial Minerals Laboratories in USA and Canada.
   - Research Engineer, Metallurgist and Plant Manager in the Canadian Uranium Industry.
   - Manager of Canadian National Programs on Uranium and Acid Generating Mine Tailings.
   - Director, Environment, Canadian Mineral Research Laboratory.
   - Senior Technical Manager, for large gold and bauxite mining operations in South America.
   - Expert Independent Consultant associated with several companies, including P&E Mining Consultants, on mineral processing, environmental management, and mineral-based radiation assessment.
4. I have not visited the Property that is the subject of this Technical Report.
5. I am responsible for authoring Sections 13 and 20, and co-authoring Sections 1, 25 and 26 of this Technical Report.
6. I am independent of the issuer applying the test in Section 1.5 of NI 43-101.
7. I have had no prior involvement with the Project that is the subject of this Technical Report.
8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.
9. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: March 2, 2022
Signed Date: April 14, 2022

{SIGNED AND SEALED}
[D. Grant Feasby]

_____

D. Grant Feasby, P.Eng.

CERTIFICATE OF QUALIFIED PERSON

ANTOINE R. YASSA, P.GEO.

I, Antoine R. Yassa, P.Geo. residing at 3602 Rang des Cavaliers, Rouyn-Noranda, Quebec, J0Z 1Y2, do hereby certify that:

1. I am an independent geological consultant contracted by P&E Mining Consultants Inc.
2. This certificate applies to the Technical Report titled "Technical Report and Updated Mineral Resource Estimate on the East Bull Palladium Property, Gerow Township, Sudbury Mining Division, Ontario", (The "Technical Report") with an effective date of March 2, 2022.
3. I am a graduate of Ottawa University at Ottawa, Ontario with a B. Sc (HONS) in Geological Sciences (1977) with continuous experience as a geologist since 1979. I am a geological consultant currently licensed by the Order of Geologists of Québec (License No 224) and by the Association of Professional Geoscientist of Ontario (License No 1890);

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

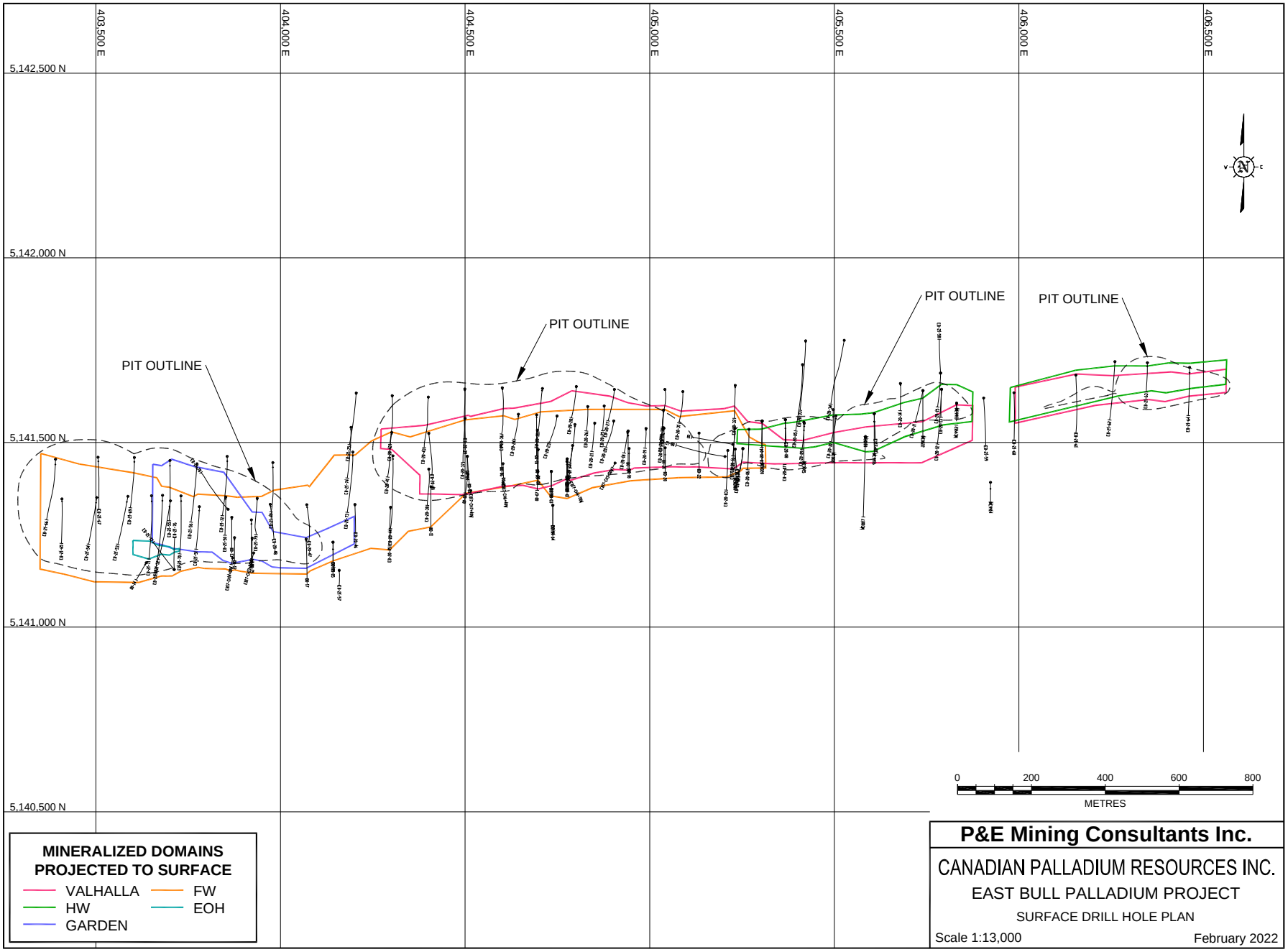
   My relevant experience for the purpose of the Technical Report is:
   - Minex Geologist (Val d'Or), 3-D Modeling (Timmins), Placer Dome 1993-1995
   - Database Manager, Senior Geologist, West Africa, PDX, 1996-1998
   - Senior Geologist, Database Manager, McWatters Mine 1998-2000
   - Database Manager, Gemcom modeling and Resources Evaluation (Kiena Mine) 2001-2003
   - Database Manager and Resources Evaluation at Julietta Mine, Bema Gold Corp. 2003-2006
   - Consulting Geologist 2006-present
4. I have visited the Property that is the subject of this Technical Report on October 14, 2021, and previously on October 31 and November 1, 2017.
5. I am responsible for co-authoring Sections 1, 12, 14, 25, and 26 of this Technical Report.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101. I am independent of the Vendor and the Property.
7. have had prior involvement with the Project that is the subject of this Technical Report. I was a "Qualified Person" for a Technical Report titled "NI 43-101 Technical Report and Initial Mineral Resource Estimate on the East Bull Platinum Group Metals Property, Gerow Township, Sudbury Mining Division, Ontario", with an effective date of April 15, 2019; and NI 43-101 Technical Report and Initial Mineral Resource Estimate on the East Bull Platinum Group Metals Property, Gerow Township, Sudbury Mining Division, Ontario", with an effective date of February 21, 2018.
8. I have read NI 43-101 and Form 43-101F1. This Technical Report has been prepared in compliance therewith.
9. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: March 2, 2022
Signed Date: April 14, 2022

{SIGNED AND SEALED}
[Antoine R. Yassa]

_____
Antoine R. Yassa, P.Geo.

APPENDIX A DRILL HOLE PLAN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405,000 E
405,500 E
406,000 E
406,500 E
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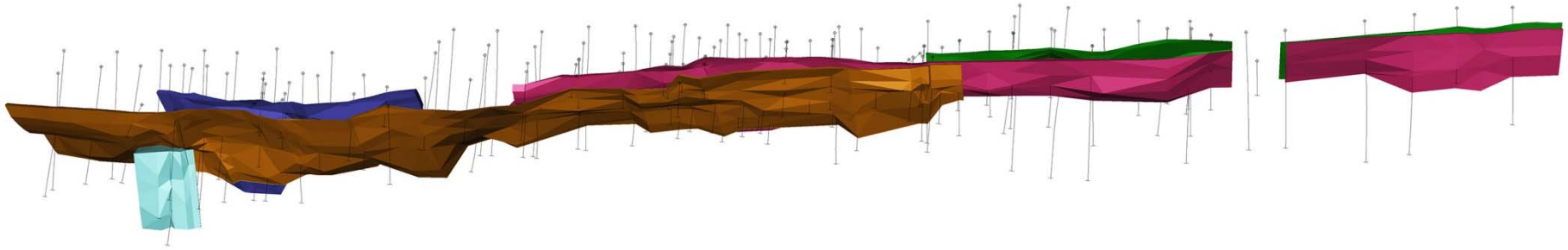
5,142,000 N
5,141,500 N
5,141,000 N
5,140,500 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
0
200
400
600
800
METRES
MINERALIZED DOMAINS
PROJECTED TO SURFACE
VALHALLA
FW
HW
EOH
GARDEN
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
SURFACE DRILL HOLE PLAN
Scale 1:13,000
February 2022

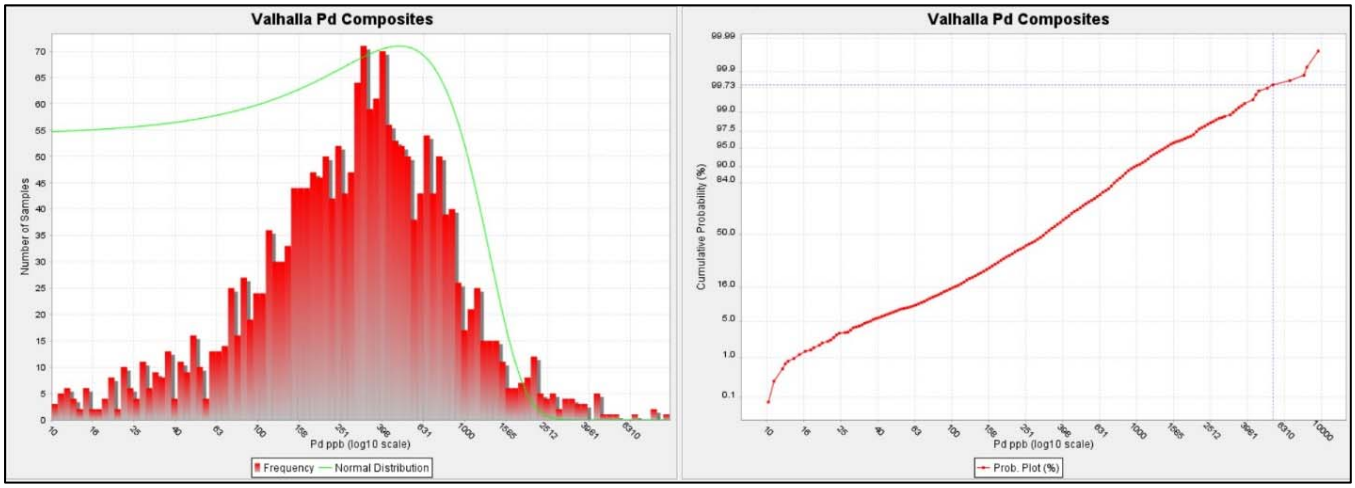
APPENDIX B 3-D DOMAINS

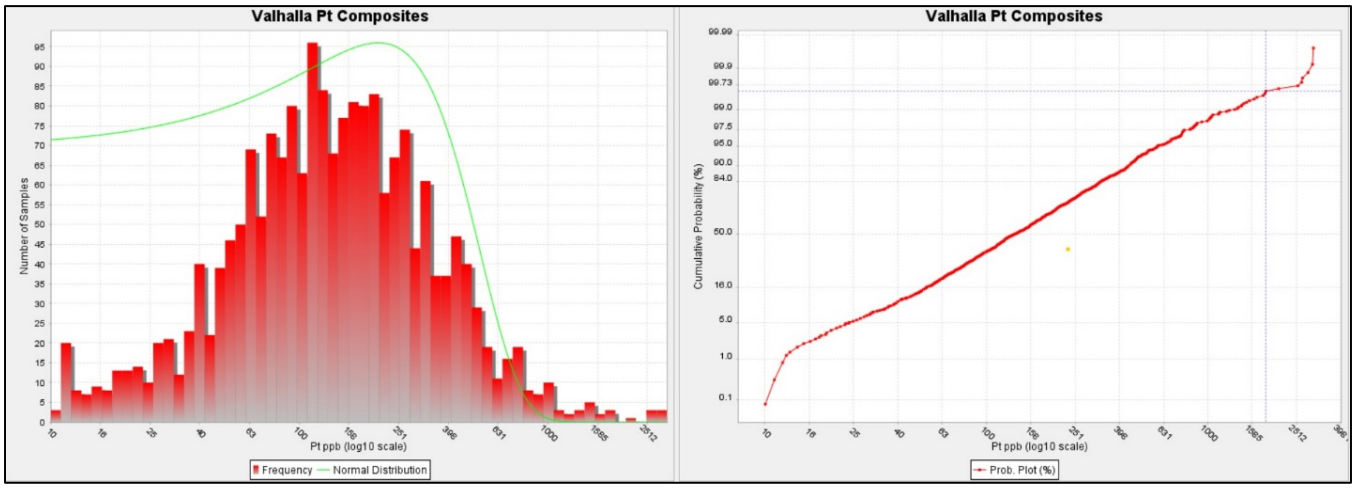
EAST BULL PALLADIUM PROJECT
3D DOMAINS

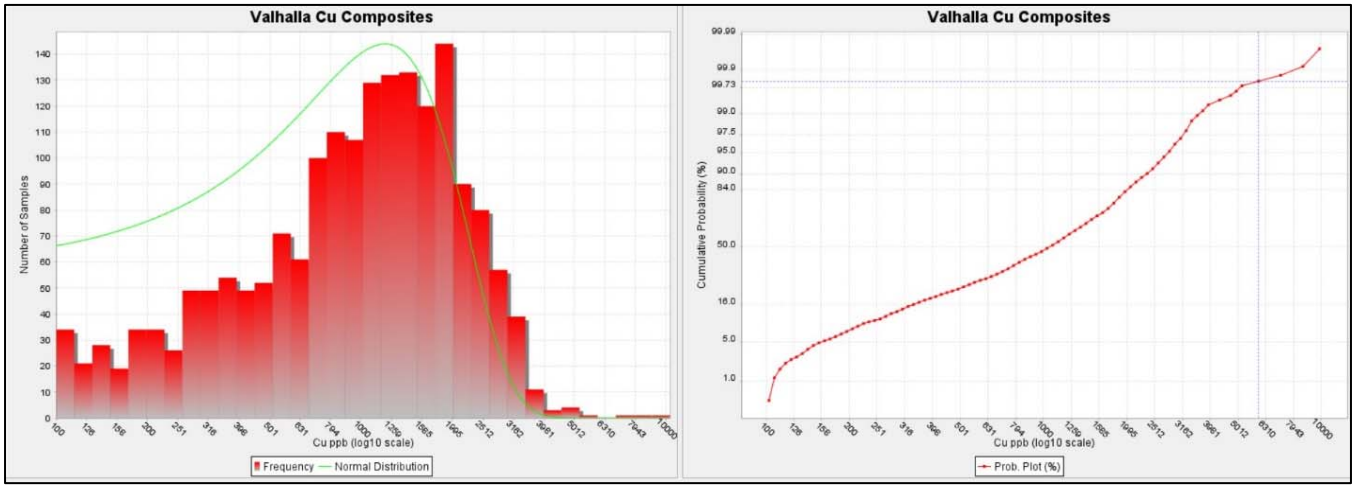


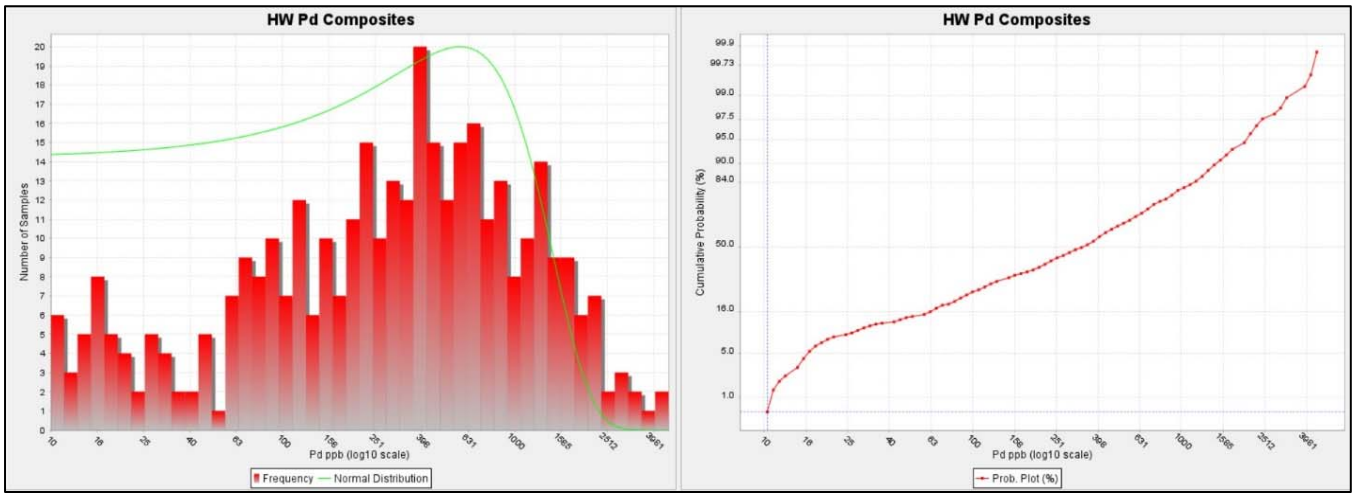
DOMAINS
VALHALLA
HW
GARDEN
FW
EOH

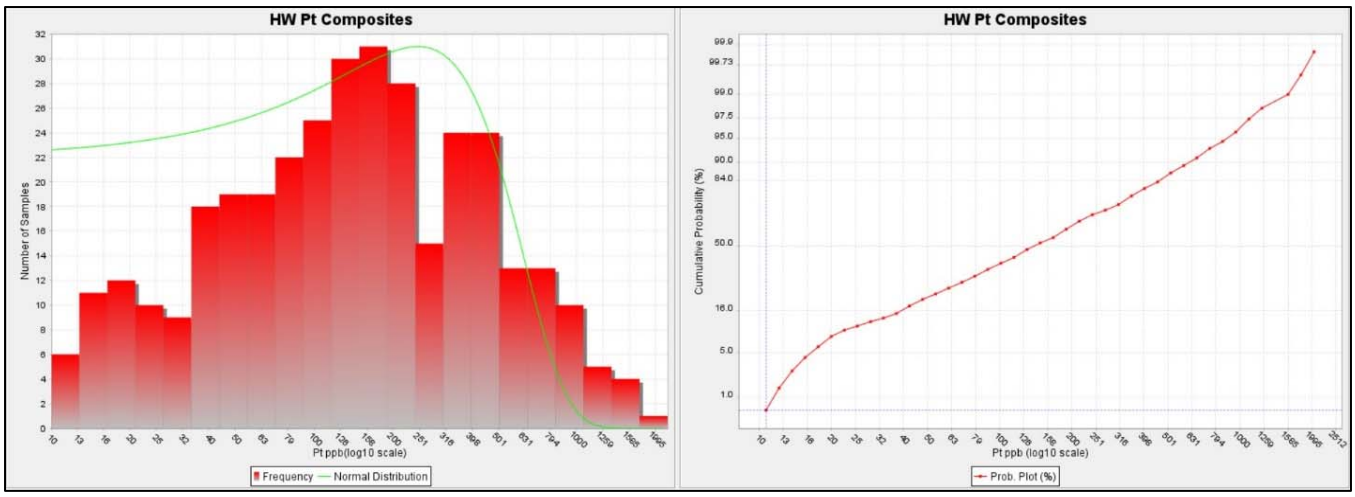
APPENDIX C LOG NORMAL HISTOGRAMS AND PROBABILITY PLOTS

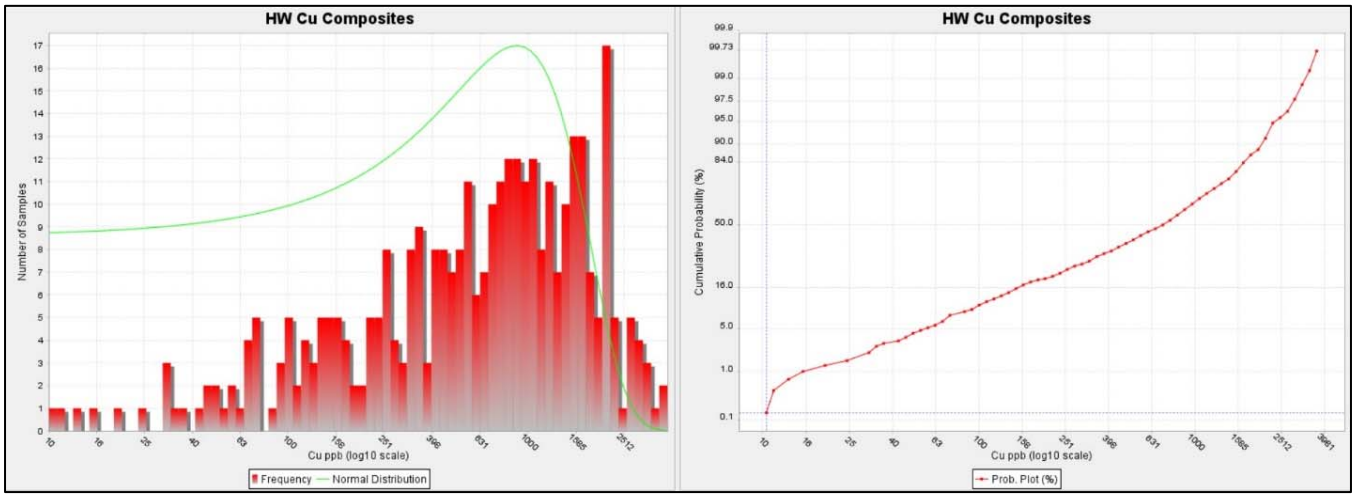


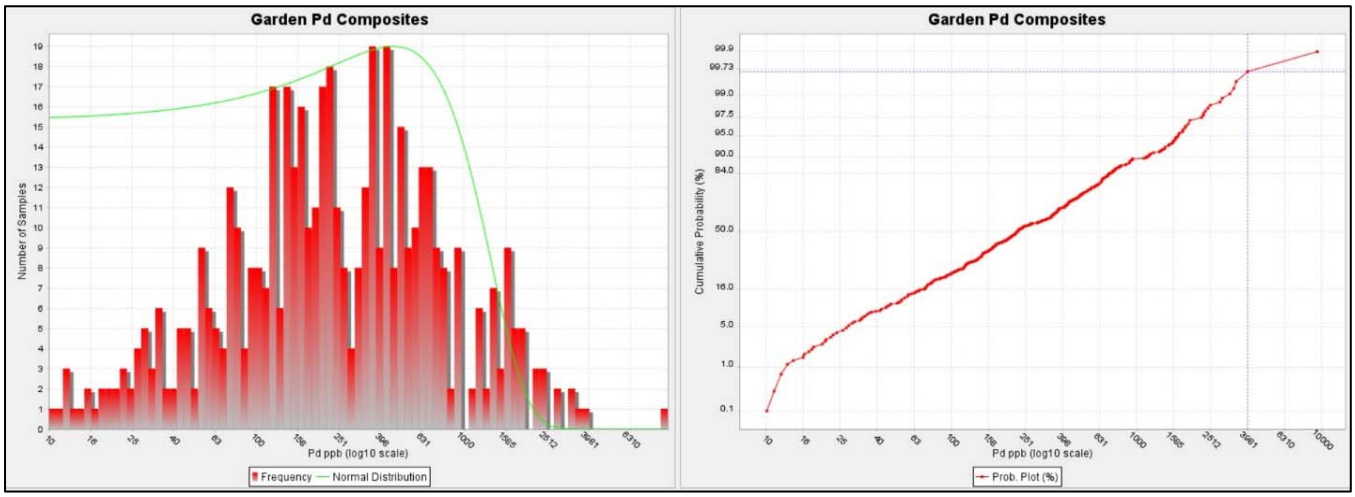


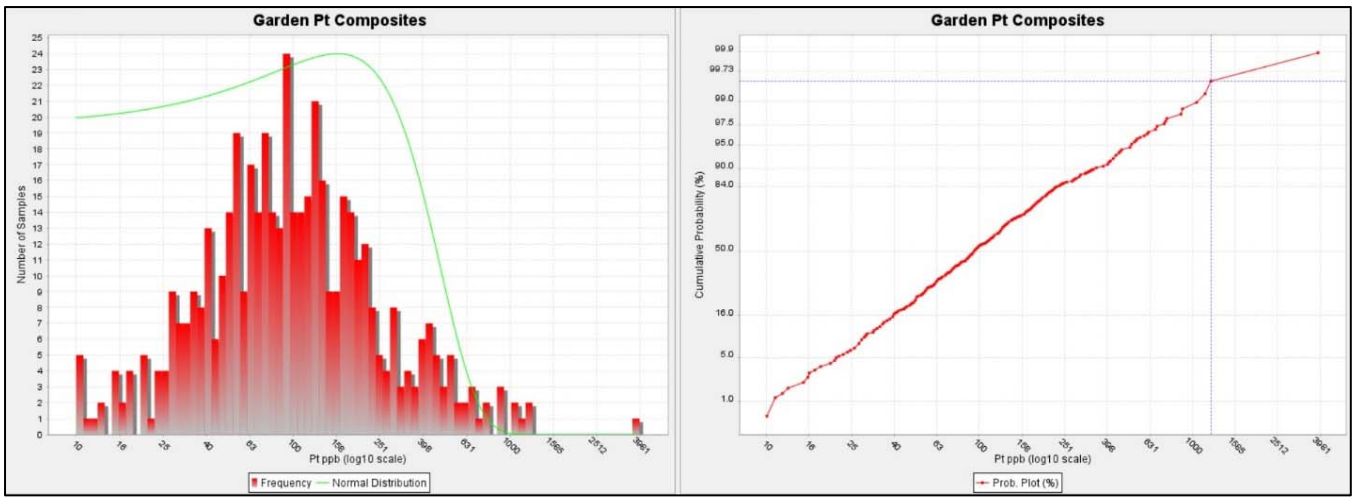


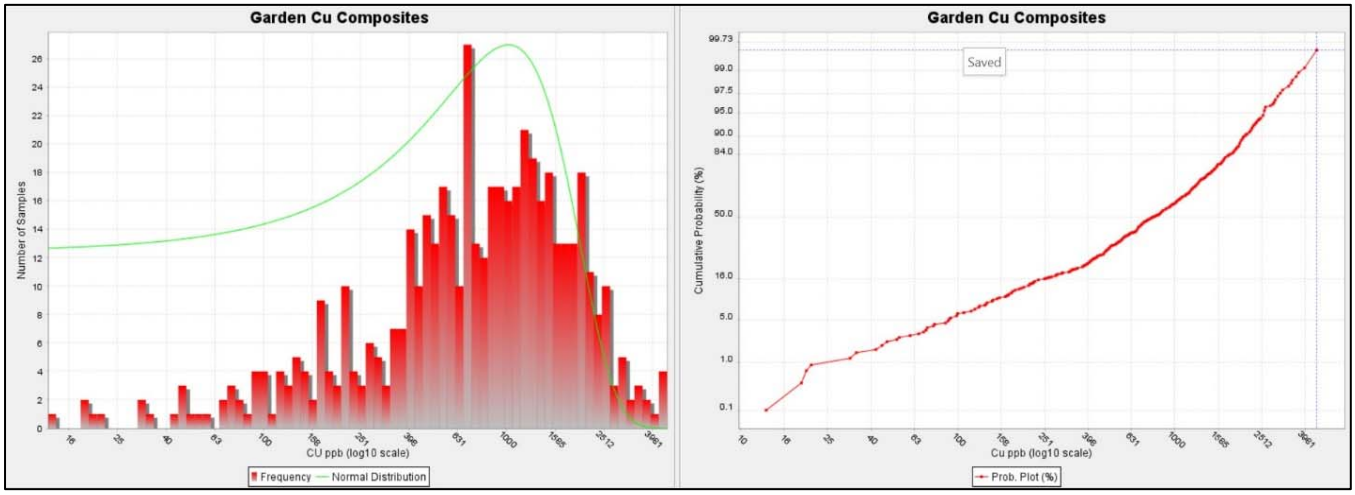

HW Pd Composites
Number of Samples
Pd ppb (log10 scale)
Frequency
Normal Distribution
HW Pd Composites
Cumulative Probability (%)
Pd ppb (log10 scale)
Prob. Plot (%)

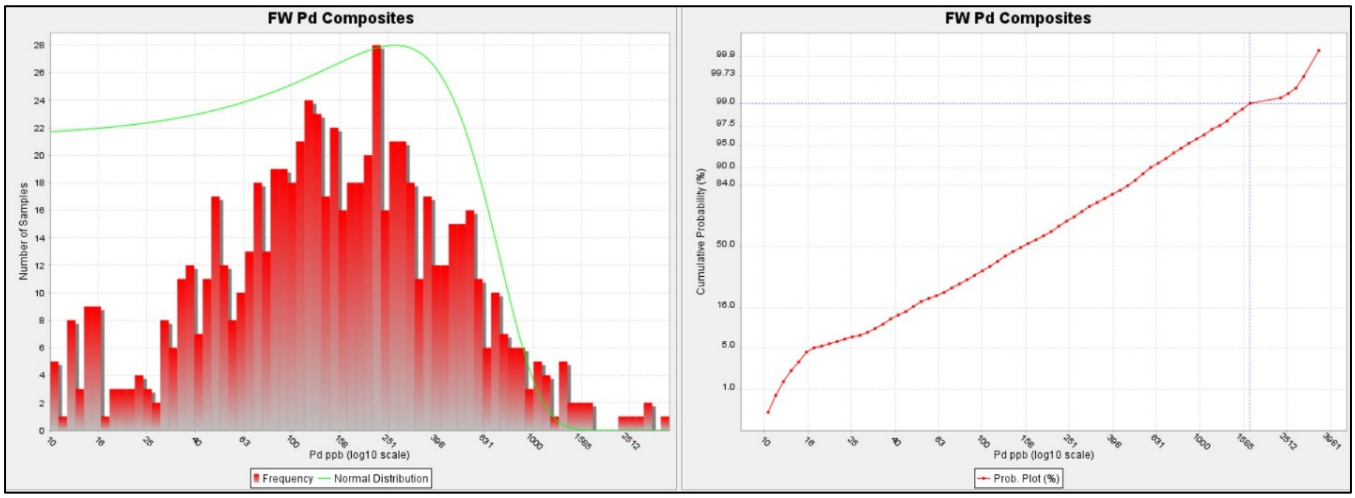

HW Pt Composites
Number of Samples
Pt ppb(log10 scale)
Frequency
Normal Distribution
HW Pt Composites
Cumulative Probability (%)
Pt ppb (log10 scale)
Prob. Plot (%)

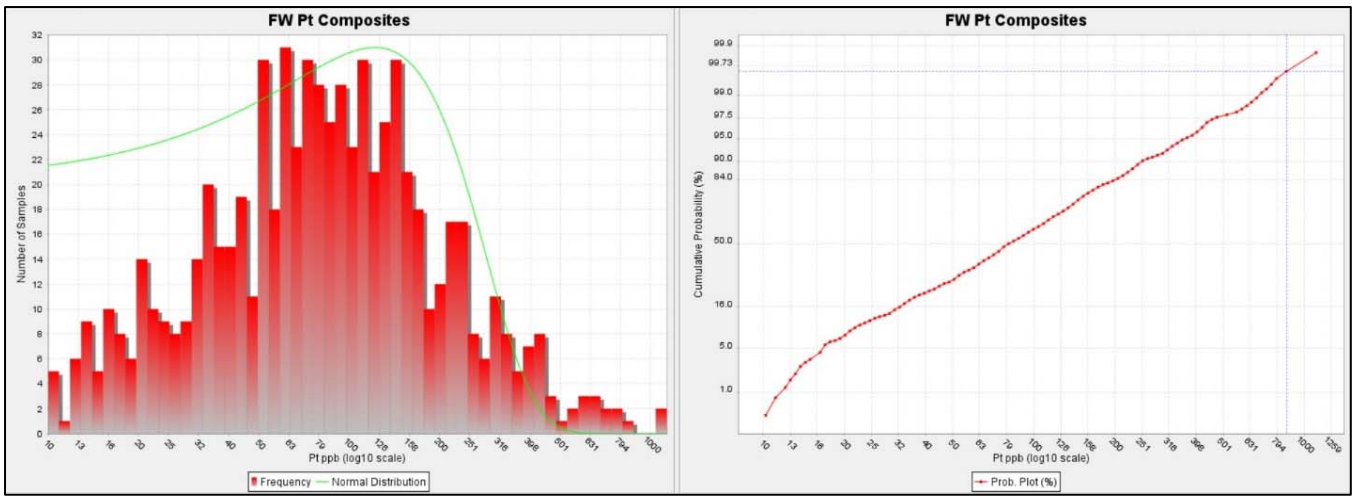

HW Cu Composites
Number of Samples
Cu ppb (log10 scale)
Frequency
Normal Distribution
HW Cu Composites
Cumulative Probability (%)
Cu ppb (log10 scale)
Prob. Plot (%)

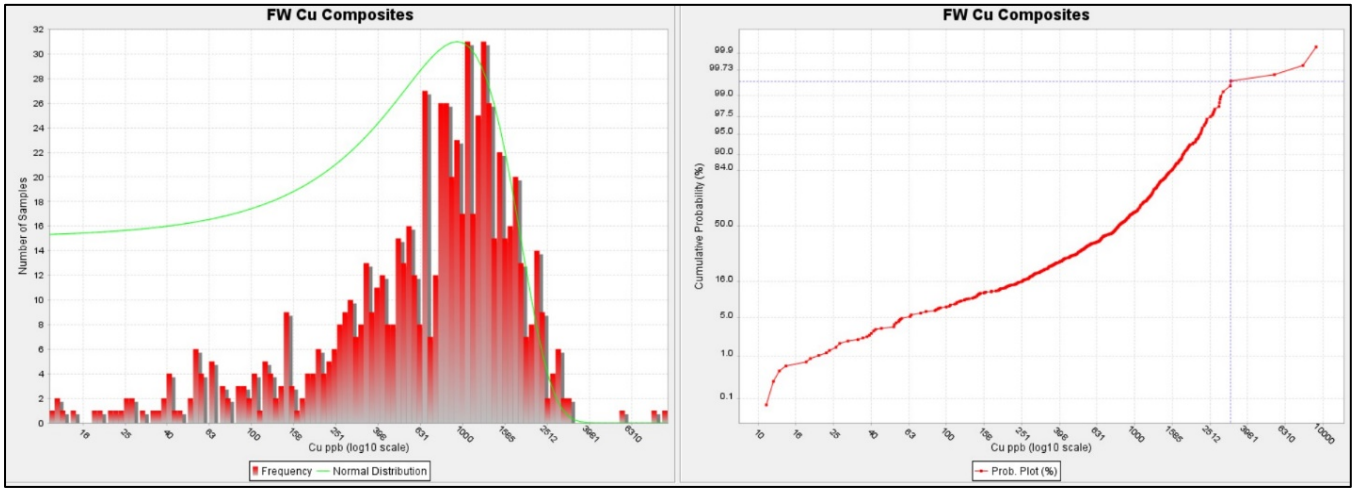

Garden Pd Composites
Number of Samples
Pd ppb (log10 scale)
Frequency
Normal Distribution
Garden Pd Composites
Cumulative Probability (%)
Pd ppb (log10 scale)
Prob. Plot (%)


Garden Pt Composites
Number of Samples
Pt ppb (log10 scale)
Frequency
Normal Distribution
Garden Pt Composites
Cumulative Probability (%)
Pt ppb (log10 scale)
Prob. Plot (%)

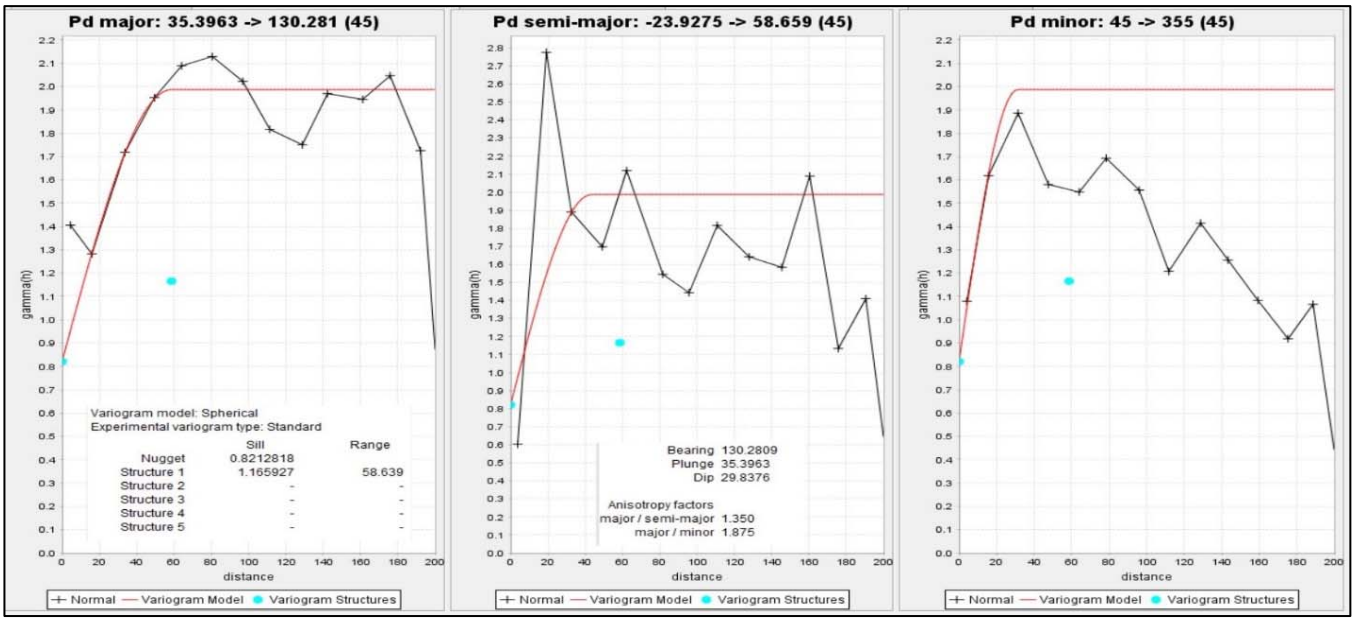

Garden Cu Composites
Number of Samples
CU ppb (log10 scale)
Frequency
Normal Distribution
Garden Cu Composites
Saved
Cumulative Probability (%)
Cu ppb (log10 scale)
Prob. Plot (%)


FW Pd Composites
Number of Samples
Pd ppb (log10 scale)
Frequency
Normal Distribution
FW Pd Composites
Cumulative Probability (%)
Pd ppb (log10 scale)
Prob. Plot (%)

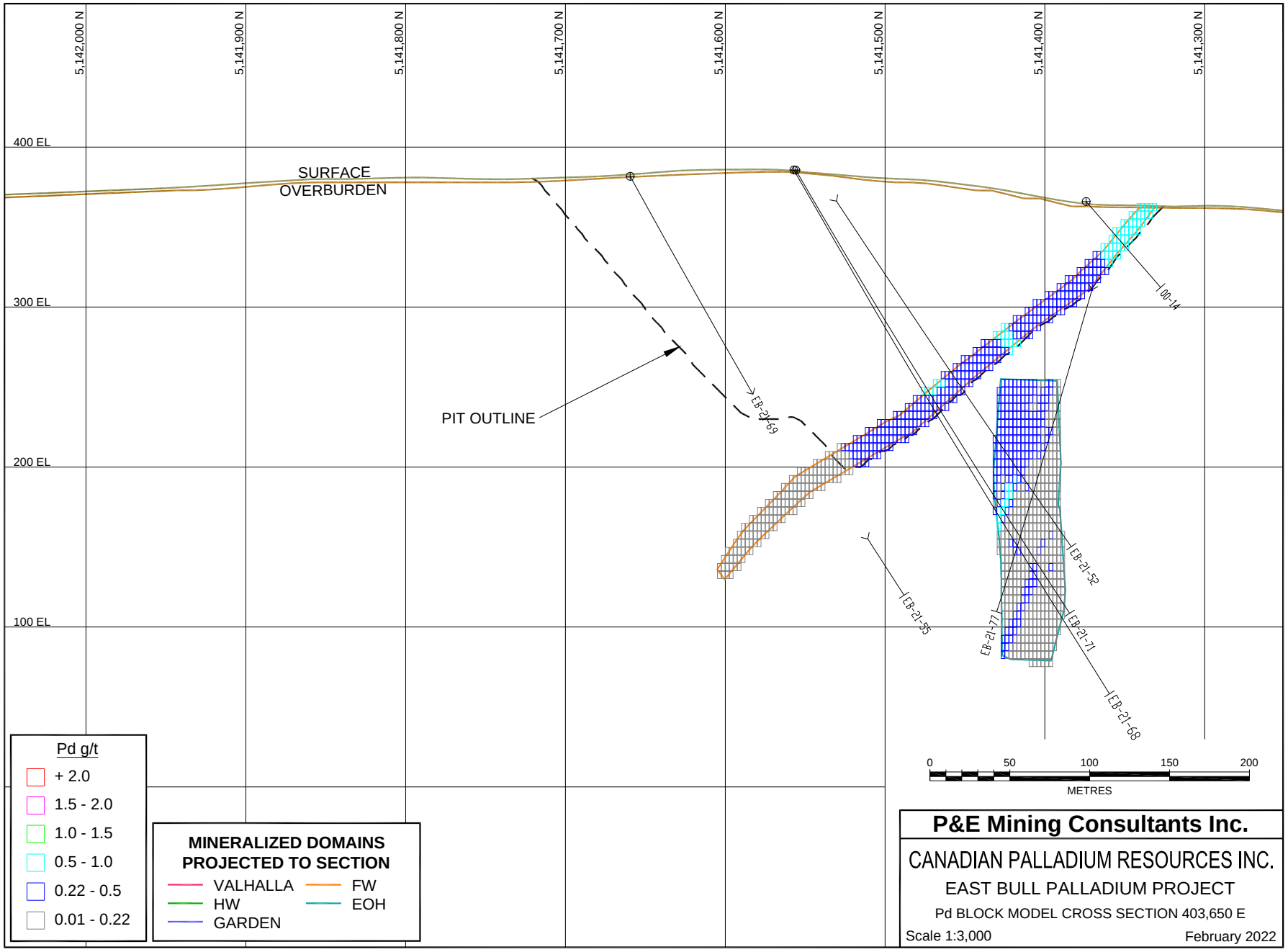

FW Pt Composites
Number of Samples
Pt ppb (log10 scale)
Frequency
Normal Distribution
FW Pt Composites
Cumulative Probability (%)
Pt ppb (log10 scale)
Prob. Plot (%)


FW Cu Composites
Number of Samples
Cu ppb (log10 scale)
Frequency
Normal Distribution
FW Cu Composites
Cumulative Probability (%)
Cu ppb (log10 scale)
Prob. Plot (%)

APPENDIX D VARIOGRAMS



APPENDIX E PD BLOCK MODEL CROSS SECTIONS AND PLANS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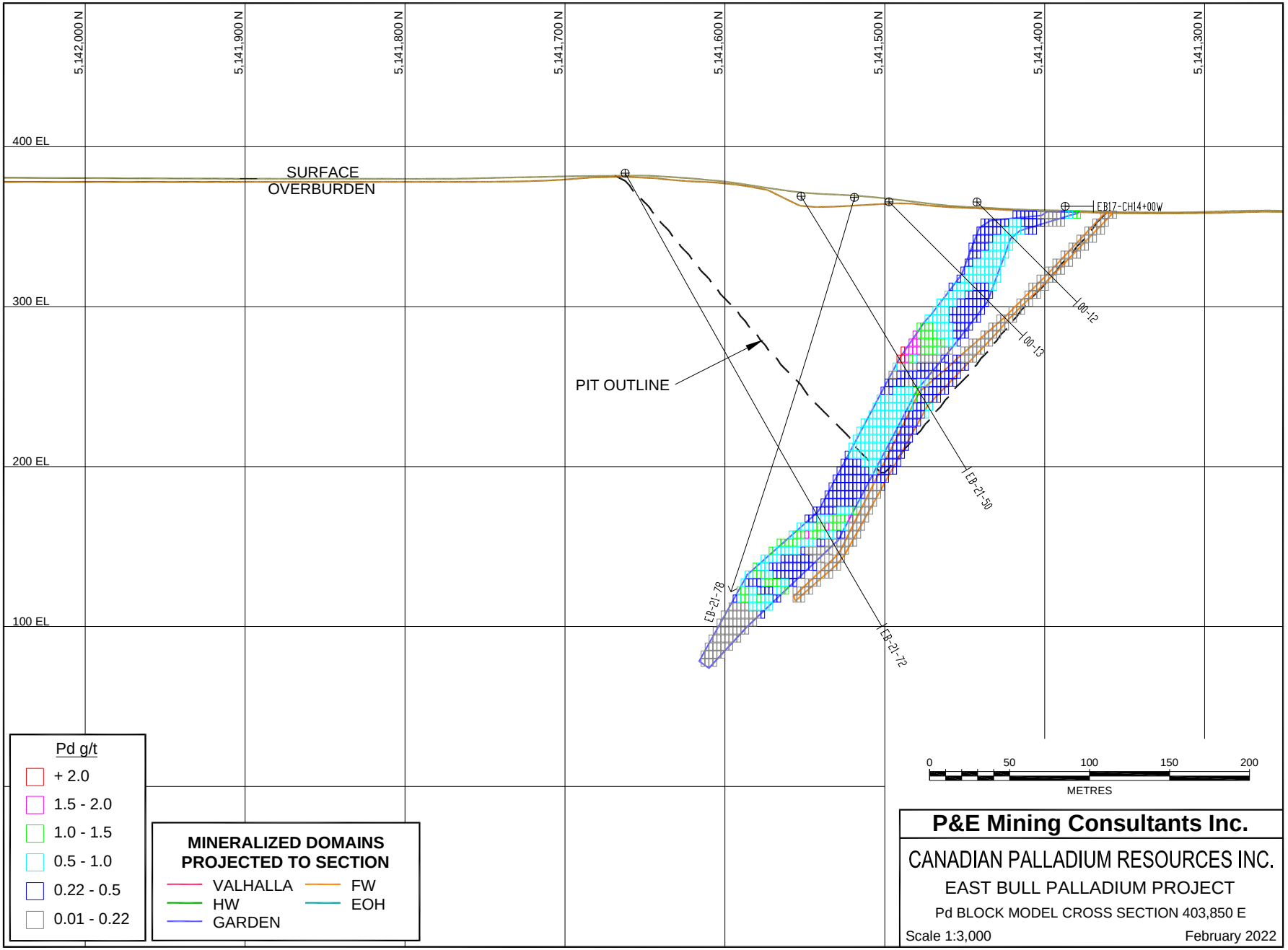
5,141,900 N
5,141,800 N
5,141,700 N
5,141,600 N
5,141,500 N
5,141,400 N
5,141,300 N
400 EL
300 EL
200 EL
100 EL
SURFACE
OVERBURDEN
PIT OUTLINE
EB-21-69
00-14
EB-21-52
EB-21-55
EB-21-77
EB-21-71
EB-21-68
Pd g/t
+ 2.0
1.5 - 2.0
1.0 - 1.5
0.5 - 1.0
0.22 - 0.5
0.01 - 0.22
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
HW
GARDEN
FW
EOH
0
50
100
150
200
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
Pd BLOCK MODEL CROSS SECTION 403,650 E
Scale 1:3,000
February 2022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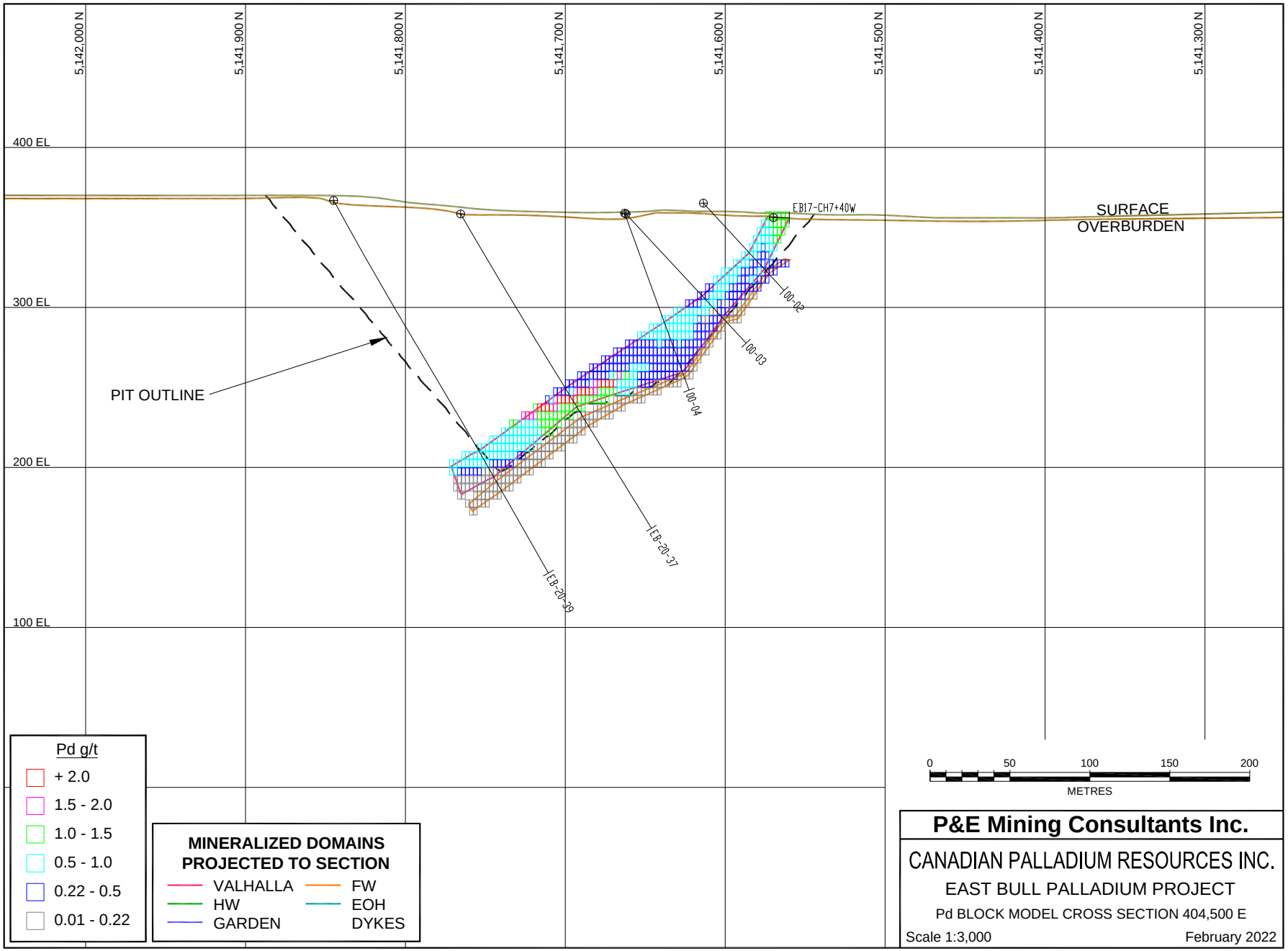
5,141,900 N
5,141,800 N
5,141,700 N
5,141,600 N
5,141,500 N
5,141,400 N
5,141,300 N
400 EL
300 EL
200 EL
100 EL
SURFACE
OVERBURDEN
PIT OUTLINE
EB17-CH14+00W
100-12
100-13
EB-21-50
EB-21-78
EB-21-72
Pd g/t
+ 2.0
1.5 - 2.0
1.0 - 1.5
0.5 - 1.0
0.22 - 0.5
0.01 - 0.22
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
HW
GARDEN
FW
EOH
0
50
100
150
200
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
Pd BLOCK MODEL CROSS SECTION 403,850 E
Scale 1:3,000
February 2022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5,141,800 N
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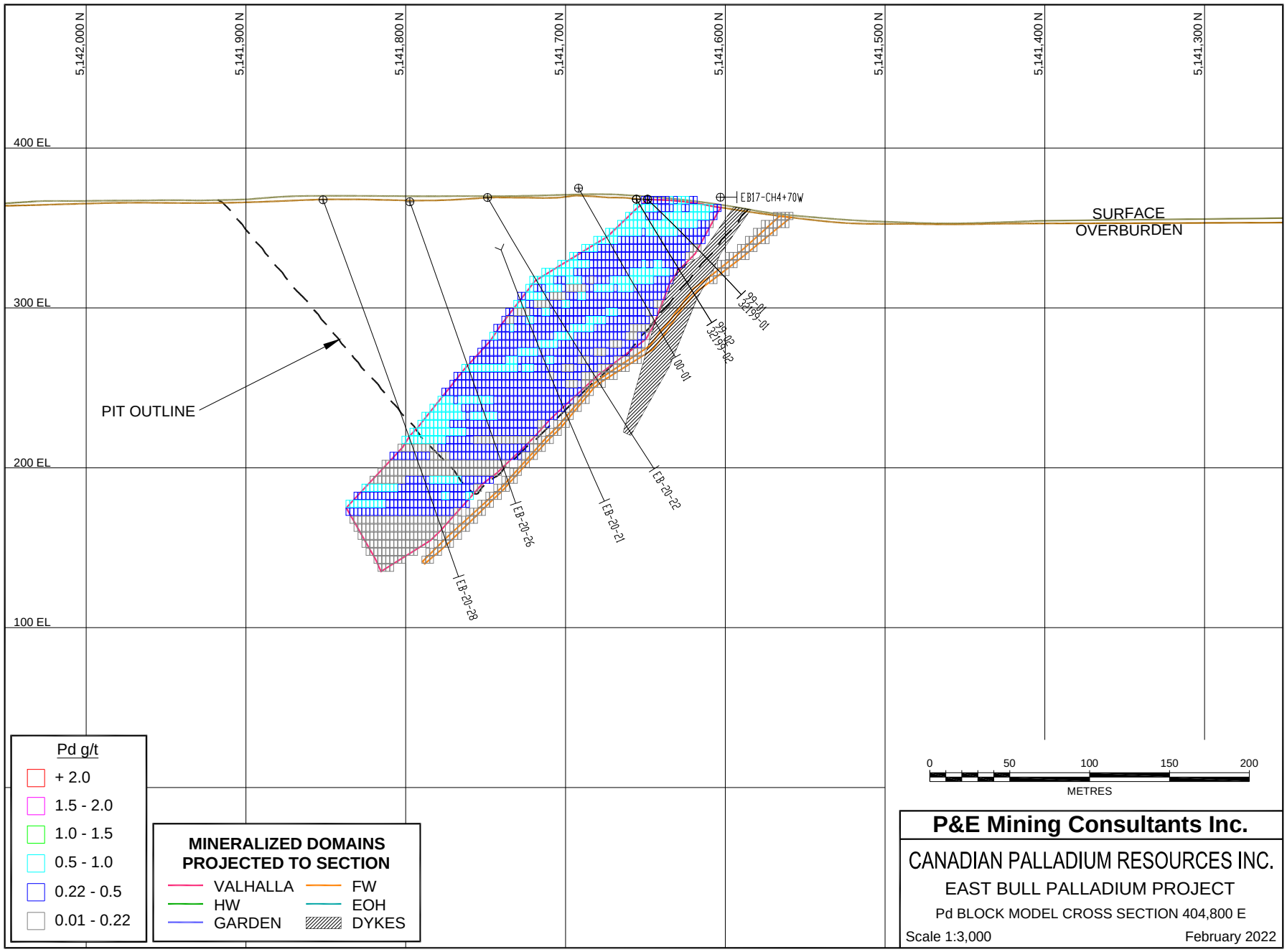
5,141,500 N
5,141,400 N
5,141,300 N
400 EL
300 EL
200 EL
100 EL
EB17-CH7+40W
SURFACE
OVERBURDEN
PIT OUTLINE
00-02
00-03
00-04
EB-20-37
EB-20-39
Pd g/t
+ 2.0
1.5 - 2.0
1.0 - 1.5
0.5 - 1.0
0.22 - 0.5
0.01 - 0.22
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
50
100
150
200
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
Pd BLOCK MODEL CROSS SECTION 404,500 E
Scale 1:3,000
February 2022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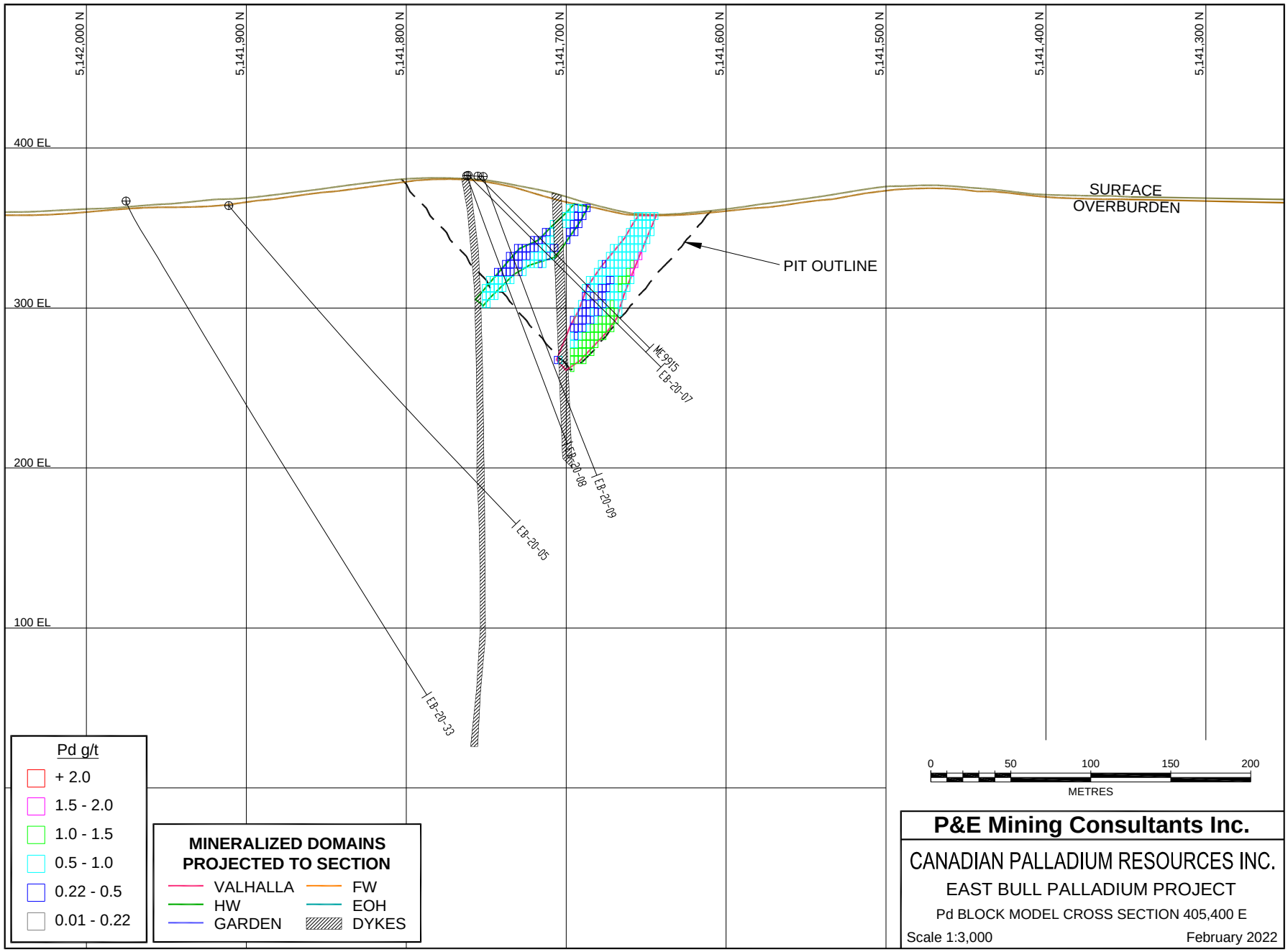
5,141,400 N
5,141,300 N
400 EL
300 EL
200 EL
100 EL
EB17-CH4+70W
SURFACE
OVERBURDEN
PIT OUTLINE
99-01
99-01
99-02
99-02
00-01
EB-20-22
EB-20-21
EB-20-26
EB-20-28
Pd g/t
+ 2.0
1.5 - 2.0
1.0 - 1.5
0.5 - 1.0
0.22 - 0.5
0.01 - 0.22
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
50
100
150
200
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
Pd BLOCK MODEL CROSS SECTION 404,800 E
Scale 1:3,000
February 2022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5,141,900 N
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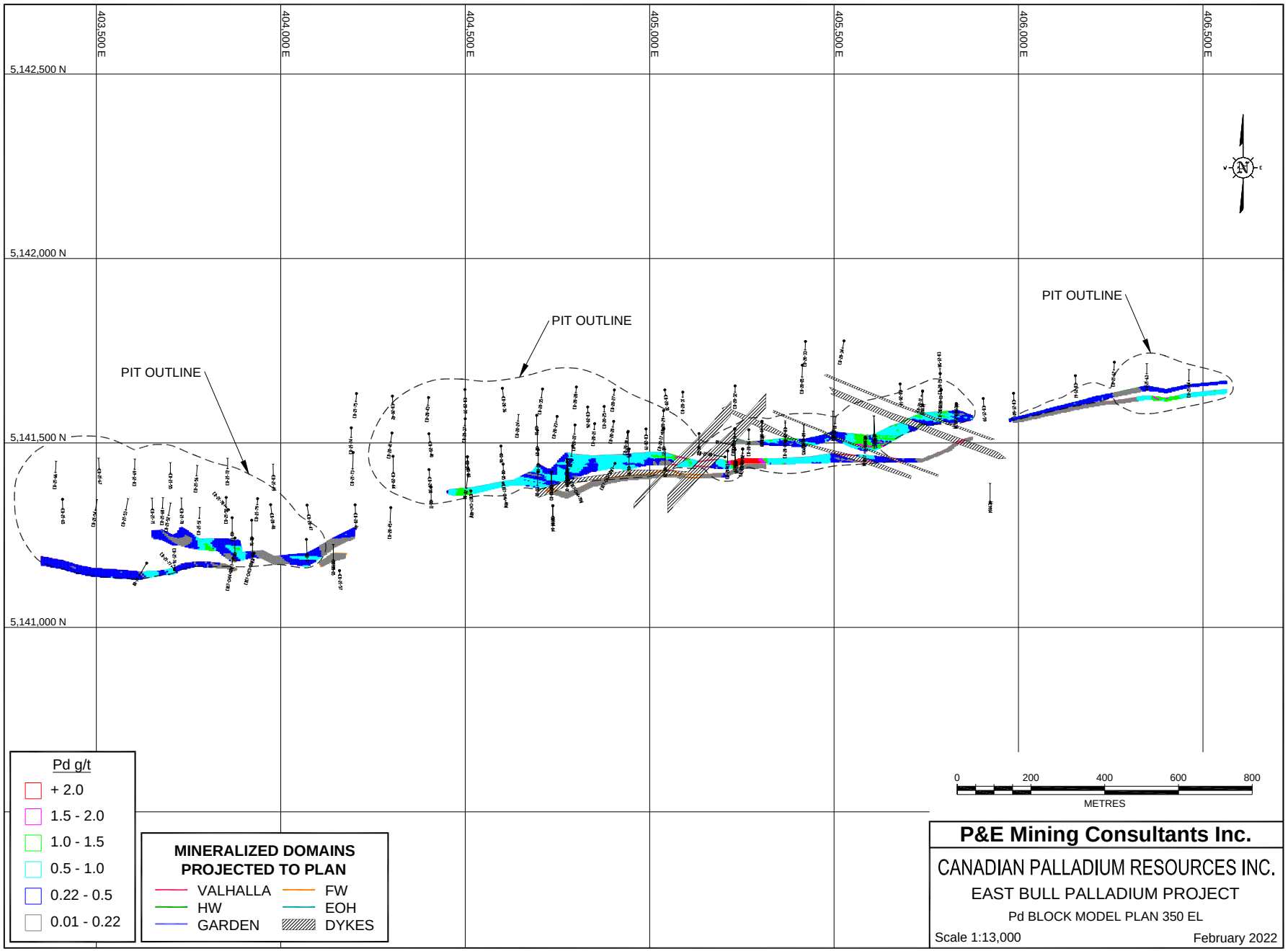
5,141,700 N
5,141,600 N
5,141,500 N
5,141,400 N
5,141,300 N
400 EL
300 EL
200 EL
100 EL
SURFACE
OVERBURDEN
PIT OUTLINE
ME9915
EB-20-07
EB-20-08
EB-20-09
EB-20-05
EB-20-33
Pd g/t
+ 2.0
1.5 - 2.0
1.0 - 1.5
0.5 - 1.0
0.22 - 0.5
0.01 - 0.22
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
50
100
150
200
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
Pd BLOCK MODEL CROSS SECTION 405,400 E
Scale 1:3,000
February 2022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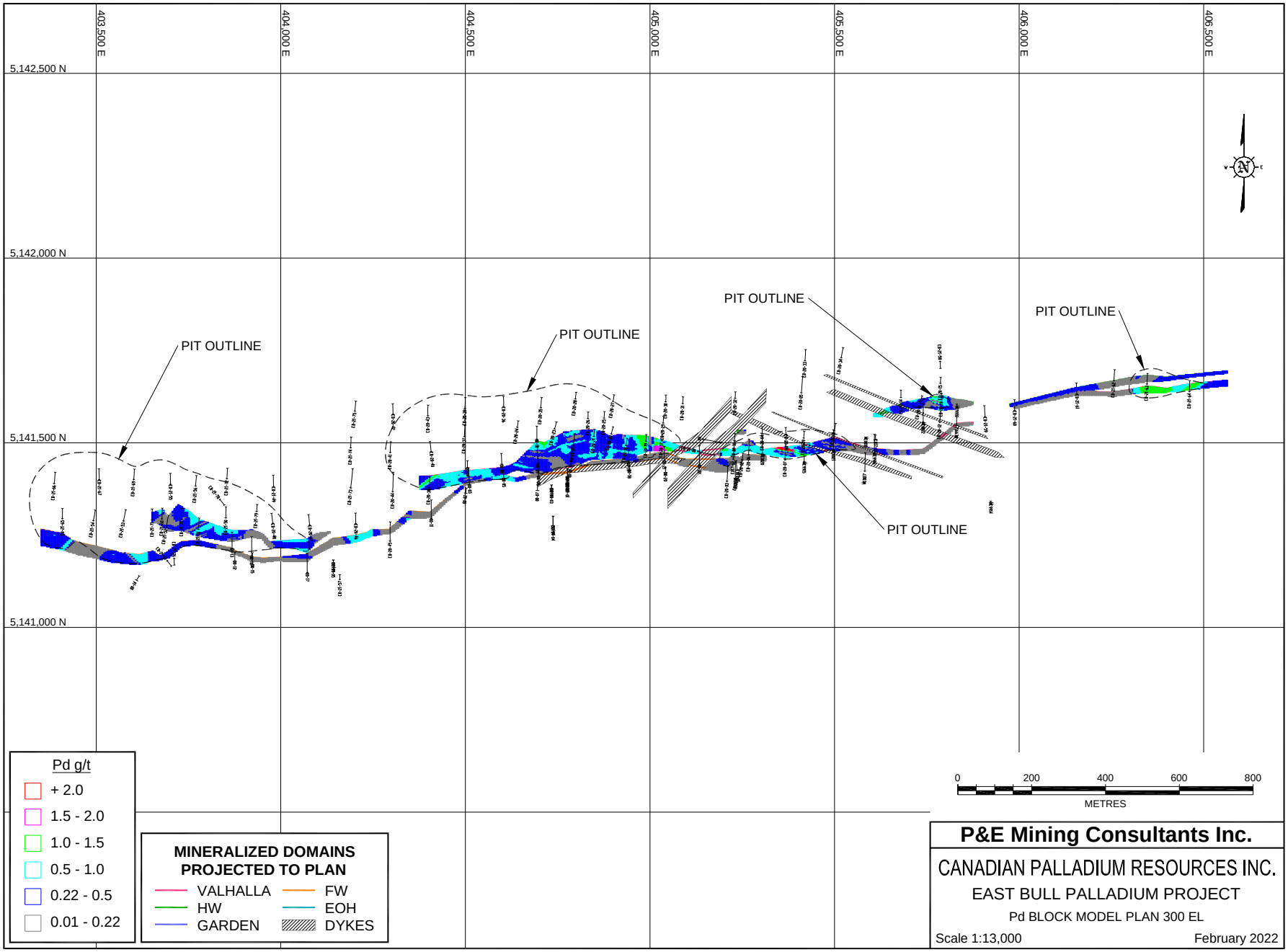
406,500 E
5,142,500 N
5,142,000 N
5,141,500 N
5,141,000 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
Pd g/t
+ 2.0
1.5 - 2.0
1.0 - 1.5
0.5 - 1.0
0.22 - 0.5
0.01 - 0.22
MINERALIZED DOMAINS PROJECTED TO PLAN
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
200
400
600
800
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
Pd BLOCK MODEL PLAN 350 EL
Scale 1:13,000
February 2022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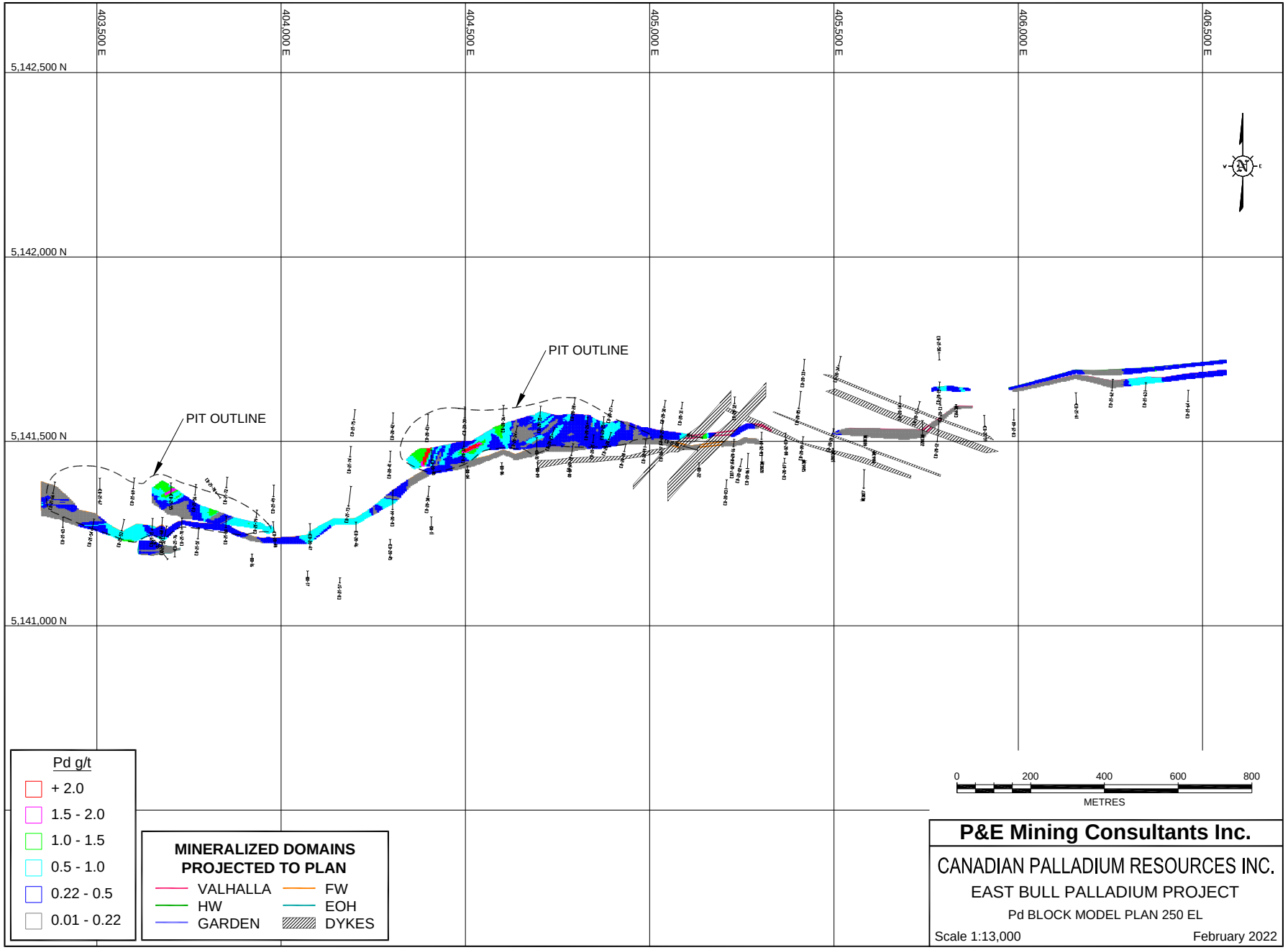
5,141,000 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
Pd g/t
+ 2.0
1.5 - 2.0
1.0 - 1.5
0.5 - 1.0
0.22 - 0.5
0.01 - 0.22
MINERALIZED DOMAINS PROJECTED TO PLAN
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
200
400
600
800
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
Pd BLOCK MODEL PLAN 300 EL
Scale 1:13,000
February 2022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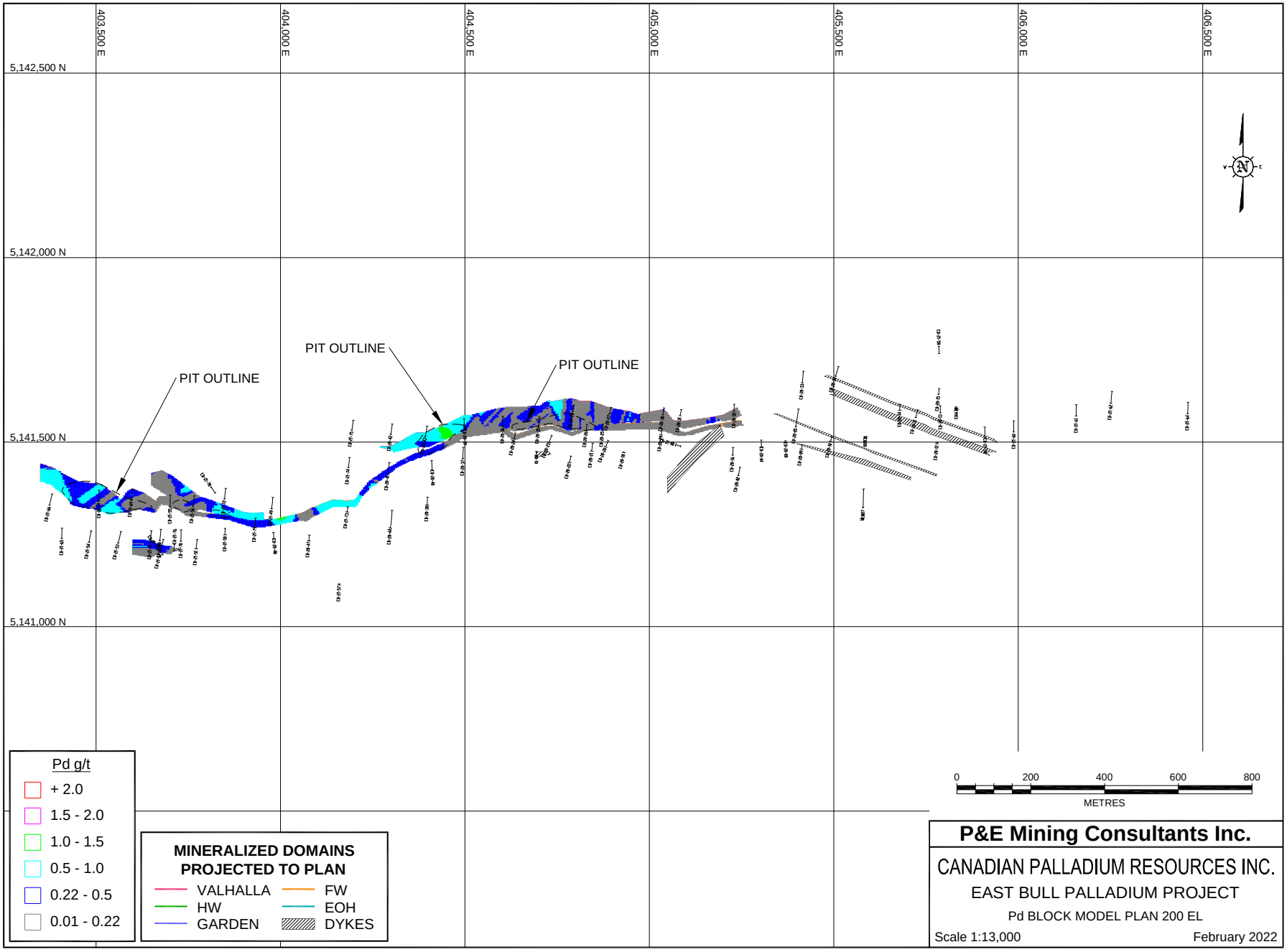
5,141,000 N
PIT OUTLINE
PIT OUTLINE
Pd g/t
+ 2.0
1.5 - 2.0
1.0 - 1.5
0.5 - 1.0
0.22 - 0.5
0.01 - 0.22
MINERALIZED DOMAINS
PROJECTED TO PLAN
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
200
400
600
800
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
Pd BLOCK MODEL PLAN 250 EL
Scale 1:13,000
February 2022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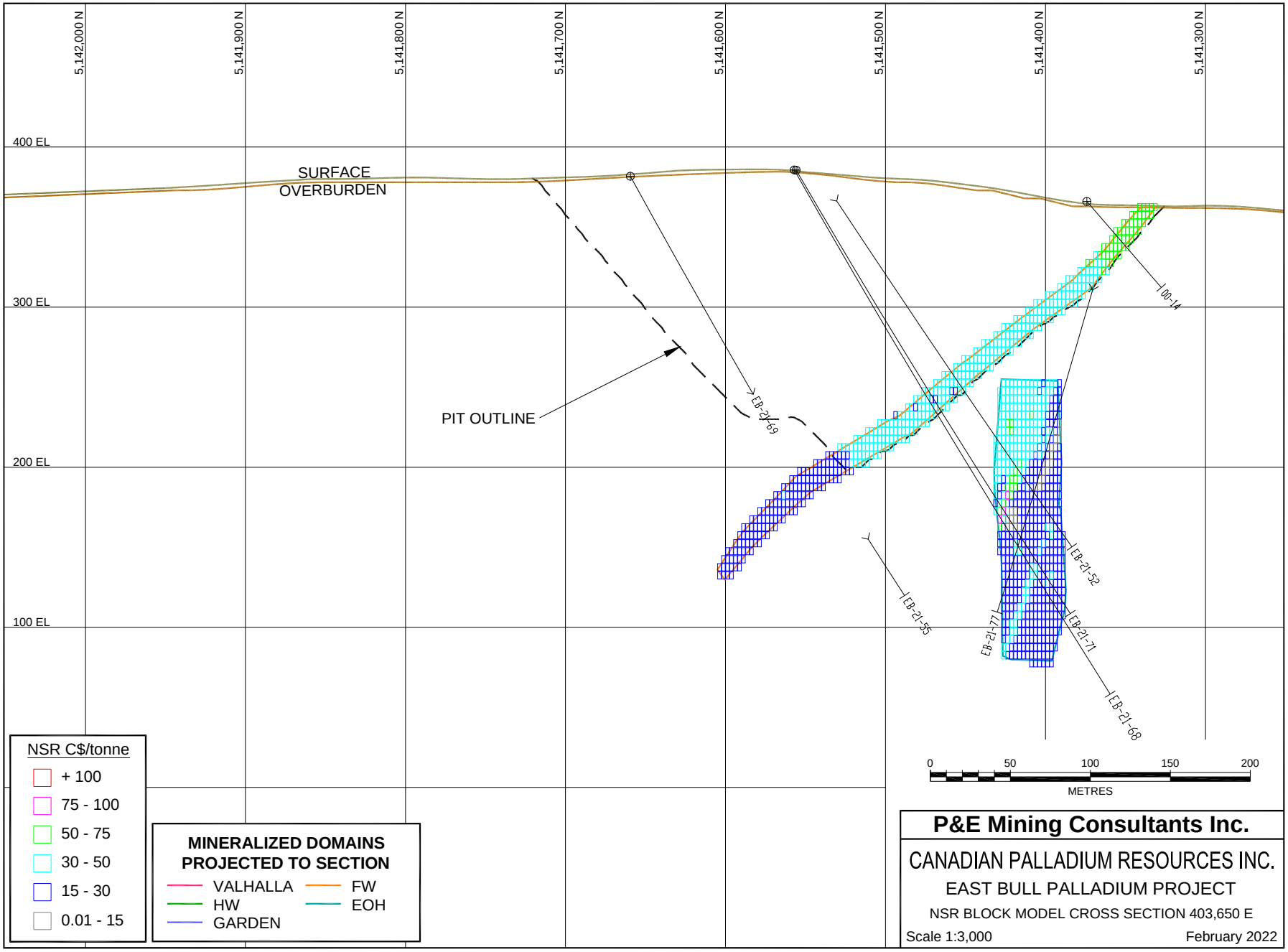
5,141,000 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
Pd g/t
+ 2.0
1.5 - 2.0
1.0 - 1.5
0.5 - 1.0
0.22 - 0.5
0.01 - 0.22
MINERALIZED DOMAINS
PROJECTED TO PLAN
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
200
400
600
800
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
Pd BLOCK MODEL PLAN 200 EL
Scale 1:13,000
February 2022

APPENDIX F NSR BLOCK MODEL CROSS SECTIONS AND PLANS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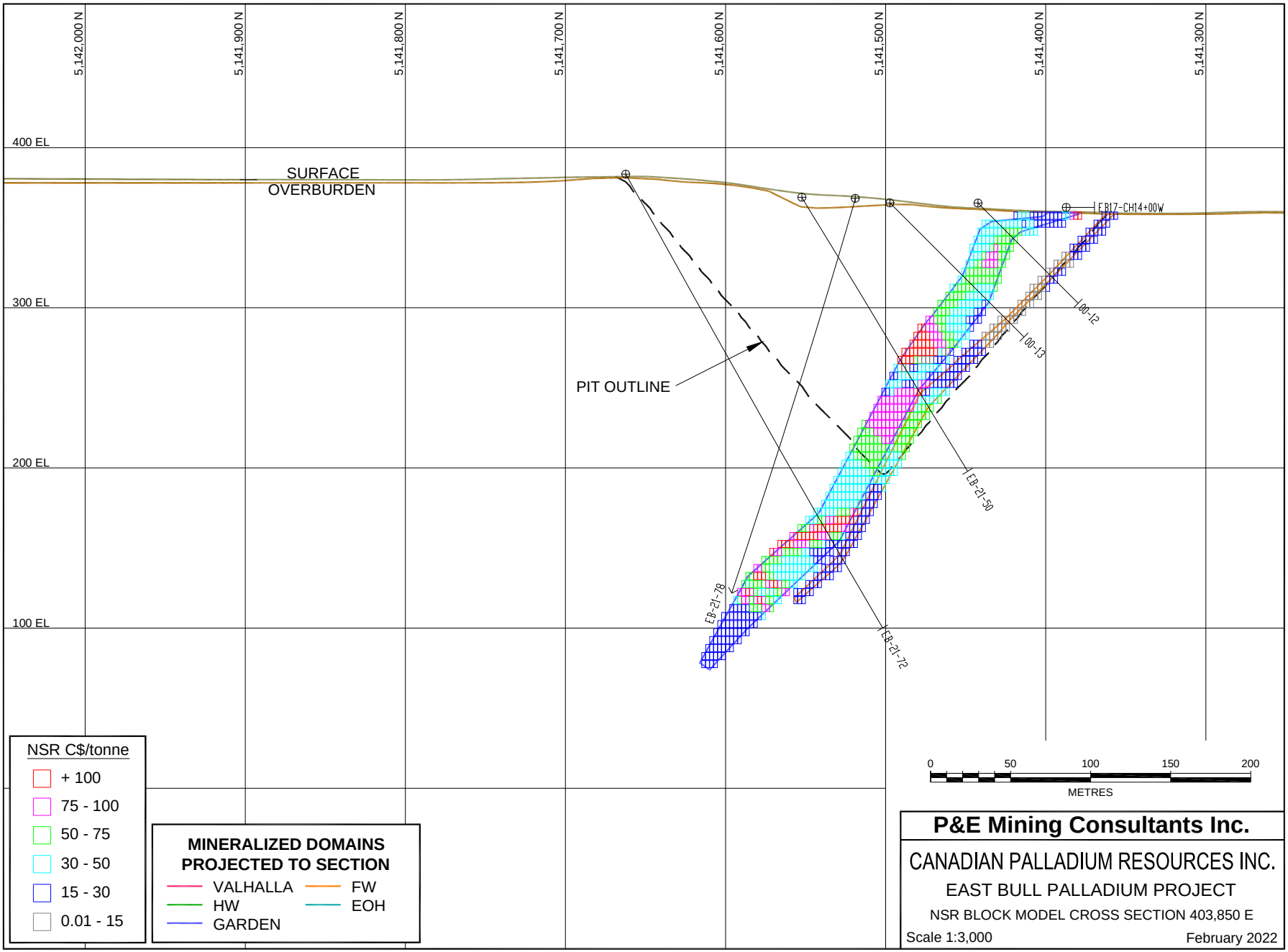
400 EL
300 EL
200 EL
100 EL
SURFACE
OVERBURDEN
PIT OUTLINE
EB-21-69
00-14
EB-21-52
EB-21-55
EB-21-77
EB-21-71
EB-21-68
NSR C$/tonne
+ 100
75 - 100
50 - 75
30 - 50
15 - 30
0.01 - 15
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
FW
HW
EOH
GARDEN
0
50
100
150
200
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
NSR BLOCK MODEL CROSS SECTION 403,650 E
Scale 1:3,000
February 2022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5,141,800 N
5,141,700 N
5,141,600 N
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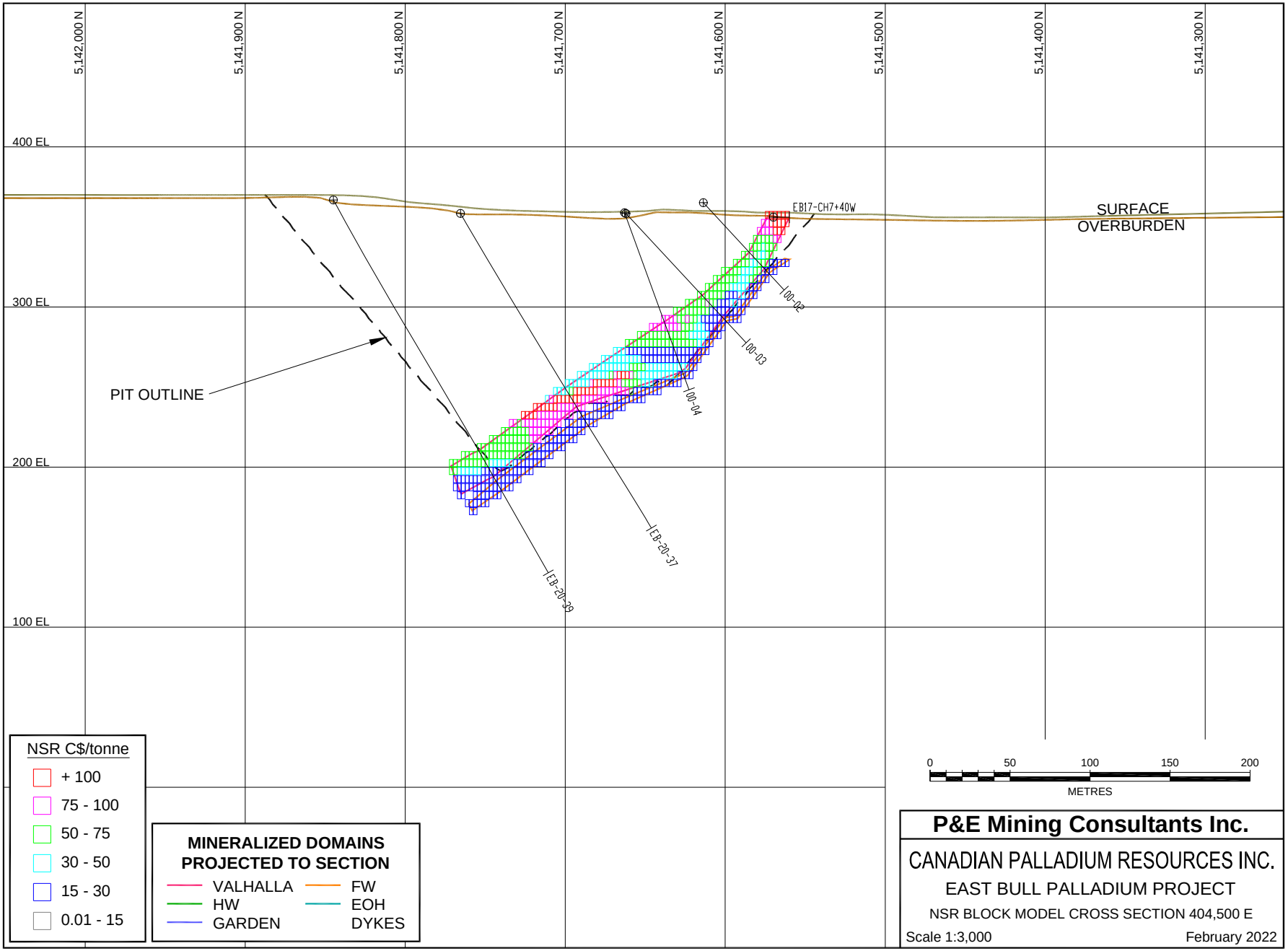
5,141,400 N
5,141,300 N
400 EL
300 EL
200 EL
100 EL
SURFACE
OVERBURDEN
PIT OUTLINE
EB17-CH14+00W
00-12
00-13
EB-21-50
EB-21-78
EB-21-72
NSR C$/tonne
+ 100
75 - 100
50 - 75
30 - 50
15 - 30
0.01 - 15
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
FW
HW
EOH
GARDEN
0
50
100
150
200
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
NSR BLOCK MODEL CROSS SECTION 403,850 E
Scale 1:3,000
February 2022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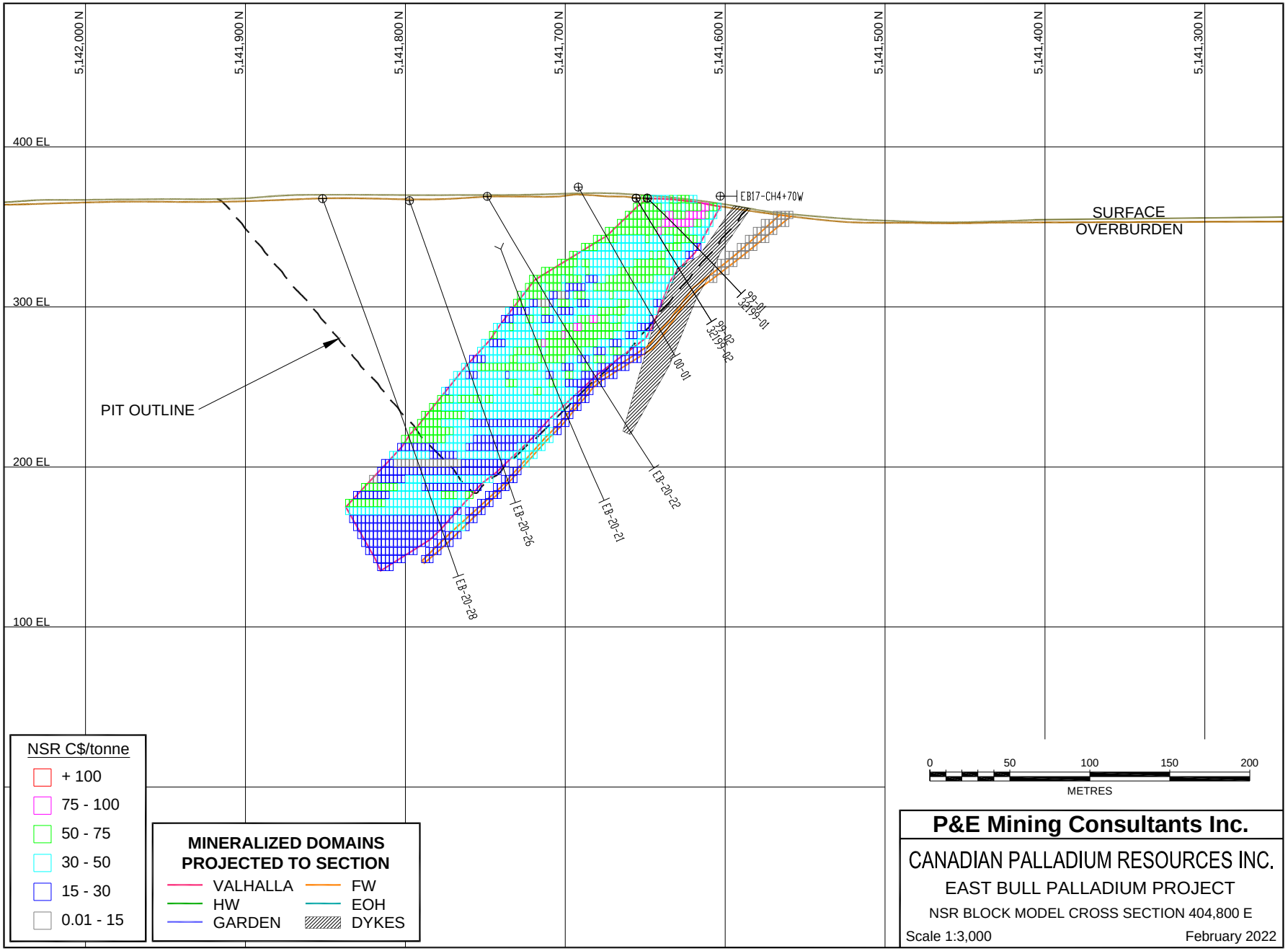
5,141,700 N
5,141,600 N
5,141,500 N
5,141,400 N
5,141,300 N
400 EL
300 EL
200 EL
100 EL
EB17-CH7+40W
SURFACE
OVERBURDEN
PIT OUTLINE
00-02
00-03
00-04
EB-20-37
EB-20-39
NSR C$/tonne
+ 100
75 - 100
50 - 75
30 - 50
15 - 30
0.01 - 15
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
50
100
150
200
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
NSR BLOCK MODEL CROSS SECTION 404,500 E
Scale 1:3,000
February 2022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5,141,800 N
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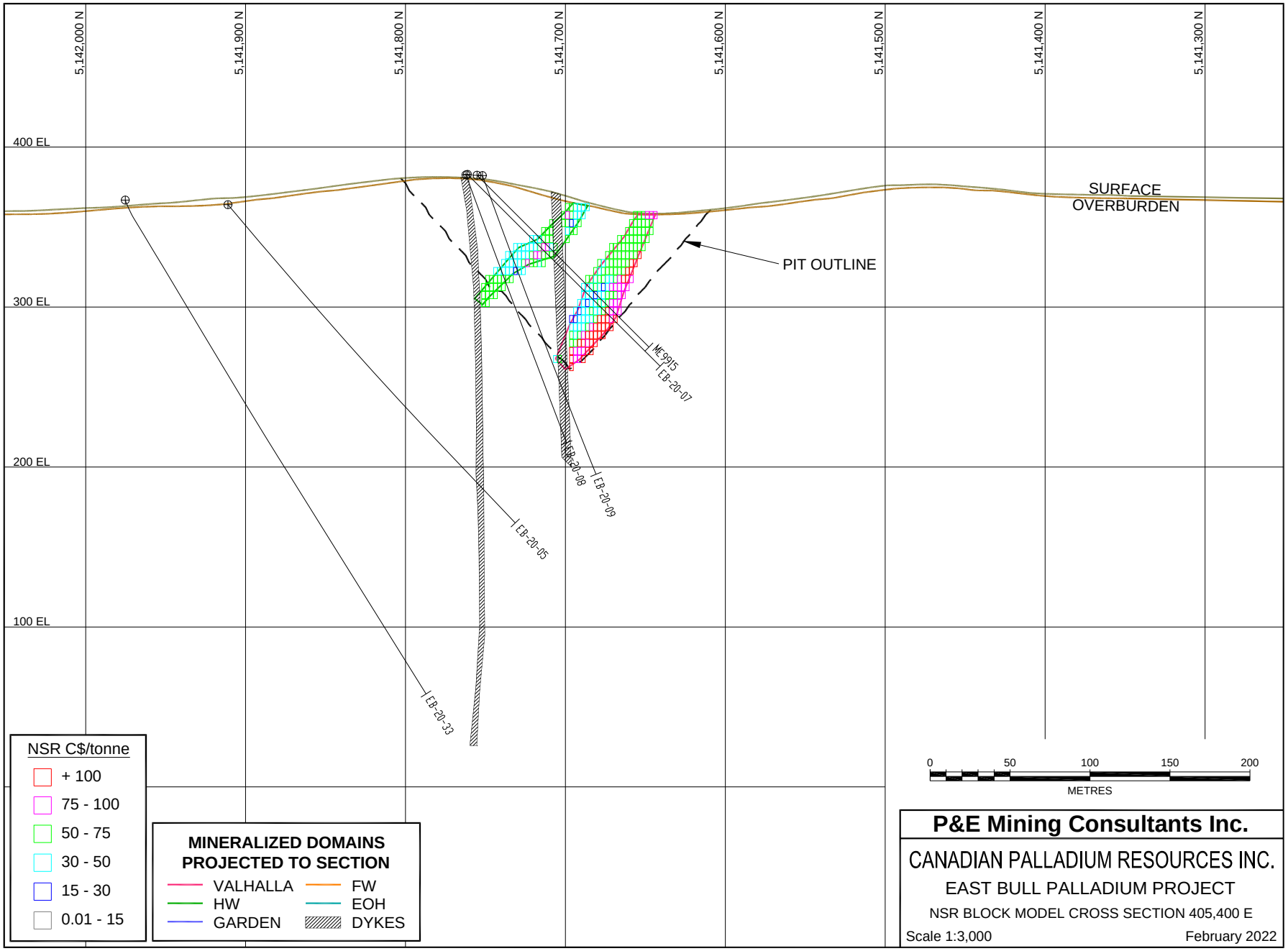
5,141,400 N
5,141,300 N
400 EL
300 EL
200 EL
100 EL
EB17-CH4+70W
SURFACE
OVERBURDEN
PIT OUTLINE
99-01
3219S-01
99-02
3219S-02
00-01
EB-20-22
EB-20-21
EB-20-26
EB-20-28
NSR C$/tonne
+ 100
75 - 100
50 - 75
30 - 50
15 - 30
0.01 - 15
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
50
100
150
200
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
NSR BLOCK MODEL CROSS SECTION 404,800 E
Scale 1:3,000
February 2022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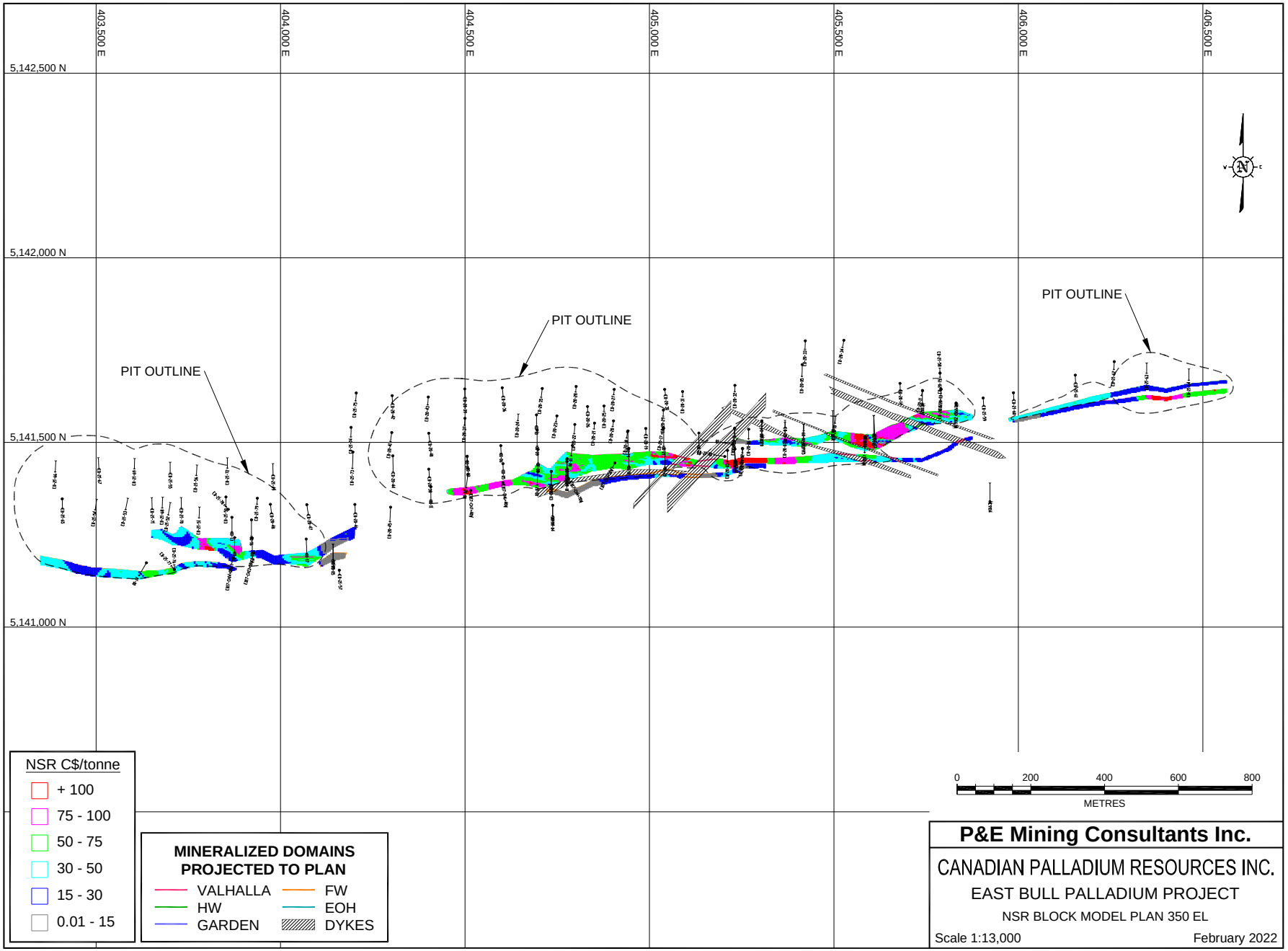
5,141,400 N
5,141,300 N
400 EL
300 EL
200 EL
100 EL
SURFACE
OVERBURDEN
PIT OUTLINE
ME-9915
EB-20-07
EB-20-08
EB-20-09
EB-20-05
EB-20-33
NSR C$/tonne
+ 100
75 - 100
50 - 75
30 - 50
15 - 30
0.01 - 15
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
50
100
150
200
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
NSR BLOCK MODEL CROSS SECTION 405,400 E
Scale 1:3,000
February 2022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406,500 E
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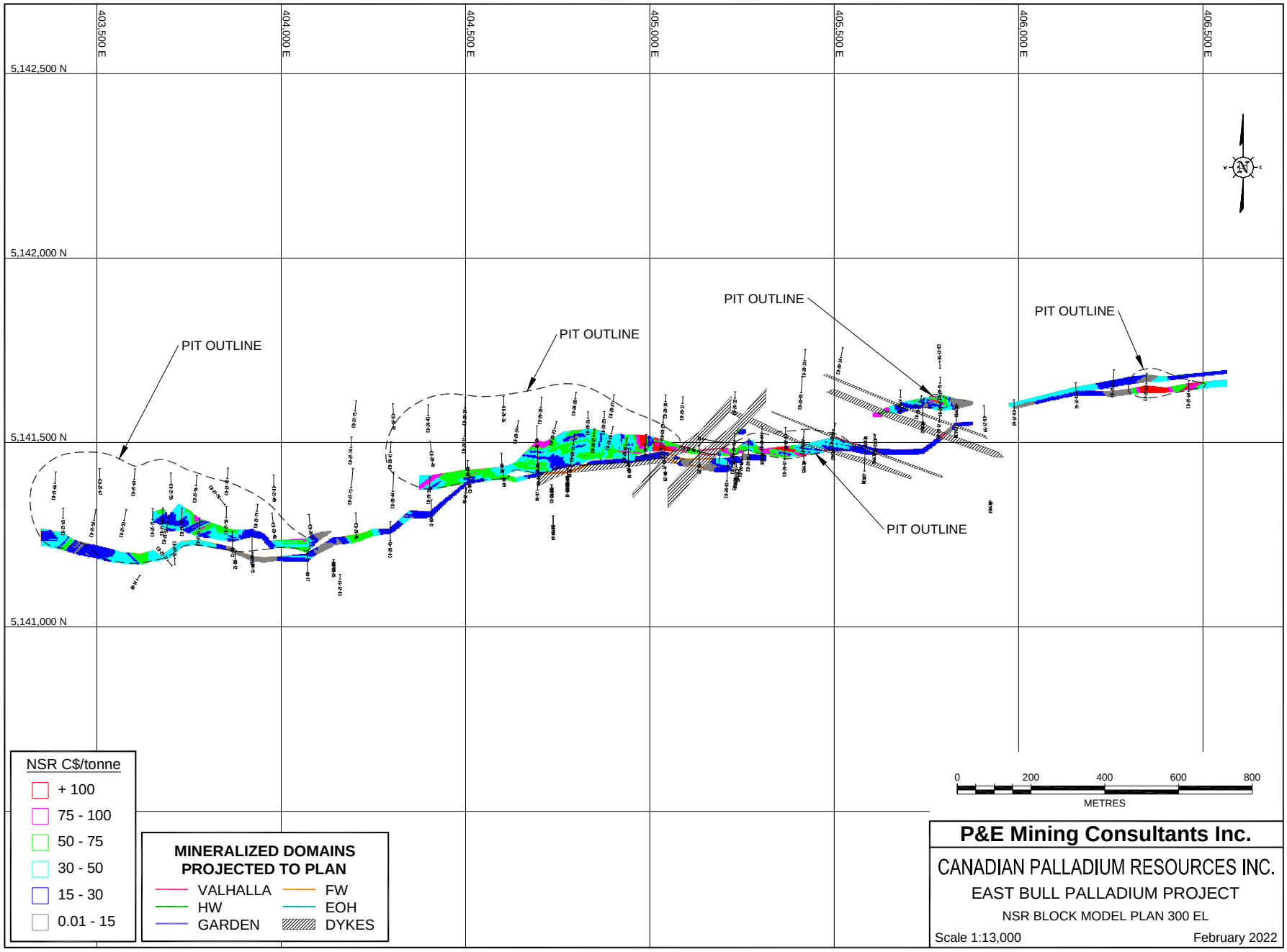
5,142,000 N
5,141,500 N
5,141,000 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
NSR C$/tonne
+ 100
75 - 100
50 - 75
30 - 50
15 - 30
0.01 - 15
MINERALIZED DOMAINS PROJECTED TO PLAN
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
200
400
600
800
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
NSR BLOCK MODEL PLAN 350 EL
Scale 1:13,000
February 2022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406,500 E
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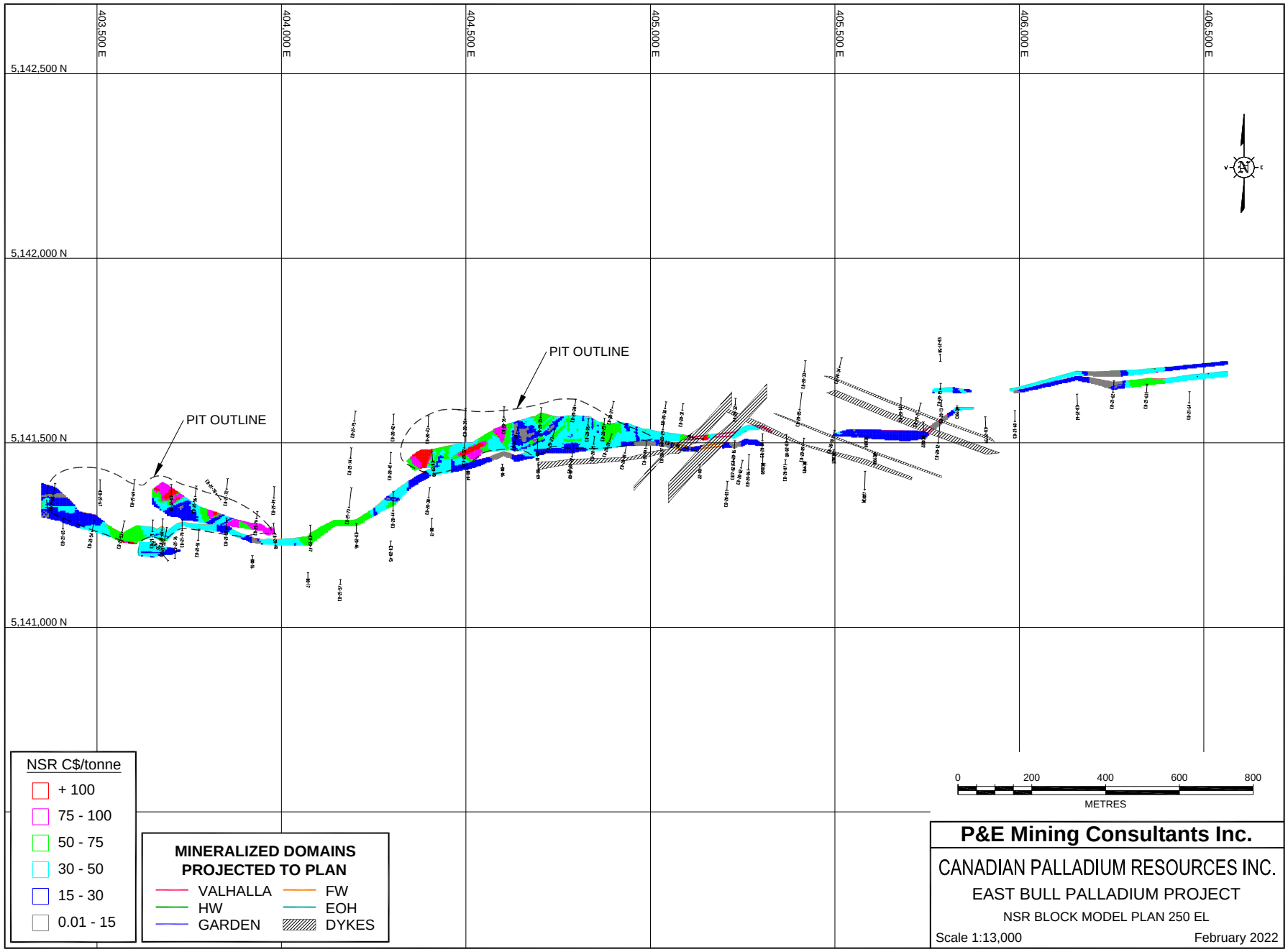
5,142,000 N
5,141,500 N
5,141,000 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
NSR C$/tonne
+ 100
75 - 100
50 - 75
30 - 50
15 - 30
0.01 - 15
MINERALIZED DOMAINS
PROJECTED TO PLAN
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
200
400
600
800
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
NSR BLOCK MODEL PLAN 300 EL
Scale 1:13,000
February 2022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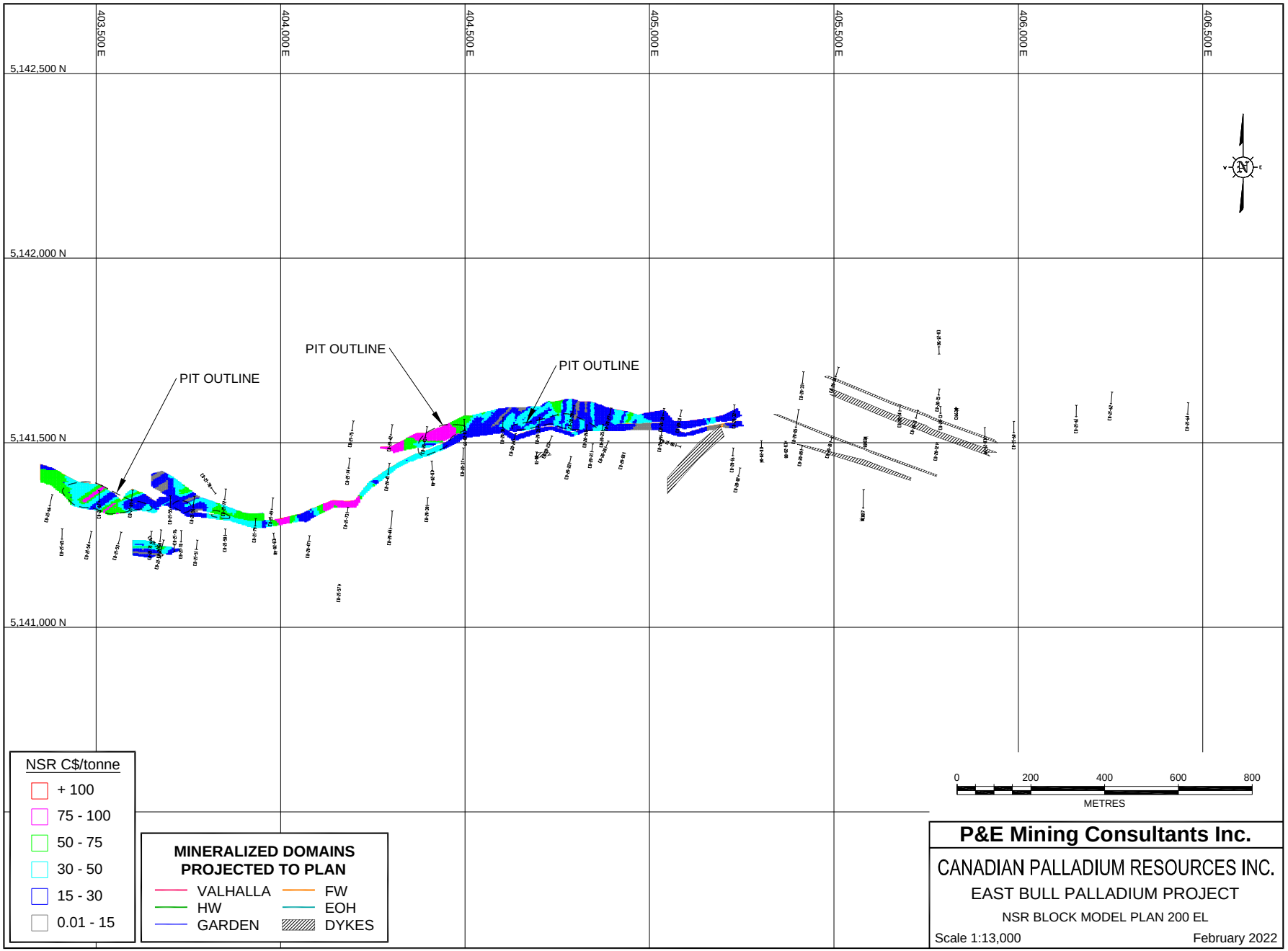
5,142,000 N
5,141,500 N
5,141,000 N
PIT OUTLINE
PIT OUTLINE
NSR C$/tonne
+ 100
75 - 100
50 - 75
30 - 50
15 - 30
0.01 - 15
MINERALIZED DOMAINS
PROJECTED TO PLAN
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
200
400
600
800
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
NSR BLOCK MODEL PLAN 250 EL
Scale 1:13,000
February 2022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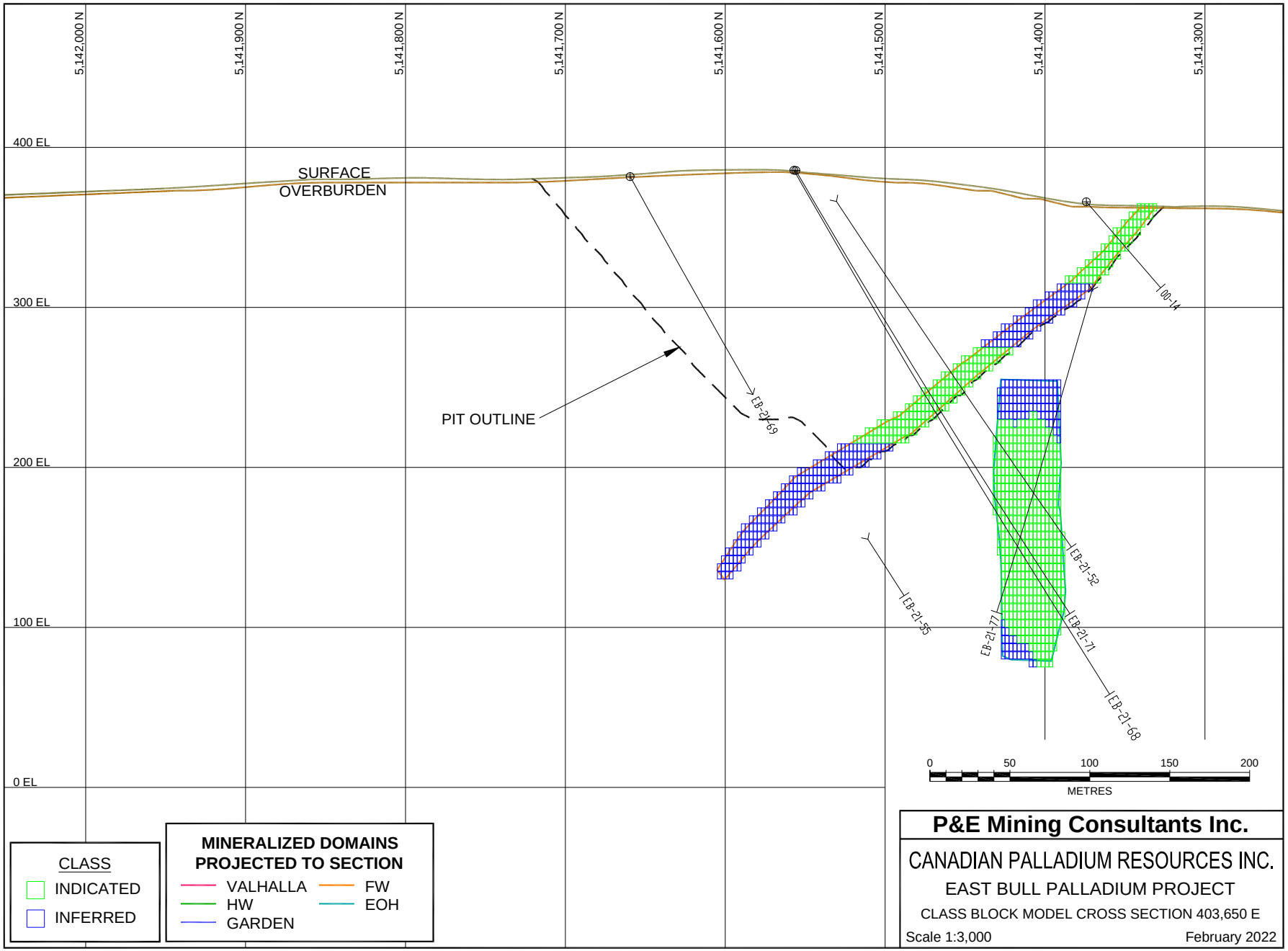
5,141,000 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
NSR C$/tonne
+ 100
75 - 100
50 - 75
30 - 50
15 - 30
0.01 - 15
MINERALIZED DOMAINS PROJECTED TO PLAN
VALHALLA
HW
GARDEN
FW
EOH
DYKES
0
200
400
600
800
METRES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
NSR BLOCK MODEL PLAN 200 EL
Scale 1:13,000
February 2022

APPENDIX G CLASSIFICATION BLOCK MODEL CROSS SECTIONS AND PLANS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5,141,300 N
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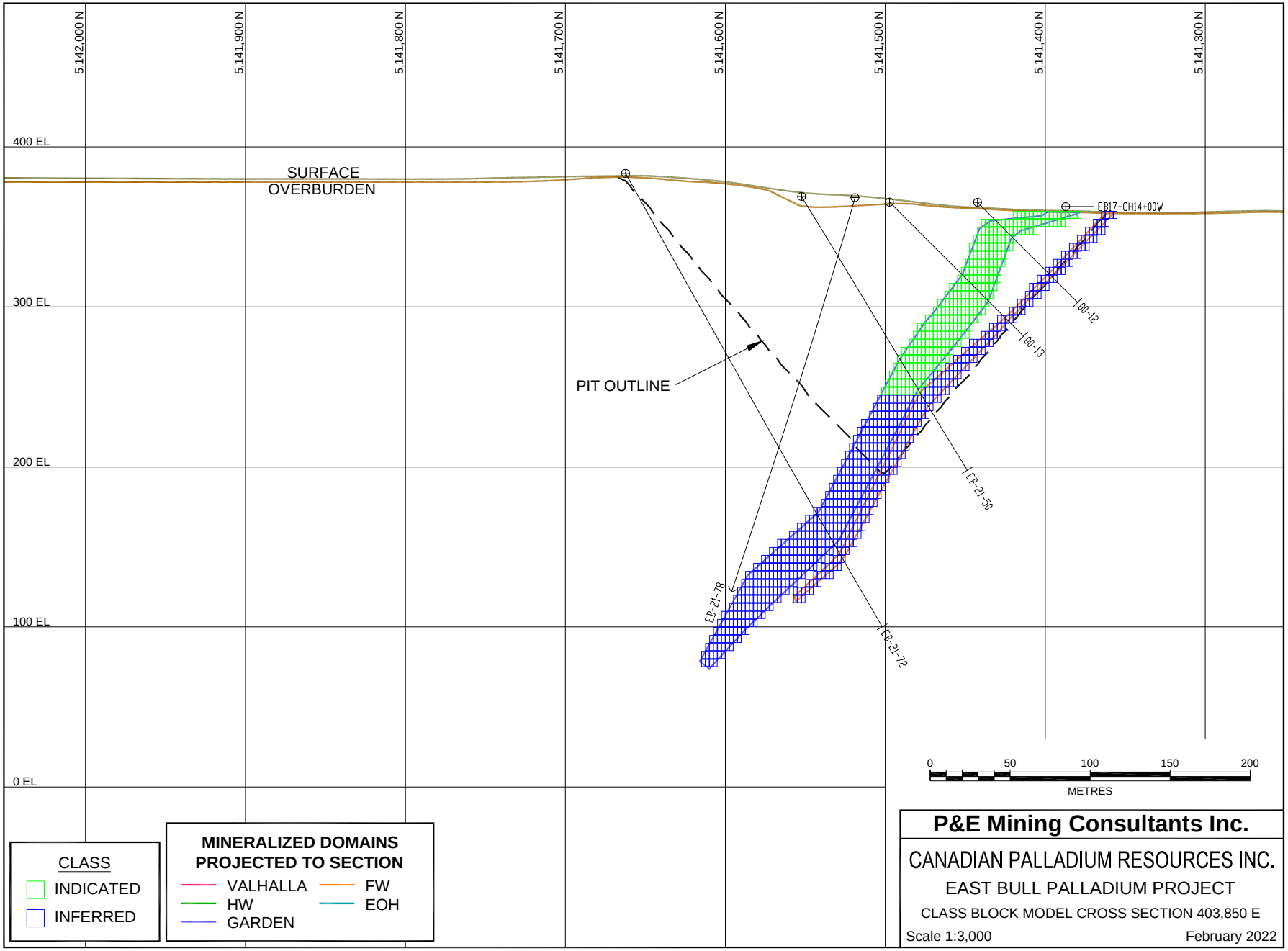
300 EL
200 EL
100 EL
0 EL
SURFACE
OVERBURDEN
PIT OUTLINE
EB-21-69
00-14
EB-21-52
EB-21-55
EB-21-77
EB-21-71
EB-21-68
0
50
100
150
200
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
HW
GARDEN
FW
EOH
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
CLASS BLOCK MODEL CROSS SECTION 403,650 E
Scale 1:3,000
February 2022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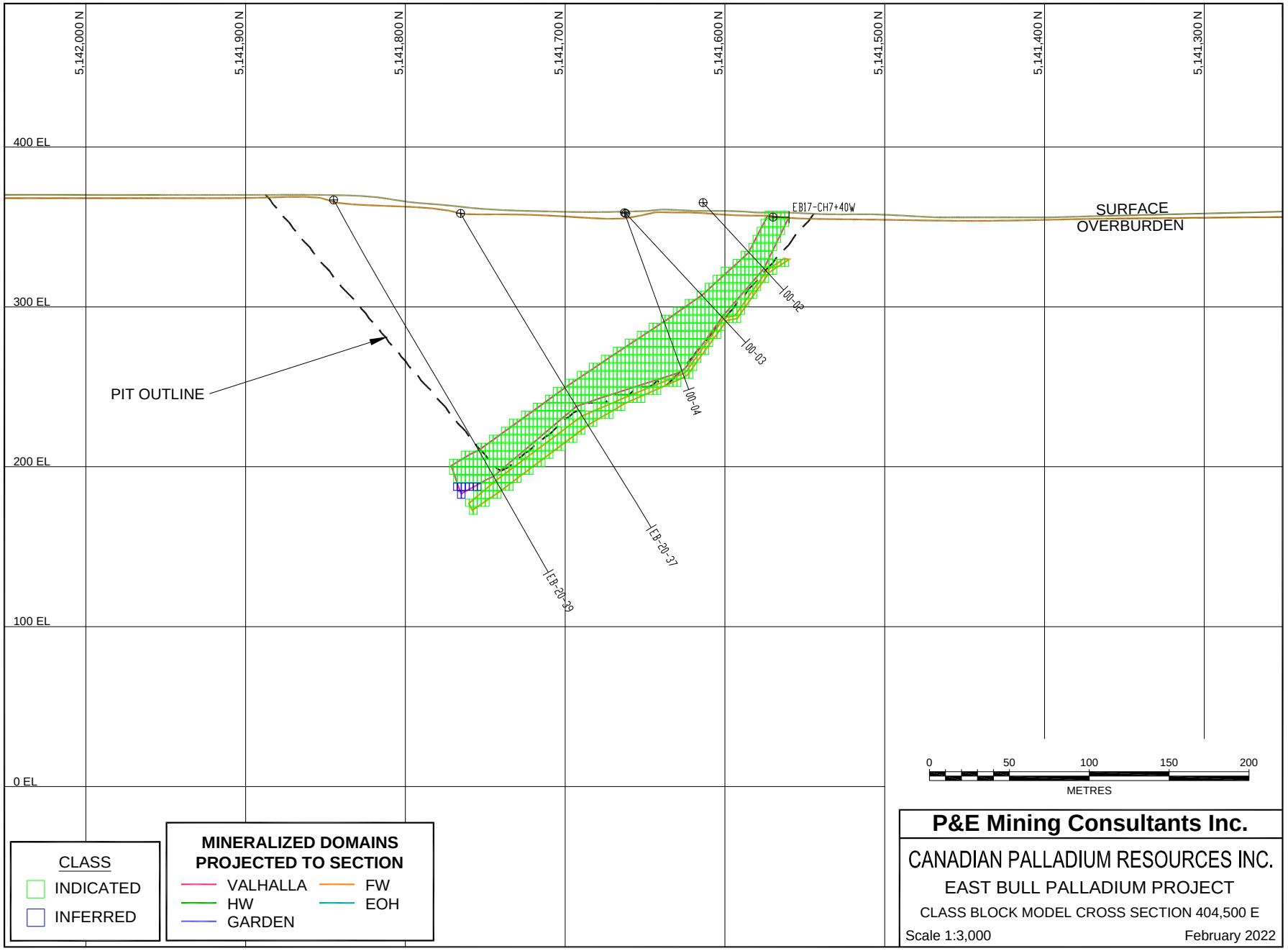
5,141,500 N
5,141,400 N
5,141,300 N
400 EL
300 EL
200 EL
100 EL
0 EL
SURFACE
OVERBURDEN
PIT OUTLINE
EB17-CH14+00W
100-12
100-13
EB-21-50
EB-21-78
EB-21-72
0
50
100
150
200
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
HW
GARDEN
FW
EOH
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
CLASS BLOCK MODEL CROSS SECTION 403,850 E
Scale 1:3,000
February 2022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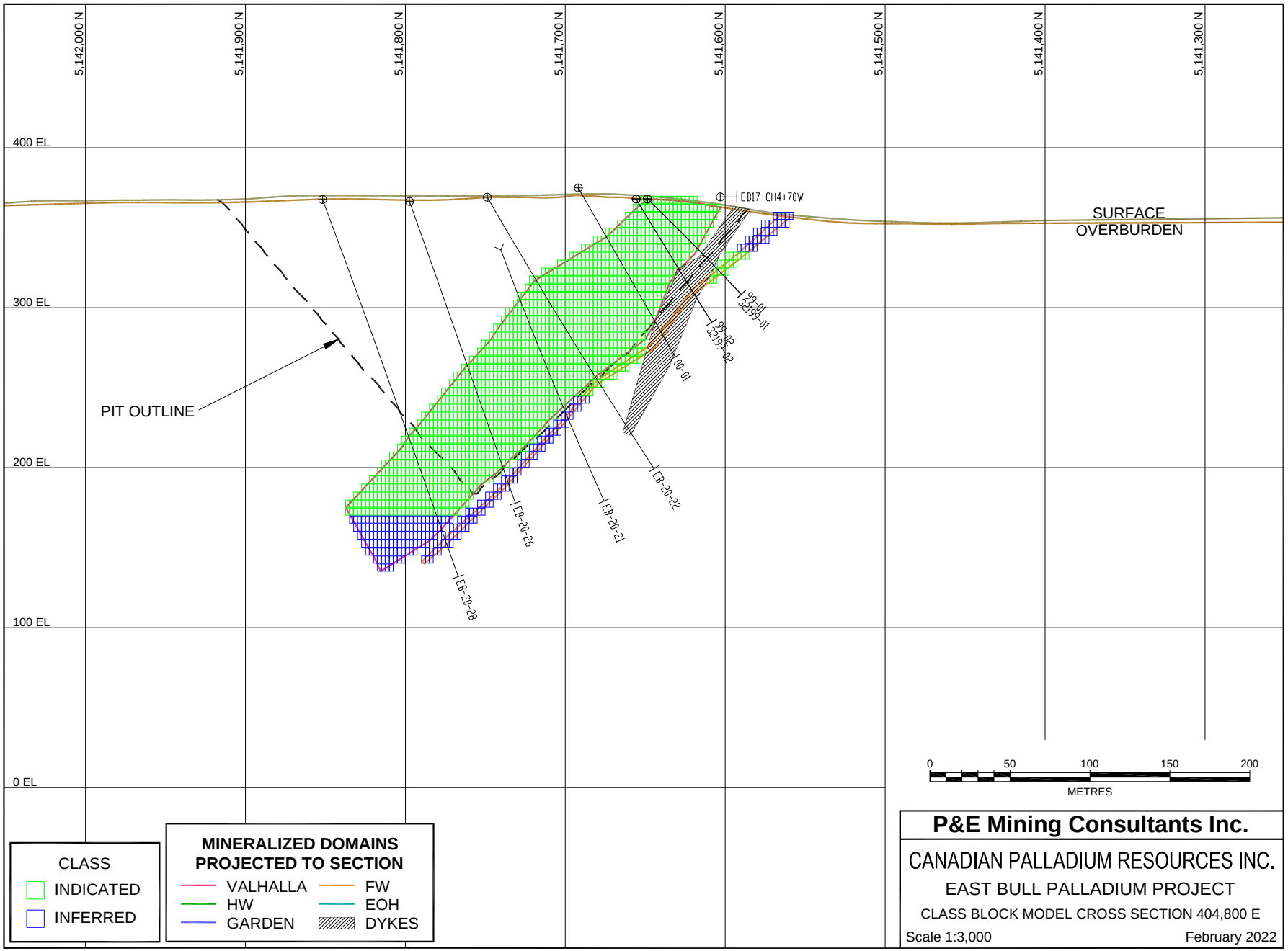
5,141,400 N
5,141,300 N
400 EL
300 EL
200 EL
100 EL
0 EL
EB17-CH7+40W
SURFACE
OVERBURDEN
PIT OUTLINE
00-02
00-03
00-04
EB-20-37
EB-20-39
0
50
100
150
200
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
HW
GARDEN
FW
EOH
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
CLASS BLOCK MODEL CROSS SECTION 404,500 E
Scale 1:3,000
February 2022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300 EL
200 EL
100 EL
0 EL
EB17-CH4+70W
SURFACE
OVERBURDEN
PIT OUTLINE
99-01
32195-01
99-02
32195-02
00-01
EB-20-22
EB-20-21
EB-20-26
EB-20-28
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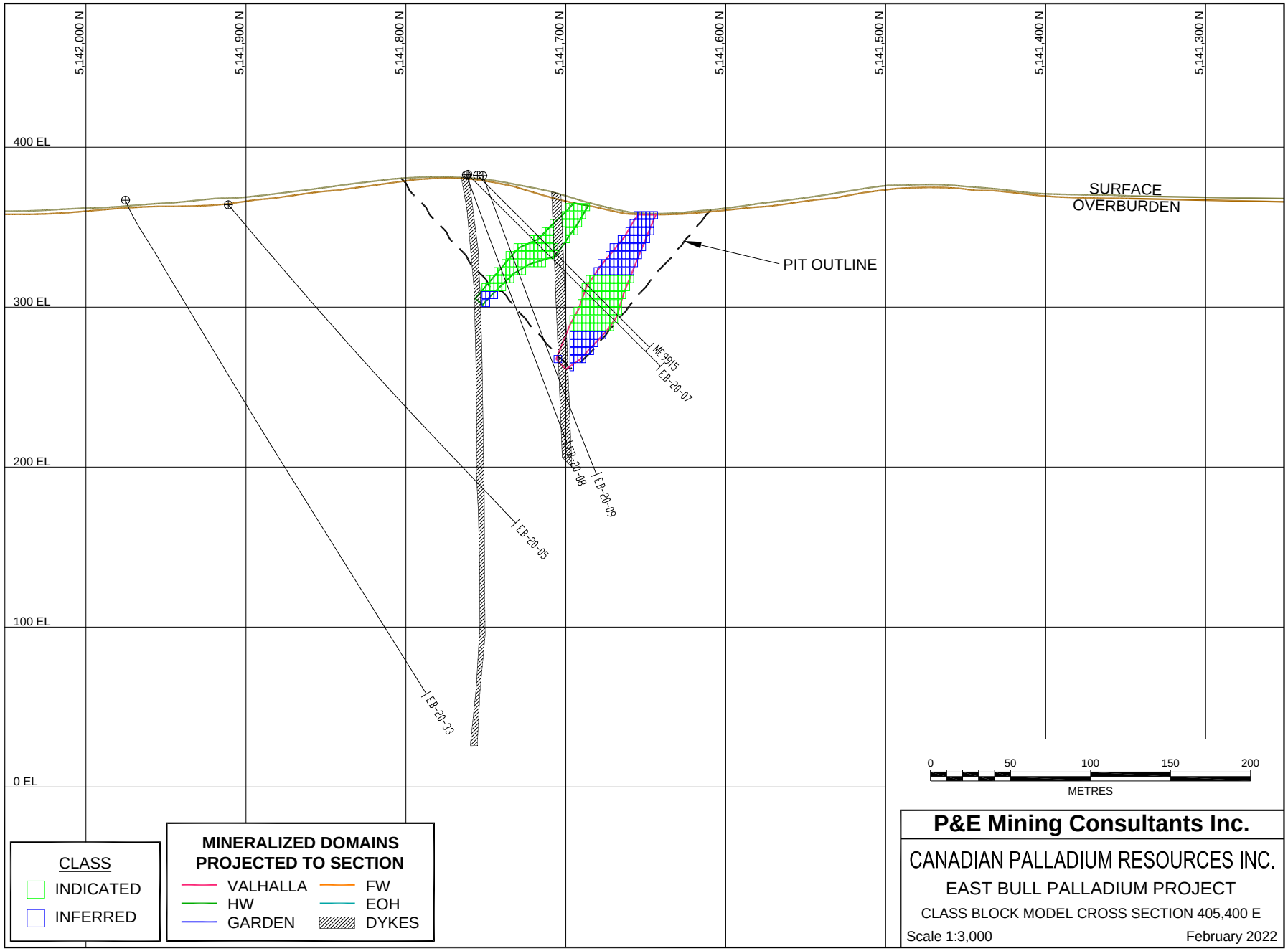
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
HW
GARDEN
FW
EOH
DYKES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
CLASS BLOCK MODEL CROSS SECTION 404,800 E
Scale 1:3,000
February 2022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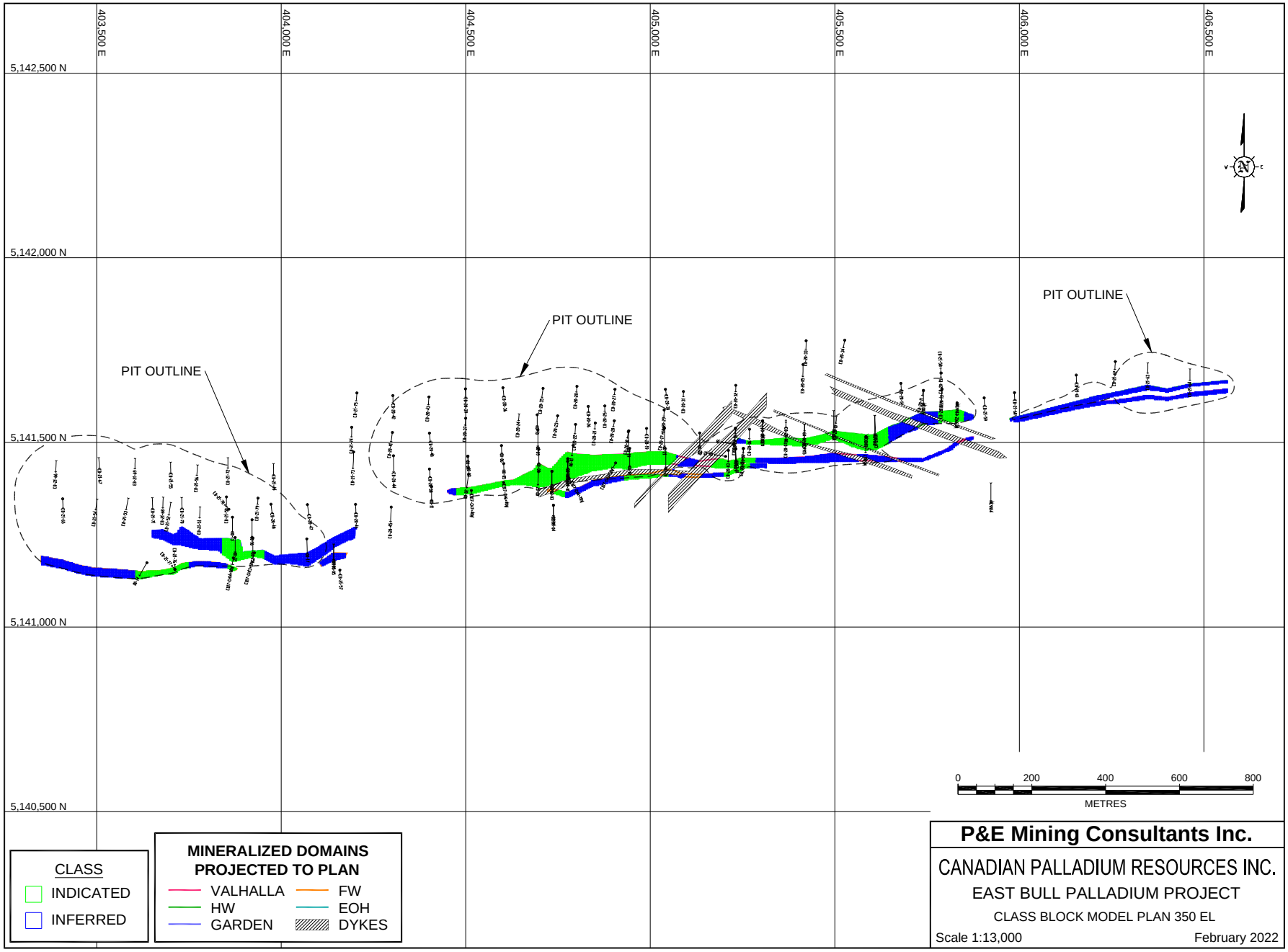
400 EL
300 EL
200 EL
100 EL
0 EL
SURFACE
OVERBURDEN
PIT OUTLINE
ME9915
EB-20-07
EB-20-08
EB-20-09
EB-20-05
EB-20-33
0
50
100
150
200
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO SECTION
VALHALLA
HW
GARDEN
FW
EOH
DYKES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
CLASS BLOCK MODEL CROSS SECTION 405,400 E
Scale 1:3,000
February 2022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405,500 E
406,000 E
406,500 E
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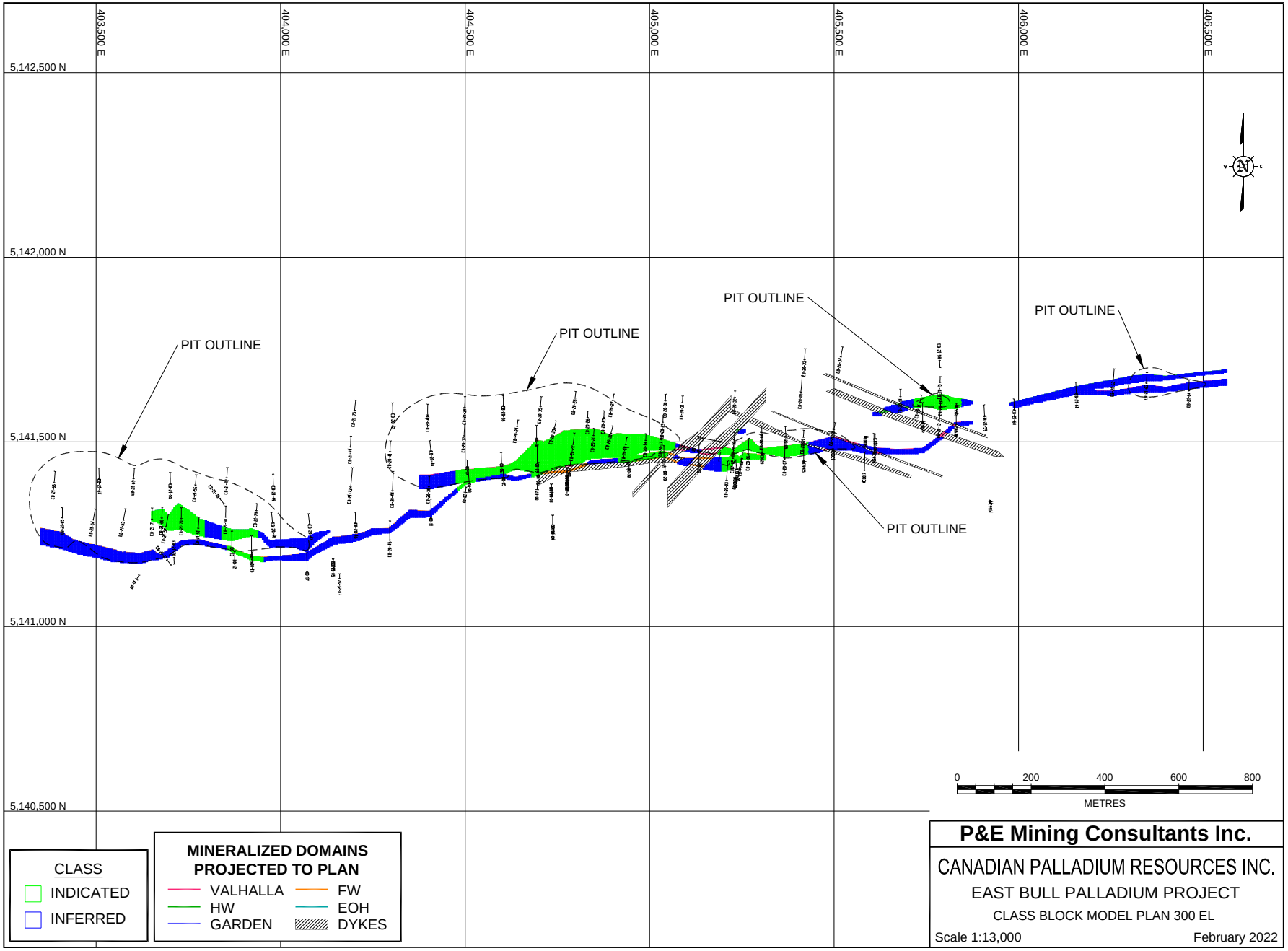
5,142,000 N
5,141,500 N
5,141,000 N
5,140,500 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
0
200
400
600
800
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO PLAN
VALHALLA
HW
GARDEN
FW
EOH
DYKES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
CLASS BLOCK MODEL PLAN 350 EL
Scale 1:13,000
February 2022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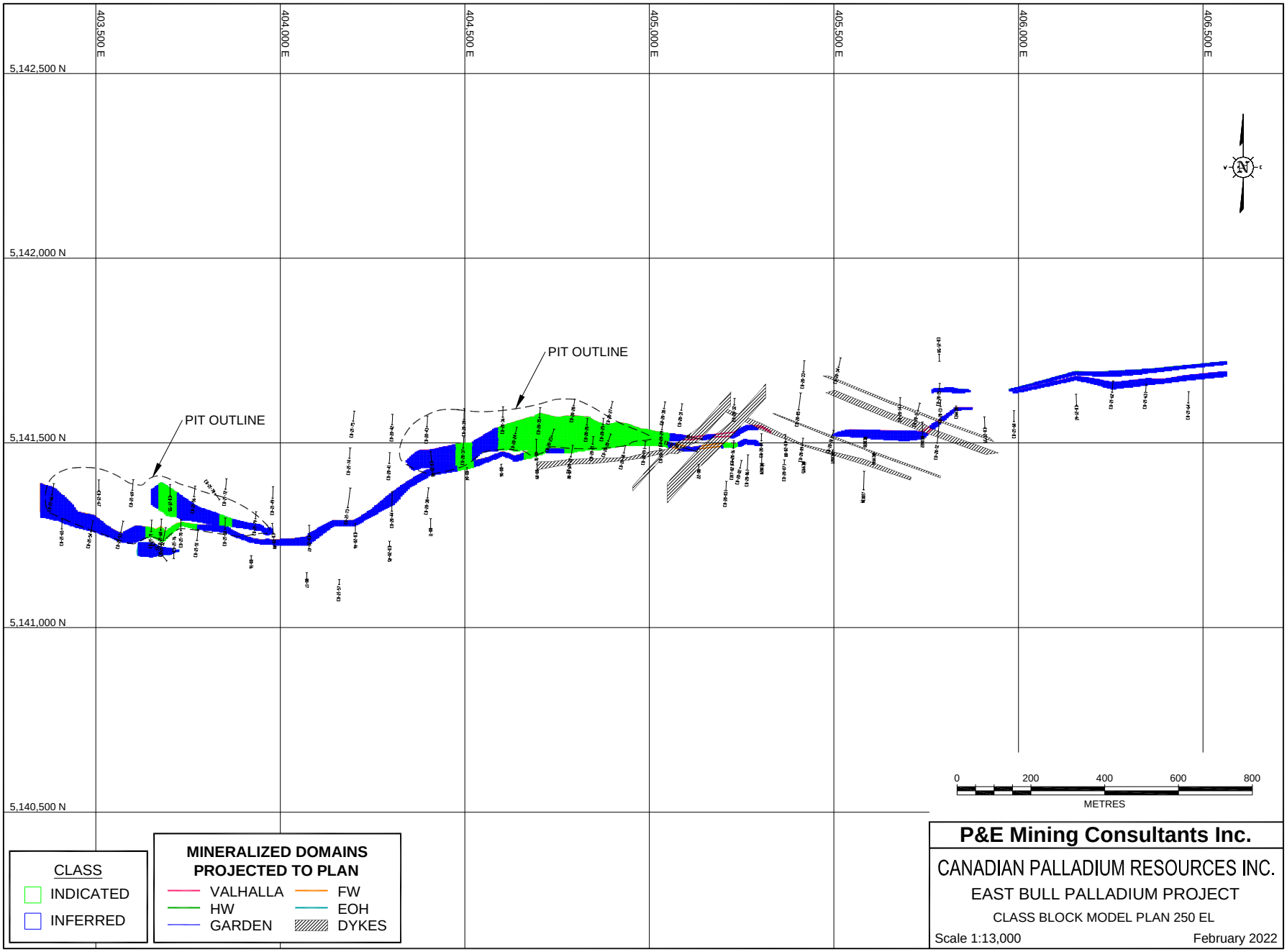
5,141,000 N
5,140,500 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
0
200
400
600
800
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO PLAN
VALHALLA
HW
GARDEN
FW
EOH
DYKES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
CLASS BLOCK MODEL PLAN 300 EL
Scale 1:13,000
February 2022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404,000 E
404,500 E
405,000 E
405,500 E
406,000 E
406,500 E
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5,142,000 N
5,141,500 N
5,141,000 N
5,140,500 N
PIT OUTLINE
PIT OUTLINE
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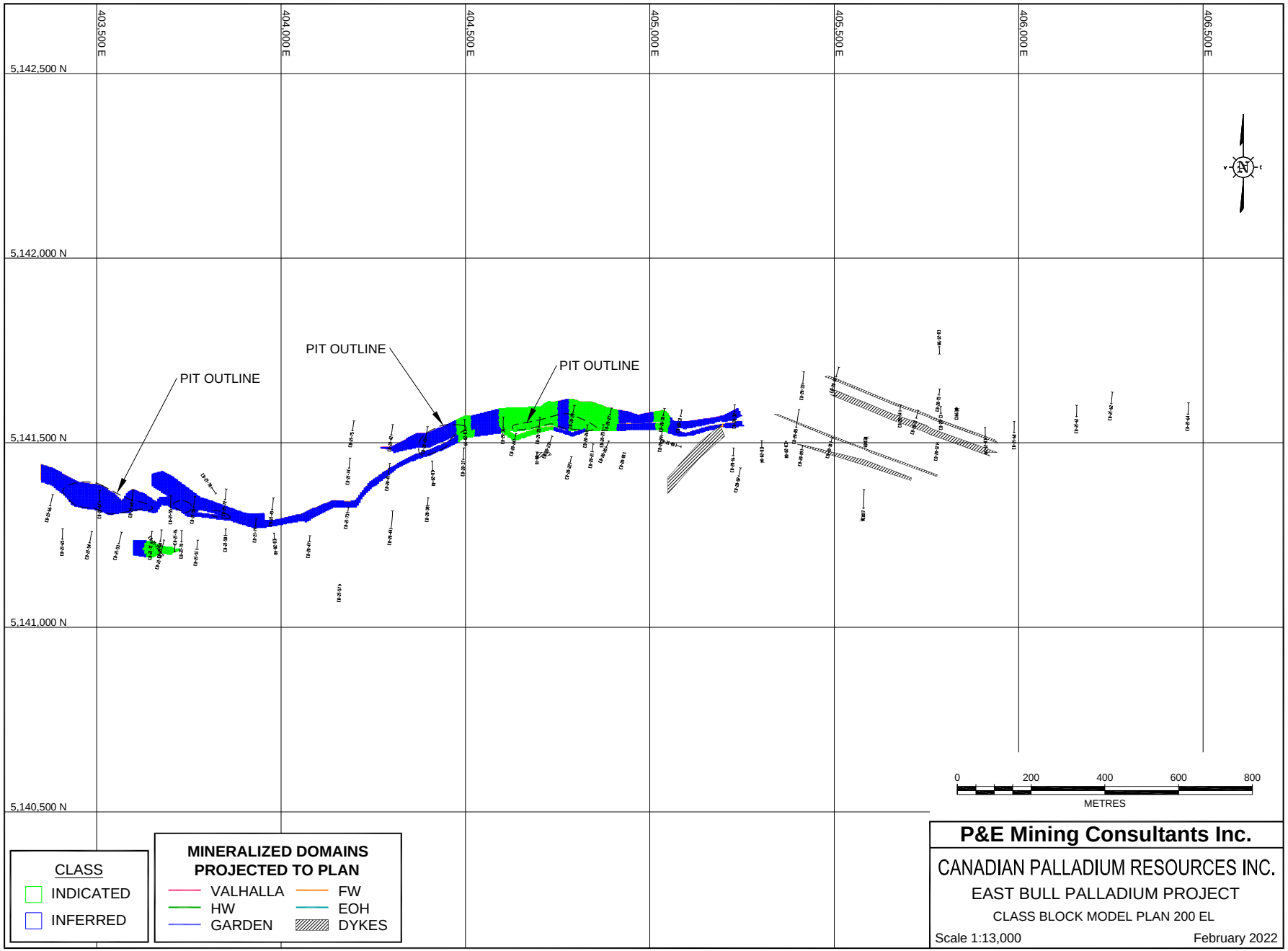
0
200
400
600
800
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO PLAN
VALHALLA
HW
GARDEN
FW
EOH
DYKES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
CLASS BLOCK MODEL PLAN 250 EL
Scale 1:13,000
February 2022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PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
0
200
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METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO PLAN
VALHALLA
HW
GARDEN
FW
EOH
DYKES
P&E Mining Consultants Inc.
CANADIAN PALLADIUM RESOURCES INC.
EAST BULL PALLADIUM PROJECT
CLASS BLOCK MODEL PLAN 200 EL
Scale 1:13,000
February 2022

APPENDIX H OPTIMIZED PIT SHELLS

EAST BULL PALLADIUM PROJECT
OPTIMIZED PIT SHELLS