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NI 43-101 TECHNICAL REPORT
AND
UPDATED MINERAL RESOURCE ESTIMATE
ON THE
LAST HOPE PROPERTY,
LYNN LAKE
NORTHERN MANITOBA, CANADA
Latitude 6,283,000 N, Longitude 387,000 E

FOR 55 NORTH MINING INC.

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**P&E Mining Consultants Inc. Report 407** 

Effective Date: September 27, 2021 Signing Date: November 11, 2021

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#### 1.0 SUMMARY

This Technical Report was prepared by P&E Mining Consultants Inc. ("P&E") at the request of Mr. Bruce Reid, the President and CEO of 55 North Mining Inc. (the "Company"). 55 North Mining Inc. is a Canadian based reporting issuer. The purpose of this report is to provide an independent, NI 43-101 compliant, Technical Report and Updated Mineral Resource Estimate (the "Technical Report") on the Last Hope Property in the Lynn Lake area, Manitoba, Canada (the "Property").

The Property is located in northern Manitoba, 820 km northwest of Manitoba's capital city, Winnipeg. Access to the Property is via a 15 km all-weather gravel road to the former Burnt Timber Mine site from the Town of Lynn Lake and then an 8 km winter road from the Burnt Timber Mine to the Property. The long mining history of northern Manitoba, in general, and of Lake Lynn in particular, is a testament to the abundance of material and human resources that are available in the region to support a mining operation. The Last Hope Property comprises 29 claims covering an area of 6,220 ha. The Company has an option agreement in place to acquire 100% of the Last Hope Property, subject to a 2% NSR royalty.

The twenty nine Last Hope claims (6,220 ha) have an annual total of \$155,500 (\$25/ha) due at various anniversary dates throughout the year. All claims are in good standing as of the effective date of this Technical Report.

Geologically, the Last Hope Deposit is situated approximately 5 km south of the southern portion of the Lynn Lake Greenstone Belt within the Churchill Structural Province of the Canadian Shield. The main mineralized feature on the Property is the Madole Vein that outcrops for approximately 225 m and strikes northwest, dips 80 degrees southwest and fills a fracture in thinly bedded impure quartzite. It ranges in thickness from 0.3 to 1.2 m.

The Last Hope Deposit is considered to be a Proterozoic, mesothermal lode gold deposit.

Between May 2018 and March 2020, Quantec Geophysics acquired 78.15 km of DCIP data over 35 lines over the Project area.

A diamond drill program consisting of a 11,653 m in 29 holes was conducted on the Last Hope Property in 2020 and 2021. This program commenced in October 2020 and was completed in May 2021. The diamond drill program upgraded and expanded the existing Mineral Resource. Step-out drilling extended the strike length of the gold mineralization to approximately 1.2 km. A portion of the diamond drill program was designed to address a number of geophysical targets as determined by the Induced Polarization ("IP") survey. In addition, there are several historical geochemical anomalies resulting from surveys undertaken in 1987 and 1988 which are coincident with the IP anomalies which were also investigated.

The Mineral Resource Estimate is reported with an effective date of September 27, 2021 and is tabulated in Table 1.1. The authors of this Technical Report consider the mineralization of the Last Hope Property to be potentially amenable to near surface and underground mining methods.

TABLE 1.1 LAST HOPE MINERAL RESOURCE ESTIMATE <sup>(1-8)</sup>					
Near Surface Pit	Mineral Res	source @ 1.0 g	/t Au Cut-off		
Classification	Tonnes (k)	Au (g/t)	Au (koz)		
Indicated	82.8	5.08	13.5		
Inferred	15.7	1.90	1.0		
Underground Mineral Resource @ 1.8 g/t Au Cut-off  Classification					
Indicated	325.5	5.50	57.6		
Inferred	1,537.3	5.52	272.8		
Total Mineral Resource @ 1.0 and 1.8 g/t Au Cut-offs					
Classification	Tonnes (k)	Au (g/t)	Au (koz)		
Indicated	408.3	5.41	71.1		

- 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.
- 5. Metal prices used were US\$1,650/oz Au and 0.76 CDN\$/US\$ FX with process recoveries of 95% Au. A CDN\$20/t process cost and CDN\$5/t G&A cost were used.
- 6. The near surface mining cost for the top 20 m of the Mineral Resource was CDN\$35/t.
- 7. The underground mining cost was CDN\$95/t. The underground Mineral Resource grade blocks were quantified above the 1.8 g/t Au cut-off, below 20 m from surface and within the constraining mineralized wireframes. Underground Mineral Resources selected exhibited continuity and reasonable potential for extraction by the long hole underground mining method.
- 8. Grade estimation was undertaken with the Inverse Distance Cubed method on 1.0 m capped composites

The following drill program and budget is specifically recommended:

Advance an additional 15 drill holes, totalling 3,500 m, to investigate the limits of mineralization at a budgeted cost of \$1,160,000, which includes a 15% contingency.

See Section 26.1 for budget details.

#### 2.0 INTRODUCTION AND TERMS OF REFERENCE

#### 2.1 TERMS OF REFERENCE

The following Technical Report (the "Technical Report") prepared by P&E Mining Consultants Inc. ("P&E") describes the existing gold mineralization on the Last Hope Gold Property near the Town of Lynn Lake, Manitoba, Canada (the "Property"). This Technical Report has been prepared in compliance with the requirements of Canadian National Instrument ("NI") 43-101, in force as of the effective date of this Technical Report.

This Technical Report was prepared at the request of Mr. Bruce Reid, the President and CEO of 55 North Mining Inc. (the "Company") which is Canadian based and a reporting issuer with its corporate office at:

401 Bay Street, Suite 2702 Toronto, ON Canada, M5H 2Y4

This Technical Report is considered effective as of September 27, 2021.

The Last Hope Property is located approximately 23 km southeast of the Town of Lynn Lake in northern Manitoba. The Property comprises 29 claims comprised in an area of 6,220 ha. In 2017, the Company agreed to make payments of \$3,260,000 and to incur \$1,000,000 of exploration expenditures. All claims and leases are in good standing as of the effective date of this Technical Report.

The purpose of this Technical Report is to provide an independent, NI 43-101 compliant, Technical Report on the Last Hope Gold Property. P&E understands that this Technical Report may be used to support the possible future public disclosure requirements of the Company and may be filed on SEDAR as required under NI 43-101 disclosure regulations.

The Company has accepted that the qualifications, expertise, experience, competence and professional reputation of P&E's Principals and Associate Geologists and Engineers are appropriate and relevant for the preparation of this Technical Report. The Company has also accepted that P&E's Principals are members of professional bodies that are appropriate and relevant for the preparation of this Technical Report.

#### 2.2 SITE VISIT

Mr. David Burga, P. Geo., a Qualified Person under the terms of NI 43-101, conducted site visits of the Last Hope Property on November 20 to 22, 2013 and again more recently on February 2 to 4, 2021. On both site visits Mr. Burga collected verification samples and observed local access and infrastructure. Mr. Burga has provided specific input to this Technical Report and his site visit is considered to be current as of the effective date of this Technical Report.

#### 2.3 SOURCES OF INFORMATION

This Technical Report is based, in part, on internal Company technical reports, and maps, published government reports, Company letters and memoranda, and public information as listed in Section 27.0 at the conclusion of this Technical Report. Several sections from reports authored by other consultants have been directly quoted or summarized in this Technical Report and are so indicated where appropriate.

#### 2.4 UNITS AND CURRENCY

In this Technical Report, all currency amounts are stated in Canadian dollars ("CDN\$") unless otherwise stated.

Commodity prices are typically expressed in US dollars ("US\$") and will be so noted where appropriate. Quantities are generally stated in Système International d'Unités ("SI") metric units including metric tons ("tonnes", "t") and kilograms ("kg") for weight, kilometres ("km") or metres ("m") for distance, hectares ("ha") for area, grams ("g") and grams per tonne ("g/t") for metal grades. Platinum group metal ("PGM"), gold and silver grades may also be reported in parts per million ("ppm") or parts per billion ("ppb"). Copper metal values are reported in percentage ("%") and parts per billion ("ppb"). Quantities of PGM, gold and silver may also be reported in troy ounces ("oz"), and quantities of copper in avoirdupois pounds ("lb"). A list of terms and abbreviations is given in Table 2.1.

Grid coordinates are given in the UTM NAD 83 (Zone 14N), latitude/longitude system or local mine grid; maps are either in UTM coordinate, latitude/longitude or local mine grid.

TABLE 2.1 GLOSSARY OF TERMS AND ABBREVIATIONS			
Abbreviation	Description		
\$	dollars		
+	plus		
-	minus		
%	percent		
0	degree(s)		
°C	degrees Celsius		
<	less than		
>	greater than		
3-D	three-dimensional		
AA	atomic absorption (spectrometry)		
Ag	silver		
AGAT	AGAT Laboratories Ltd.		
Au	gold		
AuEq	gold equivalent		
Carlisle Goldfields	Carlisle Goldfields Limited		
CIM	Canadian Institute of Mining, Metallurgy and Petroleum		

		TABLE 2	2.1	
GLOSS	ARY OF	TERMS AN	D ABBREVIATION	ONS

Abbreviation cm	<b>Description</b> centimetre
cm	contimetra
CIII	centimetre
CDN	Canadian
CDN\$	Canadian dollar
Company, the	55 North Mining Inc.
CRM(s)	certified reference material(s)
DCIP	direct current and induced polarization (geophysical survey)
Е	east
FA	fire assay
FA/Grav	fire assay with a gravimetric finish
g	gram(s)
g/t	grams per tonne
ha	hectare(s)
ICP	inductively coupled plasma
ID	identification
$ID^3$	inverse distance cubed
IP	induced polarization
ISO	International Organization for Standardization
JSZ	Johnson Shear Zone
k	thousand(s)
km	kilometre(s)
koz	thousands of ounces
m	metre(s)
M	million(s)
$m^3$	cubic metres
mm	millimetres
Mt	million tonnes
N	north
NAD	North American Datum
NI	National Instrument (43-101)
NN	Nearest Neighbour (analysis)
NSR	net smelter return
OZ	ounces, troy
P&E	P&E Mining Consultants Inc.
P.Eng.	Professional Engineer
P.Geo.	Professional Geoscientist
ppb	parts per billion
	the Last Hope Property that is the subject of this Technical
Property, the	Report
QA/QC	quality assurance/quality control
QC	quality control
S	south

TABLE 2.1 GLOSSARY OF TERMS AND ABBREVIATIONS			
Abbreviation	Description		
t	tonnes (metric)		
t/m <sup>3</sup>	tonnes per cubic metre		
Technical Report, the	this NI 43-101 Technical Report		
TSL	TSL Laboratories Inc.		
US\$	United States dollars		
UTM	Universal Transverse Mercator grid system		
W	west		

#### 3.0 RELIANCE ON OTHER EXPERTS

Although copies of the tenure documents, operating licenses, permits, and work contracts were reviewed, an independent verification of land title and tenure was not performed. P&E has not verified the legality of any underlying agreement(s) that may exist concerning the licenses or other agreement(s) between third parties and has relied on the Company's solicitor to have conducted the proper legal due diligence. Information on tenure was obtained from the Company and confirmed on the Manitoba government website: https://web33.gov.mb.ca/mapgallery/mgm-md.html

A draft copy of this Technical Report has been reviewed for factual errors by the Company. Any 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 effective date of this Technical Report.

#### 4.0 PROPERTY DESCRIPTION AND LOCATION

#### 4.1 LOCATION

The Last Hope Property is located approximately 23 km south-east of the Town of Lynn Lake in northern Manitoba, Canada (Figure 4.1). The Property is approximately centred at latitude 387,000 E and longitude 6,283,000 N and is located approximately 810 km northwest of Manitoba's capital and largest city, Winnipeg. The Last Hope Property is adjacent to Alamos Gold's Burnt Timber Property.

#### 4.2 PROPERTY DESCRIPTION

The Last Hope Property comprises 29 non-surveyed claims comprised in an area of 6,220 ha (Figure 4.2). The Company has the option to earn a 100% interest in the 15 claims comprising 3,513 Ha of Property which is held by Peter C. Dunlop. The remaining 14 claims are held by 55 North Mining Inc.

The Company committed to incur at least \$250,000 per year of exploration expenditures for the four years following the execution of this agreement to an aggregate of \$1,000,000 and make additional option payments as follows:

- September 5, 2018: \$65,000 and an additional 1,500,000 common shares;
- September 5, 2019: \$65,000;
- September 5, 2020: \$65,000; and
- September 5, 2021: \$3,000,000.

On November 4, 2019, an amendment was signed whereby the September 5, 2021 payment was changed to \$100,000 and the \$3,000,000 payment deferred to September 5, 2022. The Company is up to date on all option payments up to and including the \$100,000 due on September 5, 2021, and has satisfied fully the exploration expense requirements, i.e., \$1,000,000 has already been spent.

All claims are in good standing as of the effective date of this Technical Report. The twenty-nine claims (6,220 ha) have an annual total of \$155,000 (\$25/ha) due at various anniversary dates throughout the year (Table 4.1).

	TABLE 4.1 LAST HOPE PROPERTY CLAIMS					
Name	Number	Туре	Area (ha)	Granted Date	Expiry Date	Annual Amount Due (\$)
Peter C. Dunlo	p Claims					
Last Hope 14	P9479E	Claim	195	28/06/1988	27/08/2024	4,875
Last Hope 1	P8881E	Claim	256	27/01/1986	28/03/2029	6,400
Last Hope 4	W45575	Claim	256	19/07/1982	17/09/2024	6,400
Last Hope 2	P8880E	Claim	256	27/01/1986	28/03/2026	6,400
Last Hope 10	P6994E	Claim	256	21/12/1987	19/02/2025	6,400
Last Hope 8	W45579	Claim	256	16/07/1982	09/14/2024	6,400
Last Hope 5	W45576	Claim	256	16/07/1982	14/09/2024	6,400
No Name	CB9043	Claim	259	13/03/1978	12/05/2045	6,475
Last Hope 12	P9477E	Claim	256	28/06/1988	27/08/2024	6,400
Last Hope 11	P9478E	Claim	256	28/06/1988	27/08/2024	6,400
Last Hope 6	W45577	Claim	256	16/07/1982	14/09/2030	6,400
Last Hope 9	W45580	Claim	112	16/07/1982	14/09/2024	2,800
Last Hope 13	P9476E	Claim	131	28/06/1988	27/08/2024	3,275
Last Hope 3	P8879E	Claim	256	27/01/1986	28/03/2026	6,400
Last Hope 7	W45578	Claim	256	16/07/1982	14/09/2030	6,400
55 North Minin	g Inc. Claims					
BRUCE1	MB12840	Claim	256	27/11/2020	26/01/2023	6,400
BRUCE2	MB12841	Claim	110	27/11/2020	26/01/2023	2,750
BRUCE3	MB12842	Claim	107	27/11/2020	26/01/2023	2,675
BRUCE4	MB12843	Claim	252	27/11/2020	26/01/2023	6,300
BRUCE5	MB12844	Claim	248	27/11/2020	26/01/2023	6,200
BRUCE6	MB12845	Claim	142	27/11/2020	26/01/2023	3,550
BRUCE14	MB13298	Claim	125	27/11/2020	26/01/2023	3,125
BRUCE8	MB12847	Claim	192	27/11/2020	26/01/2023	4,800
BRUCE10	MB12849	Claim	212	27/11/2020	26/01/2023	5,300
BRUCE9	MB12848	Claim	192	27/11/2020	26/01/2023	4,800
BRUCE11	MB12555	Claim	212	27/11/2020	26/01/2023	5,300
BRUCE12	MB12576	Claim	226	27/11/2020	26/01/2023	5,650
BRUCE13	MB13273	Claim	248	27/11/2020	26/01/2023	6,200
BRUCE7	MB12846	Claim	185	27/11/2020	26/01/2023	4,625
Total	claims =	15	6,220	ha		\$155,500

380,000 E 390,000 E 400,000 E Farley Lake Mine AGGASIZ SHEAR MacLellan Mine Town of Lynn Lake Farley Lake access road 6,300,000 N Burnt Timber Min access road to Thompson 250km JOHNSON SHEAR **Burnt Timber & Linkwood Deposits** to Flin Flon Last Hope Deposit 250km Last Hope 6,280,000 N Property Location Map 20km SCALE

FIGURE 4.1 LOCATION MAP OF THE LAST HOPE PROPERTY

Source: Carlisle Goldfields Ltd. website (2014)

BRUCES

BRUCES

BRUCES

BRUCES

BRUCES

LASTROPE IA

LASTROPE 1

LASTROPE 3

BRUCES

BRUCE

FIGURE 4.2 CLAIMS OF THE LAST HOPE PROPERTY

Source: 55 North Mining Inc. (2021)

#### 4.3 SURFACE RIGHTS AND PERMITS

Claims are crown grants and include surface access. All claims have been located by staking out on the ground as per The Mines and Minerals Act of Manitoba. Assessment work, in the amount of \$12.50/ha for each of the second to the 10<sup>th</sup> years, and \$25.00/ha for the 11<sup>th</sup> year and for each year thereafter, is required to be completed annually on claim licenses.

#### 4.4 ROYALTIES

The option to acquire a 100% interest in the Property is subject to a 2% royalty. The Company has the right, any time prior to the commencement of commercial production, to acquire up to half (1%) of the net smelter return royalty upon payment to Peter C. Dunlop of \$500,000 for each 0.5% of the royalty purchased.

### 4.5 ENVIRONMENTAL LIABILITY

There is no environmental liability known to P&E regarding the Last Hope Property.

# 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

#### 5.1 ACCESSIBILITY

The Last Hope Property is located approximately 23 km southeast of the mining town of Lynn Lake, Manitoba and is accessed by an all-weather gravel road, the Burnt Timber Mine road to the mine site (Figure 5.1) and subsequently an 8 km winter road from the Burnt Timber Mine road to the Property. Lynn Lake is an established mining community connected by an all-weather road, Highway 391, to Leaf Rapids (105 km east) and Thompson, Manitoba (315 km southeast). Lynn Lake has a population of approximately 500 residents according to a 2016 census and has an airport which was serviced by seasonal scheduled air service until 2013. There is currently no commercial flight travel to Lynn Lake, only chartered service. A railway line is located at Lynn Lake, which extends south to The Pas, Manitoba, and from there, to the rest of Canada.

#### 5.2 CLIMATE

Lynn Lake has an annual average temperature of -3.2°C. The warmest month, on average, is July with an average temperature of 16.2°C. The coldest month, on average, is January with an average winter temperature of -27°C. Annual precipitation is approximately 500 mm, the month with the most precipitation, on average, is July with 85.4 mm of precipitation. The month with the most snow is November with an average of 37.6 mm (Figure 5.1).

#### 5.3 LOCAL RESOURCES

Northern Manitoba has a long mining history, however, the lack of active mining in Lynn Lake for over a decade means materials and human resources will need to be brought in from Thompson, Flin Flon, The Pas, and Winnipeg.

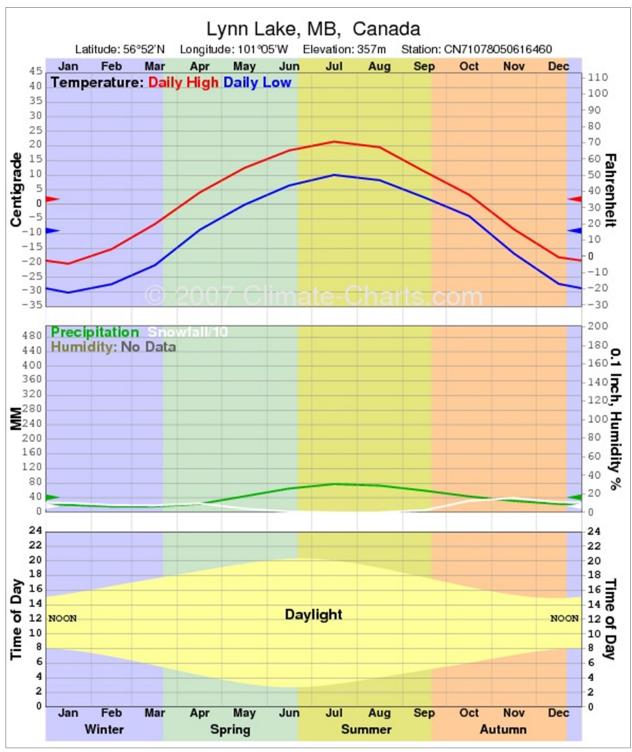
#### 5.4 INFRASTRUCTURE

There is no infrastructure present on the Property.

#### 5.5 PHYSIOGRAPHY

The vegetation in the Lynn Lake area is typical of northern Manitoba. Most of the area is covered by northern boreal forest, consisting chiefly of jack pine, black spruce and balsam with a few stands of birch and poplar. The Property has patches of northern boreal forest and relief that is low lying, consisting of scattered marsh or moss-covered swampy areas.

FIGURE 5.1 CLIMATE CHART FOR LYNN LAKE, MANITOBA



Source: www.climate-charts.org

#### 6.0 HISTORY

Gold was first discovered at Last Hope in 1937. A total of 204 diamond drill holes have been advanced on the Property with 189 of the holes drilled directly into the current Mineral Resource area. Core from most of the historical 204 diamond drill holes is available at the Property. A history of the Property is presented in Table 6.1.

	TABLE 6.1 HISTORICAL EXPLORATION ON THE LAST HOPE PROPERTY					
Year	Company	Exploration				
1937	R. Madole	Last Hope area staked.				
1939	Sherritt Gordon Mines Ltd.	59 hole drill program totalling 3,129 m.				
1978	W.B Dunlop Limited NPL	Last Hope area re-staked.				
1986	Balcor Resources Corp.	Calculated an historic mineral resource on the property that predates NI 43-101. Identified two shallow plunging ore shoots within a steep, tabular quartz vein averaging 1.5 m in width.				
2012	Carlisle Goldfields	27 hole DD program totalling 7,486 m.				
2013	Carlisle Goldfields	Based on 2012 drilling and 204 historical drill holes, a NI 43-101 compliant Mineral Resource Estimate was prepared in April 2013 (at a 2.0 g/t cut-off: Indicated: 201,000 tonnes @ 5.75 g/t for 37,000 oz, Inferred: 1,067,000 tonnes @ 5.29 g/t for 182,000 oz.				

#### 6.1 2012 CARLISLE GOLDFIELDS DRILLING

A 27 hole, diamond drill program was conducted on the Last Hope Deposit by Carlisle Goldfields in 2012, totalling 7,486.24 m. Drill hole collar information is presented in Table 6.2. Select significant intersections and higher-grade sub-intervals are presented in Table 6.3.

The DO series of drill holes were advanced on the Mineral Resource area. The LH series of holes were exploration holes and did not yield any significant results.

Drill hole locations are presented in Figure 6.1 and cross-section is presented in Figure 6.2.

TABLE 6.2 2011 DRILL PROGRAM AZIMUTH DATA LAST HOPE DEPOSIT							
Drill Hole ID	Eastings*	Northings*	Elevation (m)	Dip (°)	Azimuth (°)	Length (m)	
DO12-01	387,168	6,282,913	1,120	-64	46	167.6	
DO12-02	387,149	6,282,931	1,120	-53	45	152.4	
DO12-03	387,301	6,282,664	1,117	-71	48	325.5	
DO12-04	387,416	6,282,581	1,120	-57	47	179.8	
DO12-05	387,130	6,282,874	1,115	-63	45	279.8	

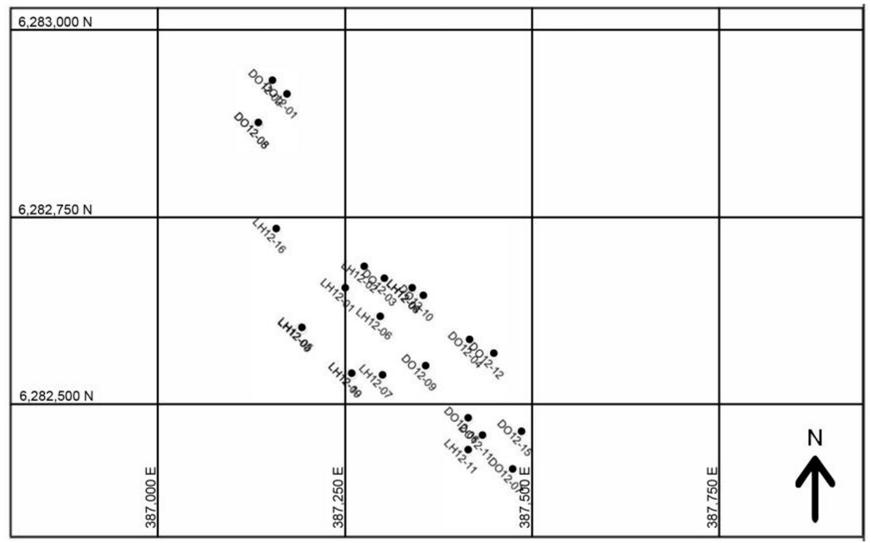
TABLE 6.2 2011 DRILL PROGRAM AZIMUTH DATA LAST HOPE DEPOSIT						
Drill Hole ID	Eastings*	Northings*	Elevation (m)	Dip (°)	Azimuth	Length (m)
DO12-06	387,411	6,282,480	1,113	-63	45	319.4
DO12-07	387,470	6,282,412	1,109	-60	45	350.0
DO12-08	387,130	6,282,874	1,115	-72	47	371.9
DO12-09	387,354	6,282,550	1,121	-65	45	327.1
DO12-10	387,350	6,282,643	1,121	-68	43	225.6
DO12-11	387,430	6,282,457	1,112	-70	47	410.2
DO12-12	387,444	6,282,566	1,118	-58	44	160.9
DO12-13	387,501	6,282,281	1,103	-61	40	447.4
DO12-14	387,171	6,283,074	1,119	-63	231	203.6
DO12-15	387,482	6,282,463	1,113	-66	51	285.9
LH12-01	387,245	6,282,654	1,120	-65	47	195.1
LH12-02	387,273	6,282,679	1,113	-45	47	162.9
LH12-03	387,333	6,282,652	1,126	-45	47	122.8
LH12-04	387,333	6,282,652	1,126	-64	45	160.8
LH12-05	387,188	6,282,601	1,113	-65	47	320.0
LH12-06	387,293	6,282,616	1,124	-62	47	212.0
LH12-07	387,296	6,282,538	1,119	-55	47	315.0
LH12-08	387,188	6,282,601	1,113	-72	47	430.0
LH12-09	387,255	6,282,540	1,115	-62	47	350.0
LH12-10	387,255	6,282,540	1,115	-68	47	385.0
LH12-12	387,054	6,282,763	1,119	-73	47	410.0
LH12-16	387,154	6,282,733	1,119	-64	47	215.0
Total	27 holes					7,486.24

Note: \* coordinates are in UTM NAD 83 Zone 14N.

TABLE 6.3 2012 DRILL PROGRAM SIGNIFICANT INTERSECTIONS					
Drill Hole ID	From (m)	To (m)	Length (m)*	Au (g/t)	
DO12-01	83	91	8	2.8	
including	88	91	3	6.0	
DO12-02	95.2	102.0	6.8	5.1	
including	98	101	3	9.8	
DO12-03	289.8	298.0	8.2	2.1	
DO12-05	207	221	14	3.3	
including	208	213	5	7.2	
DO12-06	279.0	283.6	4.6	2.8	
DO12-10	193	199	6	4.9	
DO12-11	357.0	363.5	6.5	8.1	
including	362.0	363.5	1.5	26.8	

Note \* True Widths are not known.

FIGURE 6.1 LAST HOPE DEPOSIT AREA 2012 DRILL HOLE LOCATIONS



Source: 55 North Mining Inc. (2021)

9,500m 9,750m 10,000m 10,250m 10,500m 1.6m @ 56.5g/t Au 4.0m @ 12.9g/t Au 2.6m @ 10.5g/t Au 1.5m @ 5.1g/t Au 5.4m @ 6.5g/t Au 2.7m @ 10.2g/t Au 3.0m @ 4.4g/t Au 1.7m @ 9.5g/t Au 1.9m @ 12.0g/t Au 0m 10.3m @ 3.7g/t Au 2.0 m @ 12.0g/t Au 100m 100m 3.8m @ 10.6g/t A 2.2m @ 45.0g/t Au 2.2m @ 38.5g/t Au 1.9m @ 11.8g/t Au 3.5m @ 8.8g/t Au 2.4m @ 12.9g/t Au 0.6m @ 2.3g/t Au 200m 200m 1.9m @ 12.8g/t Au 7.0m @ 15.1g/t Au 300m 300m 3.8m @ 6.1g/t Au Last Hope Gold Deposit 400m 400m 1.8m @ 5.7g/t Au : Long Section: Select Intersections in Drilling 500m 500m MINERALIZATION OPEN High Grade Zone (+10gm Au/T) Medium Grade Zone (7-10gm Au/T) Lower Grade Zone (less than 7gm Au/T) 600m 600m 100 metres

FIGURE 6.2 TYPICAL VERTICAL CROSS-SECTION

Source: Carlisle Goldfields (2014)

#### 7.0 GEOLOGICAL SETTING AND MINERALIZATION

#### 7.1 REGIONAL GEOLOGY

The Last Hope Property is located within the Churchill Structural Province of the Canadian Shield, lying within the southern portion of the Lynn Lake Greenstone Belt (Figure 7.1). It consists of tholeitic to calc-alkaline mafic volcanic and volcaniclastic rocks with minor rhyolite and dacite (Jones et. al., 2005).

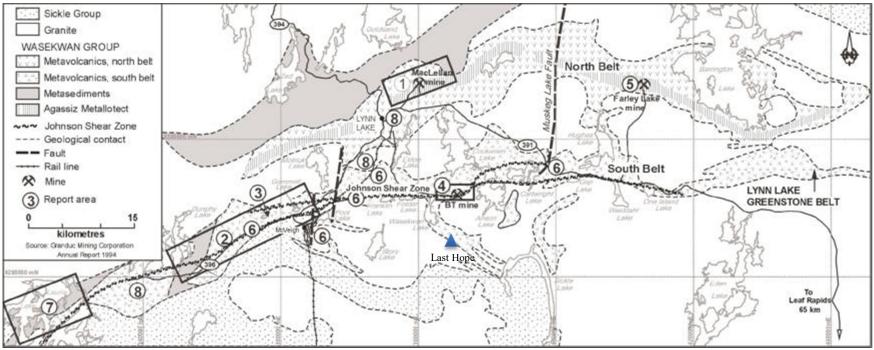
The Lynn Lake Greenstone Belt, comprised of the North and older South Belts, is part of a larger litho-structural unit which extends in a north-easterly direction from the La Ronge Greenstone Belt in Saskatchewan.

The rocks in the South Belt consist of lens-shaped volcanic and sedimentary units which have been interpreted as representing overlapping edifices with flanking aprons of volcaniclastic rocks (Gilbert et al., 1980). This linear feature has been termed the 'Johnson Trend'. The former Burnt Timber open pit deposit (Au) is contained within this trend.

Structurally, the most significant feature in the South Belt is the east-west trending Johnson Shear Zone ("JSZ"), a wide zone of intense brittle-ductile deformation, characterized by faulting, shearing, mylonization and associated silica and carbonate alteration and sporadic gold mineralization. The JSZ is host to at least 26 gold prospects and showings over a 44 km strike length.

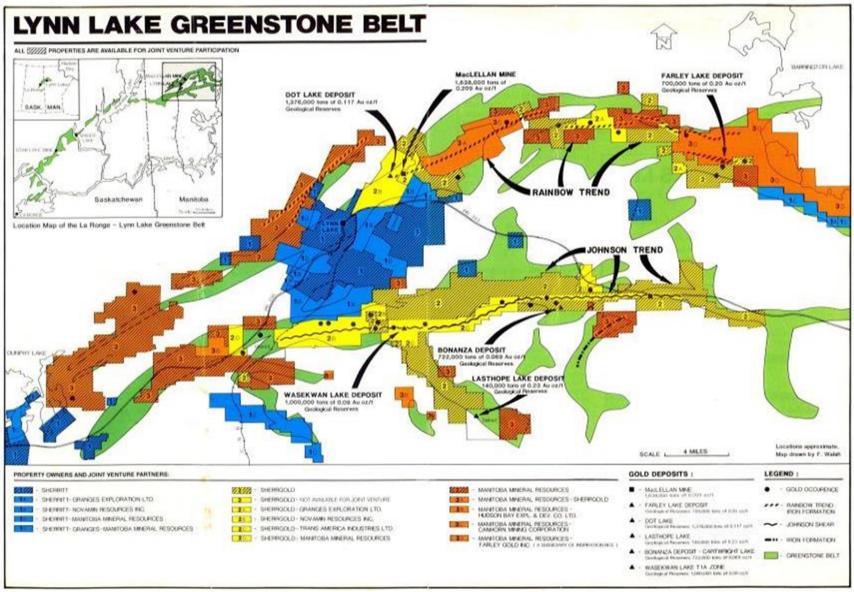
The North Belt is a north-facing homocline and consists of rhyolite, overlain by andesite and basalt, sedimentary rocks and an upper basaltic unit. The upper basalts include high alumina and subordinate high magnesia tholeites. Both the MacLellan Deposit (Au, Ag) and the Farley Lake Deposit (Au) are located within this belt occurring in a metallotect termed the 'Rainbow Trend' (Figure 7.2).

FIGURE 7.1 REGIONAL GEOLOGY MAP



Source: Park et al. (2002)

FIGURE 7.2 MINERAL TRENDS AND DEPOSITS OF THE LYNN LAKE GREENSTONE BELT



Source: Puritch et al. (2012)

#### 7.2 PROPERTY GEOLOGY

The Last Hope Property is underlain by a west-northwest-striking layered succession. From south to north, this succession is comprised of quartz-feldspar porphyry, mafic tuff, quartzite, mudstone, magnetite-bearing quartzite and feldspathic quartzite (Figure 7.3). The Deposit consists of two, shallow plunging ore shoots within a steep, tabular quartz vein that averages 1.5 m in width.

Two parallel quartz veins cut the quartzite, the South Vein and the Madole Vein, both hosting gold bearing sulphide mineralization while the North Vein is barren.

#### 7.3 MINERALIZATION

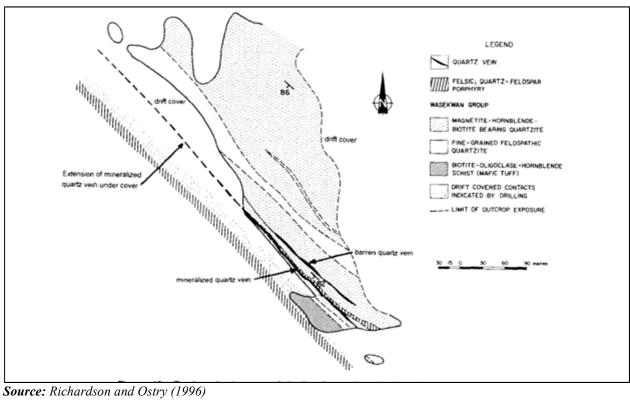
The Madole Vein outcrops for approximately 225 m and strikes northwest, dips 80 degrees southwest and fills a fracture in thinly bedded impure quartzite. The wall rocks around the veins are altered for approximately 2.5 cm. The north boundary of the vein is a felsite dyke and is schistose at the contact. The south boundary is a hornblende schist and cherty feldspathic quartzite. Minor amounts of chlorite are present.

The Madole Vein is 0.3 to 1.2 m wide and can be divided into two units:

- a southern white massive quartz unit; and
- a northern grey aphanitic, siliceous unit with disseminated grains and stringers of pyrite and trace chalcopyrite.

The average sulphide content of the south vein is 5% (local variation up to 15%). Mineralization appeared to be localized on a major fault. The best gold values were found in the highly altered, quartz-pyrite rich footwall.

**FIGURE 7.3** LAST HOPE PROPERTY GEOLOGY



Source: Richardson and Ostry (1996)

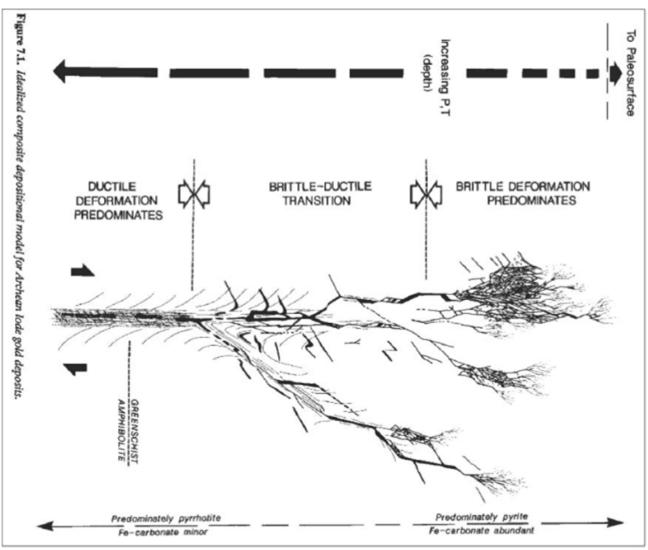
#### 8.0 DEPOSIT TYPES

The Last Hope Deposit can be classified as a mesothermal lode gold deposit in a Proterozoic setting (Figure 8.1).

Mesothermal lode gold deposits typically occur in metamorphosed, supracrustal rocks, most commonly in tholeitic basalts and komatiites but also in felsic volcanic rocks. Discrete veins occur in deformation zones in greenschist metamorphic domains where brittle or brittle-ductile fracturing is dominant. Veins are emplaced in cross-cutting or layer-parallel shear zones, extensional zones and more rarely in saddle reefs (Klien and Day, 1994).

Gold is associated with disseminated sulphide minerals. Gold-bearing sulphide minerals are controlled by minor fractures, and occur in irregular patches in quartz, in the wall rock adjacent to the vein, or as disseminations or replacements in zones of highly altered and deformed rocks. Ore bodies tend to be tabular or rod-shaped formed by persistent or discontinuous veins and irregular bodies of gold bearing quartz. Quartz veins are typically surrounded by haloes of silicification and carbonate minerals.

FIGURE 8.1 IDEALIZED COMPOSITE DEPOSITIONAL MODEL FOR MESOTHERMAL LODE GOLD DEPOSITS



Source: Colvine, A.C., et al. (1988)

#### 9.0 EXPLORATION

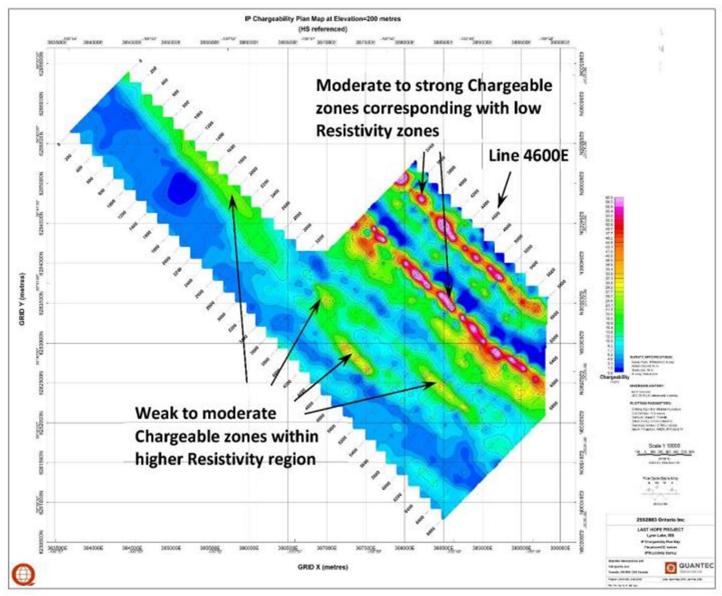
During the period of April 7 to May 22, 2018 and January to March 2020 Quantec Geoscience Ltd. acquired 78.15 line-km of direct current and induced polarization ("DCIP") data on 35 lines over the Last Hope Project area.

The data are of high quality and accurately represent the DC resistivity and chargeability response of the subsurface in the survey area. The results have delineated zones of low to moderate resistivity corresponding with zones of moderate to strong chargeability as well as additional zones of moderate to weak chargeability within higher resistivity regions.

The time domain DCIP surveys conducted at the Last Hope Project were completed successfully without incident. The surveys provided 78.15 line-km of survey coverage over 35 lines spanning a strike length of 3.4 km. Apparent resistivity ranging from 1 Ohm-m to 100,000 Ohm-m and total chargeability ranging from 0 to 80 mV/V have been detected.

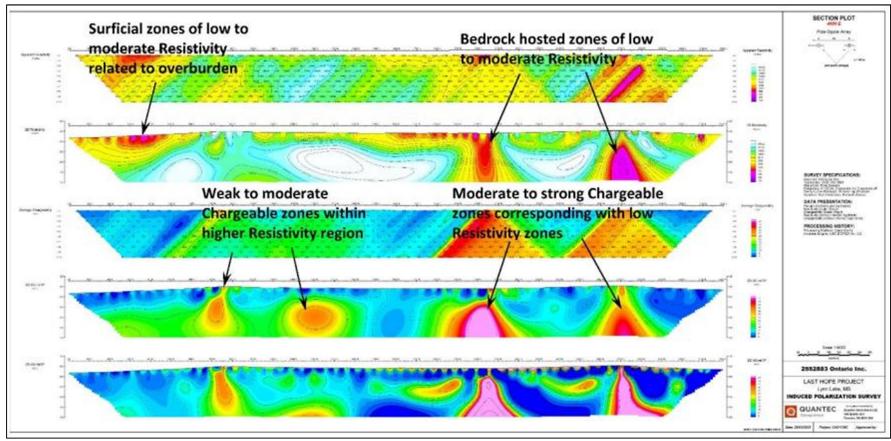
Two prominent zones of low to moderate resistivity crosscut from southeast to northwest across the northeast region of the Last Hope grid as shown in Figure 9.1. Zones of moderate to strong chargeability correspond with the lower resistivity zones, Figure 9.1. The zones remain open at both limits of the coverage. Weak to moderate chargeable zones, which similarly form southeast to northwest lineaments, are evident within the higher resistivity southwest region of the grid. Figure 9.2 shows the different IP results for section line 4,600 E, which is indicated in Figure 9.1.

FIGURE 9.1 LAST HOPE GRID DC REFERENCED CHARGEABILITY PLAN MAP AT 200 M EL



Source: 55 North Mining Inc. (2020)

FIGURE 9.2 LAST HOPE INDUCED POLARIZATION SURVEY, SECTION LINE 4,600E



Source: 55 North Mining Inc. (2020)

#### 10.0 DRILLING

#### 10.1 2020-2021 DRILLING

A diamond drill program consisted of 11,653 m in 29 holes was conducted on the Last Hope Property in 2020 and 2021. This program commenced in October 2020 and was completed in May 2021. Drill collar locations are presented in Table 10.1 and drill hole locations are shown in Figure 10.1. Significant intersections are presented in Table 10.2. A vertical composite longitudinal section is shown in Figure 10.2.

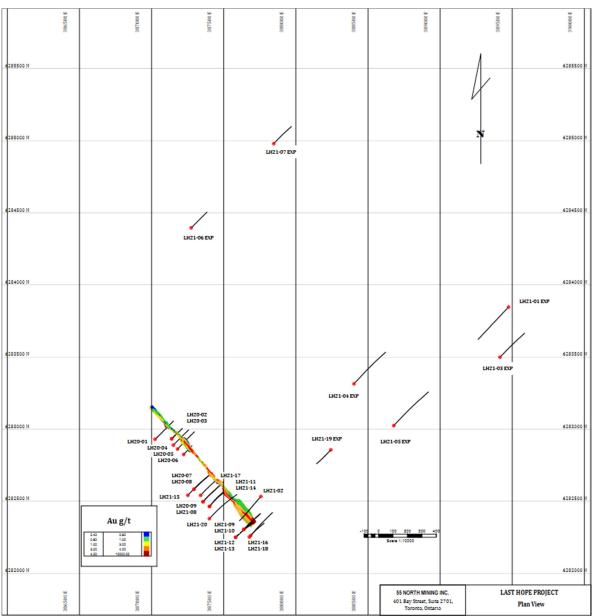
The initial phase of the diamond drill program upgraded and expanded the existing Mineral Resource (see Section 14). Step-out drilling extended the strike length of the gold mineralization to approximately 1.2 km. A portion of the diamond drill program was designed to address a number of geophysical targets as determined by the recently completed Induced Polarization (IP) survey. In addition, there are several historic geochemical anomalies resulting from surveys undertaken in 1987 and 1988 which are coincident with the IP anomalies which were also investigated.

## **10.1.1 Mineral Resource Drilling**

Drill holes LH-20-01 to LH-20-05 were designed to infill and upgrade the existing Mineral Resource Estimate and to expand its limits. LH-20-01 did not encounter mineralization but holes LH-20-02 to LH-20-05 intersected gold mineralization in disseminated and fracture-controlled veinlets of sulphide mineralization. The sulphide mineralization (primarily pyrite/pyrrhotite with minor chalcopyrite/sphalerite) can be found in both quartz veins and in the moderately to strongly foliated amphibolite (possible basaltic protolith) which hosts both the sulphides and the quartz veins. Drill hole LH-20-08 exhibited the widest intersection of gold mineralization encountered on the Property. It was drilled down-plunge of a high-grade shoot, intersecting 19.25 g/t over 15.7 m at approximately 345 m vertical depth.

Drill holes LH-21-08, LH-21-11, LH-21-14, LH-21-15, LH-21-17, and LH-21-20 were drilled to extend down plunge the high-grade shoot which was pierced by hole LH-20-08. All holes, except hole LH-21-15, returned mineable widths of gold mineralization. Hole 15 appears to have been drilled below the plunge of the high-grade shoot. Hole LH-21-02 was drilled at a 225-degree azimuth to test for parallel zones of mineralization to the northeast of the known zone. Two zones were intersected over narrow (1 m) widths.

FIGURE 10.1 DRILL HOLE LOCATIONS 2020-2021 DRILL PROGRAM LAST HOPE PROPERTY



Source: www.55northmining.com (2021)

## 10.1.2 Exploration Drilling

Drill holes LH-21-01, LH-21-03, LH-21-04, and LH-21-05 were part of a program designed to test a series of potential parallel mineralized zones to the northeast identified by an IP geophysical survey completed in 2020. These targets were geophysical highs (Induced Polarization) coincident with geochemical highs (gold-in-soils), and were parallel to and similar in signature to that of the trend hosting the current Mineral Resource Estimate. It should be noted that the source for the geochemical highs in gold mineralization has not been determined by

work to date. These holes, LH-21-01 and LH-21-03-05, intersected thick intersections of massive sulphides (pyrrhotite) but were barren of gold mineralization. Drill holes LH-21-06, LH-21-07, and LH-21-19 tested three geophysical highs (Induced Polarization) to the northeast of the Mineral Resource area and were also barren of gold mineralization.

## 10.1.3 Step-out Drilling

Drill holes LH-21-09, LH-21-10, LH-21-12, and LH-21-13 were drilled on a section 90 metres beyond the south-easternmost drill hole to-date. Holes LH-21-16 and LH-21-18 were drilled 60 metres beyond that. All holes, except hole LH-21-13, returned mineable widths of gold mineralization. However, hole 13 did encounter 1.06 g/t Au over 1.0 metre which confirmed that the gold mineralization is continuous to depth.

This round of drilling in conjunction with a re-interpretation of the data has determined the existence of multiple en-echelon gold mineralized zones of mineable widths along the strike of the existing Mineral Resource. Considering the south-easternmost holes, LH-21-16 and LH-21-18, there is indication that this model continues to persist along strike. Previous Mineral Resource models had not interpreted these en-echelon gold zones.

#### **10.1.4** Future Plans

The Company is currently analyzing the results of the 2020/2021 drilling and planning a Phase 2 drill program. Given the favourable results received to-date, the design of the Phase 2 drill program will consider in part the following:

- Infill drilling in the areas of widening high-grade gold zones (LH-20-08 (19.25 g/t over 15.7 m) and LH-21-20 (6.17 g/t over 8.0 m)).
- Infill drilling in areas of multiple en-echelon zones (holes LH-21-16 and LH-21-18).
- Drilling to extend down-plunge extensions of high-grade shoots.
- Step-out drilling to extend mineralization along strike to the southeast.

TABLE 10.1 2020/2021 COLLAR LOCATIONS LAST HOPE PROPERTY							
Drill Hole ID	Easting *	Northing *	Elevation (m)	Length (m)			
LH20-01	387,023	6,282,930	1,102	427			
LH20-02	387,139	6,282,933	1,120	187			
LH20-03	387,139	6,282,932	1,122	192			
LH20-04	387,151	6,282,889	1,105	275			
LH20-05	387,180	6,282,862	1,120	360			

TABLE 10.1 2020/2021 COLLAR LOCATIONS LAST HOPE PROPERTY						
Drill Hole ID	Easting *	Northing *	Elevation (m)	Length (m)		
LH20-06	387,222	6,282,824	1,116	182		
LH20-07	387,294	6,282,584	1,102	344		
LH20-08	387,294	6,282,583	1,102	422		
LH20-09	387,357	6,282,496	1,096	431		
LH21-01	389,475	6,283,846	1,127	532		
LH21-03	389,415	6,283,499	1,138	422		
LH21-04	388,679	6,283,024	1,132	521		
LH21-02	387,758	6,282,533	1,117	588		
LH21-05	388,403	6,283,314	1,117	455		
LH21-07	387,850	6,284,975	1,086	264		
LH21-08	387,357	6,282,496	1,089	483		
LH21-06	387,275	6,284,395	1,110	270		
LH21-09	387,640	6,282,305	1,063	264		
LH21-10	387,640	6,282,305	1,063	387		
LH21-11	387,401	6,282,463	1,089	402		
LH21-14	387,401	6,282,463	1,089	462		
LH21-12	387,582	6,282,249	1,064	420		
LH21-13	387,582	6,282,249	1,064	611		
LH21-15	387,253	6,282,540	1,084	550		
LH21-17	387,340	6,282,541	1,096	484		
LH21-18	387,678	6,282,251	1,071	420		
LH21-19	388,243	6,282856	1,137	234		
LH21-20	387,401	6,282379	1,076	642		
LH21-16	387,686	6,282261	1,072	423		

Note: \* coordinates are in UTM NAD 83 Zone 14N.

TABLE 10.2 2020/2021 SIGNIFICANT INTERSECTIONS LAST HOPE PROPERTY						
Drill Hole ID						
LH-20-01		NS	$V^1$			
LH-20-02	98.50	111.40	12.90	2.69		
Incl.	100.00	107.00	7.00	4.63		
LH-20-03	135.00	142.00	7.00	7.59		
LH-20-04	149.00	156.00	7.00	2.17		

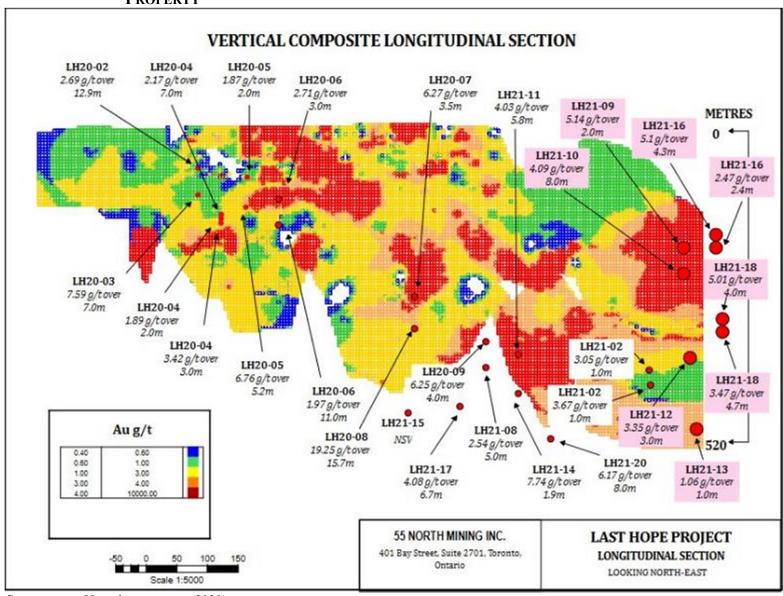
TABLE 10.2 2020/2021 SIGNIFICANT INTERSECTIONS LAST HOPE PROPERTY					
Drill Hole	From	To	Length	Au	
ID	(m)	(m)	(m)	(g/t)	
and	159.00	161.00	2.00	1.89	
and	165.00	168.00	3.00	3.42	
LH-20-05	91.00	93.00	2.00	1.87	
and	146.50	151.70	5.20	6.76	
LH-20-06	131.0	134.0	3.0	2.71	
and.	170.0	181.0	11.0	1.97	
LH-20-07	301.0	304.5	3.5	6.27	
LH-20-08	346.0	361.7	15.7	19.25	
LH-20-09	355.0	359.0	4.0	6.25	
LH-21-01 EXP		NS	V <sup>1</sup>		
LH-21-02	432.0 433.0 1.0 3.0				
and	441.0	442.0	1.0	3.67	
LH-21-03 EXP		NS			
LH-21-04 EXP		NS			
LH-21-05 EXP		NS			
LH-21-06 EXP		NS			
LH-21-07 EXP		NS	$V^{l}$		
LH-21-08	384.0	389.0	5.0	2.54	
LH-21-11	353.5	359.3	5.8	4.03	
LH-21-14	414.0	415.9	1.9	7.74	
LH-21-15		NS	V <sup>1</sup>		
LH-21-17	439.0	445.7	6.7	4.08	
LH-21-19 EXP		NS	$V^1$		
LH-21-20	480.0	488.0	8.0	6.17	
LH-21-09	162.0	164.0	2.0	5.14	
LH-21-10	197.0	205.0	8.0	4.09	
and	210.0	212.0	2.0	1.21	
LH-21-12	350.5	353.0	2.5	3.35	
LH-21-13		NS	$V^1$		
LH-21-16	169.7	174.0	4.3	5.10	
and	180.0	182.5	2.5	0.62	
and	191.0	193.4	2.4	2.47	
and	195.5	198.5	3.0	0.88	
LH-21-18	275.0	279.0	4.0	5.01	
and	296.3	301.0	4.7	3.47	

Note: 1 No Significant Values

All holes drilled at an azimuth of 45 degrees and a dip angle of 56 to 74 degrees.

Drill intercepts reported are not true widths. There is insufficient data at this point to determine true orientation.

FIGURE 10.2 DRILL HOLE PIERCE POINTS ON A LONG SECTION, SEPT. 2021 MINERAL RESOURCE MODEL - LAST HOPE PROPERTY



Source: www.55northmining.com (2021)

### 11.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY

All drill core samples were shipped to TSL Laboratories in Saskatoon, Saskatchewan for analyses.

The following sections analyses conducted at TSL Laboratories applies to work done by the Company and Carlisle Goldfields, the previous owner.

### 11.1 CHECK ASSAY QUALITY ASSURANCE/QUALITY CONTROL

TSL is accredited by the Standards Council of Canada and conforms to the requirements of CAN-P-1579: Requirements for the Accreditation of Mineral Analysis Testing Laboratories. TSL is an ISO 9001:2000 and ISO 17025 accredited laboratory, for analysis. The latest certificate for proficiency testing was issued in April 2013. TSL is looking to upgrade their certification in the near future although no protocols have changed since their last accreditation.

TSL protocols include fire assay for Au and Ag with an inductively coupled plasma ("ICP") finish on a crushed and pulverized sub-sample. The minimum and upper detection limits for Au are 5-1,000 ppb under this protocol. Above the upper detection limit, a gravimetric method is used for Au and Ag value determination.

### 11.2 SAMPLE PREPARATION

Drill core samples are received by the laboratory where they are sorted and dried prior to preparation. Drill core and rock samples are crushed using a primary jaw crusher to a minimum 70% passing -10 mesh. A finer crush is subsequently performed through a rolls crusher, obtaining a crushed reject at a minimum 95% passing -10 mesh. Equipment is cleaned between each sample with compressed air and brushes. In order to verify compliance with laboratory quality control ("QC") specifications, the laboratory performs a screen test at a minimum of: the start of each batch; a change in operator; a change in machine or environmental conditions; or, if the nature of the sample appears different. All screen data are recorded in a QC book which is available for examination by the client.

A representative split drill core sample is obtained by passing the entire reject sample through a riffle splitter and by alternating catch pans before taking the final split. The pulp size is 250 g. The remaining reject material is returned to a labelled bag and stored. The sub-sample thus obtained is pulverized to a minimum 95% passing -150 mesh. Checks on screens are performed at a minimum of: the start of each batch, a change in operator, a change in machine or environmental conditions, or if the nature of the sample appears different. All screen data are recorded in a QC book which is open for examination by the client. Pulverizers are cleaned with silica sand as required, or between each sample if requested.

### 11.3 ANALYTICAL PROCEDURE

Gold is analyzed by fire assay ("FA") with a gravimetric finish ("FA/Grav") on a 30 g aliquot. Samples that are analyzed by screen metallics are reported on separate certificates (referenced to original certificate on the cover page).

The detection limit for gold using fire assay with atomic absorption ("AA") finish is 5 ppb. The detection limit for gold by FA/Grav is 0.10 g/t (100 ppb).

If a request is made for screen metallics due to the presence of visible gold, they are performed on the total sample including the reject material. The sample is screened at 150 mesh, following which the entire sample plus fraction (+150 mesh) is assayed using FA/Grav and the minus fraction (-150 mesh) is assayed using FA/Grav (1 assay ton or 2 assay ton charge) in duplicate. Duplicate minus fractions are averaged before being entered into the calculation. Results are reported for the plus and minus fractions as well as the weighted average for the sample.

### 11.4 QUALITY CONTROL AT TSL

TSL uses both certified reference material ("CRM") and in-house reference material that has been assayed by external round robin runs at several participating laboratories. CRMs are inserted approximately every 20 samples, as well as two pulp duplicates and one geological blank in every batch with FA/AA work. Three pulp duplicates are run for FA/Grav work. Results from all internal QC samples, and repeats, were reported to the client.

The author of this Technical Report section considers the utilized sample preparation, security and analytical procedures to be adequate for use in a Mineral Resource Estimate.

### 11.5 2020/2021 SAMPLE PREPARATION PROCEDURES

Drill core is delivered daily from the drill sites to the core shack by helicopter. Core is logged, cut and sampled by the project geologist, Peter Karelse, P.Geo. or a geological technician and reviewed by Peter Karelse. In the mineralized zone, only vein material and approximately 1 m of material on either side of the vein is sampled. Samples were between 0.3 m and 1.0 m in length. All samples are cut with a drill core saw, with the top half being bagged. Samples are bagged with a sample tag and zip tied shut. 15 samples are placed in a rice bag and zip tied shut. Samples are shipped weekly to TSL Laboratories in Saskatoon via Manitoulin Transport.

### 11.6 QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

### 11.6.1 QA/QC Procedures – 2020/2021

Blanks and CRMs have been obtained by CDN Laboratories in British Columbia. Three different CRMs are inserted into the sample stream. Every 10<sup>th</sup> sample is a CRM, (alternating between high, medium and low-grade CRMs), every 20<sup>th</sup> sample is a field duplicate, and every 30<sup>th</sup> sample is a blank. Field duplicates were not utilized until the 2021 drilling.

### 11.6.2 Performance of Certified Reference Materials

The Company used five different CRMs materials prepared by CDN Resource Laboratories Ltd. The CRMs were certified for gold, and grades ranged from a low of 0.479 g/t Au to a high of 21.12 g/t Au. One CRM, CDN-GS-4L was also certified for silver. CDN-GS-4L was certified for 125.9 g/t Ag. Details of the CRMs are presented on Table 11.1, performance analysis results are summarized in Figures 11.1 to 11.9.

TABLE 11.1 2021 CERTIFIED REFERENCE MATERIAL LAST HOPE PROPERTY								
Reference Material	Certified Mean Value (g/t)	+/- 2 SD (g/t)	+/-3 SD (g/t)	No. of Results	No. of Negative Failures	No. of Positive Failures	Average Result (g/t)	
CDN-GS-12A	12.31	0.54	0.81	75	0	0	12.42	
CDN-GS-20A	21.12	1.54	2.31	8	0	0	21.75	
CDN-GS-20C	19.65	0.76	1.14	55	0	0	19.83	
CDN-GS-2S	2.38	0.16	0.24	8	1	0	1.98	
CDN-GS-2U	2.12	0.13	0.2	56	1	4	2.16	
CDN-GS-4L	4.01	0.30	0.45	27	0	1	4.05	
CDN-GS-9C	8.97	0.36	0.54	146	11	0	8.81	
CDN-GS-P4J	0.479	0.049	0.073	138	0	17	0.525	
CDN-GS-P6B	0.625	0.046	0.069	7	1	0	0.583	

*Note:* SD = standard deviation.

A warning was noted when a CRM analysis was between two and three standard deviations and a failure was considered as beyond three standard deviations. If a CRM analysis from outside of a mineralized zone failed, the failure was noted and no further action was taken. For the failure of CRMs within a mineralized zone, the five samples before and after the sample would be reanalyzed.

There was one failure for CRM CDN-GS-2S, Figure 11.4, and it is possible that a blank was mistakenly inserted. No action was taken. For CRM CDN-GS-2U, Figure 11.5, there was one negative failure, which is thought to have been a sample of CRM CDN-GS-P4J. No action was taken.

CRM CDN-GS-9C, Figure 11.7, has a low bias for gold and 11 negative failures. CRM CDN-GS-P4J, Figure 11.8, appears to have a high bias for gold and had 17 positive failures. These failures were noted, and since the majority of the failures were outside the mineralized zones, no action was taken. For the failures within the mineralized zone, standards before and after CDN-GS-P4J and CDN-GS-9C passed, the failures were noted, and no further action was taken.

The Company is removing CRMs CDN-GS-9C and CDN-GS-P4J from future sample streams.

FIGURE 11.1 PERFORMANCE OF CDN-GS-12A FOR 2020-2021 DRILLING PROGRAM

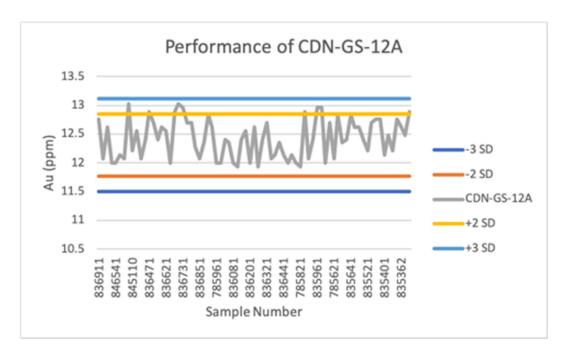


FIGURE 11.2 PERFORMANCE OF CDN-GS-20A FOR 2020-2021 DRILLING PROGRAM

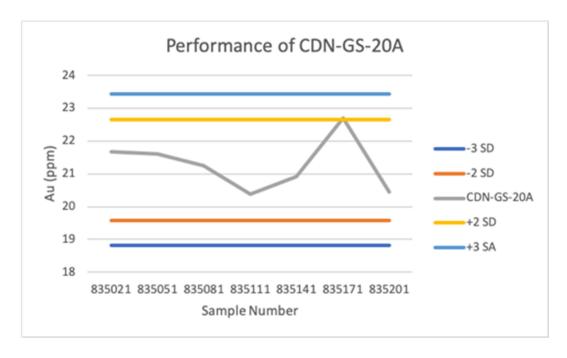


FIGURE 11.3 PERFORMANCE OF CDN-GS-20C FOR 2020-2021 DRILLING PROGRAM

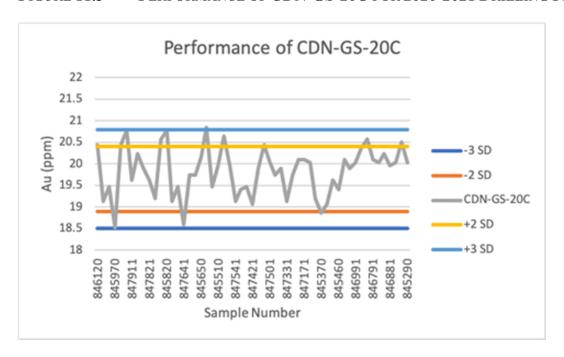


FIGURE 11.4 PERFORMANCE OF CDN-GS-2S FOR 2020-2021 DRILLING PROGRAM

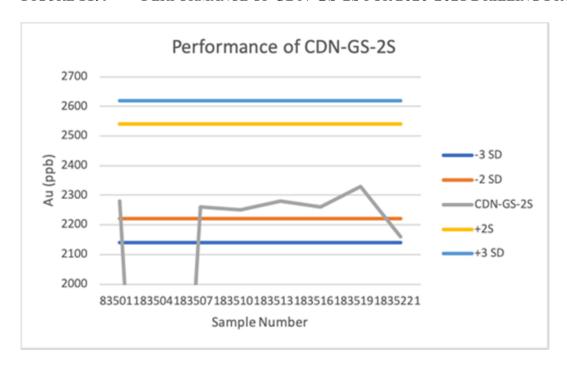


FIGURE 11.5 PERFORMANCE OF CDN-GS-2U FOR 2020-2021 DRILLING PROGRAM

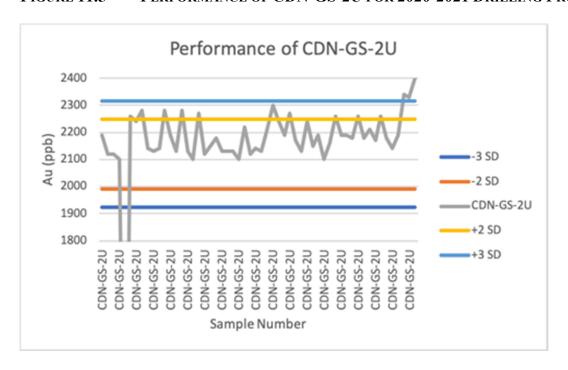


FIGURE 11.6 PERFORMANCE OF CDN-GS-4L FOR 2020-2021 DRILLING PROGRAM

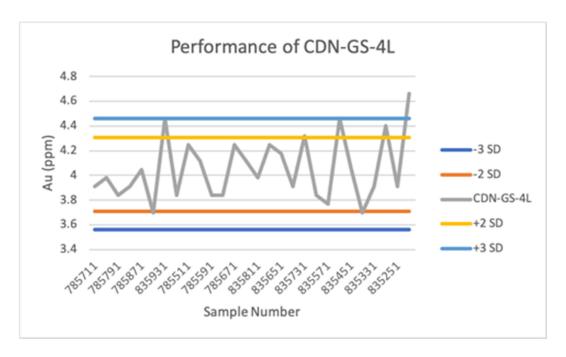


FIGURE 11.7 PERFORMANCE OF CDN-GS-9C FOR 2020-2021 DRILLING PROGRAM

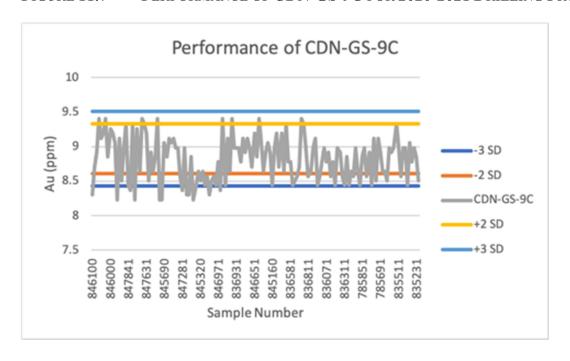


FIGURE 11.8 PERFORMANCE OF CDN-GS-P4J FOR 2020-2021 DRILLING PROGRAM

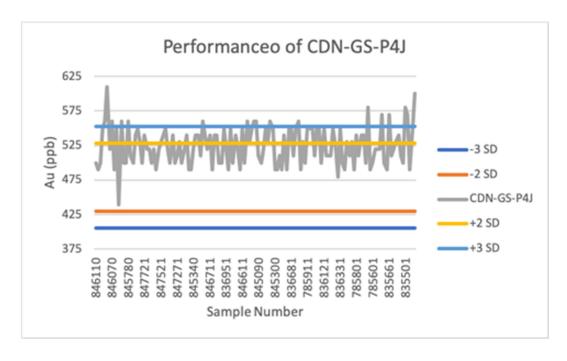
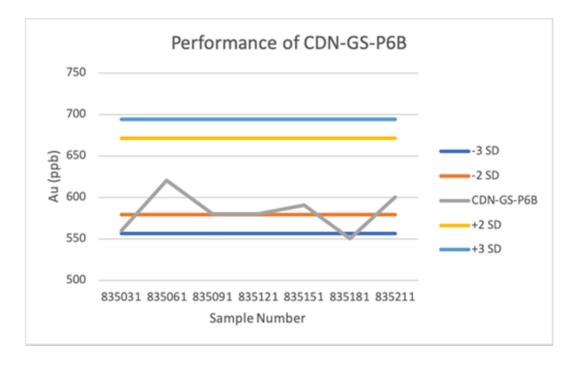


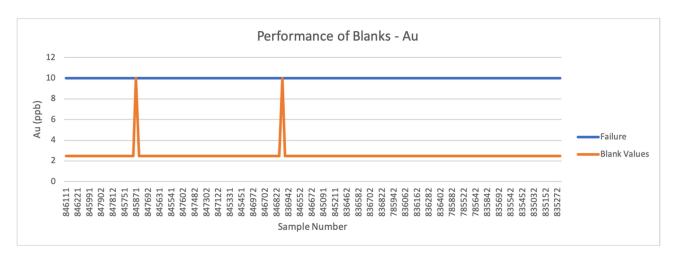
FIGURE 11.9 PERFORMANCE OF CDN-GS-P6B FOR 2020-2021 DRILLING PROGRAM



### 11.6.3 Performance of Blank Material

The blank material inserted by the Company to monitor contamination consisted of granitic material prepared by CDN Resource Labs. There were 170 blank assays for control sample CDN-BL-10, results are graphed on Figure 11.10. All blanks came back at the detection limit of 2.5 ppb Au, except for two samples that came back at 10 ppb which were not a significant impact to the data. The performance of the blanks is presented in Figure 11.10. The results of the blank material demonstrate that contamination at the analytical level was not an issue.

FIGURE 11.10 PERFORMANCE OF BLANKS FOR 2020-2021 DRILLING PROGRAM



### 11.7 PERFORMANCE OF FIELD DUPLICATES

Field duplicate data for gold was examined for the 2021 drill program at the Last Hope Property (Figure 11.11). Duplicates were not utilized in 2020. There were 193 duplicate pairs in the dataset. The data were graphed (Figure 11.11) and found to have fair precision for gold, at the field level, with R-squared values of 0.60.

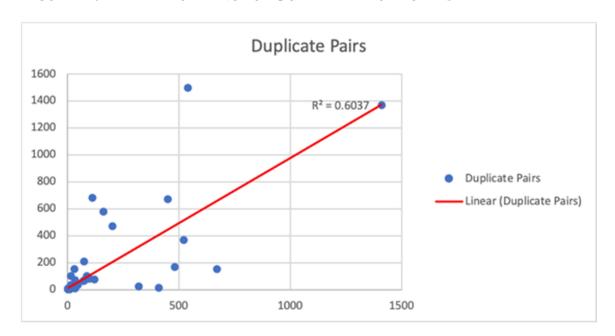


FIGURE 11.11 PERFORMANCE OF GOLD FIELD DUPLICATES

### 11.8 CONCLUSIONS

The Company has implemented and monitored a thorough QA/QC program for the drilling undertaken at the Last Hope Project during the 2020 drill program. Examination of QA/QC results for all recent sampling indicates no material issues with accuracy, contamination or precision.

The recommendation is made for the Company to continue with the QC protocol currently in place at Last Hope and to further enhance confidence in the data by carrying out a check assaying program at a secondary laboratory (or secondary laboratories) to confirm sampling and analyses undertaken during past drilling campaigns (checking 5% to 10% of the primary samples).

It is the opinion of the Qualified Person for this Technical Report section that sample preparation, security and analytical procedures for the Last Hope Property drill programs were adequate and that the data is of good quality and satisfactory for use in the current Mineral Resource Estimate.

### 12.0 DATA VERIFICATION

The following section applies to the data verification of work done by The Company and Carlisle Goldfields, the previous owner.

### 12.1 DRILL HOLE DATABASE

The Company used MX Deposit, which utilizes a cloud database, in order keep track of the drill progress on a daily basis. Results received from the laboratory are uploaded to the corresponding drill hole folder.

P&E completed verification of the Last Hope Property drill hole assay database for gold by comparison of the database entries with assay certificates, sent directly to P&E from TSL Laboratories, in comma-separated values (csv) and pdf formats.

Constrained assay data from the 2020 drill program were verified for the Last Hope Property. Approximately 97% (228 out of 235 samples) of the constrained database were verified for gold.

A few minor discrepancies were encountered in the data, which were not material to the current Mineral Resource Estimate.

### 12.2 P&E SITE VISIT AND INDEPENDENT SAMPLING – 2021

The Last Hope Property was visited by Mr. David Burga, P. Geo., from February 2 to 4, 2021 at which time he collected thirteen samples by quarter sawing the half core remaining in the core box. Samples were selected through a range of grades from high to low. At no time were any officers or employees of the Company advised as to the identification of samples to be selected.

During the site visit, samples were tagged with unique sample numbers and bagged. Mr. Burga brought the samples back to P&E's office in Brampton, Ontario, where they were delivered to AGAT Laboratories ("AGAT") in Mississauga.

AGAT is accredited by the Standards Council of Canada and conforms to the requirements of CAN-P-1579: Requirements for the Accreditation of Mineral Analysis Testing Laboratories. The latest certificate for proficiency testing was issued in December 2020.

Gold was analyzed using lead collection fire assay with a gravimetric finish. A graph of gold values for samples taken during the site visit versus the original sample values can be seen in Figure 12.2.

Considering the site visit samples were quarter drill core (for the new drilling) and therefore weighed less than the original half drill core, (i.e., difference in sample volume) and considering the fact that core duplicates can't be expected to have excellent precision due to inherent geologic variability, the comparison between the original results and the P&E results demonstrates that the tenor for gold are similar

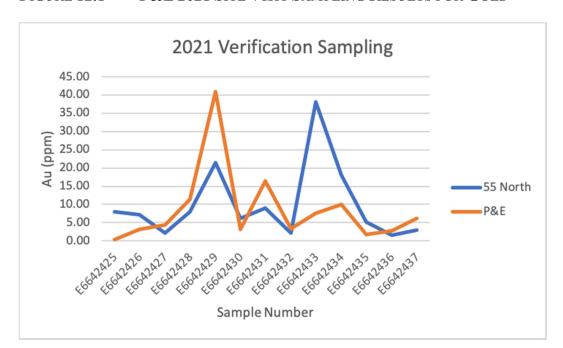


FIGURE 12.1 P&E 2021 SITE VISIT SAMPLING RESULTS FOR GOLD

### 12.3 P&E SITE VISIT AND INDEPENDENT SAMPLING – 2012

The Last Hope Property was visited by Mr. David Burga, P. Geo., from November 20 to 22, 2012 at which time he collected ten samples by quarter sawing the half core remaining in the drill core box. Samples were selected through a range of grades from high to low. At no time were any officers or employees of the Company advised as to the identification of samples to be selected.

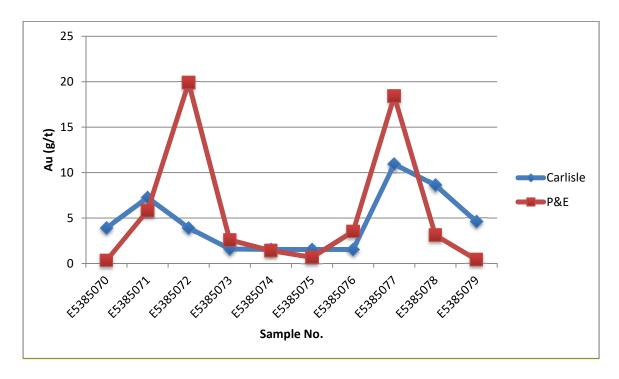
During the site visit, drill core samples were tagged with unique sample numbers and bagged. Mr. Burga brought the samples back to P&E's office in Brampton, Ontario, where they were couriered to AGAT Laboratories in Mississauga.

AGAT is accredited by the Standards Council of Canada and conforms to the requirements of CAN-P-1579: Requirements for the Accreditation of Mineral Analysis Testing Laboratories.

Gold was analyzed using lead collection fire assay with a gravimetric finish. A graph of gold values for samples taken during the site visit versus the original sample values can be seen in Figure 12.2.

Considering the site visit samples were quarter core (for the new drilling) and therefore weighed less than the original half core, (i.e., difference in sample volume) and considering the fact that core duplicates can't be expected to have excellent precision due to inherent geologic variability, the comparison between the original results and the P&E results demonstrates that the tenor for gold are similar.

FIGURE 12.2 P&E 2012 SITE VISIT SAMPLING RESULTS FOR GOLD



### 12.4 CONCLUSION

The Qualified Person responsible for this section of the Technical Report considers that there is good correlation between Au assay values in the Company's database and the independent verification drill core samples collected by P&E and analyzed at AGAT Laboratories. It is also the Qualified Person's 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

No mineral processing or metallurgical studies have been carried out by the Company with respect to the Last Hope Property.

### 14.0 MINERAL RESOURCE ESTIMATES

### 14.1 INTRODUCTION

Since the previous Mineral Resource Estimate with utilized drill holes completed before 2013, a total of 29 additional drill holes have been drilled in 2020 and 2021 on the Last Hope Property near the town of Lynn Lake, Manitoba. The purpose of this Technical Report section is to update the Mineral Resource Estimate that had an effective date of February 2, 2021 with the 2020-2021 drilling programs of 55 North Mining Inc.

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.

Peter Karelse, P.Geo., Vice-President of Exploration for the Company, developed the drilling database and 3-D geological wireframes for the Last Hope Property. P&E undertook the review, modification and acceptance of the 3-D geological wireframes and subsequent development of the Mineral Resource Estimate block model. This Mineral Resource Estimate was prepared by Yungang Wu, P.Geo. and Eugene Puritch, P.Eng., FEC, CET of P&E, of P&E Mining Consultants Inc., Brampton Ontario. The effective date of this Mineral Resource Estimate is September 27, 2021.

### 14.2 PREVIOUS MINERAL RESOURCE ESTIMATE

The previous public Mineral Resource Estimate for the Last Hope Property was carried out by P&E Mining Consultants Inc. with effective date February 2, 2021. The Mineral Resource Estimate with cut-offs of 1.0 and 1.8 g/t Au is presented in Table 14.1. The previous Mineral Resource Estimate is superseded by the Mineral Resource Estimate reported herein.

TABLE 14.1 Last Hope Mineral Resource Estimate Effective February 2, 2021					
Classification	Tonnes (k)	Au (g/t)	Au (koz)		
Indicated	213	5.53	38.0		
Inferred	1,107	5.17	184.1		

### 14.3 DATABASE

All drilling and assay data were provided by 55 North Mining Inc. in the forms of Access and Excel data files. The GEOVIA GEMS<sup>TM</sup> V6.8.4 database compiled by P&E for this Mineral Resource Estimate consisted of 260 surface drill holes, totalling 47,643 metres, of which 29 surface holes, totalling 11,653 metres, were drilled in 2020 and 2021, subsequent to the previous Mineral Resource Estimate. A total of 191 drill holes intersected the Mineral Resource wireframes. A drill hole location plan is shown in Appendix A.

The database contains 12,712 Au assays. The basic gold raw assay statistics are presented in Table 14.2.

TABLE 14.2 LAST HOPE ASSAY DATABASE SUMMARY				
Variable	Au	Length		
Number of Samples	12,712	12,712		
Minimum Value*	0.00	0.06		
Maximum Value*	239.31	3.96		
Mean*	0.54	0.81		
Median*	0.03	1.00		
Variance	20.05	0.07		
Standard Deviation	4.48	0.27		
Coefficient of Variation	8.36	0.33		
Skewness	24.89	0.49		
Kurtosis	954.93	10.23		

*Note:* \* Au units are g/t and length units are metres.

All drill hole survey and assay values are expressed in metric units, with grid coordinates reported using the NAD 83, Zone 14N UTM system.

### 14.4 DATA VERIFICATION

Verification of the Au assay database for the 2020-2021 drilling was performed by P&E against laboratory certificates that were obtained independently from TSL Laboratories of Saskatoon, Saskatchewan. No errors were observed in the assay database.

P&E previously verified the Au assay database for 2012 drilling program for the NI 43-101 Mineral Resource Estimate and Technical Report on the Property in 2013. A few insignificant errors were found in the assay data and corrected. The verification of historical pre-2013 Au Assays was not performed during the course of this study due those laboratory certificates not being available to P&E.

P&E validated the Mineral Resource database in GEMS<sup>TM</sup> 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

The geological interpretation of gold mineralization for the Last Hope Property was conducted by Peter Karelse, P.Geo., including 3-D wireframe construction. The domain outlines were determined by the selection of mineralized material above 1.8 g/t Au that demonstrated lithological and structural zonal continuity along strike and down dip. Minimum constrained drill core length for interpretation was approximately 2.0 metres. In some cases, mineralization below 1.8 g/t Au was included for the purpose of maintaining zonal continuity and minimum width.

The domain wireframes have been reviewed, modified and accepted by the authors of this Technical Report. In the opinion of the authors of this Technical Report section, the domain wireframes are suitable for the Mineral Resource Estimate.

A total of seven mineralized domains were generated and utilized for statistical analysis, grade interpolation, rock coding and Mineral Resource reporting purposes. Mineralized domain wireframes are displayed in Appendix B.

Topographic and bedrock surfaces were also created by Peter Karelse, P.Geo., and all mineralization domains were truncated by the bedrock surface.

### 14.6 MODEL ROCK CODE DETERMINATION

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

TABLE 14.3 MODEL ROCK CODES AND VOLUMES OF MINERALIZATION DOMAINS FOR THE MINERAL RESOURCE ESTIMATE					
Domain Rock Volume Code (m³)					
A	100	370,486			
В	200	142,074			
С	300	478,577			
D	400	26,119			
Е	500	200,851			
F	600	11,094			
G	700	16,755			

### 14.7 WIREFRAME CONSTRAINED ASSAYS

Mineral Resource wireframe constrained assays 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 BASIC STATISTICS OF ASSAYS CONSTRAINED WITHIN THE WIREFRAMES				
Variable	Au	Length		
Number of Samples	1,418	1,418		
Minimum Value*	0.00	0.06		
Maximum Value*	239.31	2.66		
Mean*	4.36	0.66		
Median*	0.75	0.61		
Geometric Mean*	0.70	0.59		
Variance	162.53	0.08		
Standard Deviation	12.75	0.29		
Coefficient of Variation	2.92	0.44		
Skewness	8.74	0.57		
Kurtosis	119.23	4.70		

Note: \* Au units are g/t and length units are metres.

### 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 abovementioned Mineral Resource wireframes. The composites were calculated for gold 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 g/t Au. If the last composite interval in a drill hole was less than 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.

TABLE 14.5 BASIC STATISTICS OF COMPOSITES AND CAPPED COMPOSITES					
Variable	Au Comp	Au Cap Comp	Length		
Number of Samples	989	989	989		
Minimum Value *	0.001	0.001	0.83		
Maximum Value *	101.66	36.00	1.25		
Mean *	3.77	3.43	1.01		
Median *	0.96	0.96	1.00		
Geometric Mean *	0.74	0.73	1.01		
Variance	71.59	36.91	0.01		
Standard Deviation	8.46	6.08	0.08		
Coefficient of Variation	2.25	1.77	0.07		
Skewness	6.02	3.11	0.72		
Kurtosis	53.44	13.93	4.26		

Note: \* Au units are g/t and length units are metres.

### 14.9 GRADE CAPPING

Grade capping was performed on the 1.0 m composite values in the database within each constraining domain to control the possible bias resulting from erratic high-grade composite values in the database. Log-normal histograms and log-probability plots for gold composites were generated for each mineralization domain. Selected histograms and log-probability plots are presented in Appendix C. The grade capping values for gold are detailed in Table 14.6. The capped composite statistics are summarized in Table 14.5. The capped composites were utilized to develop variograms and for block model grade interpolation.

### TABLE 14.6 GOLD GRADE CAPPING VALUES

Domains	Total No. of Composites	Capping Value Au g/t	No. of Capped Composites	Mean of Composites	Mean of Capped Composites	CoV of Composites	CoV of Capped Composites	Capping Percentile
A	451	36	9	5.43	4.78	2.05	1.60	98.0
В	49	No cap	0	2.45	2.45	1.56	1.56	100.0
С	272	24	3	2.94	2.72	2.05	1.66	98.9
D	7	No cap	0	1.26	1.26	0.97	0.97	100.0
Е	157	13	1	1.92	1.87	1.60	1.51	99.4
F	16	No cap	0	0.38	0.38	1.50	1.50	100.0
G	11	No cap	0	1.06	1.06	0.82	0.82	100.0

**Note:** CoV = coefficient of variation.

### 14.10 VARIOGRAPHY

A variography analysis was attempted for domain A using the gold capped composites within the domain as a guide to determining 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.

### 14.11 BULK DENSITY

A total of 133 samples collected from 2020 and 2021 drill holes were tested for bulk density by 55 North Mining and resulted in average bulk density of 2.75 t/m<sup>3</sup>.

Mr. David Burga, P.Geo., collected 13 validation samples during the site visit in February 2021 and the samples were tested for bulk density by AGAT Laboratories in Mississauga, Ontario. The average bulk density of the 13 samples was 2.90 t/m<sup>3</sup>.

Twenty-four of the bulk density data out of total of 146 measurements above were constrained within the mineralization wireframes. The wireframe constrained bulk density ranged from 2.65 t/m<sup>3</sup> to 3.05 t/m<sup>3</sup> and averaged 2.83 t/m<sup>3</sup> which was applied for all mineralized domains for this Mineral Resource Estimate.

### 14.12 BLOCK MODELLING

The Last Hope block model was constructed using GEOVIA GEMS<sup>TM</sup> V6.8.4 modelling software. The block model origin and block size are presented in Table 14.7. The block model consists of separate model attributes for estimated gold grade, rock type (mineralization domains), volume percent, bulk density, and classification.

TABLE 14.7 LAST HOPE BLOCK MODEL DEFINITION					
Direction	Origin No. of Block Size Blocks (m)				
X	386,537.610	318	5		
Y	6,282,929.292	960	1		
Z	1,130	112	5		
Rotation	4′	47.5 ° (clockwise)			

**Note:** Origin for a block model in  $GEMS^{TM}$  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 surfaces of overburden and topography 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.

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 gold grades were interpolated into the blocks using Inverse Distance weighting to the third power ("ID<sup>3</sup>"). Nearest Neighbour ("NN") was run for validation purposes. Multiple passes were executed for the grade interpolation to progressively capture the sample points, to avoid oversmoothing and preserve local grade variability. Grade blocks were interpolated using the parameters in Table 14.8.

TABLE 14.8 LAST HOPE BLOCK MODEL GRADE INTERPOLATION PARAMETERS							
Dogg	No. of Composites Search Range (m)						
Pass	Min	Max	Max per Hole	Major	Semi-Major	Minor	
I	3	12	2	30	30	10	
II	2	12	2	90	90	30	

Selected vertical cross-sections and plans of gold grade blocks are presented in Appendix E.

### 14.13 MINERAL RESOURCE CLASSIFICATION

In the opinion of the author of this section of the Technical Report, all the drilling, assaying and exploration work on the Last Hope 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 was classified as Indicated and Inferred based on the geological interpretation, variogram performance and drill hole spacing.

Indicated Mineral Resources were classified for the blocks interpolated with the Pass I in Table 14.8, which used at least two holes within 30 m.

Inferred Mineral Resources were classified for the blocks interpolated with the Pass II in Table 14.8, which used at least one hole within 90.

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

Selected classification block vertical cross-sections and plans are attached in Appendix F.

### 14.14 AU CUT-OFF CALCULATION

The Last Hope Mineral Resource Estimate was derived from applying Au 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 Au cut-off values that determine near surface and underground mining potentially economic portions of the constrained mineralization:

- Au price: US\$1,650/oz (long term Consensus Economics forecast Aug 31/21);
- Currency exchange rate: C\$/US\$=0.76;
- Au process recovery:95%;
- Near Surface marginal mining cost: C\$35/tonne;
- Underground mining cost: C\$95/tonne;
- Processing cost: C\$20/tonne; and
- G&A: C\$5/tonne.

The Au cut-off value of the near surface Mineral Resource Estimate is 1.0 g/t Au. The Au cut-off value of the underground Mineral Resource Estimate is 1.8 g/t Au.

### 14.15 MINERAL RESOURCE ESTIMATE

The Mineral Resource Estimate is reported with an effective date of September 27, 2021 and is tabulated in Table 14.9. The authors of this Technical Report section consider the mineralization of the Last Hope Property to be potentially amenable to near surface and underground mining methods.

TABLE 14.9 LAST HOPE MINERAL RESOURCE ESTIMATE (1-8)						
Near Surface Pit Mineral Resource @ 1.0 g/t Au Cut-off						
Classification	Tonnes (k)	Au (g/t)	Au (koz)			
Indicated	82.8	5.08	13.5			
Inferred	15.7	1.90	1.0			
Underground M Classification	Mineral Reso Tonnes (k)	urce @ 1.8 g/t Au (g/t)	Au Cut-off Au (koz)			
Indicated	325.5	5.50	57.6			
Inferred	1,537.3	5.52	272.8			
Total Mineral Resource @ 1.0 and 1.8 g/t Au Cut-offs						
Classification	Tonnes (k)	Au (g/t)	Au (koz)			
Indicated	408.3	5.41	71.1			
Inferred	1,553.0	5.48	273.8			

- 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.
- 5. Metal prices used were US\$1,650/oz Au and 0.76 CDN\$/US\$ FX with process recoveries of 95% Au. A CDN\$20/t process cost and CDN\$5/t G&A cost were used.
- 6. The near surface mining cost for the top 20 m of the Mineral Resource was CDN\$35/t.
- 7. The underground mining cost was CDN\$95/t. The underground Mineral Resource grade blocks were quantified above the 1.8 g/t Au cut-off, below 20 m from surface and within the constraining mineralized wireframes. Underground Mineral Resources selected exhibited continuity and reasonable potential for extraction by the long hole underground mining method.
- 8. Grade estimation was undertaken with the Inverse Distance Cubed method on 1.0 m capped composites.

### 14.16 MINERAL RESOURCE SENSITIVITIES

Mineral Resources are sensitive to the selection of a reporting Au cut-offs and are demonstrated in Table 14.10.

TABLE 14.10 SENSITIVITIES OF MINERAL RESOURCE ESTIMATE						
Classification	Cut-off Au (g/t)	Tonnes (k)	Au (g/t)	Au (koz)		
Near Surface Pit Mineral Resource Sensitivity						
	2.0	65.0	6.07	12.7		
	1.75	68.4	5.86	12.9		
	1.5	73.0	5.59	13.1		
Indicated	1.25	76.6	5.40	13.3		
	1.0	82.8	5.08	13.5		
	0.75	90.3	4.73	13.7		
	0.5	103.3	4.21	14.0		
	2.0	5.4	3.12	0.5		
	1.75	6.0	3.01	0.6		
	1.5	6.8	2.84	0.6		
Inferred	1.25	9.4	2.42	0.7		
	1.0	15.7	1.90	1.0		
	0.75	16.4	1.86	1.0		
	0.5	16.5	1.86	1.0		
Unde	rground Mi	neral Resour	ce Sensitivity			
	3.0	205.9	7.33	48.5		
	2.75	225.9	6.94	50.4		
	2.5	248.0	6.55	52.3		
Indicated	2.25	274.1	6.16	54.2		
	2.0	302.6	5.78	56.2		
	1.8	325.5	5.50	57.6		
	1.6	348.5	5.25	58.8		
	1.4	375.3	4.98	60.1		
Inferred	3.0	1,120.3	6.71	241.6		
	2.75	1,179.1	6.52	247.0		
	2.5	1,263.0	6.26	254.1		
	2.25	1,362.1	5.98	261.7		
	2.0	1,454.7	5.73	268.0		
	1.8	1,537.3	5.52	272.8		
	1.6	1,622.1	5.32	277.7		
	1.4	1,722.7	5.10	282.5		

### 14.17 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 sections were performed on-screen to confirm that the block models correctly reflect the distribution of composite grades.

The review of estimation parameters included:

- o Number of composites used for estimation;
- o Number of drill holes used for estimation;
- o Mean distance to sample used;
- Number of passes used to estimate grade;
- Actual distance to closest point;
- o Grade of true closest point; and,
- o Mean value of the composites used.
- The Inverse Distance Cubed (ID<sup>3</sup>) estimate was compared to a Nearest-Neighbour (NN) estimate along with composites. A comparison of mean composite grades with the block model at zero grade are presented in Table 14.11.

TABLE 14.11 AVERAGE GRADE COMPARISON OF COMPOSITES WITH BLOCK MODEL				
Data Type	Au (g/t)			
Composites	3.77			
Capped composites	3.43			
Block model interpolated with ID3	3.44			
Block model interpolated with NN	3.44			

**Notes:**  $ID^3 = Au$  interpolated with Inverse Distance Cubed. NN = Au interpolated using Nearest Neighbour.

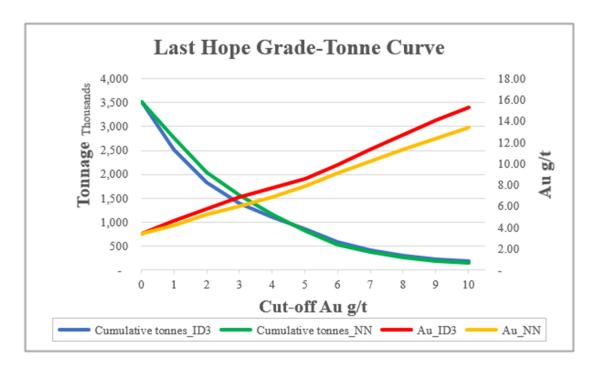
The comparison shows the average grade of block model was slightly higher than that of the capped composites used for the grade estimation. These were most likely due to grade de-clustering and interpolation process. The block model values will be more representative than the composites due to 3-D spatial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

• A volumetric comparison was performed with the block model volume versus the geometric calculated volume of the domain solids and the differences are shown in Table 14.12.

TABLE 14.12 VOLUME COMPARISON OF BLOCK MODEL WITH GEOMETRIC SOLIDS		
Geometric Volume of Wireframes	1,245,956 m <sup>3</sup>	
Block Model Volume	1,245,323 m <sup>3</sup>	
Difference %	0.05%	

A comparison of the Au grade-tonnage curves (Figure 14.1) interpolated with ID<sup>3</sup> and NN on a global mineralization basis.

FIGURE 14.1 AU GRADE-TONNAGE CURVE OF LAST HOPE



Local trends of gold were evaluated by comparing the ID<sup>3</sup> and NN estimate against the composites. The special swath plots of all domains are shown in Figure 14.2, 14.3, and 14.4.

FIGURE 14.2 AU GRADE SWATH PLOTS EASTING

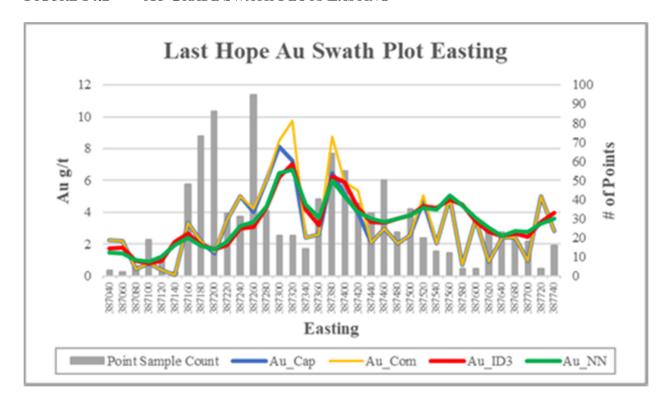


FIGURE 14.3 AU GRADE SWATH PLOTS NORTHING

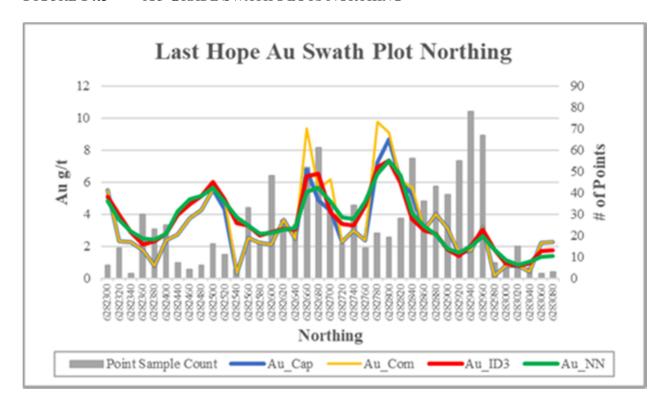
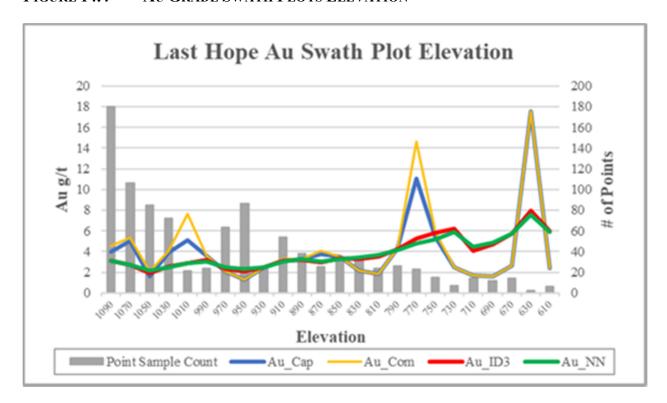


FIGURE 14.4 AU GRADE SWATH PLOTS ELEVATION



### 15.0 MINERAL RESERVE ESTIMATES No Mineral Reserve Estimate was produced by 55 North Mining Inc.

## 16.0 MINING METHODS This section is not applicable to this Technical Report.

### 17.0 RECOVERY METHODSThis section is not applicable to this Technical Report.

## PROJECT INFRASTRUCTURE 18.0 This section is not applicable to this Technical Report.

# MARKET STUDIES AND CONTRACTS 19.0 This section is not applicable to this Technical Report.

### 20.0 ENVIRONMENTAL STUDIES, PERMITS, AND SOCIAL OR COMMUNITY IMPACTS

This section is not applicable to this Technical Report.				

## **CAPITAL AND OPERATING COSTS** 21.0 This section is not applicable to this Technical Report.

### **ECONOMIC ANALYSIS** 22.0 This section is not applicable to this Technical Report.

### 23.0 ADJACENT PROPERTIES

The Last Hope Property is south of Alamos Gold's Lynn Lake Gold Project, that comprises what was formerly known as the MacLellan, Farley Lake, and Burnt Timber deposits under Carlisle Goldfields. The main areas of the Lynn Lake Project are now referred to as the MacLellan Property and the Gordon Property. The following information is summarized from the 2018 Feasibility Study prepared by Ausenco (Staples, P., et al., 2018). Mineral Resource Estimate information is taken from 2020 year end Mineral Reserve and Mineral Resource Estimate from Alamos Gold.

The MacLellan Deposit is stratabound between a sequence of east-west trending clastic and chemical sedimentary rocks interlayered with picritic flows and tuffs. This section is encompassed by volcanoclastic rocks to the north and south and felsic volcanics further to the south. Metamorphic grade is amphibolite. Minor felsic volcanics are located to the south of the mine area and gabbroic intrusions occur locally. The entire LLGP is bounded by granitic intrusions to the north and south.

The Gordon Property is hosted within the Agassiz Metallotect or Rainbow Trend of the north belt. The Rainbow Trend is a tectostratigraphic assemblage of ultramafic flows (picrites), banded oxide-facies iron formation, associated exhalative and clastic sedimentary rocks, and volcanic flows. This Trend represents a relatively narrow, strike-continuous stratigraphic- structural unit that occurs over a 70 km strike length from west of the shear hosted MacLellan Deposit through the Gordon Property to southwest of Barrington Lake. This trend hosts all known gold mineralization in the north belt.

The Gordon Property is composed of pillowed basalts, dacitic flows, siliceous sediments (argillites, greywackes, etc.), intermediate tuffaceous sediment and banded iron formation (BIF) which have been extensively folded into an east-west striking and steeply north-dipping sequence.

The Open Pit Mineral Resource Estimate is based on data available from 1,945 drill holes drilled from both surface and underground, comprising 287,647 m of non-zero assayed gold intervals.

Separate block models were constructed for both the MacLellan Deposit and the Gordon Deposit and the Mineral Resource Estimate is constrained by mineralized shapes, based on a 0.50 g/t Au cut-off grade. The MacLellan Deposit and Gordon Deposit block models have been depleted for historic underground and open pit mining, respectively.

The Open Pit Mineral Resource Estimate is based on data available from 1,945 drill holes drilled from both surface and underground, comprising 287,647 m of non-zero assayed gold intervals. The Mineral Resource Estimate is presented in Table 23.1.

Separate block models were constructed for both the MacLellan Deposit and the Gordon Deposit and the Mineral Resource Estimate is constrained by mineralized shapes, based on a 0.50 g/t Au cut-off grade. The MacLellan Deposit and Gordon Deposit block models have been depleted for historic underground and open pit mining, respectively.

TABLE 23.1 Lynn Lake Gold Project Mineral Resource Estimate <sup>(1-8)</sup>				
	Au Res	ources		
Classification	Tonnes (k)	Au Grade (g/t)	Au (koz)	
Measured	1,007	2.04	66	
Indicated	7,172	1.70	391	
Total M+I	8,179	1.74	457	
Inferred	45,873	1.10	1,622	
Ag	Resources – Mo	cLellan – Open Pit		
Classification	Tonnes (k)	Ag Grade (g/t)	Ag (koz)	
Measured	902	8.55	248	
Indicated	3,532	4.64	527	
Total M+I	4,434	5.44	775	
Inferred	1,227	1.98	78	
Ag Re	esources – McLe	ellan – Undergroun	d	
Classification	Tonnes	Ag Grade	Ag	
	(k)	(g/t)	(koz)	
Measured	0	0	0	
Indicated	123	6.05	24	
Total M+I	123	6.05	24	
Inferred	72	3.26	8	

**Notes:** M+I = Measured plus Indicated Mineral Resources.

- 1) The Mineral Resources are reported at an assumed gold price of US\$1,400/ounce, and an assumed silver price of US\$22.00/ounce;
- 2) The Mineral Resource Estimate was completed by Mr. Jeffrey Volk, CPG, FAusIMM, Director of Reserves and Resources for Alamos Gold Inc.;
- 3) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves;
- 4) Open pit Mineral Resources are stated as contained within potentially economically open pit above a 0.42 g/t AuEq cut-off for MacLellan and 0.62 g/t Au for Gordon, and includes external dilution at zero grade outside the 0.50 g/t Au solid;
- 5) Mineral Resources for the MacLellan Underground are stated above a 2.0 g/t Au cut-off. MacLellan Underground block grades are undiluted;
- 6) Totals may not add due to rounding;
- 7) Contained Au and Ag ounces are in-situ and do not include metallurgical recovery losses; and
- 8) Mineral Resources are exclusive of Mineral Reserves.

The estimates of the Mineral Reserves were carried out based on the detailed open pit limit designs for the Gordon and MacLellan deposits and using the Measured and Indicated Mineral Resources of the block models of the two deposits. The estimates were carried out using cut-off

grades of 0.69 Au g/t for Gordon and 0.47 equivalent Au g/t for MacLellan, calculated on the basis of the design parameters of the Project, which include a gold price of US\$1,250/Au oz and an US\$/CDN\$ exchange rate of 0.75. The current geological model estimation methodology inherently introduces dilution in the estimate of the block gold grades of 13% and 15%, at zero grade, for MacLellan and Gordon respectively.

The Mineral Reserves for the LLGP are listed in Table 23.2 with the Au and Ag grade estimates based on the diluted grades of the block model.

TABLE 23.2 Lynn Lake Gold Project Mineral Reserve Estimate <sup>(1-6)</sup>						
Area	Classification	Tonnage (Mt)	Au Grade (g/t)	Ag (g/t)	Au (koz)	Ag (koz)
	Proven	2.31	2.82	n/a	210	n/a
Gordon	Probable	6.41	2.27	n/a	468	n/a
Gordon	Total Proven + Probable	8.72	2.42	n/a	678	n/a
	Proven	9.55	1.91	5.01	586	1,539
MacLellan	Probable	8.53	1.32	3.79	361	1,039
WideLenan	Total Proven + Probable	18.08	1.63	4.43	947	2,578
Lynn Lake	Proven	11.86	2.09	4.03	796	1,539
Gold Project	Probable	14.94	1.73	2.16	829	1,039
Total Proven and Probable         26.80         1.89         1.69         79         80					80	

### Notes:

- Mineral Reserves reported are in agreement with the CIM Definition Standards for Mineral Resources and Mineral Reserves
- 2) The Mineral Reserve is estimated using metal prices of US\$1,250/Au oz and US\$15.00/Ag oz.
- 3) Totals may not add up due to rounding.
- The estimates were carried out using cut-off grades of 0.69 Au g/t for Gordon and 0.47 Equivalent Au g/t for MacLellan and a metallurgical Au recovery of 89-94% for Gordon and 91-92% for MacLellan.
- 5) The design parameters applicable are detailed in Section 15 of this report.
- 6) The estimate of the Mineral Reserves was carried out under the supervision of Efthymios Koniaris, PhD., P.Eng., of Q'Pit Inc.

The Lynn Lake Gold Project Mineral Resources and Mineral Reserves are not meant to be indicative of Mineral Resources on the Last Hope Property.

### 24.0 OTHER RELEVANT DATA AND INFORMATION

55 North Mining Inc. is considering a scenario whereby it could mine the top 20 metres of high grade mineralization utilizing simple, potentially low cost trench mining methods. The Company believes that the Near Surface Mineral Resource announced today (Indicated: 13,500 ounces grading 5.08 g/t, Inferred: 1,000 ounces grading 1.90 g/t) is amenable to surface extraction using these methods as the vein is near vertical and virtually outcrops at surface. The potential method considered would utilize blast cuts which would be mined using a narrow remotely operated loader, crane and bucket. Although the analysis process is still in its early stages, this option could potentially provide the opportunity for a low capex and opex method for upfront extraction of a portion of the Mineral Resource, thereby having a very positive impact on upfront cashflow.

There are no other data considered relevant to the Property that have not been included in this Technical Report.

### 25.0 INTERPRETATION AND CONCLUSIONS

The authors offer the following conclusions:

The Last Hope Deposit lies in the highly altered, quartz-pyrite rich footwall of a major fault.

The gold mineralization occurs in thin northwest striking quartz veins. Mineralization appeared to be localized on a major fault. The best gold values were found in the highly altered, quartz-pyrite rich footwall.

The sulphide mineralization (primarily pyrite/pyrrhotite with minor chalcopyrite/sphalerite) can be found in both quartz veins and in the moderately to strongly foliated amphibolite (possible basaltic protolith) which hosts both the sulphides and the quartz veins.

There is potential for expanding known mineralized areas on the Property. Mineralized zones remain open to the southeast.

### 26.0 RECOMMENDATIONS

The Last Hope Property has the potential to define additional Mineral Resources and expand the Mineral Resource area. In order to address both objectives a modest program for a second phase, consisting of 3,500 metres of drilling in 15 holes, is recommended. This will target possible mineralization for an additional 300 metres along strike to the southeast of the present Mineral Resource at a vertical depth of 200 metres. In addition, a group of the holes will fill in a blank area in the southeast portion of the Mineral Resource area. It is assumed this drilling will result in additional Mineral Resources in the Inferred Mineral Resources classification.

The following items are specifically recommended:

• Phase II: Advance an additional 15 drill holes, totalling 3,500 m to investigate the limits of mineralization and add to Inferred Mineral Resources.

### 26.1 PROPOSED 2020 BUDGET

To carry out the above recommendations, the following budget in Table 26.1 is proposed:

TABLE 26.1 PROPOSED BUDGET				
Proposed Work	Quantity	Units	Unit Cost (\$)	Total Cost (\$)
Mineral Resource Drilling				
- Drilling (all inclusive)	3,500	m	288	1,007,000
- Subtotal				1,007,000
- Contingency (15%)				151,000
<b>Total Proposed Budget</b>				1,158,000

### 27.0 REFERENCES

- Beaumont-Smith, C.J. and Böhm, C.O. (2004): Structural Analysis of the Lynn Lake Greenstone Belt, Manitoba (NTS 64C10, 11, 12, 14, 15 and 16) in Report of Activities 2004, Manitoba Industry, Economic Development and Mines, Manitoba Geological Survey, p. 55-68.
- Beaumont-Smith, C.J. and Edwards, C.D. (2000): Detailed Structural Analysis of the Johnson Shear Zone in the West Gemmel Lake Area (NTS 64C/11) in Report of Activities 2000, Manitoba Industry, Trade and Mines, Manitoba Geological Survey, p. 64-68.
- Colvine, A.C. et al. 1988. Archean Lode Gold Deposits in Ontario; Ontario Geological Survey, Miscellaneous Paper 139, 136p.
- Jones, L.R., Beaumont-Smith, C.J., Lafrance, B. (2000): Preliminary Structural and Gold Metallogenic Studies at the Burnt Timber Mine and Surrounding Area, Lynn Lake Greenstone Belt (NTS 64C/10) in Report of Activities 2000, Manitoba Industry, Trade and Mines, Manitoba Geological Survey, p. 69-72.
- Jones, L.R., Lafrance, B., and Beaumont-Smith, C.J. (2006): Structural Controls on Gold Mineralization at the Burnt Timber Mine, Lynn Lake Greenstone Belt, Trans-Hudson Orogen, Manitoba in Exploration and Mining Geology, Vol. 15, Nos. 1-2, pp. 89-100.
- Karelse, P., Ewert, W. and Puritch, E. (2008): Technical Report and Resource Estimate on the MacLellan Gold Property, Lynn Lake Area, Northern Manitoba. NI 43-101 Technical Report Prepared by P&E Mining Consultants Inc. for Carlisle Goldfields Limited, July 2, 2008.
- Klien, T.L, Day, W.C. (1994): Descriptive and Grade-Tonnage Models of Archean Low-Sulfide Au-Quartz Veins and a Revised Grade-Tonnage Model of Homestake Au in USGS, Open File Report 94-250.
- Peck, D.C., Lin, S., Atkin, K. and Eastwood, A.M. (1998): Reconnaissance Structural Studies of Au Metallotects in the Lynn Lake Greenstone Belt (parts of NTS 64C/10, C/11, C/15) in Manitoba Energy and Mines, Geological Services, Report of Activities, 1998, p. 69-74.
- Puritch, E., Burga, D., Wu, Y. (2012): Technical Report and Resource Estimate on the Burnt Timber Property, Lynn Lake, Northern Manitoba, Canada, Prepared for Carlisle Goldfields.
- Puritch, E., Burga, D., Wu, Y. (2013): Technical Report and Resource Estimate on the Last Hope Property, Lynn Lake, Northern Manitoba, Canada, Prepared for Carlisle Goldfields.
- Puritch, E., Burga, D., Wu, Y. (2021): Technical Report and Resource Estimate on the Last Hope Property, Lynn Lake, Northern Manitoba, Canada, Prepared for 55 North Mining.
- Richardson, D.J. and Ostry, G. (1996): Gold Deposits of Manitoba in Manitoba Energy and Mines, Economic Geology Report ER86-1, p.77-86.

- Staples, P., MacLean, E., Volk, J., Toscano, P., Cobbina, A., Besseman, K., Castro, L., Couto, R., Koniaris, E., Mathers, K., NI 43-101 Technical Report Feasibility Study for the Lynn Lake Gold Project, Manitoba, Canada, Prepared for Alamos Gold Inc.
- Taylor, C.F. (1989): Report on the Geology, Exploration Results and Potential of the Wasekwan Property, Wasekwan Lake Area, Lynn Lake, Manitoba, N.T.S. 64C/14 & 15, Prepared for Trans America Industries Ltd.

### 28.0 CERTIFICATES

### 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 "NI 43-101 Technical Report and Updated Mineral Resource Estimate on the Last Hope Property, Lynn Lake, Northern Manitoba, Canada" (the "Technical Report"), with an effective date of September 27, 2021.
- 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. I 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 "Technical Report and Resource Estimate on the Last Hope Property, Lynn Lake, Northern Manitoba, Canada" with an effective date of March 7, 2013 and the Technical Report titled "NI 43-101 Technical Report and Mineral Resource Estimate on the Last Hope Property, Lynn Lake, Northern Manitoba, Canada" (the "Technical Report"), with an effective date of February 2, 2021.
- 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: September 27, 2021 Signed Date: November 11, 2021

{SIGNED AND SEALED} [Eugene Puritch]

Eugene Puritch, P.Eng., FEC, CET

### CERTIFICATE OF QUALIFIED PERSON DAVID BURGA, P.GEO.

- I, David Burga, P. Geo., residing at 3884 Freeman Terrace, Mississauga, Ontario, 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 "NI 43-101 Technical Report and Updated Mineral Resource Estimate on the Last Hope Property, Lynn Lake, Northern Manitoba, Canada" (the "Technical Report"), with an effective date of September 27, 2021.
- 3. I am a graduate of the University of Toronto with a Bachelor of Science degree in Geological Sciences (1997). I have worked as a geologist for over 20 years since obtaining my B.Sc. degree. I am a geological consultant currently licensed by the Association of Professional Geoscientists of Ontario (License No 1836).

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:

•	Exploration Geologist, Cameco Gold	1997-1998
•	Field Geophysicist, Quantec Geoscience	1998-1999
•	Geological Consultant, Andeburg Consulting Ltd.	1999-2003
•	Geologist, Aeon Egmond Ltd.	2003-2005
•	Project Manager, Jacques Whitford	2005-2008
•	Exploration Manager - Chile, Red Metal Resources	2008-2009
•	Consulting Geologist	2009-Present

- 4. I have visited the Property that is the subject of this Technical Report on November 20 to 22, 2012.
- 5. I am responsible for authoring Sections 2 to 13 and 15 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 prior involvement with the Project that is the subject of this Technical Report. I was a "Qualified Person" for a Technical Report titled "Technical Report and Resource Estimate on the Last Hope Property, Lynn Lake, Northern Manitoba, Canada" with an effective date of March 7, 2013 and the Technical Report titled "NI 43-101 Technical Report and Mineral Resource Estimate on the Last Hope Property, Lynn Lake, Northern Manitoba, Canada" (the "Technical Report"), with an effective date of February 2, 2021.
- 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: September 27, 2021 Signed Date: November 11, 2021

{SIGNED AND SEALED}
[David Burga]

David Burga, P.Geo.

### 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 "NI 43-101 Technical Report and Updated Mineral Resource Estimate on the Last Hope Property, Lynn Lake, Northern Manitoba, Canada" (the "Technical Report"), with an effective date of September 27, 2021.
- 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

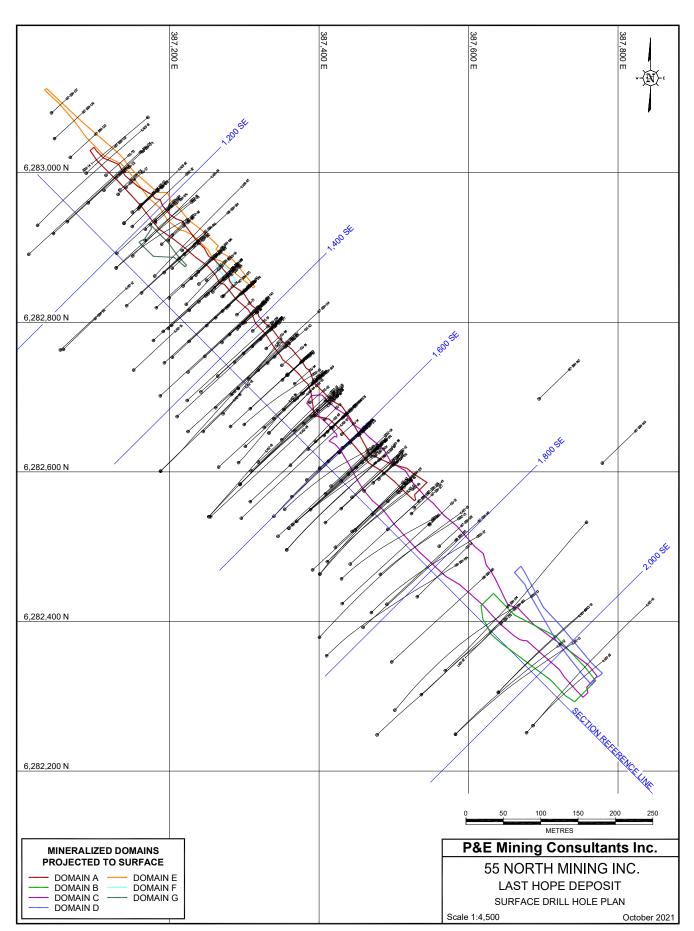
- 4. I have not visited the Property that is the subject of this Technical Report.
- 5. I am responsible for co-authoring Sections 1, 14, 25 and 26 of this Technical Report.
- 6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
- 7. I have had prior involvement with the Project that is the subject of this Technical Report. I was a "Qualified Person" for a Technical Report titled "Technical Report and Resource Estimate on the Last Hope Property, Lynn Lake, Northern Manitoba, Canada" with an effective date of March 7, 2013 and the Technical Report titled "NI 43-101 Technical Report and Mineral Resource Estimate on the Last Hope Property, Lynn Lake, Northern Manitoba, Canada" (the "Technical Report"), with an effective date of February 2, 2021.
- 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: September 27, 2021 Signed Date: November 11, 2021

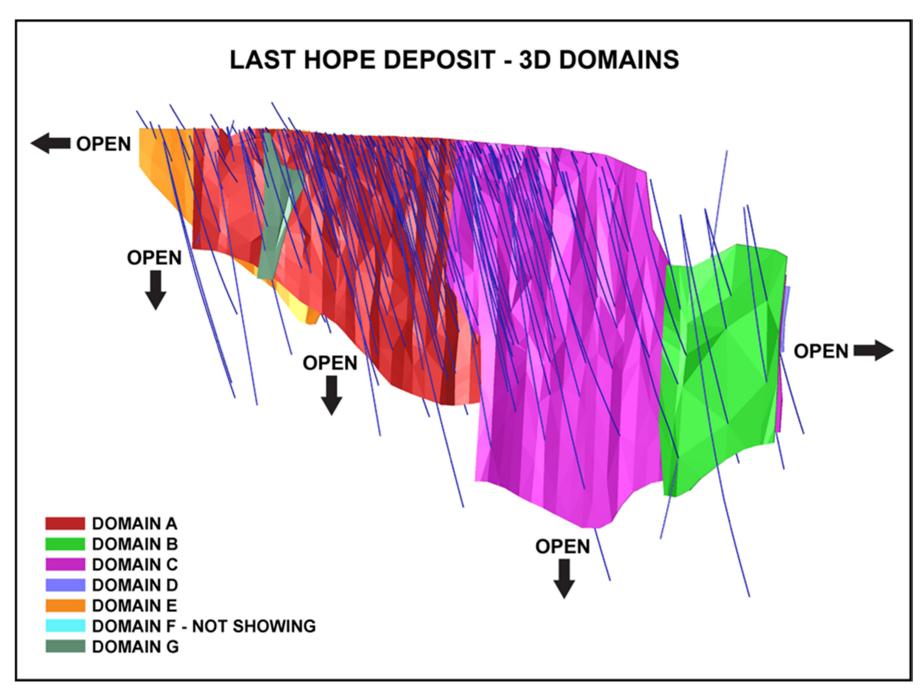
{SIGNED AND SEALED} [Yungang Wu]

Yungang Wu, P.Geo.

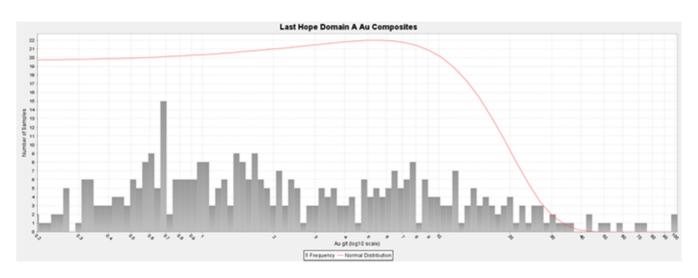
### APPENDIX A SURFACE DRILL HOLE PLAN

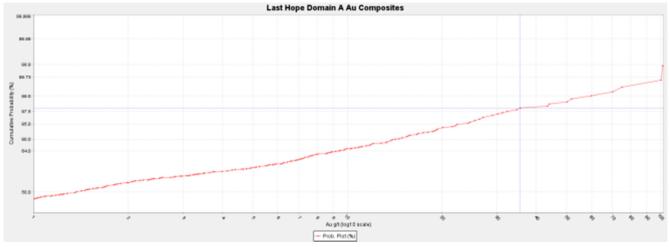


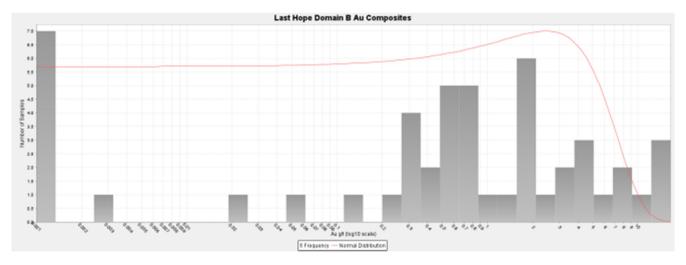
### APPENDIX B 3-D DOMAINS

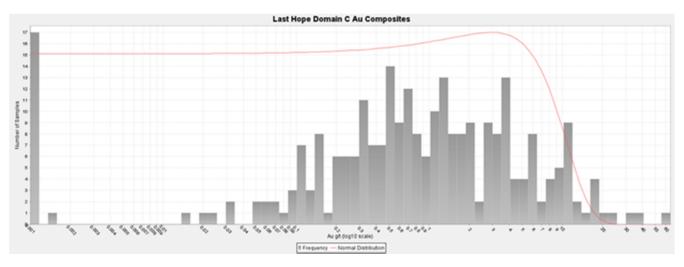


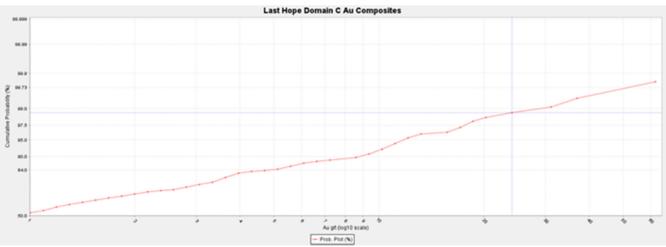
### APPENDIX C LOG NORMAL HISTOGRAMS

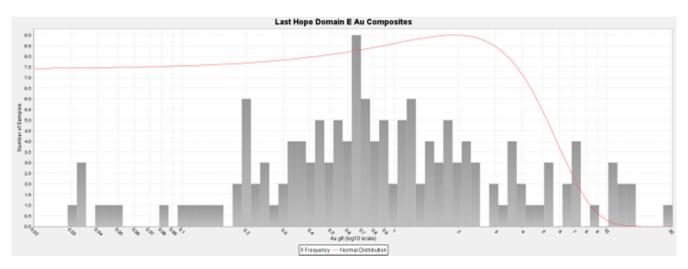


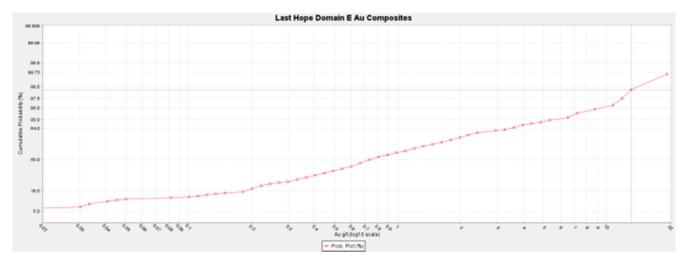


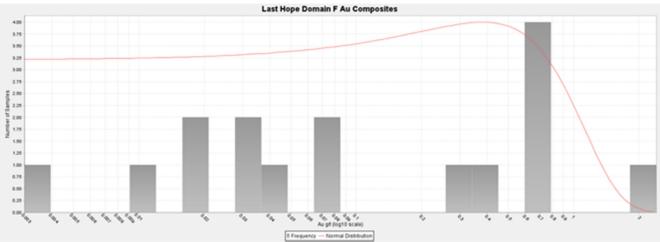




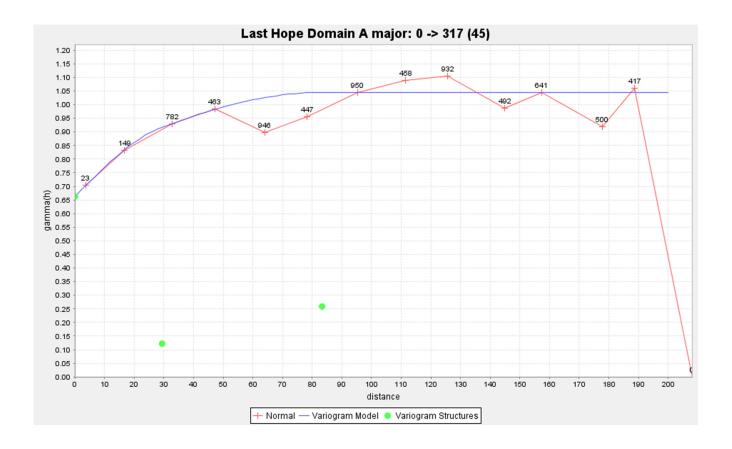


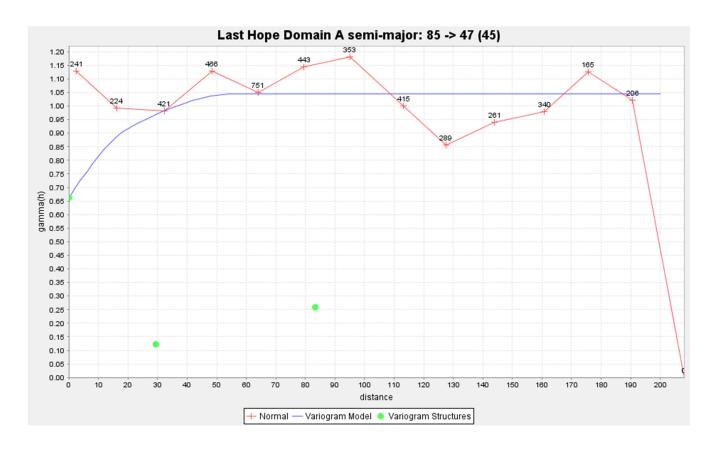


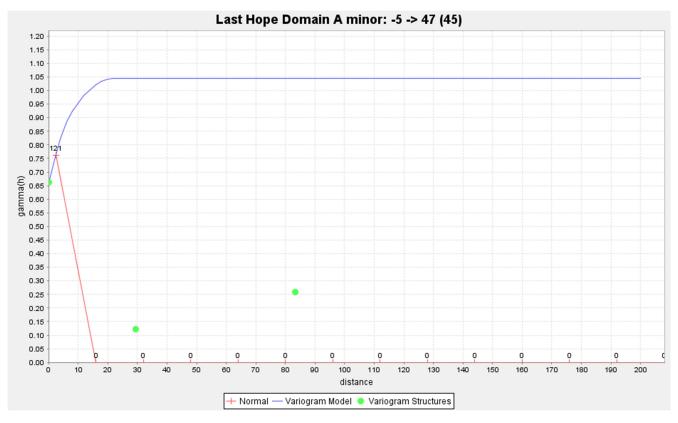




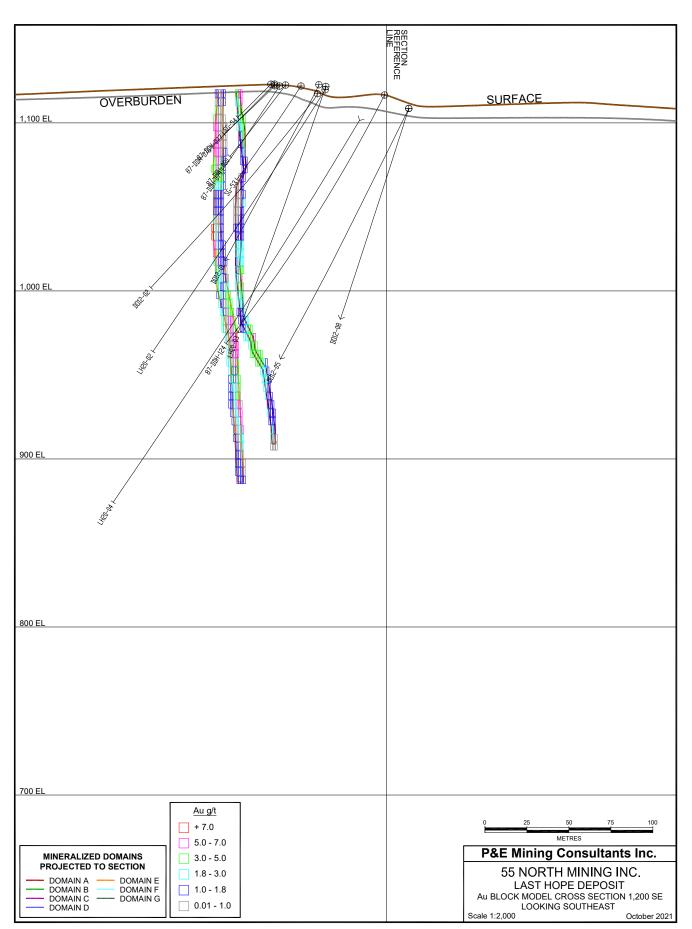
### APPENDIX D VARIOGRAMS

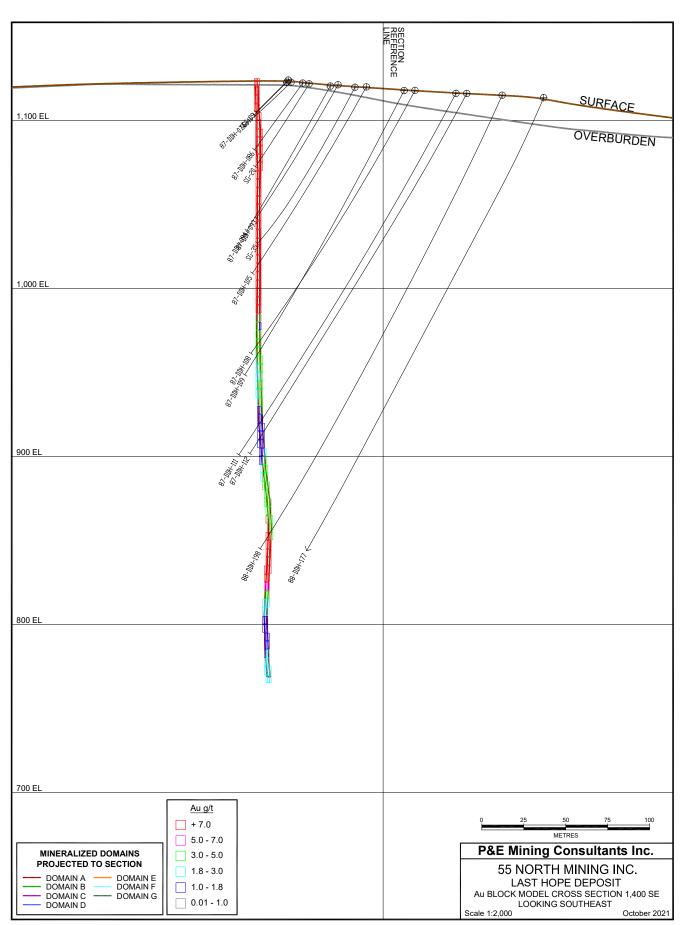


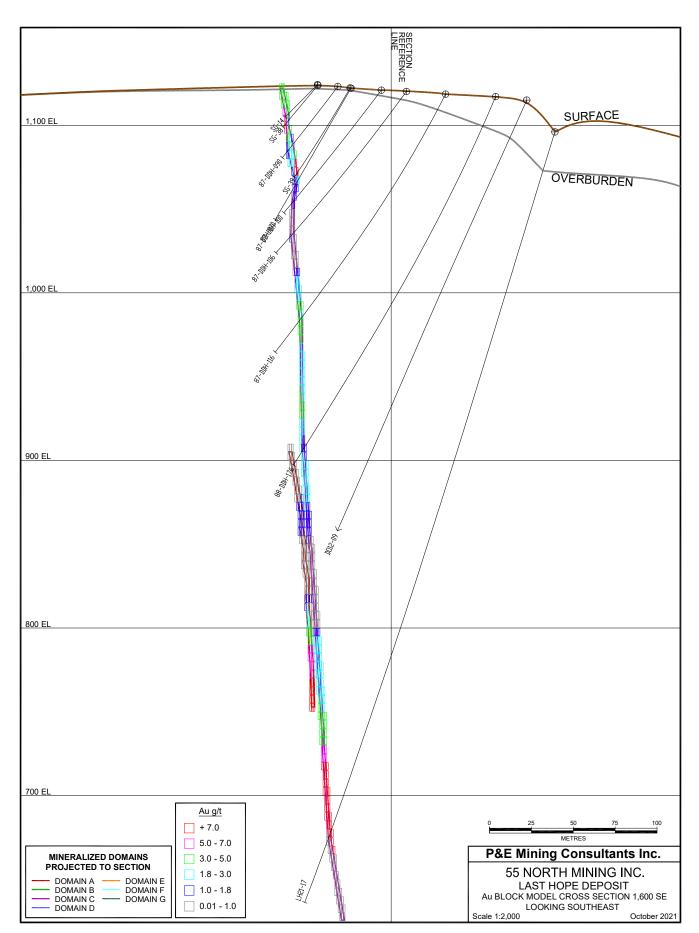


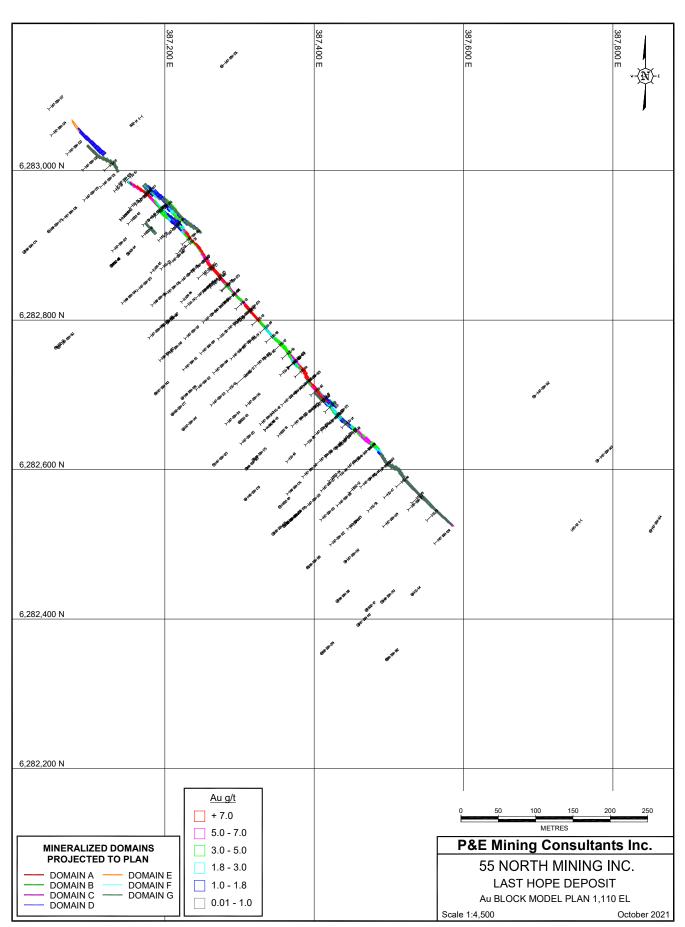


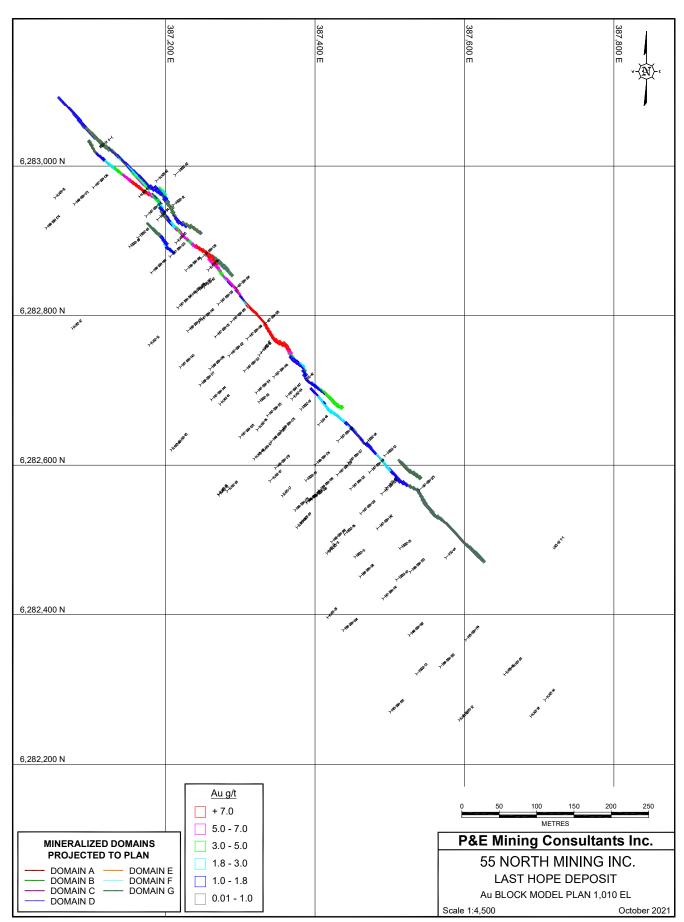
### APPENDIX E AU BLOCK MODEL CROSS SECTIONS AND PLANS

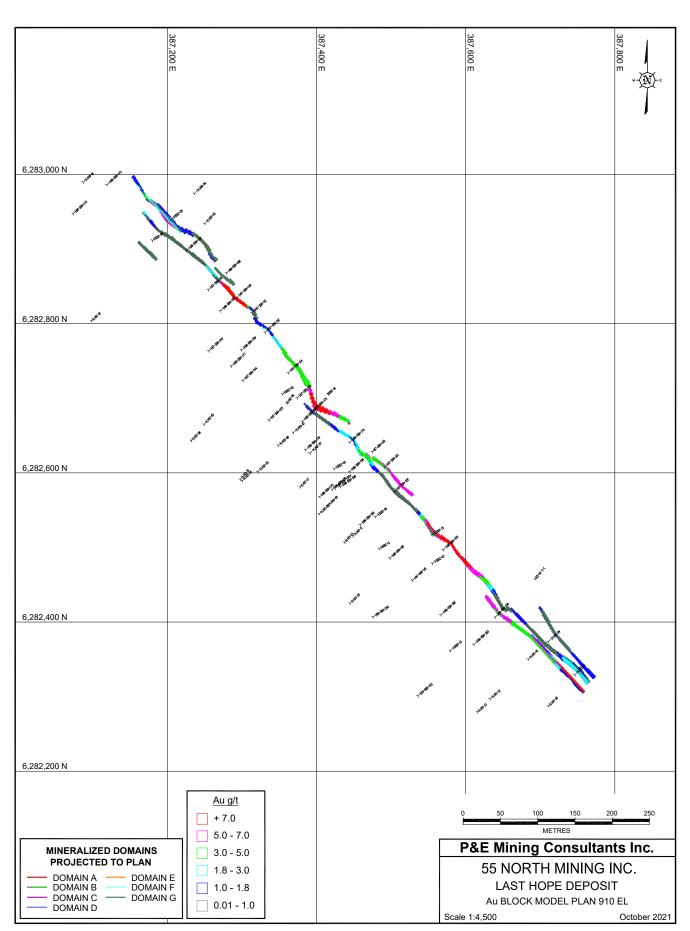












# APPENDIX F CLASSIFICATION BLOCK MODEL CROSS SECTIONS AND PLANS

