

TECHNICAL REPORT

on the

HOOK LAKE URANIUM PROJECT

NORTHERN SASKATCHEWAN, CANADA

National Instrument 43-101

NTS Map Area 74F/10, 11, 14 and 15

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1. SUMMARY

The Hook Lake JV uranium project is situated in the southwestern portion of the Athabasca Basin in Northern Saskatchewan and includes nine claims having a total area of 28,683 hectares. The property is north of, and on trend with, high-grade uranium discoveries including Fission Uranium's Triple R deposit and NexGen's Arrow deposit. Current ownership of the project is Cameco Corp. (39.5%), Orano Canada Inc. (39.5%) and Purepoint Uranium Group Inc. (21%) with Purepoint being the project operator since 2007.

The Hook Lake property lies in the southwestern portion of the Athabasca Basin, Saskatchewan, which is the host to some of the world's largest and richest known uranium deposits. The Athabasca Basin is filled by relatively undeformed and flat-lying, mainly fluviatile clastic sediments of the Athabasca Group. This group unconformably overlies crystalline basement rocks of the Lloyd Domain that is part of the Rae Province. The Lloyd Domain consists of a series of granulite facies metamorphic grade granodioritic, granitic, gabbroic, and layered and blue guartz bearing gneisses with subordinate amounts of anorthosite, quartzite and pelitic gneiss. The Lloyd Domain comprises the crystalline basement below most of the western side of the basin, including that of the Hook Lake project, the Patterson Lake Corridor deposits (Arrow, Triple R and Spitfire showing), the deposits of the Carswell Structure and the Shea Creek uranium deposits. The Hook Lake project spans the Athabasca Basin edge with Athabasca sandstone absent in the southern portion and thickening to 500 to 550 metres to the northern boundary. The basement and Athabasca sandstone in the Hook Lake project are overlain by up to 100 m of cover, including Cretaceous sedimentary rocks of the Western Canada Sedimentary Basin and Quaternary glacial sediments.

Uranium mineralization was discovered within the Spitfire area during the 2014 exploration program by drill hole HK14-09 that intersected strongly chloritized and sheared mafic dyke returning $0.32\% U_3O_8$ over 6.2 metres. Exploration success continued at the Spitfire Zone during 2016 with additional drill intercepts containing high-grade uranium mineralization. A highlight of the drill program was hole HK16-53 that intersected 10.0 metres of $10.3\% U_3O_8$, including 1.3 metres of $53.5\% U_3O_8$. The high-grade Spitfire mineralization lies within basement rocks, expands southwest to join the Harpoon prospect (NexGen Energy Ltd.) and is hosted within a NE-trending, moderate to steeply SE-dipping graphite-rich shear zone.

Uranium mineralization discovered to date at Hook Lake is associated with the central Patterson Lake conductive corridor that runs through the property and consists of an anastomosing shear zone which is locally strongly graphitic. Strain is preferentially concentrated along lithologic contacts, most notably at the contact between chloritized mafic dykes and the orthogneiss host rocks. Uranium mineralization commonly occurs as low-angle-dipping ore-shoots which originate at the upper contact of graphitic shear zones.

Exploration conducted by Purepoint to date on the Hook Lake project includes airborne electromagnetics (EM), line-cutting, ground induced polarization, EM and gravity surveys, a soil geochemical survey, and 143 diamond drill holes totaling 57,589 metres. The Patterson Lake conductive corridor was tested by 129 of the drill holes while nine holes targeted the Derkson conductive corridor and five holes were collared on the Carter conductive corridor. For 2022, the Hook Lake JV partners have budgeted for a Z-Tipper Axis Electromagnetic survey (ZTEM) over the northern portion of the Carter corridor where little ground geophysics has been completed.

Priority exploration targets at Hook Lake continue to be associated with the central Patterson Lake conductive corridor and the western Carter conductive corridor. The Spitfire zone is currently considered to be adequately drill tested and that the results provide for a reasonable estimate of the contained uranium mineralization. It is believed that additional pounds of uranium could still be outlined at Spitfire at depth and along strike to the northeast.

The Dragon shear zone area is still considered prospective for uranium deposition. Hole HK18-97A intersected 260 ppm over 0.3 metres, the strongest radioactivity returned at Dragon to date, while holes HK18-97A and 100A displayed the most intense hydrothermal alteration seen on the project outside of the Spitfire deposit. The Sabre Target Area remains prospective near hole HK19-105, which intersected strong hydrothermal alteration and elevated radioactivity including 125 ppm U over 1.3 metres, and north of HK21-118 towards the historic hole HK-02. The Jed Lake area towards the south is considered to still have exploration merit since HK15-20 drilled sandstone hosting significant dravite and S-kaolinite and intersected the graphitic conductor quite deep at 80 metres below the unconformity.

The "U" conductors are considered prospective and have not yet been drill tested. These strong, curvilinear conductors are located on the western side of the Patterson corridor, just west of Dwarf Lake. Cameco originally drilled one of these conductors in 2003 with hole HK-15 but the hole was lost within sandstone at a depth of 210.0 metres.

The 2019 Derkson area drilling showed that the strong clay alteration of basement rocks evidenced in historic holes was related to paleoweathering. However, unconformity-related mineralization, as evidenced with historic hole DER-04, remains a potential target along the corridor as does the 2018 gravity low located approximately one kilometre west of DER-04.

The Carter structural/conductive corridor is currently deemed as the most prospective target area on the Hook Lake project. The corridor is a long lived, reactivated fault zone that lies between the Clearwater Domain granitic intrusives to the west and runs parallel to the Patterson structural corridor to the immediate east. The Targeted Geoscience Initiative (TGI), a collaborative federal geoscience program, consider the Clearwater Domain intrusions as being high-heat-producers that warmed and circulated hydrothermal fluids over the structural corridors (Potter et al., 2020). Prolonged interaction of oxidized uranium-bearing fluids with basement rocks via reactivated faults

is thought to have formed the high-grade uranium deposits. The TGI hypothesis favours the Carter reactivated fault zone due to its proximity to the Clearwater Domain heat source.

Based on the encouraging drill results from the Spitfire uranium deposit, the proximity of the Triple R and Arrow uranium deposits, and the favorable geologic setting, further uranium exploration is warranted. The highest priority target area is considered to be the Carter corridor due to the encouraging alteration and structures encountered during the initial 2008 Carter Corridor 3-hole drill program. The following recommendations are proposed by the author and a budget for this work has not been approved by the joint venture committee.

Stage 1: Winter/Spring 2022: Drill testing of the strong SWML EM conductors along the Carter Corridor with an eighteen-hole, 6,800-metre drill program is recommended. Thirteen EM targets have been outlined for testing with two holes per target to be drilled when warranted. The proposed southern area holes are 400 to 600 metres apart while the proposed northern area holes are spaced 800 metres apart.

Stage 2: Winter/Spring 2023: Follow-up drill testing of high priority targets with a twelvehole, 4,500-metre drill program is recommended.

2. INTRODUCTION

The Hook Lake technical report was prepared for Purepoint Uranium Group Inc. in compliance with National Instrument 43-101 following the guidelines specified by National Instrument 43-101F. The purpose of this report is to evaluate the potential of the property to host uranium mineralization.

Scott Frostad, P.Geo., Vice President of Purepoint Uranium Group Inc., is the qualified person responsible for the content of this report. Mr. Frostad has been involved with the Hook Lake Project since June, 2007. His most recent visit to the site was during the last drill program between February 20th and March 5th, 2021.

The available assessment data on the property that have been filed with Saskatchewan Energy and Resources has been reviewed, including examination of the airborne magnetic and electromagnetic (EM) surveys, ground EM surveys, a geochemical survey and drill log results from within, and proximal to, the property. References citing these files are included in Section 15.

Data collected by Cameco Corp. has been reviewed and discussed with Cameco during Hook Lake technical meetings.

The author has not verified the technical information in the past technical reports, but has formed opinions on the potential for the uranium mineralization in the project area primarily on the basis of the technical information and results of the Purepoint exploration programs.

3. RELIANCE ON OTHER EXPERTS

This report includes opinions on the geophysical data by Roger K. Watson, P.Eng., Purepoint's former Chief Geophysicist. Additional technical information that is beyond the scope, or expertise, of the authors' work is the work of other qualified persons and is referred to through citations in the text below.

Information concerning claim status, ownership, and assessment requirements, which are presented in Item 4, has been verified by the author.

4. PROPERTY DESCRIPTION AND LOCATION

The Hook Lake JV project is situated in the southwestern quadrant of the Athabasca Basin and is located approximately 75 kilometres south-southeast of Orano Canada Inc.'s former Cluff Lake mine (Figure 1). It is located within the NTS map area 74-F-10, 11, 14 and 15, with its centre at about 109° 10' west longitude and 57° 43' north latitude (Figure 2). The property consists of nine mineral claims totaling 28,683 hectares (Table 1).





Figure 2: Disposition Map of the Hook Lake Project

Disposition	Area (ha)	NTS	Recording Date	Annual Assessment at \$15/ha	Annual Assessment at \$25/ha	Next Work Due
CBS 7804	4370	74-F-11, 14 & 15	2/3/1997	-	\$109,250	2-Feb-42
CBS 7810	4198	74-F-11 & 14	2/3/1997	-	\$104,950	2-Feb-42
CBS 7811	4370	74-F-10 & 11	2/3/1997	-	\$109,250	2-Feb-42
S-106583	4351	74-F-11 & 14	1/23/2002	-	\$108,775	22-Jan-42
S-106584	4404	74-F-11 & 14	1/23/2002	-	\$110,100	22-Jan-42
S-107124	4358	74-F-10, 11 & 15	12/23/2003	-	\$108,950	22-Dec-41
S-112481	74	74-F-11	12/14/2011	\$1,110	-	13-Dec-41
S-112482	605	74-F-11	12/14/2011	\$9,075	-	13-Dec-41
S-112483	1953	74-F-11	12/14/2011	\$29,295	-	13-Dec-41

Table 1: Hook Lake Project – Land Status Summary

The mineral claims are held in the name of Cameco Corporation (39.5%), Orano Canada Inc. (39.5%) and Purepoint Uranium Group Inc. (21%). On February 6, 2007, Purepoint Uranium Group Inc., a public company listed on the TSX Venture Exchange, entered into an agreement with UEM Inc. to form a joint venture in the ongoing exploration of the Hook Lake uranium project. UEM Inc., a company owned 50% by each of AREVA Canada Inc. and Cameco Corporation, was reorganized on March 15, 2009 and the interest in the Hook Lake dispositions were equally divided between the two companies. Purepoint acquired their 21% interest in the Hook Lake project by spending \$3,350,000 on exploration.

In order to conduct work at the property, the operator must be registered with the Saskatchewan government and comply with the Saskatchewan Environment's Exploration Guidelines and hold the appropriate Temporary Work Camp Permit, Crown Land Work Authorization Permit, Aquatic Habitat Protection Permit, and Forest Product Permit. As well, the operator must comply with the Federal Department of Fisheries and Oceans that administers its own Guidelines for the Mineral Exploration Industry.

A mineral disposition in good standing gives the owner mineral rights only; Saskatchewan Environment controls surface rights. Mineral Claim Status was granted for the claims comprising the Hook Lake property during 1997, 2002, 2003 and 2011 (Table 1). The claims have accumulated enough excess credits to cover their annual requirements until 2041.

5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Primary access to the property is via a 40-km trail that leaves the all-weather Provincial Highway 955, which starts in La Loche, SK, at kilometer 165. Air

access is via float aircraft, ski-equipped aircraft or helicopter from Buffalo Narrows, SK (230 km SSE) or Fort McMurray, AB (150 km SW).

The climate is typical of northern Saskatchewan, being cold in the winter, (-20 to -40 degrees Celsius) and hot in the summer (15 to 35 degrees Celsius). Precipitation is moderate. Freeze up begins in late October and break up occurs in late May. During the period of freeze up, from December to April, accessibility in the area is enhanced by frozen muskegs and lakes.

Some services are available in La Loche, SK including a hospital, gas station, groceries and freighting companies. Services available in Buffalo Narrows, SK include an airstrip, hotels and vehicle repairs.

A temporary work camp, constructed in 2007, is located 100 metres north of Patterson Lake and includes a kitchen, eight sleeping cabins, office, core logging facilities, core splitting shack, hot shack, dry and a workshop.

The property has varied topography due to Quaternary landforms that include drumlins, eskers, ground moraine and hummocky moraine. Outcrop exposure is sparse due to a blanket of glacial till that is locally in excess of 100 metres in thickness. The forest cover is comprised of mainly jack pine and spruce. The elevation of Patterson Lake is 504 metres above sea level (masl) while the elevation of the Patterson Lake camp is 511 masl.

6. HISTORY

Uranium exploration companies have been active along the southern rim of the Athabasca Basin beginning in the late 1960's. A compilation of the historic ground geophysical surveys and diamond drill hole locations is provided in Figures 3 and 4.

Canadian Southern Petroleum Ltd. near Newlands Lake initiated exploration in the Hook Lake area in 1969. Other companies active during this period included Canadian Occidental Petroleum Ltd., Getty Minerals Ltd., Houston Oil Ltd., Hudson Bay Exploration and Development, Imperial Oil Ltd., Kerr Addison Mines Ltd., Rio Algom Mines Ltd. and Saskatchewan Mining and Development Corporation (SMDC). Activities included soil, lake water and lake sediment sampling, geophysical surveys and diamond drilling. The exploration work resulted in the intersection of a minor zone of basement mineralization approximately five metres below the unconformity in the Derkson Lake area, DDH DER-04 by SMDC in 1978. This intersection averaged 0.24% U and 1.35% Ni over 2.5 metres (Rawsthorn and Harrigan, 1978).

In 1980, a drill hole by SMDC just south of the current Hook Lake property, PAT-04, returned 105 ppm U over 4.2 metres hosted within an interpreted basement



Figure 3: Historical Ground Work on the Hook Lake Project - East Side



Figure 4: Historical Ground Work on the Hook Lake Project - West Side

clay regolith (Johnston, 1980). A follow-up hole in 1982, PAT-13, intersected 64 ppm U over 9.0 metres again within a basement clay regolith (Atamanik, 1983).

UEM initiated exploration in 1996 by completing a reconnaissance Athabasca Group boulder sampling program over the Hook Lake "trend"; which is comprised of a large-scale northeast-trending magnetic low. Geochemical analyses indicated that the background geochemical signature in the boulders was dominantly illitic (68% average), although an area north of Derkson Lake contained boulders with elevated boron (dravite), kaolinite and chlorite (Earle, 1996a). The anomalous kaolinite and boron/dravite boulders were traced north-northeast to Carter Lake and along the Williams River and was flanked to the east by a zone of strong illitization (Belyk and Leppin, 1998). Steven Earle of Grasswood Geoscience Ltd. noted that the intensity of the kaolinite and dravite alteration in these boulders is similar to the P2 North and Key Lake deposits (Earle, 1996b). Sixteen claims were staked in early 1997, as a result of the 1996 boulder sampling survey.

The 1997 exploration program consisted of line cutting, a Fixed Loop Transient Electromagnetic (TEM) survey, and composite Athabasca Group boulder sampling (Belyk and Leppin, 1998). The TEM survey successfully outlined numerous conductive anomalies at estimated depths of between 300 m and 700 m below surface. The 1997 composite Athabasca Group boulder sampling program on the western half of the Hook Lake project and off-property west towards Coflin Lake better defined the area of dravite, kaolinite and chlorite-bearing boulders located in 1996.

During 1999 to 2001, eleven diamond drill holes targeting five different conductors were completed (O'Connor et al., 1999 and 2000; Foster et al., 2001) Although significant uranium mineralization was not encountered, the results of this work were considered encouraging. Favourable features include post-Athabasca Group faulting and alteration (bleaching, dravitization, pyritization, hematization and clay enrichments), as well as the presence of brittle-ductile graphitic fault zones with brittle overprinting and associated hydrothermal alteration (clay and chlorite).

During the 2003 winter season (Jiricka et al., 2003) activities included 8 diamond holes, 2 of which were lost before reaching basement, and historic drill core lithogeochemistry. Significant radioactivity was not encountered and claims covered by deep (>300 m) Athabasca Group cover, as well as those along the Dell "corridor", were allowed to lapse.

Work completed during 2004 and 2005 focused on EM geophysics to identify potential drill targets along the primary conductors. The 2004 TEM ground survey results were considered too coarse to get a meaningful overview of "along strike" variations in conductivity due to the wide line spacing (Leppin et al., 2004). The 2005 VTEM airborne electromagnetic survey confirmed that the most significant conductors were located within three NE-striking structural corridors (Leppin et al, 2005). The most noteworthy conductors included the B conductor in the Carter corridor, the U, W and D1 conductors in the Patterson corridor and the C conductor in the Derkson corridor.

7. GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional, Local and Property Geology

The Hook Lake project lies in the southwestern portion of the Athabasca Basin, Saskatchewan (Figure 5). The Athabasca Basin consists of the Athabasca Supergroup of undeformed and flat-lying, mainly fluviatile clastic sedimentary rocks. This Group unconformably overlies crystalline basement rocks of the Rae Province in the western half of the basin and the Hearne Province in the east (Hoffman, 1990). Devonian and Cretaceous sedimentary rocks onlap the southwestern corner of the basin and Quaternary glacial drift and outwash cover most of the basin.

Based on similarities in rock types and ages, Card (2012) determined that rocks of the Taltson magmatic zone extend from the Northwest Territories into northeast Alberta and northwest Saskatchewan, then continues under the Athabasca Basin into the Lloyd Domain of the Rae Province. Card (2012) has proposed that the Lloyd Domain be included with the Taltson Domain as shown in Figure 5. The new larger Taltson Domain consists of a series of granulite facies metamorphic grade granodioritic, granitic, gabbroic, and layered and blue quartz bearing gneisses with subordinate amounts of anorthosite, quartzite and pelitic gneiss (Scott, 1985; Hubregtse, 1982).

Two high strain zones characterized by late ductile to brittle faulting are prominent within the Taltson Domain. A dextral, northeast-trending set (i.e., the Beatty River Fault) parallels the Grease River Shear Zone in the north and another set of north-northwest trending structures, which are probably time equivalent to the initial development of the Tabbernor Fault system during D2 of the Trans Hudson Orogeny. The Taltson Domain hosts the Cluff Lake deposits, the Shea Creek uranium deposits, the Patterson Lake Corridor deposits (Arrow, Triple R and Spitfire showing) and the Dragon Lake (Maybelle River) uranium mineralization.

Following the Trans-Hudson Orogeny (ca. 1.8 Ga, Jefferson et al., 2007), the basement rocks were uplifted with a 1.75 to 1.78 Ga. retrograde metamorphic age (Annesley et al., 1997). Upon exhumation, the basement rocks were subjected to erosion (Ramaekers, 1990, 2003a, b) leaving a weathered profile now preserved as a paleoregolith. In a generalized sense, the paleoregolith consists of a hematized red zone, followed by a transitional hematite-chlorite red-green zone and an underlying chlorite-dominated green zone before entering fresh rock (MacDonald 1980 and 1985). The thickness of the paleoregolith is variable, but generally 10-30 metres thick.

The Athabasca Supergroup geology has been recently updated by Bosman and Ramaekers (2015) but was built on the framework set out by Ramaekers (1990 and 2007). The Athabasca Supergroup is comprised of four unmetamorphosed, regional stacked basins filled by predominantly fluviatile sands and gravels resulting from erosion of the Trans-Hudson Orogen. The Martin Group sedimentary rocks in the earliest basin underwent regional deformation during the waning stages of the Trans-Hudson Orogeny while the latter three, the Jackfish, Cree and Mirror basins did not. The



Figure 5: Bedrock Geology of Northern Saskatchewan

extents, orientation and age of the Martin Basin are poorly constrained but may have an upper age of 1.84 Ga (Machado, 1990; Hajnal et al., 1996) with deposition being ceased prior to regional, D₄ deformation (Ashton et al., 2009). The Jackfish Basin is a northeast-trending trough located over the western part of the Athabasca region, the Cree Basin is a northwest-trending trough that extends throughout the region and the Jackfish Basin is northwest-trending and thought to be a half-graben with its active margin in the southwestern part of the basin. Rhenium-osmium geochronology of an organic-rich shale from the Douglas Formation in the upper part of the Mirror Basin yields an age of 1.54 Ga (Creaser and Stasiuk 2007). The age of the Athabasca Supergroup is therefore bracketed between 1.84 and 1.54 Ga. The preserved thickness of the Athabasca Supergroup sedimentary rocks is presently estimated to be a maximum of 2200 m (Sibbald and Quirt, 1987).

The Athabasca Basin on the Hook Lake project hosts the Cree superimposed basin containing the Athabasca supergroup. The Athabasca supergroup located on the Hook Lake project hosts the Lazenby Lake group that is underlain by the Manitou Falls group (Figure 6). There are five formations from Manitou Falls group that have been encountered by drilling. The Read formation is the first stratigraphic sequence in the Athabasca Supergroup located on the Hook Lake project. The Read formation is a fining upward quartz arenite with occasional clay intraclasts and contains a basal conglomeratic sequence commonly located in paleo-troughs. The Read formation is overlain by the Bird formation defined by the presents of granule conglomeratic beds with one to five fining-up cycles which is displayed in the core. The Warnes formation is a very fine-grained clay-intraclast-rich guartz arenite with no pebbles and is overlain by the Hodge formation which is interpreted to be a pebbly quartz arenite defined by floating pebbles and conglomerate beds. Overlying the Hodge formation is the Dunlop-Clampitt formation defined as a clay-intraclast-rich quartz arenite containing abundant mudstone and siltstone beds and minor pebbles. The Shiels formation of the Lazenby Lake group sits conformably above the Manitou Falls group on the north edge of the project and is characterized by a guartz arenite with pebbly layers (Bosman and Ramaekers, 2015).

The Cretaceous Mannville Group (Figure 6) is present over most of claim S-106584 and partially covers claims, S-112481, S-112482 and S-112483. The eastern edge of the Lower Mannville occurs in this area of Saskatchewan and is primarily sandstone, gray and brown, fine to medium grained, moderately sorted, poorly cemented, very porous; with interbedded silty shale (Christopher, 1984).

Quaternary-aged glacial deposits form most of the topographic features on the project. These deposits range in thickness from zero metres in areas of outcrop to depths in excess of 100 metres based upon historical drill results. The most notable of these surface deposits is the Cree Lake moraine, a thick northwest trending terminal moraine located just to the southwest of the project. Northeast trending drumlinoid ridges are present as are local areas of lacustrian and glaciofluvial deposits and eskers.



Figure 6: Local Geology of the Hook Lake Project Area

Basement lithologies at the Hook Lake project (Figure 7) are dominated by a multiphase orthogneiss complex consisting primarily of diorite and granodiorite. Lesser phases of the orthogneiss complex include quartz-monzodiorite, quartz-diorite, tonalite, gabbro and anorthosite. The orthogneiss complex is cut by at least two generations of mafic dykes and sills. In addition, granite and syenite pegmatites occur locally. Carbonatites and associated ultramafic rocks occur as sills and dykes and represent the last phase of magmatism observed on the Hook Lake project.

The central Patterson Lake conductive corridor that runs through the Hook Lake project consists of an anastomosing shear zone which is locally strongly graphitic. Strain is preferentially concentrated along lithologic contacts, most notably at the contact between chloritized mafic dykes and the orthogneiss host rocks. Uranium mineralization most commonly occurs as low-angle-dipping ore-shoots which originate at the upper contact of graphitic shear zones.

7.2 Spitfire Deposit

The high-grade Spitfire uranium mineralization was discovered in 2015 (Figure 8). The mineralization is basement hosted, has less than 150 m of Athabasca sandstone basin cover, and expands southwest to join the Harpoon prospect (NexGen Energy Ltd). The Spitfire deposit strikes NE, is approximately 350 m in strike-length with a thickness up to 30 m. In the NE, the ore body extends down at least 120 m, from 320 m to 225 mASL. The mineralization is hosted within a NE-trending, moderate to steeply SE-dipping graphite-rich shear zone.

The geological setting, potential structural controls on mineralization, and style of mineralization within the Spitfire area has been previously described by Benedicto et al. (2017) and Abdelrazek et al. (2019). The following description is a summary of that published information and a geological section of the deposit is provided in Figure 9.

The Spitfire deposit is located within a bend of a graphitic conductor, generally striking N-E, that locally turns towards N015. The local change in strike is interpreted to have induced trans-tensional conditions, resulting in the creation of dilational-jog structures through reverse-sinistral reactivation of prior structures. Shear zones are affected by extensive alteration, characterized by quartz depletion, chlorite and locally graphite enrichment. In the upper basement (just below the unconformity), secondary oxidation has affected the overall basement lithology. Mineralization occurs along zones of strong rheological contrast between the upper shear zone and the silicified gneiss, as well as on the contact between shear zones and overlying silicified pyritic-rich gneisses.

The upper shear zone mineralization (Figure 10a) is composed of chloritized mylonitic rocks that have phyllosilicates as the dominant minerals. Locally, some redox fronts overprint the ductile fabric, especially closer to the unconformity. The shear zone can be locally affected by a later brittle deformation stage. Small breccias can develop in the vicinity of mafic dyke intrusions and crosscut the shear zone. Outside the oxidized zone,



Figure 7: Interpreted Basement Geology of the Hook Lake Project Area



Figure 8: Location Map of the Spitfire / Harpoon Uranium Deposit



Figure 9: Geologic Section of the Spitfire Uranium Deposit



Figure 10: Basement Mineralization Styles of Spitfire Deposit a) Massive or botryoidal pitchblende parallel to foliation, and b) Mineralized hydraulic / hydrothermal breccia

mineralization is mostly disseminated and has a higher grade near the top of the shear zone, at the interface with the silicified gneiss. The density and width of veins tends to increase toward the center of the shear zone and with depth. In the oxidized zone, mineralization is remobilized to form botryoidal uraninite. Mineralization within the gneiss is visible as uranium oxide veins similar to the veins in the shear zone, up to centimeters in width, and also as micro veins crosscutting quartz with mineralization spreading from the vein into the foliation. Mineralization appears to be of higher grade within the sheared intervals than in the orthogneiss.

The lower Spitfire mineralization (Figure 10b) is hosted at the contact of a pyriterich silicified gneiss and the footwall of a strongly chloritized mafic dyke. The dyke is emplaced between the gneiss and the graphitic shear zone below. Textures show white clasts of argillitic material within the dark-green chlorite matrix and chlorite grains that are well developed and oriented in the same direction. Edges of the argillic clasts show dissolution textures and the pyrite-rich silicified gneiss also shows strong dissolution in the vicinity of the dyke. The dissolution affects both quartz and pyrite, and seems to be driven by fractures crosscutting the foliation. Mineralization in both the silicified gneiss and the dyke is disseminated within the phyllosilicates and is associated with pyrite. The lower mineralized zone has a lower grade compared to the upper part of the orebody.

8. DEPOSIT TYPES

The Athabasca Basin hosts some of the world's largest and richest known uranium deposits. The Cigar Lake deposits grade ~15% uranium while McArthur River grades ~22% uranium and the average grade of 30 deposits for 30 unconformity-associated deposits in the Athabasca Basin is ~2% uranium, approximately four times the average grade of Australian unconformity-associated deposits (Jefferson et al., 2007). The deposits are located around the sub-Athabasca unconformity, and are hosted in both the Athabasca Group sandstones above the unconformity, and in the underlying basement of Paleoproterozoic metamorphosed supracrustal rocks and intrusives. Most of the known important deposits occur within a few tens to a few hundred metres of the unconformity and attractive exploration targets.

The initial discoveries were found through surficial indicators, such as radioactive boulders, strong geochemical anomalies in the surrounding lakes and swamps, and geophysical signatures (Wheatley et al., 1996). After the discovery of the Key Lake deposits, an exploration model was developed that targeted electromagnetic conductors based on the associated underlying graphitic schists with strong electromagnetic signatures (Kirchner and Tan, 1977; Matthews et. al., 1997).

The uraniferous zones are structurally controlled both by the sub-Athabasca unconformity, and faults and fracture-zones in the basement and sandstone. They are commonly localized within or proximal to graphitic pelitic gneiss that generally flank structurally competent Archean granitoid domes (Quirt, 1989). Although electromagnetic conductors are typical exploration targets, the Kiggavik deposit in the Thelon Basin, Nunavut (Fuchs and Hilger, 1989) is an example of a significant uranium deposit forming without graphitic units. Uranium deposits within the Athabasca Basin that are associated with little or no graphite include Rabbit Lake, Raven, Horseshoe, Cluff Lake, and Centennial (Rhys et al., 2010a; Yeo and Potter, 2010).

Unconformity-related uranium deposits in the Athabasca Basin can be characterized as polymetallic (U-Ni-Co-Cu, Pb, Zn and Mo) or monometallic (Ruzicka, 1997, Thomas et al., 2000, Jefferson et al., 2007). All known basement-hosted deposits of Athabasca Basin are monometallic and tend to be localized in, or adjacent to, faults in graphitic gneiss and calc-silicate units. Monometallic deposits contain traces of metals besides uranium and include completely basement-hosted deposits developed for up to 800 m below the unconformity (e.g., Triple R deposit; Arrow deposit; Eagle Point deposit), or deposits that may extend from the unconformity downward along faults in, or adjacent to, graphitic gneiss and/or calc-silicate units such as the McArthur River deposit (Thomas et al., 2000; Jefferson et al., 2007).

Uranium deposits localized at the unconformity can be either monometallic such as Phoenix and Centennial or polymetallic such as the Key Lake deposits, Cigar Lake, Collins Bay 'A', Collins Bay 'B', McClean, Midwest, Sue and Cluff Lake 'D' deposits. Polymetallic deposits have high-grade ore at or just below the unconformity, and a lower grade envelope that extends into the sandstone or downwards into the basement. The lower grade envelope exhibits a distinct zonation marked by predominance of base metal sulphides (Ruzicka, 1997).

8.1 Arrow Deposit

The Arrow deposit is located entirely within NexGen Energy's Rook 1 Project and is situated along the southwestern rim of the Athabasca basin along the Patterson Lake Corridor (Figure 5). The uranium resource estimate for the Arrow Deposit is an indicated resource of 256.6 million pounds of U_3O_8 with an average grade of 4.04% and an inferred resource of 91.7 million pounds of U_3O_8 with an average grade of 0.86% (O'Hara et al., 2018).

The Arrow deposit consists of several stacked lenses that accumulate a 308m wide zone containing an overall strike length of 970m. It begins at 110m from the surface and currently extends to a depth of 980m. Uranium mineralization is generally hosted by strongly graphitic, narrow, orthogneiss lithologies within discrete shear zones. Often, uranium zones containing high-grade concentrations occur adjacent to sheared and strongly graphitic zones. There are

five recognized parallel structural shear panels with mineralization typically occurring within open spaces and chemical replacement zones (O'Hara et al, 2018).

8.2 Triple R Deposit

The Triple R deposit is located entirely within Fission Uranium's PLS Project and is situated near the southwestern rim of the Athabasca basin along the Patterson Lake Corridor (Figure 11). The uranium resource estimate for the Triple R Deposit is an indicated resource of 102.4 million pounds of U_3O_8 with an average grade of 2.10% and an inferred resource of 32.8 million pounds of U_3O_8 with an average grade of 1.22% (Cox, J.J. et al., 2019).

The basement rocks of the PLS Project are overlain by Devonian and Cretaceous sediments with no Athabasca Group Sandstone observed on the property to date. Triple R uranium mineralization is primarily hosted in metamorphosed basement lithologies in five zones from east to west with the R780E zone being the most significant, as it hosts higher grades over a greater thickness and contains more continuous mineralization compared to the other zones. A lesser amount of mineralization has been observed within the overlying Devonian sediments (Cox, J.J et al., 2019).

Basement hosted mineralization at the PLS Property occurs within or near the MSZ (Main Shear Zone) over a 3.2 km strike length along an electromagnetic conductor. The most common style of mineralization is fine grained, disseminated and fracture filling uranium minerals that are strongly associated with graphite within the MSZ and appear to be concordant with the regional foliation and dominant structural trends. Mineralization within the MSZ is typically associated with strong grey-green chlorite and clay alteration with the dominant clay species identified as kaolinite and sudoite (magnesium-chlorite). Locally, intense rusty limonite-hematite alteration in the orthogneisses strongly correlates with high grade uranium mineralization (Cox, J.J et al., 2019).

8.3 Exploration Criteria

Based on the mineralization at Spitfire, proximal deposits, such as Arrow and Triple R, and the general geological model for unconformity-type and basementhosted uranium deposits, ongoing exploration for uranium on the Hook Lake project will target: (1) Areas proximal to graphitic basement rocks; (2) Possible structures, especially where cross-cutting structures are indicated; (3) Extensive alteration envelopes within basement rocks or sandstone, (4) Low grades of uranium which may represent a low-grade halo to more significant mineralization; (5) High concentrations of pathfinder elements (U, Ni, As, Co, B, Cu, Mo, Pb, Zn



Figure 11: Structural / Conductive Corridors with 1st Derivative Gravity Background

and V); (6) Proximity to the Athabasca basement unconformity either above or below it; and (7) Zones of highly fractured sandstone that may be coincident with and overlying uraniferous zones.

9. EXPLORATION PROGRAMS

From 2007 to 2021, exploration at the Hook Lake property by Purepoint Uranium Group Inc. consisted of a soil geochemical survey, re-interpreting historic exploration results, an airborne geophysical survey, line cutting, refurbishing historic grid lines, ground geophysical surveys and diamond drilling. The results of the diamond drill programs are provided in Section 10.

9.1 Geochemical Surveys

Purepoint conducted a geochemical survey of 250 samples over known mineralization on the West Grid at the Hook Lake Project during October, 2011. The survey involved sampling the A1 humus horizon and using aqua regia digestion for ICP-MS analysis, within an area where overburden thicknesses are typically greater than 75m.

9.1.1 Soil Sampling Method, Preparation and Analysis

A sampling grid was designed and downloaded into GPSs prior to going into the field. The GPSs were then used to guide the sampling teams to each preselected and pre-named sample site. After choosing a suitable sample location close to the GPS sample coordinate, the black A1 organic soil layer was collected either by hand or with a spade. The A1 horizon was occasionally just below the litter and could be easily scrapped up and at other times, the A1 horizon was most easily accessed by pulling up the surface vegetation by hand and collecting the black soil at the root base. The A1 horizon varied in thickness from 1cm to about 6cm. All samples were described in the field by the field technicians who noted the percent peat, the percent charcoal and colour of the soil.

All samples were sent to SRC in Saskatoon, SK for both an ICP-MS and ICP-OES analysis. Samples were air dried, mortared, sieved to 180 microns then analyzed after both partial (two-acid) and total (three-acid) digestions. Partial digestion was suggested as a means of avoiding interference that arises when ICP-MS is conducted on totally digested samples. For partial digestion, a 0.250g pulp was digested with 2.25 ml of 8:1 ultrapure HNO3:HCl for 1 hour at 95 C. For total digestion, a 0.125g pulp was gently heated in a mixture of ultrapure HF/HNO3/HClO4 until dry and the residue dissolved in dilute ultrapure HNO3.

9.1.2 Quality Assurance/Quality Control (QA/QC)

Fourteen (14) field quality control samples (recorded as duplicates) were collected randomly within the survey area. Laboratory quality control measures included the inclusion of sixteen (16) laboratory standards (specific to analytical method) and eight (8) sample repeats.

The duplicate samples for the soil geochemistry dataset were visually reviewed using scatterplots of duplicate sample data compared against parent sample data. These plots were mathematically supported by calculating and plotting the relative percent difference between duplicate and parent samples against concentration in the parent sample. Only the duplicate data for elements actually identified as being relevant to exploration were reviewed.

The SRC laboratory ran different standards during sample analyses. Review of the assay results for the standards showed the repeatability to be quite good for relevant elements.

9.1.3 Discussion of Geochemical Survey Results

Elements typically associated with uranium mineralization, namely U, Ni, Co, V, Mo, Pb, As, Cu, Zn, Ba, Sr, Hg and B, were selected for plotting. Uranium and nickel are slightly influenced by organic content so these elements were regressed against LOI and the residuals plotted. The plots of raw results versus residuals for these two elements were seen to only have minor differences.

Highly disturbed soil was noted for Line 21 East, the line on which hole DER-04 and eight other holes were drilled. The ICP results show that element concentrations for soils collected from L21E are lower than the neighbouring lines in most instances. Highly disturbed soil was also noted for Line 19 East that had three holes drilled along it but the element concentrations do not appear to be as heavily influenced as L21E.

The residual uranium results appear to show a very weak north-south trend correlating four of the five highest residuals (Figure 12). The weak north-south uranium trend in the vicinity of DER-04 also appears to be evident in the vanadium and lead results and, to a lesser degree, in the barium and zinc results.

For nickel, the highest concentrations are found in the vicinity of drill hole DER-04, mainly around and due north of this hole (Figure 12). The highest concentrations of cobalt and strontium were also returned in the vicinity of DER-04. Copper and zinc returned their greatest concentrations from the western side of the sampling grid.



Figure 12: Compilation Map of U, Ni and Cu Soil Anomalies

9.1.1 Conclusions

A geochemical survey on the East Grid of the Hook Lake Project tested the usefulness of analyzing the A1 humus horizon where overburden thicknesses are typically greater than 75m.

No clear anomalous trend was observed from the geochemical results. The copper results may be showing a general northeast trend, similar to the underlying EM conductors, but does not appear to correlate well with the uranium and nickel geochemical signatures. Anomalous concentrations of all three of these elements do occur within close proximity of drill hole DER-04.

9.2 Geological Interpretation of Historic Airborne Geophysical Surveys

Condor Consulting of Boulder, Colorado was contracted to process and analyze aeromagnetic, VTEM, and drilling results from the Hook Lake JV project area. The work was completed between September and December, 2013 with Dr. Jon Woodhead of Condor acting as Principal Geoscientist.

9.2.1 Methodology of Litho-Structural Interpretation

Condor re-gridded the available airborne data and regional government surveys, 12 datasets in total, and mosaiced the results to the highest resolution (50 m cellsize). Magnetic derivative products were then produced to enhance magnetic boundaries and textural domains. To eliminate interpreter bias, a semi-automated process was employed to derive the position and extent of magnetic sources using the Magnetic Tilt Angle. The output was then converted to polygons at specific intervals and used as a base for interpreting structural domains and discontinuities A final 'solid geology' interpretation was then built on geophysically-constrained boundaries (i.e., magnetic domains) with each domain being characterized by its geophysical attributes.

9.2.2 Results of Litho-Structural Interpretation

The domains interpreted from the geophysical products are provided with the total magnetics field and the tilt magnetic derivative in Figures 13 and 14. The Western Domain displays a distinct change in magnetic character and fold style that is apparent across its domain boundaries. The Western Domain is characterized by a linear magnetic fabric interpreted to reflect tight, upright, to slightly NW-overturned folds that are possibly fault-bounded antiforms. The 'PLS deposit' (now known as the Triple R deposit) is positioned within the Western Domain and the Patterson Lake conductive/structural corridor forms the SE boundary of a sub-





Figure 14: Magnetic Tilt with Structural Interpretation (Condor, 2013)

domain characterized by linear, semi-continuous EM conductors (compared to the SE-parts).

The conductor axes are positioned between large-scale, doubly-plunging antiforms. The segmented conductor axes suggest minor lateral offset ('cross structures'). The Central Domain, in contrast to the west, is characterized by discordant and oblique magnetic trends interpreted to reflect a more open-style of folding. Conductor axes are discontinuous and partly oblique to the magnetic fabric, thus potentially structural, rather than stratigraphic in origin (graphitic shears?) Several discrete domains are delineated on the basis of magnetic fabrics and apparent structural style (i.e., Clearwater, Western, Central, and Eastern Domains)

9.2.1 Conclusions

Two distinct domains are interpreted to cross the Hook Lake property reflecting a change in structural geometry and fold style. The Western Domain hosts several discrete conductor axes that parallel the Patterson Lake corridor and the regional magnetic fabric. The coincidence of interpreted structures (faulted antiforms) and long strike-length conductors in the Western Domain is considered favorable for exploration drill targeting. The Eastern Domain hosts less-continuous and fewer conductors that locally cut or transgress the magnetic fabric.

9.3 Airborne Time Domain Electromagnetic and Magnetic Geophysical Survey

In 2014, Purepoint contracted Geotech of Toronto, ON to conduct an airborne geophysical survey consisting of a 226 line-kilometers of time-domain electromagnetic and magnetic survey at their Hook Lake Project.

Proper positioning of the electromagnetic (EM) conductors is considered critical for ongoing drill programs at the Hook Lake Project since the Triple-R, Arrow and Spitfire uranium discoveries are all associated with graphitic rocks. Although the southern portion of the Hook Lake project was originally flown with a VTEM system in 2005, the area was reflown in 2014 to: i) substantiate the location of the EM conductors beneath the three questionable 2005 VTEM flight lines, ii) to provide better EM data where the historic conductors are shown to be weak by using the latest technology, and iii) to locate conductors that may be running parallel to historic EM surveys by flying additional NE-SW lines.

Geotech conducted a helicopter borne EM survey using the versatile time-domain electromagnetic (VTEM^{plus}) with full receiver-waveform streamed data recorded system with Z and X component measurements and horizontal magnetic gradiometer using two cesium magnetometers. A total of 226 line-km of geophysical data were acquired during the survey from disposition CBS 7811.

Data quality control and quality assurance, and preliminary data processing were carried out on a daily basis during data acquisition.

The Hook Lake project was flown in a southeast to northwest direction with traverse line spacing of 50 and 100 metres (Figure 15). Tie lines were flown perpendicular to the traverse lines at a spacing of 100 and 1000 metres. During the VTEM survey, the helicopter was maintained at a mean height of 79 metres above the ground with a nominal survey speed of 80 km/hour. This allowed for a nominal EM sensor terrain clearance of 40 metres and a magnetic sensor clearance of 55 metres.

The data recording rates was 0.1 second for electromagnetics, magnetometer and 0.2 second for altimeter and GPS that translates to a geophysical reading about every 2 metres along flight track. The navigation system used was a Geotech PC104 based navigation system utilizing a NovAtel WAAS (Wide Area Augmentation System) enabled GPS receiver which reports GPS co-ordinates as latitude/longitude and directs the pilot over a pre-programmed survey grid.

9.3.1 Methodology of Interpreting VTEM Results

The VTEM instrument is a pulse type or time domain transmitter with horizontal concentric receiver/transmitter coil configuration. The anomaly that this instrument provides is different for each type of conductor shape. For the current survey, Purepoint only identified "Type 1" anomalies that are a response from a thin plate (< 30 metres) and shows two peaks on either side of the center of the plate. A dipping plate will change the symmetry of the anomaly and the ratio of the amplitudes of the two peaks is used to calculate the dip. The size of the symbol representing a VTEM anomaly pick is proportional to the number of channels that the anomaly can be defined on, and is therefore very roughly proportional to the conductivity-thickness product, or conductance.

GeoTech was also contracted to conduct 3D Resistivity depth imaging (RDI) that is a technique used to convert EM profile decay data into an equivalent resistivity versus depth cross-section. The RDI algorithm used for the Resistivity-Depth transformation is based on scheme of the apparent resistivity transform of Meju (1998) and the TEM response from the conductive half-space. The program was developed by GeoTech and is depth calibrated based on forward plate modeling for VTEM system configuration.

9.3.1 Interpretation of Results

The 2014 VTEM survey results have resulted in strong, moderate and weak EM anomalies (see blue triangles shown in Figures 15, 16 and 17). The strong, well defined anomalies with low noise are likely caused by thick continuous graphitic


Figure 15: Flight Lines – 2014 VTEM Survey

bands. Medium strength anomalies were identified with some noise, but still well defined, are thought to reflect thin graphitic bands. Poorly defined anomalies, some close to noise level but still showing some line-to-line correlation, are considered the response from thin, possibly disseminated bands of graphite or sulphides. The area directly north of the 2014 Spitfire discovery is seen as having weak EM anomalies but it is difficult to find line to line correlation so they have been shown as isolated anomalies.

The magnetic data is displayed as Total Magnetic Field (Figure 16) and the Tilt Derivative (Figure 17). The magnetic tilt derivative is calculated as the angle between the vertical and horizontal first derivative at each grid point and its value lies between +1.57 and -1.57 radians. Two faults have been interpreted from lateral displacements in magnetic features and offsets in the linear conductors.

The 3D Resistivity-Depth Image (RDI) of the 2014 VTEM data was created to better map the overall basement conductance and attempt to map sandstone resistivity lows (Figure 18). RDIs provide indications of conductor relative depth and vertical extent. A comparison of Geotech's RDI sections to ground Induced Polarization sections from 2007 show the RDI sections correctly maps the resistivity highs but has poor resolution of resistivity lows. The comparisons suggest that the inversion of the airborne results for interpreting sandstone alteration is not as reliable as the ground geophysical results.

9.4 Induced Polarization/Resistivity Geophysical Surveys

Between June and December, 2007, an Induced Polarization (IP)/Resistivity Survey was carried out by R.J. Meikle & Associates, North Bay, Ontario on the Hook Lake West and Central grids. A gradient array IP/resistivity survey was proposed for the West and Central grids as a relatively inexpensive geophysical method for selecting target areas within the extensive conductor systems indicated by the 2005 airborne VTEM survey. Resistivity measurements have been shown to be a useful indicator of alteration halos within the sandstone (Koch, 2007). Ultimately 88 km of gradient array IP/resistivity surveying and 39 km of pole-dipole array I.P./resistivity surveying was conducted over the West and Central grids (Figure 19).

9.4.1 IP Survey Methods

The IP/resistivity survey was carried out using an IRIS Instruments ELREC Pro time domain IP-Resistivity receiver, a Walcer TX 9000, 9+ KW IP transmitter, and a Walcer MG-12 motor generator. Stainless steel rods were used for the current and potential electrodes.



Figure 16: Total Magnetic Intensity – 2014 VTEM Survey



Figure 17: Tilt Magnetic Derivative – 2014 VTEM Survey



Figure 18: Resistivity Depth Image (RDI) at 450 Metre Depth



Figure 19: Location Map of 2007 Induced Polarization/Resistivity Survey

The gradient electrode array involves establishing 2 infinite current electrodes approximately a distance equal to the survey line length, parallel to and off both ends of a line in the center of the survey area. The two current electrodes remain fixed for a number of survey lines in both directions until the primary voltage signal becomes too weak to obtain a reliable reading. The two fixed current electrodes are hooked to a transmitter via #14 gauge wires and a "Square Wave", 2 second on 2 seconds off pulse is applied across the 2 electrodes. This creates a relatively deep current path between the two current electrodes. A pair of potential electrodes, attached to a Time Domain IP Receiver is moved up and down the survey lines, recording the "IP" effect (chargeability) and apparent resistivity values. Both a chargeability reading and apparent resistivity reading were recorded at each 25-meter station along the grid lines using a potential dipole spacing of 50 meters, moving every 25 meters.

Pole-Dipole IP surveys were carried out with different "a" or dipole spacings to determine the optimum compromise between signal strengths and investigative depth. Most of the "pole-dipole array" survey was carried out using a 100-meter dipole spacing with six "n's" or dipoles. Because of the extremely high impedance of the ground contacts, water and salt were applied to the moving current electrode to increase the output current with mixed results. Various electrode arrays and configurations were tested on the Hook West Grid to determine parameters that would provide the best results considering the poor ground contacts and the thick sand/gravel cover.

9.4.2 Interpretation of Gradient Array IP Results

Apparent resistivity and chargeability results from the gradient array IP survey on the West Grid are provided in Figures 20 and 21, respectively, while the Central Grid results are provided in Figure 22. The gradient array survey results over both the West and Central Grids suggests the VTEM conductor axes forms a contact between rock types of opposite electrical and magnetic characteristics. On the West Grid, a conductive and chargeable rock unit with high magnetic susceptibility lies to the northwest and a resistive, low chargeability rock unit with lower magnetic susceptibility lies to the southeast. In the case of the Central Grid, the area to the southeast of the main airborne conductor is chargeable and conductive, and to the northwest lies an area of high resistivity and low chargeability.

The West Grid gradient IP resistivity results show a high resistivity area (> 2000 ohm-metres) lying southwest of the VTEM conductor and then falling off to below 1000 ohm-metres to the NW (Figure 20). The magnetic survey data (airborne) also shows an anomaly (magnetic high) northwest of the conductor axis.

In a general sense, the chargeability for the West Grid shows a symmetrical picture opposite to that of the resistivity with a broad (1000 metres) area of



Figure 20: Gradient Resistivity Results - Carter Corridor



Figure 21: Gradient Chargeability Results – Carter Corridor



Figure 22: Gradient Induced Polarization Results - Central Grid

anomalously high chargeability (> 15 milliseconds) lying adjacent to and on the northwest side of the VTEM anomalies for most of the length of the grid (Figure 21). The conductor axis detected by the VTEM survey forms the southeast boundary of the chargeable area. Beyond that, to the southeast, lies a low background area of about 6 msecs.

For the West Grid, it would appear that the VTEM conductor axis forms a contact between rock types of opposite electrical and magnetic characteristics. A conductive and chargeable rock unit with high magnetic susceptibility lies to the northwest and a resistive, low chargeability rock unit with lower magnetic susceptibility lies to the southeast. Identification of these rock types should be possible with further drilling information.

The Central Grid gradient array survey results shows a low resistivity and high chargeability zone on the southeast side of the main VTEM anomalies (Figure 22). In this case, the area to the southeast of the main airborne conductor is chargeable and conductive, and to the northwest lies within an area of high resistivity and low chargeability. As with the West Grid, the conductor axis here appears to represent a contact between rock types of quite different electrical properties.

9.4.3 Interpretation of Pole-Dipole Array IP Results

Pole-dipole array IP surveys were carried out along seven lines on the West grid and five lines of the Central Grid (Figure 19). Results of the pole-dipole array survey as stacked profiles of inverted resistivity for the Central grid are provided as an example (Figure 23) and the complete dataset is provided by Frostad et al., 2008.

The resistivity inversion sections show that the depth penetration achieved with the 'a' spacing of 100 metres is about 250 metres which is approximately the average combined thickness of overburden and sandstone in this area.

A primary use of the resistivity sections is to locate Low Apparent Resistivity Chimneys, LARCs, in the vicinity of EM conductor axes, which may be indicative of alteration halos over graphitic sediments (Koch, 2007).

On the Central Grid, the IP sections show a thin surface layer of low resistivity, a middle layer of high resistivity, and a deep layer of very low resistivity (Figure 20). By relating the Central Grid IP results to the results of drill hole HK-23 on line 1000W, the overburden has a low resistivity, < 2000 ohm metres, sandstone is 3000 to over 6000 ohm-metres, and the last layer, a zone of no core recovery lying above the unconformity, is below 1500 ohm. The low conductivity result is considered to be caused by water in the porous, uncemented sand that forms the "no core recovery" material.



Figure 23: Stacked Pole-dipole Induced Polarization Sections - Central Grid

9.5 Ground Electromagnetic Surveys

A total of five Stepwise Moving Loop Transient Electromagnetic (SWMLTEM) surveys were completed at the Hook Lake project between 2008 and 2020. These EM surveys covered approximately 71-line kilometres utilizing 22 cut lines on the West and Central grids.

Purepoint's Chief Geophysicist, Roger K. Watson, B.A.Sc., P.Eng. reviewed and interpreted the results of the 2008, 2013 and 2014 SWMLTEM surveys while Clinton Keller, B.Sc.(H), P.Geo. of Cameco Corp. interpreted the 2019 and 2020 survey results.

9.5.1 Methodology of Stepwise Moving Loop Transient Electromagnetic Surveys

The SWMLTEM survey consisted of multiple, fixed transmitter loops located at specified intervals along desired survey lines (Figure 24). Data was collected at multiple stations along profiles of varying length. The TEM data profiles, using different transmitter loops, partially overlap one another on the same line so that readings at all stations have multiple primary field coupling directions. These multiple data sets from different transmitter loops result in increased confidence in the interpretation of the location of graphitic conductors.

The 2008 and 2014 SWMLTEM surveys were completed by Quantec Geoscience of Toronto, Ontario and used a 50-metre sampling interval with transmitter coil movements of 200 metres. The size of the transmitter coil on all lines was 200 x 400 metres. Instrumentation included a Geonics Digital Protem 20 channel capability receiver, Geonics 3D-3 Surface Coil, and a Geonics EM-57 transmitter (1.8kW output).

The 2013 Small Moving Loop TEM survey completed Patterson Geophysics Inc. of La Ronge, SK employed three receiver crews using Geonics Protem 37D digital TEM receivers, two 3D-3 receive coils, and one 1D-LF receive coil. The digital TEM receivers were deployed 400 metres and 600 metres grid north of the transmit loop centres to acquire data at 50 metre station intervals along each profile. The relative positions of the receivers with respect to the centre of the transmit loops was not changed during the course of the survey, and the entire Tx-Rx array was moved in steps of 50 metres between readings. The primary transient magnetic field for the survey was generated using a Geonics TEM57 MK2 transmitter, and 100m x 100m square transmit loops.

The 2019 and 2020 SWMLTEM surveys completed by Discovery International Geophysics Inc. of Saskatoon, Saskatchewan used a LF Geonics 3D-3 Coil sensor and a SMARTem24 receiver. The surveys were conducted with a 50-metre station spacing utilizing 200 x 400 metre transmitting loops along previously cut grid lines.



Figure 24: Location Map of Step-Wise Moving Loop TEM Surveys

9.5.2 Interpretation of SWMLTEM Results

The Hook Lake SWMLTEM surveys were conducted to test the validity of the airborne results and to more accurately locate EM anomalies for testing by diamond drilling.

The collected EM data was interpreted from the Geosoft databases created by the geophysical contractors. Line profiles were created and smoothed and gradients were calculated to assist in picking anomalies at key points on the profiles.

The anomalies were evaluated with respect to their quality as electromagnetic conductors and in relation to other geophysical data. The interpretation of the SWMLEM data is considered very good with almost every EM pick chosen for drill testing being successfully explained by the presence of graphite bearing rock intersected at the predicted depth.

9.6 Surface Gravity Survey

MWH Geo-Surveys Ltd of Vernon, British Columbia was contracted to conduct a surface gravity survey over the Derkson area located on the eastern side of the Hook Lake JV project. The entire gravity survey was completed within disposition S-107124 during January, 2018 with positional surveying done by a Global Navigation Survey System.

The gravity survey used a gps grid having a 100-metre line spacing and sample stations every 100 metres. A total of 1472 unique stations and 85 repeats (not including base ties) were collected during 11 survey production days with access to gravity sites by snowmobile and on foot.

9.6.1 Methodology of Surface Gravity Survey

LaCoste & Romberg digital gravity meters with one micro-gal resolution were used. These instruments collected a gravity reading sample every 2 seconds and subsequently averages the collected samples to mitigate the effects of high frequency noise caused by wind and ice motion. All gravity readings were taken within loops to and from a gravity base at the Derkson camp site. The absolute gravity value of the Derkson camp base (981560.936) was determined by ties made to the Canadian Gravity Standard Network base in Prince Albert (base# 9120-1957; value: 981211.250).

Positioning instrumentation included an Ashtech ProFlex 500 dual frequency, dual constellation receiver as the Real-Time Kinematic (RTK) base and Spectra Precision SP80 model receivers as the rovers. The ProFlex and SP80 receivers track positional satellites in both the GPS (US) and Glonass (Russian) satellite

Year	Drill Hole Series	Drill Company	# Drill Holes Completed	# Drill Holes Lost	Total # drill holes	Total Metres Drilled
2007	HK-026 to 029	Larson Drilling; Denare Beach Drilling	4	0	4	798
2008	HK-08-01 to 04	Aggressive Drilling	4	1	5	1,524
2013	HK13-05 to 07	Aggressive Drilling	3	1	4	925
2014	HK14-08 to 17	Team Drilling	10	0	10	3,628
2015	HK15-18 to 33	CYR Drilling	16	2	18	7,437
2016	HK16-34 to 55	CYR Drilling	22	1	23	8,894
2017	HK17-56 to 81	CYR Drilling	26	3	29	11,273
2018	HK18-82 to 100	CYR Drilling	19	4	23	10,344
2019	HK19-101 to 108; DK19-01 to 06	CYR Drilling	14	0	14	6,551
2020	HK20-109 to 115	CYR Drilling	7	2	9	3,659
2021	HK21-116 to 118	CYR Drilling	3	1	4	2,556
		Grand Totals	128	15	143	57,589

Table 2: Summary of Annual Drill Programs (2007 to 2021)

networks that effectively doubles the number of satellites in use and yields high accuracy results in difficult multipath environments (under tree canopy).

9.6.1 Surface Gravity Survey Results

The Bouguer gravity results (Figure 25) shows that in general, the eastern side of the survey grid has a greater gravitational response than the western side. The overburden thickness is known from previous drilling to increase in thickness from the eastern side of the survey area towards the west. Density measurements collected from 2018 drill core as well as overburden thickness interpolations were used for modelling the gravity results. The primary target arising from the model was the circular magnetic low located northwest of drill hole collar DER-03. It is considered that attempting to account for the influence of the thickest overburden within the survey area (> 80 metres thick) on the gravity low response is responsible for the modelled deep-seated gravity low anomaly. However, thick overburden has been noted at Hook Lake's Spitfire deposit over prospective structures, possibly due to ground slumping prior to glaciation.

Since the change of overburden thickness within the Derkson area is gradual from east to west, it is thought the Bouguer gravity results provide useful details of the basement rock density response while the modelled gravity results appear to distort the primary gravity field and remove the finer details.

10. DIAMOND DRILLING

A total of 57,589 metres have been drilled in 143 diamond drill holes by Purepoint on the Hook Lake property during eleven drill programs between 2007 and 2021 (Table 2). Apart from five drill holes drilled along the Carter Corridor, and nine drill



Figure 25: Bouguer Gravity Results – Derkson Area

holes drilled along the Derkson Corridor, all other drill holes have been drilled along EM conductors within the 13 km strike length of the Patterson Lake Corridor (Figures 26 to 29). Table 3 provides a summary of the diamond drilling with the location, azimuth, dip, total depth and depth to the unconformity. All drill core is stored at the Hook Lake camp (Figure 2).

A total of 10,024 drill core samples were submitted to the Saskatchewan Research Council (SRC) Geoanalytical Laboratories in Saskatoon. The samples are analyzed using partial and total digestion inductively coupled plasma methods, for boron by Na_2O_2 fusion, and for uranium by fluorimetry. Of the samples submitted, 1,837 samples were sandstone and 8,187 samples were basement rock.

Drill core samples collected for reflectance spectroscopy were provided to Rekasa Rocks Inc. of Saskatoon for analysis. A total of 4,385 samples were submitted that included mostly sandstone samples.

In most instances, the overburden was drilled using a tri-cone bit and cased with HWT casing. A non-coring bit was successfully used to drill through the pressurized seams within sandstone along the Patterson corridor but led to deviation of the holes. Within the Spitfire area, overburden averages 100 metres in thickness and the sandstone averages 80 metres in thickness. Other Patterson Lake corridor conductors that were tested encountered overburden averaging 35-40 metres in thickness and sandstone up to 450 metres in thickness at the north end of the project.

10.1 Downhole Geophysical Surveys

The radiometric logging was conducted using a Mount Sopris 2PGA-1000 Poly-Gamma Probe and a Mount Sopris MGX II Logger. The gamma probe was calibrated by Purepoint against a set of known standards in test pits located at the Saskatchewan Research Council's facilities in Saskatoon. The Natural Gamma probe measures variations in the presence of natural radioactivity. Changes in natural radioactivity are specifically related to concentrations of uranium, thorium and potassium. The probe uses a sodium iodine (NaI) crystal to detect the gamma rays emitted by the formation. Although it is a widely used instrument in this type of surveys, the Natural Gamma probe can saturate quickly in areas with high uranium mineralization (greater than ~2%). If high counts are detected, the borehole was also surveyed with a Mount Sopris 2GHF-1000 downhole triple-gamma probe that utilizes not only a NaI crystal, but also carries two (2) Geiger Mueller tubes, allowing this instrument to take precise Natural Gamma measurements in mineralized areas ranging from 0.1% to 20% of U3O8 concentrations.



Figure 26: Location Map of Patterson Corridor Drill Holes – South Area



Figure 27: Location Map of Patterson Corridor Drill Holes – North Area



Figure 28: Location Map of Carter Corridor Drill Holes



Figure 29: Location Map of Derkson Corridor Drill Holes

							Dov	wnhole Dep	oths
Hole	Target	U	ГМ	Ele√n	Azi	Dip	OVB	U/C	EOH
Number	Area	Easting	Northing	(masl)	(degrees)	(degrees)	(m)	(m)	(m)
HK-026	Derkson	617737	6395214	512	317	-79	67.5	100.7	281
HK-027	Derkson - Lost	618380	6396280	510	125	-60	73.8	N/A	88
HK-028	Derkson	615040	6394250	504	294	-78	80.1	80.1	216
HK-029	Carter - Lost	601825	6398440	545	352	-80	90.0	N/A	213
HK-08-01	Carter	600818	6397316	556	300	-80	78.3	205.2	330
HK-08-02	Carter	600466	6396569	539	120	-80	90.0	176.2	282
HK-08-03	Carter	601762	6398351	550	300	-80	90.0	223	393
HK-08-03A	Carter - Lost	601709	6398401	540	120	-80	93.8	N/A	123
HK-08-04	Patterson West	607434	6397153	503	301	-80	52.3	190	396
HK13-05	Spitfire - Lost	608978	6396118	498	0	-90	45.0	N/A	45
HK13-05A	Spitfire - Lost	608990	6396110	498	0	-90	100.5	N/A	118
HK13-06	Hornet	610522	6398409	502	149	-90	19.2	220.7	384
HK13-07	Hornet	609877	6397881	499	253	-90	28.0	212.1	378
HK14-08	Spitfire	608987	6396108	498	0	-90	105.1	139.6	363
HK14-09	Spitfire	609003	6396096	499	315	-70	114.9	150.1	393
HK14-10	Patterson Lake	603934	6394962	508	0	-90	64.3	95.6	300
HK14-11	Spitfire	608994	6396122	498	315	-70	98.5	147	321
HK14-12	Spitfire	608967	6396144	502	315	-70	109.3	146.3	309
HK14-13	Patterson Lake	603321	6394505	508	0	-90	79.1	79.1	390
HK14-14	Patterson Lake	603942	6394891	508	0	-85	83.8	83.8	317
HK14-15	Spitfire	609016	6396130	499	315	-70	101.2	151	378
HK14-16	Patterson - Jed Lake	608105	6397707	500	0	-90	77.0	200	440
HK14-17	Spitfire	609022	6396140	499	260	-70	138.0	150.7	417
HK15-18	Spitfire	609219	6396365	520	307	-70	114.0	180	439
HK15-19	Patterson West - Lost	607911	6396923	500	135	-70	110.0	N/A	180
HK15-20	Patterson West	607960	6396955	500	135	-70	90.0	N/A	156
HK15-20A	Patterson West - Lost	607950	6396940	500	135	-70	83.0	185.7	398
HK15-21	Spitfire - Lost	609263	6396325	520	307	-70	N/A	N/A	90
HK15-21A	Spitfire	609261	6396331	520	307	-70	102.5	180	444
HK15-22	Patterson South	609546	6396606	500	307	-70	108.6	200.1	528
HK15-23	Patterson West	608739	6397224	520	307	-70	62.0	210	461
HK15-24	Patterson West	608840	6397654	508	311	-70	59.9	224.1	494
HK15-25	Spitfire	609201	6396239	510	307	-70	108.0	160.1	464
HK15-26	Hornet	610540	6398185	508	307	-70	18.0	232.4	400
HK15-27	Spitfire	609260	6396200	508	307	-70	66.0	158.2	533
HK15-28	Hornet	610662	6398299	508	307	-70	14.7	236.9	445
HK15-29	Patterson West	609335	6398240	508	307	-70	38.7	243.2	407
HK15-30	Patterson West	609115	6398250	508	307	-70	45.0	241.9	507
HK15-31	Spitfire	609285	6396169	502	307	-70	90.0	158	549
HK15-32	Patterson South	609571	6396464	520	311	-70	110.0	182.1	401
HK15-33	Spitfire	609225	6396179	502	311	-70	90.0	158	542
HK16-34	Spitfire	609153	6396209	510	307	-80	99.0	142.9	483
HK16-35	Patterson West	608300	6397037	503	307	-70	70.2	196	377
HK16-36	Hornet	610730	6398469	508	319	-70	20.2	239.7	482
HK16-37	Spitfire	609120	6396234	510	307	-80	96.0	150.9	435
HK16-38	Patterson East	611378	6397972	501	307	-80	27.7	209.7	342
HK16-39	Spitfire	609082	6396172	510	307	-80	99.0	155.7	371
HK16-40	Patterson South	609708	6395865	500	270	-70	125.0	140	317

Table 3: Summary of Hook Lake Drill Holes (2007 to 2021)

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			•				Downhole Depth		oths
Hole	Target	U	ГМ	Ele√n	Azi	Dip	OVB	U/C	EOH
Number	Area	Easting	Northing	(masl)	(degrees)	(degrees)	(m)	(m)	(m)
HK16-41	Spitfire	609150	6396277	510	295	-80	97.1	156	443
HK16-42	Patterson South - Lost	610174	6396636	510	306	-70	63.5	N/A	119
HK16-42A	Patterson South	610174	6396636	510	306	-70	63.5	184	395
HK16-43	Spitfire	609113	6396261	394	295	-80	98.0	156	394
HK16-44	Patterson South	610217	6396584	500	307	-70	63.5	184	398
HK16-45	Spitfire	609093	6396275	502	295	-80	98.2	151.7	323
HK16-46	Patterson East	611795	6397678	505	307	-70	14.5	204.5	371
HK16-47	Spitfire	609105	6396296	503	295	-80	91.1	152.5	380
HK16-48	Patterson South	609972	6396284	504	307	-70	78.3	174	359
HK16-49	Spitfire	609124	6396283	503	285	-80	118.1	150.8	398
HK16-50	Patterson South	609764	6396956	500	307	-70	101.0	156.2	302
HK16-51	Spitfire	609165	6396257	500	315	-85	103.1	151.4	500
HK16-52	Spitfire	609103	6396270	506	313	-85	93.5	148.3	415
HK16-53	Spitfire	609103	6396270	506	313	-83	99.1	148.4	404
HK16-54	Spitfire	609175	6396246	500	313	-85	90.8	153	500
HK16-55	Spitfire	609131	6396283	504	314	-80	84.0	165	386
HK17-56	Patterson South	609398	6396518	526	307	-70	93.8	158	350
HK17-57	Spitfire	609131	6396283	504	314	-84	81.7	165	392
HK17-58	Spitfire	609111	6396237	502	307	-80	96.3	150.2	362
HK17-59	Patterson South	609692	6396798	525	307	-70	70.0	214	366
HK17-60	Spitfire	609097	6396246	501	304	-80	121.0	152.4	320
HK17-61	Patterson South	609830	6396833	531	305	-70	71.0	213	350
HK17-62	Spitfire	609095	6396228	500	306	-80	91.7	155.2	350
HK17-63	Patterson South	609776	6397133	516	311	-70	30.1	208.8	362
HK17-64	Spitfire	609099	6396320	507	308	-70	90.0	165	342
HK17-65	Patterson South	609553	6397028	522	311	-70	35.2	203.5	338
HK17-66	Hornet	610345	6397919	508	311	-70	27.0	219	464
HK17-67	Dwarf Lake	611163	6398859	523	311	-70	31.1	259.9	411
HK17-68	Hornet	610191	6397900	505	314	-70	26.6	223	398
HK17-69	Dwarf Lake	611164	6398862	523	349	-70	65.3	256.8	491
HK17-70	Dragon	613493	6400458	522	330	-70	27.0	309.7	515
HK17-71	Dwarf Lake - Lost	612005	6399493	504	340	-70	36.0	N/A	191
HK17-71A	Dwarf Lake - Lost	612013	6399498	503	340	-70	36.0	N/A	270
HK17-71B	Dwarf Lake	611995	6399509	505	340	-80	38.0	258	464
HK17-72	Dragon	613541	6400388	522	322	-70	24.0	293	530
HK17-73	Dragon - Lost	613829	6400636	523	330	-70	33.0	N/A	263
HK17-73A	Dragon	613839	6400642	520	330	-70	26.3	298.6	548
HK17-74	Dragon	612466	6399835	515	330	-70	35.6	295.4	494
HK17-75	Dragon - Lost	613423	6400290	518	330	-70	29.5	N/A	204
HK17-76	Spitfire	608908	6396053	504	314	-80	101.7	138.8	250
HK17-77	Spitfire	608925	6396040	503	306	-80	102.0	135.1	266
HK17-78	Dragon	613423	6400290	518	330	-70	40.0	295	493
HK17-79	Spitfire	609227	6396340	521	271	-69	114.0	181.8	428
HK17-80	Spitfire	609227	6396340	521	286	-72	104.7	179.5	455
HK17-81	Dragon	613753	6400420	518	330	-70	40.0	300	632
HK18-82	Spitfire	609218	6396346	520	270	-70	108.4	181.2	404
HK18-83	Dragon	613563	6400337	518	330	-70	17.8	278.5	562
HK18-84	Spitfire	609209	6396403	523	310	-85	95.5	174.2	440

Table 3: Summary of Hook Lake Drill Holes (cont'd)

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		T		Í.			Dov	wnhole Dep	oths
Hole	Target	U	TM	Ele√n	Azi	Dip	OVB	U/C	EOH
Number	Area	Easting	Northing	(masl)	(degrees)	(degrees)	(m)	(m)	(m)
HK18-85	Spitfire	609282	6396432	530	310	-85	104.7	181.9	347
HK18-86	Dragon	613412	6400197	516	330	-70	20.6	301.6	503
HK18-87	Spitfire - Lost	609308	6396420	523	270	-85	105.9	N/A	140
HK18-87A	Spitfire	609311	6396418	523	270	-85	116.0	175.3	329
HK18-88	Spitfire	609227	6396340	521	264	-79	104.7	173.5	505
HK18-89	Dragon	613447	6400136	518	330	-70	8.5	299.1	503
HK18-90	Spitfire	612402	6400453	510	307	-70	29.8	306.5	375
HK18-91	Dragon	614076	6400565	524	330	-70	23.5	299.7	583
HK18-92	Patterson NW	612928	6401080	510	360	-90	32.3	290.3	503
HK18-93	Dragon	614339	6400818	520	320	-70	12.0	268.8	641
HK18-94	Patterson NW	611609	6399444	505	360	-90	34.2	235.6	473
HK18-95	Dragon - Lost	614275	6400895	521	320	-70	14.9	N/A	205
HK18-95A	Dragon	614275	6400895	521	320	-70	14.9	309.5	530
HK18-96	Dwarf Lake	611625	6399401	503	360	-90	36.2	249.6	461
HK18-97	Dragon - Lost	614111	6400506	521	330	-70	32.9	N/A	314
HK18-97A	Dragon	614112	6400506	522	330	-70	29.4	315.9	641
HK18-98	Dwarf Lake	612229	6399508	511	330	-70	41.1	276.6	515
HK18-99	Dwarf Lake	611979	6399064	506	332	-70	23.6	254.4	439
HK18-100	Dragon - Lost	614213	6400527	521	330	-70	20.5	N/A	257
HK18-100A	Dragon	614215	6400530	521	330	-70	20.5	314.4	673
HK19-101	Spitfire	609216	6396172	517	310	-80	95.3	148.6	562
HK19-102	Dragon	614589	6401038	520	320	-70	23.5	254.1	614
HK19-103	Dragon	615128	6401407	523	320	-70	29.1	378.1	671
HK19-104	Sabre ("W" Cond)	614359	6401925	513	320	-66	23.7	373.3	644
HK19-105	Sabre ("W" Cond)	616135	6404200	520	320	-70	20.7	404.8	680
HK19-106	Dragon	615060	6401485	517	320	-70	29.7	358.4	539
HK19-107	Sabre ("W" Cond)	614660	6402450	520	320	-70	26.3	385.9	653
HK19-108	Sabre ("W" Cond)	614896	6402780	520	320	-67	24.0	404	438
HK20-109	Patterson West	610005	6398696	500	307	-70	35.2	247.9	371
HK20-110	Hornet	610454	6398189	505	307	-70	20.1	231.4	371
HK20-111	Dwarf Lake	611516	6399919	508	307	-70	36.0	288.5	452
HK20-112	Patterson NW - Lost	612040	6400333	505	307	-70	38.0	N/A	277
HK20-112A	Patterson NW	612045	6400341	505	307	-70	38.0	307	491
HK20-113	Dwarf Lake	611620	6398878	492	307	-80	20.2	235.8	377
HK20-114	Dragon NE - Lost	615637	6402196	515	315	-80	11.8	N/A	173
HK20-114A	Dragon NE	615643	6402207	515	315	-80	16.1	353.9	509
HK20-115	Sabre ("W" Cond)	617370	6405576	512	307	-70	20.5	460	638
HK21-116	Sabre ("W" Cond)	615394	6402993	520	307	-60	17.8	438.6	653
HK21-117	Sabre ("W" Cond)	617019	6404771	526	307	-59	24.7	N/A	419
HK21-117A	Sabre ("W" Cond)	617021	6404767	526	307	-59	26.7	486	747
HK21-118	Sabre ("W" Cond)	617614	6405340	526	307	-60	26.9	485.1	737
DK19-001	Derkson	616825	6393730	515	307	-70	61.1	87.7	307
DK19-002	Derkson	616919	6393672	515	307	-70	67.4	72.2	371
DK19-003	Derkson	617360	6394580	515	307	-70	55.9	102.5	314
DK19-004	Derkson	617445	6394510	509	307	-70	56.6	92.1	252
DK19-005	Derkson	616590	6393040	504	307	-70	54.1	N/A	260
DK19-006	Derkson	616203	6392698	513	307	-70	56.7	N/A	245

Table 3: Summary of Hook Lake Drill Holes (cont'd)

10.1.1 Methodology for Interpreting Gamma

The Natural Gamma data was processed by the Project Geology including depth shifting, remove collection data errors, creating scatter graphs and quality control. The Natural Gamma data was collected with Purepoint's natural gamma probe in Counts per Second (CPS) units. Gamma spikes in the core were identified with a handheld scintillometer and matched to spikes seen in the downhole gamma to ensure depth and quality. The gamma spikes seen in the core had to be repeatable in the down hole gamma at the correct depth and occur within the acceptable error range.

10.1.2 Downhole Gamma Results

Natural gamma results were used for interpreting drill sections and for planning step-out holes to follow-up intersections.

10.2 Drill Core Orientation Measurements

A Reflex ACT II RD Core or the Reflex ACT III Tool was used by the drillers to mark the core orientation reference point, the lowermost point on the top face of a run of core. The geologists then pieced the run of core back together (if possible) and extended a crayon line along the run of core from the reference point. An Ezy-Logger[™] Goniometer was then used to measure the alpha and beta angles of foliations, shears, fractures, veins, faults, fault gouges, slip surfaces and contacts.

10.2.1 Methodology for Interpreting Oriented Core Results

Downhole deviations, as measured by the drillers using a Reflex EZ-Gyro, were entered into the GeoCalculator software by R. Holcombe along with the goniometer alpha and beta measurements to determine true dips and strikes of planar structures. The measurements were then entered into the Stereonet 10.0 software by Richard W. Allmendinger to create Schmidt Stereonet Plots and Rose Diagrams of foliations. The mean azimuth and dip of the foliation was also calculated for each exploration area using the results from the oriented core.

10.3 Core Logging Procedures

Data collected from the drill core included geologic descriptions, core recovery, rock quality determination (RQD), fracture count, magnetic susceptibility and radioactivity using a handheld scintillometer.

Samples were collected for analysis using a portable short-wave infrared mineral analyzer (PIMA) for the determination of the spatial distribution of clay minerals.

The geologists collected PIMA samples where clay alteration was prominent and where clay coatings were seen on fracture surfaces within the basement rock. A 2 to 4 cm long piece of drill core was collected where required and placed in a sample bag marked with the hole number and sample depth. All PIMA samples were forwarded to Ken Wasyliuk, M.Sc., P.Geo. of Rekasa Rocks Inc., Saskatoon, Saskatchewan for analysis.

Sampling procedures for samples submitted for geochemical analysis to the Saskatchewan Research Council Geoanalytical Laboratories in Saskatoon are described in detail in Section 11.

10.4 Diamond Drill Hole Results

The Patterson Corridor drilling (Figures 26 and 27) was concentrated within the Spitfire area and tested the Hornet, Dragon and Sabre target areas. First pass drilling was also conducted along the Carter (Figure 28) and Derkson (Figure 29) Corridors.

The drill hole logs, photos, geotechnical measurements, assay results, clay analysis results, and downhole geophysical results have been filed annually with the government for assessment credit (Frostad, 2014; Frostad and Watson, 2009, 2013; Frostad and Fehr, 2021; Frostad et al., 2008, 2015, 2017, 2018, 2019, 2020) and are found online within the Saskatchewan mineral assessment database.

10.4.1 Spitfire Zone

Within the Spitfire zone, 41 drill holes have been completed and 4 holes lost for a total of 17,103 metres drilled. A location map of the Spitfire Zone drill holes is provided in Figure 30, an inclined longitudinal section of the deposit is shown in Figure 31, and a summary of the Spitfire drill results is provided in Table 4.

In 2014, uranium mineralization was discovered within the Spitfire area by drill hole HK14-09 that intersected a strongly sheared and chloritized mafic dyke returning 0.32% U_3O_8 over 6.2 metres and included an interval of limonitic fault gouge that assayed 1.10% U_3O_8 over 0.5 metres. The follow-up hole, HK14-11, encountered a strongly sheared and graphitic mafic dyke that returned 0.57% U_3O_8 over 0.9 metres and an additional interval of 0.11% U_3O_8 over 2.0 metres.

During the 2015 drill program, HK16-25 intersected 0.10% U_3O_8 over 4.3 metres approximately 250 metres northeast along strike from HK14-11. The follow-up hole, HK15-27 returned 2.3% U_3O_8 over 2.8 metres including 12.97% U_3O_8 over 0.4 metres. In addition, drill hole HK15-33 encountered 0.47% U_3O_8 over 1.3 metres.



Figure 30: Location Map of Spitfire Zone Drill Holes



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Figure 31: Inclined Longitudinal Section of Spitfire Zone

Hole	From	То	Width	U ₃ O ₈
Number	(m)	(m)	(m)	(%)
HK13-06	337.7	338.0	0.3	0.05 %
HK14-09	208.9	217.5	8.6	0.25 %
	218.6	219.0	0.4	0.05 %
	220.8	221.3	0.5	0.11 %
	224.0	224.4	0.4	0.19 %
HK14-09	225.0	226.0	1.0	0.05 %
HK14-11	197.9	199.9	2.0	0.11 %
	201.9	203.7	1.8	0.05 %
	204.6	205.5	0.9	0.05 %
	210.6	211.8	1.2	0.45 %
HK14-17	210.8	214.7	3.9	0.10 %
	226.5	227.0	0.5	0.09 %
HK15-25	252.0	254.4	2.4	0.09 %
	312.7	317.0	4.3	0.10 %
	323.7	325.5	1.8	0.05 %
HK15-27	389.0	391.8	2.8	2.25 %
including	390.4	390.8	0.4	12.97 %
HK15-31	408.5	408.8	0.3	0.09 %
HK15-33	304.8	306.3	1.5	0.09 %
	354.6	357.2	2.6	0.21 %
	360.1	361.4	1.3	0.47 %
HK16-37	211.4	213.1	1.7	0.07 %
	264.4	264.7	0.3	0.10 %
	269.6	275.0	5.4	1.21 %
including	269.6	270.2	0.6	9.87%
	277.8	279.5	1.7	0.13 %
	280.9	281.4	0.5	0.08 %
	300.2	300.7	0.5	0.10 %
HK16-39	218.0	220.3	2.3	0.06 %
HK16-41	275.1	276.2	1.1	0.09 %
	287.7	288.4	0.7	0.12 %
	291.8	292.2	0.4	0.08 %
	294.2	294.5	0.3	0.07 %
	299.8	300.4	0.6	0.47 %
HK16-43	219.2	219.9	0.7	0.10 %
	222.4	233.0	10.6	0.50 %
including	232.0	233.0	1.0	3.46 %
	236.9	241.6	4.7	1.19 %
	244.5	247.6	3.1	4.07 %
including	245.2	245.5	0.3	40.30 %
	250.3	253.4	3.1	0.14 %
	262.4	262.7	0.3	0.15 %

Hole	From	То	Width	U ₃ O ₈
Number	(m)	(m)	(m)	(%)
HK16-45	171.4	171.7	0.3	0.06 %
HK16-47	178.3	180.0	1.7	0.06 %
	182.5	183.4	0.9	0.12 %
	192.5	202.8	10.3	0.18 %
	204.8	205.6	0.8	0.09 %
	206.6	207.6	1.0	0.05 %
	216.5	236.6	20.1	0.88 %
including	218.4	230.2	11.8	1.32 %
HK16-49	222.9	224.1	1.2	0.27 %
	226.0	227.0	1.0	0.05 %
	239.9	241.8	1.9	1.24 %
	245.0	245.5	0.5	0.08 %
	251.1	253.4	2.4	0.77 %
HK16-51	329.4	329.8	0.4	0.07 %
	332.7	338.5	5.8	0.13 %
HK16-52	197.2	199.3	2.1	0.08 %
	232.5	238.1	5.6	0.08 %
	240.0	250.0	10.0	1.28 %
including	246.0	250.0	4.0	3.07 %
	266.0	266.3	0.3	0.09 %
	268.3	269.8	1.5	0.10 %
HK16-53	195.4	195.8	0.4	0.19 %
	198.5	199.0	0.5	0.05 %
	231.7	232.6	0.9	0.08 %
	237.6	238.0	0.4	0.12 %
	239.8	251.9	12.1	8.44 %
including	243.9	245.2	1.3	53.45 %
	260.9	261.6	0.7	0.11%
	266.5	266.8	0.3	0.15 %
	273.0	273.7	0.7	0.07 %
HK16-54	274.6	274.9	0.3	0.09 %
	290.5	293.5	3.0	0.05 %
	369.2	370.2	1.0	1.16 %
HK16-55	189.9	190.3	0.4	0.05 %
	211.4	212.0	0.6	0.05 %
	217.1	217.5	0.4	0.07 %
	219.1	220.6	1.5	0.06 %
	221.9	231.4	9.5	2.90 %
including	227.2	228.7	1.5	13.30 %
	235.8	236.1	0.3	0.08 %
	248.8	249.8	1.0	0.27 %
	251.6	251.9	0.3	0.07 %

Table 4: Summary of Spitfire Area Drill Results

Hole	From	То	Width	U3O8		Hole	From	То	Width	U3O8
Number	(m)	(m)	(m)	(%)		Number	(m)	(m)	(m)	(%)
HK17-57	259.3	259.8	0.5	0.06%		HK17-79	270.0	270.4	0.4	0.05 %
	266.8	268.3	1.5	0.12 %			272.9	273.4	0.5	0.05 %
	279.4	280.4	1.0	0.05 %			274.4	280.1	5.7	0.67 %
HK17-58	208.5	208.8	0.3	0.09%			282.1	285.0	2.9	0.10 %
	217.0	217.7	0.7	0.07 %			287.1	287.4	0.3	0.34 %
	264.8	265.7	0.9	0.05 %		HK17-80	255.0	262.5	7.5	0.58 %
	283.8	285.8	2.0	0.12%		HK18-82	261.7	274.4	12.7	0.56 %
HK17-60	202.2	203.2	1.0	0.06%			262.5	263.2	0.7	4.84 %
	208.2	218.7	10.5	0.50%		HK18-84	234.5	235.7	1.2	0.09 %
including	217.0	217.7	0.7	3.07 %		HK18-85	213.6	214.1	0.5	0.05 %
HK17-62	247.8	248.8	1.0	0.05 %		HK18-88	322.2	323.2	1.0	0.15 %
HK17-76	181.9	182.4	0.5	1.67 %			369.0	369.8	0.8	0.11 %
	194.4	194.7	0.3	0.16%			388.0	388.3	0.3	0.05 %
	198.2	198.7	0.5	0.07 %			395.5	396.9	1.4	0.08 %
HK17-77	210.5	211.0	0.5	0.05%			398.1	401.5	3.4	0.07 %
					-		403.3	404.8	1.5	0.05 %

Table 4: Summary of Spitfire Area Drill Results (Cont'd)

Exploration success continued at the Spitfire Zone during 2016 with additional drill intercepts containing high-grade uranium mineralization. Highlights of the drill program were drill hole HK16-53 that intersected 10.0 metres of $10.3\% U_3O_8$, including 1.3 metres of $53.5\% U_3O_8$ and hole HK16-55 that returned $2.92\% U_3O_8$ over 9.5 metres.

The Spitfire high-grade mineralization was extended 40 metres to the northeast of the previous HK16-53 intercept by drill hole HK16-55 (2.92% U₃O₈ over 9.5 metres).

In 2017, 75 metres to the southwest by drill hole HK17-60 (0.47% U₃O₈ over 11.0 metres) for a total confirmed strike length of 115 metres. In 2017, three holes drilled at Spitfire, stepping out towards the northeast, hit mineralization extending the strike length by approximately 85 metres with HK18-82 returning 0.56% U₃O₈ over 12.7 metres including 4.8% U₃O₈ over 0.7 metres.

To test for uranium mineralization at depth, the Spitfire shear zone was targeted by drill hole HK19-101 below the HK15-27 intercept (2.3% U3O8 over 2.8 metres). Based on the Spitfire 3D model, the targeted down dip extension of a high-grade mineralization lens warrants additional follow-up as HK19-101 was off the ideal target and did not encounter anomalous radioactivity.

10.4.2 Hornet Target Area

Outside of the Spitfire area, one of the best uranium intercepts along the Patterson Corridor was returned from an earlier hole, HK13-06, that returned 138 ppm U over 2.3 metres (Figure 26 and 32). The uranium mineralization in HK13-06 occurred

		Probe	Maximum Uranium				
Target	Hole	Peak	From	То	Width	U	
Area	Number	(cps)	(m)	(m)	(m)	(ppm)	
Hornet	HK13-06	1,972	301.7	304.0	2.3	138	
	HK13-07	358	284.0	285.0	1.0	11	
	HK15-26	406	331.4	331.8	0.4	2	
	HK15-28	1,091	336.9	337.2	0.3	21	
	HK16-36	467	239.7	240.0	0.3	6	
	HK17-66	1,060	248.3	248.7	0.4	7	
	HK17-68	930	365.0	366.0	1.0	4	
	HK20-110	890	258.8	259.2	0.4	106	

Table 5: Summary of Hornet Area Drill Results

immediately east of a strongly sheared, graphitic dioritic gneiss resembling the geologic setting of the Spitfire mineralization. The area was named the Hornet target with eight holes completed for a total of 3,322 metres being drilled. A summary of the Hornet area drill results to date is provided in Table 5.

Favourable hole HK13-06 was followed up by HK15-28 (Figure 32) that encountered graphitic shearing, however, only weak radioactivity was associated with the graphitic unit.

Hole HK15-26 was collared 180 metres SW along strike and encountered granodiorite gneiss with graphitic shears and fresh granite. Two holes, HK17-66 and 68, tested an apparent break in the Hornet EM conductor and encountered unaltered granodiorite gneiss that hosted graphitic shears with no significant radioactivity.

The Hornet area hole, HK20-110, was completed southwest of HK13-06 where the 2019 EM survey results showed a second parallel EM conductor associated with the conductor targeted by Hornet hole HK15-26. Hole HK20-110 intersected a 34metre interval of diorite gneiss that hosted pyrite and disseminated graphite and is considered to be the source of the targeted EM conductor. The hole failed to intersect favourable basement alteration but did return 106 ppm U over 0.4 metres within the paleoweathering zone, approximately 25 metres below the unconformity.

10.4.1 Dragon Target Area

The Dragon target area has been tested by 17 completed drill holes and 6 holes were lost for a total of 11,102 metres drilled. A location map of the Dragon drill holes is provided with a geological interpretation in Figure 30, and a summary of the Dragon drill results is provided in Table 6.



Figure 32: Drill Section of HK13-06 and HK15-28 – Hornet Area



Figure 33: Interpreted Geology – Dragon Area

		Probe	Maximum Uranium				
Target	Hole	Peak	From	То	Width	U	
Area	Number	(cps)	(m)	(m)	(m)	(ppm)	
Dragon	HK17-70	533	438.0	439.0	1.0	9	
	HK17-72	770	384.8	385.0	0.2	130	
	HK17-73A	366	389.0	390.0	1.0	28	
	HK17-78	604	465.0	466.0	1.0	5	
	HK17-81	763	559.6	559.9	0.3	114	
	HK18-83	594	534.0	535.0	1.0	9	
	HK18-86	350	317.4	318.4	1.0	4	
	HK18-89	602	407.8	408.4	0.6	6	
	HK18-91	893	421.6	421.9	0.3	59	
	HK18-93	659	349.3	349.7	0.4	25	
	HK18-95A	476	429.7	430.2	0.5	45	
	HK18-97A	1,215	507.4	507.7	0.3	260	
	HK18-100A	460	665.0	666.0	1.0	9	
	HK19-102	528	460.5	460.6	0.1	86	
	HK19-103	382	479.6	479.9	0.3	9	
	HK19-106	466	427.6	427.9	0.3	125	
	HK20-114A	244	470.0	470.2	0.2	7	

Table 6: Summary of Dragon Area Drill Results

In 2017, initial Dragon area results were promising with the discovery of clay altered basement rocks that host hydrothermal quartz, graphitic shears and elevated radioactivity.

Hole HK17-70 intersected locally clay altered granodiorite gneiss, strongly hematized mafic intrusive rocks and a 20-metre-wide graphitic shear zone before being completed within a carbonatite intrusive. The follow-up hole HK17-72 encountered a 25-metre wide mafic intrusive with strong clay and hematite alteration followed by 6 metres of hydrothermal quartz. Elevated radioactivity, 130 ppm U over 0.2 metres, was seen to be associated with steeply dipping north-south trending structures.

The next Dragon hole, HK17-73A, was collared 600 metres northeast along strike of HK17-72. The hole encountered hydrothermal quartz, a 100-metre-wide shear zone within clay and hematite altered granodiorite gneiss, a graphitic shear zone hosted by a mafic intrusive, and was completed within a carbonatite. Hole HK17-73A did not encounter anomalous radioactivity.

Hole HK17-78 was a restart of lost hole HK17-75 and was a follow-up to the favourable alteration and radioactivity encountered by HK17-72. A sulphide-rich

shear zone best explained the airborne conductor and no significant radioactivity was encountered.

Drill Hole HK17-81 targeted a previously untested ground EM conductor located immediately east of the previous drilling. The hole intersected a strong graphitic shear associated with intense silicification in the hanging wall. The graphitic shear was interpreted as a third easterly graphitic shear within a 200-metre-wide shear zone that had not been tested by previous holes.

Drill Hole HK18-97A encountered the unconformity at 316.4 metres, drilled strongly silicified and clay altered granodiorite gneiss to 495 metres. Graphitic shearing and fracturing associated with intense clay alteration was drilled to 525 metres and returned 260 ppm U over 0.3 metres, the strongest radioactivity returned at Dragon to date. Strongly silicified granodiorite gneiss was then encountered to 599 metres and the hole was completed within unaltered granitic gneiss at a depth of 641.0 metres.

Drill Hole HK18-100A, was collared 100 metres NE along strike of hole HK18-97A. The hole intersected intense silicification and clay alteration throughout most of the hole and is considered the most intense hydrothermal alteration seen on the project outside of the Spitfire deposit. Graphitic shearing was present within strongly chloritized zones between 407 to 432 metres and elevated radioactivity (up to 460 cps from downhole gamma results) was associated with hematized mafic rocks overprinted by intense silicification between 518 and 532 metres. The targeted graphitic shear was intersected much deeper than expected, between 612 to 640 metres, and only returned weak radioactivity. The hole ended in chloritized granodiorite at 672.8 metres.

Hole HK19-102 was a 300-metre step out northeast of HK18-93 and returned relatively similar results. Both these holes intersected weak radioactivity proximal to the footwall contact of an intensely silicified, clay altered granodiorite gneiss unit near the unconformity.

Drill Hole HK19-103 was a 600-metre step-out along strike NE of HK19-102. The unconformity was intersected at 378 metres then intensely silicified dioritic gneiss was drilled to 478 metres. A 3-metre-wide graphitic structure encountered displaying brittle faulting and clay alteration with local fault gouge intervals and weak radioactivity (230 cps over 4.0 metres from the downhole gamma probe).

Drill hole HK19-106 was collared 80 metres in front of hole HK19-103. A strong overprinting of honey-yellow illite, typically only seen in the Spitfire deposit, was observed just below 400 metres followed by an interval of weak radioactivity (125 ppm U over 0.3 metres). Three distinct graphitic shear zones were hosted in a chloritized mafic rock between 449 and 490 metres.
		Probe	Maximum Uraniu		
Target	Hole	Peak	From	То	Width
Area	Number	(cps)	(m)	(m)	(m)
Sabre ("W" Cond)	HK19-104	442	589.3	590.0	0.7
	HK19-105	1,634	527.5	527.8	0.3

987

202

665

933

1,012

1,407

424.8

422.9

471.3

575.9

674.9

604.9

425.4

423.3

472.0

576.4

675.2

605.6

0.6

0.4

0.7

0.5

0.3

0.7

Table 7: Summary of Sabre Area Drill Results

HK19-107

HK19-108

HK20-115

HK21-116

HK21-117A

HK21-118

Drill hole HK20-114A was a lake hole designed to test the Dragon conductor northeast of previous drilling where it is associated with a magnetic low response. The initial hole at this location was lost due to strongly desilicified sandstone and pressurized sand seams. The unconformity was intersected at 354 metres, after which strongly hematized mafic intrusives, granodiorite and diorite gneiss were encountered to 400 metres, followed by fenitized mafic intrusive and carbonatite. The hole failed to explain the EM anomaly or encounter significant radioactivity. The geology has a shallower dip than expected and carbonatite was intersected sooner in this area. The optimal target in this location is now thought to lie to the immediate west of HK20-114A.

The Dragon shear zone is now known to be approximately 200 metres wide, is composed of three to four separate graphitic shears dipping southeast and has been tested over a strike length of 750 metres. As with the Spitfire discovery, the strong hydrothermal alteration is associated with the most easterly graphitic shear and the hanging wall rock. Hole HK18-97A intersected 260 ppm over 0.3 metres, the strongest radioactivity returned at Dragon to date, while holes HK18-97A and 100A displayed the most intense hydrothermal alteration seen on the project outside of the Spitfire deposit.

10.4.2 Sabre Target Area

The Sabre target area, which covers the northern extension of the historic "W" conductor, was initially drilled by Purepoint during 2019 (Figures 28 and 34). Eight holes have now been completed (HK-19-104, 105, 107, 108, HK20-115, HK21-116 to 118) and 1 lost for a total of 5,609 metres being drilled. The average overburden thickness in the area is 20 to 25 metres and depth to the unconformity is typically greater than 400 metres. A summary of the Sabre target drill results is provided in Table 7.

U (ppm)

> 25 104

> > 43

27

7

35

16

134



Figure 34: Location Map of Sabre Area Drilling – Magnetic Tilt Background

The initial hole HK19-104 encountered strong hydrothermal alteration and weak mineralization (25 ppm U over 0.7 metres) associated with a graphitic shear. Hole HK19-104 marked the first-time strong alteration had been seen associated with the "W" conductor basement rocks and opened up new high priority targets for drill testing to the northeast.

Drill hole HK19-105 (Figure 35) was collared 800 metres northeast of HK19-104 and intersected numerous high-strain-zones, a post-Athabasca fault combined with strong hydrothermal alteration and elevated radioactivity including 125 ppm U over 1.3 metres and 25 ppm U over 1.3 metres. Hole HK19-108 was collared 100 metres northeast of HK19-105 but was lost shortly after the unconformity within strongly clay and hematite altered diorite gneiss at a depth of 438.0 metres.

Hole HK19-107 was collared 300 metres southwest of HK19-105 and intersected 43 ppm U over 0.6 metres being returned from a strong shear zone associated with a redox front. Intense silicification was encountered at the upper contact of the graphitic shears, however, the core lacked intense clay alteration at depth.

Hole HK20-115 (Figure 36) was a highlight of the 2020 drill program in that strong clay and hematite alteration was intersected and the EM response was explained by a favourable strongly chloritized, sheared graphitic mafic intrusive.

HK21-116, collared 400 metres north of HK19-105, intersected a 1-metre-wide band of unaltered graphitic diorite gneiss that explained the EM conductor. The hole failed to intersect significant alteration or radioactivity.

During 2021, favourable geology was drilled by the two northern holes, HK21-117A and 118, that both encountered wide intervals of strong to intense silicification proximal to graphitic shear zones. Assays for HK21-118 (Figure 36), the most northerly Sabre hole drilled, returned 134 ppm U over 0.7 metres from the contact of silicified granodiorite and a graphitic shear. Hole HK21-117A was drilled south of HK21-118 and intersected weak radioactivity from within the graphitic shear zone.

The Sabre Target Area remains prospective near hole HK19-105, and north of HK21-118 towards historic hole HK-02 that encountered extensive graphitic shearing associated with anomalous radioactivity.

10.4.1 Patterson Corridor – Other Target Areas

Along the Patterson corridor, strong EM conductors were tested where they extended beyond the areas previously described. Also, a few shorter conductors that were found to strike sub-parallel to the major structural trend were tested. The location of these holes is shown in Figure 26 and a summary of the results are found in Table 8.



Figure 35: Drill Section of HK19-105 and HK19-108 – Sabre Area



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Figure 36: Drill Section of HK20-115 and HK21-118 – Sabre Area

		Probe	Maximum Uranium			
Target	Hole	Peak	From	То	Width	U
Area	Number	(cps)	(m)	(m)	(m)	(ppm)
Patterson Lake	HK14-10	437	272.0	273.0	1.0	4
	HK14-13	332	131.0	132.0	1.0	7
	HK14-14	151	262.0	263.0	1.0	6
Patterson - Jed Lake	HK14-16	277	251.0	252.0	1.0	17
Patterson West	HK-08-04	222	358.0	359.0	1.0	2
	HK15-20	340	302.0	302.3	0.3	39
	HK15-23	389	266.0	267.0	1.0	12
	HK15-24	282	224.4	226.5	2.1	7
	HK15-29	403	383.7	385.0	1.3	25
	HK15-30	1,643	320.3	320.9	0.6	22
	HK16-35	566	238.4	239.4	1.0	7
	HK20-109	543	365.4	366.4	1.0	16
Patterson South	HK15-22	721	455.3	455.9	0.6	116
	HK15-32	443	183.9	185.0	1.1	11
	HK16-40	1,388	203.8	204.2	0.4	10
	HK16-42A	1,290	346.1	346.4	0.3	23
	HK16-44	413	223.0	224.0	1.0	4
	HK16-48	573	340.0	341.0	1.0	9
	HK16-50	2,746	233.3	233.6	0.3	16
	HK17-56	5,038	249.0	250.0	1.0	7
	HK17-59	263	302.8	303.6	0.8	8
	HK17-61	314	220.0	221.0	1.0	5
	HK17-63	312	257.0	258.0	1.0	4
	HK17-65	421	221.4	222.8	1.4	7
Patterson East	HK16-38	N/A	216.0	217.0	1.0	6
	HK16-46	400	232.0	233.0	1.0	4
Dwarf Lake	HK17-67	709	264.5	265.5	1.0	5
	HK17-69	1,200	429.1	429.6	0.5	31
	HK17-71B	183	402.4	402.7	0.3	3
	HK17-74	310	356.0	357.0	1.0	9
	HK18-94	317	225.0	233.0	8.0	4
	HK18-96	484	428.0	428.8	0.8	11
	HK18-98	770	395.1	395.4	0.3	27
	HK18-99	623	255.0	256.0	1.0	3
	HK20-113	662	242.2	242.5	0.3	7
Patterson NW	HK18-90	N/A	348.0	348.5	0.5	12
	HK18-92	452	291.0	292.0	1.0	5
	HK20-111	532	346.7	346.8	0.1	16
	HK20-112A	491	330.7	330.9	0.2	8

 Table 8: Summary of Patterson Corridor Drill Results for Other Target Areas

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One of the additional areas considered to still have exploration merit is near the south end of Jed Lake (Figure 26: Location Map of Patterson Corridor Drill Holes – South Area). The initial hole here, HK15-19, was lost within sandstone at a depth of 180 metres due to flowing sand. The drill was moved 50 metres north along strike where drill hole HK15-20 cased overburden to a depth of 83 metres, then drilled sandstone hosting significant dravite and S-kaolinite to 155 metres, then the sandstone was strongly bleached and hematized to the unconformity at 186 metres. The conductor was explained by weakly sheared graphitic and pyritic granodioritic gneiss intersected between 266 and 380 metres and returned 39 ppm U over 0.3 metres near the contact of a mafic dyke.

Drill hole HK15-22 tested the northern end of the Spitfire conductor (Figure 26: Location Map of Patterson Corridor Drill Holes – South Area), approximately 200 metres northeast of HK18-85 that intersected 0.05% U₃O₈ over 0.5 metres. HK15-22 intersected the unconformity at 200 metres then drilled 45 metres of pervasively clay altered porphyroblastic schist, followed by hematite altered granodioritic gneiss to 277 metres. Strongly chloritized granodioritic gneiss hosting strongly sheared graphitic bands, 2 to 9 metres in width, were present to a final depth of 528 metres. The hole returned 116 ppm U over 0.6 metres between 455.3 and 455.9 metres proximal to a mafic dyke contact.

10.4.2 Derkson Corridor

Historic exploration efforts in the Patterson area focused on the Derkson Corridor, where SMDC encountered uranium mineralization near the unconformity in hole DER-04 that returned 0.24% U_3O_8 and 1.35% Ni over 2.5 metres in 1978 (Figure 29). During 2007, three holes were drilled by Purepoint within the Derkson Corridor with two completed (HK-26 and 28) and one being lost (HK-27) for a total of 585 metres. An additional six holes (DK19-001 to 006) totalling 1,749 metres were completed in 2019. A summary of the 2007 and 2019 drill programs is provided in Table 9.

Drill hole HK-26 was collared approximately 250 metres southwest of historic hole DER-04 and drilled relatively unaltered sandstone to the unconformity at a depth of 100 meters. The basement rock was granodioritic gneiss with hematite alteration to 130 meters and light green chlorite to 140 metres. Zones of brittle faulting associated with strongly dark green chlorite altered, pyritic and graphitic ductile deformation zones were intersected before the hole was completed at 281 metres. Low concentrations of uranium and other pathfinder elements were returned.

Drill hole HK-28 targeted a VTEM conductor located approximately 2 kilometres west of the central Derkson EM conductor. Approximately 80 metres of overburden was drilled before immediately encountering granitic gneiss. Minor hematite alteration was present to 109 metres, then the basement rock was primarily unaltered to the completion depth of 183.5 m. No anomalous radioactivity was returned from this hole.

		Probe	Maximum Uranium			
Target	Hole	Peak	From	То	Width	U
Area	Number	(cps)	(m)	(m)	(m)	(ppm)
Derkson	HK-026	713	155.0	156.0	1.0	8
	HK-028	200	144.8	145.8	1.0	2
	DK19-001	1,092	135.3	135.6	0.3	50
	DK19-002	540	214.4	215.4	1.0	6
	DK19-003	722	283.3	283.8	0.5	43
	DK19-004	464	244.9	245.4	0.5	10
	DK19-005	747	158.2	158.7	0.5	27
	DK19-006	452	181.7	181.8	0.1	15

Table 9: Summary of Derkson Corridor Drill Results

Further drilling along the Derkson Corridor was not conducted by Purepoint until 2019. Based on the recent basement-hosted, geologic setting of the Patterson Corridor mineralization, it was considered that the historic shallow drilling along the Derkson Corridor did not properly test for basement-hosted uranium deposits. Also, historic drill holes along this trend encountered very encouraging clay alteration of the basement rocks but were typically completed only 30 to 40 metres past the unconformity.

The 2019 Derkson area drilling showed that the strong clay alteration evidenced in historic holes was related to paleoweathering. Once the 2019 drill holes passed through the alteration zone related to paleoweathering, the basement rocks typically showed no further alteration. The EM conductors were explained by rock units that hosted wide intervals of disseminated graphite and pyrite rather than prospective graphitic structures (Figure 37). The elongate magnetic highs seen within the airborne results were explained as magnetic syenites, an intrusive igneous rock that hosted finely disseminated pyrrhotite. Although testing did identify the source of the EM conductors, no prospective structures, alteration or radioactivity were encountered within the basement rocks. However, unconformity-related mineralization, as evidenced with historic hole DER-04, remains a potential target as does the 2018 gravity low located approximately one kilometre west of DER-04.

10.4.1 Carter Corridor

The Carter Corridor was drilled by Purepoint during 2007 and 2008 with 3 holes completed (HK-08-01 to 03) and two holes lost (HK-29 and HK-08-03A) for a total of 1,341 metres being drilled (Figures 28 and 38). A summary of the Carter Corridor drill results is provided in Table 10.



Figure 37: Interpreted Derkson Area Geology – Magnetic Tilt Background



Figure 38: Carter Corridor Drilling with Magnetic Tilt Background

		Probe	Maximum Uranium			
Target	Hole	Peak	From	То	Width	U
Area	Number	(cps)	(m)	(m)	(m)	(ppm)
Carter	HK-08-01	1,640	271.77	271.80	0.03	17
	HK-08-02	503	250.0	251.0	1.0	2
	HK-08-03	301	200.0	210.0	10.0	3

Table 10: Summary of Carter Corridor Drill Results

The first Carter hole completed, HK08-01, intersected very strong sericite and silica hydrothermal alteration (Figure 39) and returned a maximum of 17 ppm U within basement rock. Both HK08-01 and 02 failed to explain the targeted EM conductor. HK08-03 intersected 60 metres of intense hydrothermal hematite alteration below the unconformity (Figure 40).

Drill hole HK08-01 encountered a strongly disrupted, sericite-altered and silicified quartz diorite for over 110 metres starting at the unconformity at a downhole depth of 205 metres. Thin sections of the drill core show the basement rock hosts 30 to 35% sericite to a depth of 315 metres (Figure 39) then becomes mainly chlorite altered to the completion depth of 330 metres. A graphitic rock unit was not intersected within the hole and the highest uranium result was returned from a zone of brecciation with strong hematite alteration that assayed 17 ppm U over 0.03 metres at a depth of 271.8 metres.

HK08-02 was drilled approximately 800 metres SSW of HK08-01 within the Carter corridor. The unconformity was intersected at 178 metres and primarily silicified granodioritic gneiss was encountered to the final depth of 330 metres. A graphitic and/or pyritic rock unit was not seen in this hole. It is believed that the source of the conductor was missed and lies to the immediate east.

The third hole, HK08-03, targeted the Carter corridor approximately 1.4 kilometres north of HK08-01 and intersected the unconformity at a depth of 223 m. Strongly hematite altered diorite gneiss was then drilled to 282 metres (Figure 40) before becoming chlorite altered and hosting 10-20% disseminated graphite and 5-10% pyrite to the completion depth of 393 m.

11.SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 Sample Preparation

The sample preparation on site is limited to splitting the core. All other sample preparation is performed by the independent SRC geoanalytical laboratory. The core splitting is done under the supervision of the site geologist by the company's geological technician.



Figure 39: Core Photo of HK08-01 Showing Sericitized and Silicified Quartz Diorite



Figure 40: Core Photo of HK08-03 Showing Hematized and Silicified Diorite Gneiss

Diamond drill core is placed in core boxes and transported to the core logging building at the Hook Lake camp by the drilling company. The project geologists log the core for lithologic characteristics and the geological technicians log the core for core recovery, rock quality determination (RQD), fracture count, magnetic susceptibility and radioactivity.

Samples of drill core are typically chosen for analysis based on the radioactivity recorded by the geological technician using a handheld scintillometer. Additional "shoulder" samples are also taken above and below the radioactive zone. Also, non-radioactive structures, alteration and lithologies are sampled to possibly identify processes related to the mineral deposit model and background geological and geochemical processes. Attempts are made by the geologist to avoid collecting samples that span lithological boundaries.

Samples are collected by both a composite method (for sandstone) and by splitting. For composite samples of sandstone, the geologist collects a 2 to 4 cm long piece of core every metre and places these in a marked plastic sample bag along with a sample number tag from the sample ticket book. The geologist records the sample intervals within the sample ticket book, and then staples a sample number tag from the sample ticket book to the core box where the interval begins.

For core to be sampled by splitting, the geologist marks the sample intervals on the core, records sample intervals within the sample ticket book, then staples sample number tags from the sample ticket book to the core box where the interval begins.

After the core has been marked for sampling, it is photographed both wet and dry. The core requiring splitting is then split lengthwise using a mechanical knife-type core splitting tool or core saw with every attempt made to ensure an even split. Intervals of poorly lithified core (i.e., clay altered) are split using stainless steel kitchen utensils. One half of the core is placed in plastic sample bags pre-marked with the sample number along with a sample number tag from the sample ticket book. The other half is returned to the core box and stored at the core storage area located near the Hook Lake camp. If the sample has been marked by the geologist as a field duplicate (every 1 in 30 samples has two tags for same interval), the half of the core that has been placed back in the box is then resplit.

The core splitter and sample collection pans are cleaned thoroughly with a brush before the next sample is split. The bags containing split samples are then placed in buckets with lids for transport to Saskatchewan Research Council (SRC) in Saskatoon, Saskatchewan.

The Hook Lake drillhole database contains the assay results from the composite samples (every 10 metres) and split samples (0.1 to 1.5 metres) with the length of these samples considered appropriate for the current stage of exploration.

Recovery is not believed to be a factor that could materially impact the accuracy and reliability of the results since sample intervals are broken where the core has been lost.

11.2 Sample Analysis

The SRC facility in Saskatoon crushes each sample to 60% -10 mesh and then riffle splits to a 200 g sample with the remainder retained as coarse reject. The 200 g sample is then ground to 90% -140 mesh. Replicates are chosen at random and an additional 200 g sample is riffle split and ground to 90% -140 mesh. For total digestion analysis, a 0.125 g pulp is gently heated in a mixture of ultrapure HF/HNO₃/HClO₄ until dry and the residue dissolved in dilute ultrapure HNO3. For the partial digestion analysis, a 0.500 g pulp is digested with 2.25 ml of 8:1 ultrapure HNO₃/HCl for 1 hour at 95° C. The solutions are then analyzed by ICP (Inductively Coupled Plasma) analysis. For boron, a 0.1 g pulp is fused at 650° C in a mixture of Na₂O₂/Na₂CO₃.

The SRC facility is licensed by the Canadian Nuclear Safety Commission (CNSC) to receive, process, and archive radioactive samples. The facility is ISO/IEC 17025:2005 accredited by the Standards Council of Canada (scope of accreditation #537) and also participates in regular inter-laboratory tests for many of their package elements.

11.3 Sample Security

Core samples are transported to the SRC laboratory by Purepoint employees. Results from the analyses are transmitted by email directly to Purepoint's exploration office in Saskatoon and the signed paper assay certificates are mailed.

12. DATA VERIFICATION

Data verification for the Hook Lake project includes submitting a blind field duplicate approximately every 30 samples and internal SRC laboratory quality assurance and quality control (QA/QC) procedures. The Purepoint database for Hook Lake currently contains the analytical results of 10,024 core samples, 503 field duplicates, 317 SRC lab duplicates, 577 standards and 14 blanks.

The QA/QC results were reviewed by the author for each drilling program and provided within the annual assessment reports filed with the provincial government. Overall, the repeatability of the standards has been shown to be quite good with minimal variation and the SRC lab duplicates have returned good repeatable results. Due to the splitting method employed for the field duplicates,

the minor differences in results typically seen between the two samples are considered acceptable.

The author's ongoing review of the data verification shows the logging, sampling, shipping, sample security assessment, and analytical procedures are comparable to industry standard practices.

The drill hole database is compiled directly from Excel spreadsheets sent from SRC to Purepoint via email, thus eliminating the errors associated with manual data input. The results from individual Excel spreadsheets received for each certificate, including the laboratory QA/QC results, are imported into a single Access database. Values below the detection limit are given a value that is equal to the detection limit. Results provided in the PDF versions of the assay certificates that are received from SRC by email were randomly checked against the values in the Access database by the author at the end of each drill program.

13. ADJACENT PROPERTIES

The Arrow deposit of NexGen Energy Ltd. (100%), and Triple R deposit of Fission Uranium Corp. (100%) are located to the southeast along the Patterson Conductive Corridor (Figure 41). The Arrow Deposit contains an indicated resource of 256.6 M lbs at 4.04% U_3O_8 and an inferred resource of 91.7 M lbs at 0.86% U_3O_8 (O'Hara et al., 2018). The Triple R Deposit contains an indicated resource of 102.4 M lbs at 2.10% U_3O_8 and an inferred resource of 32.8 M lbs at 1.22% U_3O_8 (Cox, J.J. et al., 2019).

The mineral dispositions to the northeast are held by Denison Mines Corp. (80%) and ALX Uranium Corp. (20%) after an acquisition agreement announced November 7, 2016.

The western claims held by Fission 3.0 and Hathor are considered to mainly cover the Clearwater intrusives.

14. INTERPRETATIONS AND CONCLUSIONS

The Hook Lake exploration programs have been focused on the Patterson Lake conductive corridor since the discovery of the Triple R deposit in 2012. The initial discovery of the Spitfire South mineralization by Purepoint within the Patterson trend by HK14-09 eventually led to the Spitfire intercept of HK16-53 with 10.0 metres of 10.3% U3O8 that included 1.3 metres of 53.5% U3O8. The Spitfire zone is currently considered to be adequately drill tested and that the results provide a reasonable estimate of the contained uranium mineralization. It is believed that additional pounds of uranium could still be outlined at Spitfire at depth and along strike to the northeast.



Figure 41: Adjacent Properties

The Spitfire shear zone was targeted at depth by drill hole HK19-101 below the HK15-27 intercept (2.3% U3O8 over 2.8 metres). Based on the Spitfire 3D model, the targeted down dip extension of a high-grade mineralization lens warrants additional follow-up as HK19-101 was off the ideal target and did not encounter anomalous radioactivity. The northern end of the Spitfire conductor was tested by hole HK15-22 that intersected favourable clay alteration and elevated radioactivity (116 ppm U over 0.6 metres) suggesting further uranium mineralization may remain undetected in this area.

The Dragon shear zone area is still considered prospective for uranium deposition. The shear zone is approximately 200 metres wide, composed of three to four separate graphitic shears dipping southeast, and has been currently tested over a strike length of 750 metres. As with the Spitfire discovery, the strong hydrothermal alteration is associated with the most easterly graphitic shear and the hanging wall rock. Hole HK18-97A intersected 260 ppm over 0.3 metres, the strongest radioactivity returned at Dragon to date, while holes HK18-97A and 100A displayed the most intense hydrothermal alteration seen on the project outside of the Spitfire deposit.

The Sabre Target Area remains prospective near hole HK19-105 that intersected numerous high-strain-zones, a post-Athabasca fault combined with strong hydrothermal alteration, and elevated radioactivity including 125 ppm U over 1.3 metres and 25 ppm U over 1.3 metres. Also, the conductive trend north of HK21-118 towards the historic hole HK-02 remains untested.

Jed Lake and the immediate south area is also considered to still have exploration merit. The initial hole here, HK15-19, was lost within sandstone at a depth of 180 metres due to flowing sand. The drill was moved 50 metres north along strike where drill hole HK15-20 cased overburden to a depth of 83 metres, then drilled sandstone hosting significant dravite and S-kaolinite to 155 metres, then the sandstone was strongly bleached and hematized to the unconformity at 186 metres. The conductor was explained by weakly sheared graphitic and pyritic granodioritic gneiss intersected between 266 and 380 metres and returned 39 ppm U over 0.3 metres near the contact of a mafic dyke.

The "U" conductors (Figure 42) are considered prospective and have not yet been drill tested. These strong conductors are located on the western side of the Patterson corridor, just west of Dwarf Lake. Cameco originally drilled one of these conductors in 2003 with hole HK-15 but the hole was lost within sandstone at a depth of 210.0 metres.



Figure 42: Proposed Priority Drill Targets - 1st Derivative Gravity Background

The 2019 Derkson area drilling showed that the strong clay alteration evidenced in historic holes was related to paleoweathering. The targeted EM conductors were explained by rock units that hosted wide intervals of disseminated graphite and pyrite rather than prospective graphitic structures. However, unconformity-related mineralization, as evidenced with historic hole DER-04, remains a potential target as does the 2018 gravity low located approximately one kilometre west of DER-04.

The Carter structural/conductive corridor is currently deemed as the most prospective target area on the Hook Lake project. The corridor is a long lived, reactivated fault zone that lies between the Clearwater Domain granitic intrusives to the west and runs parallel to the Patterson structural corridor to the immediate east. The EM conductors along the corridor's 25-kilometre strike length remain essentially untested. The Hook Lake JV partners have budgeted for a Z-Tipper Axis Electromagnetic survey (ZTEM) over the northern portion of the Carter corridor during 2022 where little ground geophysics has been completed. The ZTEM is an airborne electromagnetic survey system which detects anomalies in the earth's natural magnetic field allowing for the detection of deep-seated conductors.

The Carter corridor and the Patterson Lake area was recently flown by an airborne gravity survey (Boulanger, Kiss and Tschirhart, 2019) that was funded by the Targeted Geoscience Initiative (TGI), a collaborative federal geoscience program. The gravity results show the southern portion of the Carter corridor as being associated with the same gravity high response as the Triple R and Arrow uranium deposits (Figure 11). The gravity low response west of the Carter corridor reflects the geologically younger, Clearwater Domain intrusions. The TGI (Potter et al., 2020) consider the Clearwater Domain intrusions as being high-heat-producers that warmed and circulated hydrothermal fluids over the structural corridors. Prolonged interaction of oxidized uranium-bearing fluids with basement rocks via reactivated faults is thought to have formed the high-grade uranium deposits. The TGI hypothesis favours the Carter reactivated fault zone due to its proximity to the Clearwater Domain heat source.

Exploration along the Carter corridor by Purepoint has included extensive ground geophysics (2007 and 2008) followed-up by three drill holes (HK08-01 to 03). HK08-01 intersected very strong sericite and silica hydrothermal alteration and returned a maximum of 17 ppm U within basement rock but missed the conductor source while HK08-03 intersected 60 metres of intense hydrothermal hematite alteration below the unconformity. Numerous EM conductor picks identified from the geophysical survey results covering the Carter corridor remain untested and are considered highly prospective.

15. RECOMMENDATIONS

Based on the encouraging drill results from the Spitfire uranium deposit, the proximity of the Triple R and Arrow uranium deposits, and the favorable geologic setting, further uranium exploration is warranted. The highest priority target area is considered to be the Carter corridor due to the encouraging alteration and structures encountered during the initial 2008 Carter Corridor drill program. The following recommendations are proposed by the author and a budget for this work has not been approved by the joint venture committee.

Stage 1: Winter/Spring 2022: Drill testing of the strong SWML EM conductors along the Carter Corridor with an eighteen-hole, 6,800-metre drill program is recommended. Thirteen EM targets have been outlined for testing with two holes per target to be drilled when warranted. The proposed southern area holes are 400 to 600 metres apart while the proposed northern area holes are spaced 800 metres apart.

Stage 2: Winter/Spring 2023: Follow-up drill testing of high priority targets with a twelve-hole, 4,500-metre drill program is recommended.

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17. DATE AND SIGNATURE

This NI 43-101 technical report titled "Hook Lake Uranium Project, Northern Saskatchewan, Canada" and dated April 19, 2022, was prepared and signed by the following author:

"Scott Frostad" (Signed and sealed)

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Scott Frostad, B.Sc., M.A.Sc., P.Geo.

Dated at Saskatoon, SK April 19, 2022 APPENDIX 1

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STATEMENT BY QUALIFIED PERSON

I, Scott R. Frostad, of 130 Wyant Lane, Saskatoon, Saskatchewan, Canada S7W 0M8 do hereby certify that:

- I am a registered as a Professional Geologist with the Association of Professional Engineers and Geoscientists of Saskatchewan (Member Number 12878) and the Association of Professional Engineers and Geoscientists of British Columbia (Member Number 25020)
- I am a graduate of the University of Western Ontario with a Bachelor of Science Degree in Geology (1984) and of the University of British Columbia with a Master of Applied Science Degree in Mining and Mineral Process Engineering (1999).
- 3. I have practiced my profession continuously since 1984 and have experience in the search for uranium, gold, and base metals in Canada.
- 4. I am currently employed as the Vice President of Exploration for Purepoint Uranium Group Inc. and am also a director and shareholder of the company.
- 5. That I have read National Instrument 43-101 and Form 43-101F1 and consider myself a "qualified person" for the purpose of the Instrument.
- 6. That I am responsible for the co-preparation of the technical report dated September 18, 2019 entitled "Technical Report on the Hook Lake Uranium Project, Northern Saskatchewan, Canada"
- That I have been involved with the Hook Lake Project since June, 2007 and my most recent visit to site was during the last drill program between February 20th and March 5th, 2021.
- 8. For this report, I have relied on assessment reports currently on file with Saskatchewan Industry and Resources and recent exploration reports of Purepoint Uranium Group Inc.
- 9. That, as of the date of this certificate, 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.
- That I consent to the public filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes. I also consent to an extraction from, or a summary of, the Technical Report.

Dated at Saskatoon, Saskatchewan, this 19th day of April, 2022.

(Signed and sealed) "Scott Frostad"

Scott Frostad, B.Sc., M.A.Sc., P.Geo.

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