National Instrument 43-101 Technical Report for the Red Flat Nickel-Cobalt Property

Curry County
Oregon, USA

Report Prepared for:

Spruce Ridge Resources Ltd.
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DATE AND SIGNATURE

The Report, "National Instrument 43-101 Technical Report for the Red Flat Nickel-Cobalt Property, Curry County, Oregon, USA", issued 3 November 2023 and with an Effective Date of 10 August 2023, was prepared for Spruce Ridge Resources Ltd. and authored by the following:

/s/ Scott Jobin-Bevans
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Scott Jobin-Bevans (P.Geo. PGO #0183, PhD, PMP)
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/s/ John Siriunas
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John M. Siriunas (P.Eng. Ontario #42706010, M.A.Sc)
Co-Author and Professional Engineer
Caracle Creek International Consulting Inc.

Dated: 3 November 2023

CERTIFICATE OF QUALIFIED PERSON

Scott Jobin-Bevans (P.Geo.)

I, Scott Jobin-Bevans, P.Geo., do hereby certify that:

1. I am an independent consultant and Principal Geoscientist with Caracle Creek International Consulting Inc., and have an address at La Gioconda 4344, Las Condes, Santiago, Chile.
2. I graduated from the University of Manitoba (Winnipeg, Manitoba), BSc. Geosciences (Hons) in 1995 and from the University of Western Ontario (London, Ontario), PhD. (Geology) in 2004.
3. I am a registered member, in good standing, of the Professional Geoscientists of Ontario (PGO), License Number 0183 (since June 2002).
4. I have practiced my profession continuously for more than 28 years, having worked mainly in mineral exploration but also having experience in mine site geology, mineral resource and reserve estimations, preliminary economic assessments, pre-feasibility studies, due diligence, valuation and evaluation reporting. I have authored, co-authored or contributed to numerous NI 43-101 and JORC Code reports on a multitude of commodities including nickel-copper-platinum group elements, base metals, gold, silver, vanadium, and lithium projects in Canada, the United States, China, Central and South America, Europe, Africa, and Australia.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I am responsible for sections 2.0-2.4, 2.6, 2.7, 3.0-13.0, 15-27.0 in the technical report titled, "National Instrument 43-101 Technical Report for the Red Flat Nickel-Cobalt Property, Curry County, Oregon, USA" (the "Technical Report"), issued 3 November 2023 and with an Effective Date of 10 August 2023.
7. I have not visited the Red Flat Nickel-Cobalt Property, the subject of the Report.
8. I am independent of Spruce Ridge Resources Ltd. applying all of the tests in Section 1.5 of NI 43-101 and Companion Policy 43-101CP.
9. I have had no prior involvement with the Red Flat Nickel-Copper Property which is the subject of the current Technical Report.
10. I have read NI 43-101, Form 43-101F1 and confirm the Technical Report has been prepared in compliance with that instrument and form.
11. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the Sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed at Santiago, Chile this 3rd day of November 2023.

/s/ Scott Jobin-Bevans

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Scott Jobin-Bevans (P.Geo., PhD, PMP)

CERTIFICATE OF QUALIFIED PERSON

John M. Siriunas (P.Eng., M.A.Sc)

I, John M. Siriunas, P.Eng., do hereby certify that:

1. I am an Associate Independent Consultant with Caracle Creek International Consulting Inc. (Caracle) and have an address at 25 3rd Side Road, Milton, Ontario, Canada, L9T 2W5.
2. I graduated from the University of Toronto (Toronto, Ontario) with a B.A.Sc. (Geological Engineering) in 1976 and from the University of Toronto (Toronto, Ontario) with an M.A.Sc. (Applied Geology and Geochemistry) in 1979.
3. I have been a member, in good standing, of the Association of Professional Engineers of Ontario since June 1980 (Licence Number 42706010) and possess a Certificate of Authorization to practice my profession.
4. I have practiced my profession continuously for 39 years and have been involved in mineral exploration, mine site geology, mineral resource and reserve estimations, preliminary economic assessments, pre-feasibility studies, due diligence, valuation and evaluation reporting, and have authored or co-authored numerous reports on a multitude of commodities including nickel-copper-platinum group element, base metals, precious metals, lithium, iron ore and coal projects in the Americas.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 Standards of Disclosure for Mineral Projects (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. I am responsible for sections 2.4-2.6, 3.0, 11.0, 12.0, 24.0-26.0 in the technical report titled, “National Instrument 43-101 Technical Report for the Red Flat Nickel-Cobalt Property, Curry County, Oregon, USA” (the “Technical Report”), issued 3 November 2023 and with an Effective Date of 10 August 2023.
7. I visited the Red Flat Nickel-Cobalt Property for 1 day on 7 August 2023.
8. I am independent of Spruce Ridge Resources Ltd., applying all of the tests in Section 1.5 of NI 43-101 and Companion Policy 43-101CP.
9. I have had no prior involvement with the Red Flat Nickel-Cobalt Property which is the subject of the current Technical Report.
10. I have read NI 43-101, Form 43-101F1 and confirm the Technical Report has been prepared in compliance with that instrument and form.
11. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the Sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed at Milton, Ontario this 3rd day of November 2023.

/s/ John Siriunas

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John M. Siriunas (P.Eng., M.A.Sc)

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1.0 SUMMARY

1.1 Introduction

Geological consulting group Caracle Creek International Consulting Inc. ("Caracle") was engaged by Canadian public company Spruce Ridge Resources Ltd. ("Spruce Ridge" or the "Issuer"), to prepare an independent National Instrument 43-101 ("NI 43-101") Technical Report (the "Report") for its Red Flat Nickel-Cobalt Property ("Red Flat" or the "Property"), located in Curry County, Oregon, USA. The Report has been prepared in accordance with the Canadian National Instrument 43-101 *Standards of Disclosure for Mineral Projects* as set forth in the Canadian Securities Administrators' National Instrument 43-101, Companion Policy 43-101CP, and Form 43-101F1 (June 30, 2011).

1.1.1 Purpose of the Technical Report

The Technical Report has been prepared for Spruce Ridge Resources Ltd., a Canadian public company trading on the Toronto Venture Exchange (TSX-V: SHL), in support of a transaction to acquire majority ownership in the Red Flat Ni-Co Property.

The Report provides an independent review of the Red Flat Nickel-Cobalt Property located in Curry County, Oregon, USA, verifies the data and information related to historical and current mineral exploration on the Property, and presents a report on data and information available in the public domain with respect to the Property.

1.1.1 Previous Technical Reports

There are no previous NI 43-101 Technical Reports prepared for the Issuer Spruce Ridge Resources regarding the Red Flat Ni-Co Property and as such the Report is the current NI 43-101 technical report regarding the Property.

1.1.2 Effective Date

The Effective Date of the Report is 10 August 2023.

1.1.3 Qualifications of Consultants

The Report has been completed by Dr. Scott Jobin-Bevans and Mr. John Siriunas (together the "Consultants" or the "Authors"). Dr. Jobin-Bevans ("Principal Author") is the Principal Geoscientist at Caracle Creek International Consulting Inc. and Mr. Siriunas ("Co-Author") is an Associate Independent Consultant with Caracle Creek International Consulting Inc.

Dr. Jobin-Bevans is a professional geoscientist (PGO #0183, P.Geo.) with experience in geology, mineral exploration, mineral resource and reserve estimation and classification, land tenure management, metallurgical testing, mineral processing, capital and operating cost estimation, and mineral economics. Mr. Siriunas is a Professional Engineer (APEO #42706010) with experience in geology, mineral exploration, mine site geology, mineral resource and reserve estimations, preliminary economic assessments, pre-feasibility studies, due diligence, and valuation and evaluation reporting.

Dr. Scott Jobin-Bevans and Mr. John Siriunas, by virtue of their education, experience, and professional association, are each considered to be a Qualified Person ("QP"), as that term is defined in NI 43-101 and specifically sections 1.5 and 5.1 of NI 43-101CP (Companion Policy). A responsibility matrix is provided in Table 1-1, summarizing each of the Report sections for which the Authors are responsible.

Table 1-1. Responsibility matrix for the preparation of the Report sections by the Authors.

Author	Complete Section Responsibility	Sub-Section Responsibility
Scott Jobin-Bevans	3.0-13.0, 15.0-27.0	2.0-2.4, 2.6, 2.7
John Siriunas	3.0, 11.0, 12.0, 24.0, 25.0, 26.0	2.4-2.6

The QP responsibilities for Section 1 are reflected in their responsibilities for each of the other individual Report sections.

The Consultants employed in the preparation of the Report have no beneficial interest in Spruce Ridge and are not insiders, associates, or affiliates of Spruce Ridge.

1.2 Personal Inspection (Site Visit)

Mr. John Siriunas (M.A.Sc., P.Eng.) visited the Property on 7 August 2023, accompanied by Mr. Michael D. Strickler. Mr. Strickler is the principal of Lithologic Resources, LLC, the consulting group that carried out much of the contract exploration work on the Property for Red Flat Nickel Corp. The personal inspection was made to observe the general Property conditions and access, and to verify the locations of some of the previous trenching and sampling.

The previously sampled trenches are still very evident from the air and on the ground though most of the sides of the trenches have slumped.

The Property does have some bedrock outcroppings but is mainly covered by saprolitic/lateritic material. A total of six (6) samples of lateritic material were collected from various locations on the Property including some of the old trenches (Table 1-2).

Table 1-2. Location and assay results for 6 surface grab samples from the Personal Inspection, Red Flat Property.

	UTM NAD 83 Zone 10		Ni %		Co µg/g		Cr %		Mg %		Fe %	
Analysis Method	Easting (m)	Northing (m)	AR	FUS	AR	FUS	AR	FUS	AR	FUS	AR	FUS
RF-1	393501	4689062	0.283	0.3	309	431	0.323	> 1.0	1.2	3.66	24.2	27.8
RF-2	393481	4688953	0.794	0.857	771	1010	0.366	> 1.0	2.75	5.42	28.8	> 30.0
RF-3	393408	4688963	0.997	> 1.0	503	684	0.193	> 1.0	2.22	3.78	> 30.0	> 30.0
RF-4	393392	4688586	> 1.0	> 1.0	514	687	0.118	> 1.0	3.18	4.91	> 30.0	> 30.0
RF-5	394974	4687994	0.787	0.908	548	780	0.205	> 1.0	0.99	1.95	> 30.0	> 30.0
RF-6	392472	4961963	0.853	0.952	685	945	0.124	> 1.0	0.45	1	> 30.0	> 30.0

1.3 Property Description and Location

The Red Flat Ni-Co Property is located on the top of Red Flat Mountain, about 14.5 km east of the town of Gold Beach, Oregon (2020: pop. 2,241), in northwest Curry County, and about 480 km south of the City of Portland, Oregon (2021: 641,162). It is in a mountainous forested area that can be accessed from Gold Beach by taking highway US 101 via the Hunter Creek Road and then connecting to local prospect roads (Figure 4-1; *see* Section

5.1). The Property is centred at approximately 393925 mE, 4689308 mN NAD83 (CONUS) UTM Zone 10N (42°21’N Latitude, 124°17’W Longitude).

All known nickel mineralization that is the focus of the Report and that of the Red Flat Ni-Co Property is located within the boundary of the mining lands that comprise the Property.

1.3.1 Current Transaction

The current transaction gives Spruce Ridge the ability to hold a controlling interest of 80.0079% in the Red Flat Ni-Co Property.

In July 2023, Spruce Ridge Resources entered into a binding Letter of Intent (“LOI”) with RAB Capital Holdings Ltd. (“RAB”), a private limited company incorporated in England, to acquire all of the issued and outstanding securities (“Offered Securities”) of RFN Holdings Limited (“RFNH”), a Guernsey company, such that RFNH will become a wholly owned subsidiary of Spruce Ridge (the “Acquisition”). Upon execution, the Definitive Agreement (not yet completed) will replace and supersede the LOI.

RAB is the sole holder of the Offered Securities and the holder of a Loan Note Instrument with Homeland Nickel Corporation (“HLN”) dated August 20, 2008, as amended by various supplemental agreements and other corresponding agreements (collectively, the “Loan Note Instrument”). RFNH is the holder of 80.0079% of the issued and outstanding securities of Homeland Nickel Corporation (“HLN”) which maintains a portfolio of mining claims in Oregon that make up the Red Flat and Cleopatra properties (the “Properties”).

The debt owed to RAB by HLN will be converted to debt owed to Spruce Ridge with the remaining 19.9921% held by third party shareholders.

1.3.2 Mineral Disposition

The Red Flat Ni-Co Property, registered under the name of Red Flat Nickel Corp. (“RFN”), consists of 100 Lode mining claims consisting of 93 claims of 600 ft (183 m) by 1,500 ft (457 m) and 7 claims of 600 ft (183 m) by 965 ft (294 m) at approximately 21.67 acres (8.8 ha) each, covering approximately 1,820 acres (737 ha). Oregon’s Mineral Land Regulation and Reclamation (“MLRR”) and the federal Bureau of Land Management (“BLM”) cover in details the rights, obligations and definitions regarding Lode mining claims.

1.3.3 Holdings Costs

Annual holding costs (Annual Maintenance Fee) for the Red Flat Ni-Co Property (84 mining claims), payable to the BLM, are $165 per mining claim and total $13,860. In addition, approximately US$438 is payable to Curry County Clerk to cover mining claim affidavit recording fees (US$5.21/claim). The last payments were made by Homeland Nickel Corporation (the Claimant) prior to 31 August 2023.

1.3.4 Surface Rights and Legal Access

The Red Flat Property covers 2,015 acres (815 ha) which are located on public lands and as such surface access is not prohibited.

1.3.5 Current Permits and Work Status

Exploration permits are not required to complete the exploration work detailed in the recommended work program. The Principal Author is not aware of any other requirements which would prevent the Issuer from completing the recommended work program.

There is no exploration work currently being conducted by the Issuer on the Property.

1.3.6 Environmental Liabilities

At this early stage of the Property's development there are no requirements for environmental studies and the Company will implement industry standard best practices in terms of preserving and minimizing its impact on the environment.

The Principal Author is unable to comment on any remediation which may have been undertaken by previous companies and is not aware of any environmental liabilities associated with the Property.

1.3.7 Royalties and Obligations

As part of the terms and conditions with respect to the July 2023 LOI between Spruce Ridge Resources and RAB Capital Holdings (*see* Section 4.2), Spruce Ridge agrees to grant RAB a 2.0% NSR on the Red Flat Property (the "Red Flat NSR"), with an option to re-purchase 50% of the Red Flat NSR at a price of $2,000,000 at any time.

The Principal Author is not aware of any royalties or obligations associated with the Red Flat Ni-Co Property mining claims.

1.3.8 Other Significant Factors and Risks

The Principal Author is not aware of any significant factors that may affect access, title, or the right or ability to perform the proposed work program on the Property.

1.4 Property Access and Operating Season

The Red Flat Property is located approximately 11 km inland from the coast of the Pacific Ocean. Travel to the Property from the Oregon Coast Highway US Route #101, at a point just south of Gold Beach, Oregon, via Hunter Creek Road (#635), to Little South Fork Hunter Creek Road (#665) and then Forest Service Road #1703 takes approximately one hour, climbing 700 m in elevation to reach the southern workings on the Property. Egress can be made from the north end of the Property via the continuation of Forest Service Road #1703 (Wild Horse Lookout Road) to Forest Service Roads #1503 and #3680 back to Hunter Creek Road. Roads and trails to the western part of the Property area in the vicinity of the old trenching were inaccessible without a four-wheel drive vehicle or an ATV.

The Southwest Oregon Regional Airport (OTH), located in Coos Bay, North Bend, and the only commercial airport on the Oregon coast, is about 60 miles (100 km) north of the Property.

Given the location of the Red Flat Property to the coast and at relatively low elevation, exploration work (i.e., drilling, geophysical surveys, geological mapping, trenching and surface sampling) can be completed year-round.

1.5 History

Nickel-bearing laterites of south-western Oregon are known since the discovery of the Nickel Mountain Mine near Riddle, Oregon in 1881. This mine was in operation from 1954 until 1976 and provided 39M tons of ore at nickel grades between 1 and 1.5% Ni. Regional investigations were carried out by the State of Oregon Department of Geology and Mineral Industries ("DOGAMI") beginning in 1943. DOGAMI's work on the laterites followed the publication of a study of the Nickel Mountain deposit by the USGS (Pecora and Hobbs, 1942). The following summarizes early exploration work on the Red Flat Property (Rancourt, 2009):

- 1939: The Red Flat nickel/cobalt horizon was discovered by Harry Hefferley.
- 1947: Libbey and others completed reconnaissance geological mapping and hand-auger soil sampling; no information is known about this work.
- 1954: Extensive drilling, trenching and metallurgical tests were carried out by the United States Bureau of Mines ("USBM") (Hundhausen et al., 1954)
- 1978: Drilling and mapping completed by the DOGAMI (Ramp, 1978).

Historical results from exploration work on or proximal to the Property have not been verified by the Principal Author or a Qualified Person associated with the Company and as such are not necessarily indicative of the results to be found on the Property.

1.5.1 Prior Ownership and Ownership Changes

The Red Flat Property was staked and claimed 100% by Lithologic Resources ("LLR") during the spring of 2007 (Rancourt, 2009). The Red Flat Property was previously owned 100% by Oregon-based private company, Red Flat Nickel Corp. (RFN). The Property is currently owned 80.0079% by RAB Capital Holdings Ltd. (UK) through RFN Holdings Limited and a Loan Note Instrument with Homeland Nickel Corporation, the latter holding 100% of the Property.

The Issuer Spruce Ridge Resources is acquiring approximately 80% of the Property, subject to an NSR, through a share purchase agreement.

1.5.2 Historical Exploration Work

Ramp (1978), and DOGAMI completed geological mapping of the area and collected 35 samples from holes and channel/grab/chip samples taken by the DOGAMI and others. The geological map and sampling partly cover three of the four (4) lobes of the Property. The regional geology was described by Ramp et al. (1977) and culminated in a geological map of Curry County.

1954, the USBM (Hundhausen et al., 1954), completed approximately 9,000 ft (2,743 m) of trenches (Rancourt, 2009). No other information is available to the Principal Author.

1.5.3 Historical Drilling

In 1954, the USBM drilled 22 holes using a Star churn drill mounted on a 6-wheel-drive truck (Hundhausen et al., 1954). In total, 1,032 ft (315 m) was completed. Holes were 6'' diameter (15.2 cm) and ranged in depth from

20 to 117 ft (6.1-36 m). They were located approximately 500 ft (152 m) apart and were concentrated in Lobe A.

Ramp et al. (1978), augered nine (9) holes for a total length of 71 ft (21.6 m) and drilled six (6) holes for a total length of 110 ft (33.5 m); holes ranged in depth from 5 to 25 ft (1.5-7.6 m) (Rancourt, 2009).

1.5.4 Historical Mineral Processing and Metallurgical Testing

In 1954, USBM reported on metallurgical smelting tests (Hundhausen et al., 1954) on more than 14.5 tons of dry material collected from drill holes and trenches (Rancourt, 2009). The tests were completed using a continuous smelting 3-phase furnace unit. In addition to the smelting tests, the USBM completed petrographic and spectrographic analysis of composite samples.

1.5.5 Historical Mineral Resource Estimate (2009)

In 2009, AJR Geoconsulting Inc. prepared a mineral resource estimate for the nickel laterite mineralization on the Red Flat Ni-Co Deposit, located on the Red Flat Property (Rancourt, 2009). The 2009 historical mineral resource estimate is detailed in the report titled, "Evaluation of the Red Flat Ni/Co Property Mining Potential, Curry County, Oregon, U.S.A., NI 43-101 Technical Report", with a date of November 2009, and prepared by Geological Engineer Andre J. Rancourt (P.Eng., Quebec #112457) of AJR Geoconsulting Inc. for Red Flat Nickel Corp.

The 2009 mineral resource estimate was completed in accordance with NI 43-101 and following the CIM Definition Standards for Mineral Resources & Mineral Reserves (CIM, 2005).

The 2009 historical mineral resource estimate covers lobe A, lobe B, lobe C and lobe D but the measured resource category is limited to lobe A. Data used in the resource estimate came from the 2007 and 2008 auger testing programs, the 2008 sonic drilling program, the 2009 mechanical trenching and also from historical validated drilling data from USBM and DOGAMI. Two cut-offs, 0.7 and 0.8% Ni, (selected to obtain an average grade as close as possible to 1.0% Ni) were used to report resource estimates.

Table 1-3 and Table 1-4 present the historical mineral resource estimate at two different %Ni cut-offs (Rancourt, 2009). While data analysis indicates cobalt, chrome and iron as potential by-products, the actual historical mineral resource estimate does not include these elements (Rancourt, 2009).

Table 1-3. Summary of the 2009 historical mineral resource estimation, Red Flat Ni Deposit (0.7% Ni cut-off).

Category	Type	US Tons (1,000s)	Ni (%)	Ni (pounds)*
Measured	Soil	1,710	0.91%	31,122,000
Measured	Rock	2,277	1.05%	47,817,000
Measured Total:	**S+R**	**3,987**	**0.99%**	**78,939,000**
Indicated	Soil	3,218	0.81%	52,131,600
Indicated	Rock	3,218	0.81%	52,131,600
Indicated Total:	**S+R**	**6,436**	**0.81%**	**104,263,200**
Measured + Indicated	Soil	4,928	0.84%	83,253,600
Measured + Indicated	Rock	5,495	0.91%	99,948,600
Meas. + Ind. Total:	**S+R**	**10,423**	**0.88%**	**183,202,200**
Inferred	Soil	4,169	0.80%	66,704,000

Category	Type	US Tons (1,000s)	Ni (%)	Ni (pounds)*
Inferred	Rock	4,169	0.80%	66,704,000
Inferred Total:	**S+R**	**8,338**	**0.80%**	**133,408,000**

*assumes 100% nickel recovery (contained metal).

Table 1-4. Summary of the 2009 historical mineral resource estimation, Red Flat Ni Deposit (0.8% Ni cut-off).

Category	Type	US Tons (1,000s)	Ni (%)	Ni (pounds)*
Measured	Soil	1,700	0.91%	30,940,000
Measured	Rock	2,007	1.10%	44,154,000
Measured Total:	**S+R**	**3,707**	**1.01%**	**75,094,000**
Indicated	Soil	1,684	0.88%	29,638,400
Indicated	Rock	1,684	0.88%	29,638,400
Indicated Total:	**S+R**	**3,368**	**0.88%**	**59,276,800**
Measured + Indicated	Soil	3,384	0.90%	60,578,400
Measured + Indicated	Rock	3,691	1.00%	73,792,400
Meas. + Ind. Total:	**S+R**	**7,075**	**0.95%**	**134,370,800**
Inferred	Soil	1,728	0.88%	30,412,800
Inferred	Rock	1,728	0.88%	30,412,800
Inferred Total:	**S+R**	**3,456**	**0.88%**	**60,825,600**

*assumes 100% nickel recovery (contained metal).

Mineral resources are not mineral reserves, they do not have demonstrated economic viability, and there is no certainty that all or part of an estimated mineral resource can be converted to mineral reserves.

A qualified person has not done sufficient work to classify the 2009 historical mineral resource estimate as current mineral resources or mineral reserves. Other than the review by the Principal Author, the Issuer has not conducted any work to establish the relevance and reliability of the 2009 historical resource estimate and as such is not treating the historical mineral resource estimate as current mineral resources.

1.5.6 Historical Production

There is no known historical production on the Red Flat Ni-Co Property.

1.6 Geological Setting and Mineralization

The Property is located on the Northern Coast Range mountains physiographic terrane, composed mostly of sedimentary rocks of Mesozoic Age from the Dothan Point Formation and some ultramafic and gabbroic intrusions of Jurassic age. The ultramafic rocks and the Colebrook schist form thrust plates in unconformity with the younger Dothan Point volcano-sedimentary rocks. To the east, the Northern Coastal Range contacts the older volcanics of the Pre-Nevadan Klamath Mountains and to the north, it contacts the younger sedimentary rocks of the Oregon Coast Range (*e.g.*, Walker and King, 1969; Ramp et al., 1977; Irwin; 1997; Johnson and Raines, 2001).

The area is mostly covered by Jurassic ultramafic bedrock and minor volcano-sedimentary rocks of the Dothan Point Formation and Colebrook schists. Also, a few of the youngest Cretaceous sedimentary rocks are present in the area. The ultramafic rocks found on the Property are forming a thin erosional remnant of a thrust sheet together with a thin sheet of Colebrook schist overlying unconformably on the Dothan Point Formation (Ramp, 1978, Hotz, 1964). The area is intruded with diabase dikes and faulted with high angle fault zones.

1.6.1 Property Geology and Mineralization

The Property is covered by ultramafic rocks and the Colebrook schist formations. They form a thrust plate lying in unconformity on the younger volcano-sedimentary Dothan Point Formation. The ultramafic rocks which comprise the Red Flat Deposit are mainly composed of serpentinized peridotite (harzburgite and dunite) and pyroxenite and show typical olivine alteration to bowlingite (an obsolete name for saponite, a mixture of smectite, quartz, chlorite, serpentine, and talc). Magnetite, hematite, zircon and rutile were also observed. Some quartz is present in small veins associated with fibrous talc (Rancourt, 2009).

1.6.1.1 Property Mineralization

The mineralized horizon is a lateritic weathering profile formed by the prolonged weathering of the ultramafic rocks in sub-tropical climates. The laterite zones are divided into four distinct areas: Lobe A - 500 acres (202.4 ha) located to the southeast; Lobe B - 250 acres (101.2 ha) to the north; Lobe C extending another 200 acres (80.9 ha) to the west; and Lobe D - located some 2,500 ft (762 m) north of Lobe B and covering 154 acres (62.3 ha).

On Lobe A, the mineralized zone shows an average thickness of 28.3 ft (8.6 m) with an average of 0.77% Ni. The average grade for the first 10.7 ft (3.3 m) of laterite is 1.2% Ni. The deepest borehole reached 60 ft (18.3 m) with a grade of 0.7% Ni. On Lobe B and C, the mineralized zone reached a depth ranging from 3.3 to 13 ft (0.9-4.0 m), with an average grade of 0.71% Ni and 0.09% Co (Ramp, 1978; Rancourt 2009).

The lateritic surface layer contains elevated nickel-cobalt which follows the ground surface (Ramp, 1978) and has been intersected by drilling to a maximum depth of 40 ft (12.19 m); indications suggest it may reach a depth of as much as 50 ft (15.24 m) (Hundhausen et al., 1954). Nickel grade increases with depth and mineralization is especially continuous in the horizontal plane (Rancourt, 2009).

Mineralization occurs in two fractions, the soil fraction and the rock fraction. For the soil fraction, the mineralized zone is usually composed of residual goethitic limonite covering altered peridotite layers (saprolite) with iron oxide veins.

In the trenches and within the rock fraction where nickel is concentrated in thin garnierite-bearing fracture fillings - a chip sample of garnierite from 2009 field work assayed 4.3% Ni - and in saprolite corestone blocks (Rancourt, 2009).

Garnierite, was previously found in the serpentinized bedrock on the Property by Hundhausen et al. (1954), and in two of the four trenches excavated in 2009 by Red Flat Nickel. Garnierite appears to be present when the concentration of nickel in the soil exceeds 1.0% Ni (Rancourt, 2009).

The cumulative frequency of nickel grades reflects three types of mineralization (Rancourt, 2009). The first type is from 0.0 to 0.4 Ni% and represents the non-mineralized zone; the second is the first mineralized zone from 0.4 to about 1.0% Ni; and the third type is the high-grade mineralized zone above 1.0% Ni (Rancourt, 2009).

1.7 Deposit Types

Concentration of nickel and cobalt on the Cleopatra Ni-Co Property is derived from the surface alteration of olivine-rich ultramafic rocks, referred to as nickel laterites. The unaltered ultramafic rocks on the Property average 0.2 to 0.4 % Ni (Rancourt, 2009).

The nickel laterites can be classified on the basis of ore mineralogy as clay silicate deposits and potentially oxide deposits. The laterites found on the Property are remnants of an old upland surface and according to Irwin (1997), the weathering has taken place during the Pleistocene (2.58-0.01 Ma) and/or the Pliocene (5.33-2.58 Ma).

Laterites are formed by weathering of the serpentinized peridotites generally in humid savanna climates with poor drainage and associated with dry climates and semi-arid environments. During weathering, nickel is concentrated in place, while more soluble elements such as magnesium, calcium and silica are dissolved and leached rapidly. Nickel accumulates in the form of nickel-silicate veins or becomes enriched in the insoluble residue of silica, nickel hydrosilicates, and oxides of magnesium and iron. Similar Oregon laterite nickel deposits have been described by Pecora and Hobbs, (1942) and by Hotz, (1964).

1.8 Exploration

From 2007 to 2009, Red Flat Nickel Corp. (now Homeland Nickel) completed exploration work that focused on the Red Flat Ni-Co Deposit and the four main lobes of nickel mineralization – Lobes A, B, C, and D. The work consisted of four mechanically excavated trenches, sonic drilling on Lobe A, refractive seismology on lobes A and B, 670 auger holes covering 770 acres (312 ha) and testing on Lobe C, and drilling on Lobe A and Lobe B. A total of 1,564 samples were submitted for assay (Rancourt, 2009).

Table 1-5 provides a summary of the exploration work completed on the Red Flat Property by Red Flat Nickel Corp. (now Homeland Nickel).

There has been no known exploration work performed on the Property since 2009 (Rancourt, 2009) and there is currently no exploration work being carried out on the Property.

Table 1-5. Summary of exploration work completed by Red Flat Nickel Corp. (now Homeland Nickel), 2007 to 2009.

Period	Dates	Description
2007-2008	13 Sept. 2007 - 4 Jan. 2008	Auger drilling: 275 holes totalling 2,483 ft (757 m)
2008	10-25 Sept.	Sonic drilling: 11 holes totalling 930 ft (284 m)
		Auger drilling: 395 holes totalling 3,117 ft (950 m)
2008	13 Oct. – 24 Nov.	Seismic Refraction: 9 lines totalling 13,570 ft (4,136 m)
2009	-	Geological mapping over Property
2009	10-15 Aug.	Trenching: four trenches; 8-21 ft (2.4-6.4 m) avg. depth; 54 samples

1.9 Drilling

1.9.1 Auger Drilling

In 2007 and 2008, Red Flat Nickel Corp. (now Homeland Nickel) completed 676 auger holes, supervised by LLR (Rancourt, 2009). The drilling generally followed a 300 x 300 ft (91 x 91 m) grid. Hole depth varied from 3 to 24 ft (0.9-7.3 m) and totalled 5,638 ft (1,719 m) of drilling. The average hole depth, using a 0.5% nickel cut-off, was 9.3 ft (2.8 m) (Rancourt, 2009). Location of the auger drill holes is shown in Figure 9-1.

In 2007, the vertical auger drilling program consisted of 275 holes totalling 2,483 ft (757 m). The 2008 auger drilling was a continuation of the 2007 program with 395 holes completed 3,117 ft (950 m) (Rancourt, 2009). A summary of drilling completed in 2007-2008 is provided by Rancourt (2009).

Holes were drilled with two drills. The first was a 1.6 HP handheld auger drill that average 6.4 ft (1.95 m) in depth and reached a maximum depth of approximately 15 ft (4.6 m). The sconed was a 5.5 HP two-man auger drill that reaching a maximum depth of 24 ft (7.3 m). All holes were logged and carefully sampled by professional Oregon geologists. All drill holes were surveyed using a Trimble GeoExplorer XT which has a ±3 ft (0.91 m) accuracy (Rancourt, 2009).

Data from the 2007 and 2008 auger testing were used to define the limits of the deposit, quantify the grade and determine a minimum depth extension of the deposit. While auger testing is the most economical way to sample laterites as a first step, its sampling capacity is limited and it should be used in conjunction with other sampling techniques to allow a complete ore characterization. For example, augers do not sample or drill through corestones. Hence, the grade of the corestones is unknown and a refusal can result from contacting a corestone instead of bedrock, in which case, the cause of the refusal is unknown.

Variation of Ni, Co and Fe concentration with depth, as determined from 2007 auger drilling, is shown in Figure 10-1, Figure 10-2, and Figure 10-3, respectively. Apart from the apparent vertical sampling spacing effects (horizontal lines), Figure 10-1 shows that the Ni grade appears to increase with depth. Figure 10-2 is less instructive due to the lab accuracy detection of Co; however, higher Co values appear to be located around 5 ft to 15 ft (1.52 to 4.57 m). Figure 10-3 shows the decrease in Fe concentration with depth (Rancourt, 2009).

1.9.2 Sonic Drilling

In 2008, the sonic drilling program, contracted to Boart Longyear using a 4” (10.2 cm) diameter hole. Sonic drilling focused on Lobe A and totalled 930 ft (284 m) in 11 separate holes (RFS-1 to RFS-11), achieving depths of 27 to 118 ft (8.2-36 m) and with an average depth of 77.5 ft (23.6 m) (*see* Figure 9-1). Sonic drilling allows for a continuous sample of all material—the soils, the corestones and the bedrock. Eleven sonic drill holes were located on Lobe A in the more prospective zone.

The drill hole locations did not follow a defined grid. The locations were selected based on available access. Analysis of the corestone from the sonic drill holes confirms the presence of mineralization in the rocks (corestones) in the form of nickel-rich silicates (Garnierite Group) and validates data from USBM (Hundhausen et al., 1954). In some cases, the corestone is mineralized with a grade similar to that of the soil and in other cases the corestone shows only background nickel grades. It was possible to identify the base of the deposit in all 11 holes (Rancourt, 2009).

The average depth of the mineralized zone found in the holes (cut-off of 0.7% Ni) was 16 ft (4.9 m) and the deepest mineralization was found at 46 ft (14 m) deep in drill hole RFS-8 (Rancourt, 2009).

1.10 Sample Preparation, Analysis and Security

There is limited information and data available with respect to the past exploration work completed by Red Flat Nickel Corp. from 2007 to 2009 (Rancourt, 2009).

All auger, rock and soil sampling was performed by LLR. Samples were individually wrapped and identified with a unique number. The samples were sent to the assay laboratory quickly after being recovered from the field and a sample register was continually updated with results. The register is also a summary of assay results for nickel, cobalt, iron and magnesium (Rancourt, 2009).

The laboratory, ALS Chemex of Vancouver, Canada, performed the assays using the conventional ME-ICP61 method. This Canadian laboratory is ISO/IEC 17025 certified by the Standards Council of Canada and has its own quality control system (Rancourt, 2009).

In 2007, AJR performed 6 spot check drill holes and collected 8 samples and in 2009 AJR collected 15 samples of corestone from the trenches. Moreover, in 2007, 10 of the samples already assayed by LLR were re-assayed by AJR for quality control. All assays performed by AJR were completed using the Ni-ICP81 method.

The Authors and the Issuer are independent of the laboratories used by Red Flat Nickel Corp. and previous operators as reported herein.

1.11 Data Verification

The Authors have reviewed historical and current data and information regarding past and current exploration work on the Property, and as provided by the Issuer Spruce Ridge. The Authors have no reason to doubt the adequacy of historical and current sample preparation, security and analytical procedures, and are confident with respect to the historical and current information and data and its use for the purpose of the Report.

The Principal Author has independently reviewed the status of the mining claims held by the Issuer through the U.S. Federal Government Bureau of Land Management online portal which hosts information regarding mining claims on federal land in the state of Oregon.

1.12 Mineral Processing and Metallurgical Testing

Red Flat Nickel Corp. (now Homeland Nickel) collected two large samples from five trenches on the Cleopatra Property and four trenches on the Red Flat Property. These samples were sent for analysis to the SGS laboratory in Lakefield, Ontario, Canada (Rancourt, 2009). The objectives of the analysis were to perform:

1) Chemical, grain size and mineralogical characterisation of the ore; and
2) Leaching program, including Bottle Roll Leach Testing and Agitated Leach Testing.

SGS received and prepared a total of 1,236 lbs (588 kg) of wet material from Cleopatra and 646 lbs (293 kg) of wet material from Red Flat. Samples were separated into two composite fractions, the limonite (L) and the saprolite (S) fraction.

Given that this analysis was a preliminary study and because the deposits are similar, the limonite fraction and the saprolite fraction from both properties were blended together resulting in one blended limonite fraction and one blended saprolite fraction. The blended sample of limonite from both properties totalled 425.5 lbs (193 kg) of material and the blended sample of saprolite from both properties totalled 1,517 lbs (688 kg); a total wet weight of 1,942 lbs (881 kg) (Rancourt, 2009).

Fractional size analysis of the limonite fraction shows an average head grade of 1.08% Ni, with the -400 mesh (38 µm) fraction being the highest grade nickel (1.2% Ni). The majority of the nickel exists in the -400 mesh (38 µm) fraction. When screened at 400 mesh (38 µm), 80.6% of the sample weight was recovered and the grade increased from 1.08% to 1.2% Ni.

For the saprolite fraction, the average head grade was 1.08% Ni and the highest grade fractions were +1 inch (+25.4 mm) and -100 mesh (145 µm). When screened, keeping only the +1 inch (+25.4 mm) and -100 mesh (145 µm), 70% of the sample weight was recovered and the grade increased from 1.08% to 1.3% Ni (Rancourt, 2009).

The Principal Author has not done any review of the information and results related to metallurgical processing and metallurgical testing.

1.12.1 Heap Leach (2011)

In 2011, Alyssum Ventures Ltd. was engaged by St Peter Port Capital Ltd. to explore the possibility of using heap leach processes to recover nickel from the Property (Alyssum, 2012); early metallurgical test work supported the proposed processing of the Red Flat laterite by heap leaching. Acid consumption was somewhat lower than many similar laterites and leach times appear significantly shorter than the norm. Furthermore, the presence of un-weathered boulders favours heap leaching in that that material enhances heap stability (Alyssum, 2012).

1.12.2 Bottle Roll Tests (2007)

In 2007, European Nickel (ENK) collected 17 samples from the Red Flat deposit to be used for bottle roll testing. The ENK report was made available by Red Flat Nickel Corp. to Alyssum Ventures (Alyssum, 2013).

The results show consistently good extraction of both nickel and cobalt and the leach times are relatively short. In fact, 70% Ni extraction was achieved in seven (7) tests within 1 week with most ultimate extractions being much higher (Alyssum, 2013). Acid consumption, while variable due to the very quick leaching of some of the tests - these tests were over supplied with acid in the first few days - is lower than for many other nickel laterites and averages only 1,003 lbs/ton (455 kg/t) of ore for the 17 tests. Acid consumption extrapolated to 72% Ni extraction reduces to approximately 722 lbs/ton (350 kg/t) ore.

It should be noted that the samples tested from Red Flat are surface samples only and cannot be seen as representative of the ore body, but that they do give indicative results for material from the Red Flat Deposit (Alyssum, 2013).

1.13 Mineral Resource Estimates

The Red Flat Ni-Co Property contains no current mineral resource estimates.

1.14 Adjacent Properties

There are no adjacent properties that would materially affect the Authors' understanding of the Project and the results of the Report.

1.15 Other Relevant Data and Information

The Authors are not aware of any additional information or explanations necessary to make the Report understandable and not misleading.

1.16 Interpretation and Conclusions

The objective of the Report was to prepare an independent NI 43-101 Technical Report, capturing current and historical information and data available about the Red Flat Ni-Co Property, providing interpretations and conclusions, and making recommendations for future exploration work.

1.16.1 Risks and Uncertainties

Risks and uncertainties which may reasonably affect reliability or confidence in future work on the Property relate mainly to the reproducibility of exploration results (*i.e.*, exploration risk) in a future production environment. Exploration risk is inherently high when exploring for laterite nickel-cobalt deposits, however at Red Flat these risks are mitigated by the knowledge obtained from the 670 auger and 11 sonic drill holes and by applying the latest exploration techniques (*e.g.*, geophysics, geology, geochemistry) to develop high confidence targets for future drilling programs and mineral resource delineation and estimation.

The Authors are not aware of any other significant risks or uncertainties that would impact the Issuer's ability to perform the recommended work program (*see* Section 26) and other future exploration work programs on the Property.

1.16.2 Conclusions

Based on the Property's favourable location in southwestern Oregon, an area known to host numerous laterite nickel-cobalt properties including those that are located immediately south of Oregon in northern California, the Property presents an excellent opportunity to develop nickel mineral resources and to make additional discoveries of nickel-cobalt laterite mineralization.

Characteristics of mineralization on the Red Flat Property and the knowledge gained from drilling to date, are of sufficient merit to justify additional surface exploration work, including rock and soil sampling, trenching, geophysics, and metallurgical and mineralogical studies, with the aim to develop drill targets for future drilling.

1.17 Recommendations

It is the opinion of the Authors that the geological setting and character of the nickel laterite mineralization discovered to date on the Red Flat Ni-Co Property is of sufficient merit to justify additional exploration expenditures on the Property. A recommended work program, arising through the preparation of the Report and consultation with the Company, is provided below.

A Phase 1 exploration program is recommended (Table 1-6), consisting of a high resolution airborne magnetic survey, rock/soil sampling and assays, review and validation of all surface and drill hole sampling and related assays, and a maiden NI 43-101 mineral resource estimate and technical report. The estimated cost for the recommended Phase 1 component of exploration work is approximately C$200,000 (Table 1-6). The recommended Phase 1 exploration program could be accomplished within a 12 month period.

Table 1-6. Budget estimate for a recommended Phase 1 exploration program, Red Flat Ni-Co Property.

ITEM	DESCRIPTION	AMOUNT (C$)
Geophysics	High resolution airborne magnetics survey	$75,000
Geochemical Survey	Surface rock and soil sampling; assays	$50,000
Data Review and Validation	Data confirmation (geochemistry; drilling); maiden mineral resource estimate	$50,000
Technical Reporting	Reporting	$25,000
	Total (C$):	**$200,000**

Budget does not include G&A and associated taxes and fees.

2.0 INTRODUCTION

Geological consulting group Caracle Creek International Consulting Inc. ("Caracle") was engaged by Canadian public company Spruce Ridge Resources Ltd. ("Spruce Ridge" or the "Issuer"), to prepare an independent National Instrument 43-101 ("NI 43-101") Technical Report (the "Report") for its Red Flat Nickel-Cobalt Property ("Red Flat" or the "Property"), located in Curry County, Oregon, USA (Figure 2-1). The Report has been prepared in accordance with the Canadian National Instrument 43-101 *Standards of Disclosure for Mineral Projects* as set forth in the Canadian Securities Administrators' National Instrument 43-101, Companion Policy 43-101CP, and Form 43-101F1 (June 30, 2011).

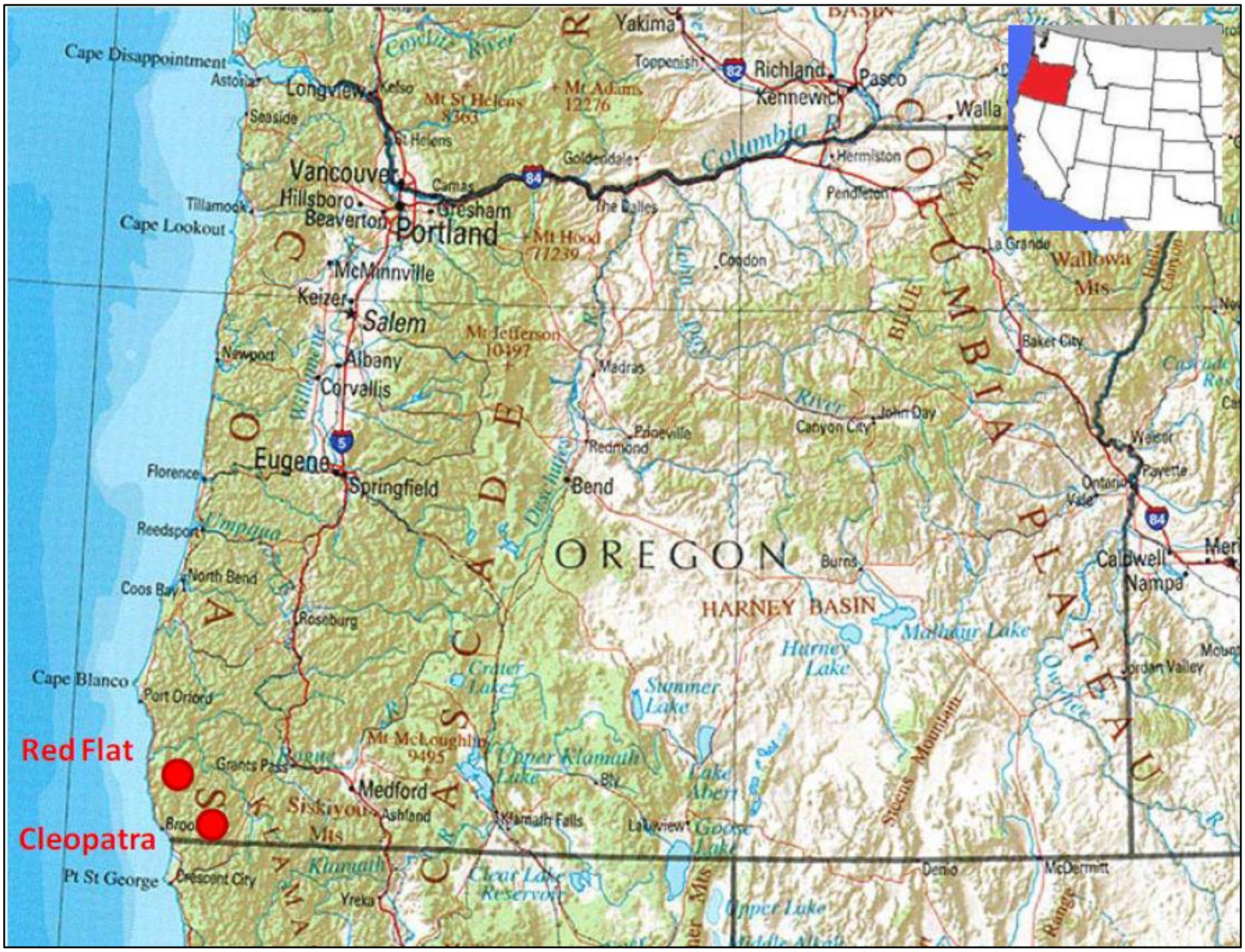

Figure 2-1. State-scale location of the Red Flat Ni-Co Property ("Red Flat"), Curry County, southern Oregon, USA. The Cleopatra Ni-Co Property ("Cleopatra") is a similar property being acquired by Spruce Ridge (Alyssum, 2012).

2.1 Purpose of the Technical Report

The Technical Report has been prepared for Spruce Ridge Resources Ltd., a Canadian public company trading on the Toronto Venture Exchange (TSX-V: SHL), in support of a transaction to acquire majority ownership in the Red Flat Ni-Co Property (*see* Section 4.2).

The Report provides an independent review of the Red Flat Nickel-Cobalt Property located in Curry County, Oregon, USA, verifies the data and information related to historical and current mineral exploration on the Property, and presents a report on data and information available in the public domain with respect to the Property.

The quality of information, conclusions, and recommendations contained herein have been determined using information available at the time of Report preparation and data supplied by outside sources as outlined in Section 2.6 and Section 27.

2.2 Previous Technical Reports

There are no previous NI 43-101 Technical Reports prepared for the Issuer, Spruce Ridge Resources Ltd., regarding the Red Flat Ni-Co Property and as such the Report is the current technical report regarding the Property.

2.3 Effective Date

The Effective Date of the Report is 10 August 2023.

2.4 Qualifications of Consultants

The Report has been completed by Dr. Scott Jobin-Bevans and Mr. John Siriunas (together the “Consultants” or the “Authors”). Dr. Jobin-Bevans (“Principal Author”) is the Principal Geoscientist at Caracle Creek International Consulting Inc. and Mr. Siriunas (“Co-Author”) is an Associate Independent Consultant with Caracle Creek International Consulting Inc.

Dr. Jobin-Bevans is a professional geoscientist (PGO #0183, P.Geo.) with experience in geology, mineral exploration, mineral resource and reserve estimation and classification, land tenure management, metallurgical testing, mineral processing, capital and operating cost estimation, and mineral economics. Mr. Siriunas is a Professional Engineer (APEO #42706010) with experience in geology, mineral exploration, mine site geology, mineral resource and reserve estimations, preliminary economic assessments, pre-feasibility studies, due diligence, and valuation and evaluation reporting.

Dr. Scott Jobin-Bevans and Mr. John Siriunas, by virtue of their education, experience, and professional association, are each considered to be a Qualified Person (“QP”), as that term is defined in NI 43-101 and specifically sections 1.5 and 5.1 of NI 43-101CP (Companion Policy). A responsibility matrix is provided in Table 2-1, summarizing each of the Report sections for which the Authors are responsible.

Table 2-1. Responsibility matrix for the preparation of the Report sections by the Authors.

Author	Complete Section Responsibility	Sub-Section Responsibility
Scott Jobin-Bevans	3.0-13.0, 15.0-27.0	2.0-2.4, 2.6, 2.7
John Siriunas	3.0, 11.0, 12.0, 24.0, 25.0, 26.0	2.4-2.6

The QP responsibilities for Section 1 are reflected in their responsibilities for each of the other individual Report sections.

The Consultants employed in the preparation of the Report have no beneficial interest in Spruce Ridge and are not insiders, associates, or affiliates of Spruce Ridge. The results of the Report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings between Spruce Ridge and the Consultants. The Consultants are being paid a fee for their work in accordance with normal professional consulting practices.

2.5 Personal Inspection (Site Visit)

Mr. John Siriunas (M.A.Sc., P.Eng.) visited the Property on 7 August 2023, accompanied by Mr. Michael D. Strickler. Mr. Strickler is the principal of Lithologic Resources, LLC, the consulting group that carried out much of the contract exploration work on the Property for Red Flat Nickel Corp. The personal inspection was made to observe the general Property conditions and access, and to verify the locations of some of the previous trenching and sampling. Locations were logged in the field using datum NAD83 (CONUS) and metric UTM coordinates in Zone 10 North, though it is common in Oregon to use the US State Plane Coordinates of 1983 (SPCS83) Oregon S Zone 3602, with distances measured in feet for localization.

The Red Flat Property is located approximately 11 km inland from the coast of the Pacific Ocean. Travel to the Property from the Oregon Coast Highway US Route #101, at a point just south of Gold Beach, OR, via Hunter Creek Road (#635), to Little South Fork Hunter Creek Road (#665) and then Forest Service Road #1703 (Wild Horse Lookout Road) takes approximately one hour, climbing 700 m in elevation to reach the southern workings on the Property. Egress was made from the north end of the Property via the continuation of Forest Service Road #1703 to Forest Service Roads #1503 and #3680 back to Hunter Creek Road. At the time of the field visit roads to the north of the Property area were closed to public access due to on-going wildfire suppression activities (the Flat Fire). Roads and trails to the western part of the Property area in the vicinity of the RFN and historical trenching were inaccessible without a four-wheel drive vehicle or an ATV.

The previously sampled trenches are still very evident from the air and on the ground though most of the sides of the trenches have slumped.

The Property does have some bedrock outcroppings but is mainly covered by saprolitic/lateritic material. A total of six (6) samples of lateritic material were collected from various locations on the Property including some of the old trenches (Table 2-2).

Table 2-2. Location and assay results for 6 surface grab samples from the Personal Inspection, Red Flat Property.

	UTM NAD 83 Zone 10		Ni %		Co µg/g		Cr %		Mg %		Fe %	
Analysis Method	Easting (m)	Northing (m)	AR	FUS	AR	FUS	AR	FUS	AR	FUS	AR	FUS
RF-1	393501	4689062	0.283	0.3	309	431	0.323	> 1.0	1.2	3.66	24.2	27.8
RF-2	393481	4688953	0.794	0.857	771	1010	0.366	> 1.0	2.75	5.42	28.8	> 30.0
RF-3	393408	4688963	0.997	> 1.0	503	684	0.193	> 1.0	2.22	3.78	> 30.0	> 30.0
RF-4	393392	4688586	> 1.0	> 1.0	514	687	0.118	> 1.0	3.18	4.91	> 30.0	> 30.0
RF-5	394974	4687994	0.787	0.908	548	780	0.205	> 1.0	0.99	1.95	> 30.0	> 30.0
RF-6	392472	4961963	0.853	0.952	685	945	0.124	> 1.0	0.45	1	> 30.0	> 30.0

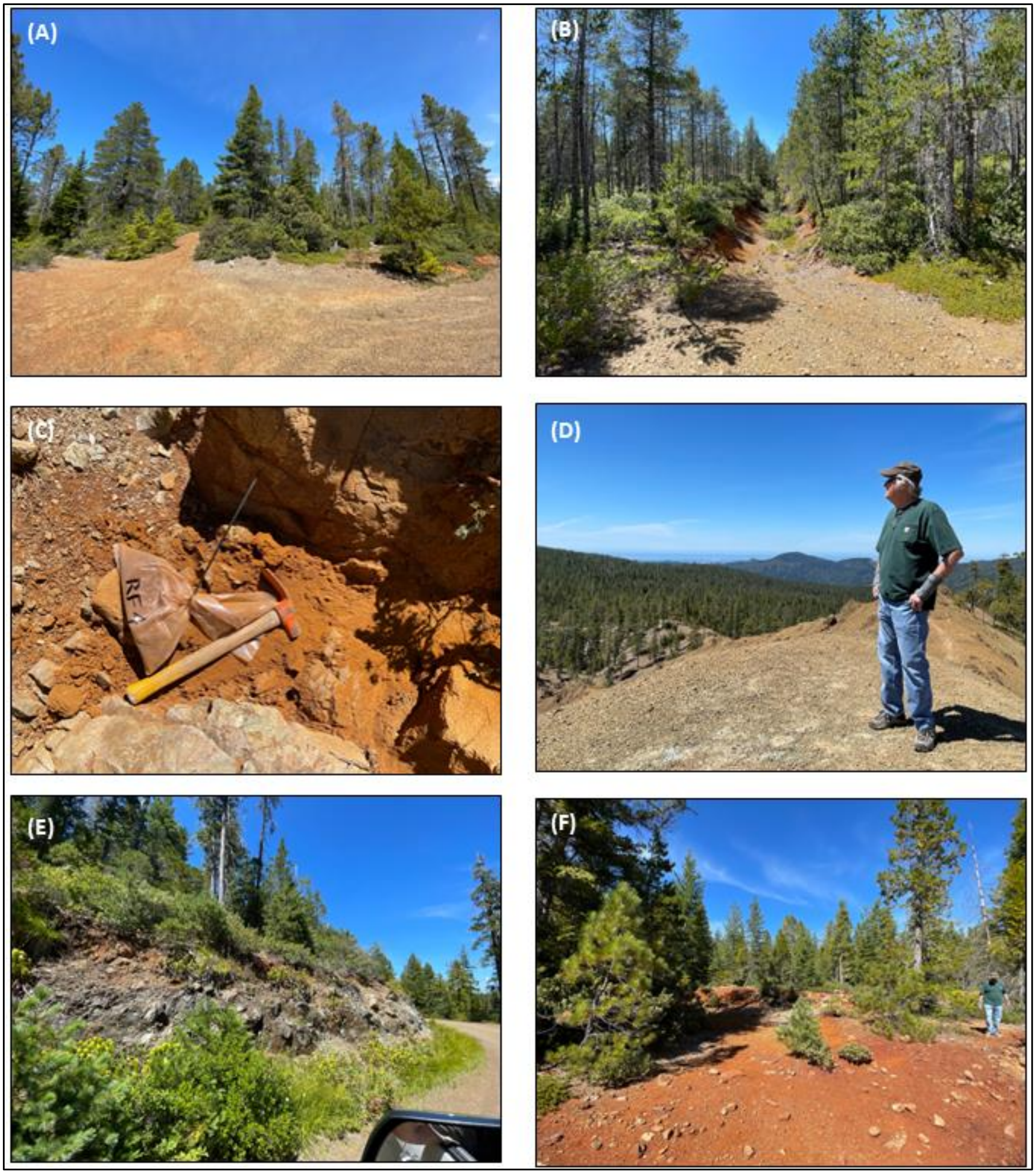

Figure 2-2. Selection of photos taken during the Personal Inspection of the Red Flat Ni-Co Property by Co-Author John Siriunas. (A) View looking north from near the south end of the Red Flat Property showing typical vegetation and reddish soils over ultramafic subcrop. Trails in the left central part of the photo lead to the main areas of exploration work; B) Example of previous east-west trenching along the Wild Horse Lookout Road in the southwest part of the Red Flat Property. View is looking west; (C) Analytical sample RF-4 from in an old trench - located at 393392 mE, 4688586 mN; (D) Mr. Mike Strickler standing on a barren lateritic feature in the east central part of the Red Flat Property colloquially referred to as "Mars" (394150 mE, 4690767 mN). View is looking west toward the Pacific Ocean; (E) Ophiolitic outcrop with Darlingtonia californica (a.k.a. Cobra plant or California pitcher plant) growing due to presence of spring water, west side of the Wild Horse Lookout Road; and (F) Southeast part of the Red Flat Property, thought to be near the site of 2009 sonic drill hole #10.

2.6 Sources of Information

The information, conclusions, opinions, and estimates contained herein are based on:

- information available to the Authors at the time of preparation of the Report;
- assumptions, conditions, and qualifications as set forth in the Report; and
- data, reports, and other information supplied by Spruce Ridge and other third party sources.

For the purposes of the Report, the Authors have relied on Property ownership information provided by Spruce Ridge; however, the Principal Author has reviewed the status of the mining claims through the online portal of the Bureau of Land Management.

The Principal Author has not researched legal Property title or mineral rights for the Red Flat Ni-Co Property and expresses no opinion as to the official ownership status of the Property.

Company personnel and associates were actively consulted before and during the Report preparation, including Stephen Balch (President & CEO, Director, Spruce Ridge).

The Report is based on, but not limited to, internal Company emails and memoranda, historical reports, maps, data, and publicly available information and data (*e.g.*, government and internet), as cited throughout the Report and listed in Section 27.

The primary source of information and data with respect to historical and current mineral exploration work completed on the Property and the Property itself was extracted from:

> Rancourt, A.J., 2009. Evaluation of the Red Flat Ni/Co Property Mining Potential, Curry County, Oregon, U.S.A.. NI 43-101 technical Report, AJR Geoconsulting Inc., Quebec, Canada, P028-03 E1 DOC, 23 November 2009, 311p.

Additional information was reviewed and acquired through public online sources including Spruce Ridge's website, through SEDAR (System for Electronic Document Analysis and Retrieval), and various corporate websites.

Standard professional review procedures were used by the Authors in the preparation of the Report. The Authors consulted and utilized various sources of information and data, including historical files provided by the Issuer and government publications. In addition, Co-Author and QP John Siriunas (P.Eng.) completed a personal inspection (site visit) to confirm features within the Property and area, including infrastructure, mineralization, and historical data and information as presented.

Except for the purposes legislated under Canadian provincial securities laws, any use of the Report by any third party is at that party's sole risk.

2.7 Units of Measure, Abbreviations, Initialisms and Technical Terms

All units in the Report are based on the International System of Units ("SI Units"), except for units that are industry standards, such as troy ounces for the mass of precious metals. Table 2-3 provides a list of some of the terms, initialisms, and abbreviations used in the Report.

Unless specified otherwise, the currency used is Canadian Dollars (CAD$ or CAD) and coordinates are given in North American Datum of 1983 (“NAD83”), UTM Zone 10 North (EPSG:6560 NAD83(2011)/Oregon South (metres) - Curry County, Oregon).

Table 2-3. Some of the commonly used units of measure, abbreviations, acronyms and technical terms in the Report.

Units of Measure/Abbreviations		**Elements**	
above mean sea level	AMSL	silver	Ag
acre	ac	sulphur	S
annum (year)	a	zinc	Zn
billion years ago	Ga	**Acronyms/Abbreviations**	
centimetre	cm	AA	Atomic Absorption (analysis)
degree	°	AR	Aqua Regia (sample digestion)
degrees Celsius	°C	ATV	All-Terrain Vehicle
dollar (Canadian)	C$	BLM	Bureau of Land Management
dollar (American)	US$	CCIC	Caracle Creek International Consulting Inc.
foot/feet	ft	CONUS	Continental United States
gram	g	CRM	Certified Reference Material
grams per tonne	g/t	DDH	Diamond Drill Hole
greater than	>	DOGAMI	Oregon Dept. of Geology and Mineral Industries
hectare	ha	EM	Electromagnetic
hour	hr	EOH	End of Hole
inch	in	FA	Fire Assay
kilo (thousand)	k	FUS	Na_2O_2 fusion (sodium peroxide sample digestion)
kilogram	kg	ICP	Inductively Coupled Plasma (analysis)
kilometre	km	Int.	Interval
less than	<	LDL	Lower Detection Limit
litre	L	LLD	Lower Limit of Detection
megawatt	Mw	LLR	Lithologic Resources, LLC
metre	m	LOI	Letter of Intent
millimetre	mm	LUP	Land Use Permit
million	M	MAG	Magnetics or Magnetometer
million years ago	Ma	MLRR	Mineral Land Regulation and Reclamation
nanotesla	nT	NAD83	North American Datum of 1983
not analyzed	na	NI 43-101	National Instrument 43-101
ounce (troy)	oz	NSR	Net Smelter Return Royalty
parts per million (by weight)	ppm	P.Eng.	Professional Engineer
parts per billion (by weight)	ppb	PEO	Professional Engineers Ontario
percent	%	P.Geo.	Professional Geoscientist or Professional Geologist
pound(s)	lb	PGO	Professional Geoscientists of Ontario
short ton (2,000 lb)	ton	QA/QC	Quality Assurance / Quality Control
specific gravity	SG	QP	Qualified Person
square kilometre	km2	RC	Reverse Circulation
square metre	m2	RFN	Red Flat Nickel Corp.
three-dimensional	3D	ROFR	Right of First Refusal
tonne (1,000 kg) (metric tonne)	t	SEM	Scanning Electron Microscope
Elements		SG	Specific Gravity
cobalt	Co	SI	International System of Units
copper	Cu	SPCS	State Plane Coordinate System
gold	Au	Twp	Township
lead	Pb	UFS	Urban Forestry South

Elements		Acronyms/Abbreviations	
magnesium	Mg	USBM	United States Bureau of Mines
nickel	Ni	USFS	United States Forest Service
platinum group elements	PGE	USGS	United States Geological Survey
		UTM	Universal Transverse Mercator
		WGS84	World Geodetic System Datum of 1984

3.0 RELIANCE ON OTHER EXPERTS

The Report has been prepared by Caracle Creek International Consulting Inc. (Caracle) for the Issuer Spruce Ridge Resources Ltd. The Authors have not relied on any other report, opinion or statement of another expert who is not a qualified person, or on information provided by the Issuer concerning legal, political, environmental or tax matters relevant to the Report.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 Property Location

The Red Flat Ni-Co Property is located on the top of Red Flat Mountain, about 14.5 km east of the town of Gold Beach, Oregon (2020: pop. 2,241), in northwest Curry County, and about 480 km south of the City of Portland, Oregon (2021: 641,162). It is in a mountainous forested area that can be accessed from Gold Beach by taking highway US 101 via the Hunter Creek Road and then connecting to local prospect roads (Figure 4-1; *see* Section 5.1). The Property is centred at approximately 393925 mE, 4689308 mN NAD83 (CONUS) UTM Zone 10N (42°21'N Latitude, 124°17'W Longitude).

All known nickel mineralization that is the focus of the Report and that of the Red Flat Ni-Co Property is located within the boundary of the mining lands that comprise the Property.

Figure 4-1. Township-scale map showing the location of the Red Flat Ni-Co Property (white mining claims), Curry County, southwest Oregon.

4.2 Current Transaction

The current transaction gives Spruce Ridge the ability to hold a controlling interest of 80.0079% in the Red Flat Ni-Co Property.

In July 2023, Spruce Ridge Resources entered into a binding Letter of Intent ("LOI") with RAB Capital Holdings Ltd. ("RAB"), a private limited company incorporated in England, to acquire all of the issued and outstanding securities ("Offered Securities") of RFN Holdings Limited ("RFNH"), a Guernsey company, such that RFNH will become a wholly owned subsidiary of Spruce Ridge (the "Acquisition"). Upon execution, the Definitive Agreement (not yet completed) will replace and supersede the LOI.

RAB is the sole holder of the Offered Securities and the holder of a Loan Note Instrument with Homeland Nickel Corporation ("HLN") dated August 20, 2008, as amended by various supplemental agreements and other corresponding agreements (collectively, the "Loan Note Instrument"). RFNH is the holder of 80.0079% of the issued and outstanding securities of Homeland Nickel Corporation ("HLN") which maintains a portfolio of mining claims in Oregon that make up the Red Flat and Cleopatra properties (the "Properties").

The debt owed to RAB by HLN will be converted to debt owed to Spruce Ridge with the remaining 19.9921% held by third party shareholders.

4.2.1 Terms and Conditions

The principal terms and conditions of the Acquisition are as follows:

1. The Transaction:

1.1 Spruce Ridge and RAB will enter into the Definitive Agreement whereby:

(a) Spruce Ridge will acquire all of the Offered Securities;

(b) the Loan Note Instrument will be assigned by RAB to Spruce Ridge.

2. Consideration:

2.1 Pursuant to the terms of the Acquisition, Spruce Ridge will:

(a) transfer to RAB an aggregate of 2,000,000 common shares in the capital of Canada Nickel Company Inc. (the "CNC Shares") as follows:

i. 500,000 CNC Shares upon closing of the Acquisition (the "First Transfer"); and

ii. 1,500,000 upon the earlier of (i) completion of the Concurrent Financing (as such term is defined herein); or (ii) ninety (90) days from the date of the First Transfer;

(b) pay to RAB aggregate cash consideration of $500,000 as follows:

i. $50,000 by wire transfer upon execution of this LOI; and

ii. $450,000 upon completion of the Concurrent Financing (as such term is defined herein);

(c) issue to RAB an aggregate of 10,000,000 common shares in the capital of Spruce Ridge (the "Spruce Shares") upon closing of the Acquisition, subject to the resumption of trading of the Spruce Shares on the TSX Venture Exchange (the "Exchange");

(d) reimburse RAB for the cost of tenement renewals on the Properties due September 1, 2023;

(e) reimburse RAB for the costs incurred for the preparation of such audited and unaudited interim financial statements of HLN as are required pursuant to the policies of the TSXV and applicable securities laws (the "HLN Financials");

(f) grant to RAB:

i. a 2.0% net smelter return royalty ("NSR") on Red Flat (the "Red Flat NSR"), with an option to re-purchase 50% of the Red Flat NSR at a price of $2,000,000;

ii. a 2.0% NSR on Cleopatra (the "Cleopatra NSR"), with an option to re-purchase 50% of the Cleopatra NSR at a price of $2,000,000; and

(g) pay to RAB the following milestone payments upon any of the tenements forming part of the Properties achieving the described milestone level:

i. $1,000,000 upon filing of a technical report on any one of or both of the Properties prepared in accordance with National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* of the Canadian Securities Administrators, payable within sixty (60) days of the technical report being filed under Spruce Ridge's profile on the System for Electronic Document Analysis and Retrieval ("SEDAR");

ii. $2,000,000 upon completion of a Preliminary Economic Assessment (the "PEA") on the Properties, payable within sixty (60) days of release of the PEA;

iii. $2,000,000 upon completion of a Feasibility Study on the Properties, payable within sixty (60) days of release of the Feasibility Study; and

iv. $10,000,000 upon announcement of a decision to commence construction on the Properties, payable within sixty (60) days of such announcement.

2.2 Pursuant to the terms of the Acquisition, RAB will:

(a) subscribe for an aggregate $450,000 in the Concurrent Financing being offered by Spruce Ridge.

4.3 Mineral Disposition

The Red Flat Ni-Co Property, registered under the name of Red Flat Nickel Corp. ("RFN"), consists of 100 Lode mining claims consisting of 93 claims of 600 ft (183 m) by 1,500 ft (457 m) and 7 claims of 600 ft (183 m) by 965 ft (294 m) at approximately 21.67 acres (8.8 ha) each, covering approximately 1,820 acres (737 ha) (Table 4-1; Figure 4-2). Oregon's Mineral Land Regulation and Reclamation ("MLRR") and the federal Bureau of Land Management ("BLM") cover in details the rights, obligations and definitions regarding Lode mining claims.

Table 4-1. Summary of the mining claims that comprise the Red Flat Ni-Co Property.

Claim Name	Curry County Instrument No.	BLM Record ORMC	Claim Name	Curry County Instrument No.	BLM Record ORMC
RF 17	2007-2166	161351	RF 69	2007-1693	161393
RF 18	2007-2167	161352	RF 70	2007-1694	161394
RF 23	2007-1923	161353	RF 71	2007-1695	161395
RF 24	2007-1924	161354	RF 72	2007-1696	161396

Claim Name	Curry County Instrument No.	BLM Record ORMC	Claim Name	Curry County Instrument No.	BLM Record ORMC
RF 25	2007-1925	161355	RF 73	2007-1697	161397
RF 26	2007-1926	161356	RF 74	2007-1698	161398
RF 27	2007-1927	161357	RF 75	2007-1699	161399
RF 28	2007-1928	161358	RF 76	2007-1700	161400
RF 29	2007-1929	161359	RF 77	2007-1701	161401
RF 30	2007-1930	161360	RF 78	2007-1702	161402
RF 31	2007-2168	161361	RF 80	2007-2394	161403
RF 32	2007-2169	161362	RF 82	2007-2395	161404
RF 33	2007-2170	161363	RF 85	2007-1703	161405
RF 34	2007-2171	161364	RF 86	2007-1704	161406
RF 38	2007-2388	161365	RF 87	2007-1705	161407
RF 40	2007-2389	161366	RF 88	2007-1706	161408
RF 42	2007-2390	161367	RF 89	2007-1707	161409
RF 43	2007-1931	161368	RF 90	2007-1708	161410
RF 44	2007-1932	161369	RF 91	2007-1709	161411
RF 45	2007-1933	161370	RF 92	2007-1710	161412
RF 46	2007-1934	161371	RF 93	2007-1711	161413
RF 47	2007-1935	161372	RF 94	2007-1712	161414
RF 48	2007-1936	161373	RF 95	2007-1713	161415
RF 49	2007-1937	161374	RF 96	2007-1714	161416
RF 50	2007-1938	161375	RF 97	2007-1715	161417
RF 51	2007-1683	161376	RF 98	2007-1716	161418
RF 52	2007-1684	161377	RF 99	2007-1717	161419
RF 53	2007-1685	161378	RF 100	2007-1718	161420
RF 54	2007-1686	161379	RF 101	2007-1719	161421
RF 55	2007-1687	161380	RF 102	2007-1720	161422
RF 56	2007-1688	161381	RF 103	2007-1721	161423
RF 57	2007-1689	161382	RF 104	2007-1722	161424
RF 58	2007-1690	161383	RF 105	2007-1723	161425
RF 59	2007-1691	161384	RF 106	2007-1724	161426
RF 60	2007-1692	161385	RF 107	2007-1725	161427
RF 62	2007-2391	161386	RF 108	2007-1726	161428
RF 63	2007-2392	161387	RF 109	2007-1943	161429
RF 64	2007-2393	161388	RF 110	2007-1944	161430
RF 65	2007-1939	161389	RF 111	2007-1945	161431
RF 66	2007-1940	161390	RF 112	2007-1946	161432
RF 67	2007-1941	161391	RF 113	2007-1947	161433
RF 68	2007-1942	161392	RF 114	2007-1948	161434

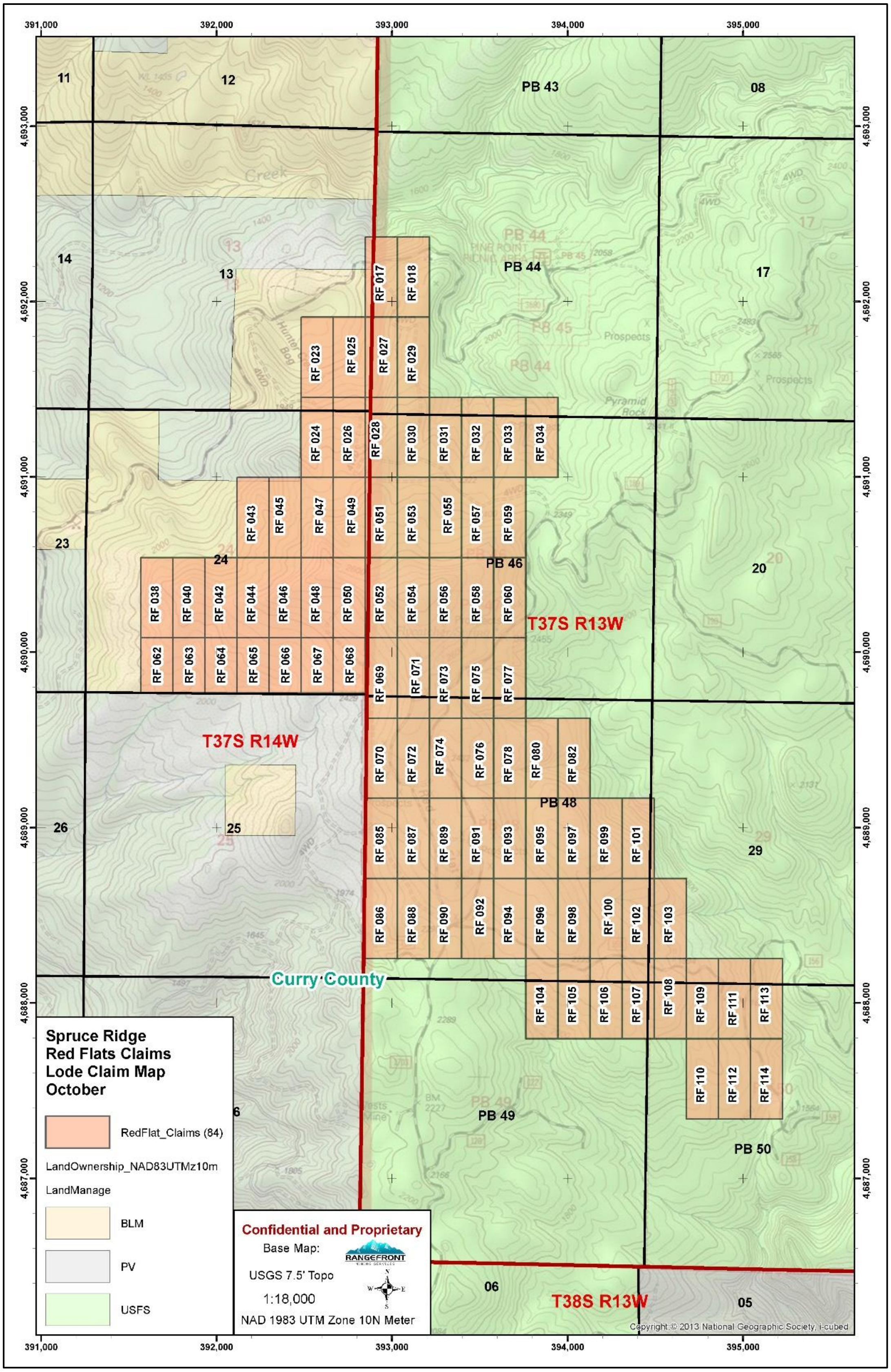

Figure 4-2. Mining claims (84) that comprise the Red Flat Ni-Co Property (Spruce Ridge, 2023).

4.4 Property Holding Costs

Annual holding costs (Annual Maintenance Fee) for the Red Flat Ni-Co Property (84 mining claims), payable to the BLM, are $165 per mining claim and total $13,860. In addition, approximately US$438 is payable to Curry County Clerk to cover mining claim affidavit recording fees (US$5.21/claim). The last payments were made by Homeland Nickel Corporation (the Claimant) prior to 31 August 2023.

4.5 Mineral Disposition in Oregon

Access to current records of mineral and lands records transactions can be gained through the Bureau of Land Management (BLM) Mineral & Land Records System (MLRS), an online portal available through the BLM website.

United States citizens who have reached the age of discretion under the law of the state of residence; or legal immigrants who have declared their intention to become a citizen; or a corporation organized under the laws of any state may locate a mining claim. The government considers a corporation the same as a U.S. citizen. An agent may locate a mining claim on behalf of a claimant. A claimant may hold any number of claims or sites.

4.5.1 Mining Claims

The following has been extracted from various locations and publications available on the Bureau of Land Management (BLM) website. Mining claims are typically staked on Federally-administered lands managed by either the Bureau of Land Management or the US Forest Service (UFS). Oregon comprises Federally-administered lands where the BLM manages the surface of public land and the UFS manages the surface of National Forest System (NFS) land. The BLM is responsible for the subsurface on both public and NFS lands.

There are three basic types of minerals on federal lands:

- Locatable minerals, those minerals that have never left federal ownership (aka public domain minerals), include commodities such as gold, silver, copper, zinc, nickel, lead, platinum and some non-metallic minerals such as asbestos, gypsum, and gemstones. Reconveyed minerals are considered locatable minerals under the mining laws. Subject to the Mining Law of 1872, as amended.
- Leasable minerals include commodities such as oil, gas, coal, geothermal, potassium, sodium phosphates, oil shale, sulfur, and solid leasable minerals on acquired lands. Subject to various Mineral Leasing Acts.
- Salable minerals include common varieties of sand, stone, gravel, cinders, clay, pumice and pumicite. Subject to mineral materials disposed of under the Materials Act of 1947, as amended.

4.5.2 Types of Mining Claims

Mining claims are staked for locatable minerals on public domain lands. There are two types of mining claims; (1) Lode Claims and (2) Placer Claims (BLM website):

- Lode Claims: deposits subject to lode claims include classic veins or lodes having well-defined boundaries. They also include other rock in- place bearing valuable minerals and may be broad zones of mineralized rock. Examples include quartz or other veins bearing gold or other metallic minerals and large volume, but low-grade disseminated gold deposits. Descriptions are by metes and bounds surveys beginning at the discovery point on the claim and including a reference to natural objects or permanent monuments. Federal statute limits their size to a maximum of 1500 feet in length, and a maximum width of 600 feet (300 feet on either side of the vein).

- Placer Claims: defined as "...including all forms of deposit, excepting veins of quartz, or other rock in-place." In other words every deposit, not located with a lode claim, should be appropriated by a placer location. Placer claims, where practicable, are located by legal subdivision (aliquot part and complete lots). The maximum size is 20 acres (8.1 ha) per locator, and the maximum for an association placer is 160 acres (65 ha) for 8 or more locators. The maximum size for a corporation is 20 acres (8.1 ha) per claim. Corporations may not locate association placer claims unless they are in association with other locators or corporations as co-locators.

4.5.3 Locating a Mining Claim

Mining claims can be located on open public land administered by another federal agency (most commonly UFS land). Mining claims cannot be located on acquired lands (lands that were at some point owned by a state or private party and then were re-acquired by the federal government); a prospecting permit (43 CFR 3500) is required to prospect in areas with acquired lands (minerals).

You may prospect and locate claims and sites on public and NFS land open to mineral entry. Claims may not be located in areas closed to mineral entry by a special act of Congress, regulation, or public land order. These areas are said to be "withdrawn" from mineral entry. Areas withdrawn from location of mining claims and sites include:

- National Parks;
- National Monuments;
- Indian reservations;
- Various types of reclamation projects under the Bureau of Reclamation;
- Military reservations;
- Scientific testing areas; and
- Wildlife protection areas managed by the U.S. Fish and Wildlife Service.
- Land withdrawn for power development may be subject to mineral entry and claim location only under certain conditions.

Mining claims and sites may not be located on land that has been:

- Designated by Congress as part of the National Wilderness Preservation System;
- Designated as a wild portion of a Wild and Scenic River; or
- Withdrawn by Congress for study as a Wild and Scenic River.

There is usually a ¼-mile (402 m) buffer zone withdrawn from location of mining claims on either side of a river while the river is being studied for inclusion in the Wild and Scenic River System. Additions to the National

Wilderness Preservation System are withdrawn from mining claim location at the time of designation by Congress. Mining activities are permitted only on those mining claims that can show proof of discovery either (1) by December 31, 1983, or (2) on the date of designation as wilderness by Congress.

Mining claims can be located for minerals reserved under the Stock Raising Homestead Act of 1916 (SRHA) which provided settlers 640 acres (259 ha) of public land—a full section or its equivalent—for ranching purposes. Under the SRHA, the surface is fee but the minerals are public domain. There are specific regulations governing the claiming of SRHA minerals.

4.5.3.1 Staking a Claim

Federal law specifies that claim and site boundaries must be distinctly and clearly marked to be readily identifiable on the ground. To stake a Lode Mining Claim in the state of Oregon, a notice of discovery and location (Form No. 830 Notice of Vein or Lode Location) is first lodged with the state (county clerk's office).

Within 30 days of filing the location notice, physical demarcation in the field of the described boundaries of the mining claim must be completed. Oregon state law requires four (4) conspicuous and substantial corner monuments (posts or mound of earth and stone) be used to mark the position of the mining claim; all monuments must be wildlife safe.

Within 60 days from the staking of the claim or site on the ground, state laws require filing the original location notice or certificate in the county clerk's office along with information about the location of the mining claim. The proper county is the one in which the claim or site is located.

4.5.4 National Parks

All National Park units are closed to the establishment of new mining claims. However, mining claims still exist in park units, either because the claims were established before the park was created or because they were established while that particular park unit was still open to claim location. In order to conduct a mining operation on any of the pre-existing claims, an operator must submit a proposed plan of operations to the National Park Service (NPS) for evaluation by the NPS.

4.5.5 Private Lands

In certain situations it is also possible to stake a claim on private land if you seek permission from the landowner and verify that the land has not already been claimed.

4.5.6 Annual Maintenance and Assessment

All mining claims are subject to an Annual Maintenance Fee which must be filed and paid on or before 1 September of every year. This is a strict date, as failure to timely pay the fee or file a Small Miner's Waiver in the proper BLM office will subject mining claims or sites to forfeiture of operation by law. In most cases, this annual maintenance fee may be paid online using the Mineral & Land Records System (MLRS), in person at a BLM state office, or sent via mail. The annual fee per Lode Mining Claim is US$165.

4.5.6.1 Assessment Work

Claimants requesting a Small Miner's Waiver from paying the Annual Maintenance Fee must perform assessment work and spend a minimum of $100 in labor or improvements on each claim, and record evidence of such with the BLM on or before December 30 of the calendar year in which the assessment year ended and must include a US$15 processing fee. Assessment work may include but is not limited to drilling, excavations, driving shafts and tunnels, sampling (geochemical or bulk), road construction on or for the benefit of the mining claim; and geological, geochemical, and geophysical surveys.

4.6 Surface Rights and Legal Access

The Red Flat Property covers 2,015 acres (815 ha) which are located on public lands and as such surface access is not prohibited.

4.7 Exploration Permits

In the state of Oregon, there are three (3) types of surface mining approvals that DOGAMI issues: Exploration Permits, Operating Permits, and Exclusion Certificates. The type of permit/certificate required for your operation depends on quantity, acreage, and/or planned activities.

An Exploration Permit is required for all activities that disturb more than one surface acre or involve drilling to greater than 50 feet (15.24 m) for the purpose of determining presence, location, extent, grade or economic viability of a deposit.

DOGAMI currently recommends that applicants contact the department at least 180 days prior to initiation of activities. Other state, federal, Tribal, and local agencies may require the applicant to obtain approval prior to operation. If an application is incomplete, the department shall notify the applicant in writing within 30 days of receipt and specify the deficiencies; the applicant may resubmit the application with deficiencies corrected within 60 days for review.

Minimum requirements for an Exploration Permit include:

- Completed Exploration Permit Application Form;
- Non-refundable Application Fee;
- Project Description and Reclamation Plan;
- Permit Area Map with Proposed Boundary and Activity Locations; and
- Proposed Reclamation Security Bond.

Each application requires payment of a US$2,000 non-refundable fee and each permit application may include a single contiguous exploration boundary that is no more than 640 acres (259 ha).

DOGAMI coordinates with other agencies to avoid duplication on the part of applicants. The department will notify local planning authorities and other appropriate public agencies that it has received the application for review. Based on external timelines, coordination with other agencies generally takes more than 30 days after receipt of a complete application in order for an Exploration Permit to be approved or denied by the department. The department may attach conditions to the DOGAMI permit to reflect concerns which are not adequately addressed. It is the applicant's responsibility to obtain any necessary permits from other agencies.

Exploration Permits must be renewed and reported upon annually until all activities and reclamation are complete.

4.7.1 Site Closure

When a permitted site has met the reclamation obligations, as described in the approved Reclamation Plan, the permit is eligible for closure and release of the security bond. The permit must continue to be maintained in good standing until DOGAMI determines the reclamation is complete, and the permit can be officially closed.

4.8 Current Permits and Work Status

Exploration permits are not required to complete the exploration work detailed in the recommended work program (*see* Section 26). The Principal Author is not aware of any other requirements which would prevent the Issuer from completing the recommended work program (see Section 26).

There is no exploration work currently being conducted by the Issuer on the Property.

4.9 Environmental Liabilities

Most federal agencies have regulations to protect the surface resources of federal lands during exploration and mining activities. After completion of exploration and mining activities, disturbed sites must be reclaimed. Any exploration work conducted on the Property must comply with the Department of Environmental Quality (DEQ) and applicable legislation.

At this early stage of the Property's development there are no requirements for environmental studies and the Company will implement industry standard best practices in terms of preserving and minimizing its impact on the environment.

The Principal Author is unable to comment on any remediation which may have been undertaken by previous companies and is not aware of any environmental liabilities associated with the Property.

4.10 Royalties and Obligations

As part of the terms and conditions with respect to the July 2023 LOI between Spruce Ridge Resources and RAB Capital Holdings (*see* Section 4.2), Spruce Ridge agrees to grant RAB a 2.0% NSR on the Red Flat Property (the "Red Flat NSR"), with an option to re-purchase 50% of the Red Flat NSR at a price of $2,000,000 at any time.

The Principal Author is not aware of any royalties or obligations associated with the Red Flat Ni-Co Property mining claims.

4.11 Other Significant Factors and Risks

The Principal Author is not aware of any significant factors that may affect access, title, or the right or ability to perform the proposed work program on the Property.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

The Red Flat Property is located approximately 11 km inland from the coast of the Pacific Ocean. Travel to the Property from the Oregon Coast Highway US Route #101, at a point just south of Gold Beach, Oregon, via Hunter Creek Road (#635), to Little South Fork Hunter Creek Road (#665) and then Forest Service Road #1703 takes approximately one hour, climbing 700 m in elevation to reach the southern workings on the Property. Egress can be made from the north end of the Property via the continuation of Forest Service Road #1703 (Wild Horse Lookout Road) to Forest Service Roads #1503 and #3680 back to Hunter Creek Road. Roads and trails to the western part of the Property area in the vicinity of the old trenching were inaccessible without a four-wheel drive vehicle or an ATV.

The Southwest Oregon Regional Airport (OTH), located in Coos Bay, North Bend, and the only commercial airport on the Oregon coast, is about 60 miles (100 km) north of the Property.

5.2 Climate and Operating Season

The climate that prevails on a regional-scale is temperate and of the coastal range type. The Property lies in the mountains and reaches approximately 4,000 ft (1,524 m) in elevation, abutting the coastal strip. The average day temperature on the Property ranges from 32° F (0° C) in the winter to 70° F (21° C) in the summer. The area has morning valley fog in the summer and tends to keep marine influences out of the intermountain valleys. It has mild winters and mild summers with high precipitation (up to 75 inches (194 cm) per year). In the winter, snow covers the ground from November to April at elevations above 4,000 ft (1,524 m).

The Red Flat Property is located on a mountain side, in the west part of the Coastal Range at around 2,493 ft (760 m). Most of the Property experiences colder temperatures than the surrounding valleys. Very few people live in the coastal range itself (Rancourt, 2009).

Given the location of the Red Flat Property to the coast and at relatively low elevation, exploration work (i.e., drilling, geophysical surveys, geological mapping, trenching and surface sampling) can be completed year-round.

5.3 Local Resources and Infrastructure

Gold Beach is situated on the coast and is the closest city with services. The nearest airport is at Coos Bay/North Bend, located 70 miles north of the Property. Working materials can be easily brought in from Coos Bay or Gold Beach to the Property. The local economy is largely based on the logging industry and the coast has tourist vocations in the summer. There is a gravel operation in the Hunter Creek and several borrow pits along the road (Rancourt, 2009).

5.4 Physiography

The topography of the Property was shaped by the coastal mountain range. The maximum difference in altitude on the Property is 1,200 ft (366 m), and the average altitude of the property is around 2,600 ft (793 m). The property lies on the east side of a mountain ridge, reaching a maximum altitude of around 2,800 ft (853 m). The mountain ridge is composed of three topographic structures, the south-east ridge (Lobe A), the centre ridge (Lobe B) and the north ridge (Lobe C) (Figure 9-1).

5.4.1 Water Availability

There are major drainage systems that pass in close proximity to the Property; however, water for exploration activities such as diamond drilling would have to be hauled from these rivers to the sites of the exploration work. Laterite sampling using auger or air core drilling would require much less water than diamond drilling. There are small springs on the Red Flat Property but they would not be sufficient for exploration work purposes.

5.4.2 Flora and Fauna

Flora over the ophiolite basement rocks comprises sparse fir, spruce and pine with smaller brushy plants. Beyond the geological extent of ultramafic rocks are larger trees including redwoods and brushy rhododendrons.

On the Red Flat Property at the site of minor springs, there are large mossy areas with *Darlingtonia Californica* (aka Cobra plant or California pitcher plant). This plant is only found in southwest Oregon and northwest California; there is likely some relationship to the nutrient-poor ultramafic subcrop.

The majority of the several species present are small mammals and songbirds that are common and widely distributed. Deer and squirrels and fish are the main Fauna in the region.

6.0 HISTORY

Nickel-bearing laterites of south-western Oregon are known since the discovery of the Nickel Mountain Mine near Riddle, Oregon in 1881. This mine was in operation from 1954 until 1976 and provided 39M tons of ore at nickel grades between 1 and 1.5% Ni. Regional investigations were carried out by the State of Oregon Department of Geology and Mineral Industries ("DOGAMI") beginning in 1943. DOGAMI's work on the laterites followed the publication of a study of the Nickel Mountain deposit by the USGS (Pecora and Hobbs, 1942). The following summarizes early exploration work on the Red Flat Property (Rancourt, 2009) (Table 6-1):

- 1939: The Red Flat nickel/cobalt horizon was discovered by Harry Hefferley.
- 1947: Libbey and others completed reconnaissance geological mapping and hand-auger soil sampling; no information is known about this work.
- 1954: Extensive drilling, trenching and metallurgical tests were carried out by the United States Bureau of Mines ("USBM") (Hundhausen et al., 1954)
- 1978: Drilling and mapping completed by the DOGAMI (Ramp, 1978).

Historical results from exploration work on or proximal to the Property have not been verified by the Principal Author or a Qualified Person associated with the Company and as such are not necessarily indicative of the results to be found on the Property.

Table 6-1. Summary of historical exploration completed work on the Red Flat Ni-Co Property.

Period	Company	Description	Source
1947	Libbey	Reconnaissance geo-mapping; hand-auger soil sampling	Rancourt (2009)
1954	USBM	Trenching: 9,000 ft (2,743 m); 14 tons (12,701 kg) of material for metallurgical test work	Hundhausen et al. (1954)
	USBM	Churn hole drilling: 22 holes totalling 1,032 ft (315 m)	Hundhausen et al. (1954)
1978	DOGAMI	Geological Mapping; 35 samples (channel, grab, chip); drilling	Ramp (1978)
	DOGAMI	Auger drilling: 9 holes totalling 71 ft (22 m); 6 holes totalling 110 ft (34 m).	Ramp (1978)

6.1 Prior Ownership and Ownership Changes

The Red Flat Property was staked and claimed 100% by Lithologic Resources ("LLR") during the spring of 2007 (Rancourt, 2009). The Red Flat Property was previously owned 100% by Oregon-based private company, Red Flat Nickel Corp. (RFN). The Property is currently owned 80.0079% by RAB Capital Holdings Ltd. (UK) through RFN Holdings Limited and a Loan Note Instrument with Homeland Nickel Corporation, the latter holding 100% of the Property.

The Issuer Spruce Ridge Resources is acquiring approximately 80% of the Property, subject to an NSR (*see* Section 4.10), through a share purchase agreement (*see* Section 4.2).

6.2 Geological Mapping and Sampling

Ramp (1978), and DOGAMI completed geological mapping of the area and collected 35 samples from holes and channel/grab/chip samples taken by the DOGAMI and others. The geological map and sampling partly cover three of the four (4) lobes of the Property. The regional geology was described by Ramp et al. (1977) and culminated in a geological map of Curry County.

6.3 Trenching

In 1954, the USBM (Hundhausen et al., 1954), completed approximately 9,000 ft (2,743 m) of trenches on the Red Flat Ni-Co Property (Figure 6-1; Figure 9-1) (Rancourt, 2009). No other information is available to the Principal Author.

6.4 Historical Drilling

In 1954, the USBM drilled 22 holes using a Star churn drill mounted on a 6-wheel-drive truck (Hundhausen et al., 1954). In total, 1,032 ft (315 m) was completed. Holes were 6'' diameter (15.2 cm) and ranged in depth from 20 to 117 ft (6.1-36 m). They were located approximately 500 ft (152 m) apart and were concentrated in Lobe A (Figure 6-1; Figure 9-1).

6.4.1.1 1954 and 1978

Ramp et al. (1978), augered nine (9) holes for a total length of 71 ft (21.6 m) and drilled six (6) holes for a total length of 110 ft (33.5 m); holes ranged in depth from 5 to 25 ft (1.5-7.6 m) (Rancourt, 2009). Table 6-2 summarizes the holes and results from Ramp et al. (1978) and Table 6-3 summarizes the assay results from Hundhausen et al. (1954).

Table 6-2. Summary of results from historical auger and drill holes (Ramp et al., 1978).

Coordinates[1]		Auger hole	Drill hole	Sample	
X	Y	no.	no.	interval	Ni
(ft)	(ft)			(ft)	(%)
3893334.61	280296.239	11		6	0.96
3893672.91	280292.131	12		6	0.90
3895358.61	280685.046	14		14	0.86
3893969.51	279153.129	16		7	0.34
3893973.88	278587.46	17		9	0.69
3895149.38	278817.985	18		5	0.90
3895017.31	277597.61	19		6	0.78
3895655.93	277315.034	20		8	1.11
3896093.81	276865.376	21		10	1.54
3895669	272271.845		30	10	0.65
3894772.2	271176.182		31	25	0.78
3895961.98	271812.472		32	15	0.57
3896384.55	271249.213		33	25	0.83
3896414.57	270292.036		34	15	0.66
3898599.48	268737.27		35	20	0.55

1 State Plane, Oregon South, FIPS, 3602, NAD 1983

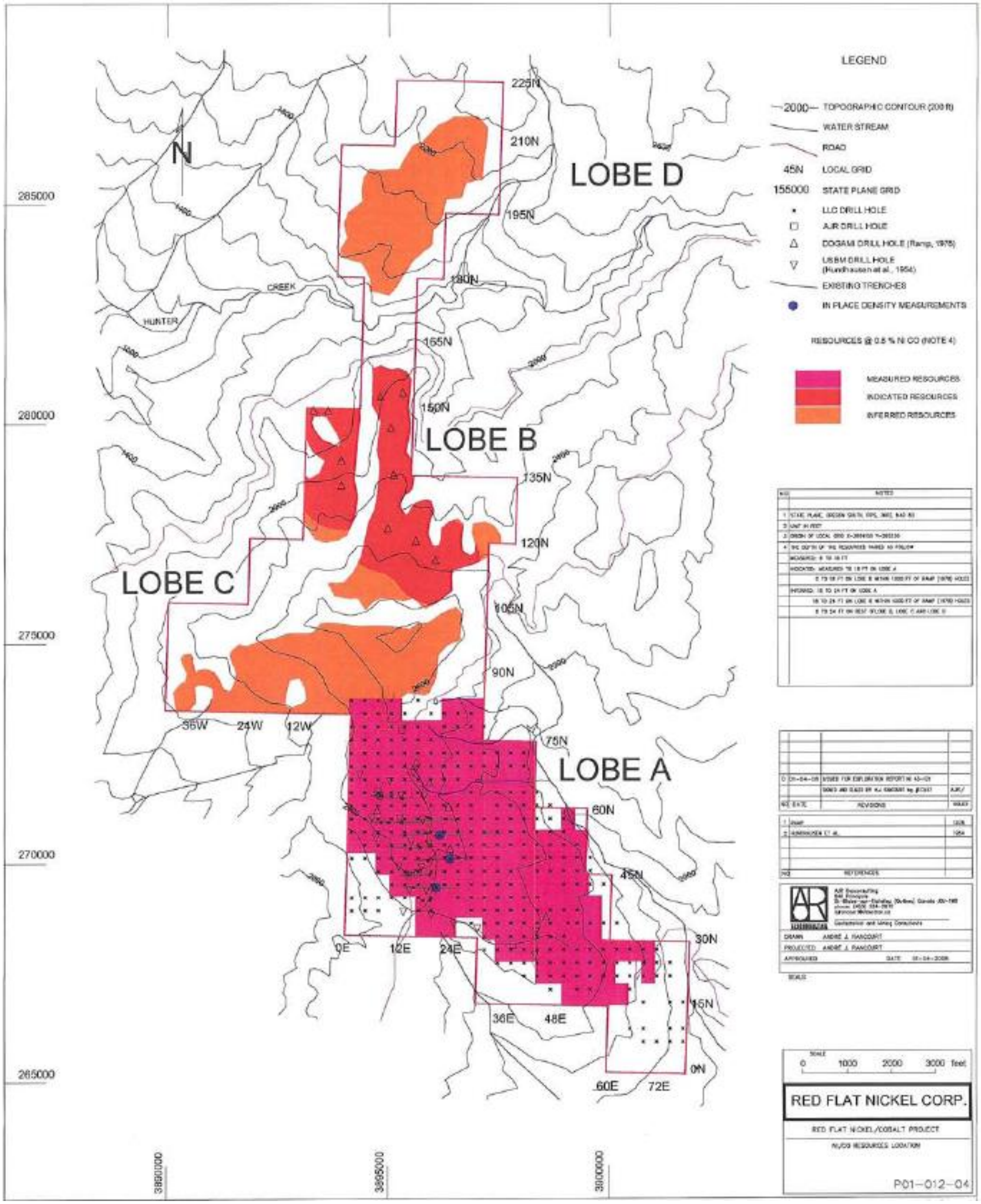

Figure 6-1. Location of historical drilling and trenches, the 4 laterite “Lobes”, and distribution and categorization of the 2009 historical mineral resource estimate, within the Red Flat Ni-Co Property (Rancourt, 2009).

Table 6-3. Summary of historical drill hole locations and assay composites (5 ft or 1.5 m) from 1954 USBM.

Coordinates[1] X (ft)	Coordinates[1] Y (ft)	USBM Drill hole no.	Sample composite thickness (from surface) using 0.5% Ni cut-off (ft)	Ni (%)
3894779.8	271563.859	1	30	0.58
3895314.14	271547.79	2	35	0.54
3895287.15	271014.027	3	60	0.71
3895812.61	270994.823	4	50	0.73
3895838.82	271527.408	5	30	0.52
3894659.08	271038.292	6	30	0.57
3895540.65	270482.939	7	45	0.88
3895943.35	270446.087	8	0	0.41
3895255.87	269929.359	9	20	1.04
3895767.58	269910.375	10	30	0.96
3894742.95	270585.397	11	50	0.76
3895498.12	269384.289	12	15	0.81
3895882.77	269390.019	13	35	0.75
3895994.63	268821.297	15	15	1.15
3895603.65	272072.747	16	5	0.92
3895061.05	271880.496	17	30	0.79
3896501.19	268607.897	18	10	0.51
3897037.61	268504.138	19	0	0.41
3898344.19	267880.991	20	25	0.95
3898373.1	268435.448	21	20	0.51
3895363.03	268899.699	22	0	0.25
3894387.89	272025.6	23	30	1.22

1 State Plane, Oregon South, FIPS, 3602, NAD 1983

6.5 Historical Mineral Processing and Metallurgical Testing

The following historical mineral processing and metallurgical testing has not been independently verified by the Principal Author or any QP associated with the Issuer and as such should not be relied upon and treated as current test work.

In 1954, USBM reported on metallurgical smelting tests (Hundhausen et al., 1954) on more than 14.5 tons of dry material collected from drill holes and trenches (Rancourt, 2009). The tests were completed using a continuous smelting 3-phase furnace unit. Table 6-4 provides the characteristics of the four samples sent to the smelting research facility (Rancourt, 2009). In addition to the smelting tests, the USBM completed petrographic and spectrographic analysis of composite samples.

Table 6-4. Characteristics of the four samples sent to the 3-phase furnace unit for smelting tests.

Load	Drill hole area	Earthy material			Rock material		
		Dry Weight (pound)	Ni (%)	Fe (%)	Dry Weight (pound)	Ni (%)	Fe (%)
1	15 and 16	5,861	0.68	42.0	533.3	0.39	14.6
2	15	8,071	0.86	31.3	1,022.4	0.67	10.0
3	16	8,714	0.78	17.4	770.3	0.72	9.3
4	23	6,415	0.84	25.1	1,416.0	0.98	13.1

6.6 Historical Mineral Resource Estimate (2009)

In 2009, AJR Geoconsulting Inc. prepared a mineral resource estimate for the nickel laterite mineralization on the Red Flat Ni-Co Deposit, located on the Red Flat Property (Rancourt, 2009). The 2009 historical mineral resource estimate is detailed in the report titled, "Evaluation of the Red Flat Ni/Co Property Mining Potential, Curry County, Oregon, U.S.A., NI 43-101 Technical Report", with a date of November 2009, and prepared by Geological Engineer Andre J. Rancourt (P.Eng., Quebec #112457) of AJR Geoconsulting Inc. for Red Flat Nickel Corp.

The 2009 mineral resource estimate was completed in accordance with NI 43-101 and following the CIM Definition Standards for Mineral Resources & Mineral Reserves (CIM, 2005).

A qualified person has not done sufficient work to classify the historical estimates as current mineral resources or mineral reserves. Other than the review by the Principal Author, the Issuer has not conducted any work to establish the relevance and reliability of the 2009 historical resource estimate and as such is not treating the historical mineral resource estimate as current mineral resources.

The 2009 historical mineral resource estimate covers lobe A, lobe B, lobe C and lobe D but the measured resource category is limited to lobe A. Data used in the resource estimate came from the 2007 and 2008 auger testing programs, the 2008 sonic drilling program, the 2009 mechanical trenching and also from historical validated drilling data from USBM and DOGAMI. Two cut-offs, 0.7 and 0.8% Ni, (selected to obtain an average grade as close as possible to 1.0% Ni) were used to report resource estimates.

While data analysis indicates cobalt, chrome and iron as potential sub-product, this historical mineral resource estimate does not include these elements (Rancourt, 2009).

6.6.1 Estimation Methodology

Data from the 2008 sonic drilling and the 2009 trenching show corestone and bedrock mineralization and as such the mineral resource estimate is divided into soil and rock material.

As a first step, the resource volume was calculated. The total volume was divided into two parts, the rock volume and the soil volume. In some areas, the rock material is not mineralised and was not included in the resource. In other areas, where there were nickel-rich rocks, the rock material was included in the resource.

The two volumes were then converted into tons by multiplying the weighed dry density average of 0.75 g/cubic cm (50 lbs/cubic ft.) for soils and 2.5 g/cubic cm (150 lbs/cubic ft.) for rock. Density measurements were done on limonite/saprolite clay samples and on rock samples (Rancourt, 2009).

Twenty percent of the rock volume is mineralized, and the other 20% is considered waste material because it has less the 0.5% Ni. The nickel grade of the rock fraction is assumed to be the same as that of the soil fraction. In other words, when the soil grade is below cut-off, the rock grade will also be below cut-off.

The nickel grade of the soil fraction was calculated using the geostatistical Kriging Method. A block pattern of 300 ft by 300 ft (91 x 91 m) was defined over the entire Property. The 300 ft x 300 ft (91 x 91 m) block size was chosen to fit the claim (600 x 1,500 ft or 183 x 457 m) fraction and to ensure that there was at least 1 hole in each block. It was also chosen because this spacing is well under the variogram range of 1,300 ft (396 m).

All boreholes were used for the block estimate of Ni grade. Statistical analysis of the data includes frequency distribution analysis and variogram definition. Kriging was used to define the nickel grade of each block. The depth of the block was set at 8 feet.

Table 6-5 provides the statistical parameters for the 473 of 670 auger hole performed by LLR which is included in the historical mineral resource. Table 6-6 shows the average auger hole depth and mineral grade for two different cut-offs.

Table 6-5. Statistical information of auger hole population using a 0.5% Ni cut-off resource (n=473).

Parameter	Average	Standard deviation	Minimum	Maximum
Ni (%)	0.82	0.23	0.50	1.60
Co (%)	0.06	0.03	0.02	0.27
Cr (%)	0.95	0.41	0.25	2.72
Fe (%)	23.99	7.99	6.97	50.00
Mg (%)	9.26	4.09	0.57	19.80
Borehole depth (ft)	9.30	3.29	3.00	21.00

Table 6-6. Auger holes soil sample average value for the nickel cut-off grades.

Cut-Off	Average depth	Ni (%)	Co (%)	Cr (%)	Fe (%)	Mg (%)	nb. of sample
0.7	9.68	0.94	0.07	1.05	26.39	8.28	307
0.8	10.68	1.03	0.07	1.10	27.68	7.90	236

6.6.2 Resource Categorization

Classification of the November 2009 historical mineral resources was based on the ranges observed in the variogram models and the number of drill hole composites that went into estimating the blocks. Mineral resource classification followed the definition standards of CIM (2005).

Measured Resources were calculated using the half distance method - the limit of the zone of influence for each hole or trench was set at half distance between holes or trenches. Measured Resources were divided in blocks with a minimum of one sonic drill hole or one trench. The depth of the blocks varies according with the isocontours model, determined using USBM, sonic drill and trench information. The nickel grade for the soil fraction was based on results from USBM, DOGAMI, auger drilling, sonic drilling and trenching. The nickel grade for the rock fraction was estimated using the results from the sonic drill holes and the trenches.

Indicated and the Inferred resources were calculated using a geostatistical model and block kriging estimates. For the Indicated and Inferred resources, the rock percentage and the rock mineralization were assumed based on the results from the measured resource. Hence, 40% of the volume of the indicated and inferred resource was assumed to be composed of rock and the total resource volume was divided into three types of material: soil, waste rock and resource rock.

Inferred Resources were based on the hypothesis that nickel mineralization occurs at depths down to 16 feet. This hypothesis is supported by the drilling, mapping and smelting work of Ramp (1978) and Hundhausen et al. (1954).

6.6.3 Historical Mineral Resource Statement (2009)

Table 6-7 and Table 6-8 present the historical mineral resource estimate at two different %Ni cut-offs and Figure 6-1 shows the distribution of the categorized mineral resources. The block kriging average grade in Table 6-7 and Table 6-8 differs from the borehole results in Table 6-6 due to the weighting effect of kriging in a 2D plane space, which depends on borehole locations and Ni grades of the extrapolated blocks (Rancourt, 2009). The 2009 historical mineral resource estimate does not consider contributions from other metals like cobalt.

Table 6-7. Summary of the 2009 historical mineral resource estimation, Red Flat Ni Deposit (0.7% Ni cut-off).

Category	Type	US Tons (1,000s)	Ni (%)	Ni (pounds)*
Measured	Soil	1,710	0.91%	31,122,000
Measured	Rock	2,277	1.05%	47,817,000
Measured Total:	**S+R**	**3,987**	**0.99%**	**78,939,000**
Indicated	Soil	3,218	0.81%	52,131,600
Indicated	Rock	3,218	0.81%	52,131,600
Indicated Total:	**S+R**	**6,436**	**0.81%**	**104,263,200**
Measured + Indicated	Soil	4,928	0.84%	83,253,600
Measured + Indicated	Rock	5,495	0.91%	99,948,600
Meas. + Ind. Total:	**S+R**	**10,423**	**0.88%**	**183,202,200**
Inferred	Soil	4,169	0.80%	66,704,000
Inferred	Rock	4,169	0.80%	66,704,000
Inferred Total:	**S+R**	**8,338**	**0.80%**	**133,408,000**

*assumes 100% nickel recovery (contained metal).

Table 6-8. Summary of the 2009 historical mineral resource estimation, Red Flat Ni Deposit (0.8% Ni cut-off).

Category	Type	US Tons (1,000s)	Ni (%)	Ni (pounds)*
Measured	Soil	1,700	0.91%	30,940,000
Measured	Rock	2,007	1.10%	44,154,000
Measured Total:	**S+R**	**3,707**	**1.01%**	**75,094,000**
Indicated	Soil	1,684	0.88%	29,638,400
Indicated	Rock	1,684	0.88%	29,638,400
Indicated Total:	**S+R**	**3,368**	**0.88%**	**59,276,800**
Measured + Indicated	Soil	3,384	0.90%	60,578,400
Measured + Indicated	Rock	3,691	1.00%	73,792,400
Meas. + Ind. Total:	**S+R**	**7,075**	**0.95%**	**134,370,800**
Inferred	Soil	1,728	0.88%	30,412,800
Inferred	Rock	1,728	0.88%	30,412,800
Inferred Total:	**S+R**	**3,456**	**0.88%**	**60,825,600**

*assumes 100% nickel recovery (contained metal).

Mineral resources are not mineral reserves, they do not have demonstrated economic viability, and there is no certainty that all or part of an estimated mineral resource can be converted to mineral reserves.

A qualified person has not done sufficient work to classify the 2009 historical estimate (see Table 6-7 and Table 6-8) as current mineral resources or mineral reserves. Other than the review by the Principal Author, the Issuer has not conducted any work to establish the relevance and reliability of the 2009 historical resource estimate and as such is not treating the historical mineral resource estimate as current mineral resources.

6.7 Historical Production

There is no known historical production on the Red Flat Ni-Co Property.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The Property is located on the Northern Coast Range mountains physiographic terrane, composed mostly of sedimentary rocks of Mesozoic Age from the Dothan Point Formation and some ultramafic and gabbroic intrusions of Jurassic age (Figure 7-1).

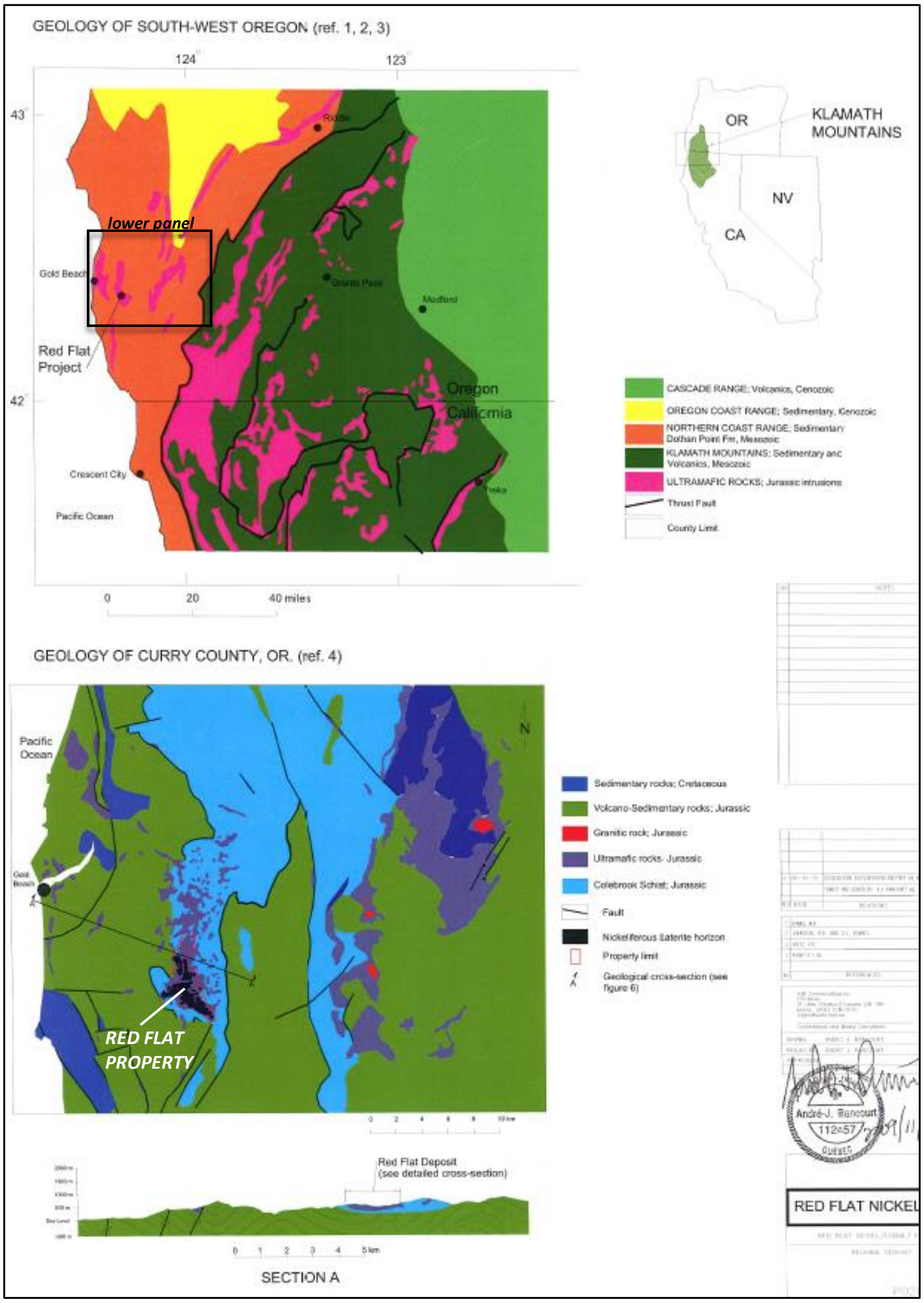

Figure 7-1. Regional geology of the southwest region of Oregon (upper panel) and Curry County (lower panel), and the location of the Red Flat Ni-Co Property (Rancourt, 2009).

The ultramafic rocks and the Colebrook schist form thrust plates in unconformity with the younger Dothan Point volcano-sedimentary rocks. To the east, the Northern Coastal Range contacts the older volcanics of the Pre-Nevadan Klamath Mountains and to the north, it contacts the younger sedimentary rocks of the Oregon Coast Range (*e.g.*, Walker and King, 1969; Ramp et al., 1977; Irwin; 1997; Johnson and Raines, 2001).

The area is mostly covered by Jurassic ultramafic bedrock and minor volcano-sedimentary rocks of the Dothan Point Formation and Colebrook schists. Also, a few of the youngest Cretaceous sedimentary rocks are present in the area. The ultramafic rocks found on the Property are forming a thin erosional remnant of a thrust sheet together with a thin sheet of Colebrook schist overlying unconformably on the Dothan Point Formation (Ramp, 1978, Hotz, 1964). The area is intruded with diabase dikes and faulted with high angle fault zones (*see* Figure 7-1).

7.1.1 Metal Mines in Oregon

At present there are no hard rock metal mines in production in Oregon. The Nickel Mountain laterite deposit, located 60 miles north of the Property, was in production between 1954 and 1976, and produced 39 million tons of ore with reported smelter feed grading of 1.0% to 1.5% Ni. The area also contains other nickel laterites which are described in Ramp (1978) and documented by Ferns and Huber (1984).

The Cleopatra nickel laterite deposit in Curry County, about 50 miles (80 km) southeast of the Red Flat Property is also being acquired by the Issuer Spruce Ridge.

There are gold placer operations, northeast of the Red Flat Property along the Rogue River (Rancourt, 2009).

7.2 Property Geology and Mineralization

The Property is covered by ultramafic rocks and the Colebrook schist formations. They form a thrust plate lying in unconformity on the younger volcano-sedimentary Dothan Point Formation (Figure 7-2). The ultramafic rocks which comprise the Red Flat Deposit are mainly composed of serpentinized peridotite (harzburgite and dunite) and pyroxenite and show typical olivine alteration to bowlingite (an obsolete name for saponite, a mixture of smectite, quartz, chlorite, serpentine, and talc). Magnetite, hematite, zircon and rutile were also observed. Some quartz is present in small veins associated with fibrous talc (Rancourt, 2009).

Figure 7-3, Figure 7-4, Figure 7-5, and Figure 7-6, respectively illustrate examples of corestone cover, bedrock outcrop and trenches made by the USBM (Hundhausen et al., 1954).

7.2.1 Mineralization

The mineralized horizon is a lateritic weathering profile formed by the prolonged weathering of the ultramafic rocks in sub-tropical climates. The laterite zones are divided into four distinct areas: Lobe A - 500 acres (202.4 ha) located to the southeast; Lobe B - 250 acres (101.2 ha) to the north; Lobe C extending another 200 acres (80.9 ha) to the west; and Lobe D - located some 2,500 ft (762 m) north of Lobe B and covering 154 acres (62.3 ha).

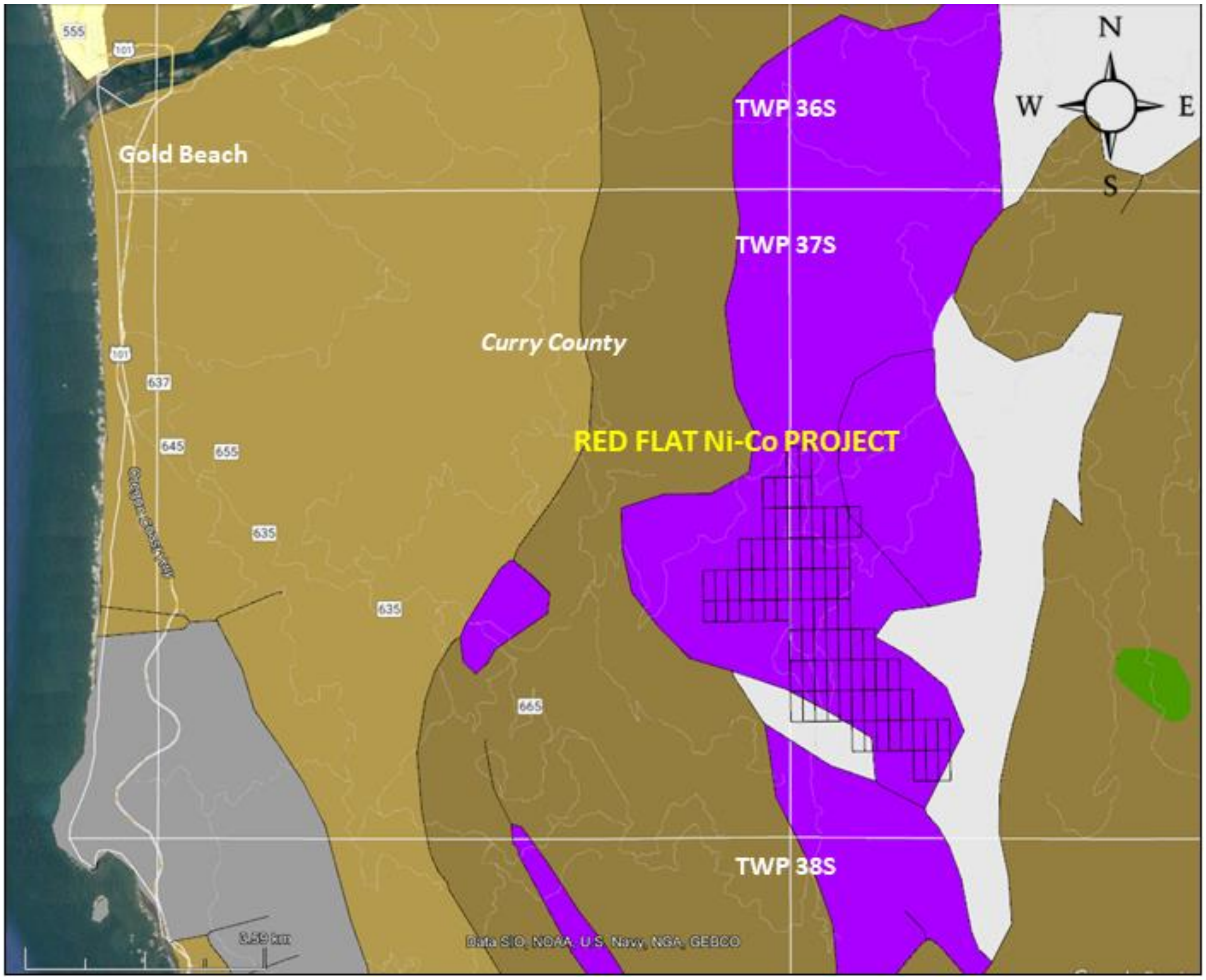

Figure 7-2. Generalized geology of the Red Flat Ni-Co Property mining claims. Purple = ophiolitic ultramafic rocks; Brown/Grey = sedimentary rocks; Green = volcanic rocks (geological base map from Government of Oregon, 2023).

On Lobe A, the mineralized zone shows an average thickness of 28.3 ft (8.6 m) with an average of 0.77% Ni. The average grade for the first 10.7 ft (3.3 m) of laterite is 1.2% Ni. The deepest borehole reached 60 ft (18.3 m) with a grade of 0.7% Ni. On Lobe B and C, the mineralized zone reached a depth ranging from 3.3 to 13 ft (0.9-4.0 m), with an average grade of 0.71% Ni and 0.09% Co (Ramp, 1978; Rancourt 2009).

The lateritic surface layer contains elevated nickel-cobalt which follows the ground surface (Ramp, 1978) and has been intersected by drilling to a maximum depth of 40 ft (12.19 m); indications suggest it may reach a depth of as much as 50 ft (15.24 m) (Hundhausen et al., 1954). Nickel grade increases with depth and mineralization is especially continuous in the horizontal plane (Rancourt, 2009).

Mineralization occurs in two fractions, the soil fraction and the rock fraction. For the soil fraction, the mineralized zone is usually composed of residual goethitic limonite covering altered peridotite layers (saprolite) with iron oxide veins.

The mineralogy of the laterites at Nickel Mountain (Oregon) was studied by Pecora and Hobbs (1942) and Hotz (1964). Montmorillonite (smectite group), chlorite and talc constitute the clay fraction. Nickel also occurs in nontronite, a ferric iron member of the montmorillonite series (Hotz, 1964; Ramp, 1978).

Mineralogical studies by Gleeson et al. (2004), for the Cerro Matoso deposit in Colombia, found that nickel occurred in phyllo-silicates like pimelite (nickeliferous talc), nimite (nickeliferous chlorite), sepiolite and nickeliferous smectites (Rancourt, 2009).

Garnierite Group minerals with nickel silicate were reported from the trenches (Rancourt, 2009). Garnierite results from the alteration of olivine-rich rock to a clay-like mineral that can be poor to rich in nickel which is reflected by the green colouration of the garnierite. Very pale green coloured garnierite is poor in nickel whereas light green to bright green garnierite is enriched in nickel. The nickel-rich garnierite observed on the Property typically results from the groundwater leaching of manganese oxide, magnesium, nickel and iron from the original garnierite. On the Property, garnierite is commonly found as thin veinlets millimetres to centimetres thick or as fracture fillings.

In the trenches and within the rock fraction where nickel is concentrated in thin garnierite-bearing fracture fillings - a chip sample of garnierite from 2009 field work assayed 4.3% Ni - and in saprolite corestone blocks (Rancourt, 2009).

Garnierite, was previously found in the serpentinized bedrock on the Property by Hundhausen et al. (1954), and in two of the four trenches excavated in 2009 by Red Flat Nickel. Garnierite appears to be present when the concentration of nickel in the soil exceeds 1.0% Ni (Rancourt, 2009).

The cumulative frequency of nickel grades reflects three types of mineralization (Rancourt, 2009). The first type is from 0.0 to 0.4 Ni% and represents the non-mineralized zone; the second is the first mineralized zone from 0.4 to about 1.0% Ni; and the third type is the high-grade mineralized zone above 1.0% Ni (Rancourt, 2009).

Figure 7-3.Typical cornerstone distribution on the Property (Rancourt, 2009).

Figure 7-4. Ultramafic bedrock outcropping in Lobe A (Rancourt, 2009).

Figure 7-5. Typical exploration trench completed by the USBM (Rancourt, 2009).

Figure 7-6. Typical exploration trench (filled partly by water) completed by the USBM (Rancourt, 2009).

8.0 DEPOSIT TYPES

Concentration of nickel and cobalt on the Red Flat Ni-Co Property is derived from the surface alteration of olivine-rich ultramafic rocks, referred to as nickel laterites. The nickel laterites can be classified on the basis of ore mineralogy as clay silicate deposits and potentially oxide deposits (Rancourt, 2009). The primary ultramafic rocks average 0.2 to 0.4% Ni.

The laterites found on the Property are remnants of an old upland surface and according to Irwin (1997), the weathering has taken place during the Pleistocene and/or the Pliocene. A typical laterite profile is presented in Table 8-1.

Laterites are formed by weathering of the serpentinized peridotites generally in humid savanna climates with poor drainage and associated with dry climates and semi-arid environments. During weathering, nickel is concentrated in place, while more soluble elements such as magnesium, calcium and silica are dissolved and leached rapidly. Nickel accumulates in the form of nickel-silicate veins or becomes enriched in the insoluble residue of silica, nickel hydrosilicates, and oxides of magnesium and iron. Similar Oregon laterite nickel deposits have been described by Pecora and Hobbs, (1942) and by Hotz, (1964).

Table 8-1. Typical laterite profile (adapted from Golightly, 2005).

Unit	Mineralogy	Structure
Landslide	Mixed of cover, corestones, limonite and saprolite	Slide and slumping accumulation of mixed structures
Cover	Goethite + Kaolinite ± Hematite ± Gibbsite + Quartz	Granular iron pebbles (kanga) with peridotite boulders (30 – 60 %) at surface, limonitic matrix
Limonite	Goethite ± Mn, Co oxides ± Gibbsite ± Quartz	Porous clayed limonite, some sand, some relict bedrock corestones
Upper Saprolite	Ni in serpentine + Mn, Co oxides + Quartz	Fe rich Mg poor Saprolite crusts surround Ni enriched saprolite corestones
Lower Saprolite	Ni in serpentine + Goethite	Fe poor Mg rich Saprolite crusts surround peridotite corestones
Bedrock	Forsteritic Olivine and Serpentine (± pyroxenes ± talc)	Joint blocks, serpentinite breccia

9.0 EXPLORATION

From 2007 to 2009, Red Flat Nickel Corp. (now Homeland Nickel) completed exploration work that focused on the Red Flat Ni-Co Deposit and the four main lobes of nickel mineralization – Lobes A, B, C, and D (Figure 9-1). The work consisted of four mechanically excavated trenches, sonic drilling on Lobe A, refractive seismology on lobes A and B, 670 auger holes covering 770 acres (312 ha) and testing on Lobe C, and drilling on Lobe A and Lobe B. A total of 1,564 samples were submitted for assay (Rancourt, 2009).

Table 9-1 provides a summary of the exploration work completed on the Red Flat Property by Red Flat Nickel Corp. (now Homeland Nickel) and Figure 9-1 shows the location of the exploration work (Rancourt, 2009). All the sampling and drilling was carried out under the direct supervision of LLR, a professional geological firm that was based in Selma, Oregon (Rancourt, 2009).

There has been no known exploration work performed on the Property since 2009 (Rancourt, 2009) and there is currently no exploration work being carried out on the Property.

Table 9-1. Summary of exploration work completed by Red Flat Nickel Corp. (now Homeland Nickel), 2007 to 2009.

Period	Dates	Description
2007-2008	13 Sept. 2007 - 4 Jan. 2008	Auger drilling: 275 holes totalling 2,483 ft (757 m)
2008	10-25 Sept.	Sonic drilling: 11 holes totalling 930 ft (284 m)
		Auger drilling: 395 holes totalling 3,117 ft (950 m)
2008	13 Oct. – 24 Nov.	Seismic Refraction: 9 lines totalling 13,570 ft (4,136 m)
2009	-	Geological mapping over Property
2009	10-15 Aug.	Trenching: four trenches; 8-21 ft (2.4-6.4 m) avg. depth; 54 samples

9.1 Geological Mapping and Sampling

RFN completed geological mapping of the Property based on the results of the drilling and distribution of nickel concentration (Rancourt, 2009).

9.2 Geophysics (2008)

The 2008, the exploration program conducted by RFN included nine (9) seismic refraction geophysics lines for a total length of 13,570 ft (4,136 m). Data acquisition was performed between 13 October and 24 November 2008. The objective of the seismic refraction survey was primarily to validate the use of the method on this type of deposit and furthermore and to identify the depth of the mineralization. Geophysics were used because seismic acoustic wave velocity can be correlated to the rock nature and the rock quality. The wave velocity is well correlated with the bedrock quality. For to the Red Flat deposit, the clay fraction on the top shows a lower acoustic wave velocity and the bedrock underneath presents a greater acoustic wave velocity (Rancourt, 2009).

The sonic drill hole logs were also plotted on the seismic lines to see if a correlation could be interpreted for the limonite/saprolite interface and the interpreted interface saprolite/bedrock with a seismic velocity. It was concluded that a correlation exists between the thickness of the soil layer and the wave velocity interpreted from the testing. AJR also tried to correlate the interface corresponding to a 0.6% Ni cut-off with the seismic velocity, but in this case, there was no correlation (Rancourt, 2009).

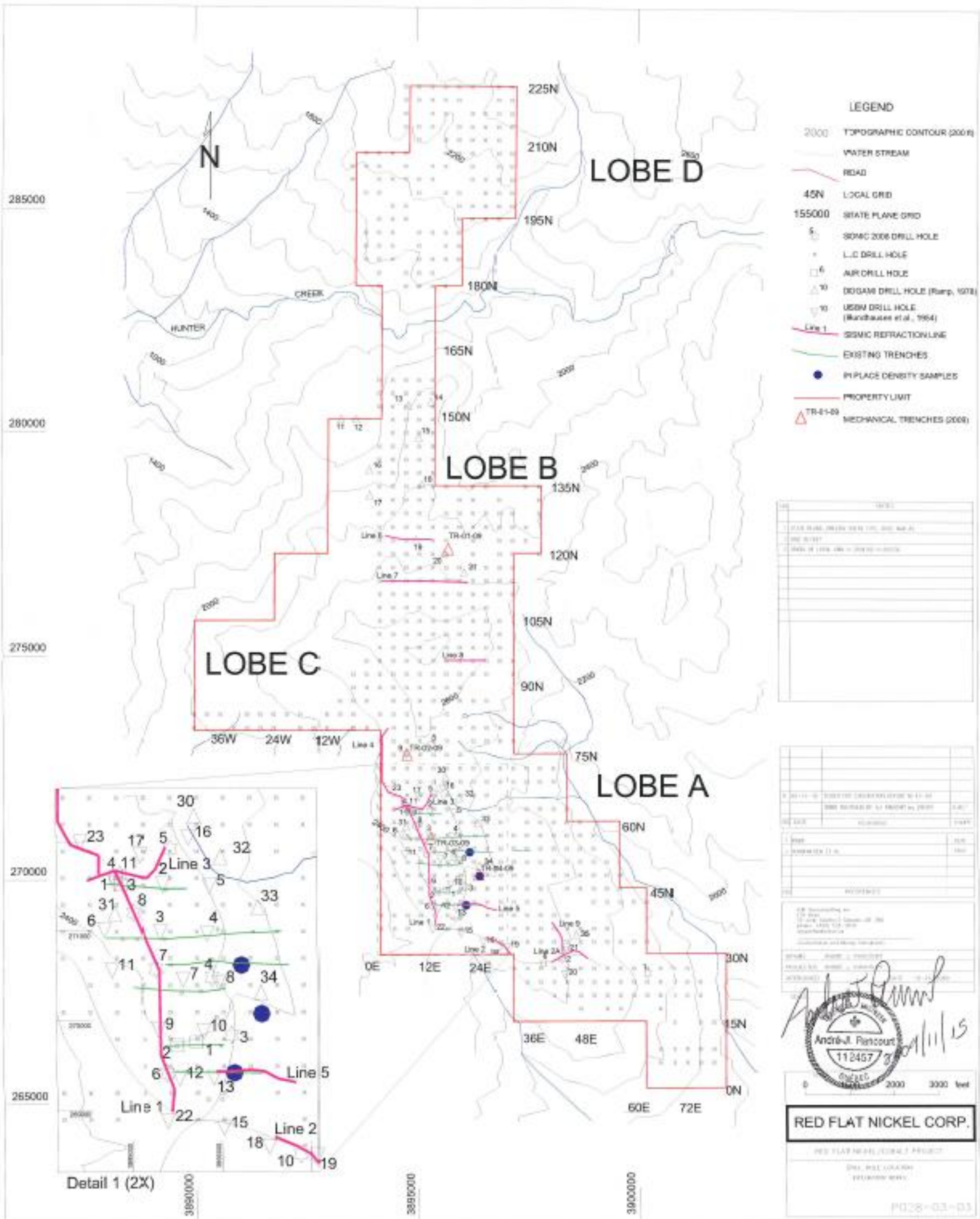

Figure 9-1. Outline of the Red Flat Ni-Co Property with the location of current and historical exploration work and the location of the four main lobes (A, B, C, and D) of nickel-cobalt laterite mineralization (Rancourt, 2009).

9.3 Trenching (2009)

In August 2009, RFN completed four (4) trenches that were mechanically excavated using a Hitachi 160LC excavator with trench depths ranging from 8 to 21 feet (2.4-6.4 m) (Rancourt, 2009). The objective of large mechanically excavated trenches was to obtain information about the proportion of corestones within the Property and the mineralogy of the corestones. The trenching was also used to acquire large samples for mineralogical and metallurgical testing.

The mechanical trenching allowed for the visualisation of the nickel laterite material, the evaluation of the corestone content, and the sampling of the clay and corestone fractions. Of the four (4) trenches, three (3) were located on Lobe A and one was located on Lobe B (*see* Figure 9-1).

The trenches do not follow a defined grid, they were located using available access. In some trenches, the corestone is mineralized with grades similar to those of the soil and in other cases the corestone shows only background nickel grades. Mineralized corestone was sampled from all four trenches and samples were also taken from the corestone rind, the rusty coating surrounding the rock.

A total of 54 samples taken from the trenches, from which numerous chemical assays were conducted, eight (8) samples were taken for soils density analysis and four (4) large samples (>100 lbs or >45.4 kg) were taken for mineralogical and metallurgical testing. The trenching and sampling were carried out under the direct supervision of LLR. Table 9-2 provides a summary of the results from sampling of the four (4) trenches and the locations of the trenches are in Figure 9-1.

9.3.1 Sampling Methods – Trenching

Samples from mechanical trenching were taken along a vertical channel on the side of the trench. The objective was to sample every vertical foot, but some deeper samples were spaced larger than a one foot due to trench stability and safety issues. At those greater depths, the sample was taken using the excavator bucket.

Samples of approximately 1 cubic foot were also collected for soils density measurement. Those samples weighed approximately 70 lbs (31.8 kg). Also, fist size rock samples were collected for density measurements.

Four composite samples weighing 100 to 280 lbs (45.4 to 127.0 kg), depending on the depth of the trench, were taken and sent for mineralogical and metallurgical testing at SGS laboratory in Lakefield, Ontario, Canada. The composites were obtained by blending around 10 lbs (4.5 kg) of material per vertical foot of trench.

9.4 Density Sampling

Nine (9) in-place samples of approximately 1 cubic foot were collected for soils density measurement, each sample weighing approximately 70 lbs (31.8 kg) (Rancourt, 2009). In addition, 12 fist-size rock samples were collected for density measurements (Rancourt, 2009).

Table 9-2. Summary of 2009 trenching results for soil, corestone and rind samples (Rancourt, 2009).

	Trench no.															
	1				2				3				4			
Sample Type	Depth (ft)	Ni (%)	Fe/Mg	Soil type[1]	Depth (ft)	Ni (%)	Fe/Mg	Soil type[1]	Depth (ft)	Ni (%)	Fe/Mg	Soil type[1]	Depth (ft)	Ni (%)	Fe/Mg	Soil type[1]
Soil	1	0.795	10.91	L	1	0.95	3.84	S	1	0.27	9.57	S	1	1.03	78.13	L
	2	1.26	20.10	L	2	0.78	0.73	S	2	0.745	42.57	L	2	1.25	8.81	S
	3	1.23	7.52	S	3	0.85	0.71	S	3	0.815	52.07	L	3	1.57	3.97	S
	4	1.15	2.52	S	4	0.46	1.15	S	4	0.821	41.40	L	4	1.75	4.18	S
	5	1.06	2.08	S	5	0.61	0.61	S	5	0.71	19.28	L	5	1.32	1.76	S
	6	1.08	2.60	S	6	0.52	0.54	S	6	0.782	18.43	L	6	1.66	4.10	S
	7	1.14	1.95	S	7	0.29	0.52	S	7	1.01	21.17	L	7	1.48	1.82	S
	8	0.917	0.86	S	8	0.28	0.51	S	8	0.765	6.90	S	11	0.39	0.23	S
	12	0.629	0.62	S					9	0.736	5.64	S				
									10	0.882	7.14	S				
									11	0.919	7.24	S				
									12	1.02	6.28	S				
									13	1.01	6.40177	S				
									14	0.979	4.32432	S				
									15	1.02	3.54286	S				
									21	1.44	7.06215	S				
Average Soil Ni (%)		1.029				0.69				0.87				1.44		
Corestone																
Corestone percentage		55%				80%				35%				30%		
		0.276				0.29				0.821				1.38		
	6	0.2			4	0.69			15	1.01			3	0.89		
	8	0.792			6	0.57							5	1.86		
	15	0.262			10	0.39							6	1.24		
													9	1.47		
													9A	1.53		
Average CorestoneNi (%)		0.38				0.48				0.916				1.39		
Rind																
		0.776			2	0.4			2	0.401				1.58		
					6	0.45			12	1.65						
									15A	1.09						
Weighted average Ni (%) (Soil and corestone)		**0.673**				**0.52**				**0.888**				**1.43**		

9.5 Verification Sampling

9.5.1 Verification Sampling (2007)

In 2007, AJR Geoconsulting Inc. (AJR) sampled six (6) additional verification holes, stretched along a northwest-southeast line covering a distance of about 6,000 ft (1,829 m). Table 9-3 shows the space correlation interpretation of some verification holes in the vicinity of existing LLR holes. In general, results from AJR are in close agreement with results obtained from LLR and demonstrates the strong continuity of the mineralized zones (Rancourt, 2009). Table 9-4 presents the interpretation of the verification holes results (Rancourt, 2009).

Table 9-3. Characteristics of the verification drill holes and samples taken by AJR (Rancourt, 2009).

Hole No.	Sample (ft)	Coordinates[1] East (ft)	Coordinates[1] North (ft)	Length (ft)
AJR-01	0 - 6	3895685	269765	7
	6 - 7			
AJR-02	0 – 6	3895468	269733	6
AJR-03	0 – 6	3894836	271528	9
	6 – 9			
AJR-04	0 – 6	3894790	271625	6
AJR-05	0 – 4	3895334	273020	4
AJR-06	0 – 6	3897849	268108	6

1 State Plane, Oregon South, FIPS, 3602, NAD 1983

Table 9-4. Interpretation of the verification hole sample results (Rancourt, 2009).

Verif. No.	Hole AJR	Coordinates[1] East (ft)	Coordinates[1] North (ft)	Hole LLR	Coordinates[1] East (ft)	Coordinates[1] North (ft)	Ni (%)	Remarks
1	**AJR-01**	3895685	269765				0.71	Verification hole located 36 ft away from checked hole
				45N-15E-6	3895695	269800	1.06	
2	**AJR-02**	3895468	269733				1.33	Verification hole located 12 ft away from checked hole
				TR-10A-6	3895466	269721	1.32	
3	**AJR-03**	3894836	271528				1.49	Verification hole located 11 ft away from checked hole
				TR-11A-6	3894847	271528	1.46	
4	**AJR-04**	3894790	271625				1.25	Verification hole located 25 ft away from checked hole
				63N-6E-06	3894795	271600	1.25	
5	**AJR-05**	3895334	273020				1.01	Verification hole locate 100 ft away from checked hole
				78N-12E-06	3895395	273100	1.39	
6	**AJR-06**	3897849	268108				0.47	Verification hole locate 121 ft away from checked hole
				27N-36E-6	3897795	268000	1.02	

1 State Plane, Oregon South, FIPS, 3602, NAD 1983

9.5.1.1 Laboratory Verification

In 2007, laboratory quality was verified by randomly selecting 10 previously assayed pulp samples, and re-assaying them using the Ni-ICP81 method (Table 9-5).

Table 9-5. Quality control assay results (Rancourt, 2009).

SAMPLE NO.	Ni-ICP81 Ni (%) AJR	ICP61 Ni (%) LLR	Diff. Ni (%)
75N-0E-6	0.90	0.87	0.03
69N-15E-6	1.41	1.44	0.03
45N-18E-11	1.36	1.35	0.01
51N-03E-6	0.86	0.88	0.02
63N-33E-9	0.58	0.57	0.01
39N-15E-12	1.11	1.06	0.05
42N-60E-6	0.55	0.53	0.02
45N-27E-6	1.83	1.71	0.12
TR-2B-16	0.58	0.58	0.04
48N-15E-9	1.23	1.19	0
Average	1.04	1.02	**0.03**

The ME-ICP61 method used by LLR, is a four-acid leach digestion process which provides a near total extraction. This method is the conventional low cost multielement package used in exploration geochemistry. The assay verifications were done by AJR using the Ni-ICP81 method which is a four-acid leach digestion combined with peroxide fusion suited for high grade samples and equivalent to the XRF method (Rancourt, 2009).

This quality control consists of re-assaying samples to check for reproducibility of results. Samples were selected at random. The average variability is ± 0.03 % Ni, which AJR considers to be low. The average nickel grade is 1.02% Ni for the LLR samples and 1.04% Ni for the check samples. This difference between these two is negligible. These results confirm the accuracy and reproducibility of the assays performed by ALS Chemex Laboratories (Rancourt, 2009).

9.5.2 Verification Sampling (2009)

In 2009, AJR performed complementary sampling in the trenches (Table 9-6). The sampling covered a range of saprolite alteration, from fresh to altered. In sample TR-03-09, some Garnierite Group minerals were sampled and returned assays of 4.26% Ni. The intensity of alteration does not appear to correlate well with nickel content.

Table 9-6. Characteristics of the trench samples taken by AJR in 2009 (Rancourt, 2009).

Trench No.	Sample no.	Coordinates[1]		Trench depth	Description
	Depth (ft)	East (ft)	North (ft)	(ft)	
1	6	3895685	269765	7	Altered corestone
	8				Altered corestone
	15				Fresh corestone
2	4	3895468	269733	6	Corestone
	6				Fresh corestone
	10				Corestone
3	2	3894836	271528	9	Rind
	15				Fresh corestone
	15A				Rind
	GAR				Garnierite grab sample
4	3	3894790	271625	6	Saprolite loose and porous
	5				Altered corestone
	6				Fresh corestone
	9				Altered corestone
	9A				Altered corestone

1 State Plane, Oregon South, FIPS, 3602, NAD 1983

9.5.3 Corestone Sample Verification (2009)

In 2009, AJR collected 15 corestone samples for mineralisation verification (Table 9-7).

Table 9-7. Corestone samples collected for mineralization check (Rancourt, 2009).

SAMPLE NO.	Ni (%)	Description
RF_AJR_1_6	0.20	Altered corestone
RF_AJR_1_8	0.79	Altered corestone
RF_AJR_1_15	0.26	Fresh corestone
RF_AJR_2_4	0.69	Corestone
RF_AJR_2_6	0.57	Fresh corestone
RF_AJR_2_10	0.39	Corestone
RF_AJR_3_2	0.40	Rind
RF_AJR_3_15	1.01	Fresh corestone
RF_AJR_3_15A	1.09	Rind
RF_AJR_3_GAR	4.26	Grab garnierite
RF_AJR_4_3	1.24	Saprolite loose and porous
RF_AJR_4_5	1.47	Altered corestone
RF_AJR_4_6	1.53	Fresh corestone
RF_AJR_4_9	0.89	Altered corestone
RF_AJR_4_9A	1.86	Altered corestone

A corestone is a rounded boulder, occurring individually or in piles at the ground surface, resulting from an initial phase of subsurface chemical weathering, of a joint-bounded block, followed or accompanied by surface erosion that exposes the corestone. The sampling medium consists of both the corestone, which can be variably altered, and the exfoliated corestone rind. The intensity of alteration does not appear to correlate well with nickel content. The nickel grade within corestone appears to be linked with the likely presence of Garnierite within fractures of rocks (Rancourt, 2009).

10.0 DRILLING

10.1 Auger Drilling

In 2007 and 2008, Red Flat Nickel Corp. (now Homeland Nickel) completed 676 auger holes, supervised by LLR (Rancourt, 2009). The drilling generally followed a 300 x 300 ft (91 x 91 m) grid. Hole depth varied from 3 to 24 ft (0.9-7.3 m) and totalled 5,638 ft (1,719 m) of drilling. The average hole depth, using a 0.5% nickel cut-off, was 9.3 ft (2.8 m) (Rancourt, 2009). Location of the auger drill holes is shown in Figure 9-1.

In 2007, the vertical auger drilling program consisted of 275 holes totalling 2,483 ft (757 m). The 2008 auger drilling was a continuation of the 2007 program with 395 holes completed 3,117 ft (950 m) (Rancourt, 2009). A summary of drilling completed in 2007-2008 is provided by Rancourt (2009).

Holes were drilled with two drills. The first was a 1.6 HP handheld auger drill that average 6.4 ft (1.95 m) in depth and reached a maximum depth of approximately 15 ft (4.6 m). The sconed was a 5.5 HP two-man auger drill that reaching a maximum depth of 24 ft (7.3 m). All holes were logged and carefully sampled by professional Oregon geologists. All drill holes were surveyed using a Trimble GeoExplorer XT which has a ±3 ft (0.91 m) accuracy (Rancourt, 2009).

Data from the 2007 and 2008 auger testing were used to define the limits of the deposit, quantify the grade and determine a minimum depth extension of the deposit. While auger testing is the most economical way to sample laterites as a first step, its sampling capacity is limited and it should be used in conjunction with other sampling techniques to allow a complete ore characterization. For example, augers do not sample or drill through corestones. Hence, the grade of the corestones is unknown and a refusal can result from contacting a corestone instead of bedrock, in which case, the cause of the refusal is unknown.

Variation of Ni, Co and Fe concentration with depth, as determined from 2007 auger drilling, is shown in Figure 10-1, Figure 10-2, and Figure 10-3, respectively. Apart from the apparent vertical sampling spacing effects (horizontal lines), Figure 10-1 shows that the Ni grade appears to increase with depth. Figure 10-2 is less instructive due to the lab accuracy detection of Co; however, higher Co values appear to be located around 5 ft to 15 ft (1.52 to 4.57 m). Figure 10-3 shows the decrease in Fe concentration with depth (Rancourt, 2009).

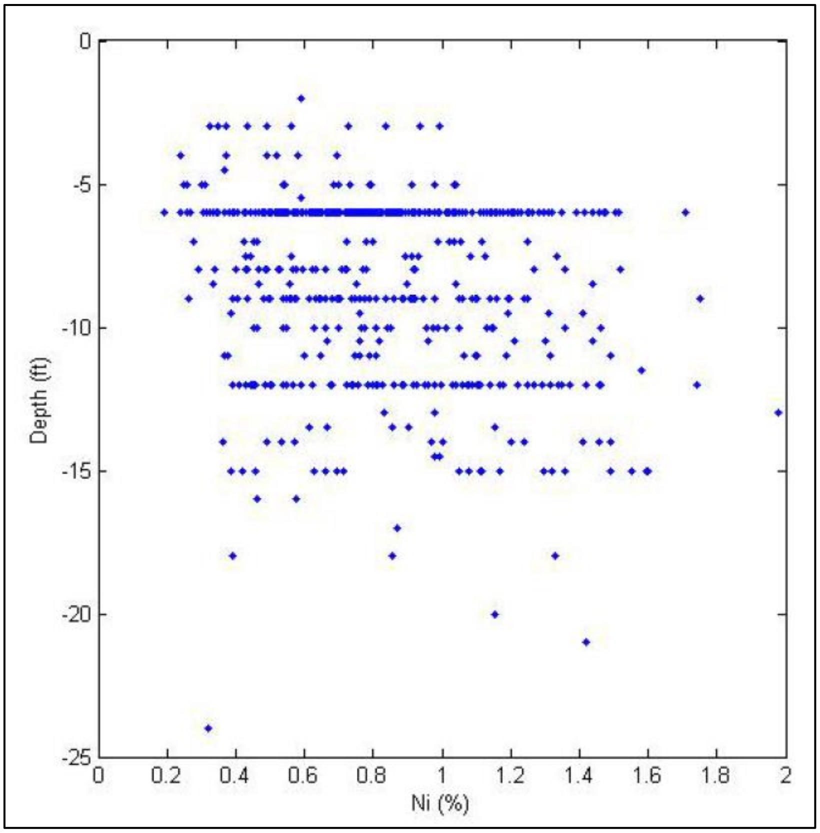

Figure 10-1. Variation of nickel (%) versus depth from auger drilling (Rancourt, 2009).

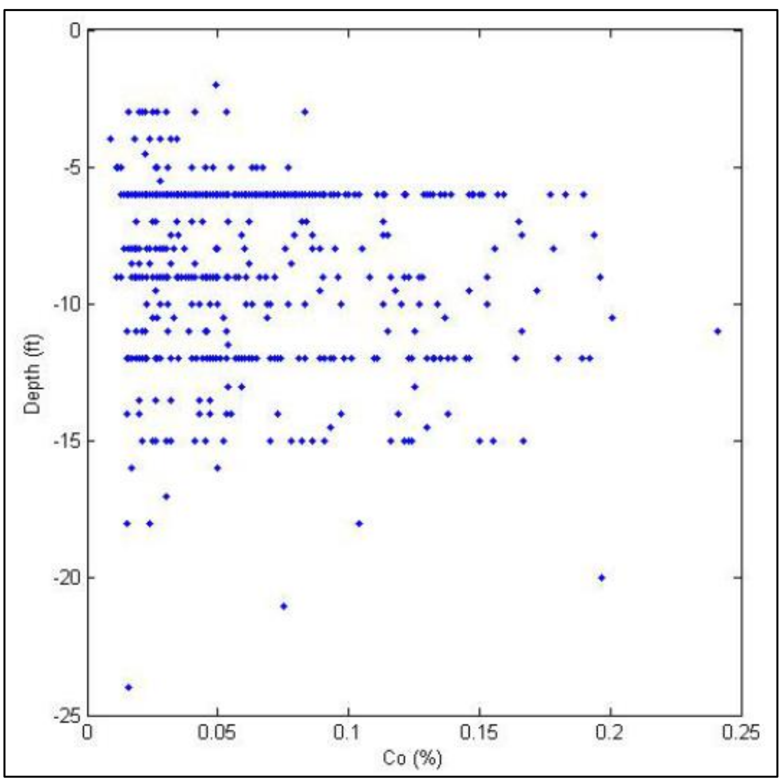

Figure 10-2. Variation of cobalt (%) versus depth from auger drilling (Rancourt, 2009).

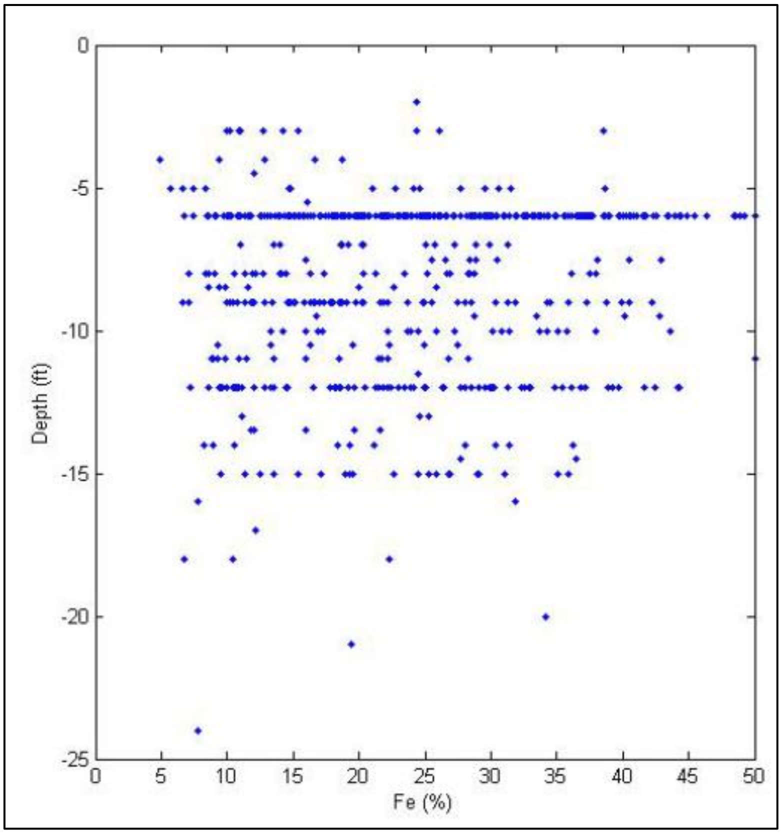

Figure 10-3. Variation of iron (%) versus depth from auger drilling (Rancourt, 2009).

10.1.1 Sampling Methods – Auger Drilling

The samples taken were to be representative of a maximum of 6 ft (1.8 m) drilling runs. Rods were carefully cleaned between each drill run. When early corestone refusal was encountered, several attempts were made in the near vicinity to achieve a deeper hole.

The auger drill sampling method has some advantages and some drawbacks:

- Advantages:
  - Auger drills are light and easy to handle;
  - Possibility to obtain hundreds of shallow holes rapidly; and
  - Can sample large areas.
- Drawbacks:
  - The recovery can be very low especially in saturated materials;
  - The method is ineffective to sample corestones in the saprolite zones; and
  - Is a shallow hole method.

With there are many benefits to using the auger, it under samples the corestones and surface bedrock (which have nickel rich oxide and silicate coating and veins).

10.2 Sonic Drilling

In 2008, the sonic drilling program, contracted to Boart Longyear using a 4" (10.2 cm) diameter hole. Sonic drilling focused on Lobe A and totalled 930 ft (284 m) in 11 separate holes (RFS-1 to RFS-11), achieving depths of 27 to 118 ft (8.2-36 m) and with an average depth of 77.5 ft (23.6 m) (*see* Figure 9-1). Sonic drilling allows for a continuous sample of all material—the soils, the corestones and the bedrock. Eleven sonic drill holes were located on Lobe A in the more prospective zone. A summary of the sonic drill hole parameters is provided in Table 10-4 and drill hole results are summarized in Table 10-5, along with the estimated percentage of rock and soil.

Table 10-4. Summary of sonic drill hole parameters completed in 2008.

Borehole	Grid N (ft)	Grid E (ft)	Hole Start	Hole End	Length (ft)	Length (m)
RFS-1	27+32	61+89	9-Sep-2008	9-Sep-2008	97	30
RFS-2	30+02	42+43	9-Sep-2008	9-Sep-2008	27	8
RFS-2A	30+08	42+46	9-Sep-2008	9-Sep-2008	22	7
RFS-3	45+67	19+99	24-Sep-2008	24-Sep-2008	118	36
RFS-4	52+03	17+61	12-Sep-2008	12-Sep-2008	106	32
RFS-5	66+25	12+54	13-Sep-2008	16-Sep-2008	117	36
RFS-6	41+20	12+84	25-Sep-2008	25-Sep-2008	77	23
RFS-7	52+77	11+30	18-Sep-2008	18-Sep-2008	77	23
RFS-8	58+98	8+65	17-Sep-2008	17-Sep-2008	92	28
RFS-9	74+99	6+07	16-Sep-2008	17-Sep-2008	117	36
RFS-10	32+40	28+09	10-Sep-2008	10-Sep-2008	53	16
RFS-11	63+21	6+96	23-Sep-2008	23-Sep-2008	27	8

The drill hole locations did not follow a defined grid. The locations were selected based on available access. Analysis of the corestone from the sonic drill holes confirms the presence of mineralization in the rocks (corestones) in the form of nickel-rich silicates (Garnierite Group) and validates data from USBM (Hundhausen et al., 1954). In some cases, the corestone is mineralized with a grade similar to that of the soil and in other cases the corestone shows only background nickel grades. It was possible to identify the base of the deposit in all 11 holes (Rancourt, 2009).

The average depth of the mineralized zone found in the holes (cut-off of 0.7% Ni) was 16 ft (4.9 m) and the deepest mineralization was found at 46 ft (14 m) deep in drill hole RFS-8 (Rancourt, 2009).

Table 10-5. Summary of assay results from sonic drill holes completed in 2008.

Hole no.	From (ft)	To (ft)	Length (ft)	Ni (%)	Type[1]	Composition soil (%)	rock (%)
1	0	4	4	0.6	S	100	0
1	4	8.5	4.5	0.12	R	0	100
1	8.5	15	6.5	0.7	S	75	25
1	15	17	2	0.36	S	75	25
1	17	23	6	0.47	S	75	25
1	23	25	2	0.34	S	100	0
1	25	27	2	0.12	R	0	100
2	0	5	5	0.76	S	100	0
2	5	10.5	5.5	0.65	R	0	100
2	10.5	27	16.5	0.26	R	0	100
3	0	1.5	1.5	0.71	S	100	0
3	1.5	8	6.5	0.65	S	75	25
3	8	10	2	0.28	S	100	0
3	10	11	1	0.26	R	0	100
3	11	11.5	0.5	0.23	R	0	100
3	11.5	12.5	1	0.44	S	100	0
4	0	6	6	1.07	S	80	20
4	6	14	8	0.98	S	75	25
4	14	16	2	0.69	R	15	85
4	16	17.5	1.5	0.94	S	85	15
4	17.5	19.5	2	0.23	R	40	60
4	19.5	26	6.5	0.23	R	0	100
5	0	2.5	2.5	0.77	S	100	0
5	2.5	7	4.5	0.57	R	20	80
5	7	12	5	0.89	S	80	20
5	12	17	5	0.34	R	0	100
5	17	18	1	0.5	S	80	20
5	18	18.5	0.5	0.19	R	0	100
5	18.5	20.5	2	0.22	S	50	50
6	0	2	2	0.78	S	100	0
6	2	7	5	0.97	S	75	25
6	7	11	4	1.16	S	100	0
6	11	12	1	0.65	S	100	0
6	12	12.5	0.5	0.7	R	0	100
6	12.5	14.5	2	0.93	S	75	25
6	14.5	16.5	2	0.72	R	10	90
6	16.5	18	1.5	0.61	S	50	50
6	18	20.5	2.5	0.4	R	10	90
6	20.5	21.5	1	0.81	S	75	25
6	21.5	22	0.5	0.71	R	0	100
6	22	22.5	0.5	0.64	S	75	25
6	22.5	24	1.5	0.52	R	0	100
6	24	24.5	0.5	0.43	R	0	100
6	24.5	25.5	1	0.7	S	90	10
6	25.5	27	1.5	0.32	S	50	50
6	27	30	3	0.32	S	50	50
7	0	0.5	0.5	0.97	S	100	0
7	0.5	8	7.5	1.26	R	0	100
7	8	13	5	0.78	S	75	25
7	13	17	4	1.14	S	65	35
7	17	17.5	0.5	0.28	R	0	100
7	17.5	27	9.5	0.26	S	50	50
8	0	1.5	1.5	0.23	S	100	0
8	1.5	5	3.5	0.77	R	0	100
8	5	8	3	0.28	S	75	25
8	8	11	3	0.4	S	100	0
8	11	17	6	0.65	R	85	15
Hole no.	From (ft)	To (ft)	Length (ft)	Ni (%)	Type[1]	Composition soil (%)	rock (%)
8	17	22	5	0.44	S	50	50
8	22	22.5	0.5	1.45	R	0	100
8	22.5	27	4.5	0.62	S	90	10
8	27	33	6	0.42	R	50	50
8	33	40	7	1.31	S	50	50
8	40	43	3	1.02	R	10	90
8	43	44.5	1.5	0.94	R	0	100
8	44.5	46	1.5	0.78	S	80	20
8	46	47	1	0.44	R	0	100
8	47	49	2	0.33	R	20	80
9	0	1	1	1.01	S	100	0
9	1	7	6	0.63	S	75	25
9	7	9	2	0.25	R	0	100
9	9	15	6	0.44	S	75	25
9	15	16.5	1.5	0.25	R	0	100
10	0	4	4	0.38	S	100	0
10	4	12	8	0.25	R	0	100
10	12	17	5	0.21	R	0	100
10	17	22	5	0.21	R	30	70
11	0	2	2	-	S	100	0
11	2	9	7	-	R	0	100
11	9	10	1	-	S	100	0
11	10	27	17	-	R	0	100

10.2.1 Sampling Methods – Sonic Drilling

Samples from sonic drill holes do not have a definite sample length. Sample length varies from 0.5 to 20 ft (0.15-6.1 m). Samples from the sonic drill include corestone and bedrock samples, which were assumed to be representative of lithologic changes through the hole. The average nickel grade of the hole can be calculated by excluding or including the corestone. The grade information for each sonic drill hole presented in this Report is a weighted average from the surface without external dilution and includes the corestone.

11.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY

There is limited information and data available with respect to the past exploration work completed by Red Flat Nickel Corp. from 2007 to 2009 (Rancourt, 2009). Sampling preparation, analysis and security related to historical exploration work, to the extent that it is known, is provided in Section 6.

All auger, rock and soil sampling was performed by LLR. Samples were individually wrapped and identified with a unique number. The samples were sent to the assay laboratory quickly after being recovered from the field and a sample register was continually updated with results. The register is also a summary of assay results for nickel, cobalt, iron and magnesium (Rancourt, 2009).

The laboratory, ALS Chemex of Vancouver, Canada, performed the assays using the conventional ME-ICP61 method. This Canadian laboratory is ISO/IEC 17025 certified by the Standards Council of Canada and has its own quality control system (Rancourt, 2009).

In 2007, AJR performed 6 spot check drill holes and collected 8 samples and in 2009 AJR collected 15 samples of corestone from the trenches. Moreover, in 2007, 10 of the samples already assayed by LLR were re-assayed by AJR for quality control. All assays performed by AJR were completed using the Ni-ICP81 method.

The Authors and the Issuer are independent of the laboratories used by Red Flat Nickel Corp. and previous operators as reported herein.

12.0 DATA VERIFICATION

12.1 Internal-External Data Verification

The Authors have reviewed historical and current data and information regarding past and current exploration work on the Property, and as provided by the Issuer Spruce Ridge. The Authors have no reason to doubt the adequacy of historical and current sample preparation, security and analytical procedures, and are confident with respect to the historical and current information and data and its use for the purpose of the Report (*see* Section 2.1).

The Principal Author has independently reviewed the status of the mining claims held by the Issuer through the U.S. Federal Government Bureau of Land Management online portal which hosts information regarding mining claims on federal land in the state of Oregon.

12.2 Verification Performed by the QPs

Mr. John Siriunas (M.A.Sc., P.Eng.) visited the Property on 7 August 2023, accompanied by Mr. Michael D. Strickler. Mr. Strickler is the principal of Lithologic Resources, LLC, the consulting group that carried out much of the contract exploration work on the Property for Red Flat Nickel Corp. The personal inspection was made to observe the general Property conditions and access, and to verify the locations of some of the previous trenching and sampling. The previously sampled trenches are still very evident from the air and on the ground though most of the sides of the trenches have slumped. The Property does have some bedrock outcroppings but is mainly covered by saprolitic/lateritic material. A total of six (6) samples of lateritic material were collected from various locations on the Property including some of the old trenches (*see* Section 2.5).

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 Metallurgical and Mineralogical Test Work (SGS)

Red Flat Nickel Corp. (now Homeland Nickel) collected two large samples from five trenches on the Cleopatra Property and four trenches on the Red Flat Property (AJR Geoconsulting, 2009). These samples were sent for analysis to the SGS laboratory in Lakefield, Ontario, Canada (Rancourt, 2009). The objectives of the analysis were to perform:

3) Chemical, grain size and mineralogical characterisation of the ore; and

4) Leaching program, including Bottle Roll Leach Testing and Agitated Leach Testing.

Table 13-1 and Table 13-2, from Rancourt (2009), provide the characteristics of the samples from the Cleopatra Property and the Red Flat Property, respectively, collected by LLR and sent to SGS. SGS received and prepared a total of 1,236 lbs (588 kg) of wet material from Cleopatra and 646 lbs (293 kg) of wet material from Red Flat. Samples were separated into two composite fractions, the limonite (L) and the saprolite (S) fraction.

Given that this analysis was a preliminary study and because the deposits are similar, the limonite fraction and the saprolite fraction from both properties were blended together resulting in one blended limonite fraction and one blended saprolite fraction. The blended sample of limonite from both properties totalled 425.5 lbs (193 kg) of material and the blended sample of saprolite from both properties totalled 1,517 lbs (688 kg); a total wet weight of 1,942 lbs (881 kg) (Rancourt, 2009).

Fractional size analysis of the limonite fraction shows an average head grade of 1.08% Ni, with the -400 mesh (38 µm) fraction being the highest grade nickel (1.2% Ni). The majority of the nickel exists in the -400 mesh (38 µm) fraction. When screened at 400 mesh (38 µm), 80.6% of the sample weight was recovered and the grade increased from 1.08% to 1.2% Ni (Figure 13-1).

For the saprolite fraction, the average head grade was 1.08% Ni and the highest grade fractions were +1 inch (+25.4 mm) and -100 mesh (145 µm). When screened, keeping only the +1 inch (+25.4 mm) and -100 mesh (145 µm), 70% of the sample weight was recovered and the grade increased from 1.08% to 1.3% Ni (Rancourt, 2009).

Figure 13-2 shows the assay results against the grain size and Figure 13-3 shows the cumulative frequency of the different grain sizes. Figure 13-3 shows that limonite is generally composed of finer grained material as 80% passes through the 400 mesh (38 µm) sieve, whereas only 50% of the saprolite passes through the same 400 mesh (38 µm) sieve.

The Principal Author has not done any review of the information and results related to metallurgical processing and metallurgical testing.

Table 13-1. Characteristics of samples sent to SGS for mineralogical and metallurgical testing – Cleopatra Property.

Sample ID	Ore Type	Gross Wt	Net Wt*	Ni	Co	Cr	Fe	Mg	Fe/Mg
CL-M-1-1	L	15.16	14.88	0.58	0.093	2.49	40.6	2.42	16.8
CL-M-1-2	L	15.62	15.34	0.785	0.133	2.31	42.6	2.09	20.4
CL-M-1-3	L	14.82	14.54	0.841	0.192	2.47	47.5	1.57	30.3
CL-M-1-4	L	17.87	17.59	0.864	0.207	2.45	47.1	1.18	39.9
CL-M-1-5	L	9.37	9.09	0.954	0.202	2.13	46.4	1.25	37.1
CL-M-1-6	L	13.17	12.89	1	0.169	2.25	44.8	1.7	26.4
CL-M-1-7	L	19.81	19.53	1.055	0.148	1.75	40.1	3.76	10.7
CL-M-1-8	S	15.35	15.07	1.05	0.101	1.31	33.6	7.7	4.4
CL-M-1-9	S	12.28	12	1.38	0.149	1.76	39.2	4.37	9.0
CL-M-2-1	L	18.57	18.29	0.928	0.108	1.6	37.9	2.92	13.0
CL-M-2-2	S	17.27	16.99	1.085	0.078	1.28	34.2	4.31	7.9
CL-M-2-3	S	12.51	12.23	1.37	0.054	0.943	27.9	7.4	3.8
CL-M-2-4	S	10.04	9.76	1.29	0.066	0.993	28	7.16	3.9
CL-M-2-5	S	12.76	12.48	1.41	0.061	1.15	28.7	6.72	4.3
CL-M-2-6	S	13.23	12.95	1.3	0.047	0.824	23	10.15	2.3
CL-M-2-7	S	11.04	10.76	1.27	0.057	0.693	20.4	10.95	1.9
CL-M-2-8	S	10.05	9.77	1.37	0.047	0.671	20.4	11.65	1.8
CL-M-2-9	S	12.62	12.34	1.62	0.053	0.687	21.7	13.95	1.6
CL-M-2-10	S	17.34	17.06	1.39	0.055	0.702	19.25	11.3	1.7
CL-M-3-1	L	16.02	15.74	0.969	0.113	1.35	36.2	3.16	11.5
CL-M-3-2	L	9.92	9.64	1.15	0.13	1.51	38.6	2.99	12.9
CL-M-3-3	S	12.48	12.2	0.802	0.123	1.25	31.8	7.08	4.5
CL-M-3-4	S	9.89	9.61	1.02	0.123	1.19	31.6	6.18	5.1
CL-M-3-5	S	12.95	12.67	0.86	0.089	1.06	29.2	8.88	3.3
CL-M-3-6	S	11.3	11.02	0.969	0.074	0.992	27.3	9.53	2.9
CL-M-3-7	S	11	10.72	1.24	0.081	0.769	26.2	10.5	2.5
CL-M-3-8	S	9.13	8.85	0.913	0.058	0.59	20.2	14.05	1.4
CL-M-3-9	S	10.41	10.13	1.32	0.088	0.848	22.6	10.35	2.2
CL-M-3-10	S	10.41	10.13	1.68	0.091	1.43	31.3	6.35	4.9
CL-M-3-11	S	10.1	9.82	1.505	0.107	1.1	28.8	8.52	3.4
CL-M-3-12	S	13.25	12.97	1.57	0.093	0.85	28.5	8.1	3.5
CL-M-4-1	L	13.55	13.27	0.836	0.102	1.28	34.8	2.75	12.7
CL-M-4-2	L	10.47	10.19	1.15	0.14	1.5	37.9	3.09	12.3
CL-M-4-3	L	9.14	8.86	1.4	0.147	1.53	41.6	1.62	25.7
CL-M-4-4	L	10.06	9.78	1.485	0.181	1.42	44.6	1.03	43.3
CL-M-4-5	L	11.49	11.21	1.695	0.152	1.72	40.5	2.25	18.0
CL-M-4-6	L	8.85	8.57	1.63	0.171	2	42.4	1.7	24.9
CL-M-4-7	L	10.94	10.66	1.675	0.142	1.36	40.2	2.63	15.3
CL-M-4-8	S	8.48	8.2	1.36	0.117	1.23	33.5	5.81	5.8
CL-M-4-9	S	8.2	7.92	1.35	0.133	1.45	35.8	4.59	7.8
CL-M-4-10	S	6.87	6.59	1.23	0.116	0.947	23.7	10.5	2.3
CL-M-4-11	S	6.46	6.18	1.39	0.106	1.18	28.9	7.86	3.7
CL-M-4-12	S	9.81	9.53	1.25	0.136	1.13	25.7	8.89	2.9
CL-M-5-1	L	12.2	11.92	1.23	0.137	1.83	42.3	1.65	25.6
CL-M-5-2	S	9.6	9.32	0.919	0.047	0.864	25.3	11.4	2.2
CL-M-5-3	S	10.93	10.65	1.1	0.078	0.984	25.5	11.45	2.2
CL-M-5-4	S	12.01	11.73	1.695	0.135	1.65	38.2	4.16	9.2
CL-M-5-5	S	10.9	10.62	0.583	0.042	0.641	14.9	17.5	0.9
CL-M-5-6	S	8.54	8.26	1.17	0.07	1.48	30.7	8.34	3.7
CL-M-5-7	S	8.42	8.14	0.72	0.026	0.521	15.2	16.7	0.9
CL-M-5-8	S	9.77	9.49	0.862	0.036	0.624	16.2	16.1	1.0
Total			588.15	kg					
			6.18	kg / sample in comp					
			51	samples					
			315.18	kg in comp					

*Net Wt includes plastic sample bag

Note: Gross Wt = wet weight and Net Wt = dry weight

Table 13-2. Characteristics of samples sent to SGS for mineralogical and metallurgical testing – Red Flat Property.

Sample ID	Ore Type	Gross Wt	Net Wt*	Ni	Co	Cr	Fe	Mg	Fe/Mg
RF-M-1-1	L	5.83	5.55	0.795	0.071	1.66	36.1	3.31	10.91
RF-M-1-2	L	5.43	5.15	1.26	0.075	1.8	42	2.09	20.10
RF-M-1-3	S	4.67	4.39	1.23	0.104	1.64	36	4.79	7.52
RF-M-1-4	S	5.58	5.30	1.15	0.062	0.864	24.9	9.88	2.52
RF-M-1-5	S	6.11	5.83	1.06	0.046	0.695	22.8	10.95	2.08
RF-M-1-6	S	5.49	5.21	1.08	0.053	0.819	25.8	9.91	2.60
RF-M-1-7	S	6.21	5.93	1.14	0.047	0.958	21.8	11.2	1.95
RF-M-1-8	S	4.97	4.69	0.917	0.028	0.462	13.75	16	0.86
RF-M-1-12	S	12.64	12.36	0.629	0.022	0.38	11.1	17.9	0.62
RF-M-2-1	S	4.63	4.63	0.95	0.049	0.806	25.1	6.53	3.84
RF-M-2-2	S	4.65	4.37	0.783	0.024	0.401	12.3	16.9	0.73
RF-M-2-3	S	4.26	4.26	0.853	0.02	0.296	11.9	16.85	0.71
RF-M-2-4	S	4.88	4.60	0.457	0.024	0.41	14.6	12.75	1.15
RF-M-2-5	S	4.07	3.79	0.605	0.017	0.244	9.83	16.1	0.61
RF-M-2-6	S	4.92	4.92	0.521	0.015	0.213	9.3	17.2	0.54
RF-M-2-7	S	5.99	5.71	0.288	0.014	0.206	8.79	16.75	0.52
RF-M-2-8	S	4.53	4.53	0.283	0.014	0.206	8.83	17.15	0.51
RF-M-3-1	S	8.47	8.47	0.27	0.038	1.21	28.6	2.99	9.57
RF-M-3-2	L	9.49	9.21	0.745	0.029	1.84	46.4	1.09	42.57
RF-M-3-3	L	6.17	5.97	0.815	0.045	1.83	47.9	0.92	52.07
RF-M-3-4	L	9.38	9.10	0.821	0.098	1.91	44.3	1.07	41.40
RF-M-3-5	L	9.51	9.23	0.71	0.18	1.11	39.9	2.07	19.28
RF-M-3-6	L	8.51	8.51	0.782	0.199	1.07	40	2.17	18.43
RF-M-3-7	L	9.67	9.39	1.01	0.176	1.47	43.6	2.06	21.17
RF-M-3-8	S	8.27	8.27	0.765	0.125	0.968	34.8	5.04	6.90
RF-M-3-9	S	8.80	8.52	0.736	0.128	0.87	30.9	5.48	5.64
RF-M-3-10	S	8.19	8.19	0.882	0.126	0.894	32.2	4.51	7.14
RF-M-3-11	S	8.89	8.61	0.919	0.105	0.883	32.5	4.02	8.08
RF-M-3-12	S	8.01	8.01	1.02	0.086	0.823	29.1	4.76	6.11
RF-M-3-13	S	8.07	7.79	1.01	0.078	0.875	29.9	4.53	6.60
RF-M-3-14	S	7.43	7.43	0.979	0.086	0.82	29	6.29	4.61
RF-M-3-15	S	6.93	6.65	1.02	0.075	1.05	27.2	7	3.89
RF-M-3-21	S	9.55	9.55	1.44	0.066	0.628	24.8	7.08	3.50
RF-M-4-1	L	9.06	9.06	1.03	0.086	2.82	50	0.64	78.13
RF-M-4-2	S	9.77	9.49	1.25	0.22	2.07	39.9	4.53	8.81
RF-M-4-3	S	8.96	8.68	1.57	0.187	0.749	28.1	7.08	3.97
RF-M-4-4	S	9.85	9.85	1.75	0.166	0.795	28.4	6.79	4.18
RF-M-4-5	S	10.97	10.69	1.32	0.15	0.61	20.8	11.8	1.76
RF-M-4-6	S	10.41	10.41	1.66	0.179	1.03	29.5	7.19	4.10
RF-M-4-7	S	11.41	11.13	1.48	0.156	0.825	20.7	11.35	1.82
Total			293.43	kg					
			3.79	kg / sample in comp					
			40	samples					
			151.6	kg in comp					

*Net Wt excludes plastic sample bag

Note: Gross Wt = wet weight and Net Wt = dry weight

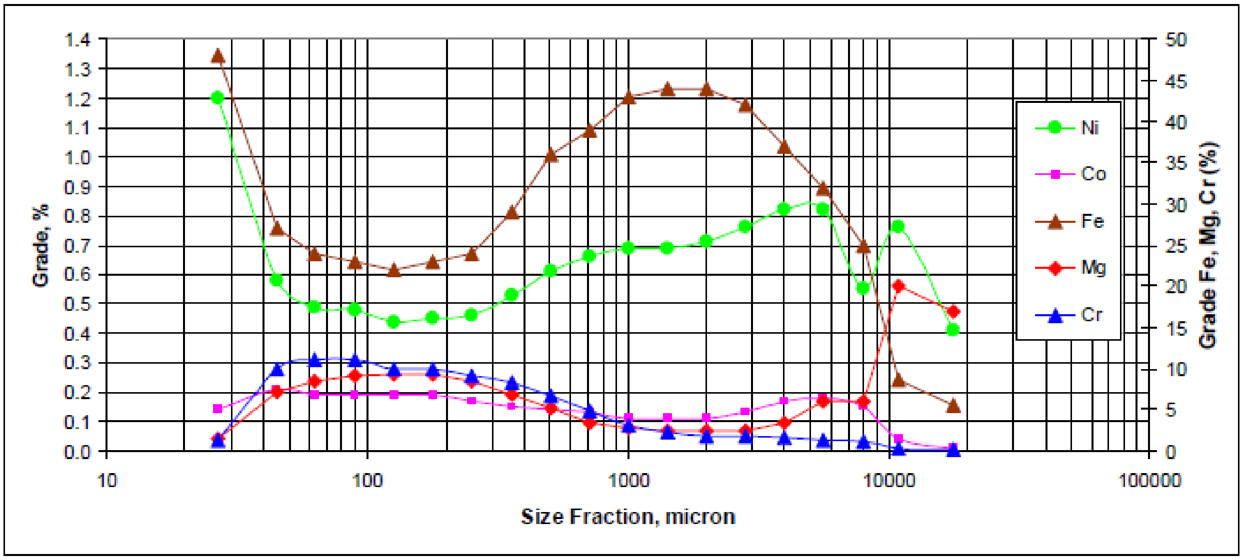

Figure 13-1. Assay results according with grain size for the limonite composite sample (Rancourt, 2009).

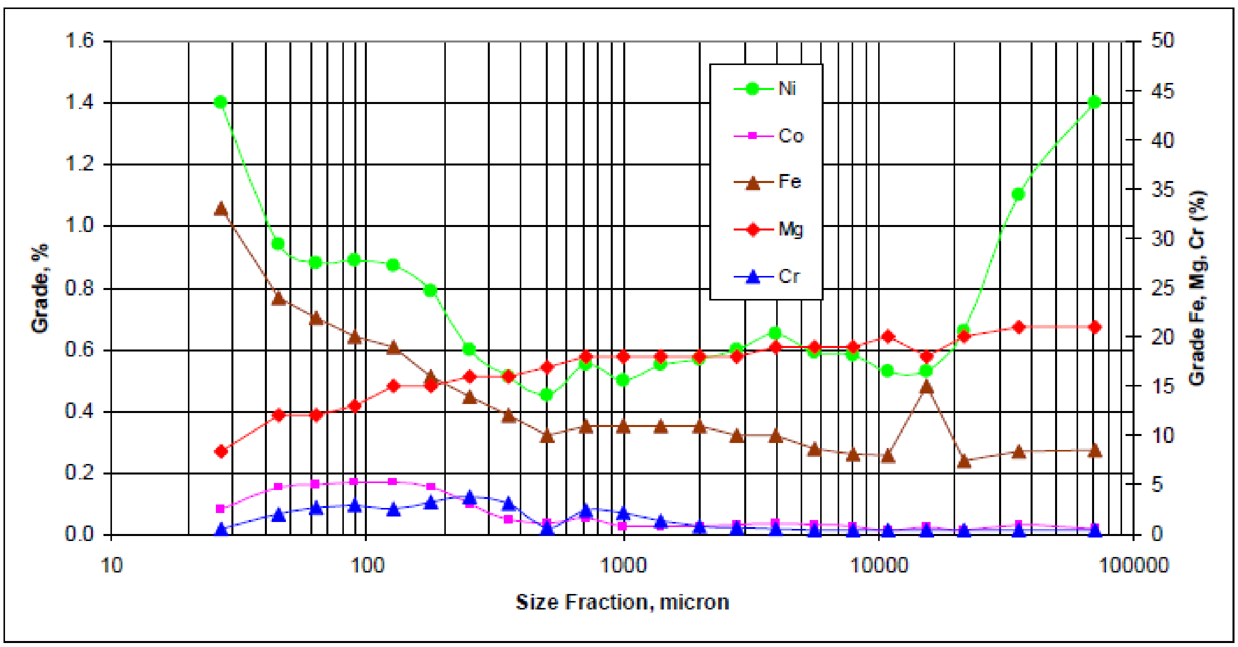

Figure 13-2. Assay results according with grain size for the saprolite composite sample (Rancourt, 2009).

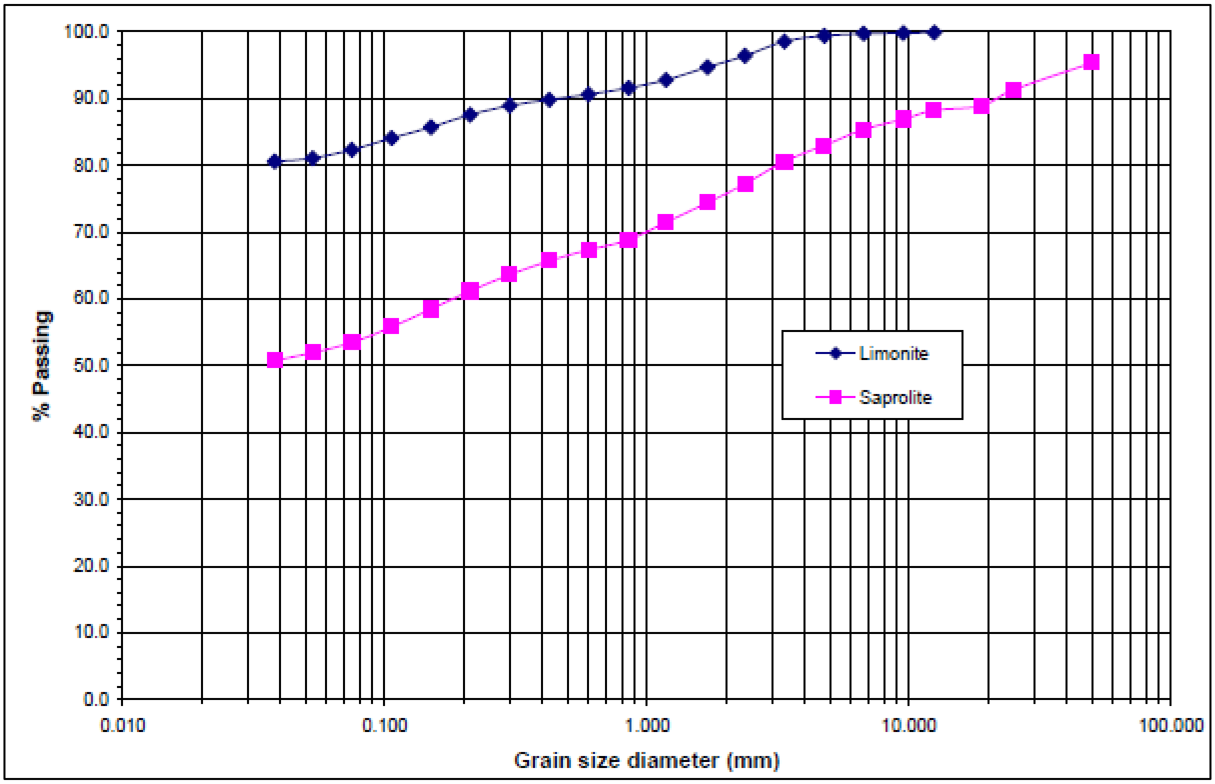

Figure 13-3. Cumulative frequency of the different grain size for the limonite and the saprolite fraction (Rancourt, 2009).

13.1.1 Mineralogical-Petrographic Studies

In 2007, samples of limonite and saprolite from the Red Flat Deposit were submitted for preliminary mineralogical analysis to SGS laboratory with the objective of identifying the mineralogical phases in the lateritic profile. No results are known.

Also in 2007, preliminary petrographical characterization of corestone was completed and these samples were used to produce two polished thin sections from altered ultramafic rock. Which was reported on by Caderon (2008). This work did not find any sulphide nickel mineral and clarified that nickel from Red Flat deposit will be found as a substitution element in different clay minerals or silicate and/or hydroxide minerals (Rancourt, 2009).

13.2 Heap Leach (2011)

In 2011, Alyssum Ventures Ltd. was engaged by St Peter Port Capital Ltd. to explore the possibility of using heap leach processes to recover nickel from the Property (Alyssum, 2012); early metallurgical test work supported the proposed processing of the Red Flat laterite by heap leaching. Acid consumption was somewhat lower than many similar laterites and leach times appear significantly shorter than the norm. Furthermore, the presence of un-weathered boulders favours heap leaching in that that material enhances heap stability (Alyssum, 2012).

Alyssum (2012), concluded that a base-case downstream processing of leach liquors would see production of a mixed-hydroxide product containing up to 35% Ni and 1.5% Co. As an alternative ion-exchange resins would allow a high grade nickel product up to 55% Ni to be produced at a higher percentage of LME nickel price and a separate cobalt salt for direct sale to end users, at an expected premium to LME price.

The Project would require a sulphur burning acid plant to manufacture the sulphuric acid used to leach the ore. New road access to both sites will be required but the Red Flat Deposit is conveniently located close to two existing ports and near to good arterial roads and power connections (Alyssum, 2012).

13.3 Bottle Roll Tests (2007)

In 2007, European Nickel (ENK) collected 17 samples from the Red Flat deposit to be used for bottle roll testing (Table 13-3). The ENK report was made available by Red Flat Nickel Corp. to Alyssum Ventures (Alyssum, 2013).

AVL's standard bottle roll tests are undertaken at atmospheric pressure and ambient temperature; the sample to be tested is crushed to <0.25 inch (< 6.35 mm) and placed in the test vessel (bottle) with a sulphuric acid lixiviant which is maintained at 75,000 ppm (75 g/l). The solid/liquid ratio is 10/1 using 0.33 lbs (150 g) feed ore in each test. The bottles are gently rolled continuously at a constant revolution for a maximum of 90 days. A solution sample is taken and analysed for acid concentration and Ni, Co, Fe, Mg and Sc levels at regular planned intervals.

The 17 Red Flat bottle roll tests ran for the full test cycle of approximately 90 days and the results are provided in Table 13-4. Table 13-3 also notes the ore type for each test; it is the saprolite tests which leach quickly with a slower steadier leaching seen for the limonite tests.

The results show consistently good extraction of both nickel and cobalt and the leach times are relatively short. In fact, 70% Ni extraction was achieved in seven (7) tests within 1 week with most ultimate extractions being much higher. The average of the 17 tests is plotted in Figure 13-4 (Alyssum, 2013)

Acid consumption, while variable due to the very quick leaching of some of the tests - these tests were over supplied with acid in the first few days - is lower than for many other nickel laterites and averages only 1,003 lbs/ton (455 kg/t) of ore for the 17 tests. Acid consumption extrapolated to 72% Ni extraction reduces to approximately 722 lbs/ton (350 kg/t) ore (Figure 13-5).

It should be noted that the samples tested from Red Flat are surface samples only and cannot be seen as representative of the ore body, but that they do give indicative results for material from the Red Flat Deposit (Alyssum, 2013).

Table 13-3. European Nickel samples collected in 2007.

Sample No.	Description
US1070003	yellow-brown soft limonitic laterite (5% boulders*)
US1070004	red haematitic laterite w/ 20% serpentinite fragments)
US1070005	yellow-brown soft limonitic laterite w/ 10% serpentinite fragments
US1070008	greenish-black serpentinite w/ 10% yellow-brown limonitic laterite
US1070009	yellow-brown soft limonitic laterite w/ 30% serpentinite boulders
US10700011	black weathered serpentinite w/ 20% yellow-brown laterite in fractures
US10700012	composite grab of serpentinite fragments w/ light green serpentine & possible blue-green garnierite
US1070019	yellow-brown soft limonitic laterite w/ 30% serpentinite boulders
US1070020	60% yellow-brown laterite & 40% mottled, weathered black serpentinite saprolitic clots and clasts
US1070021	50% black saprolitic / weathered serpentinite & 50% yellow-brown limonitic laterite
US1070022	red haematitic laterite
US1070023	yellow-brown soft limonitic laterite
US1070024	mixed yellow-brown laterite w/ weathered serpentinite clasts and saprolitic serpentine
US1070025	red haematitic laterite
US1070002	yellow-brown limonitic laterite w/ 30% rounded boulders (landslide?)
US1070007	red haematitic laterite w/ 30% serpentinite clasts & boulders
US1070016	yellow-brown laterite mixed w/ mottled black weathered serpentinite & 30% boulders (landslide?)

Table 13-4. European Nickel analysis and bottle roll test results from samples collected in 2007.

Test No	Ore Type	Head Grade (%)					Leach time	Extraction (%)					Acid Consumed
		Fe	**Ni**	**Co**	**Mg**	**Ca**	**Days**	**Fe**	**Ni**	**Co**	**Mg**	**Ca**	**kg / Tonne**
186	Lim	45.5	1.1	0.14	1.6	0.03	90	63%	70%	72%	89%	-51%	425
187	Lim	53.3	1.1	0.14	0.6	0.01	90	67%	81%	79%	62%	-131%	389
188	Sap	13.3	1.1	0.19	16.0	0.04	30	86%	99%	99%	98%	66%	672
189	Trans	26.4	0.9	0.13	5.4	0.74	30	72%	95%	97%	76%	30%	380
190	Sap	5.8	0.9	0.03	19.5	0.77	30	88%	100%	99%	98%	85%	797
191	Lim	40.8	1.0	0.07	0.9	0.02	90	77%	82%	79%	35%	-71%	367
192	Trans	28.4	1.3	0.21	7.8	0.04	30	77%	92%	93%	82%	45%	470
193	Lim	34.1	0.9	0.09	1.6	0.17	90	65%	58%	78%	39%	5%	322
194	Lim	36.6	1.2	0.05	0.9	0.05	90	79%	80%	82%	54%	17%	321
195	Sap	15.6	1.1	0.05	12.4	0.47	30	79%	94%	94%	95%	78%	605
196	Lim	33.7	0.9	0.06	4.5	0.32	90	76%	83%	84%	70%	17%	401
197	Sap	24.6	1.3	0.05	9.7	0.27	30	84%	97%	96%	88%	41%	492
198	Lim	38.0	0.9	0.13	2.2	0.15	90	70%	78%	91%	48%	34%	390
199	Trans	32.3	1.2	0.12	6.2	0.08	30	77%	93%	92%	84%	53%	447
200	Lim	44.3	0.7	0.08	0.2	0.01	90	67%	74%	79%	39%	82%	368
201	Lim	31.3	0.7	0.07	3.8	0.30	62	78%	92%	96%	76%	48%	332
202	Sap	17.9	0.7	0.08	10.3	0.99	30	76%	94%	97%	78%	24%	558
Ave		**30.70**	**1.0**	**0.01**	**6.10**	**0.26**		**75%**	**86%**	**89%**	**71%**	**22%**	**455**

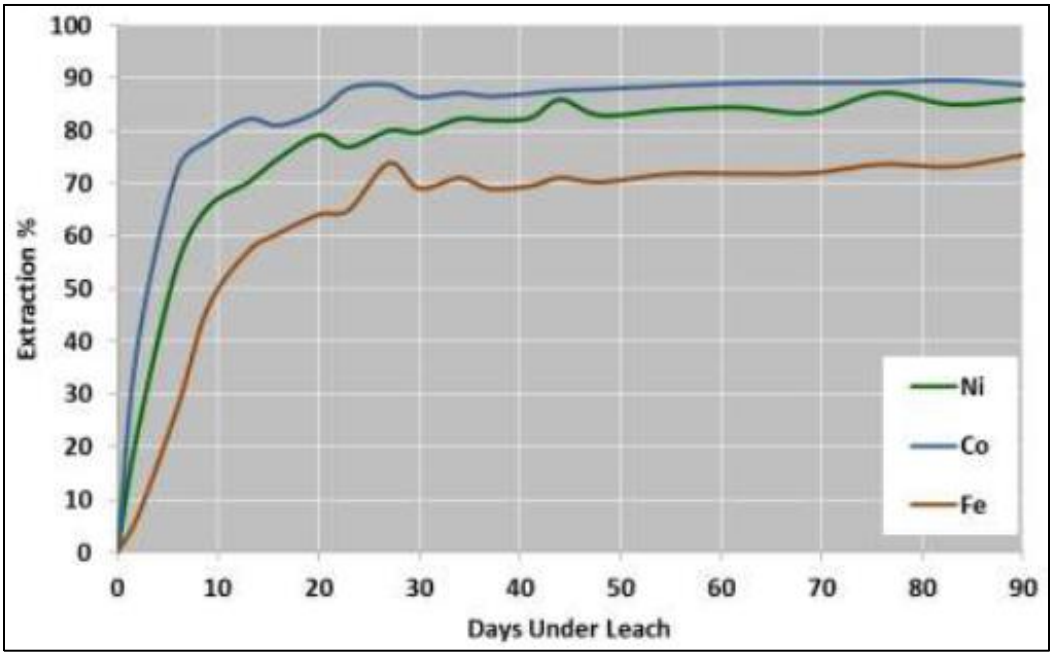

Figure 13-4. Average Extractions of the Red Flat 2007 Bottle Rolls tests (Alyssum, 2013).

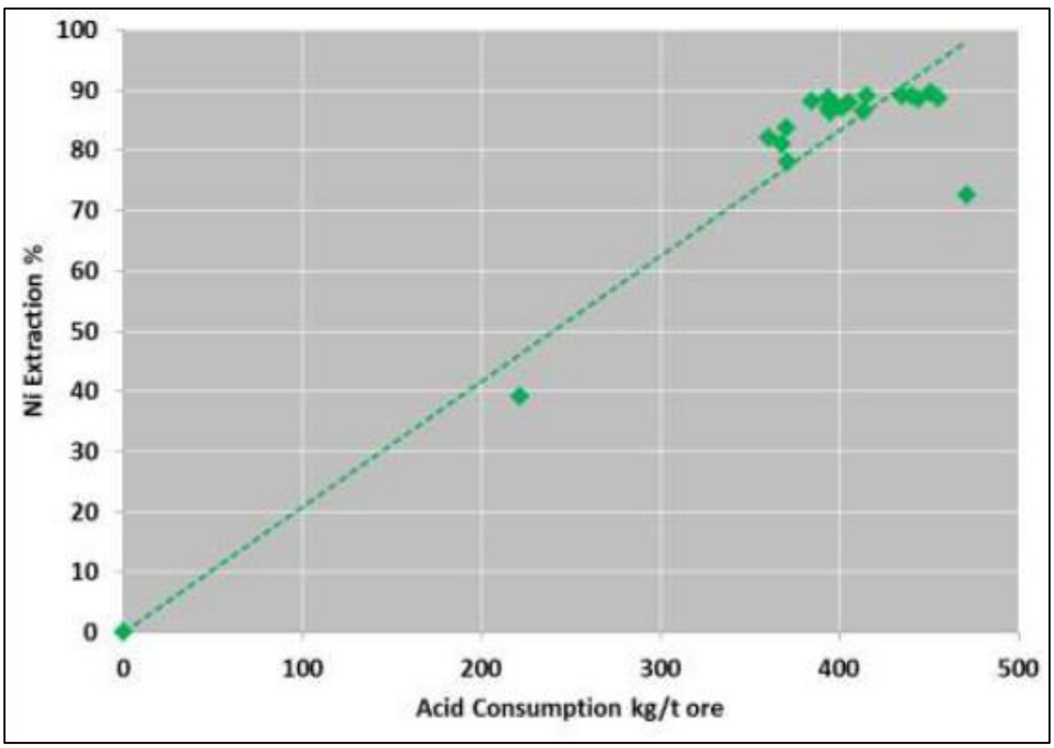

Figure 13-5. Average Bottle Roll Nickel Extractions v Acid Consumed (Alyssum, 2013).

13.3.1 Relevant Results

Alyssum (2013), provided conclusions and recommendations for samples collected from the Cleopatra Ni-Co laterite deposit and demonstrated a strong similarity between the Cleopatra nickel laterites and those at Red Flat. Given the similarities between Cleopatra and Red Flat, it follows that these conclusions and recommendations apply also to the Red Flat Ni-Co Deposit:

- The Red Flat samples tested in 2007 are amenable to atmospheric heap leaching for all value metals giving a good indication that the red Flat Deposit will heap leach.
- Nickel selectivity over iron is possible.
- Acid consumption when the core stones are excluded is extremely low for a nickel laterite and acceptable even when they are included.
- Scandium leaches at a similar rate to nickel and should therefore be therefore amenable to further processing.
- The tests compare well with those completed on similar ore from the Red Flat deposit.
- Based on the results of these tests if the core stones were included in a commercial heap, up to one third volume of the heap, the acid consumption would increase by approximately 50% and dissolution of iron (II) could be up to 10% of total iron. This should however result in a more stable heap with better percolation. Large-scale test work is required to finalise any decision on inclusion of the core stones.

13.3.1.1 Recommendations

- Further bottle rolls to be undertaken on the drill samples when available to give an appropriate database of results for statistical analysis.
- Initial downstream processing testwork to be carried out on the PLS solutions stored from the bottle roll tests to assess at which stage of the precipitation process the scandium is removed and how the addition of corestones would affect this process.
- Further larger-scale test work to be undertaken as soon as samples are available and funds allow. This work would include:
    - Large column tests with and without core stones.
    - Precipitation test work on the PLS.
    - Ion Exchange (IX) test work from the PLS and the solutions of the precipitation work to create nickel, cobalt and scandium eluates for further processing.
- Early-stage Metsim modelling to give process design criteria for study work and assist with planning of further testwork to be undertaken as soon as drilling has been permitted.

14.0 MINERAL RESOURCE ESTIMATES

The Red Flat Ni-Co Property contains no current mineral resource estimates.

15.0 MINERAL RESERVES

This section is not applicable to the Property at its current stage.

16.0 MINING METHODS

This section is not applicable to the Property at its current stage.

17.0 RECOVERY METHODS

This section is not applicable to the Property at its current stage.

18.0 PROJECT INFRASTRUCTURE

This section is not applicable to the Property at its current stage.

19.0 MARKET STUDIES AND CONTRACTS

This section is not applicable to the Property at its current stage.

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

This section is not applicable to the Property at its current stage.

21.0 CAPITAL AND OPERATING COSTS

This section is not applicable to the Property at its current stage.

22.0 ECONOMIC ANALYSIS

This section is not applicable to the Property at its current stage.

23.0 ADJACENT PROPERTIES

There are no adjacent properties that would materially affect the Authors' understanding of the Project and the results of the Report.

24.0 OTHER RELEVANT DATA AND INFORMATION

The Authors are not aware of any additional information or explanations necessary to make the Report understandable and not misleading.

25.0 INTERPRETATION AND CONCLUSIONS

The objective of the Report was to prepare an independent NI 43-101 Technical Report, capturing current and historical information and data available about the Red Flat Ni-Co Property, providing interpretations and conclusions, and making recommendations for future exploration work.

25.1 Target Deposit Type

Concentration of nickel and cobalt on the Red Flat Ni-Co Property is derived from the surface alteration of olivine-rich ultramafic rocks, referred to as nickel laterites. The parent ultramafic rocks average 0.2 to 0.4% Ni.

Laterites are formed by weathering of the serpentinized peridotites generally in humid savanna climates with poor drainage and associated with dry climates and semi-arid environments. During weathering, nickel is concentrated in place, while more soluble elements such as magnesium, calcium and silica are dissolved and leached rapidly. Nickel accumulates in the form of nickel-silicate veins or becomes enriched in the insoluble residue of silica, nickel hydrosilicates, and oxides of magnesium and iron. Laterites found on the Property are remnants of an old upland surface and according to Irwin (1997), the weathering having taken place during the Pleistocene and/or the Pliocene.

25.2 Geology and Mineralization

The Red Flat Ni-Co Property is located on the Northern Coast Range mountains physiographic terrane, composed mostly of sedimentary rocks of Mesozoic Age from the Dothan Point Formation and some ultramafic and gabbroic intrusions of Jurassic age. The ultramafic rocks which are found on the Red Flat Property are mainly composed of serpentinized peridotite (harzburgite and dunite) and pyroxenite and show typical olivine alteration to bowlingite (an obsolete name for saponite, a mixture of smectite, quartz, chlorite, serpentine, and talc). Magnetite, hematite, zircon and rutile were also observed (Rancourt, 2009).

The mineralized horizon has a lateritic weathering profile formed by the prolonged weathering of the ultramafic rocks in sub-tropical climates. The laterite zones are divided into four distinct areas: Lobe A - 500 acres (202.4 ha) located to the southeast; Lobe B - 250 acres (101.2 ha) to the north; Lobe C extending another 200 acres (80.9 ha) to the west; and Lobe D - located some 2,500 ft (762 m) north of Lobe B and covering 154 acres (62.3 ha).

On Lobe A, the mineralized zone shows an average thickness of 28.3 ft (8.6 m) with an average of 0.77% Ni. The average grade for the first 10.7 ft (3.3 m) of laterite was 1.2% Ni. The deepest borehole reached 60 ft (18.3 m) with a grade of 0.7% Ni. On Lobe B and C, the mineralized zone reached depths ranging from 3.3 to 13 ft (1.0 to 4.0 m), with an average grade of 0.71% Ni and 0.09% Co (Ramp, 1978; Rancourt 2009). The lateritic surface layer contains elevated nickel-cobalt which follows the ground surface (Ramp, 1978) and has been intersected by drilling to a maximum depth of 40 ft (12.19 m); indications suggest it may reach a depth of as much as 50 ft (15.24 m) (Hundhausen et al., 1954). Nickel grade increases with depth and mineralization is especially continuous in the horizontal plane (Rancourt, 2009).

Mineralization occurs in two fractions, the soil fraction and the rock fraction. For the soil fraction, the mineralized zone is usually composed of residual goethitic limonite covering altered peridotite layers (saprolite) with iron oxide veins. Within the rock fraction, nickel is concentrated in thin fracture fillings of garnierite saprolite corestone blocks; a chip sample of garnierite from the 2009 field work assayed at 4.3% Ni (Rancourt, 2009).

25.3 Historical Mineral Resource Estimate (2009)

In 2009, AJR Geoconsulting Inc. prepared a mineral resource estimate for the nickel laterite mineralization on the Red Flat Ni-Co Deposit, located on the Red Flat Property (Rancourt, 2009). The 2009 historical mineral resource estimate is detailed in the report titled, "Evaluation of the Red Flat Ni/Co Property Mining Potential, Curry County, Oregon, U.S.A., NI 43-101 Technical Report", with a date of November 2009, and prepared by Geological Engineer Andre J. Rancourt (P.Eng., Quebec #112457) of AJR Geoconsulting Inc. for Red Flat Nickel Corp.

The 2009 mineral resource estimate was completed in accordance with NI 43-101 and following the CIM Definition Standards for Mineral Resources & Mineral Reserves (CIM, 2005).

The 2009 historical mineral resource estimate covers lobe A, lobe B, lobe C and lobe D but the measured resource category is limited to lobe A. Data used in the resource estimate came from the 2007 and 2008 auger testing programs, the 2008 sonic drilling program, the 2009 mechanical trenching and also from historical validated drilling data from USBM and DOGAMI. Two cut-offs, 0.7 and 0.8% Ni, (selected to obtain an average grade as close as possible to 1.0% Ni) were used to report resource estimates.

Table 25-1 and Table 25-2 present the historical mineral resource estimate at two different %Ni cut-offs (Rancourt, 2009). While data analysis indicates cobalt, chrome and iron as potential by-products, the actual historical mineral resource estimate does not include these elements (Rancourt, 2009).

Table 25-1. Summary of the 2009 historical mineral resource estimation, Red Flat Ni Deposit (0.7% Ni cut-off).

Category	Type	US Tons (1,000s)	Ni (%)	Ni (pounds)*
Measured	Soil	1,710	0.91%	31,122,000
Measured	Rock	2,277	1.05%	47,817,000
Measured Total:	**S+R**	**3,987**	**0.99%**	**78,939,000**
Indicated	Soil	3,218	0.81%	52,131,600
Indicated	Rock	3,218	0.81%	52,131,600
Indicated Total:	**S+R**	**6,436**	**0.81%**	**104,263,200**
Measured + Indicated	Soil	4,928	0.84%	83,253,600
Measured + Indicated	Rock	5,495	0.91%	99,948,600
Meas. + Ind. Total:	**S+R**	**10,423**	**0.88%**	**183,202,200**
Inferred	Soil	4,169	0.80%	66,704,000
Inferred	Rock	4,169	0.80%	66,704,000
Inferred Total:	**S+R**	**8,338**	**0.80%**	**133,408,000**

*assumes 100% nickel recovery (contained metal).

Table 25-2. Summary of the 2009 historical mineral resource estimation, Red Flat Ni Deposit (0.8% Ni cut-off).

Category	Type	US Tons (1,000s)	Ni (%)	Ni (pounds)*
Measured	Soil	1,700	0.91%	30,940,000
Measured	Rock	2,007	1.10%	44,154,000

Category	Type	US Tons (1,000s)	Ni (%)	Ni (pounds)*
Measured Total:	**S+R**	**3,707**	**1.01%**	**75,094,000**
Indicated	Soil	1,684	0.88%	29,638,400
Indicated	Rock	1,684	0.88%	29,638,400
Indicated Total:	**S+R**	**3,368**	**0.88%**	**59,276,800**
Measured + Indicated	Soil	3,384	0.90%	60,578,400
Measured + Indicated	Rock	3,691	1.00%	73,792,400
Meas. + Ind. Total:	**S+R**	**7,075**	**0.95%**	**134,370,800**
Inferred	Soil	1,728	0.88%	30,412,800
Inferred	Rock	1,728	0.88%	30,412,800
Inferred Total:	**S+R**	**3,456**	**0.88%**	**60,825,600**

*assumes 100% nickel recovery (contained metal).

Mineral resources are not mineral reserves, they do not have demonstrated economic viability, and there is no certainty that all or part of an estimated mineral resource can be converted to mineral reserves.

A qualified person has not done sufficient work to classify the 2009 historical mineral resource estimate as current mineral resources or mineral reserves. Other than the review by the Principal Author, the Issuer has not conducted any work to establish the relevance and reliability of the 2009 historical resource estimate and as such is not treating the historical mineral resource estimate as current mineral resources.

25.4 Risks and Uncertainties

Risks and uncertainties which may reasonably affect reliability or confidence in future work on the Property relate mainly to the reproducibility of exploration results (*i.e.*, exploration risk) in a future production environment. Exploration risk is inherently high when exploring for laterite nickel-cobalt deposits, however at Red Flat these risks are mitigated by the knowledge obtained from the 670 auger and 11 sonic drill holes and by applying the latest exploration techniques (*e.g.*, geophysics, geology, geochemistry) to develop high confidence targets for future drilling programs and mineral resource delineation and estimation.

The Authors are not aware of any other significant risks or uncertainties that would impact the Issuer's ability to perform the recommended work program (*see* Section 26) and other future exploration work programs on the Property.

25.5 Conclusions

Based on the Property's favourable location in southwestern Oregon, an area known to host numerous laterite nickel-cobalt properties including those that are located immediately south of Oregon in northern California, the Property presents an excellent opportunity to develop nickel mineral resources and to make additional discoveries of nickel-cobalt laterite mineralization.

Characteristics of mineralization on the Red Flat Property and the knowledge gained from drilling to date, are of sufficient merit to justify additional surface exploration work, including rock and soil sampling, trenching, geophysics, and metallurgical and mineralogical studies, with the aim to develop drill targets for future drilling.

26.0 RECOMMENDATIONS

It is the opinion of the Authors that the geological setting and character of the nickel laterite mineralization discovered to date on the Red Flat Ni-Co Property is of sufficient merit to justify additional exploration expenditures on the Property. A recommended work program, arising through the preparation of the Report and consultation with the Company, is provided below.

A Phase 1 exploration program is recommended (Table 26-1), consisting of a high resolution airborne magnetic survey, rock/soil sampling and assays, review and validation of all surface and drill hole sampling and related assays, and a maiden NI 43-101 mineral resource estimate and technical report. The estimated cost for the recommended Phase 1 component of exploration work is approximately C$200,000 (Table 26-1). The recommended Phase 1 exploration program could be accomplished within a 12 month period.

Table 26-1. Budget estimate for a recommended Phase 1 exploration program, Red Flat Ni-Co Property.

ITEM	DESCRIPTION	AMOUNT (C$)
Geophysics	High resolution airborne magnetics survey	$75,000
Geochemical Survey	Surface rock and soil sampling; assays	$50,000
Data Review and Validation	Data confirmation (geochemistry; drilling); maiden mineral resource estimate	$50,000
Technical Reporting	Reporting	$25,000
	Total (C$):	**$200,000**

Budget does not include G&A and associated taxes and fees.

26.1 General Recommendations

General recommendations, compiled during the preparation of the Report, are as follows:

- All drill hole collar locations, future, current and where possible historical, should be surveyed using a differential GPS (DGPS) system to ensure higher accuracy in the X, Y, Z coordinates.
- Previous work in 2007 and 2009 was geolocated using the Oregon State Plane Coordinate System. It is recommended that future work be done using the NAD83 (CONUS) or WGS84 datum. Conversion of the previous work to one of these other datums should be completed.
- 3D geological and surface modelling should be completed.
- A LiDAR survey over the Property should be considered.
- A robust QA/QC program for surface rock and geochemical sampling should be developed; this could also be applied to any future drilling programs.
- A more robust style of drilling should be considered for future programs such as reverse circulation (RC) drilling, as it will facilitate complete sampling from surface into the underlying bedrock.

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