NI 43-101 Technical Report on the Highfield Base Metal Property

Avondale, Nova Scotia

Submitted to:

Mountain Lake Minerals Inc.

Effective Date: December 15, 2018
Signing Date: January 10, 2019

Submitted by:

David R. Duncan, P. Geo.

Project No: 18-003

IMPORTANT NOTICE

This report was prepared as a National Instrument 43-101Technical Report for Mountain Lake Minerals Inc. by D. R. Duncan & Associates Ltd. (DRDAL). The quality of information and conclusions contained herein is consistent with the level of effort involved in DRDAL's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Mountain Lake subject to the terms and conditions of the contract with DRDAL. This contract permits Mountain Lake to file this report as a Technical Report with Canadian Securities Regulatory Authorities pursuant to National Instrument 43-101, *Standards of Disclosure for Mineral Projects.* Except for the purposes legislated under provincial securities law, any other uses of this report by any third party is at that party's sole risk.

Table of Contents

List of Tables

List of Figures

List of Abbreviations

Abbreviation	Term
°	degrees
°C	degrees Celsius
%	percent
$	$US dollar(s)
3D	three dimensional
AA	atomic absorption
Ag	silver
Au	gold
AuEq50	gold equivalent at 50/1 Ag/Au ratio @ 100% met recovery
cm	centimeter(s)
g/t	gram per tonne
FA	fire assay
g	gram(s)
ha	hectare(s)
ICP	inductively coupled plasma
ID2	inverse distance squared
in	inch(es)
kg	kilogram(s)
km	kilometer(s)
L	litre(s)
m	metres
m3	cubic metre(s)
mm	millimeter (s)
Mt	million tonnes
oz	troy ounce(s)
QA/QC	quality assurance/quality control
ppb	parts per billion
ppm	parts per million
t	tonne(s)
t/m3	tonnes per cubic metre
Kozs	kilo ounces
Mozs	million ounces
g/l	gram per liter
P80	80% passing
kg/t	kilograms per tonne
NaCN	Sodium Cyanide
WGS84	World Geodetic System 1984

Metric Conversions

To Convert From	To	Multiply By
Feet	Metres	0.3048
Metres	Feet	3.281
Miles	Kilometres	1.609
Kilometres	Miles	0.621
Acres	Hectares	0.405
Hectares	Acres	2.471
Grams	Ounces (Troy)	0.032
Ounce (Troy)	Grams	31.103
Tonnes	Short tons	1.102
Short tons	Tonnes	0.907
Grams per tonne	Ounces (Troy) per ton	0.029
Ounces (Troy) per ton	Grams per tonne	34.438

1.0 EXECUTIVE SUMMARY

The Highfield Base Metal Property ("Property") is held by Mountain Lake Minerals Inc. ("Mountain Lake") under a Mineral Exploration Licence issued by the Province of Nova Scotia in 2007. The property is located on the Avon Peninsula near Windsor, Nova Scotia and is adjacent to Fundy Gypsum's Miller Creek open pit mine, closed since 2009.

D. R. Duncan & Associates Ltd. ("Duncan") was retained by Mountain Lake to prepare an independent Qualified Person's Review and National Instrument 43-101 Technical Report ("NI 43-101") for the Property. Mountain Lake owns a 100% interest in the Property, which consists of one (1) mineral exploration licence (06922) covering a total area of 388.5 hectares, through its acquisition of Gifthorse Resources Inc. in late 2018.

The property is underlain by Carboniferous Windsor Group carbonates, evaporites, sulphates, and intercalated clastic lithologies. The Cambro-Ordovician metasediments of the Meguma Group form the pre-Carboniferous basement. The Meguma rocks were tightly folded during the Acadian Orogeny into long NE-SW anticlines and synclines which have been faulted and jointed (Patterson, 1993). Erosion of this basement into irregular knobs and ridges was controlled by these structures prior to deposition of overlying Carboniferous sediments (including the Macumber Formation). Unconformably overlying the Meguma are Horton Group clastic rocks followed by younger Windsor Group marine sediments. It is these Windsor Group carbonates which are the host for Mississippi Valley Type ("MVT") carbonate-hosted base metal (Zn-Pb) deposits in Nova Scotia.

This Technical Report describes the early stage geophysical and diamond drilling programs carried out in 2007, Mountain Lake's diamond drilling program in 2018 and the mineralization potential of the property.

In 2007, drill hole 07-GHR-003 penetrated 7.0 metres of the basal carbonate Macumber Formation limestone at a depth of 438 to 445 metres on the property. Although the section was unmineralized, minor vein sulphide mineralization was intersected in deeper sandstones of the Cheverie Formation which was interpreted to represent a feeder system.

The local geology is poorly understood due to extensive till cover, block faulting, and limited subsurface drilling.

Mountain Lake spent a total of $195,000 on the property in 2019 and completed a two (2) hole diamond drilling program during August and September 2018.

The author is of the opinion that the potential for Walton or Gays River type lead zinc deposit exists within the property held by Mountain Lake as discussed in this Report and further evaluation is warranted. An exploration budget of $209,000 for Phase 1 has been recommended.

2.0 INTRODUCTION

2.1 Project scope and Terms of Reference

This NI 43-101 Technical Report was prepared by David R. Duncan, P. Geo., on behalf of Mountain Lake Minerals Inc. Mountain Lake's wholly owned subsidiary 1167343 B.C. Ltd. ("Spinco") has entered into asset purchase agreements to acquire a 100% interest in the Highfield Base Metal property (the "Property") located in Windsor, Nova Scotia.

The Property is currently held by two (2) private companies (the "Vendors") and was acquired by Spinco in consideration of the issuance of 3,500,000 common shares of Spinco and the grant of an aggregate 2.0% net smelter royalty to the Vendors, of which 0.5% may be purchased by Spinco at any time for $50,000.

A portion of the Property is currently subject to an existing 0.75% net smelter royalty of which 0.50% may be purchased at any time for $250,000. Spinco shall also pay a finder's fee of 6% of the shares issuable, being 210,000 common shares, to a finder in connection with the acquisition of the Property.

The purpose of the Report is to provide an independent and detailed assessment of the exploration potential on the Highfield property located in Hants County, Nova Scotia.

Terms of reference for this Report were established through discussions between representatives of Mountain Lake and the author on August 20, 2018. Mountain Lake began a diamond drilling program in early August 2018 and the program is an early stage project. The intent and purpose of this Technical Report is to prepare a geological introduction to the Highfield Property and report on the 2018 exploration results that is in accordance with NI 43-101 and amended and adopted Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Definition Standards (May 10, 2014). The effective date of this report is December 15, 2018.

The material in this Technical Report is a compilation of publicly available information, including internal information obtained from Mountain Lake. References in this Technical Report are made to publicly available reports that were written prior to implementation of NI 43-101, including government geological publications and Mineral Assessment Reports that were filed with and available through the Nova Scotia Department of Energy and Mines Geoscience and Mines Branch ("NSDEM") and the Geological Survey of Canada ("GSC"). All reports are cited in the References. The author visited the property on numerous occasions during August and September 2018 and has reviewed all pertinent data provided by Mountain Lake. During these visits, the author was able to examine the 2018 drill core. Portions of the 2007 core holes stored at the NSDEM facilities in Stellarton, Nova Scotia were also examined by the author in December 2018.

David R. Duncan, P. Geo., the author of this Technical Report is an independent Qualified Person as defined under NI 43-101 and has carried out all work associated with report preparation on a fee for

service basis. The author has specific knowledge and of the geology and mineralization type detailed in this report.

3.0 RELIANCE ON OTHER EXPERTS

Neither DRDAL nor the author of this Technical Report are qualified to provide or comment on legal issues associated with the Property or in particular, the scope and intent of Sections 1 and 4 of this Report pertaining to legal and title issues. The information in these sections relies heavily on guidance and input from Mountain Lake, which has not been independently verified by DRDAL.

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

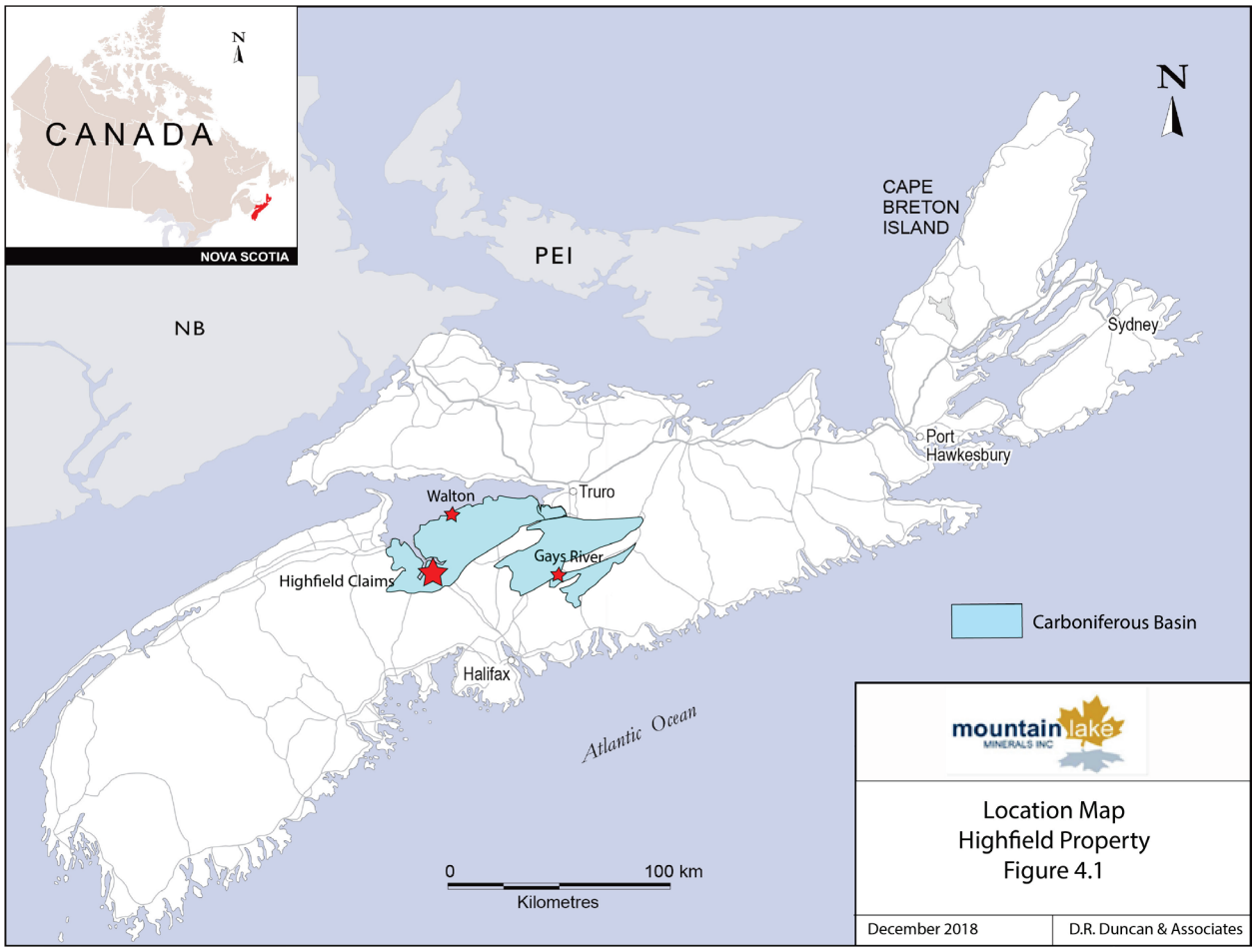
The author has checked mineral exploration title status and assessment Reports on Mountain Lake licenses on the Department of Energy and Mines "NovaROC" website. This website was accessed on August 25, 2018.

A draft copy of this Technical Report has been reviewed for factual errors by Mountain Lake and the author has relied on Mountain Lake's historical and current knowledge of the Property in this regard. Any statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false or misleading at the date of this Technical Report.

4.0 PROPERTY DESCRIPTION AND LOCATION

The Highfield Property is located on the Avon Peninsula in the northeastern quadrant of NTS Map Sheet 21H/01A "Wolfville" covering the area north of Windsor, Hants County, Nova Scotia. The property is bounded on the south by the Fundy Gypsum Non-Mineral Registration No. 002 and located about 6km north of the town of Windsor, or 70 kms NNW of Halifax, Nova Scotia (see Figures 4.1 and 4.2).

Figure 4.1 Location of the Project site



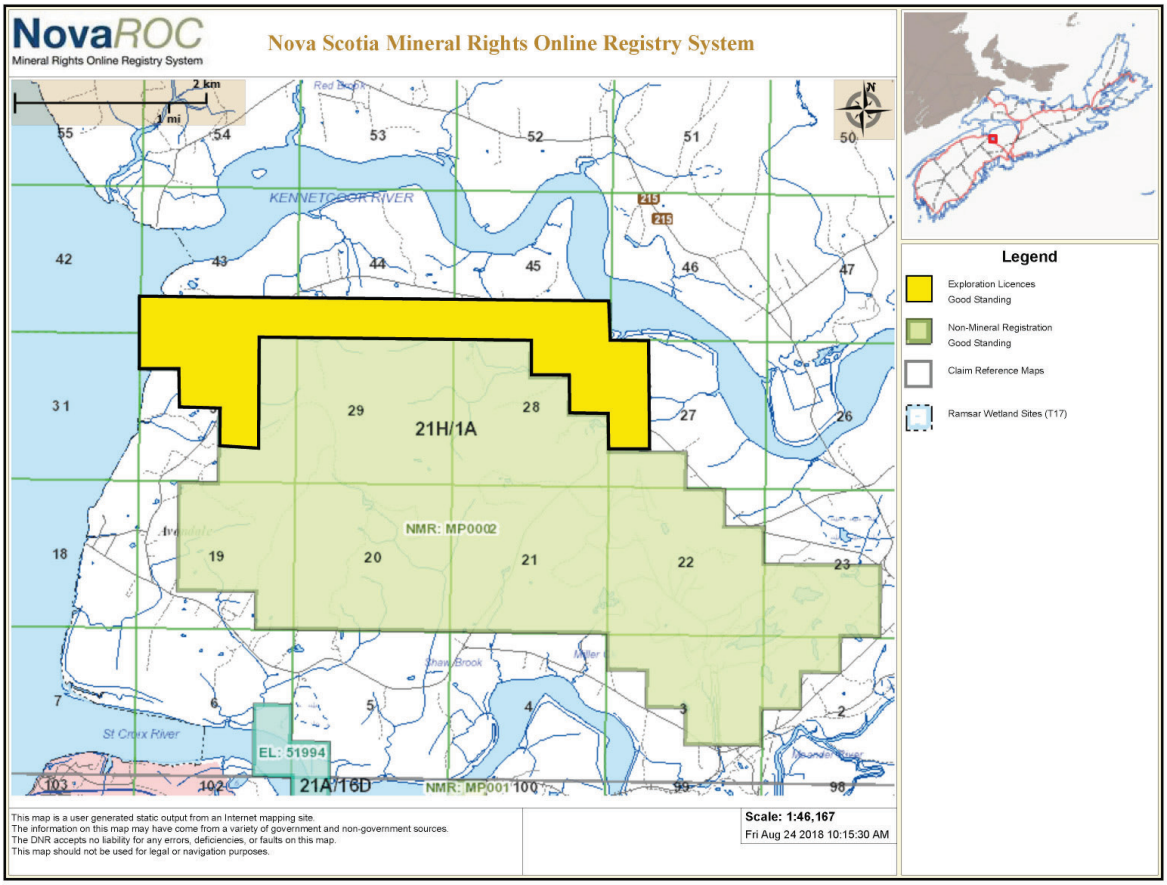
4.1 Exploration Holdings

The mineral exploration claims that comprise the Highfield property, as defined in this report, are registered to Gifthorse Resources Inc. which holds a 100% interest in the twenty-four (24) claims held under Mineral Exploration Licence 06922 covering a total area of 388.5 hectares. A summary of the claims is given in Table 4.1.

Table 4.1 List of Claims

Licence #	Map	Tract #	Claim #	Number
6922	21H/01A	27	E, M, N	3
6922	21H/01A	28	J, P, Q	3
6922	21H/01A	30	G, L, K, N, O, P	6
6922	21H/01A	43	A,B,C, D	4
6922	21H/01A	44	A,B,C, D	4
6922	21H/01A	45	A,B,C, D	4
			Total	**24**

Figure 4.2 Location Map for Exploration License No. 06922



4.2 Conditions of Exploration Title

Mineral exploration titles in Nova Scotia are defined and managed under the terms and conditions of the Mineral Resources Act 1990 and the associated Mineral Regulations as amended to date. An "exploration licence" gives the licensee the exclusive right to explore for minerals in, on or under the area of land described in the licence.

A licence can contain a maximum of 80 claims, all of which must be contiguous. In Nova Scotia, the base maps must be used as the basis for establishing claim reference maps to determine the boundaries of claims, licences, leases and non-mineral registrations.

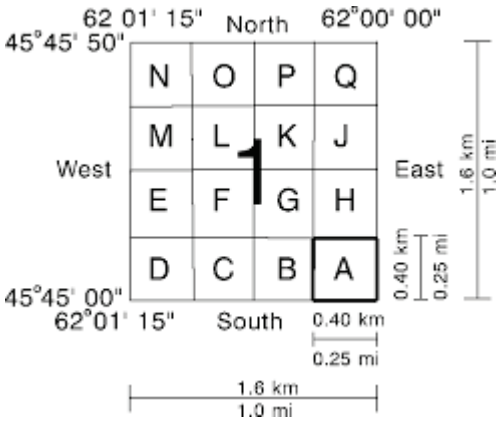
The area represented by each base map must be subdivided into four (4) claim reference maps, as shown in Figure 1 in Section 8, by median lines corresponding to the median longitude and latitude lines of the base map, and the four (4) claim reference maps produced must be lettered A for the southeast quarter, B for the southwest quarter, C for the northwest quarter and D for the northeast quarter. Each claim reference map must be identified by the numbering of the base map of origin and the appropriate quarter section letter. Claim reference maps maintained by the Registrar are conclusive as to the matters shown on them and are the sole official depiction of the relative location and extent of mineral rights and non-mineral registrations.

Each claim reference map must be subdivided into 108 tracts by twelve (12) equal divisions on latitude and nine (9) equal divisions on longitude with the following specifications:

(a) the east and west boundaries of each tract must be true meridians of longitude;
(b) the north and south boundaries of each tract must be straight lines parallel to the chord of one-half of the part of the parallel of latitude that represents the south boundary of each claim reference map; and
(c) the angle of intersection of each chord on either side of the median meridian of longitude for each claim reference map must be 90°.

Each tract must contain 259 ha, more or less. The 108 tracts on a claim reference map must be numbered as shown in Figure 2 in Section 8. Each tract on a claim reference map must be subdivided into sixteen (16) claims, by four (4) equal divisions on latitude and 4 equal divisions on longitude. The sixteen (16) claims in each tract of a claim reference map must be lettered as shown in Figure 3 in Section 8.

Figure 4.3 Nova Scotia Claim System



An application for a map staked licence in Nova Scotia is made through the online registry system NovaROC. Each claim staked in a licence requires payment of a CDN $10 fee.

A licence may be renewed at any time after the first day of the licence within a period of twelve (12) months and before the anniversary of the licence.

If an exploration licence is renewed more than thirty (30) days before the anniversary of the licence,

(a) there is no refund of all or any portion of the paid application fees;
(b) work credits that have been allocated must not be redistributed until the next renewal of the licence; and
(c) if additional assessment work is submitted before the next renewal, the assessment work must, subject to Section 39, be added to existing work credits
  (i) at 100% of acceptable cost, if filed in the licence year during which the work was performed, or
  (ii) at 50% of acceptable cost, if filed at a later date.

The minimum value of acceptable assessment work that must be submitted for the renewal of an exploration licence is

Year of Licence	**Dollars per Year per Claim**
1st to 10th	$200
11th to 15th	$400
16th and after	$800

4.3 Underlying Agreements/Acquisitions

Mountain Lake has advised the author, as of the effective date of this Report, that it holds a 100% interest in the Highfield Property. The author is not otherwise aware of any back-in rights, payments, agreements or other encumbrances that apply to the project. At the effective date of this Report, the

author had no reason to question the ownership and mineral title asset status assertions provided by Mountain Lake.

Mountain Lake's wholly owned subsidiary 1167343 B.C. Ltd. ("Spinco") purchased the property from one (1) private company (the "Vendor") in consideration of the issuance of 3,500,000 common shares of Spinco and the grant of an aggregate 2.0% net smelter royalty to the Vendors, of which 0.5% may be purchased by Spinco at any time for $50,000. A portion of the Property is currently subject to an existing 0.75% net smelter royalty of which 0.50% may be purchased at any time for $250,000.

Spinco shall also pay a finders fee of 6% of the shares issuable, being 210,000 common shares, to a finder in connection with the acquisition of the Property.

Mountain Lake entered into an arrangement agreement dated June 7, 2018 (the "Arrangement Agreement") with Spinco under which it proposes to complete a spin-off of its mining assets under a plan of arrangement (the "Spin-Off"), which will now include the Property.

Pursuant to the Arrangement Agreement, Mountain Lake will transfer to Spinco its existing mineral property assets in exchange for the issuance of common shares of Spinco to be distributed to Mountain Lake's shareholders by way of a plan of arrangement. The Company will contribute $1,000,000 to Spinco for working capital. The Spin-Off will require the approval of the Company's shareholders, as well as the B.C. Supreme Court, and will be completed following the completion of the fundamental change transactions involving the acquisitions of two ACMPR applicants (see the Company's press release dated June 8, 2018 for additional details).

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

The Highfield Property is located on the Avon Peninsula in the northeastern quadrant of NTS map sheet 21H/01A covering the area north of Windsor, Nova Scotia. The Highfield property is bounded on the south by the Fundy Gypsum Mining Lease and the Avon River on the north. The claim block is situated six (6) km north of the town of Windsor and about seventy (70) km NNW of Halifax. The paved highway #215 "Belmont Road" crosses the property from east to west and provides excellent access to the entire property.

The claims are accessible via the Belmont Road No. 215. The shortest route from Halifax would be to take Highway 101 leading to the Annapolis Valley, take Exit 5 off Highway 101 and proceed east along Highway 14 for 7.5 km to the junction in Brooklyn, NS. Then turn onto No. 215 northwest for 1.7 km to a fork in the road and take the left fork going west to the Belmont Road. This road enters the eastern end of the property about 1.3 km northwest of the Belmont intersection and leaves the southwestern boundary near Avondale.

5.2 Climate

Climatic conditions are temperate in the Windsor area. Mean annual total precipitation for the region is 1,280 millimetres. Mean July daily temperature is 15°C.

Figure 5.1 Annual Temperatures

Climate data for Windsor (Martock), 1981–2010 normals, extremes 1871–2005 [hide]

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	18.5 (65.3)	19.5 (67.1)	27.0 (80.6)	28.5 (83.3)	34.0 (93.2)	35.6 (96.1)	35.0 (95)	37.8 (100)	34.0 (93.2)	30.0 (86)	22.0 (71.6)	17.5 (63.5)	37.8 (100)
Average high °C (°F)	−1.0 (30.2)	0.2 (32.4)	4.0 (39.2)	10.1 (50.2)	17.1 (62.8)	22.1 (71.8)	25.5 (77.9)	25.1 (77.2)	20.6 (69.1)	14.2 (57.6)	8.0 (46.4)	2.4 (36.3)	12.4 (54.3)
Daily mean °C (°F)	−5.5 (22.1)	−4.4 (24.1)	−0.6 (30.9)	5.3 (41.5)	11.3 (52.3)	16.2 (61.2)	19.9 (67.8)	19.5 (67.1)	15.2 (59.4)	9.4 (48.9)	4.2 (39.6)	−1.6 (29.1)	7.4 (45.3)
Average low °C (°F)	−9.9 (14.2)	−9.1 (15.6)	−5.2 (22.6)	0.4 (32.7)	5.5 (41.9)	10.3 (50.5)	14.2 (57.6)	13.9 (57)	9.8 (49.6)	4.6 (40.3)	0.3 (32.5)	−5.6 (21.9)	2.4 (36.3)
Record low °C (°F)	−29.4 (−20.9)	−32.5 (−26.5)	−23.9 (−11)	−13.9 (7)	−5.0 (23)	−2.2 (28)	3.3 (37.9)	0.0 (32)	−2.5 (27.5)	−7.8 (18)	−16.7 (1.9)	−25.0 (−13)	−32.5 (−26.5)
Average precipitation mm (inches)	147.1 (5.791)	107.2 (4.22)	126.1 (4.965)	103.3 (4.067)	95.3 (3.752)	82.8 (3.26)	83.9 (3.303)	76.3 (3.004)	105.6 (4.157)	108.8 (4.283)	143.6 (5.654)	129.7 (5.106)	1,309.6 (51.559)
Average rainfall mm (inches)	71.9 (2.831)	54.6 (2.15)	83.2 (3.276)	88.6 (3.488)	93.7 (3.689)	82.8 (3.26)	83.9 (3.303)	76.3 (3.004)	105.9 (4.169)	108.8 (4.283)	127.0 (5)	84.0 (3.307)	1,060.2 (41.74)
Average snowfall cm (inches)	75.2 (29.61)	52.6 (20.71)	42.9 (16.89)	14.7 (5.79)	1.6 (0.63)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	16.6 (6.54)	45.7 (17.99)	249.4 (98.19)

Source: Environment Canada[9][10][11]

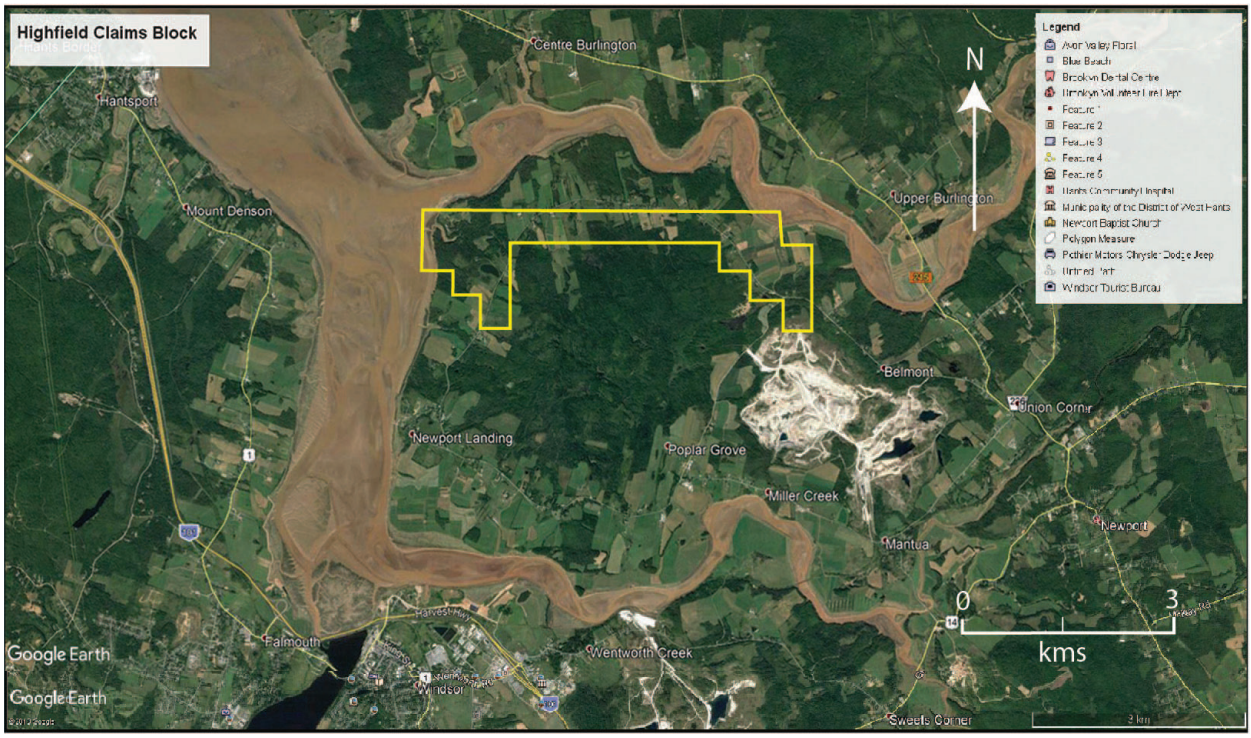
5.3 Physiography

The regional physiography of the western part of Hants County, surrounding the project area has been influenced by the variable hardness of four rock groups, soft sediments and the changing sea level. The Avon River Valley, with the St. Croix River, Kennetcook River, Cogmagun River and many other smaller streams draining into it, is located mainly on the softer rocks of siltstone, sandstone, gypsum and anhydrite of the Windsor Group and on the unconsolidated clay, silt, sand and combinations thereof with enclosed pebbles and cobbles (glacial and recent deposits).

The Avon Peninsula is defined as being within the perimeter formed by the St. Croix, Avon and Kennetcook Rivers and the Lawrence Road. It consists of tidal marshland, dyke land, small drainage areas and many hills generally thirty (30) to sixty (60) metres high with a maximum height of 75.4 metres. The hill tops are 500 to 1000 metres apart. The area is underlain by the Windsor Group of rocks consisting of gypsum, anhydrite, limestone and siltstone. The surficial material over areas where there is no bedrock outcropping consists of silts, clays, and muds with scattered cobbles and some sandy areas.

There are karst features throughout the area, but they are more abundant in the higher central area.

Figure 5.2 Highfield Claims Block



5.4 Local Resources and Infrastructure

The Avon Peninsula is rural and has been farmed and logged. The largest local employers were an open pit gypsum mine and rail shipment facility operated by Fundy Gypsum at Miller Creek up to 2010. The Town of Windsor is located approximately ten (10) km by road from the property and is the regional center of population, government, business, education, industry and transportation services. The Robert Stanfield International Airport is located approximately seventy (70) km south east of the property and provides daily domestic and international airline service.

6.0 HISTORY

6.1 Introduction

Although the gypsum deposits in Nova Scotia were recognized as early as the seventeenth century, there are no historical accounts of mining operations prior to 1779. The gypsum industry on the Avon Peninsula began soon after the arrival of the Planters who commonly used gypsum as fertilizer (Shand, 1979). In the 1830's, Avondale emerged as a scene of large-scale wooden shipbuilding enterprises resulting in increased mining and transportation/marketing along the eastern seaboard of the United States.

Small scale mining activities on the Avon Peninsula continued to 1956 when Fundy Gypsum Ltd. opened the Miller's Creek Quarry on the east side of the Ferry Road. Mapping and interpretation of the geology west of the Ferry Road by Dr. R. G. Moore of Acadia University began in 1973 for the Fundy Gypsum Ltd. Core drilling and interpretation of the area took place in 1996, 1998, 2000, 2005 and 2006. A large body of gypsum was defined west of the Ferry Road and Fundy Gypsum planned to extend the Miller Creek Quarry into this new area. Fundy submitted an Environmental Assessment Registration Document for a mine expansion in 2008 but the entire operation was put on care and maintenance in 2009 due to poor gypsum markets.

6.2 Government Surveys

The earliest mapping of the Avon Peninsula was carried out by E. R. Faribault and H. Fletcher in 1909. The most modern map compilation was prepared by Moore, et al., 2000 and releases as a Nova Scotia Department of Natural Resources, 1:50,000 scale Open File Map (OFM ME 2000-3) entitled Geological Map of Wolfville-Windsor Area, NTS sheet 21H/01 and part of 21A/16, Hants and Kings Counties, Nova Scotia.

6.3 History of Industry Surveys

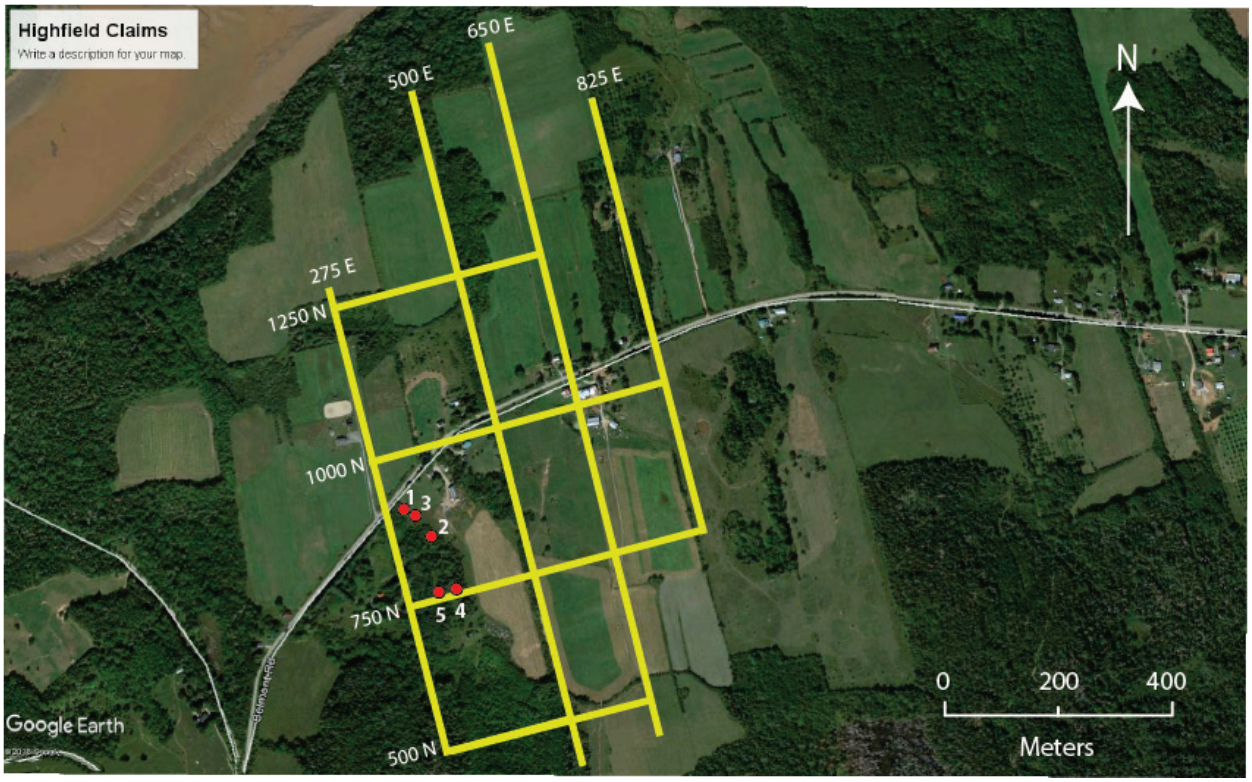
Gifthorse Resources Inc. staked General Exploration Licence # 06922 on June 26, 2006 over the Highfield property. The licence consisted of fifty-two (52) claims covering 946.2 hectares and shares a common boundary along the northern border of Fundy Gypsum's Miller Creek property.

In the summer of 2007, Gifthorse contracted Matrix GeoTechnologies to carry out an Induced Polarization, Resistivity and ground Magnetic surveys on the property. The objectives of the program were to;

1. Document the physical properties of the major lithologic units and alteration patterns for compilation with the exploration database.
2. Generate a conceptual geological model using the Time Domain induced Polarization/Resistivity and Magnetic data, and
3. Increase the exploration program efficiency by better directing the future exploration works and to assist in mapping of general geology, location structural and alteration features that may favor the precious and base metals in the surveyed areas.

In July of 2007, Gifthorse completed three (3) diamond drill holes (NQ size) totaling 964 m on the property. The first two holes were abandoned above the proposed target depths due to drilling complications. The third hole (07GHR-003) was drilled to a final depth of 700 m and bottomed in the Horton Bluff Formation Bluebeach member.

Figure 6.1 2007 Geophysics Grid and ddh Locations



7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The Windsor map area includes most of the major rock units constituting southern mainland Nova Scotia (Boehner et al, 1999). These include the Cambrian to Devonian metasedimentary and metavolcanic rocks of the Meguma Terrane; late Devonian peraluminous granitoid rocks of the South Mountain Batholith; sedimentary rocks of the Carboniferous Windsor Basin; Mesozoic (Late Triassic to Early Jurassic) Fundy Basin sedimentary and volcanic rocks; and locally, rare Early Cretaceous unconsolidated sand and clay (Boehner, et al, 1999).

The area also contains type and reference sections for many rock units including; the lower to middle Paleozoic White Rock, Kentville and New Canaan formations (stratigraphically above the Goldenville and Halifax formations of the Meguma Group); the Carboniferous Horton and Windsor Groups (Bell, 1929, 1958) and the Wolfville, Blomidon, North Mountain and Scots Bay formations of the Mesozoic Fundy Group (Boehner, et al, 1999). See Figures 7.1 and 7.2.

The Windsor (Kennetcook) Basin is a northeasterly elongated structural basin in central mainland Nova Scotia. The Windsor Basin together with the adjacent Shubenacadie and Musquodoboit basins comprise the Minas Sub-basin and are depositionally and structurally related and represent the present-day erosional remnants of the late Paleozoic overstep to the south onto the Meguma Platform.

The Windsor Basin has had a long history of mineral exploration and mining as well as petroleum exploration.

Figure 7.1 Geological Cross Section of the Windsor Basin

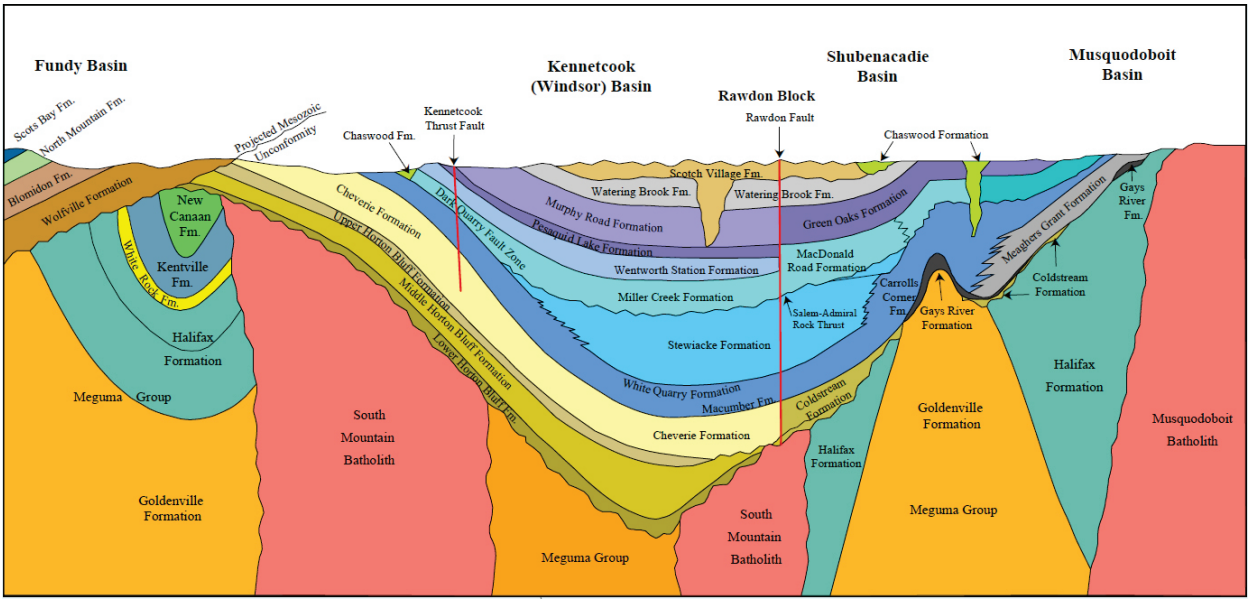


Figure 7.2 Paleontology and Generalized Stratigraphy of the Windsor Group

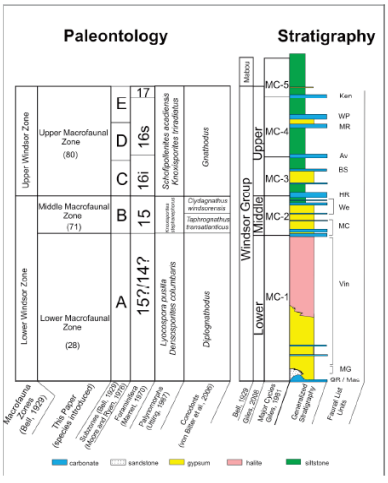


Figure 1. Summary of the paleontology and generalized stratigraphy of the Windsor Group. Faunal list units are limestone members after Moore and Ryan (1976). Ken = Kennetcook, WP = Wallace Point, MR = Meander River, Av = Avon, BS = Brooklyn Station, HR = Herbert River, We = Wentworth, MC = Miller Creek, Vin = Vinland evaporites, MG = Meaghers Grant clastics, GR = Gays River and Mac = Macumber.

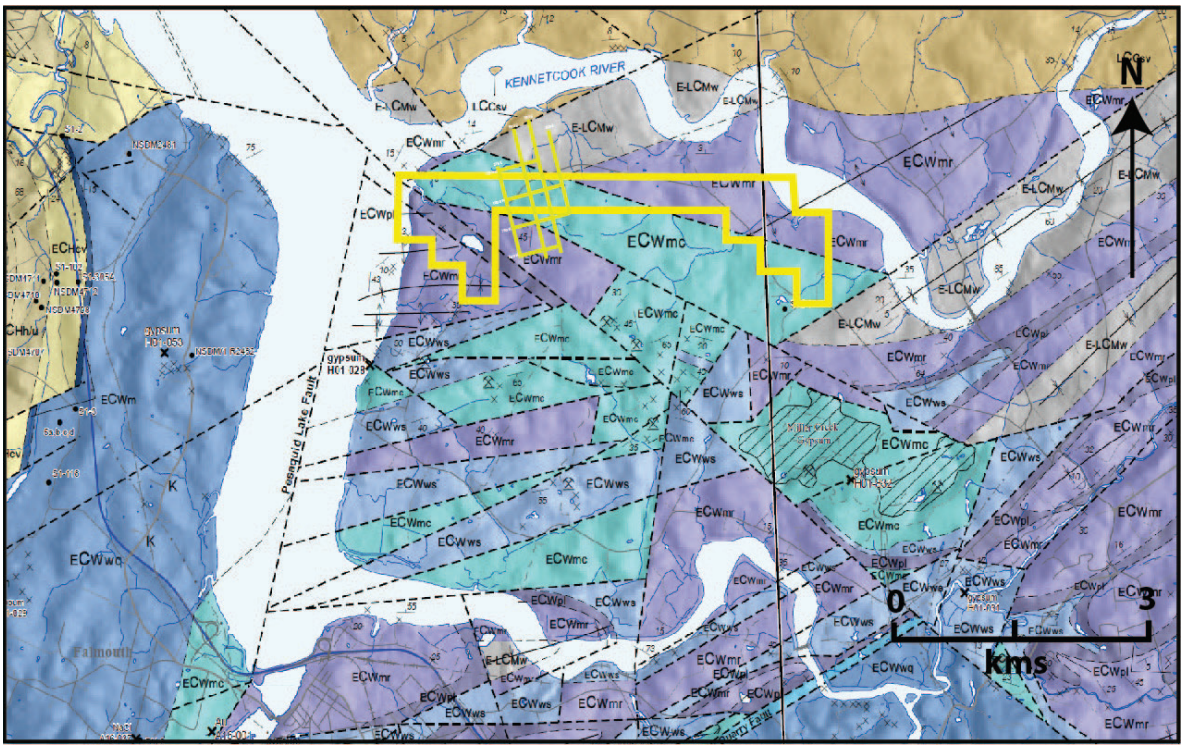
7.2 Local Geology

The Highfield property is underlain by early Carboniferous sediments of the Horton and Windsor Groups. The oldest of these rocks is the Horton Group which consists of approximately 1,200 metres of sandstones, conglomerates and shales deposited in a fluviatile environment. These are unconformably overlain by marine sediments of the Windsor Group. These consist of limestone, limestone conglomerate, shale, gypsum, anhydrite and salt (see Figure 7.3).

The Horton Group is divided into two formations; the Horton Bluff Formation and the Cheverie Formation. The Cheverie Formation is present in the Avon Peninsula area and consists of red to brown shales, arkosic grit and grey sandstone.

The basal member of the Windsor Group is the Macumber Formation. This conformably overlies the Cheverie Formation in the Windsor area and consists of one (1) to ten (10) metres of well laminated fissile grey limestone. This marks the first marine transgression over the clastic terrigenous sediments of the Horton Group. The Macumber is overlain disconformably by a limestone conglomerate, massive limestone and limey siltstone called the Pembrooke Formation. This unit contains clasts of Macumber limestone in a silty matrix. Overlying the Pembrooke Formation is a sequence of anhydrite, gypsum with interbedded shale and local salt of the Vinland Formation. The Tennycape Formation overlies the Vinland Formation and consists of fine to medium grained, predominantly red/brown siltstone.

Figure 7.3 Geological Plan Map of the Avon Peninsula with Highfield Claim Block



8.0 DEPOSIT TYPES

Mining activity in the western part of the Windsor Basin has focused on the extensive industrial mineral resources for over the past 200 years. Mineral exploration has focused on base metal sulphide, manganese and iron oxide, and barite deposits found associates with the basal limestone of the Windsor Group. The most significate of these are the Gays River (lead, zinc); Smithfield (lead, zinc); Walton (barite, silver) and Tennycape (manganese).

The Walton barite deposit was a major carbonate-hosted barite and base metal/silver deposit discovered in the 1940's and in production until the late 1970's. Gypsum and anhydrite occur in extensive deposits in the area. Major production occurred for more than fifty (50) years at the Miller Creek and Wentworth quarries operated by Fundy Gypsum Ltd. Petroleum exploration drilling was undertaken in the Cheverie, Falmouth and Kennetcook areas in the early 1900's, focusing on plays in the Horton Group and the lowermost part of the Windsor Group because of potential reservoirs in the Horton and evaporate seals in the Windsor (Boehner, et al. 1999).

9.0 EXPLORATION

9.1 Description/Implementation of Work

Other than some references to gypsum showings, there is little to no exploration work carried out on the Highfield property prior to the 2006 work by Gifthorse Resources under the direction of Riteman.

The focus of the Gifthorse exploration program on the Highfield property was to search for base metal deposits in the Macumber Formation at the base of the Windsor Group, a geological setting already demonstrated to host established deposits. Riteman (2007, b) performed extensive structural analysis of the settings of the various deposits and concluded the deposits at Gays River and Smithfield occur on the northern flanks of Meguma Group anticlinal highs.

Through the analysis of aeromagnetic data, Riteman concluded that one of the Meguma Group anticlinal structures occurs at depth beneath the Highfield property on the Avon Peninsula. Riteman also concluded in his analysis of the basin that a north-northeast cross cutting fault system is present at Gays River and Smithfield deposits and a similar fault system cuts through the Highfield property. Riteman (2007, b) recommended a program of four lines of magnetic and deep penetrating IP to identify drill targets. A chargeability high zone was defined striking east-west, suggesting the possible presence of mineralization.

9.2 Geophysics

In the summer of 2007, Gifthorse contracted Matrix GeoTechnologies to carry out an Induced Polarization, Resistivity and ground Magnetic surveys on the property. The objectives of the program were to;

a) Document the physical properties of the major lithologic units and alteration patterns for compilation with the exploration database;
b) Generate a conceptual geological model using the Time Domain induced Polarization/ Resistivity and Magnetic data, and
c) Increase the exploration program efficiency by better directing the future exploration works and to assist in mapping of general geology, location structural and alteration features that may favor the precious and base metals in the surveyed areas.

Figure 9.2.1 Plan Map of 2007 Gradient IP Survey showing ddh Locations

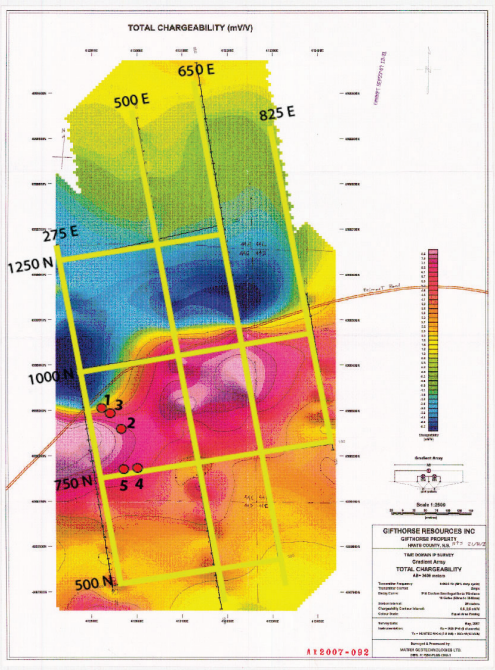


Figure 9.2.2 Induced Polarization Pseudo Section of L275E Dipole: Pole Array

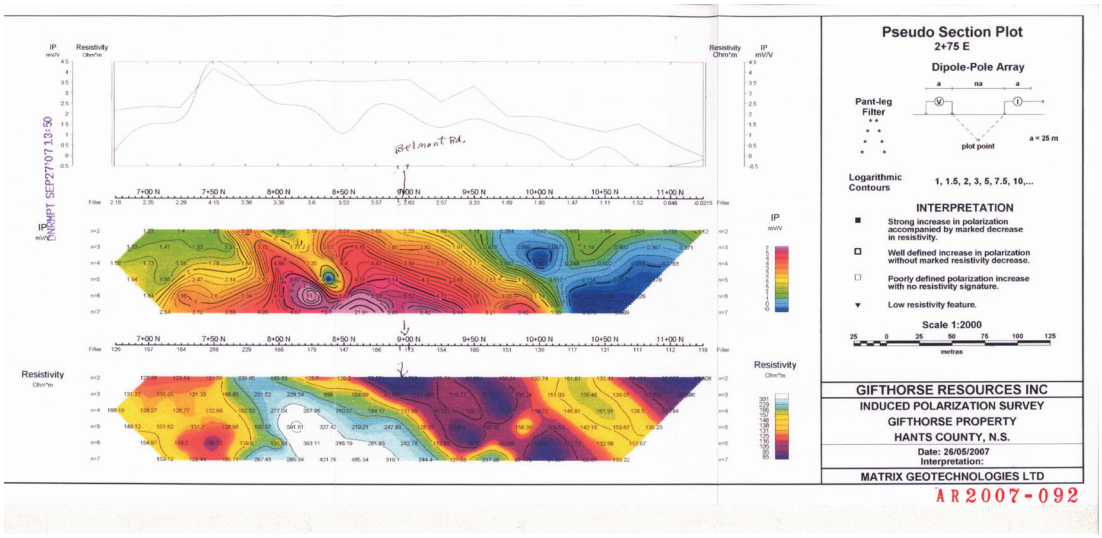
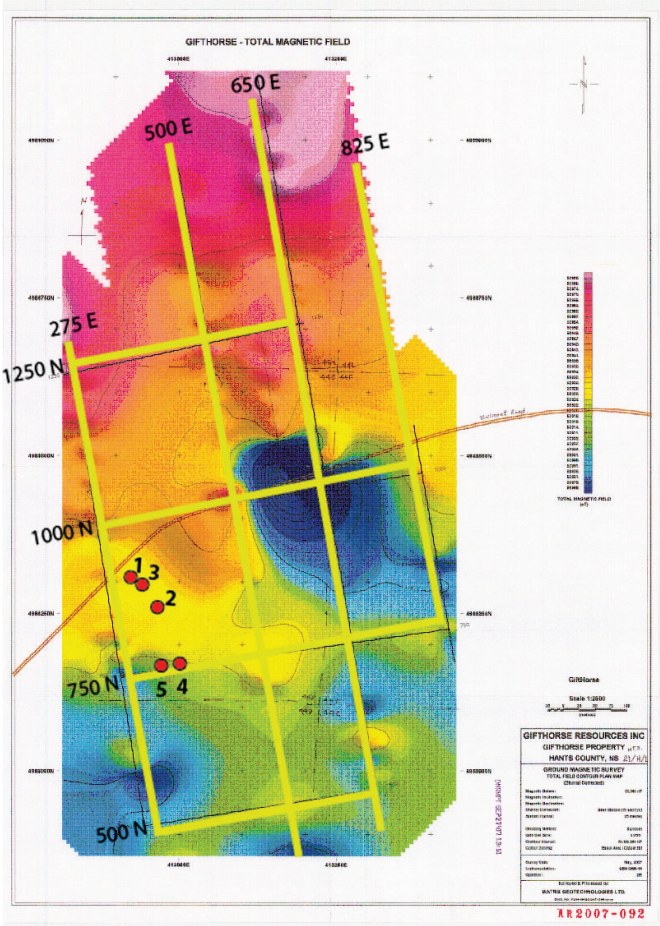


Figure 9.2.3 Plan Map of 2007 Total Field Magnetic Survey with ddh Locations



10.0 DRILLING

Two reconnaissance drilling programs have been completed on the property. Five (5) holes totalling 1,842m of diamond drill core were completed (see Table 10.1 for locations and details).

Table 10.1 List of Diamond Drill Hole Locations on the Highfield Property

Hole ID	Zone	Nad83E	Nad83N	Elev. (m)	Azimuth	Dip	Length (m)
07-GHR-001	20	412850	4988225	36	360	-90	117
07-GHR-002	20	412900	4988100	59	330	-78	147
07-GHR-003	20	412937	4988460	35	304	-87.3	700
18-GHR-004	20	413002	4988315	52	360	-90	304
18-GRH-005	20	412977	4988323	47	360	-90	574
						Total	1842

10.1 2007 Diamond Drilling Program

In July 2007, Gifthorse completed three (3) diamond drill holes (NQ size) totaling 994 m on the property. The first hole was collared on Line 2+75E at 860N to test the prominent chargeability high anomaly defined by the IP survey. The first hole was abandoned due to drilling complications at a depth of 117 m, well above the proposed target depth. The drill was moved about 75 m to the east and about 150 m to the south of the first hole. This hole was also abandoned at a depth of 147 m due to drilling complications as well.

The company requested the drilling contractor to make some technical changes with the drilling equipment / methodology and the third hole (07GHR-003) was drilled to a final depth of 700 m. The hole cut the expected lithological units from the Wentworth Station Formation at the top and bottomed in Horton Group sediments. The hole passed through the Macumber Formation and bottomed in the Horton Bluff Formation Bluebeach member. See Table 10.2 for the summary log of DDH: 07-GHR-003.

Table 10.2 Summary Log of ddh 07-GHR-003

From (m)	To (m)	Geological Units	Formation
0.0	12.0	Soil and Unconsolidated Glacial Drift	
12.0	116.0	Reddish sandstones, limestone, anhydrite	Wentworth Station
116.0	163.0	Halite, anhydrite	Stewiacke
163.0	300.0	Greyish gypsum, limestones	Miller Creek
300.0	438.0	Massive anhydrite	White Quarry
438.0	**445.0**	**Arenaceous Limestone Rubble**	**Macumber Formation**
448.0	663.0	Arkosic conglomerates, sandstones	Cheverie
663.0	685.0	Fine sandstones, siltstones	Upper Horton Bluff
685.0	700.0	Bluebeach siltstones and mudstones	Horton Bluff
	700.0	END of HOLE	

10.2 2018 Diamond Drilling Program

In September 2018, Mountain Lake completed two (2) diamond drill holes (NQ and HQ size) totaling 878 m on the property. The first hole (18GHR-004) was abandoned above the proposed target depths due to drilling complications. The second hole (18GHR-005) was drilled to a final depth of 574m, passed through the Macumber Formation and bottomed in the Cheverie Formation member. See Table 10.3 for the summary log of ddh 18-GHR-005. See Figure 10.1 for a geological cross section of drill holes 07-GHR-003 and 18-GHR-005.

Figure 10.1 Geological Cross of ddh's 07-GHR-003 and 18-GHR-005

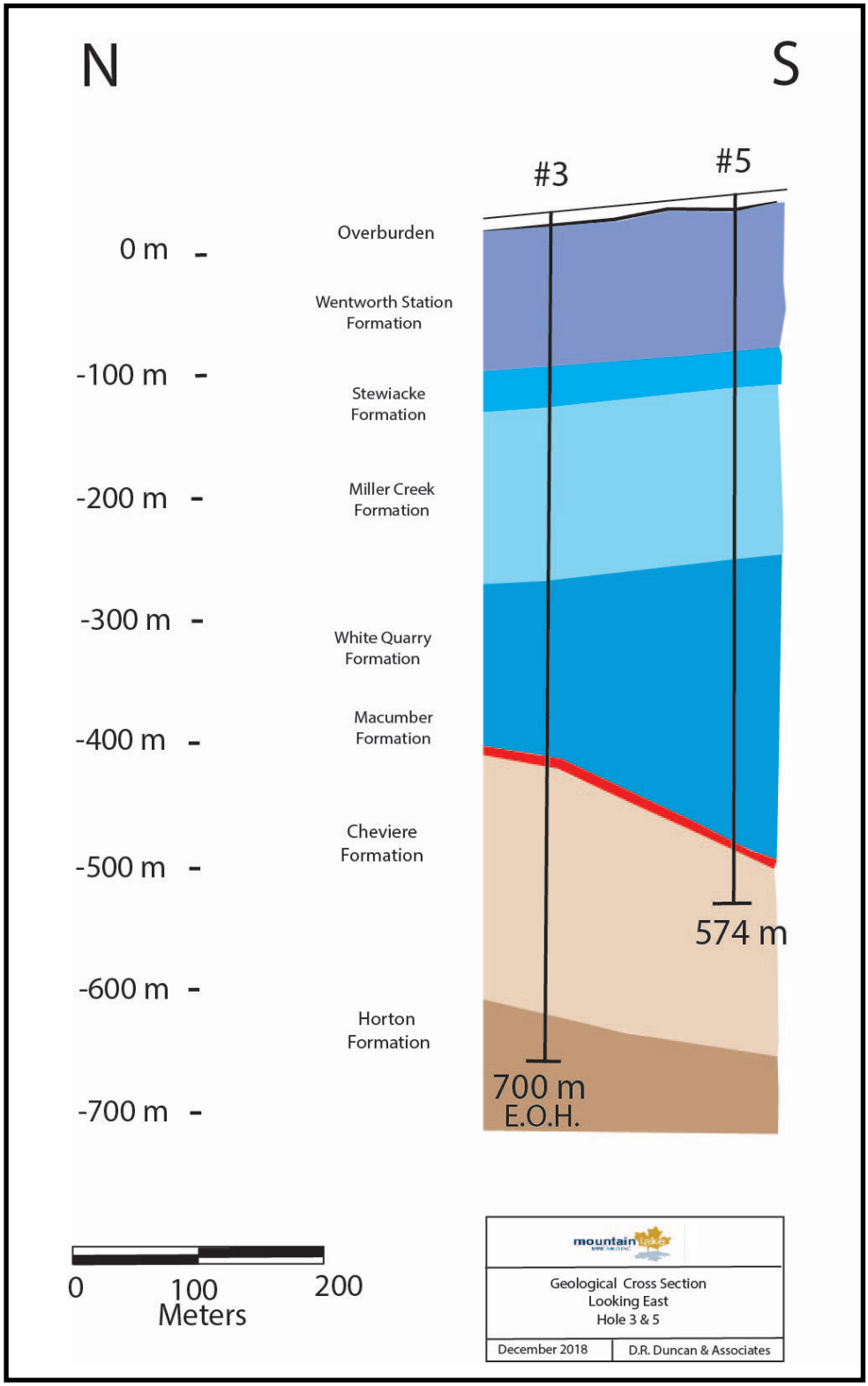


Table 10.3 Summary Log of ddh 18-GHR-005

From (m)	To (m)	Geological Units	Formation
0.0	19.0	Soil and Unconsolidated Glacial Drift	
19.0	131.1	Reddish sandstones, limestone, gypsum	Wentworth Station
131.1	170.5	Halite, anhydrite	Stewiacke
170.5	300.0	Greyish gypsum, limestones	Miller Creek
300.0	539.3	Massive anhydrite, limestones	White Quarry
539.3	**541.8**	**Arenaceous Limestone**	**Macumber Formation**
541.8	574.0	Arkosic conglomerates, sandstones	Cheverie
	574.0	END of HOLE	

10.3 Sampling of Drill Core

Drill core from the 2007 program was logged and moved in part into storage at the NSDEM Core Storage Library in Stellarton, Nova Scotia. A total of eight (8) samples were collected from drill hole 07-GHR-003. The core was cut in half using a diamond saw with one half bagged for analysis and the other half returned to the core tray as the witness sample. The author travelled to the core library to inspect and photograph the witness core from hole 07-GHR-003 on December 4th, 2018.

Drill core from the 2018 program was moved to a secure storage facility in Wolfville, Nova Scotia. As of the effective date of this report, the core has not been sampled.

10.4 Core Recovery

Core recoveries in the both the 2007 and 2018 drilling program were excellent. For hole 18-GHR-005, the company used HQ3 triple tube core barrels and used a supersaturated brine for drilling circulation. The hole was completed to a final depth of 574 m with near 100% recovery.

11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

The 2007 core was washed, logged, sampled and eight (8) samples from hole 07-GHR-003 were sent to The Minerals Engineering Centre ("MEC") at the Technical University of Nova Scotia located in Halifax for Ag, Ba, Cu, Fe, Pb and Zn analysis (See Table 11.1 for Assay Results).

MEC stated for sample preparation and analyses that the samples are dried, weighed, crushed and pulverized to minus 200 mesh. One (1) gram samples are digested with hydrochloric-nitric-hydrofluoric-perchloric acids (4 Acid Digestion). Elements are determined by Flame Atomic Absorption or ICP OES with detection limit of 1 ppm. Reference standards from CANMET and NRC Canada are used to check the accuracy of the analysis.

Table 11.1 Assay Results from hole 07-GHR-003

Sample Number	From (m)	To (m)	Length (m)	Ag (ppm)	Ba (ppm)	Cu (ppm)	Fe (ppm)	Pb (ppm)	Zn (ppm)	Comment
31572	438.00	438.40	0.40	0.7	37	35	3156	11	23	Top of MaCumber limeston
31573	439.00	439.55	0.55	0.9	185	26	4662	14	10	Bottom of MaCumber limstone
31574	442.42	442.85	0.43	0.4	260	4	8810	17	18	"Grit" under Macumber
31575	442.85	443.50	0.65	0.3	278	19	9861	13	23	Limestone boulder
31576	443.50	444.00	0.50	0.5	272	23	12658	18	27	base of Limeston boulder
31577	444.00	444.30	0.30	0.1	268	27	5737	115	5	Top of Cheverie grits
31578	639.30	639.50	0.20	0.1	293	3	8900	71	8	Coarse Cheverie conglomerate
31579	642.60	643.00	0.40	0.1	141	5	11854	34	5	Fissure in Cheverie
31580	643.00	643.60	0.60	0.1	151	3	9000	20	6	Fissure in Cheverie
31581	644.00	644.30	0.30	<0.1	110	3	8195	15	5	Fissure in Cheverie

12.0 DATA VERIFICATION

The author has examined the 2007 assay certificates, analytical procedures and assay results from the 2007 drilling program. The author has examined the core from holes 07-GHR-003 (in storage at the NSDEM Core Storage Facility in Stellarton NS), 18-GHR-004 and 18-GHR-005. The author has not taken any check samples from the 2018 drill core. The author verified the locations of the 2007 drill hole collars and visited the drill while the 2018 holes were drilled.

13.0 INTERPRETATION AND RESULTS

Drilling at the Highfield, Mississippi Valley Type ("MVT") Zn-Pb Property has confirmed a geological environment that can support high-grade and disseminated and vein type mineralization like the Gays River deposit located approximately fifty-nine (59) km further east. The Macumber Formation which hosts Zn-Pb mineralization at Gays River shows variable thicknesses between three (3) and eight (8) m in drill holes at Highfield.

Associated stratigraphy at Highfield both above and below the Macumber Formation is consistent to that of the Gays River MVT deposit.

A re-interpretation of existing geological information based on 2018 drilling suggests the Carboniferous basin is down-faulted in the area of this drilling. These data also require further evaluation of geophysical data to locate the Macumber Formation onlap with the Meguma basement stratigraphy.

14.0 RECOMMENDATIONS

Mountain Lake Minerals intends to undertake further exploration at the property in 2019 to identify both the location of Macumber onlap on the basement, and potential sources of mineralization. An additional sixteen (16) to twenty (20) claims should be staked along the northern and eastern borders of Exploration Licence 06922 to cover additional favourable ground.

The first recommendation is to re-evaluate existing geophysics data in the area and undertake new seismic geophysical survey to target the contact of the Macumber unconformity with the Meguma basement stratigraphy. The cost of this work is estimated at $55,000.

In addition, a detailed Mobile Metal Ion ("MMI") geochemical survey over the property to further refine areas of potential Zn-Pb mineralization along the unconformity is recommended. The cost of this work is estimated at $25,000

The next drill campaign will be based on the results of coincident geophysics and MMI targets. Two (2) holes totaling 1200m of HQ3 core is recommended. The cost estimate of the drilling work is $120,000. The proposed budget for the 2019 exploration is $209,000.

Drill results from the 2018 program, in combination with 2007 drilling offer encouraging information that may lead to potential new MVT mineralization in the area.

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16.0 CERTIFICATE OF QUALIFIED PERSON

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I, David R. Duncan, P. Geo., currently reside in Wolfville, Nova Scotia, Canada and I am the President and Principal Geologist for D. R. Duncan & Associates Ltd.

This certificate applies to the Technical Report entitled "NI 43-101 Technical Report on the Highfield Base Metal Property, Avondale, Nova Scotia", and dated December 15, 2018, the ("Technical Report").

I am a registered Professional Geologist in the Province of Newfoundland and Labrador (02910) since 1995. I graduated with a B.Sc. degree from Acadia University, Wolfville, NS, Canada in 1979.

I have worked on mineral exploration projects as a geologist in major and junior mineral exploration companies and as a mineral exploration consultant for precious and base metals in Canada, the United States, Mexico, South America and Africa. As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101).

I visited the Highfield Base Metal Property on August 25, 27, 29, 30 and 31; and September 10, 16, 18, 24, 2018.

I am responsible for all sections of this Technical Report.

I am independent of Mountain Lake Minerals Inc. as independence is described by Section 1.5 of NI 43-101.

I have had no previous involvement with the property discussed in the Technical Report.

I have read NI 43-101 and the Technical Report has been prepared in compliance with that instrument.

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

"signed and sealed"

David R. Duncan, P. Geo. Date: January 10, 2018