# Development of a World Class Critical Rare Earth Element District 开发世界级的关键稀土元素区











GCFF - Vancouver 国际金融投资博览会 - 温哥华 January 2020 / 2020年1月

# Cautionary Statement 警戒性声明

**SMY: TSX-V** 

The following presentation may include certain "forward-looking statements" within the meaning of the United States Private Litigation Reform Act of 1995 and applicable Canadian Securities Laws. All statements other than statements of historical fact, included in the presentation, including without limitation, statements regarding potential mineralization and reserves, exploration results, and future plans and objectives of Search Minerals, are forward-looking statements. Words such as "expect", "anticipate", "estimate", "may", "will", "should", "intend", "believe" and other similar expressions are forward-looking statements. Forward-looking statements are not guarantees of future results and conditions but rather reflect our current views with respect to future events and are subject to risks, uncertainties, assumption and other factors, and actual results and future events could differ materially from those anticipated in such statements. There can be no assurance that such forward-looking statements will prove to be accurate. We base our forward-looking statements on information currently available to us and we do not assume any obligation to update them, except as required by law.

An additional Cautionary Note to Investors: In the event that we use certain terms in this presentation such as "resource". "measured resource". "indicated resource" and "inferred resource," US investors are cautioned that, while such terms are recognized and required by Canadian Securities Laws, the United States Securities and Exchange Commission does not recognize them. Under U.S. standards, mineralization may not be classified as a "reserve" unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time the reserve determination has been made. U.S. investors should not assume that all or any part of measured or indicated resources will ever be converted into reserves. In addition, "inferred resources" have a greater amount of uncertainly as to their existence and as to whether they can be mined legally or economically. Accordingly, information concerning descriptions of mineralization in the presentation may not be comparable to information made public by companies that are subject to the SEC's Industry Guide 7.

All of the scientific and technical information contained herein has been reviewed and/or prepared by either Dr. Randy Miller, P.Geo. or Dr. David Dreisinger, both being a "Qualified Person" within the meaning of National Instrument 43-101-Standards of Disclosure for Minerals Projects. For further details of the Company's procedures and policies for data verification, the reader is referred to the Company's news releases and other material information available on the Company's website at www.searchminerals.ca or on SEDAR at www.sedar.com

#### About Search Minerals Inc. Search Minerals Inc.公司介绍

- **SMY: TSX-V**
- ➤ Focused on developing and continued exploration within the emerging Critical Rare Earth Element (CREE) District of SE Labrador. 专注于在拉布拉多东南部新兴的关键稀土元素(CREE)区内开发和继续勘探。
- ➤ Primary objective: Develop multigenerational REE mining operation based on the Foxtrot and Deep Fox resources. To seek competitive low-cost production of REE in SE Labrador. / 主要目标:基于Foxtrot和Deep Fox的资源,开发可延续几代的稀土矿产资产。努力实现在拉布拉多东南部有竞争力的低成本稀土生产。
- ➤ In 2017, pilot plant testing produced a high purity mixed rare earth oxide (REO) concentrate. Completed pilot optimization in November 2019. / 2017年中试测试产出了高纯度混合稀土氧化物精矿。2019年11月完成中试优化。
- October 2017, InCoR Holdings make strategic investment into Search and appoints 2 members to the Board. / 2017年10月InCoR Holdings战略投资Search, 任命2名董事进入Search董事会。
- Search has strong working relationships with government partners at all levels including Atlantic Canada Opportunities Agency, InnovateNL, Department of Natural Resources, NunatukaVut Community Council / Search与各级政府合作伙伴保持非常好的工作关系,包括加拿大大西洋地区经济发展局、InnovateNL、自然资源部、NunatuKavut社区委员会



#### Why Invest in Search Minerals? 投资Search Minerals的理由

**SMY: TSX-V** 



Lowest CAPEX project in North America - \$ 152M (\$Cdn), 1000 tonnes per day scalable processing technology to align production rate with CAPEX 是北美资本成本最低的项目—1.52亿加元,日均加工矿石1000吨,加工技术可根据生产速度扩展



Patented Processing Technology – produced 99% high purity mixed REO concentrate during \$1.9M pilot plant operation and optimization 拥有专利加工技术—在投入\$190万进行中试工厂运营和优化期间,生产了99%的高纯度混合稀土氧化物精矿



100% owned Foxtrot and Deep Fox Resources: Fox Meadow and Silver Fox Advanced Prospects; Multigenerational opportunity / 100%拥有Foxtrot和Deep Fox两处资源;以及Fox Meadow和Silver Fox高级阶段前景区,延续几代的机遇



Strong support from Federal/Provincial governments, NunatuKavut Community Council (Indigenous) and Local Communities 拥有来自联邦/省政府、NunatuKavut社区委员会(本土合作伙伴)以及当地社区的强大支持



Macro Developments – Defense Production Act Title III – Create North American rare earth supply chain, Possible future supply constraints 宏观发展—国防生产法案第三章 - 创建北美稀土供应链,未来可能的供应限制与电气化扩张



Led by a proven management and Board of Directors. Insider ownership greater than 38% 拥有具有成功履历的管理团队和董事会,内部人士持股比例高达38%以上



# Upcoming Catalysts 未来催化剂

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Month 月份	Catalyst 催化剂
November/ 11月	Commence Demonstration Plant cost/funding options 开始示范工厂成本/融资选择
December / 12月	Optimization of Pilot Plant Completed – Final Report 完成优化中试工厂 – 最终报告
February / 2月	Assays from 2019 exploration work – Fox Meadow and Silver Fox 来自 2019年在Fox Meadow和Silver Fox进行勘探工作的分析结果
May / 5月	Begin 2020 REE exploration program in District 开始在区域内进行2020年稀土元素勘探活动

#### Macro developments 宏观进展

- ➤ Ongoing discussion with stakeholders to develop North American Rare Earth supply chain 正在与股东讨论开发北美稀土供应链
- ➤ Upward trending rare earth market and developments 处于上升趋势的稀土市场和发展



#### Rare Earth Industry – in the news 稀土行业 – 新闻报道

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Canada and U.S. Finalize Joint Action Plan on Critical Minerals Collaboration 加拿大和美国确定关键矿物合作行动计划 From来自: Natural Resources Canada

News release 新闻稿

January 9, 2020 / 2020年1月9日

Ottawa,渥太华 Ontario 安大略省 Natural Resources Canada 加拿大自然资源部



Search Industrial Policy

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RESOURCES

**NEWS** 

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Defense Production Act Title III Presidential Determinations to Strengthen the Domestic Industrial Base and Supply Chain for Rare Earth Elements



# Foxtrot Material at Different Processing Stages 在不同加工阶段的Foxtrot材料

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- Vial #1 Finely crushed material at start of metallurgical process 在冶金工艺的开始细磨原材料
- Vial #2 Orange stained "dry stackable" residue containing an iron precipitate 橘色 "干燥可堆叠"残留物包含铁沉积物
- Vial #3 35% mixed rare earth carbonate precipitate after uranium ion exchange 铀离子交换后35%混合碳酸稀土沉积物
- Vial #4 60% zinc sulfide precipitate after removal of thorium, iron, aluminum and silica 去除钍、铁、铝和二氧化硅后60%硫化锌沉积物
- Vial #5 High purity rare earth oxalate 高纯度稀土草酸盐
- Vial #6 Reddish final rare earth oxide made by heating the high purity oxalate 通过加热高纯度草酸盐制 得最终的微红色稀土氧化物。

# Search Minerals – in the supply chain Search Minerals –在供应链中

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Raw Materials 原材料 Processing 加工 Separation Refining 分选、精炼

Engineered Rare Earth Materials处 理稀土材料 Magnet Producers 磁体生 产商

OEM 原始设备制 造商

#### SEARCH MINERALS

- District Scale Multi Generational Raw material supply (70km x 10km) 区域规模、持续几代的原材料供应 (70千米 x 10千米)
  - ➤ 1 Resource, 1 Resource pending, many projects 一处资源量、一处待发布资源量、多个项目
- ➢ Patented Proprietary Processing 获得专利的加工工艺
  - Low capital / operating costs 低资本/运营成本
  - Produced 99% high purity mixed REO Concentrate 生产99%高纯度混合稀土氧化物精矿
- **➣ Separation/Refining 分选/精炼** 
  - > Sample delivered and tested at existing refineries and new technology process 在现有精炼厂采用新的技术工艺进行测试和产生样品

#### SALES CHANNEL 销售渠道



# Exploring for REE in Labrador since 2009 自2009年以来在拉布拉多探寻稀土元素

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Community of St. Lewis 12 km from Foxtrot and 2 km from Deep Fox 圣路易斯社区距离Foxtrot 12公里,距离Deep Fox 2公里。





# About REEs: Industry Drivers 稀土元素: 行业驱动因素

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#### Green Energy 绿色能源

- Hybrid and Electric Vehicles 混合动力汽车和电动汽车
- Wind Energy 风能
- Energy Efficient Lighting 节能照明



#### Military and Defense 军事和国防

- Communications 通信
- Aeronautical engineering and Jet Engines 航空工程和喷气发动机
- Guidance, Lasers, Sonar, Optics, and Electronic Counter Measures 制导、 雷达、声呐、光学器件、电子对抗措施



#### Modern Technologies 现代技术

- 🌉 Cell Phones and Digital Cameras 手机和数码相机
  - LCD and Plasma Televisions 液晶显示器和等离子电视
  - MRI machines, X-Ray, and PET Medical imaging 核磁共振成像机器、X光和 PET医疗成像

# REEs: Automakers committed to EV Future 稀土元素: 汽车制造商坚定电动汽车的未来 SMY: TSX-V

- Volkswagen US\$84 billion: goal of bringing 300 EV models to market by 2030
   大众投资840亿美元: 目标是到2030年将300款电动汽车推向市场
- Ford investing \$4.5 billion over 5 years: on 13 new models for 2023
   福特五年投资\$45亿: 到2023年推出13款新车
- **GM** to phase out ICE vehicles; 20 EV models by 2023 **通用汽车**逐渐停止生产内燃机汽车,到2023年推出20款电动汽车
- Volvo: all new cars produced after 2019 will be electric or hybrid
   沃尔沃: 2019年后生产的所有新车将为电动或混合动力的
- **BMW** to mass produce EVs by 2020: 12 different models available by 2025 **宝马**到2020年大量生产电动汽车:到2025年推出12款
- Mercedes-Benz: electrifying its entire lineup by 2022
   奔驰: 到2022年整个产品线实现电动化。
- Canada's Magna and Linamar: investments in EV supply chains
   加拿大的麦格纳和利纳马:投资电动汽车供应链。



# Location and existing infrastructure 位置和现有的基础设施

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Community of St. Lewis 圣路易斯社区

- Diesel power plant (expandable) 柴油发电厂 (可扩展)
- Ice-free deep sea port: reagents & other supplies 深海不冻 港: 试剂和其他供应
- 12km from Foxtrot 距离Foxtrot 12公里
- 2km from Deep Fox 距离Deep Fox 2公里
- Small aircraft airstrip 小型飞机跑道
- Fox Harbour House: housing, office, core shack, workshop Trans-Labrador Highway / Fox港设施:住房、办公室、岩芯棚、车 间、跨越拉布拉多的公路
- All season paved highway transport REE Concentrate 全天 候公路 - 运输稀十精矿。







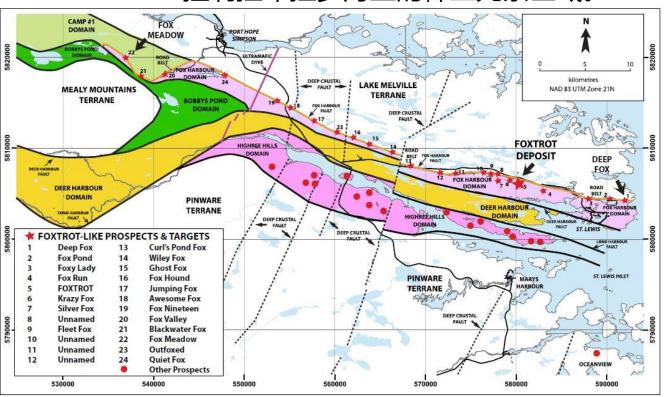




#### Our Assets - District Scale Opportunity 我们的资产 - 区域规模的机会

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- Search controls CREE District on Labrador Sea
- Search控制拉布拉多海上的稀土元素区域。



#### Key Points 关键点

Over 24 prospects / 24个前 景区

Four major discoveries 四个 大型发现区

- Foxtrot Deposit
- Deep Fox Deposit
- Fox Meadow
- Silver Fox

Excellent geological and geophysical control. 地质和 地球物理控制状况极好

April 2016 PEA is based on the Foxtrot deposit only. / 2016年4月的初步经济评估仅 基于Foxtrot矿床。



#### Foxtrot Preliminary Economic Assessment (2016)

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FOXTROT PEA FINANCIALS (\$CDN)					
Plant Capacity	1,000 tpd production rate / 4.9 Mt over 14 years				
Pre-Tax NPV <sub>10%</sub> and IRR	\$93 million and 22%				
After-Tax NPV <sub>10%</sub> and IRR	\$48 million and 16.7%				
Payback Period	Pre-tax 3.5 years , After- tax 4.4 years				
Gross Revenue LOM	\$1.7 billion				
CAPEX	\$152 million for startup with a \$33M contingency				

#### **Rare Earth Element Production Rates**

Data from PEA - April 2016 - Deep Fox Production not included - 1,000 t/d production rate - produce 3211 T of Mixed Rare Earth Oxide Per Year

	Magnet Making Rare Earths					
	Pr	Nd	Tb	Dy		
Distribution (% of Total REE)	4.4%	15.9%	0.3%	1.9%		
Yearly Production (t)	142	511	10	60		

	Others Rare Earth Elements										
	Y	La	Ce	Sm	Eu	Gd	Но	Er	Tm	Yb	Lu
Distribution (% of Total REE)	11.6%	18.7%	39.8%	2.8%	0.1%	2.1%	0.3%	0.9%	0.3%	0.7%	0.1%
Yearly Production (t)	373	602	1,277	90	4	68	11	30	9	22	3

Cautionary Note: The preliminary economic assessment is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them to enable them to be categorized as mineral reserves and there is no certainty that the preliminary economic assessment will be realized. Mineral resources that are not mineral reserves do not have a demonstrated economic viability.

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SEARCH MINERALS

#### Foxtrot初步经济评估 (2016)

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FOXTROT初步经济评估财务数据(加元)					
加工厂产能	日产能1,000吨,14年共490万吨				
税前净现值(10%)和内部收益率	\$9300万和22%				
税后净现值(10%)和内部收益率	\$4800万和16.7%				
资本回收期	税前3.5年,税后4.4年				
矿山寿命期间总营收	\$17亿				
资本开支	\$1.52亿启动,还需\$3300万应急资金				

#### **Rare Earth Element Production Rates**

Data from PEA - April 2016 - Deep Fox Production not included - 1,000 t/d production rate - produce 3211 T of Mixed Rare Earth Oxide Per Year

	Magnet Making Rare Earths						
	Pr Nd Tb Dy						
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	Y	La	Ce	Sm	Eu	Gd	Но	Er	Tm	Yb	Lu
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Yearly Production (t)	373	602	1,277	90	4	68	11	30	9	22	3

警示说明:初步经济评估本质上是初步数据,包含推断资源量。推断资源量是推测的地质数据,不确定性很大,不能确定是否能提升至矿产储量类别,也不能确定初步经济评估将会实现。矿产资源量不是矿产储量,尚未显示出经济可行性。



# Value Drivers 价值驱动因素

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Description 类型	How can economics improve 如何提升经济效益
Grade, Recovery and Price parameters 品位、回采率、价格参数	<ul> <li>INCREASE REVENUE 提高营收</li> <li>➢ Increase resource – extend Life of Mine 增加资源量 – 延长矿山寿命</li> <li>➢ Increase grade through discovery 通过发现提高品位</li> <li>➢ Increase recovery through optimized processing 通过优化工艺提高回采率</li> </ul>
Capital and operating costs 资本成本和运营成本	<ul> <li>DECREASE COSTS 降低成本</li> <li>➤ Improved efficiencies in processing 提高加工效率</li> <li>➤ Lower REE separation costs 降低稀土分离成本</li> </ul>



# Direct Extraction Metallurgy Patent Pending 正在申请直接提取冶金专利







# A breakthrough in SIMPLICITY, LOW COST AND EFFICIENCY!

在简易、低成本和高效方面实现了突破!

# Processing – from Concept to Reality 加工 – 从概念变为现实

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#### Funding Partners 出资合作伙伴



Atlantic Canada Opportunities Agency

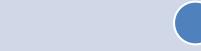
Agence de promotion économique du Canada atlantique



Tourism, Culture, Industry and Innovation

Bench Scale 实验室 规模 2014-2015 \$300,000

Pilot Plant Optimization 中试工厂 优化 2018-2019 \$800,000



Pilot Plant 中试工厂 2016-2017 \$1,900,000

Increased Recoveries from Bench Scale to Optimized Pilot Plant 从实验室规模



#### Business Strategy – Timeline to Production

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Description	2019	2020	2021	2022
RESOURCE	<ul> <li>✓ Resource for Deep Fox</li> <li>✓ Advance prospects in District</li> </ul>	<ul> <li>Advance prospects in District</li> <li>Deep Fox - Phase 3 drill program</li> <li>Update PEA for the District</li> </ul>	Bankable feasibility Study ➤ Infill drilling – Foxtrot ➤ Infill drilling – Deep Fox ➤ Permitting	<ul> <li>Measured Resources for Foxtrot and Deep Fox</li> <li>Development permits approved</li> </ul>
ENVIRONMENTAL AND PERMITTING	Continue baseline studies	<ul> <li>Advance Environmental Impact Statement</li> </ul>	<ul> <li>Continued stakeholder engagement</li> <li>Initiate Permitting process</li> </ul>	<ul><li>Continued stakeholder engagement</li><li>Permits to build</li></ul>
PROCESSING AND REFINING	<ul> <li>✓ Complete pilot plant work with assistance of government programs</li> <li>➢ Prepare application for Demonstration plant funding</li> </ul>	<ul> <li>Build/operate         demonstration plant in         St. Lewis</li> <li>Evaluate / test various         refining options</li> </ul>	<ul> <li>Demonstration plant operating in St. Lewis</li> <li>Engineering plans</li> <li>Evaluate / test / determine refining options</li> </ul>	<ul> <li>Engineering complete –         Ready to build</li> <li>Confirm refining process</li> </ul>
STRATEGIC PARTNERS	Secure funding for demonstration plant	Secure funding for bankable feasibility studies	Continued funding for bankable feasibility studies	<ul><li>Secure funding – Decision to build</li></ul>

Cautionary Note: The Company has not prepared a feasibility study in relation to this project and therefore, the time line to production decision is subject to increased risk and uncertainty



### 商业策略 – 投产时间表

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类别	2019	2020	2021	2022
资源量	✓ Deep Fox的资源量 ✓ 推进区域内的前景区	<ul><li>▶ 推进区域内的前景区</li><li>▶ Deep Fox – 三期钻探活动</li><li>▶ 更新该区域的初步经济评估</li></ul>	可银行融资可行性研究 ➤ 加密钻探 – Foxtrot ➤ 加密钻探 – Deep Fox ➤ 许可	<ul><li>➤ Foxtrot和Deep Fox的 测定资源量</li><li>➤ 批准开发许可证</li></ul>
环境和许可	> 继续基线研究	▶ 推进环境影响清单	<ul><li>▶ 继续吸引更多股东</li><li>▶ 启动许可流程</li></ul>	<ul><li>▶ 继续吸引更多股东</li><li>▶ 建设许可</li></ul>
加工和精炼	<ul><li>✓ 在政府项目协助下完成中试工厂工作</li><li>▶ 准备申请示范工厂资金</li></ul>	<ul><li>产 在圣路易斯建设/运营示范工厂</li><li>产 评估/测试各种精炼方式</li></ul>	<ul><li>▷ 运营圣路易斯的示范工厂</li><li>▷ 工程设计计划</li><li>▷ 评估/测试/确定精炼方式</li></ul>	<ul><li>▶ 工程设计完成 - 准备建设</li><li>▶ 确认精炼工艺</li></ul>
战略合作伙伴	▶ 获得示范工厂所需资金	▶ 获得可银行融资可行性 研究所需资金	<ul><li>继续为可银行融资可行 性研究募资</li></ul>	▶ 获得资金 – 决定建设

警示说明:本公司尚未制备此项目的可行性研究,因此,投产时间表存在不确定性和风险。



#### Corporate Information

**SMY: TSX-V** 

Shareholder Information December 31, 20`9	
Listed:	TSX:V:SMY
Shares O/S Warrants: Options: Fully Diluted O/S	228,775,848 40,864,434 17,775,000 287,415,282

Insiders Participation	Issued Shares	% ownership
InCoR Holdings	76,507,201	33.44%
Mgmt and Directors	11,573,863	5.06%
Totals	88,081,064	38.50%

MANAGEMENT:	DIRECTORS:
Greg Andrews, President & CEO	<b>Greg Andrews</b>
Dr. David Dreisinger, VP Metallurgy	Dr. David Dreisinger
Dr. Randy Miller, VP Exploration	George Molyviatis
Matthew Anderson, CFO	Jocelyn Bennett
	Leo Power

#### CONSULTANT:

Kaz Machida – Rare earth specialist

LEGAL:

DuMoulin Black

#### **AUDITORS:**

Mao &Ying

#### **FUNDING PARTNERS:**

**ACOA** 

InnovateNL

Dept of Mines - Newfoundland and Labrador

Saskatchewan Research Council

**NRCAN** 

NunatuKavut Community Council

InCoR has \$ 1,000,000 Debenture with conversion at \$ 0.05 per unit.

Each unit consist of one share and one warrant for 5 years at \$ 0.05 (November 29, 2020)

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#### 公司信息

总计

**SMY: TSX-V** 

股东信息	
截止2019年12月31	日

交易代码: TSX:V:SMY

已发行股票 228,775,848

认股权证: 40,864,434

期权: 17,775,000

完全摊薄后股数 287,415,282

%

持股比例 内部人士参与 发行股数

InCoR Holdings 76,507,201 33.44%

管理层和董事 11,573,863 5.06%

> 88,081,064 38.50%

管理层:

Greg Andrews, 总裁兼首席执行官 David Dreisinger博士, 冶金副总裁

Randy Miller博士,勘探副总裁 Matthew Anderson, 首席财务官

顾问:

Kaz Machida – 稀土专家

法律顾问:

DuMoulin Black

融资合作伙伴:

**ACOA** 

InnovateNL

矿产部 – 纽芬兰和拉布拉多

萨斯喀彻温省研究中心

**NRCAN** 

NunatuKavut社区委员会

董事:

**Greg Andrews** David Dreisinger 博士

George Molyviatis Jocelyn Bennett Leo Power

审计:

Mao & Ying

InCoR持有价值\$ 1,000,000的公司债券, 能以每单位\$ 0.05转换。 每单位包含一股股票和一份五年内以\$ 0.05买入股票的认股权证(2020年11月29日)

22 | Corporate Presentation | SMY: TSX-V | searchminerals.ca | GCFF January 2020



## Thank you 谢谢

**SMY: TSX-V** 

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