



Creating a Leading Zinc Explorer & Developer
创建一家领先的锌勘探和开发公司

GCFF Virtual Conference

国际金融投资博览会线上会议

Base Metals and Energy Metals Day

基本金属和能源金属日

February 3rd, 2021

2021年2月3日

Forward Looking Statements

前瞻性声明



This presentation includes certain "Forward-Looking Statements" within the meaning of section 21E of the United States Securities Exchange Act of 1934, as amended. All statements, other than statements of historical fact, included herein, including without limitation, statements regarding potential mineralization and reserves, exploration results and future plans and objectives of Solitario, are forward-looking statements that involve various risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. Development of Solitario's properties are subject to the success of exploration, completion and implementation of an economically viable mining plan, obtaining the necessary permits and approvals from various regulatory authorities, compliance with operating parameters established by such authorities and political risks such as higher tax and royalty rates, foreign ownership controls and our ability to finance in countries that may become politically unstable. Important factors that could cause actual results to differ materially from Solitario's expectations are disclosed under the heading "Risks and Uncertainties" as well as the COVID-19 related risks as disclosed in the Quarterly Report on Form 10-Q for the year ended March 31, 2020, filed with the SEC on or about May 1, 2020 and elsewhere in Solitario's documents filed from time to time with Canadian Securities Commissions, the United States Securities and Exchange Commission and other regulatory authorities.

This presentation contains estimates of mineralized material based upon measured, indicated and inferred mineral resource categories that are recognized and required by Canadian regulations, but the SEC does not recognize them and U.S. reporting companies are normally prohibited from including resource estimates in their U.S. filing. U.S. investors are cautioned not to assume that any part, or all, of mineralized material or mineral resources categories will ever be converted into reserves. The economic significance of Proven and Probable Reserves differ substantially from mineralized material and measured and indicated mineral resources. Furthermore economic viability has yet to be established by a feasibility report for mineralized material and the Company has not yet determined that any part of the mineralized material can be legally mined. This presentation also contains information about adjacent properties on which we have no right to explore or mine. We advise U.S. investors that the SEC's mining guidelines strictly prohibit information of this type in documents filed with the SEC. U.S. investors are cautioned that mineral deposits on adjacent properties are not indicative of mineral deposits on our properties.

This presentation (including drill hole information and mineral reserve and resource numbers) has been reviewed for accuracy by Mr. Walt Hunt, COO for Solitario Zinc Corp., who is a qualified person as defined by National Instrument 43-101.

Solitario Investment Proposition

Solitario 投资主张



Major joint venture interests in two high-grade zinc development projects, +12% Zn Eq. M&I resource = 2.6 billion lbs., Inferred = 1.6 billion lbs. 拥有两个锌当量品位超过12%的高品位锌开发项目**主要合资企业权益**。测定加指示资源量为26亿磅，推断资源量为16亿磅。

Florida Canyon Zinc Project in Peru is a high-grade development asset held jointly with Nexa Resources S.A 秘鲁的**Florida Canyon 锌项目**是与Nexa Resources S.A共同拥有的高品位开发资产

Lik Zinc Project is a large-tonnage, high-grade, open-pittable development project in Alaska, partnered with Teck Resources / **Lik 锌项目**是与泰克资源合作，位于阿拉斯加的一个资源量大、品位高的可露天开采开发项目

Well-financed ~US\$7.9 million in cash and marketable securities **资金充足**，约790万美元的现金和有价值证券

Skin in the game: Management/Director equity ownership at 9.6% **风险共担**：管理层/董事持股9.6%

Disciplined Capital Structure: 58M shares outstanding, last equity raise was in 2011 **严格的资本结构**：5800万股流通股，上一次增加股本是在2011年

Experienced and respected management team: Track-record of creating value by moving assets through feasibility and permitting **经验丰富、受人爱戴的管理团队**：在通过可行性研究和许可来推动资产创造价值方面有成功履历



Why Should Care About Zinc?

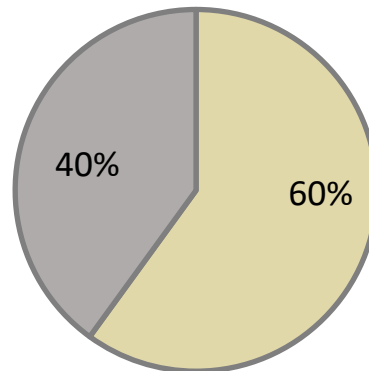
为什么要重视锌？

Stimulus Spending Has the Potential to Create \$4 to \$6 Trillion in Infrastructure Spending 刺激经济支出有可能创造\$4万亿至\$6万亿的基础设施支出

- Infrastructure Buildout **=** Increased Demand for Steel
- 基础设施建设 **=** 钢材的需求增加
- More Steel更多钢材 **➡** Significant Increase in Demand for Zinc 对锌的需求大幅增加

Other Uses 其他用途

Utilized in die-casting, production of brass and bronze, and into oxides and chemicals 用于压铸、生产黄铜和青铜，以及制成氧化物和化学品



Galvanization 镀锌

Utilized for its corrosion resistance (galvanized steel, rebar, autos, structural steel). 利用其耐腐蚀性（镀锌钢、钢筋、汽车、钢构）。

World Class Partners 世界级的合作伙伴

Partnering with well funded, leading zinc producers reduces costs, risk and capital requirements 与资金充裕的行业龙头锌生产商合作，降低成本、风险和资本需求

Florida Canyon Zinc Project held jointly with Nexa Resources S.A., 4th largest zinc producer with three underground zinc mines and large zinc smelter in Peru. / Florida Canyon 锌项目与第四大锌生产商 Nexa Resources S.A. 联合持有，该公司在秘鲁拥有三个地下锌矿和大型锌冶炼厂。

Lik Zinc Project in partnership with Teck Resources, 3rd largest zinc producer with worlds largest zinc mine (Red Dog) situated just 14 miles from Solitario's Lik deposit. / Lik 锌项目是与泰克资源公司合作的，该公司是第三大锌生产商，拥有世界上最大的锌矿（Red Dog），距离 Solitario 的 Lik 矿床仅 14 英里。



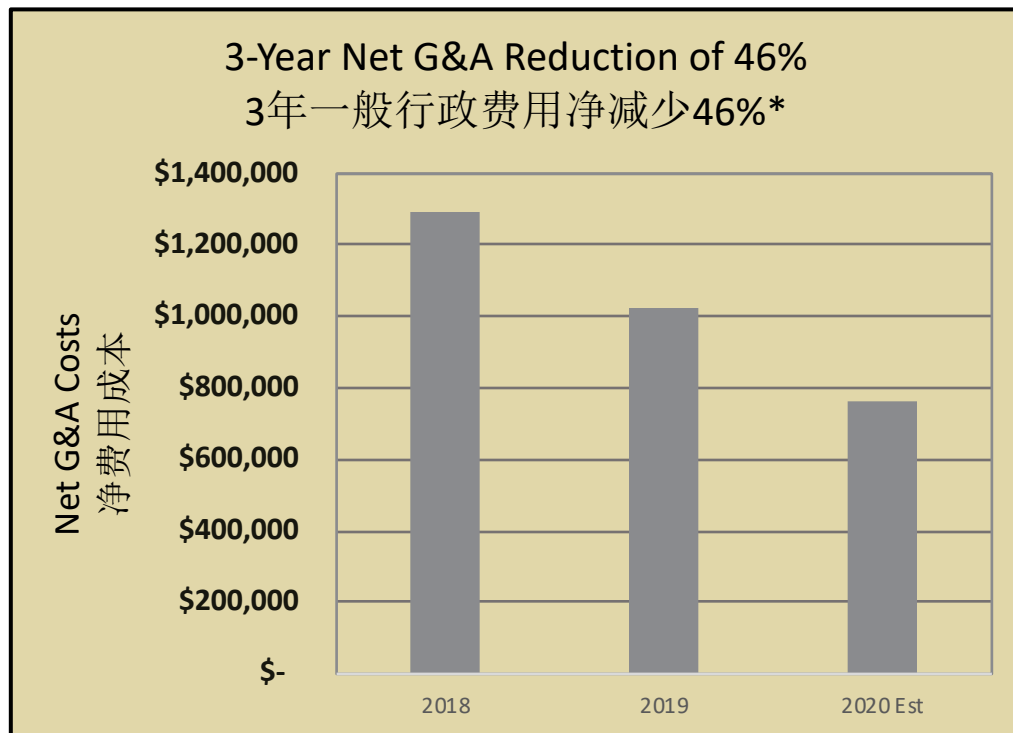
Capital Structure 资本结构



Current Price 当前股价	US\$0.83/C\$1.05	Market Cap 市值	~US\$48M/C\$61M 约4800万美元/6100万加元
Shares Outstanding 流通股数	58.1 Mil 5810万	Avg. Daily Vol. NYSE/TSX 日均成交量	706K/11K 70.6万股/11000股
Options 期权	5.7 Mil 570万	Cash and Marketable Securities 现金和有价值证券	\$7.9 Mil \$790万
Fully Diluted 完全稀释后股数	63.8 Mil 6380万	Annual Burn Rate 年耗资	(excluding drilling 不包括钻探) \$1.3 Mil \$130万
52-Week High 52周最高股价	US\$0.90/C\$1.16	Analyst 分析师	Heiko Ihle, H.C. Wainwright
52-Week Low 52周最低股价	US\$0.13/C\$0.22	Top Holders 主要股东	Mgmt. and Directors 管理层和董事: 5.6 Mil / 560万股 Zebra Hldgs. (Lukas Lundin): 3.9 Mil / 390万股 Newmont Mining: 2.7 Mil / 270万股

Financially Responsible 财务上负责任

Overhead Disciplined 严格的日常开支

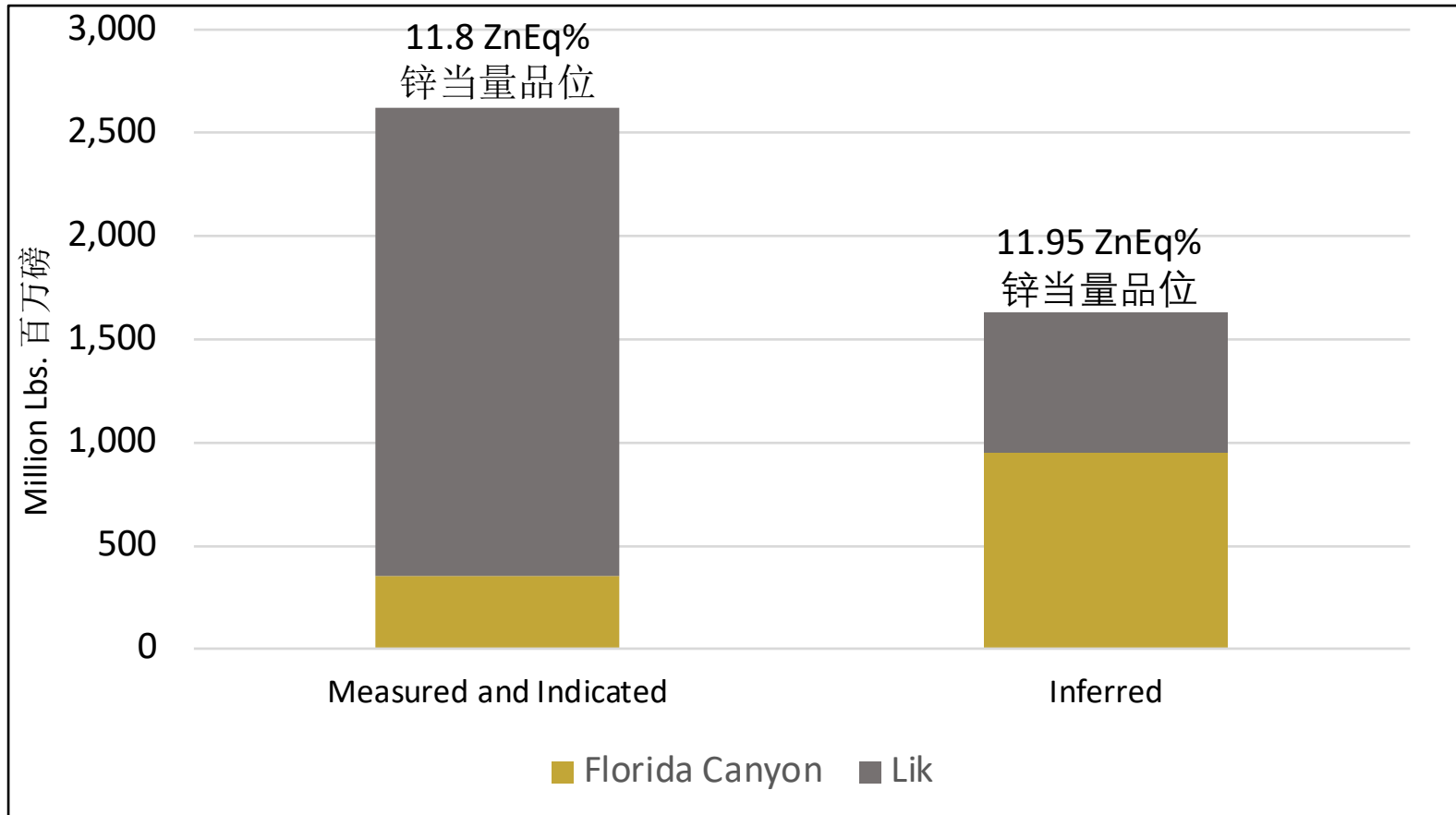


*Excluding non-cash option expense
不包括非现金期权费用

Equity Dilution Disciplined 严格的股权稀释

**No Equity Raise in the
Preceding 9 Years!**
此前9年没有增资扩股!

Consolidated Zinc Resources 合并的锌资源量 (Solitario Attributable 归属Solitario的)



Price assumptions for Zinc-Equivalent grade: Zinc \$1.20/lb; Lead \$1.00/lb; Silver \$16.50/oz.

Solitario attributable interests: Lik-50%; Florida Canyon-39%

计算锌当量品位时假设：锌价\$1.20/磅；铅价\$1.00/磅；白银\$16.50/盎司。

Solitario应占权益：Lik-50%；Florida Canyon-39%

Florida Canyon Zinc Project, Peru 秘鲁的Florida Canyon 锌项目

Joint ventured with Nexa Resources S.A.

与Nexa Resources S.A.的合资企业

Advanced exploration project with \$70 million in partner investments (526 drill holes; 134,416 meters) 高级勘探项目，合作伙伴投资\$7000万(526个钻孔；134,416米)

Preliminary Economic Assessment demonstrates robust economics 初步经济评估显示出强大的经济性

Funded to Production 资金支持至投产

• **17,000-meter drilling program completed in 2019 was the most aggressive annual program to date / 2019年完成的1.7万米钻探计划是迄今为止最积极的年度钻探计划**



Florida Canyon 2019 Drill Highlights

Florida Canyon 2019年钻探结果亮点



Drill Hole Number 钻孔编号	Thickness 厚 度(meters 米)	ZnEq 锌当 量 (%)		Drill Hole Number 钻孔编号	Thickness 厚 度 (meters 米)	ZnEq 锌当 量 (%)
PEBGD-03	1.3	56.9		PEBGD-30	6.7	18.7
PEBGD-04	1.3	40.6		PEBGD-31	7.4	13.1
PEBGD-08	4.4	18.3		PEBGD-32	9.3	26.5
PEBGD-10	48.9	6.2		PEBGD-33	9.9	7.7
Including 包括	17.5	13.7		PEBGD-36	6.1	25.6
PEBGD-15	12.4	15.1		And 以及	1.8	37.1
PEBGD-24	4.1	19.5		PEBGD-38	9.7	23.2
PEBGD-25	6.3	8.2		PEBGD-39	3.3	47.1
And 以及	8.8	6.9				

*ZnEq was calculated using the following price assumptions: Zn=\$1.10/lb., Pb=\$0.91/lb., Ag=\$16.50/oz. Reported intervals are estimated to be at least 80% of the true thickness 锌当量的计算基于以下价格假设：锌价\$1.10/磅，铅价\$0.91/磅，白银\$16.50/盎司。报告的矿段估计至少为真实厚度的80%

Numbers in this table may not add exactly as numbers have been rounded to the nearest decimal

由于数字已四舍五入到最接近的小数点，因此表中的数字可能无法完全准确相加

Florida Canyon Resource

Florida Canyon资源量



100% Basis / 100%的基础上

M&I 测定加指示资源量	Inferred 推断资源量
896 M Lbs. / 8.96亿磅 14.62 ZnEq % / 锌当 量品位14.62%	2,425 M Lbs. / 24.25亿磅 12.12 ZnEq % / 锌当 量品位12.12%

Solitario's 39% Share / Solitario的39%股份

M&I 测定加指示资源量	Inferred 推断资源量
349 M Lbs. / 3.49亿磅 14.62 ZnEq % / 锌当 量品位14.62%	946 M Lbs. / 9.46亿磅 12.12 ZnEq % / 锌当 量品位12.12%

Price assumptions for Zinc-Equivalent grade: Zinc \$1.20/lb; Lead \$1.00/lb; Silver \$16.50/oz.

计算锌当量品位时假设：锌价\$1.20/磅；铅价\$1.00/磅；白银\$16.50/盎司。

Florida Canyon PEA Economic Highlights

Florida Canyon初步经济评估经济亮点

(100% Basis / 100%的基础上)



NPV @ 8%-discount rate (after-tax)	\$198 million
Operating Margin (EBITDA)	\$958 million
Internal Rate of Return (after-tax)	24.7%
Payback	2.6 years
Initial Capital (incl. \$40 million contingency)	\$214 million
Sustaining Capital	\$83 million
Mine Life / Operating Rate	12.5 years / 2,500 tonnes/day
Average Annual Payable Metal Production	Zinc: 111.7 million lbs.
	Lead: 12.6 million lbs.
	Silver: 160 thousand oz.
Direct and Indirect Cash Costs	\$64.15/t or \$0.51/Zn-Eq lb.
All-in-Cost	\$90.64/t or \$0.73/Zn-Eq lb.

(Metal Price Assumptions: Zn=\$1.20/lb; Pb=\$1.00/lb; Ag=\$16.50/oz)

假设金属价格：锌价\$1.20/磅；铅价\$1.00/磅；白银\$16.50/盎司。

Zinc Price Sensitivity										
Zn Price	\$1.00		\$1.10		\$1.20		\$1.30		\$1.40	
	Pre-tax	After-tax	Pre-tax	After-tax	Pre-tax	After Tax	Pre-tax	After Tax	Pre-tax	After Tax
FCF (\$millions)	408	267	535	352	662	437	788	521	914	605
NPV 8% (\$millions)	187	96	263	147	339	198	414	248	490	298
IRR	24.5%	17.0%	29.7%	21.0%	34.5%	24.7%	38.9%	28.1%	43.0%	31.3%

Pb: \$1.00; Ag: \$16.50

Funded to Production 资金支持至投产



All future costs - drilling, PEA updates, pre-feasibility costs, community relations, environmental expenses, metallurgical studies, engineering & feasibility - will be funded by Nexa to earn its 70%-interest in the project. 所有未来的费用—钻探、初步经济评估PEA更新、预可行性研究费用、社区关系、环境费用、冶金研究、工程和可行性研究—将由Nexa出资，以获得项目70%的权益。

- ✓ Solitario will not pay back any of these costs. / Solitario不会偿还这些成本中的任何一项。

After feasibility, Nexa will fund Solitario's 30% participating interest through a loan to Solitario. 可行性研究后，Nexa将通过向Solitario提供贷款，为Solitario的30%参与权益提供资金。

- ✓ Interest rate will be at Nexa's cost of funds – currently about 5%. 利率将按Nexa的资金成本计算—目前约为5%。

Solitario will fund loan repayment to Nexa through 50% of the net cash flow from its 30% participating interest. / Solitario将通过其30%的参股权益所产生的净现金流的50%偿还Nexa的贷款。

- ✓ Allows for significant cash flow to be achieved early. 能够尽早实现大量现金流。

Solitario achieves production without capital risk or equity dilution!

Solitario实现了无资本风险和股权稀释的生产!



Florida Canyon Upside Considerations

Florida Canyon的上行考虑因素



- New resource estimate in process. 正在进行新的资源量估测。
- Deposit(s) will likely grow significantly, increasing annual throughput and extending mine life. 矿床(不止一个)可能会大幅增加，增加年产量并延长矿山寿命。
- Metallurgical testing will likely demonstrate higher recoveries (targeting an increase from 80% to 86%) and concentrate grade (from 50% to 58%). 冶金测试可能会显示出更高的采收率（目标从80%提高到86%）和精矿品位（从50%提高到58%）。
- Improved access from the south, reduce mine access and concentrate hauling by approximately 50 km. 改善南面的进出通道，减少约50公里的矿山通道和精矿运输。
- Successful exploration drilling in south area would support south access alternative. 南部区域成功的勘探钻探将支持对南部通道的其他考虑。

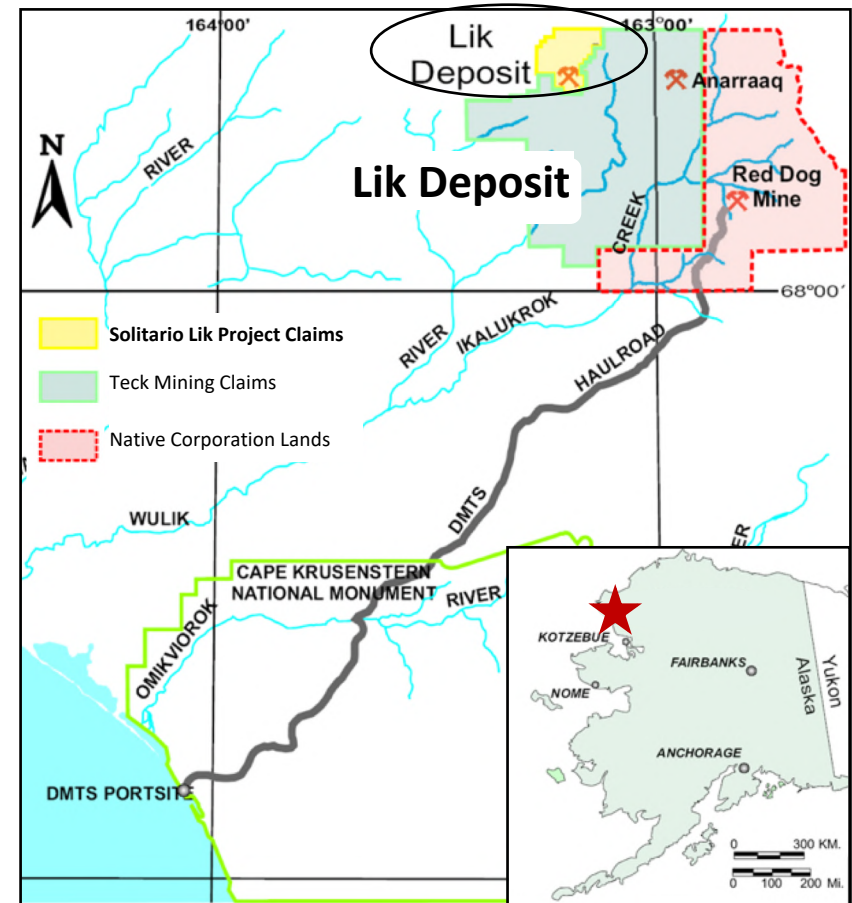


Lik Zinc Project, Alaska

阿拉斯加Lik锌项目



- Mining claims covering 6,075 acres located ~14 miles from Teck's Red Dog Mine 占地6075英亩的矿权区距离泰克的Red Dog矿仅14英里
 - 50/50 joint venture with Teck; Solitario is the operator 与泰克各占合资公司一半股份，Solitario是运营方
 - Large tonnage, high-grade, open-pittable resources, with significant underground expansion potential 资源量大、品位高、适合露天开采的资源，拥有巨大的地下扩张潜力
 - Clean metallurgy 清洁冶金
 - Region highly supportive of mining activity 高度支持采矿活动的地区
- ✓ **2021 exploration program planned**
已规划好2021年勘探方案



Lik Project Resource

Lik项目资源量



100% Basis / 100%的基础上

Indicated 指示资源量
4,542 M Lbs. / 45.42亿磅 11.37 ZnEq % / 锌当量 品位11.37%

Inferred 推断资源量
1,373 M Lbs. / 13.73亿磅 11.66 ZnEq % / 锌当量 品位11.66%

Solitario's 50% Share / Solitario一半的股份

Indicated 指示资源量
2,271 M Lbs. / 22.71亿磅 11.37 ZnEq % / 锌当量 品位11.37%

Inferred 推断资源量
687 M Lbs. / 6.87亿磅 11.66 ZnEq % / 锌当量 品位11.66%

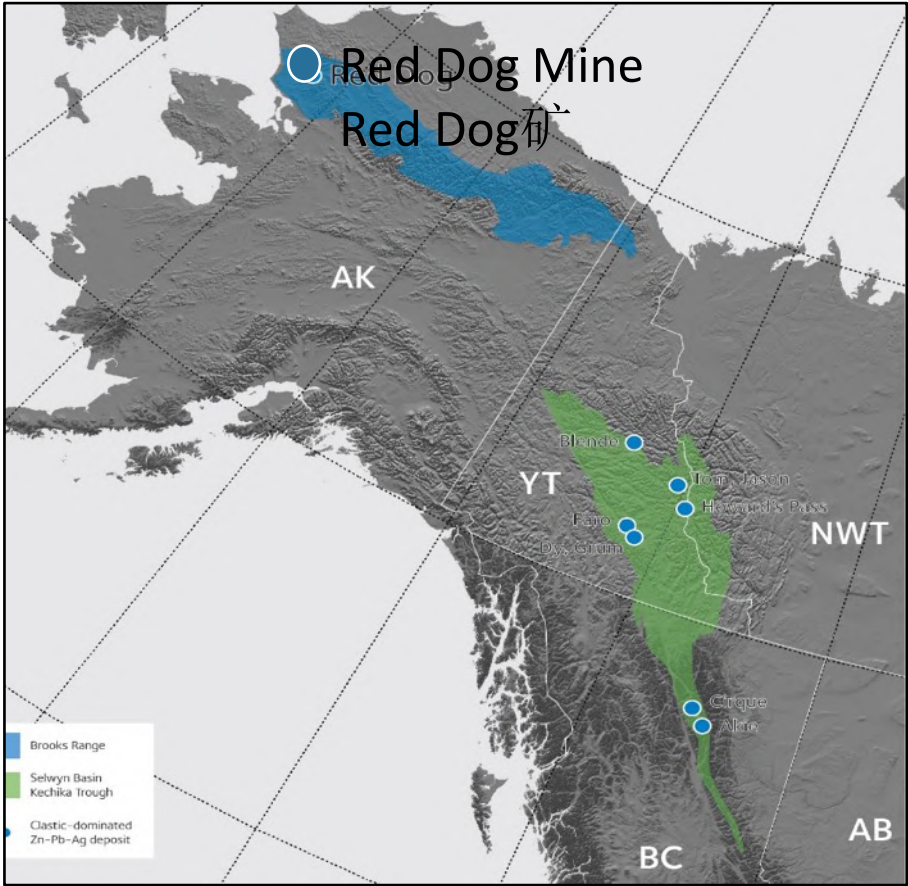
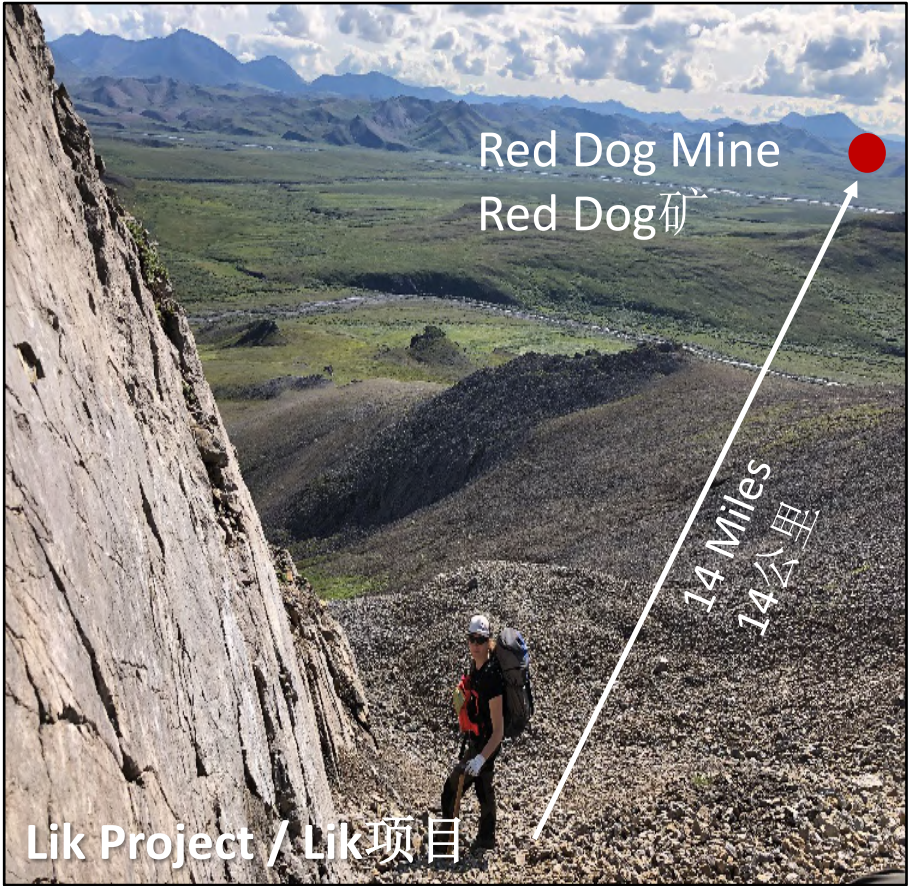
Price assumptions for Zinc-Equivalent grade: Zinc \$1.20/lb; Lead \$1.00/lb; Silver \$16.50/oz.

计算锌当量品位时假设：锌价\$1.20/磅；铅价\$1.00/磅；白银\$16.50/盎司。

Lik Project, Alaska 阿拉斯加Lik项目



(proximity to Red Dog 毗邻Red Dog)



Lik PEA Economic Highlights

Lik初步经济评估经济亮点

(100% Basis / 100%的基础上)



Strongly Leveraged to Zinc Price 对锌价有强大的杠杆作用

Zinc Price Sensitivity 锌价敏感性	US\$ 1.00/lb. 1美元/磅	US\$ 1.10/lb. 1.1美元/磅	US\$ 1.20/lb. 1.2美元/磅	US\$ 1.30/lb. 1.3美元/磅
After Tax IRR 税后内部回报率	14.4	20	25.2	30
After Tax Payback (yrs) 税后回报时间(年)	4.5	3.4	2.8	2.4
After Tax NPV @ 8% 税后折现8%的净现值	US\$ 99M 9900万美元	US\$ 195M 1.95亿美元	US\$ 291M 2.91亿美元	US\$ 386M 3.86亿美元

PRODUCTION 生产

- 234 million lbs payable zinc/year / 每年应付锌产量2.34亿磅
- 71.5 million lbs payable lead/year / 每年应付铅产量7150万磅

OPEX 运营成本

- US\$0.63/lb zinc, net of by-products / 锌0.63美元/磅, 扣除副产品后
- Inclusive of transport to port / 包括到港口的运输费用

MINE LIFE 矿山寿命

- 9 years using Lik South only / 九年, 仅使用Lik South
- Underground potential not considered / 地下开采潜力未考虑

CAPEX 资本支出

- \$352M, including 20% contingency / \$3.52亿, 包括20%的应急资金
- 5,500 tpd mill, infrastructure and equipment mining 2,200,000 tpa / 磨矿厂日均产能5500吨, 基础设施和设备开采每年220万吨。

Source: Preliminary Economic Assessment Technical Report – Zazu Metals Corporation, Lik Deposit Alaska, USA Dated April 23, 2014 and effective March 3, 2014, prepared by Robert L. Matter, PE (JDS Energy and Mining, Inc.) Tony Loschiavo, P.Eng. (JDS Energy and Mining, Inc.) , Neil Gow, P.Geo. (Roscoe Postle and Associates, Inc.) and Michael Travis, PE (Travis Peterson Environmental Consulting, Inc.) (herein referred to as the "PEA"). The preliminary economic assessment is preliminary in nature, in that it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment will be realized. 来源: 初步经济评估技术报告--美国阿拉斯加Zazu Metals Corporation Lik矿床, 报告日期为2014年4月23日, 2014年3月3日生效, 由JDS Energy and Mining, Inc.的专业工程师Robert L. Matter, JDS Energy and Mining, Inc.的专业工程师Tony Loschiavo, Roscoe Postle and Associates, Inc.的专业地质学家Neil Gow和Travis Peterson Environmental Consulting, Inc.的专业工程师Michael Travis编制(以下简称"PEA")。初步经济评估在性质上是初步的, 因为它包括推断的矿产资源, 这些资源在地质上被认为是太过投机性的, 无法对其进行经济考虑, 使其能够归类为矿产储量, 而且不确定初步经济评估是否会实现。

Lik Typical Mineralized Intersections

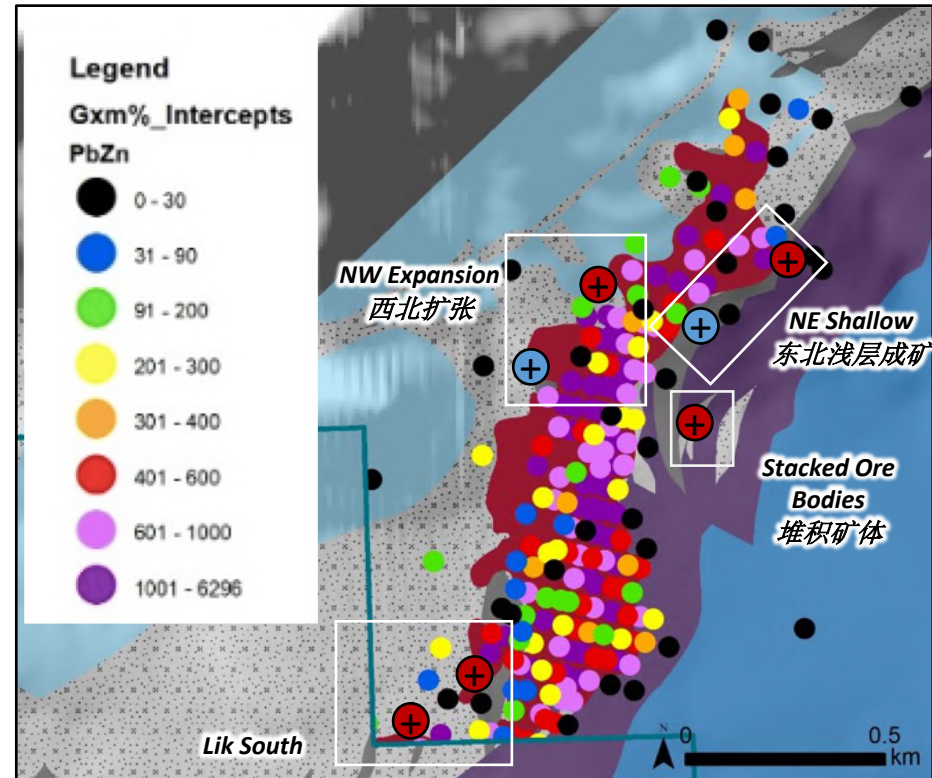
Lik典型矿化矿段





Hole No. 钻孔编号	From (m) 从(米)	To (m) 到(米)	Length 长 度 (m 米)	Zn 锌 (%)	Pb 铅 (%)	Ag 银 (g/t 克/吨)
5	54.56	78.79	24.23	19.72	6.27	126.5
16	80.16	94.49	14.33	21.67	7.01	230.4
21	129.54	135.33	5.79	7.07	1.88	8.6
24	40.87	50.14	9.27	11.09	1.44	51.1
38	45.90	63.76	17.86	8.13	1.80	48.0
38	70.53	87.75	17.22	8.92	2.08	28.8
43	35.66	40.69	5.03	17.66	3.62	8.6
43	60.96	80.28	19.32	9.07	2.49	47.7
43	84.73	91.04	6.31	21.07	5.95	111.4
68	32.31	53.43	21.12	13.34	2.85	56.9

Preliminary 2021 Exploration Program / 2021年初步勘探方案*

- 1,000+ meter drilling program testing extension of open pit resource and stacked ore bodies. / 1000多米的钻探计划，测试露天资源范围的延伸和堆积矿体。
 - ✓ Stacked ore bodies could provide huge upside potential 堆积矿体可带来巨大的资源量提升潜力
- Geophysics (IP) and soil geochemistry over north prospect area 北部前景区的地球物理学(IP)和土壤地球化学研究



-  Primary Holes 优先钻孔 – 2,700 ft / 2700英尺
-  Secondary Priority 次要优先 – 600 ft / 600英尺

*May be impacted by COVID-19 可能受到新冠肺炎疫情的影响

Lik Joint Venture Considerations

Lik合资企业的考虑因素



- Teck Resources is the third largest zinc producer in the world and operates the largest and most profitable zinc mine in the world - Red Dog. Red Dog is a core asset of Teck. Red Dog is a relatively easy 14-mile ore haul from Lik. 泰克资源是全球第三大锌生产商，经营着全球最大、最赚钱的锌矿Red Dog，该矿也是泰克的核心资产。Lik的矿石运输到Red Dog相对容易，只有14英里的距离。
- Red Dog production is subject to costly (35% NPI) and increasing (to 50% in 2032) to NANA Native Corporation. Lik is not subject to a NANA Royalty. / Red Dog的产量必须分给NANA Native Corporation很大一部分（35%的NPI），并在2032年增加到50%。Lik没有这样的限制。
- Joint Venture relationship is excellent. 合资企业关系非常好。
- During the past three years, Teck has become increasingly more engaged and enthusiastic concerning Lik. Teck wants to become majority owner and manager of the JV. 过去三年，泰克对Lik项目的参与度和热情越来越高，希望成为合资公司的大股东和管理者。

Lik Upside Considerations Lik 上升潜力因素

- Lik open pit resource has potential to grow by several million tons. / Lik露天资源量具备增加几百万吨的潜力。
- Potential for significant additional mineralization through deeper Lik mineralization exploited by underground mining methods, stacked mineralized horizons below Lik, and the north prospect area. 通过地下采矿方法开发的更深层的Lik矿化、Lik以下的堆积矿化层和北部前景区，有可能获得大量的额外矿化。
- Project economics will be significantly enhanced by utilizing Red Dog infrastructure; much lower capital costs, modestly higher operating costs. 通过利用Red Dog的基础设施，项目的经济性将得到显著提高；资本成本大大降低，运营成本小幅上升。



Summary 总结

- ✓ **Major joint venture interests** in two high-grade zinc development projects, +12% Zn Eq. M&I resource = 2.6 billion lbs., Inferred = 1.6 billion lbs. 拥有两个锌当量品位超过12%的高品位锌开发项目主要合资企业权益。测定加指示资源量为26亿磅，推断资源量为16亿磅。
- ✓ **Florida Canyon Zinc Project** in Peru is a high-grade development asset held jointly with Nexa Resources S.A / 秘鲁的**Florida Canyon**锌项目是与Nexa Resources S.A共同拥有的高品位开发资产
- ✓ **Lik Zinc Project** is a large-tonnage, high-grade, open-pittable development project in Alaska, partnered with Teck Resources / **Lik**锌项目是与泰克资源合作，位于阿拉斯加的一个资源量大、品位高的可露天开采开发项目
- ✓ **Well-financed** ~US\$7.9 million in cash and marketable securities 资金充足，约790万美元的现金和有价值证券
- ✓ **Skin in the game:** Management/Director equity ownership at 9.6% 风险共担：管理层/董事持股9.6%
- ✓ **Disciplined Capital Structure:** 58M shares outstanding, last equity raise was in 2011 / 严格的资本结构：5800万股流通股，上一次增加股本是在2011年
- ✓ **Experienced and respected management team:** Track-record of creating value by moving assets through feasibility and permitting 经验丰富、受人爱戴的管理团队：在通过可行性和许可来推动资产创造价值方面有成功履历



SOLITARIO
ZINC CORP.

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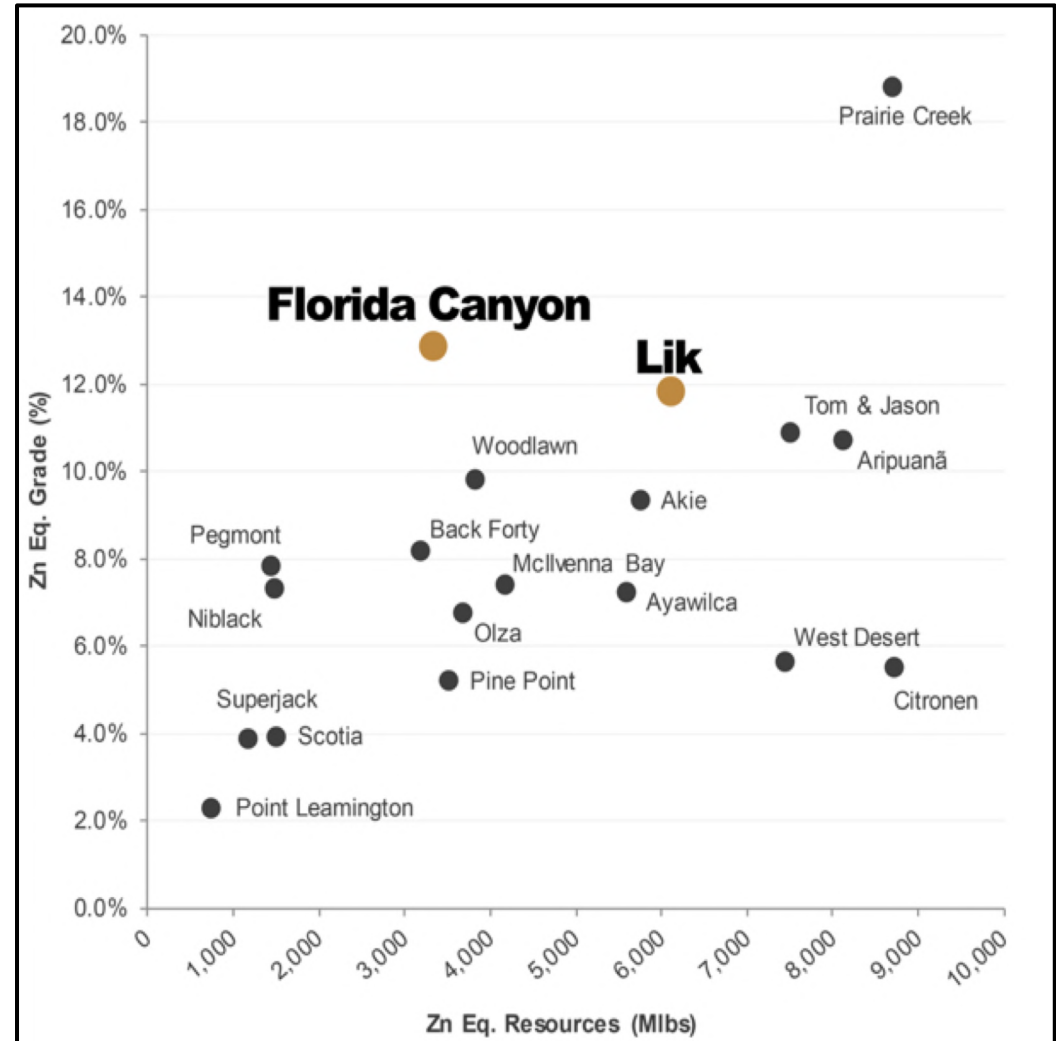
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Appendices 附录

Christopher Herald, President, CEO & Director 总裁、首席执行官兼董事



Mr. Herald has served as Chief Executive Officer since June 1999, President since 1993, and a director of Solitario since 1992. Prior to its acquisition by Kinross Gold Corp., Mr. Herald also served in various capacities for Crown Resources from 1987-2006, including, Chief Executive Officer, President and director. Prior to joining Crown, Mr. Herald was a Senior Geologist with Echo Bay Mines and Anaconda Minerals. Mr. Herald serves as non-executive Chairman of Viva Gold Corp. Mr. Herald received a M.S. in Geology from the Colorado School of Mines and a B.S. in Geology from the University of Notre Dame. / Herald先生自1992年起担任Solitario的董事，自1993年起担任总裁，自1999年6月起担任首席执行官。在该公司被Kinross Gold Corp.收购之前，Herald先生还于1987年至2006年在Crown Resources担任各种职务，包括首席执行官、总裁和董事，加入Crown之前曾是Echo Bay Mines及Anaconda Minerals的高级地质学家。Herald先生目前担任Viva Gold Corp.的非执行主席，他拥有科罗拉多矿业学院的地质学硕士学位和圣母大学的地质学学士学位。

Walter H. Hunt, Chief Operating Officer 首席运营官



Prior to his appointment as COO in June of 2008, Mr. Hunt was Vice President - Operations and President - South American Operations of Solitario since June 1999. He also served as Vice President - Peru Operations from 1994 until 1999. Mr. Hunt was Vice President Operations of Crown Resources from 1994 to 2006. Mr. Hunt has over 30 years of exploration, development and operational experience with Anaconda Minerals, Noranda and Echo Bay Mines where he served as Superintendent, Technical Services and Chief Geologist at Echo Bay's Kettle River Operations. Mr. Hunt received his M.S. degree in Geology from the Colorado School of Mines and a B.S. degree from Furman University. 在2008年6月被任命为首席运营官之前，Hunt先生自1999年6月起担任Solitario公司运营副总裁和南美运营总裁，他还于1994年至1999年担任秘鲁业务副总裁，1994年至2006年担任Crown Resources的运营副总裁。Hunt先生在Anaconda Minerals、Noranda和Echo Bay Mines拥有超过30年的勘探、开发和运营经验，在Echo Bay曾担任Kettle River业务的总监、技术服务和首席地质学家。他在科罗拉多矿业学院获得地质学硕士学位，在弗曼大学获得学士学位。



James R. Maronick, Chief Financial Officer 首席财务官

Mr. Maronick has served as Chief Financial Officer and Secretary/Treasurer of Solitario since 1999. He also served as Chief Financial Officer of Crown Resources from 1999 to 2006. Prior to that, Mr. Maronick served as Vice President - Finance and Secretary/Treasurer of Consolidated Nevada Gold Fields Corporation from November 1994 to September 1997. Mr. Maronick graduated with honors from the University of Notre Dame in 1977 with a BA in accounting and received his Masters degree in Finance with highest honors from the University of Denver in 1986. Maronick先生自1999年起担任Solitario的首席财务官兼秘书/财务主管，还在1999年至2006年担任Crown Resources的首席财务官。在此之前，从1994年11月至1997年9月，他曾担任Consolidated Nevada Gold Fields Corporation的财务副总裁和秘书/财务主管。Maronick先生于1977年以优异成绩毕业于圣母大学，获得会计学学士学位，并于1986年以最高荣誉获得丹佛大学金融硕士学位。

Board of Directors 董事会



Brian Labadie, Chairman of the Board 董事会主席 - Mr. Labadie has been a director of Solitario since June 2006 and Chairman since March of 2009. Mr. Labadie has in over forty years' experience in the mining industry including formal training and experience as a mining engineer including developing and operating mines, both as a mine manager and as a senior executive at Miramar Mining Corporation and Echo Bay Mines. Currently, he is an independent mining industry consultant. He was a former director of Crown Resources Corporation and Battle Mountain Gold Corporation. Mr. Labadie holds a Bachelor of Science degree in geological engineering from the University of Toronto. / Labadie先生自2006年6月起担任Solitario的董事，自2009年3月起担任董事会主席，在采矿行业拥有四十多年的经验，包括作为采矿工程师的正规培训和经验，包括开发和运营矿山，同时在Miramar Mining Corporation和Echo Bay Mines担任矿山经理和高管，曾经是Crown Resources Corporation及Battle Mountain Gold Corporation的董，目前是一名独立的矿业顾问。Labadie先生拥有多伦多大学地质工程专业的理学学士学位。

Gil Atzmon, Director 董事 - Gil was the founder, Chairman, Chief Executive Officer and a Director of Zazu Metals before its acquisition by Solitario in June 2017. Mr. Atzmon has over 20 years' experience in the mineral resources sector including positions as a mining executive, investment banker, mining fund manager and geologist. Previously, Mr. Atzmon acted as VP, Corporate Development of Ivanhoe Mines Ltd., a global energy and mining specialist for BNP Paribas and Portfolio Manager for US Global Investors, Inc. Mr. Atzmon holds a Bachelor's degree in Geology and Geography from Columbia University and a Master Degree in Energy and Mineral Resources from the University of Texas. 在2017年6月被Solitario收购之前，Gil曾是Zazu Metals的创始人、董事会主席、首席执行官和董事，在矿产资源领域拥有20多年的经验，包括担任矿业高管、投资银行家、矿业基金经理和地质学家等职位。在此之前，Atzmon先生曾经是Ivanhoe Mines Ltd.的企业发展副总裁；曾经是法国巴黎银行的全球能源和矿业专家；是US Global Investors, Inc.的投资组合经理。他拥有哥伦比亚大学的地质学和地理学学士学位以及德克萨斯大学的能源和矿产资源硕士学位。

Joshua Crumb, Director 董事 - Mr. Crumb is a founder, Director and Chief Financial Officer of Goldmoney Inc., a financial service and technology company, serving in this role since 2014. Mr. Crumb was previously an Executive Director at Goldman Sachs and also held positions within the Lundin group of companies. Mr. Crumb served as a founder and Director of Loma Vista Capital, and an independent Director of Silver Bull Resources Inc., Astur Gold Corp and Zazu Metals. Mr. Crumb holds a Master's of Science degree in Mineral Economics, a Graduate Certificate in International Political Economy, and a BS degree in Engineering from the Colorado School of Mines. / Crumb先生自2014年起担任一家金融服务和技术公司Goldmoney Inc.的创始人、董事和首席财务官，在此之前曾在高盛担任执行董事，也曾曾在Lundin集团公司担任过职务，曾经是Loma Vista Capital的创始人和董事，以及Silver Bull Resources Inc.、Astur Gold Corp和Zazu Metals的独立董事，拥有科罗拉多矿业学院矿产经济学硕士学位、国际政治经济研究生证书和工程学士学位。

Jim Hesketh, Director 董事 - Mr. Hesketh has over 35 years' experience in the mining industry and is presently serving as President, CEO and Director of Viva Gold Corp. Previously, Mr. Hesketh served as President, CEO and Director of Atna Resource, Ltd, and its' predecessor Canyon Resources Corporation. He was also a principal mining engineer and VP of NM Rothschild & Sons. Mr. Hesketh holds a BS in Mining engineering and an MS in Mineral economics, both from the Colorado School of Mines. / Hesketh先生在采矿业拥有超过35年的经验，目前担任Viva Gold Corp.的总裁、首席执行官和董事，在此之前曾担任Atna Resource, Ltd及其前身Canyon Resources Corporation的总裁、首席执行官和董事，还曾是NM Rothschild & Sons的首席采矿工程师和副总裁。Hesketh先生拥有科罗拉多矿业学院的矿业工程学士学位和矿产经济学硕士学位。

Christopher Herald, Director 董事 - See management bio on slide #31. 见幻灯片第31页的管理层简历。

John Labate, Director 董事 - Mr. Labate is a seasoned executive with over thirty years of financial management and accounting experience. Currently he serves as CFO of Gold Resource Corporation. He has previously served as CFO of Golden Star Resources, Ltd., Constellation Cooper Corporation, Crown Resources Corporation and Applied Optical Technologies. Mr. Labate received a bachelor's degree in Accounting from San Diego State University. / Labate先生是一名经验丰富的管理者，拥有三十多年的财务管理和会计经验，目前担任Gold Resource Corporation的首席财务官，也曾曾在Golden Star Resources, Ltd.、Constellation Cooper Corporation、Crown Resources Corporation和Applied Optical Technologies担任过首席财务官，拥有圣地亚哥州立大学会计学学士学位。

Majors Acquire Undervalued Junior Zinc Assets 大型矿业公司争相收购价值被低估的初级锌资产



Buenaventura Mining Invests in Tinka Resources – December 2019

Buenaventura Mining投资Tinka Resources—2019年12月

- Buenaventura Mining made an equity investment of C\$16 million in Tinka Resources to acquire a 19.9% interest in Tinka (Ayawilca Zinc Project, Peru); Buenaventura paid an 83% premium to Tinka's 3-month VWAP / Buenaventura Mining对Tinka Resources进行了1600万加元的股权投资，以获得Tinka（秘鲁Ayawilca锌项目）19.9%的权益；Buenaventura支付了比Tinka 3个月加权平均价格高83%的溢价

Nexa Resources Acquires Karmin / Nexa Resources收购Karmin

- August 27th, 2019 - Nexa Resources acquires remaining 30% interest in Aripuana Zinc project, acquiring all shares of Karmin Exploration TSX:V- KAR. Karmin shareholders will receive approximately US\$0.77 per share or US\$70 million, representing a 30% premium to the previous days closing share price / 2019年8月27日—Nexa Resources收购Aripuana锌矿项目剩余30%的权益，收购Karmin Exploration TSX:V- KAR的全部股份。Karmin股东将获得每股约0.77美元或7000万美元，较前一日收盘股价溢价30%

South32 Acquires Arizona Mining / South32收购Arizona Mining

- June 18th, 2018 - South 32 Acquires Arizona Mining for US\$1.3 billion or US\$4.70 per share in an all cash offer, representing a 50% premium to the previous days closing / 2018年6月18日—South 32以13亿美元或每股4.70美元全现金收购Arizona Mining，较前一交易日收盘价溢价50%