The application of machine learning in mineral exploration
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Forward looking information in this presentation includes, but is not limited to, statements with respect to the Company’s future plans to acquire additional targets or properties including equity positions with partners, enter into joint venture, earn-in, royalty or streaming structure agreements, or dispose of properties, achieve an income stream which would permit it to pay a dividend on its outstanding shares, the timing and amount of future exploration and expenditures and the possible results of such exploration.

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The future lies in **machine learning**

- Giving computers the ability to learn without being explicitly programmed.
- ML investigates the creation of algorithms that can learn from and make predictions from big data – overcoming strictly static program instructions.
- These analytical models allow users to “produce reliable, repeatable decisions and results” and uncover “hidden insights” through learning from historical relationships and trends in the data.
The AI wave is poised to **finally break through**

Investment in AI is growing at a high rate, but adoption in 2017 remains low.

In 2017, companies invested **$40B+** in artificial intelligence.

<table>
<thead>
<tr>
<th>Tech Giants</th>
<th>Startups</th>
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<tr>
<td>$30B</td>
<td>$9B</td>
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**3X** investment growth in AI since 2013.

20% of AI-aware firms say they are **adopters**
- 3+ technologies
- 2+ technologies
- 1 technology

41% of firms say they are uncertain about the benefits of AI

Source: Goldspot, McKinsey Global Institute Study
Machine learning in **mineral exploration**

Mineral deposits form for a reason.

Machine learning links this “reason” to available geoscience data to determine the relationship.

With that “relationship” we can predict likelihood of mineralization in new exploration regions.
The Miners Are Making Their Move

The main goals of the company’s digital transformation strategy are to increase success in exploration by relying on big data and machine learning – Todd White, COO – March 2017

“With advances in artificial intelligence, the ability to apply machine learning to exploration datasets across a range of scales is exciting…BHP’s technology teams have experts working in this area.” – August 2017

“Integrated, and systems-based, using advanced analytics and machine-learning to reveal new patterns and trends e.g. hyperspectral analysis of drill samples…” – 2016 Sustainability Report

The platform will assist with modeling and integrating massive amounts of raw data generated by various databases. This information can be plugged into BI reporting apps and ML algorithms - Building Barrick’s big data infrastructure – April 2017

“Increasingly looking” to form partnerships with the likes of IBM and GE for their respective Watson and Predix cognitive and machine learning technologies. – July 2017

Appointed Guy Desharnais as their Director of Mineral Resource Evaluation. First-place winner of Goldrush Challenge, and huge proponent of the application of machine learning to vector ore – Sept 2017
Goldspot Discoveries Inc.

Goldspot Discoveries is the future of mineral exploration & investment business.

Goldspot is at the forefront of artificial intelligence and machine learning in mineral exploration; the perfect marriage of technical expertise and financial backing.

Goldspot has a proven system to mitigate exploration risk and increases the efficiency and success rate of exploration & investments in data-rich environments.
Goldspot’s domain expertise bridges the gap between geoscience and machine learning by offering a front to back solution.
Management & Directors

Denis Laviolette
CEO, President & Director
Over 10 years of experience in mining and capital markets;
Worked in Timmins, Kirkland Lake, and Red Lake; and managed all aspects of a mining operation in Ghana;
Previously a mining analyst with Pinetree Capital, now mining analyst for ThreeD Capital; Director of Xtra-Gold (TSX:XTG) and Northern Sphere Mining (CNSX:NSM).

Sheldon Inwentash
Director
Over 30 years of experience in the investment industry;
Started four significant businesses, including Pinetree Capital, Visible Genetics, Mega Uranium, and ThreeD Capital;
Pinetree generated a 120-fold increase in share price, reaching a $1B market cap;
Prolific name in the resource space and an expert in diversified strategic investment and financial advisory.

Ramón Barúa
Director
Appointed CFO of Hochschild Mining on June 1, 2010;
Prior to, served as CEO of Fosfatos del Pacifico, a mining project in northern Peru;
Prior to joining Hochschild, Mr. Barúa was a VP of Debt Capital Markets with Deutsche Bank in New York & sales analyst with Banco Santander in Peru.

Collin Kettell
Chairman
Co-founded Palisade Global Investments Ltd. with the goal of investing in and backing undervalued junior mining companies;
Comes from a family with deep ties to mining, including co-founding AuEx Ventures, the company responsible for discovering the Long Canyon deposit, a project ultimately acquired by Newmont Mining for $2.2B.

Binh Quach
CFO
CPA with 20 years of working in the accounting and finance field in the investment and securities industry for both public and private companies;
Previously, the controller of Pinetree Capital from 2000 to 2015; since 2000, has been the controller of ThreeD Capital (CNSX:IDK); Currently, also the CFO of New Found Gold, a private exploration company.

Cejay Kim
VP Corp. Dev. & Director
Chief Investment Officer of Palisade Global Investments;
Previously served in a senior capacity at ReQuest Equities, a merchant bank in the junior resource sector supported by the KCR Fund, a $100 million venture backed by Marin Katusa, Doug Casey, and Rick Rule.
Technical team

Vincent Dubé-Bourgeois
COO & Director
B.Sc. in geology from the University of Ottawa;
M.Sc. project consists of interpreting geochemistry and geodynamic setting the Lalor deposit;
Worked as assistant geologist for the Ontario Geological Survey (OGS) and geologist for Noront Resources.

Sarane Sterckx
M.Sc. student at INRS-ETE, M.Sc. in Geology from the University of Brussels;
Working on geochemistry of Archean volcanic rocks of the Blake River Group in the Abitibi Greenstone Belt in relation with occurrences of VMS deposits;
Worked as geologist for the Ministry of Natural Resources of Quebec, also has field experience in France, Indonesia and Morocco.

William Oswald
Ph.D. in Earth Sciences - Economic Geology from INRS, B.Sc. in Geology in 2009 and M.Sc. in 2011 from the Institut Polytechnique LaSalle Beauvais;
Worked on geological risk analysis and GIS for Bouygues Construction and field, geological and structural mapping in Tanzania for MDN Inc.

Chris MacInnis
Vice President
P.Geo, Resources Geologist with 15+ years of experiences;
Previously Senior Resources Geologist at SRK;
Lead trainer for Datamine Canada and Resources Modeler

Fabien Rabayrol
Ph.D. Candidate at the MDRU from UBC, M.Sc. from the Institut Polytechnique LaSalle Beauvais;
Worked for Balmoral Resources in Québec and Teck Resources in Turkey as field;
Currently working on the tectonic-magmatic evolution of the Anatolide Tauride metallogenic belt in Turkey.

Louis Beaupre
B. Eng. in geological engineering from Laval University
Worked as field geologist for Midland Exploration Inc.
Worked as assistant geologist for IOS Services Géoscientifiques Inc. and research assistant in hydrogeology for Laval University.
Technical team

Vivien Janvier
Ph.D. in Earth Sciences - Economic Geology from INRS; M.Sc. in Earth Sciences specialized in mineral resources from the Université d’Orléans, Institut des Sciences de la Terre d’Orléans;
Previously worked as an Exploration Geologist for Agnico Eagle Mines & IAMGold.

Mireille Pelletier
M.Sc. in Geology from INRS for the Geological Survey of Canada & New Gold Inc. studying the Rainy River gold deposit (Northwestern Ontario), BS.c. in Geology from UQAM;
Over seven years experience working on grassroots to advance stage mapping and drilling projects.

Eric T.K. Chou
VP, Head of R&D
Ph.D. in Mineral Engineering, Numerical Methods & Machine Learning; Master in Applied Science in Geophysical Exploration;
Past Research Associate at Polytechnique Montreal;
Past Research Associate at Carleton University;
Over 6 years of university teaching at the rank of lecturer and over 7 years of experience working with private sectors.

Brenda Sharp
Chief Geophysicist
P.Geo. with over 20 years of experience as a Geophysicist;
Interpretation Geoscientist for CGG;
Geophysical Data Processor for Fugro;
M.Sc in Geology with a focus in Geophysics from University of Auckland.

Accolades

2nd place winners
Integra Gold Rush Challenge
Finalist
#DisruptMining
Notable investors / Partners

**Palisade Global Investments Ltd.**
Founding Investor

Palisade Global Investments Ltd. is an offshore merchant banking group and mining focused investment group, specializing in high growth, small cap investments. Through its global network of private equity groups, fund managers, high net worth and retail investors, Palisade is able to create strategic relationships to drive increased liquidity and source financing. To date, Palisade has generated over $600M in terms sheets for its portfolio of companies and has invested over $25M of principal capital.

**ThreeD Capital Corp.**
Founding Investor

ThreeD Capital’s team brings years of experience in the public markets, financing companies, identifying strong leaders, and running back office operations. It was created to take advantage of the depressed prices of the Canadian markets, significant opportunity exists to deploy capital with the dual mandate of identifying the very best opportunities and obtaining the lowest entry point for ThreeD shareholders by providing advisory services. Led by Sheldon Inwentash, who to date has raised several billions for his issuers.

**Datamine**
Strategic Partner

Datamine is a world leading provider of mining software and services to seamlessly plan and manage mining operations. With service locations in fifteen countries, Datamine provides solutions ranging from exploration data management and resource modelling to mine planning and operations to over 1,400 companies worldwide. Datamine’s software solutions integrate with our consulting and training services to ensure that we provide our clients with industry-leading support and expertise.

**Hochschild Mining**
Strategic Partner

Hochschild Mining plc is a leading underground precious metals producer focusing on high-grade silver and gold deposits, with over 50 years’ operating experience in the Americas. The company currently operate four underground mines, three located in southern Peru and one in southern Argentina. All of their underground operations are epithermal vein mines and the principal mining method used is cut and fill. The ore is processed into silver-gold concentrate or dore. Hochschild Mining plc is listed on the Main Market of the London Stock Exchange and is headquartered in Lima, Peru. In addition, the Group has an office in Argentina and a corporate office in London.
Three Pillars

Services

Exploration

Investments
Goldspot Services

- Goldspot Services has worked with or is currently working with numerous premier mining companies, including: Jerritt Canyon Gold LLC (majority-owned by Eric Sprott’s Sprott Mining), Hochschild Mining, McEwen Mining, and Integra Resources;
- Goldspot Services provides robust cash flow to fund Goldspot’s overall operations & its Research & Development;
- Goldspot’s expertise and specialization, will maintain its place as the leader in machine learning and mineral exploration.
Goldspot Services works with mining companies to delineate targets on both a local and regional scale. We:

- Extract & refine available data;
- Create accurate & sophisticated geological, structural and mineralization models;
- Determine which variables best represent the geological features that influence the location of mineral deposits (exploration vectors);
- Geostatistically analyze these variables & build a prediction model using a machine-Learning (ML) algorithm;
- Identify targets and validate them.
The Goldspot Workflow

Phase I: Raw data
Phase II: Geological model
Phase III: Machine-learning algorithm
Phase IV: Targets

Knowledge
Goldspot Exploration

- Goldspot Exploration’s mandate is to use robust datasets & machine learning to generate prospectivity maps;

- Goldspot was able to find 86% of the existing gold deposits in the Quebec Abitibi, but only needed 4% of the total surface area to do so - In real life application, this significantly reduces exploration time and costs;

- Goldspot Exploration is the future of prospecting and land banking - to date 9,078 of highly prospective hectares have been staked which will be explored this year;

- Driving our brand into a JV/Option model where we can stake prospective ground & partner with well-financed groups to explore & develop; issuers will no longer be optioning claims, they will be optioning Goldspots.

### Goldspot PROJECT

**Quebec – Canada Gold Prospectivity Target Generation**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Date</th>
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<tbody>
<tr>
<td>1:1,000,000</td>
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<table>
<thead>
<tr>
<th>Projection</th>
<th>GIS: Data Miners</th>
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<tbody>
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<td>UTM 17N</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Datum</th>
<th>Source</th>
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<tbody>
<tr>
<td>NAD 1983</td>
<td>SIGEOM</td>
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**Legend**

- **Gold mineralization**
  - Deposit
  - Prospect
  - Occurrence

- **Structure**
  - Faults
  - Folds

- **Prospectivity**
  - High : 1
  - Low : 0

- **Targets**
  - Predictivity > 0.85
  - Predictivity > 0.70

- **Targets**
  - Diamond drill hole

- **Prospectivity**
  - High : 1
  - Low : 0

- **Area of interest**

- **Active claims**

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**Goldspot**

**DISCOVERIES INC.**
Machine learning in mineral exploration

**Training Data**
- Input data gathered:
  - Mineral Occurrences
  - Faults
  - Geology
  - Geochemistry
  - Geophysics
  - Satellite Imagery
  - Topography
  - Spatial Data

**Apply Learning Algorithm**
- Takes the data, learns, and turns into a trained machine, spitting out **Gold-Spots**
  - Deposits
  - Prospects
  - Occurrences

**Questions and Answers**
- **Query**: So where are deposits in this camp?
- **Answer**: Here they are!

**Prospectivity zones**
- Prospectivity map with known deposits
  - Galley et al., 2007
Discovery of a new trend?

The Goldspot Algorithm identified target areas along existing belts including Rouyn-Noranda, Val d’Or, and Porcupine Faults.

These areas are nearly 100% staked by existing companies.

North of Porcupine, the machine identified a Goldspot – a fresh target that had gone undetected through traditional exploration methods.

This could represent a new trend. The ground is now owned by Goldspot Discoveries. This is just one example of target areas picked up by Goldspot.
Goldspot Investments

- A quantamental approach – the future of mining investments;
- **Quantamental** analysis is the combination of two types of investment strategies: quantitative & fundamental;
- Combines geological, market, & other quantitative data to drive investment decisions;
- Machine learning assists in determining which companies are a **buy**, and which are a **sell**;
- Goldspot is redefining the term ‘**smart money**’.
Goldspot Investments

What do investors look at in a mining stocks?

- Drill Results – Grade, Width & Depth
- Jurisdiction & Infrastructure
- Management & People
- Capital Structure & Treasury
- Market Sentiment & Technical Indicators
- Liquidity…Plus hundreds of other variables
- Goldspot Investments combines all of the available historical & live data & uses machine learning to stay one step ahead of the street

Infrastructure & Database Architecture currently being developed by Yohan Sawart

Data Strategy Advisor

- Over 16 years of experience designing, implementing, and maintaining big data solutions
- Specialties include Oracle Database and Java Middleware, running on Linux
- Helped build U.S. Dept. of Homeland Security’s Automated Targeting System
- Past clients include IBM, Lockheed Martin, and Unisys
Goldspot Research & Development

R&D’s philosophy is to develop & innovate new machine learning techniques for the following goals:

- support mineral exploration;
- to assist the Service Arm in carrying out the geophysical interpretation & in generating the prospectivity maps;
- & to support and build the technology necessary for Goldspot Investments

It is Goldspot’s belief that regardless the type of processing or interpretation, time needs to be reduced between the moment data is cleaned & sorted & in generating results.
Putting it all together

When all verticals are combined, Goldspot Discoveries is able to generate proprietary data and unique ways of utilizing big data.

Goldspot is also monopolizing the intellectual capital in this space. Machine learning in mineral exploration is a complicated multi-disciplinary problem.

All put together, Goldspot has an edge in the use of artificial intelligence in mineral exploration that no gold company or service company can currently replicate.
Value Propositions

**Goldspot Services** is a turn-key solution for any major player for when the inevitable need to adopt machine learning comes. The vertical is a rapidly growing, positive cash flowing business providing services for cash & potential royalties for discovery.

**Goldspot Exploration** will eventually amass a formidable portfolio of royalties and prolific land package. Major producers are currently investing in exploration companies with highly prospective, district size land plays for the next new deposit. Furthermore, the regional application of machine learning will save millions of dollars in exploration costs.

**Goldspot Investments** will revolutionize investing, and will have a significant edge compared to larger investment boutiques and hedge funds that have interest in resources. Also, major producers often invest in junior exploration companies with the idea that if the company discovers a major deposit, an acquisition down the line will not be as expensive. Goldspot Investments can filter opportunities that much faster, mitigating their investment risk.

**Goldspot Discoveries** is attractive to all forward-thinking investors that understand the importance of developing new distinctive business models to create value. Due to its investment in R&D and significant advancements in utilizing machine learning in multiple unique and vital applications, Goldspot’s IP is also attractive to major technology companies. Example: Google has extensive remote sensing data, including 1,024 TB of 3D imagery, 179 TB of default layer aerial imagery, and 196 TB of satellite imagery. Combining this data and Goldspot’s remote sensing IP can be game changing in delineating exploration targets. The application of advanced machine learning can be truly momentous. Environmental conservation and preservation remain the narrative for many technology companies and VC funds. Providing efficient and sustainable mining operation is the first step towards that – something Goldspot’s technology can provide.
Capital Structure

- Palisade Global Investments, 24%
- ThreeD Capital, 18%
- Hochschild Mining, 10%
- Eric Sprott, 8%
- Management/ Employees, 31%
- Other, 9%
Goldspot Discoveries to date

- Demonstrated the applicability of our machine learning method on a local & regional scale

- Produced a prospectivity map of the entire Abitibi Gold Belt Region and staked the best claims and identified highest potential ground owned by prospectors & small private companies

- Planning exploration program for initial reconnaissance on 9,078 hectares of prospective land

- Has raised $2 million in two rounds of financing, have projected 2018 revenue of $1.3M, and have expanded its technical team from six to thirteen, including six PhDs

- Goldspot has delineated targets for Sprott Mining, Hochschild Mining, & McEwen Mining
What is Goldspot?

Goldspot Discoveries is a disruptive tool to help with the decision-making process in the mineral industry – it significantly decrease risk, while increasing the efficiency and success rate of mineral exploration.

The Goldspot Algorithm will change the landscape of mineral exploration and the allocation of capital in the mining sector. How can a mining company justify a target when only several variables out of a hundred are considered? How can an investor justify investing money in a company if the projects have not been screened with machine learning?

Goldspot Discoveries will leverage its proven investment track record and utilize The Goldspot Algorithm as an investment tool. Open claims are also being staked for investment purpose, with the secondary goal of acquiring land or royalties that are privately held.
Contact

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Phone: 778-886-1826