

**Bart Stryhas**  
**Associate Principal Resource Geologist**



**Profession** Principal Resource Geologist

**Education** Ph.D. Structural Geology, Washington State University, 1988  
M.S. Structural Geology, University of Idaho, 1985  
B.A. Geology, University of Vermont, 1983

**Registrations/  
Affiliations** AIPG CGP # 11034

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**Specialization** Resource estimation, structural geology, mine geology and due diligence evaluation of precious metal, base metal and industrial mineral projects.

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**Expertise** Bart Stryhas, Ph.D., has over 35 years of domestic and international mining experience focused on resource estimation, due diligence audits, property evaluations, mine geology, management of gold and base metal projects and structural analysis. He is skilled in all aspects of geologic interpretation, resource estimation, property evaluation and NI 43-101 Technical Report writing. Bart is proficient in the use of Vulcan™, Leapfrog®, and Microsoft® Access, Excel and Word.

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**Employment**

<b>2018-Present</b>	SRK Consulting (U.S.), Inc., Associate Resource Geologist, Lakewood, CO
<b>2014 – 2018</b>	SRK Consulting (U.S.), Inc., Principal Resource Geologist, Lakewood, CO
<b>2012 – 2014</b>	SRK Consulting (U.S.), Inc., Associate Resource Geologist, Lakewood, CO
<b>2006 – 2012</b>	SRK Consulting (U.S.), Inc., Principal Resource Geologist, Lakewood, CO
<b>2005 – 2006</b>	Northland Resources, Project Manager/Resource Geologist, Storuman, Sweden
<b>2000 – 2001</b>	BHP S.A., Senior Project Geologist, Tintaya, Peru
<b>1993 – 1999</b>	Harlow Oberbillig Estate, Consultant Geologist, Yellow Pine, ID
<b>1992 – 1993</b>	American Barrick Resources Corp., Senior Geologist, Elko, NV
<b>1991 – 1992</b>	Stibnite Mine Inc., Chief Geologist, Boise, ID
<b>1990 – 1991</b>	Blackdome Mining Corp., Chief Geologist, Clinton, BC
<b>1988 – 1990</b>	Pioneer Metals Corp., Chief Geologist, Vancouver, BC
<b>1985 – 1988</b>	Washington State University, Ph.D. Research, Pullman, WA
<b>1984 – 1984</b>	University of Idaho, Master of Science Research, Moscow, ID
<b>1981 – 1982</b>	Vermont State Geologic Survey, Field Geologist, Montpelier, VT
<b>1980 – 1980</b>	Minatome Corporation, Senior Geophysical Operator, Iron Mountain, MI
<b>1979 – 1979</b>	Minatome Corporation, Geophysical Operators Assistant, Iron Mountain, MI

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**Languages** English, Intermediate Spanish

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## **Associate Principal Resource Geologist**

### **Key Experience: NI 43-101 Technical Reports**

Recent project experience includes:

#### **NI 43-101 Prefeasibility Study, Uryakh Project, Irkutsk Region, Russia**

- Geologic model and resource estimate of a 1.6 million ounce gold deposit hosted within quartz veins of the Lenskaya gold belt.

#### **NI 43-101 Prefeasibility Study, Stibnite Gold Project, Idaho, USA**

- Geologic model and resource estimate of a 125 million tonne gold deposit hosted within a Paleozoic metasediments and Cretaceous intrusives.

#### **NI 43-101 Bankable Feasibility Report, Haile Gold Mine Horseshoe Deposit, Lancaster Co, SC, USA**

- Geologic model and resource estimate for a 3.6 million gold deposit hosted within Cambrian age rocks of the Carolina Terrain.

#### **NI 43-101 Bankable Feasibility Report, WBL Primary Clay Deposit, Bovill, Idaho, USA**

- Geologic model and resource estimate of an 11 million ton Halloysite, Kaolinite, K-Spar and Quartz deposit hosted within Cretaceous intrusive rocks of the Idaho Batholith.

#### **NI 43-101 Technical Report, Preliminary Economic Assessment, Montagne d' Or Gold Deposit, NW French Guiana**

- Geologic model and resource estimation of an 100 million tonne gold deposit hosted within Proterozoic igneous and sedimentary rocks.

#### **NI 43-101 Technical Report on Resources, Bouly Deposit, Sanmatenga Province, Burkina Faso, Africa**

- Geologic model and resource estimate of a 200 million tonne gold deposit hosted within a mesothermal shear zone of Proterozoic igneous rocks.

#### **NI 43-101 Pre-Feasibility Report, WBL Primary Clay Deposit, Bovill, Idaho, USA**

- Geologic model and resource estimate of an 11 million ton Halloysite, Kaolinite, K-Spar and Quartz deposit hosted within Cretaceous intrusive rocks of the Idaho Batholith.

#### **NI 43-101 Preliminary Economic Assessment, Cobriza, Dolores and Santa Teresa Mines, San Luis Potosi, Mexico**

- Resource estimate of a 77 million tonne copper-gold skarn deposit hosted within Cretaceous limestone and Late Eocene intrusives.

#### **NI 43-101 Preliminary Economic Assessment, Golden Meadows Gold Deposit, Idaho, USA**

- Resource estimate of a 95 million tonne gold deposit hosted within a Paleozoic metasediments and Cretaceous intrusives.

#### **NI 43-101 Technical Report on Resources, Magino Mine, Ontario, Canada**

- Resource estimate of a 50 million tonne gold deposit hosted within Archean metasediments.

#### **NI 43-101 Pre-Feasibility Report, Bovill Primary Clay Deposit, Idaho, USA**

- Resource estimate of an 11 million tonne clay deposit hosted within Cretaceous intrusives.

#### **NI 43-101 Technical Report on Resources, Brewery Creek Mine, Yukon, Canada**

- Resource estimate of a 34 million tonne gold deposit hosted within epithermal altered Paleozoic metasediments.

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**NI 43-101 Preliminary Economic Assessment, La Colorada Mine, Sonora, Mexico**

- Resource estimate of a 54 million tonne gold deposit hosted within epithermal altered metasediments.

**NI 43-101 Technical Report on Resources, Easter Mine, Nevada, USA**

- Resource estimate of a 3 million tonne gold deposit hosted within epithermal veins.

**NI 43-101 Technical Report on Resources and Reserves, El Castillo Mine, Sonora, Mexico**

- Resource estimate of a 170 million tonne gold deposit hosted within epithermal altered Cretaceous metasediments.

**NI 43-101 Technical Report on Resources and Reserves, El Chanate Mine, Sonora, Mexico**

- Resource estimate of an 81 million tonne gold deposit hosted within epithermal altered Mesozoic metasediments.

**NI 43-101 Technical Report on Resources, Carlin Vanadium Project, Carlin, Nevada, USA**

- Resource estimate of a 38 million ton vanadium deposit hosted within Paleozoic sediments.

**NI 43-101 Technical Report on Resources, Midnight Mine, Rossland, British Columbia, Canada**

- Resource estimate of a 66 thousand tonne gold deposit hosted within mesothermal altered Jurassic ultramafics.

**NI 43-101 Technical Report on Resources, Pascua-Lama Project, Region III, Chile/ San Juan Province, Argentina**

- Resource estimate audit of a 134 million tonne gold/silver deposit hosted within epithermal altered Tertiary volcanics.

**NI 43-101 Technical Report on Resources, Springer Mine, Winnemucca, Nevada, USA**

- Resource estimate of a 1.3 million ton tungsten deposit hosted within skarn altered Mesozoic metasediments.

**NI 43-101 Technical Report on Resources, Crescent Mine, Kellogg, Idaho, USA**

- Resource estimate of a 0.5 million ton silver deposit hosted within carbonate veins in Precambrian metasediments.

**NI 43-101 Technical Report on Resources, Record Ridge, Rossland, British Columbia, Canada**

- Resource estimate of a 40 million tonne magnesium deposit hosted within Jurassic ultramafics.

**NI 43-101 Preliminary Economic Assessment, Mar Tungsten Project, Whitehorse, Yukon, Canada**

- Preliminary assessment and updated resource estimate of a 14 million tonne tungsten deposit hosted within Cretaceous skarn zone.

**NI 43-101 Technical Report on Exploration, Manhattan Mine, Tonopah, Nevada, USA**

- Technical report on exploration of gold mineralization hosted within epithermal altered Paleozoic metasediments.

**NI 43-101 Technical Report on Resources, Mina Project, Hawthorn, Nevada, USA**

- Resource estimate of a small gold deposit hosted within Tertiary volcanics.

**NI 43-101 Technical Report on Resources, Cross Mine, Boulder, Colorado, USA**

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- Resource estimate of a small gold deposit hosted within Cretaceous quartz veins.

#### **NI 43-101 Technical Report on Resources, Mar Tungsten Project, Whitehorse, Yukon, Canada**

- Resource estimate of a 7 million tonne Tungsten deposit hosted within Cretaceous skarn zone.

#### **NI 43-101 Preliminary Economic Assessment, Paul Isnard Project, French Guiana**

- Resource estimate of a 33 million ton gold deposit hosted within Precambrian shear zone.

#### **NI 43-101 Feasibility Study, Black Fox Project, Timmons, Ontario, Canada**

- Resource estimate of a 10 million ton gold deposit hosted within a Precambrian shear zone. Resource estimation supported a bankable feasibility study.

#### **NI 43-101 Technical Report on Resources, Fostung Project, Sudbury, Ontario, Canada**

- Resource estimate of a 10 million ton tungsten deposit hosted within Precambrian metasediments.

#### **NI 43-101 Technical Report on Resources, Minas Rio Project, Belo Horizonte, Brazil**

- Resource estimate of a 300 million ton Fe deposit hosted within Precambrian itabirites.

#### **NI 43-101, Technical Report on Resources Indian Springs Tungsten Deposit, Montello, Nevada, USA**

- Resource estimate of a 20 million ton tungsten deposit hosted within skarn altered metasediments.

#### **NI 43-101, Technical Report on Resources Elkhorn Uranium Deposit, Hulett, Wyoming, USA**

- Resource estimate of a 500 thousand pound, tabular style uranium deposit hosted within Cretaceous sediments.

#### **NI 43-101, Preliminary Economic Assessment, Victorio Mountains Molybdenum – Tungsten Deposit, New Mexico, USA**

- Resource estimate of a 31 million ton Mo & WO<sub>3</sub> deposit hosted in Palaeozoic metasediments.

#### **NI 43-101 Feasibility Report, Helmer- Bovill Feldspar Deposit, Bovill, Idaho, USA**

- Geologic model and resource estimate of a 10 million ton Na feldspar deposit hosted within Cretaceous intrusive rocks of the Idaho Batholith.

#### **NI 43-101 Technical Report on Resources, Stora Sahavaara Iron Occurrence, Pajala, Sweden**

- Created geologic and resource estimation models for a 145 million tonne Archean magnetite deposit and compiled NI 43-101 report on the property.

#### **NI 43-101 Technical Report on Resources, Barsele Gold Project, Storuman, Sweden, 2005 and 2006**

- Developed geologic, mineralization and resource models for an 800,000 ounce mesothermal gold deposit hosted by sheared Archean intrusive rocks.

### **Key Experience: Due Diligence, Technical Audits and Resource Estimations**

Recent project experience includes:

#### **Due Diligence Report, Ambatovy Nickel Cobalt Mine, Madagascar,**

Independent mineral resource estimation and reconciliation study of a 80Mt Ni/Co deposit hosted within Paleozoic age gabbroic intrusives.

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## **Associate Principal Resource Geologist**

### **Scoping Study Report, Azer Gold, Azerbaijan**

Geologic model and mineral resource estimation for a 60Mt Zn, Cu, Pb Au and Ag deposit hosted within Mesozoic and meta-sedimentary rocks located in the Caucas Mountains.

### **Due Diligence Report, Freeport/McMoRan, US Assets,**

Independent resource estimations for the Morenci, Safford and Lone Star Deposits

### **Due Diligence Report, Sierra Gorda Mine, Atacama desert, Northern Chile**

- Independent resource estimation of a 2.0 billion tonne Cu-Mo-Au porphyry deposit hosted in late Mesozoic age intrusive and extrusive igneous rocks.

### **Due Diligence Report, Ana Paula Deposit, Guerrero, Mexico**

- Independent resource estimation of a 14 million tonne gold deposit hosted within Paleozoic age meta-sediments and Cretaceous age intrusive rocks.

### **Due Diligence Report, Ann Mason Deposit, Yerington, Nevada, USA**

- Independent resource estimation of a 2 billion tonne Cu-Mo-Au deposit hosted within structurally complex Paleozoic intrusive rocks.

### **Due Diligence Report, Salobo Mine, Marabá, Brazil**

- Independent review of a 1.2 billion tonne copper mine hosted in Archean age, meta volcano/sediments.

### **Due Diligence Report, Highcroft Mine, Nevada USA**

- Independent review of geologic and resource model supporting a failing disseminated gold mine.

### **Due Diligence Report, Brucejack Project, British Columbia, Canada**

- Independent resource estimation of an 8 million tonne, vein hosted, gold and silver deposit within Paleozoic volcanic and sedimentary rocks.

### **Scoping Study Report, Minas Santa Rosa Project, Republic of Panama**

- Internal technical report, geologic model and resource estimation of a 20 million tonne, gold and silver deposit hosted in Tertiary age volcanics.

### **Fatal Flaw Report, Cascavel Mine Project, Goiás State, Brazil**

- Project site visit; and review of exploration data, resource estimations and mining plan of a vein hosted gold deposit in the Fiana Greenstone belt.

### **Resource Audit Report, Uryakh Project, Irkutsk Region, Russia**

- Resource audit and independent resource estimation for vein hosted gold and silver within berisites and shales.

### **Resource Review, Commonwealth Gold Deposit, Cochise County, Arizona, USA**

- Independent resource estimation of a 20 million tonne gold and silver deposit hosted within Tertiary age volcanic rocks and Paleozoic age sediments.

### **Technical Audit Report on Resources, Peñoles S.A., Base Metals Assets, Mexico**

- On going resource audit and independent resource estimations for the Bismark, Madero, Milpillas, Naica, Sabinas and Tizapa Mines. 2010, 2012, 2014 and 2017

### **Technical Audit Report on Resources, Nemisa Mine, San Luis Potosi, Mexico**

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- On going resource audit and independent resource estimation for a 75 million tonne Cu, Au and Ag skarn deposit. 2015, 2017 and 2018

#### **Independent Engineers Report on Resource and Reserves, Casa de Pedra Mine, Minas Gerais, Brazil**

- Resource estimation and audit of a 4.3 billion tonne iron deposit hosted within Precambrian metasediments.

#### **Independent Review of Resource Estimation Procedures, Bagdad Mine, Arizona, USA**

- Resource estimation review of a 1.8 billion ton copper deposit hosted within skarn altered Precambrian metasediments.

#### **Technical Report on Resources, Butte Highlands Mine, Montana, USA**

- Resource estimate of 1.1 million ton gold deposit hosted within skarn altered Paleozoic metasediments.

#### **Fatal Flaw Resource Audit, Amapa Project, Minas Gerais, Brazil**

- Resource audit of a 230 million tonne iron deposit hosted within Precambrian metasediments.

#### **Independent Engineers Report on Resource, Golden Eagle and Pan Projects, Washington and Nevada, USA**

- Resource estimation and audit of two gold deposits hosted within epithermal altered sediments and volcanics.

#### **Technical Report on Resources, Saric Project, Sonora, Mexico**

- Resource estimate of a 5.9 million tonne gold deposit hosted within epithermal altered Mesozoic volcanics.

#### **Independent Engineers Report on Resource, Mercedes, Santa Elena, El Castillo and El Chanate Projects, Mexico**

- Resource estimation and audit of four gold deposits hosted within epithermal altered sediments and volcanics.

#### **Independent Engineers Report on Resource and Reserves, Rosemont Project, Arizona, USA**

- Resource estimation and audit of a 950 million ton copper deposit hosted within skarn altered Paleozoic sediments.

#### **Technical Audit Report on Resources and Reserves, Fresnillo PLC Precious Metals Assets, Mexico**

- Ongoing annual (2007 through 2019) resource estimates and audits of four poly-metallic and gold/silver mines located in northern Mexico.

#### **Independent Engineers Report on Resource and Reserves, Rio Tinto Talc Assets, Worldwide**

- Resource audit of six talc deposit located in Montana, Vermont, France and Cyprus.

#### **Independent Engineers Report on Resource and Reserves, La Crucitas Project, Alajuela, Costa Rica**

- Resource estimation and audit of a 20 million tonne gold deposit hosted within Tertiary Volcanics.

#### **Independent Engineers Report on Resource and Reserves, San Cristobal Mine, Potosi, Bolivia**

- On going resource estimation and audit of 230 million tonne silver, zinc and lead deposit hosted within Tertiary Volcanics. 2017, 2018 and 2019.

#### **Due Diligence Resource Estimation and Audit, Pumpkin Hollow Project, Yerington, Nevada, USA**

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- Resource estimation and audit of four copper mineralization zones hosting a total resource of 690 million tons located with skarn alteration.

#### **Technical Report on Resource and Reserves, San Juan de la Costa Phosphate Mine, Baja, Mexico**

- Resource estimation of a 250 million tonne phosphate deposit hosted within Oligocene sediments.

#### **Technical Report on Resources, Western Syncline Copper Deposit, Gogebic County, Michigan, USA**

- Resource estimation of a 140 million ton copper deposit hosted within Precambrian meta-sediments.

#### **Due Diligence Resource Audit, Puquios Project, La Serena, Chile**

- Resource estimation and audit of a 14 million tonne copper deposit hosted within porphyritic intrusives.

#### **Due Diligence Resource Audit, Inkai Project, Taikonur, Kazakhstan**

- Resource estimation and audit of a 100 million pound uranium deposit hosted within sandstones.

#### **Due Diligence Resource Audit, Uranium One, Velvet and Frank M Deposits, Utah, USA**

- Resource estimation and audit of 3 million pound uranium deposits hosted within sandstones of the Colorado Plateau.

#### **Minerals Expert Report, Peñoles Precious Metals Assets, Mexico**

- Resource estimate and audit of four poly-metallic and gold/silver mines located in northern Mexico; resource audit formed basis of London stock exchange listing.

#### **Due Diligence Resource Audit, Mission Complex, Tucson, Arizona, USA**

- Resource estimate of a 500 million ton Cu deposit hosted within skarn altered sediments.

#### **Due Diligence Resource Audit of U.S. Energy Uranium Properties located in Wyoming, Utah, Colorado and Arizona, USA**

- Conducted field visits, literature research and resource confirmation of eight tabular, roll front and breccia pipe uranium deposits within Mesozoic sedimentary rocks of the Colorado Plateau.

#### **Exploration Evaluation of Uranium Prospects, La Rioja, Argentina**

- Site visits, property evaluations and exploration recommendations on seven, early stage uranium prospects hosted in Precambrian basement rocks.

#### **Due Diligence Resource Audit of Chromite Deposits, Central and Southern Turkey**

- Site reviews and resource estimations of seven chromite deposits hosted in Cretaceous age ophiolite assemblages.

#### **Technical Audit of the Si Zhuang Gold Deposit, Shang Dong Province, China**

- Site visit and technical review of 1.5 million ounce gold deposit hosted within an Archean shear zone.

#### **Technical Audit of the Zhaipingcun Coal Mine, Shanxi Province, China**

- Site reviews and resource estimation of an 8 million tonne coal seam.

#### **BHP S.A. Resource Estimate, La Mina Tintaya, Antapacay Project, Peru**

- Generated six, fully rectified, geologic models for resource estimations of a 500 million tonne copper/gold deposit.

#### **Reserve Estimates and Pit Designs, U.S. Patent Submittals, Golden Gate Mine, Yellow Pine, Idaho, USA**

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## **Associate Principal Resource Geologist**

- Produced resource estimates and pit designs on a disseminated gold deposit for U.S. Mineral Patent Review.

### **Reserve Estimates and Pit Designs, Stibnite Gold Mine, Yellow Pine, Idaho, USA**

- Developed reserve estimates and operational pit designs for an open pit gold mine in Precambrian roof pendant.



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## **Associate Principal Resource Geologist**

### **Key Experience: Project Management and Mine Geology**

Recent project experience includes:

#### **Project Manager, Barsele and Pajala Projects, Storuman Sweden, Northland Resources Inc.**

- Project Manager for the Barsele Gold and Pajala Iron resource development projects in northern Sweden.
- Budget development, staffing, reporting and supervision of eight person team conducting historic data compilation, mapping and drilling on simultaneous projects.
- Designed and implemented drilling program that increased total ounces at the Project by 35%.
- Coordinated Swedish MKB environmental study with local consulting firm.

#### **Senior Project Geologist, Antapacay Project, Tintaya Peru, BHP South America**

- Conducted structural analysis, including borehole tele-viewer survey, of a structurally controlled copper/gold deposit.
- Supervised six Peruvian geologists responsible for maintaining acceptable QA/QC practices in mapping, drilling, geologic and geotechnical logging and sampling.

#### **Chief Geologist, Blackdome Mine, Clinton, British Columbia, Canada**

- Responsible for all exploration and development at a 250 ton/day underground gold mine.
- Structural analysis and geologic interpretation followed by design, budgeting and participation in diamond drill programs.
- Production duties included development layouts for drifts, raises and stopes with underground mapping.

#### **Chief Geologist, Stibnite Gold Mine, Yellow Pine, Idaho, USA**

- Responsible for all exploration, development and mine planning at a 5,000 ton/day heap leach gold mine.
- Exploration duties included: design, budgeting and participation in geologic mapping, geochemical sampling, geophysical surveys, trenching, rock chip sampling, reverse-circulation drilling and geologic interpretation.
- Production duties included; reserve calculations, pit design, pit mapping, grade control and grade reconciliation.