#### **PROGRESS UPDATE**

**RKV**: A COPPER PROJECT IN SOUTH CENTRAL NORWAY

# Playfair Mining

November 2019

## RKV Project Efficient Effective Exploration

- Progress has been rapid since March 2019 when Playfair signed an agreement to earn a 100% interest in the RKV property in South Central Norway.
- Data Mining and Pattern Recognition using the CARDS AI system provided 27 targets.
- MMI geochemistry evaluated 24 selected CARDS targets and found 15 to have significant levels of copper, cobalt or nickel.
- Further exploration is in progress on the best targets.
- Drill testing is planned for this Winter.

## RKV Project: A Highly Prospective Area



- A Mining Area in Mining Friendly Norway.
- Over 80 million tons contained in 10 large VMS copper and zinc deposits within 75 Km of the Project.
- The RKV Project contains 2 past producing Besshi-type VMS copper mines, a nickel-copper deposit and over 20 additional known mineral occurrences.
- There has been no significant exploration for copper since 1977 and no significant exploration for nickel since 2006.



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## RKV Project Known Significant Mineral Deposits



## Rostvangen

According to the Norwegian Geological Survey (NGU) 388,000 tons were mined from 1908 to 1920 and 100,000 were left in "reserves". Bedrock samples taken by NGU in 1998 assayed up to 6.96% copper,0.59% zinc and 0.08% cobalt



## **K**vikne

According to the Norwegian Geological Survey (NGU) about 250,000 tons of ore were produced between 1629 and 1789. Dump samples taken by NGU in 1998 assayed up to 3.14% copper,6.35% zinc and 0.06% cobalt



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## Vakkerlien

A (non 43-101 compliant) resource of 400,000 tons of 1.0% nickel and 0.4% copper was calculated by Falconbridge Nickel Mines in 1977 based on 109 core holes drilled between 1975 and 1977

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## RKV Project: Where to start?



- A large amount of data, including high-quality helicopterborne geophysical surveys, was available on-line from the Norwegian Geological Survey (NGU).
- There are many showings (all sampled and assayed by NGU) and many geophysical anomalies.
- There are several geological causes for electromagnetic anomalies other than orebodies. Barren sulphides and graphite are the most common and both occur throughout this area.
- The orebodies are usually magnetic but there are also other geological causes of magnetic anomalies. Barren pyrrhotite is one, rock units such as iron formation and mafic volcanic rocks are others. All are common in this area.



### RKV Project: The Challenge

The plethora of extensive airborne geophysical anomalies presents a real **challenge** to explorers. There are too many anomalies to thoroughly explore all of them yet there may well be unknown ore deposits concealed within the noise

An explorer who overcomes the challenge to sort the worthwhile targets from the worthless noise has a real **opportunity** to discover valuable new deposits Playfair developed a plan to use a two-stage screening **method**. The first stage: Artificial Intelligence and pattern recognition algorithms to generate targets. The second stage: evaluate the targets by modern geochemical methods

## RKV Project: First Stage – CARDS AI

- Windfall Geotek was contracted to apply its proprietary CARDS AI (Computer-Aided Resources Detection System) to the project.
- A geo-referenced database was compiled from the large existing amount of geological and geophysical data available from the Geological Survey of Norway (NGU) covering the project area.
- ▶ The project was divided into 180,720 datapoints (40 by 40 metre cells).
- A total of 414 variables comprising primary, derivative and neighbouring variables was used for each datapoint.
- Two models were built: a VMS Cu Zn model that included 39 Positive Cu Zn Training Points (Cu or Zn above 5000 ppm and a magmatic Ni Cu model that included 80 Positive Ni Cu Training Points (Ni or Cu above 5000 ppm).
- Complex algorithms were then generated to describe the characteristics of the Positive Training Points and these algorithms were then used to evaluate all cells for similarity to the Positive Training Points for each model.

## RKV Project: First Stage – CARDS Results



- CARDS generated a total of 27 targets.
  - 19 targets were generated from the VMS model.
- 7 of these VMS targets were rated high priority.
- 8 targets were generated from the magmatic Ni-Cu model.
- ▶ 4 of these NI-Cu targets were rated high priority.

### Ni-Cu MODEL

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### RKV Project: Second Stage – MMI Geochemistry

- Mobile metal ions are released from oxidizing mineralized material and travel upward through overburden toward the surface.
- Using careful soil sampling strategies, sophisticated chemical ligands and ultrasensitive instrumentation, SGS can measure these ions.
- Target elements are extracted using weak solutions of organic and inorganic compounds rather than conventional aggressive acid or cyanide-based digests. MMI solutions contain strong ligands, which detach and hold metal ions that were loosely bound to soil particles by weak atomic forces in aqueous solution. This extraction does not dissolve the bound forms of the metal ions.
- ▶ There are many benefits to using MMI technology for soil geochemistry:
  - ▶ Focused, sharp anomalies with excellent repeatability.
  - Low background values (low noise) with few false anomalies.
  - ► Low limits of detection.
- Mobile Metal Ion samples are easy to take, sample material can be any mineral soil and no specific knowledge of sample material or stratigraphy is needed.





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## RKV Project: MMI - Oxidizing Sulphides Produce Mobile Metal Ions



#### Rusty Outcrop on Hill

**Oxidizing Sulphides** 

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## RKV Project: MMI – Very Little Outcrop Other Than Streams and High Ground



Outcrop in Stream

Very Little Outcrop in Other Areas

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## RKV Project: MMI – Effective On All Mineral Soils



#### B Horizon Soil



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## RKV Project: MMI Sampling

Sampling grids were laid out on 24 selected CARDS targets.

Sample lines were 100 metres apart with samples every 25 metres.

► A total of 1,050 samples were collected in less than one month.

Samples were analyzed for 53 elements by SGS using MMI extraction and ICP.



## RKV Project: Significant MMI

- 43 significant samples in 15 grids with values over 50 times background in one or more of copper, nickel or cobalt.
- Including 14 very significant samples in 8 grids with values over 100 times background in one or more of copper, nickel or cobalt.
- Also including 7 highly significant samples in 3 grids with values over 200 times background in one or more of copper, nickel or cobalt.



#### RKV Project SIGNIFICANT 2019 MMI RESULTS Cu, Co or Ni over 50 times background



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#### RKV PROPERTY SIGNIFICANT MMI RESULTS

	MMI ppb			Number of times background		
Sample Number	Cobalt	Copper	Nickel	Cobalt	Copper	Nickel
Ni-06-090	661	5380	9200	34	39	109
Ni-07-119	1100	600	1740	56	4	21
VM5-01-013	230	840	13800	12	6	164
VM5-01-016	1060	2730	2480	54	20	29
VM5-01-024	1090	1060	593	55	8	7
VMS-01-032	322	10700	194	16	78	2
VMS-01-033	1040	640	575	53	5	7
VMS-01-040	43	11000	114	2	81	1
VM5-04-148	634	810	5820	32	6	69
VM5-04-149	257	960	5230	13	7	62
VMS-05-212	305	7170	285	15	53	3
VMS-05-215	52	7720	95	3	57	1
VMS-06-273	19	7540	81	1	55	1
VMS-08-336	1400	2140	17900	71	16	213
VMS-08-369	19	8220	160	1	60	2
VMS-08-372	11	14300	196	1	105	2
VMS-09-377	144	7510	788	7	55	9
VM5-09-399	34	15000	63	2	110	1
VM5-09-410	13	9530	54	1	70	1
VM5-09-414	89	8670	3550	5	64	42
VMS-11-527	257	2050	4840	13	15	58
VMS-11-529	120	1710	4640	6	13	55
VMS-12-554	34	14000	123	2	103	1
VMS-12-557	156	7140	285	8	52	3
VM5-12-609	1110	2420	1920	56	18	23
VM5-12-614	19	20600	693	1	151	8
VMS-13-653	11	21100	82	1	155	1
VMS-13-678	534	7950	1830	27	58	22
VM5-13-680	17	11200	104	1	82	1
VMS-13-690	8	11100	75	0	81	1
VMS-16-697	116	11300	2210	6	83	26
VM5-17-749	934	9740	246	47	71	3
VMS-17-760	383	8400	89	19	62	1
VMS-18-770	28	1180	4510	1	9	54
VMS-18-772	181	4400	4850	9	32	58
VMS-18-776	69	15800	361	4	116	4
VMS-18-779	487	48400	613	25	355	7
VMS-18-780	183	32600	142	9	239	2
VMS-18-781	55	38300	99	3	281	1
VMS-18-782	767	20500	554	39	150	7
VMS-18-782	23	720	4890	1	5	58
VMS-19-851	88	8070	4890	4	59	2
VMS-19-851 VMS-19-864	4050	7920	3900	206	59	46
vm3-19-804	4050	/920	2900	206	36	46

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Legend

Significant MMI (43) New Claims October 2019 Deposit Locations

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### RKV Project: MMI Results Grids VMS-16, 17, 18 and 19

SGS MMI Short Report states:

▶There are 14 values for MMI Cu>6000ppb in this area;

Many if not all of these are likely to be associated with weathering copper sulphides;

The highest is in sample VMS18-779; 48400ppb at 569574E, 6911363N;

This is one of the highest recorded values of MMI Cu in a soil;

6000 ppb MMI Cu is 44 times background.



RKV PROJECT – MMI SHORT REPORT





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## RKV Project: MMI Results Grids VMS-18 and 19

**MMI Ni** MMI Cu MMI Co 310 VMS OIL Meters Meters Meters Legend 300 900 600 Legend 150 Legend 300 Ni\_x\_BG Cu\_x\_BG Ni\_x\_BG • < 25 • < 25 • < 25 0 25 - 50 0 25 - 50 25 - 50 0 50 - 100 O 50 - 100 50 - 100 0 100 - 200 0 100 - 200 🔵 100 - 200 > 200 > 200 > 200 November 2019 **Playfair Mining** TSX.V - PLY Frankfurt - P1J OTC - PLYFF

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## RKV Project: MMI Grid VMS-18

#### The highest MMI Cu value from RKV is 48,400 ppb MMI Cu.

- This is among the highest ever recorded values for MMI Cu in a soil.
- Significant MMI Cu responses over 200 metres.
- There is no record of any mineral exploration in this area.

25 Metre Spaced Samples

■ RRCu ■ RRNi ■ RRCo

450

400

350

300

Satio 220

Response Response

150

100

50

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#### Stacked Response Ratio Chart

## RKV Project: MMI Follow-Up

- 161 MMI samples have been taken and are currently being analyzed.
- Detailed closely spaced samples have been taken around the very high MMI Cu values on Grid VMS-18.
- Samples at 25 m intervals on 100 m spaced lines have filled in between the high MMI values on Grids VMS 18 and 19 and extended the sampling to the southeast.



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# RKV Project: What next?

#### Complete MMI interpretation.

- To date the focus has been on only 3 (copper, nickel and cobalt) of the 53 elements analyzed by SGS. For example, the highest MMI scandium and second highest silver values occur in a single sample on grid VMS-18.
- Carry out ground geophysics over high MMI values on grid VMS-18.

#### Plan drill hole locations.



## Playfair Mining

#### Share Structure:

Shares Outstanding73,550,095No WarrantsProposed Financing\$500,000 - \$750,000Use Of ProceedsRKV Project and Working CapitalWorking Capital On Hand\$125,000

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