

Ironstone Resources' Clear Hills Project

Cementing Alberta as one of the world's best places for resource development in minerals.

By Andrew Reader

In March 2011, the Fraser Institute announced that Alberta has surpassed Quebec as the world's most attractive jurisdiction for mineral exploration and development, citing its resource-friendly government, competitive taxation regime and superior infrastructure as a few of its notable strengths. With over \$70 billion in infrastructure development by Alberta's oil and gas industry, the majority of the province is extremely amenable to mineral exploration and development.

The oil and gas industry in Alberta has a history of exploration that spans over 100 years, but the discovery of uranium mineralization at Rabbit Lake in 1968 changed much of the exploration focus in Alberta towards mineral exploration within the Athabasca Basin. More recently, the discovery of kimberlite pipes throughout Northern Alberta in the 1990s renewed the mineral exploration focus in Alberta. However, while the prospectivity for kimberlites and uranium in Alberta is well known, the existence of a significant open pit-mineable iron ore deposit remains largely unrecognized.

Ironstone Resources Ltd. is a privately held Canadian exploration and development company with a resource portfolio focused on mineral exploration within Alberta. Headquartered in Calgary, Alberta, Ironstone has a significant land position in the Clear Hills region of northwest Alberta, which contains a world-class iron ore and vanadium deposit. The company is currently active in development of the Clear Hills ironstone deposit, recently completing a 12,000 metre drilling program to increase its NI 43-101 compliant resource from 203 million tonnes to 500 million tonnes.

The Clear Hills ironstone deposit is located approximately 490 kilometres northwest of Edmonton. The deposit was originally discovered in 1924 by local trappers in the region, but was not seriously explored until its rediscovery in the early 1950s after the drilling of an exploratory oil and gas well which penetrated the iron-rich sandstone. Extensive exploratory drilling was completed in the late 1950s and early 1960s to delineate the deposit, and in 1980 the Alberta government assigned a resource of 1.124 billion tonnes grading approximately 34 per cent Fe (not fully NI 43-101 compliant). The size of this deposit makes it the largest known iron deposit present in the western provinces of Canada. Recent analytical work on the ore identified the existence of approximately 0.22 per cent V₂O₅ in addition to the iron, which would represent a potential in-situ resource of 5 billion pounds of V₂O₅.

Ironstone completed a 51-hole drilling program in the winter of 2008 on the Rambling Creek block at the northern end of the deposit, which in combination with the historic drilling through the 50s and 60s was used to determine an NI 43-101 compliant resource of an indicated 139.6 million tonnes grading 33 per cent Fe and 0.21 per cent V₂O₅, and an inferred 62.8 million tonnes grading 33.7 per cent Fe. The Rambling Creek block at the northern end of the deposit currently hosts the largest compliant vanadium resource in North America at 646 million pounds of V₂O₅.

In the winter of 2011 Ironstone completed a 144-hole drilling program to the south of the Rambling Creek block in order to expand the iron and vanadium resource on the Clear Hills property. The company

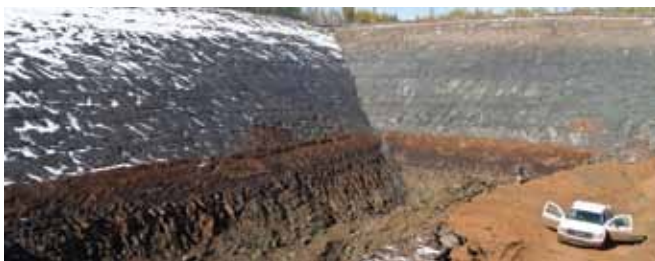
expects to release its second NI 43-101 compliant resource by September 2011, raising the total compliant iron and vanadium resource in the Clear Hills to 500 million tonnes.

In addition to the drilling, Ironstone opened a 45,000 tonne bulk sample pit from which 10,000 tonnes of ore were extracted and stockpiled for process and pilot plant trials to be completed through 2011. The company will be producing a direct reduced iron product with over 90 per cent iron metallization along with a vanadium pentoxide co-product. The robust grain enlargement process departs away contaminants like phosphorus and silica from the nearly pure iron, while permitting extraction and concentration of the increasingly important vanadium commodity.

The Clear Hills deposit is considered to be mineable through low cost and low impact open-pit mining methods. Due to oil and gas development in the Clear Hills, there is excellent local infrastructure including nearby gas pipelines for energy, coal for iron processing, roads into the mine site, and access to nearby rail for transportation to Pacific Rim and North American steel producers.

Ironstone's Clear Hills iron and vanadium project, expected to have an economic impact on the scale of the oilsands, will clearly cement Alberta as one of the world's best places for resource development in minerals alongside its rich heritage as Canada's energy hub. ■

Andrew Reader is a recent graduate from the University of Calgary with a focus on mineral exploration, and is currently employed by Ironstone Resources Ltd.



Completed bulk sample pit in March 2011. (Photo courtesy of Dan Christal)



Late-stage construction of bulk sample pit in March 2011. (Photo courtesy of Dan Christal)