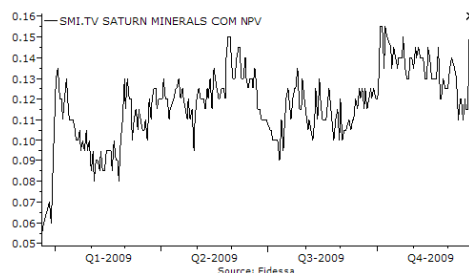


Saturn Minerals Inc **CDN\$ 0.14**
Coal strike

22 December 2009

Share Price: CDN\$ 0.14



12m High: CDN\$0.17
12m Low: CDN\$0.12
Market Cap: CDN\$7.0m
Shares in Issue: 48,657,451
65,554,676 fully diluted

Debt: Nil – CDN\$1.95m cash in hand (including receivables at 1 August 2009).

TSX-V Code: SMI
Sector: Mining
Market: TSX-V
Website: www.saturnminerals.com
Broker: Loeb Aron & Co.
Company Contact: +1 604 685 6989:

Description: Canadian mineral explorer with extensive properties in a new coal province

Analyst: Ian Falconer
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Saturn Minerals Inc (SMI, TSX-V) is a mineral exploration specialist whose major focus is on a Cretaceous coal play in Eastern Central Saskatchewan, known as the Durango Trend. Saturn and **Swift Resources Inc** (SWR, TSX-V) are developing these prospects under a joint venture agreement which sees Saturn as 60% owner and operator.

Saturn has intercepted first coal on the properties. Located on the Armit property, in a sub-basin identified by geophysics and now known as the Leif sub-basin, the 10.35m thick coal seam includes a 9.74m thickness of coal with no partings. The depth of the intersection is 112m.

On first inspection of the photographs released, the coal quality looks similar to that of other coal in the area, with the majority dull black but with some brighter sections. Brighter sections indicate that this is definitely not lignite (brown coal). However the samples still need to be graded in a lab before we know exactly what rank the coal is.

The Leif sub-basin is a geophysical anomaly approximately 1,700m x 900m. If the coal discovery represented a consistent seam across the whole basin it would contain some 15M m³ of coal in situ. We would expect the volume to be somewhat lower if this hole intercepted the maximum thickness present in the sub-basin, but a potential resource of around 20Mt, based on this single intersection, is an excellent start and a good return for the fourth hole in a drill program. Of course this is only our own scratch calculation and not an NI 43-101 compliant resource.

Tantalisingly, the discovery hole did not reach its target depth and showed coal fragments in sand at the base of the core, possibly indicating that coal was being eroded within the basin at the same time as the sand was deposited. There may be more coal seams on other parts of the sub-basin.

The drilling program as a whole aims to test 16 separate geophysical signatures. The first three holes of the program were all on the Erwood property with only one of those holes intersecting visible coal.

A coal seam that is 10m true thickness at 112m depth, close to rail, road and power, and in a constituency that is committed to the development of thermal coal using carbon capture & storage is a nice present for investors and we look forward to further news when drilling re-starts after Christmas.

Y/E	Group Sales	Declared Profit	Adjusted Profit	Adjusted EPS	P/E ratio	Divi	Yield
	\$m	\$m	\$m	\$		c.	%
2007A	0	(700,749)		(0.03)	N/A	N/A	N/A
2008A	0	(2,604,200)		(0.08)	N/A	N/A	N/A
2009E			No	Estimates			
2010E			No	Estimates			

The Coal



Figure 1: Core taken from the Leif sub-basin showing a 10.35m intersection. Source – Saturn Minerals Inc



Figure 2: Close up of Leif sub-basin coal intersection with clear bright sections probably indicating higher coal rank. Source Saturn Minerals Inc

New Geological Model

In our initiation note we discussed the possible geological model for the Durango Trend coal play, describing in loose terms a band of coal-bearing sub-basins on the edge of the north-east margin of the Cretaceous Clearwater Sea. This model has been updated, and this update has significance for development of coal deposits along the trend as a whole.

The production of this model has brought together geological findings from across the Western Canadian Sedimentary Basin (WCSB), including recent airborne geophysics carried out on Saturn's properties, and provides a much more robust interpretation that constrains the exploration potential to areas showing known geophysical characteristics.

The new model describes the relationship between the coal-bearing, Lower Cretaceous Mannville Group, the Devonian limestone of the Elk Point or Beaverhill Lake Groups upon which it lies unconformably, and the Prairie Evaporite Formation which underlies that limestone. It is proposed that the Devonian limestone was subject to karsting (dissolution) as a result of sub-aerial exposure as sea-levels rose and fell prior to or during the deposition of the Mannville Formation. The Mannville Formation therefore has variable thickness along the Clearwater sea margin with peat filling the karstic sub-basins in the absence of significant clastic sedimentation along this shoreline. This peat was subsequently buried under the Colorado Group (a group of marine shales) and transformed to coal over time. The formation of large-scale karstic topography may well have been aided by dissolution of the Prairie Evaporite, also as a result of changes in groundwater salinity as sea-level rose and fell.

This interpretation removes the need for tectonic activity and predicts that multiple isolated sub-basins be present along the a broad zone where changing degrees of sub-aerial exposure of the Devonian limestone and groundwater salinity provide for differing degrees of karstic pit development. It also predicts that the thickness of sediments in each sub-basin will be variable with the age and depth of each particular pit. It is not currently known if karsting is focussed in a particular time period but it seems likely, at this point, that this too will be variable possibly related to the distance from the shore of the Clearwater Sea.

What does this mean for Saturn ?

The new interpretation provides Hardman & Co a greatly increased degree of confidence since it seems to explain all the major features seen in the geology so far. It also shows that geophysics will be the primary tool in locating new sub-basins, since it implies that simple stratigraphic correlation between areas will not reliably predict the presence of coal-bearing strata. This will help cut down on speculative drilling and every new hole drilled will refine the model as trends come out in the data for each sub-basin.

The NI 43-101 compliant geologist's report recommended an initial 24-hole drilling program. This is well short of the 41-hole program that was originally permitted and budgeted for. Some areas of Saturn's properties have been shown to have thick overlying shales and/or glacial deposits meaning that the geophysics did not seem to penetrate deep enough to show any karstic sub-basins. However, that does not leave Saturn short of targets and 16 separate sub-basins are being tested in this first round of drilling. Saturn's management are in discussions to ascertain whether the additional 17 drilling permits that they hold can be transferred into a second round of drilling. The first round of drilling is only on Erwood (scheduled 6 holes, 3 holes completed) and the northern section of the Armit properties (scheduled 18 holes, 1 hole completed) and the geologist's report notes that 'prospective targets occur on the majority of the component blocks of the property'

In addition to coring, down-hole geophysics is planned that should provide very useful data to feed back into the geophysical model of the whole area. When coupled with additional data that has become available from a gas exploration well completed in the area, the report also recommends reprocessing the airborne data in such a way as to compensate for thick cover and possibly reveal targets in areas previously thought to be masked by thick overburden, so reducing the need for a second round of airborne geophysics to be flown. This should refine deeper targets and prevent unnecessary drilling.

**Durango Trend,
Saskatchewan**

**Mannville
Formation**

**Devonian karst
surface forms
sub-basins**

**Higher
confidence in
the geological
model**

**24-hole drilling
program**

**16 separate
sub-basins**

**Additional data
to contribute to
reprocessing of
airborne
dataset**

Other Developments in the Area

Goldsource Mines (GXS, TSX-V) announced its maiden resource estimate for its Border property, the location of the coal discovery holes and to the north of Saturn's Armit and Erwood properties. This was an inferred and indicated resource of 153.1Mt split between 14 separate deposits over 4 sub-basins. The deposits are made up of three main seams, named Durango A, B & C with reported true thickness of around 25m

The coal has been further described as grading sub-bituminous A to C, with as received calorific values of 3,187 – 4,205 kCal/kg upgradable by air drying to 4,309 – 5,253 kCal/kg. As received sulphur is 1.5%-3.2%, ash ranges between 11.7% and 22.1% as received and total moisture is 17.1% to 33.4%.

The seams conform to Canadian classification under GSC Paper 88-21 as having 'Moderate' complexity and being 'Surface Mineable'. Hypothetical strip ratio of between 3.3:1 and 14.8:1 waste to coal with a 35° pit wall and a coal density of 1.36g/cc were used in Goldsource's resource estimate.

Policy-level Developments in Canada

In our initiation note we commented on the potential for nuclear power to be developed in Saskatchewan in particular and Canada in general. Since then Saskatchewan has decided not to pursue the development of nuclear generating capacity until 2020 at the earliest. This is in line with our analysis and would probably hold off any supplied nuclear electricity past 2030.

Neighbouring Alberta has been more equivocal in its recent statements regarding nuclear reactors stating that it did not rule out development of 'private' generating capacity, but that no public funds would be available to any developer. Crucially the statement by Energy Minister Knight stated that any developer would 'assume all risk' should such a development occur. Nuclear reactors require substantial environmental liabilities as well as large up-front development costs that historically have been underwritten by regional or national governments.

The Canadian CANDU reactor technology group is to be put up for sale by the Federal government after on-going concerns about the potential for cost over-runs and lack of sales to overseas governments.

Put together these three developments seem to knock back any potential for Canada to compete on the global stage in downstream nuclear technologies and to greatly reduce the potential for nuclear to compete with coal-fired power stations with carbon capture and storage within Western Canada.

In the first public statement that we have seen regarding government opinion on the Durango Trend, the Saskatchewan Energy and Natural Resources Minister Bill Boyd is quoted on the Canwest News Service as being "very, very positive" about the discovery of coal in the area as well as its potential for its development in an environmentally responsible and sustainable manner. Hudson Bay's town officials are also reported to be 'excited' and 'looking forward to some diversification away from the forestry industry'.

Conclusions

The discovery of two new coal-bearing sub-basins in the area re-enforces the scale of the potential for coal development in the area. With only four holes drilled and pending geophysical down-hole logging (a standard technique in coal exploration) Saturn Minerals has discovered a 10m thick seam of coal, that on inspection looks of a similar rank to the resources announced by Goldsource some 30km to the north.

Our back of the envelope calculation suggests that if this discovery hole were to be repeated across the whole Leif sub-basin a potential resource of around 20Mt would be present. This is Hardman & Co's estimate and is in no way compliant with any resource estimation model, we present it purely as an indicator of scale.

The drill program has so far investigated 2 sub-basins and located coal in both. The program aims to investigate 16 potential sub-basins in total. There is clearly potential for further discoveries.

The new geological model answers many of our questions about the Durango Trend and its formation. Primarily it removes the need for an active tectonic regime, an issue that has always been a concern in the geological interpretation of this new coal province. To be very unscientific about it the new interpretation feels right, as it ties together known regional paleo-eustatic change with geochemistry and known geological structure.

The new model could provide some challenges to later developers on these properties should significant coal be found by Saturn's drilling. Sub-basins formed by karst processes are likely to be steep sided and penetrate the Devonian limestone. This may affect open pit optimisation on a case by case basis, but at this stage in development this is not a major concern for Saturn.

Overall we are very pleased with the detail and consideration with which the exploration program is being carried out. Saturn is not rushing and so is gaining knowledge from the activities of others. Nor is it drilling unnecessarily. The volume and aerial extent of the targets already identified gives the company plenty to work and the re-processed geophysics is likely to give them more.

That a significant coal seam has been discovered is a major boost to the drilling program, but it represents only one target of many. Drilling has now been suspended for the Christmas break and will restart in January when we expect to hear more from the Durango Trend.

Management	Major Shareholders
President & CEO: Mike Elson Director : Stan Szary CFO: Larry Johnson Director: Jim Coyne Director: Barry Price, P.Geo	Directors, Management & Associates 8,000,000 Kluane Drilling 2,750,000 Institutional 3,000,000 (est) Other Associates (cumulative) 4,000,000
Key Dates	Key Milestones
Interim Results 1 st December , 1 st September, Annual Report 1 st May Full Year Results 1 st May	December 2009 – First drill campaign on Iron Range December 2009 – First drill campaign on Hudson Bay JV

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