Pine Pass 886373



The company

Pine Valley Mining Corporation was a May 2003 name-change from Globaltex Industries Inc. Globaltex acquired the Willow Creek coal licences in 1992, and over the next few years proceeded with a surface mining review and a drill exploration program. Willow Creek was first explored in the 1970s and 1980s. In 2001/2002, a total of 84,000 tonnes of coal was mined from Willow Creek for test burning by a Japanese steel producer, and the Willow Creek project was approved in early 2004. The major capital raising of March 2005 was for 1.5 million shares plus half warrant at C\$5.60 per share.

Pine Valley's lease and licences cover an area of 12,595 hectares, about 45 kilometres west of Chetwynd. Unlike the Quintette and Bullmoose coal mining areas some 50-100 kilometres to the south, there has been no previous commercial coal mining on Pine Valley's properties.

Pine Valley currently has one mine in operation, and one potential major project adjacent to the operating mine:

- The Willow Creek Mine, a surface mine, commenced production in July 2004. To end-September 2005, 0.8 million tonnes of LV PCI coal had been produced. Commissioning of a processing plant began in October 2005, allowing both coking coal and PCI production. Current reserves are 10.6 million tonnes, at a life-of-mine stripping ratio of 4.0:1, (BCM / tonnes ROM). About 35% of the coal reserve is standard medium volatile hard coking coal and almost all of the remaining 65% of the coal reserve is low volatile PCI coal. The company has the flexibility to produce as much as 75% coking coal or as little as 25% in FY/07. Total CAPEX of about \$33 million included about \$12 million for the 2.5-2.6 million tpa coal washplant and associated facilities.
- The Pine Pass Mine project, also a surface mine, is located adjacent to Willow Creek, and will be able to utilize much of the existing infrastructure. Based on a 2003 Technical Report, saleable reserves are 8.9 million tonnes, at a life-of-mine stripping ratio of 10.0:1. About 61% of the coal reserve is standard medium volatile hard coking coal and almost all of the remaining 39% of the coal reserve is low to medium volatile PCI coal. Latest CAPEX guidance is for >\$20 million.



Source: Company report

The reserve base

Technical Reports have been prepared for Willow Creek in September 2002 and again in July 2005 by Norwest Corporation, and for Pine Pass in November 2003, also by Norwest. These reports were all prepared in accordance with the requirements of NI 43-101.

Current reserves (September 2005) are summarized in Figure 48. We note particular downside risk to Willow Creek reserves. As discussed in the July 2005 Technical Report, forecast recoveries have not yet been achieved, and "based on overall mining performance to date, the reserve reduction might be as much as 20%," although the October 2005 commissioning of the coal processing facility should help recoveries.

Willow Creek drilling activity to date has consisted of 166 drill holes at Willow North, and 261 drill holes at Willow Central.

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The Gething formation contains all of the coal seams of economic interest, and consists of 350-550 metres of siltstone, sandstone, and coal. Unlike the Quintette and Bullmoose coal mining areas, the Gates formation does not contain coal seams of known economic interest.

Willow Creek and Pine Pass reserves are classified as complex geology type reserves, (deposits affected to some extent by tectonic deformation). Norwest describes Willow Creek as "steeply dipping but only moderately faulted."

In determining reserves, Pine Valley used a minimum seam thickness of about 1.2 metres, including dilution thickness of 0.1-0.15 metres per seam and coal loss of 0.1 metres per seam.

Mining Area	Pit Name	% coking coal	Initial Re	serves (million	tonnes)	Additional Resources (M&I)	Strip Ratio BCM / t ROM
			In-Place	Recoverable	Saleable	In-Place	
Willow North	4N	100%	2.4	2.7	2.2	80 ⁻	3.9
Willow North	AN	0%	1.9	2.1	1.7	-	2.6
Willow Central	4C	62%	3.3	3.7	3.0	- d ()	4.5
Willow Central	7C & 7P	0%	4.1	4.6	3.7		4.4
Total Willow Creek		35%	11.8	13.1	10.6	1271012 3	4.0
Pine Pass East	NA	NA	NA	2.6	2.4	-	
Pine Pass West	NA	NA	NA	7.0	6.5	34436 -	
Total Pine Pass		61%	NA	9.5	8.9	- 10 C	10.2
Total Pine Valley		47%	NA	22.7	19.5	19.5	6.6

Source: Company reports

Type and quality of coal

Coal quality by seam is presented as Figure 49. FSI is a key determinant of the caking property of coal, and is thus frequently determined to designate coal as either coking or non-coking. Coal with FSI of 5.0 or above can comfortably be classed as coking coal. Willow Creek coking coal is low ash and medium volatile. The non-coking coal is also generally low ash, but its low volatiles and high calorific content allows its sale as LV PCI coal, essentially a premium non-coking coal product.

There is limited quality data available for Pine Pass coal. The coal seams are the same as those found at Willow Creek. However, the coal is ranked as medium volatile bituminous, which could mean that the PCI coal will attract lower prices than the low volatile coal of Willow Creek.

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			Raw Coal Quality, average	ge per seam, dry ba	sis	
Mine Area	Seam	Ash (%)	Volatile Matter (%)	Sulphur (%)	FSI	CV (kcal/kg)
North	1	5.4	23.9	0.5	7.0	8119
	2	7.8	25.1	0.8	6.0	7896
	3	6.5	22.5	0.65	5.5	8017
	4	3.9	21.2	0.5	3.0	8258
	А	10.8	20.0	0.7	2.5	7619
Central	1	2.5	23.7	0.5	6.0	8387
	2	6.0	22.7	0.65	6.0	8063
	3	5.0	22.1	0.45	3.0	8156
	4	3.6	20.4	0.6	3.0	8285
	5	3.1	17.0	0.65	2.0	8332
	6	3.0	17.3	0.65	0.5	8341
	7	4.0	16.6	0.55	1.0	8248
	8	7.2	17.6	1.3	2.0	7952

Figure 49: Willow Creek coal quality estimates, in seams of economic interest, shallowest seam first

Note: %s are on a dry raw coal basis, except for % volatiles which is dry, mineral matter free.

Source: Company reports

Description of mines

The Willow Creek mine employs conventional truck and shovel methods, with overburden but not coal drilling and blasting. Tercon Construction Ltd. has been contracted to mine the coal and overburden on a unit rates basis, but with a fixed annual cost component. The initial mining contract expired in October 2005, and negotiations are ongoing to renew the contract.

The coal processing and wash plant is located about 6.5 kilometres from Willow North and a little further from Willow Central. Now that the processing and wash plant is commissioned, Pine Valley has the flexibility to direct as much as 75% or as little as 25% of its FY/07 output to coking coal. Coal is transported to the washplant using 30tonne haul trucks on privately controlled roads. The washplant is immediately adjacent to the CN railway line, providing access to either Vancouver or Ridley Terminals at Prince Rupert.

Rail and port contracts

To end-June 2005, a total of 470,000 tonnes of Willow Creek coal had been shipped from the Neptune terminal in Vancouver. The rail also provides access to Ridley Terminals at Prince Rupert, a distance of about 1,000 kilometres.

A Freight Transport Agreement is in place with CN Railway Company until June 2009. Pine Valley Mining has a cargo receival and ship loading contract with Neptune Bulk Terminals in Vancouver until June 2009, with yearly escalation clauses.

Pine Valley is currently negotiating rates with CN Railways and Ridley Terminals in order to secure Price Rupert as a viable shipping alternative.

Operating performance

Willow Creek's operational performance has been relatively good so far this year. However, in common with other coking coal producers, its financial performance is being impacted by weaker coking coal demand from the steel mills, and higher than expected stripping ratios have impacted costs.

The Q2/06 stripping ratio was 8:1, marginally higher than that of Q1/06 and well in excess of the expected annual average of about 4.2 (BCM/ROM tonnes). However, the company has advised that the additional overburden removal during Q2 will result in reduced stripping ratios during the current quarter, and that these will reduce further as coking coal mining commences. Stripping ratios should decline substantially during the final years of mine life. Figure 50 presents data from the July 2005 Technical Report.

In common with other coking coal producers, Pine Valley lowered FY/06 sales guidance during its Q2/06 conference call. Following Q1 and Q2 sales of 180,000 and 200,000 tonnes, respectively, the company guided towards 102,000 tonnes in Q3 and 350,000 tonnes in Q4, (based on production of 207,000 and 410,000 tonnes, respectively), and noted FY/07 capability of 1.9-2.2 million tonnes, depending upon market demand.

Figure 50: Willow Creek stripping ratio

	FY/06	FY/07	FY/08	FY/09	FY/10	FY/11
Mine waste, '000 BCM	7.8	11.7	11.5	10.1	9.4	5.6
Saleable PCI coal, '000 tonnes	1.0	1.3	1.3	1.3	1.3	1.0
Saleable coking coal, '000 tonnes	0.4	0.9	0.8	0.8	0.7	0.5
Saleable thermal coal, '000 tonnes	0.2	-	-	-	-	-
Total saleable coal, '000 tonnes	1.6	2.2	2.1	2.1	2.0	1.5
stripping ratio, BCM / saleable tonnes	5.1	5.3	5.5	4.8	4.7	3.8

Note: BCM / saleable tonnes is not directly comparable to the more usual BCM / tonnes ROM. Source: Company reports

Production profile

We are assuming the production profile as per Figure 51. Essentially this assumes mining to depletion of current reserves at both Willow Creek and Pine Pass. We are at this stage excluding thermal coal noted in the technical reports: 243,000 tonnes at Willow Creek and 176,000 tonnes at Pine Pass.

We note Willow Creek flexibility to increase FY/07 coking coal production at the expense of PCI coal production, depending upon contract prices for both. However, while weighting towards coking coal would fairly obviously enhance near-term earnings and cash flows, we would expect the FY/07 production mix to be decided on an NPV basis. With historical PCI prices significantly lower than coking coal prices, we would expect the production profile to favour PCI coal as long as PCI coal sales remain economic.

Pine Valley in March 2005 filed a permit amendment application to increase production to 2.2 million tpa, from the currently permitted level of 0.9 mtpa. We do not anticipate any major problems in this application.



	FY/06	FY/07	FY/08	FY/09	FY/10	FY/11	2012-2013	Total
Willow Creek								
- saleable PCI	0.93	1.20	1.30	1.30	1.30	1.00	0.25	7.28
- saleable coking coal	0.10	0.80	0.80	0.80	0.70	0.50	0.13	3.83
Pine Pass								
- saleable PCI	0.00	0.08	0.36	0.36	0.40	0.60	1.70	3.50
- saleable coking coal	0.00	0.12	0.54	0.54	0.60	0.90	2.72	5,42
Total PCI	0.93	1.28	1.66	1.66	1.70	1.60	1.95	10,77
Total coking coal	0.10	0.92	1.34	1.34	1.30	1.40	2.84	9.24
Total coal	1.03	2.20	3.00	3.00	3.00	3.00	4.79	20.01

Source: Company data, Canaccord Capital estimates

Figure 52: PVM FY/07 revenue split by product



Source: Canaccord Capital estimates. However PVM has the operational flexibility to substantially change its product mix.

Expansion projects

Pine Valley's major potential growth options is the Pine Pass mine development. The Pine Pass Block is the next likely development in the Willow Creek area. A 70 drillhole program was completed in November 2005, at a cost of about \$2.7 million. An updated Technical Report is likely some time during 2006, and production could commence as early as Q4/06. The existing NI 43-101 Norwest Corporation Technical Report and preliminary feasibility study is from November 2003. On the assumption that the appropriate mining permits could be arranged within 12 months of that time, first production could be as soon as 12 months from now. Our current analysis relies on the technical information of the 2003 report.

Pine Pass's nine economic coal seams are also in the Gething Formation, and have an average thickness of about 2 metres. Like Willow Creek, Pine Pass geology is also complex. Although labelled differently, the coal seams are the same as those found at

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Willow Creek. Saleable reserves of 8.9 million tonnes are proportioned 61% coking coal, 37% PCI and 2% thermal coal, (compared with 35% coking, 63% PCI and 2% thermal at Willow Creek, thus allowing Pine Valley Mining to move to a higher average received price). The coal is ranked as medium volatile bituminous, which could mean that the PCI coal will attract lower prices than the low volatile coal of Willow Creek, although for now we are assuming that blending of the two coals will produce a low volatile blended product for sale.

A new or expanded preparation plant will probably be needed by about mid-2007. The Willow Creek processing plant capacity is 2.5-2.6 mtpa of saleable coal. Target FY/07 Willow Creek saleable coal production is 2.2 mtpa, and Pine Pass reserves could support 0.8 mtpa for close to twelve years. The company has advised that processing capacity could be increased to 3 mtpa of washed product with minor modification and that all necessary infrastructure could already accommodate this level of output.

Guidance from the Q2/05 results conference call is that Pine Pass CAPEX will be >\$20 million, with washplant modifications and a haul road back to Willow Creek the major cost items.

Our base case Pine Pass financial modelling is for a 0.8 mtpa operation increasing to 3.0 mtpa by 2012 once Willow Creek reserves have been depleted. We are using CAPEX of C\$25 million over FY/07, and mine-site operating costs of \$53 per tonne, \$15 per tonne higher than at Willow Creek, to allow for the much higher strip ratio (10:1 compared with current Willow Creek stripping ratio of 4:1, and assuming \$2-3/BCM stripping costs) and the longer haul distance from the mine to the preparation plant (12 kilometres compared with 6.5 kilometres). Unlike Willow Creek, the Pine Pass haul route will have to cross both a public highway and the Pine River, probably limiting haul trucks to about 40 tonnes.

On this basis, with the inclusion of Pine Pass our NPV_{10} increases from \$2.30 to \$2.85 per share.

In addition to the Willow Creek and Pine Pass coal licence areas, Pine Valley Mining holds licences at three other properties in the immediate area.

Property	Number of licences	Area (hectares)
Pine Pass	3	878
Willow Creek	though a semula lecture 18	5272
Falling Creek	9	2637
Crassier Creek	3	879
-alls Mountain / Pine Pass	10	2929
Fotal		12595

Source: Company reports

Figure 53: Pine Valley Mining coal licences

Sales contracts

Pine Valley has appointed marketing agents for sales in Asia and Europe: i) Japanese trading company Marubeni Corporation for sales to Japan, Korea, and Taiwan, for a

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1% commission and until Willow creek is depleted, and ii) Coal trade International to promote sales in Europe, also for a 1% commission but with contract expiry in March 2006.

Pine Valley has contracted 735,000 tonnes of primarily PCI coal sales for the coal year ending March 2006 at an average price of US\$103 per tonne fob port. However, recent customer deferrals mean that a maximum of 126,000 tonnes of this contracted coal will be carried over into the next financial year.

(Given that, at least for now, coking coal has become a buyers' market once more, we expect this carry-over pricing will be part of upcoming contract price negotiations, and we would not be surprised to see the price negotiated back to next year's contract price. As a guide to the earnings sensitivity of this issue, if the full 126,000 tonnes were to be re-priced at our FY/07 PCI price forecast of US\$80 per tonne, FY/07 revenue, EBITDA and net earnings would each be impacted by about C\$2.8 million or about 1%, 2%, and 4% respectively.)

Beyond FY/06, contracted tonnages are 550,000 tonnes in both FY/07 and FY/08, and 200,000 tonnes in both FY/09 and FY/10. All contracted tonnage is PCI coal.

H1/06 revenue by destination

Figure 54: PVM H1/06 revenue by destination





Source: Company report.

Taxation

British Columbian coal royalties are a minimum 2% of net current proceeds, credited against a 13% net revenue tax which begins once certain capital and pre-production costs have been recovered. BC provincial corporate taxes are 12% and we are assuming long-term federal income taxes decline over the next several years. Pine Valley reported combined mining taxes and future income taxes of 32% or pre-tax earnings in Q2/05, noting that the company would be taxable in the current financial year.

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For consistency of comparison with other BC coking coal companies, we are using 37% in our modelling. Actual taxes payable would be substantially deferred if Pine Valley continues to develop additional coal properties. We are assuming a combined BC royalty and income tax rate of 37%, but temporarily lowered to 30% during FY/07 by Pine Pass capital allowances.

There are no privately owned royalties on any of Pine Valley's properties.

Ownership and capital structure

Mark Smith, a Director of the company, is the major shareholder in Pine Valley Mining, controlling 17.2% of shares outstanding, followed by the Rockside Foundation with 16.9% and Sprott Asset Management with 6.5%. The next seven largest shareholders control just 6.3% of shares outstanding.

Shares and options and warrants on issue are presented as Figure 55.

Figure 55: Share capital, millions	
Common shares on issue	75.4
Options in-the-money (at \$2.88), ave exercise price of \$1.96, range \$0.90 - \$2.30.	1.3
Options out-of-the-money (at \$2.88), ave exercise price of \$5.38, range \$4.22 - \$5.60.	1.5
Warrants at \$6.26, expiring 22/9/06	0.8
Warrants at \$3.50, expiring June 2007	2.0
Fully diluted shares	81.0

Source: Q2/05 company financial report

Need for additional financing

We do not believe that Pine Valley will need to raise new equity for the Pine Pass mine development. However, the deferral of some FY/06 coal sales and working capital requirements during construction could place some strain on the company's cash balance. Hence the company's \$15 million private placement this month, including a half warrant with each issued share, at \$2.50 per share and \$3.50 warrant exercise price.

We note also relatively low net debt/(net debt plus equity) of 25% at September 2005, and the flexibility of a \$20 million revolving working capital credit facility already in place with Royal Bank Of Canada, and the apparent ease to date of extending the US\$9 million loan from shareholder the Rockside Foundation.

Sensitivities

Key sensitivities are presented in Figure 56. Earnings, cash flow and NPV are all highly sensitive to metallurgical coal prices, operating costs and the value of the Canadian dollar. Given the currently elevated prices of coking coal compared with historical averages and current coking coal market weakness, the unexpectedly high stripping ratio in Q2/06, and the potential for another trend period of US-dollar depreciation, financial forecasts are relatively high risk.



We note in particular that any one of a 10% negative change to our assumed metallurgical coal price, operating costs or Canadian-dollar exchange rate would reduce our NPV₁₀ to less than the current share price.

Figure 56: Pine Valley financial sensitivities			
	FY/07 EPS	FY/07 CFPS	NPV ₁₀
Base case	0.98	1.12	2.85
Met. coal price, US\$/t			
Base case - US\$109/t for coking coal and US\$82.5/t for PCI in FY/07, US\$73/t coking coal lo	ong-term		
+10% to US\$120/t coking and US\$91/t PCI, US\$80/t LT	1.20	1.34	3.89
-10% to US\$98/t coking and US\$74/t PCI, US\$66/t LT	0.76	0.90	1.80
Operating costs			
Base case - C\$53/t in FY/07			
-10% to C\$48/t	1.09	1.23	3.54
+10% to C\$58/t	0.87	1.01	2.15
C\$/US\$			
Base case - 0.83 in FY/07, 0.78 long-term			
-10% to 75, 70 LT	1.23	1.37	4.01
+10% to 0.91, 0.86 LT	0.78	0.92	1.89

Source: Canaccord Capital estimates

Reclamation deposits

Pine Valley's Willow Creek asset retirement obligation is carried on the balance sheet at an NPV of \$1.0 million. At this stage, the obligation is not covered by any cash deposits, and the company expects to pay its reclamation obligations annually, funded from operating cash flows, reclamation deposits and cash at hand.

Investment risks

There are risks associated with the share price achieving our target price and our financial forecasts. Commodity prices may not match our forecasts, and exchange rate fluctuations may impact company earnings. Further, there are operating risks involved in all mining operations. Technical, environmental, regulatory and political risks can all impact financial estimates and valuation.

An analyst has visited the issuer's operations in British Columbia. No payment or reimbursement was received from the issuer for the related travel costs.