



# GreatWestern

MINERALS GROUP LTD



NOVEMBER 2011

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# Safe Harbour

## Cautionary Note On Forward-Looking Statements

- "Forward-looking statements include, but are not limited to, statements regarding projected processing capacity, output and revenue, GWMG's continued advancement of its mineral exploration, projects, processing operations and business plans. When using this presentation, the words "potential", "anticipate", "estimate", "forecast", "believe", "expect", "may", "project", "plan" and similar expressions are intended to be among the statements to identify forward-looking statements"
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# GWMG: From Mines to Markets



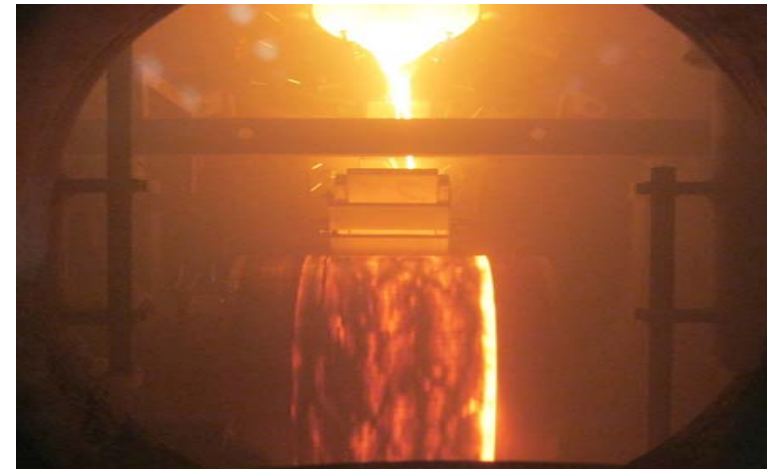
Steenkampskraal: A previously operating mine



Steenkampskraal: Being refurbished for production



Less Common Metals: New facility being constructed



Less Common Metals: Expanded production with alloy flakes

# World Mine Production and Reserves (Tonnes REO)

Country	Mine Production 2010	Reserves
United States	-	13,000,000
Australia	-	1,600,000
Brazil	550	48,000
China	130,000 (97%)	55,000,000 (48%)
CIS	N/A	19,000,000
India	2,700	3,100,000
Malaysia	350	30,000
Other	N/A	22,000,000
World Total	134,000	114,000,000

Source: USGS Mineral Commodity Summaries, January 2011

# Chinese Export Quota History

## (tonnes REO)

	1st Half	2nd Half	Total	AGR (%)	ROW Demand	Surplus/ Shortfall
2005	-	-	65,609	-	48,000	17,609
2006	-	-	61,821	-6%	53,000	8,821
2007	27,811	32,263	60,074	-3%	55,000	5,074
2008	30,991	16,458	56,939 <sup>1</sup>	-5%	54,000	2,939
2009	21,728	28,417	50,145	-12%	25,000	25,145
2010	22,282	7,976	30,258	-40%	55,000	-24,742
2011	14,446	15,738 <sup>2</sup>	30,184	-0.2%	45,000	-14,816

1. Adjusted to reflect 12 month allocation

2. Includes ferro-alloys of rare earths (RE > 10%)

Sources: Chinese Ministry of Commerce, IMCOA



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# Forecast Demands for 2015 (tonnes REO)

REE Application	REO	2010 Demand	2015f Demand
Permanent Magnets	Nd, Pr, Dy, Tb, Sm	26,000	40,000
NiMH Batteries, metallurgical	La, Ce, Pr, Nd	22,000	36,000
Catalysts	Ce, La, Pr, Nd	24,500	25,500
Phosphors	Eu, Y, Tb, La, Dy, Ce, Pr, Gd	8,500	12,500
Polishing Powders	Ce, La, Nd, mixed	19,000	25,000
Glass Additives	Ce, La, Nd, Er, Gd, Yb	11,000	10,000
Ceramics, other	Mixed	14,000	21,000
Total		125,000	170,000
Chinese Demand		70,000(56%)	120,000 (70%)
ROW Demand		55,000	50,000

# Global 2015 Supply/Demand Imbalance

	Supply	Demand	
Oxide	t REO	t REO	Imbalance
La <sub>2</sub> O <sub>3</sub>	49,930	44,030	5,900
CeO <sub>2</sub>	80,560	63,750	16,810
Pr <sub>6</sub> O <sub>11</sub>	10,830	7,480	3,350
Nd <sub>2</sub> O <sub>3</sub>	33,570	33,490	80
Sm <sub>2</sub> O <sub>3</sub>	2,910	1,190	1,720
Eu <sub>2</sub> O <sub>3</sub>	510	680	-170
Gd <sub>2</sub> O <sub>3</sub>	2,820	2,550	270
Tb <sub>4</sub> O <sub>7</sub>	360	510	-150
Dy <sub>2</sub> O <sub>3</sub>	1,380	2,040	-660
Er <sub>2</sub> O <sub>3</sub>	900	1,350	-450
Y <sub>2</sub> O <sub>3</sub>	13,515	12,750	765
Ho-Tm-Yb-Lu	1,500	170	1,330
Totals	198,785	169,990	28,795

Source: IMCOA



# 2015 Regional Imbalances

	China	ROW	Global
Oxide	Imbalance	Imbalance	Imbalance
La <sub>2</sub> O <sub>3</sub>	-886	6,790	5,904
CeO <sub>2</sub>	3,986	12,821	16,807
Pr <sub>6</sub> O <sub>11</sub>	2,444	904	3,348
Nd <sub>2</sub> O <sub>3</sub>	389	-311	78
Sm <sub>2</sub> O <sub>3</sub>	1,124	599	1,723
Eu <sub>2</sub> O <sub>3</sub>	-178	6	-172
Gd <sub>2</sub> O <sub>3</sub>	643	-377	266
Tb <sub>4</sub> O <sub>7</sub>	-29	-125	-154
Dy <sub>2</sub> O <sub>3</sub>	-137	-525	-662
Y <sub>2</sub> O <sub>3</sub>	4,140	-3,376	764
Total	11,496	16,406	27,902*

Shortage, Surplus, Large surplus  
\*not including Er, and Ho-Lu

Source: IMCOA

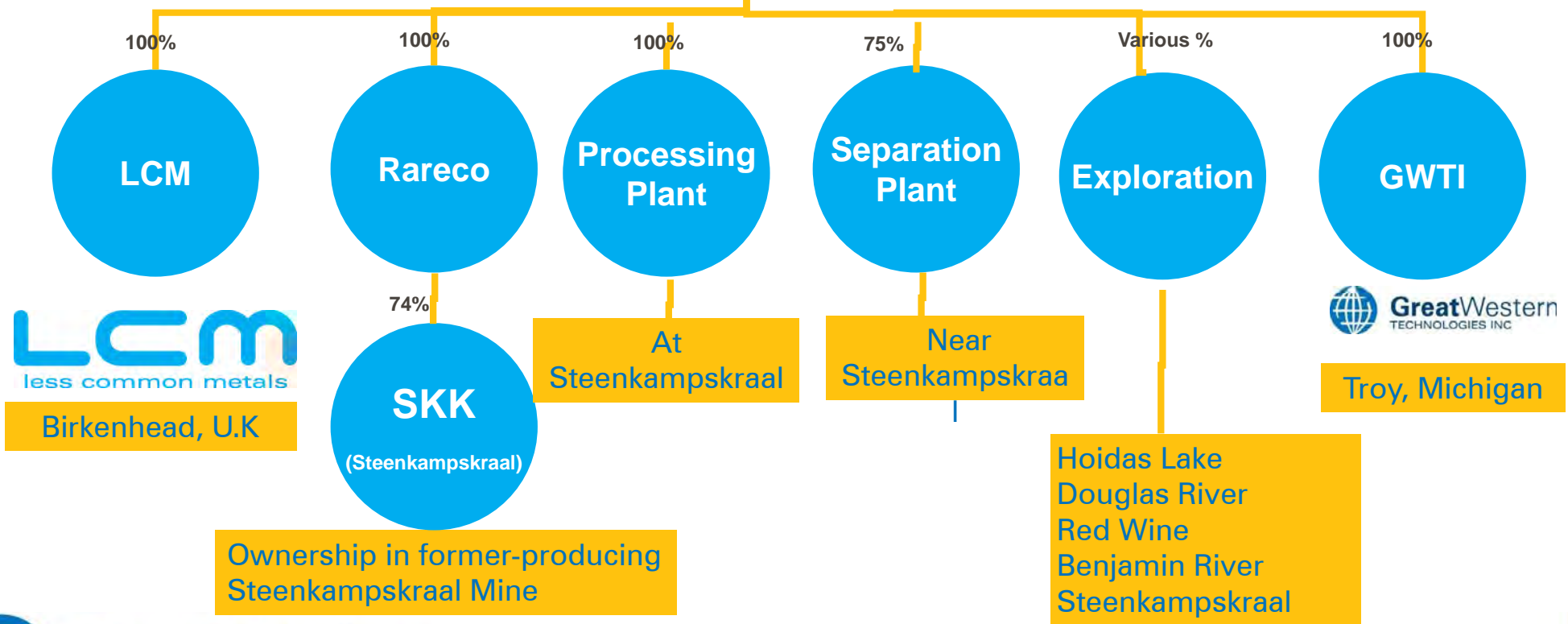


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# Corporate Structure



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# Senior Management



**Gary L. Billingsley**  
EXECUTIVE CHAIRMAN



**Jim Engdahl**  
PRESIDENT & CEO



**John G. Pearson**  
VICE-PRESIDENT  
EXPLORATION



**Russell Grant**  
SENIOR VICE-PRESIDENT,  
BUSINESS DEVELOPMENT



**David  
Kennedy**  
CEO, RARECO



**Richard Hogan**  
VICE-PRESIDENT,  
OPERATIONS



**Dr. Ian Higgins**  
DIRECTOR, METALS  
AND ALLOYS



**Jim Davidson**  
CHIEF FINANCIAL  
OFFICER



**Dr. Baodong Zhao**  
MANAGER,  
METALLURGY

# GWMG Corporate Plan

## Exploration:

- Focus on Heavy Rare Earths at GWMG exploration projects
- Execute exploration plans at Benjamin River, Douglas River, Red Wine and Steenkampskraal, update metallurgy at Hoidas Lake

## Processing:

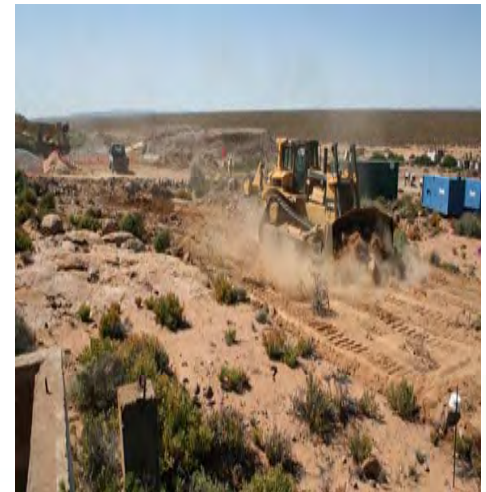
- Undertake 100% expansion of Less Common Metals in 2 phases
- Continue to establish GWTI as an important part of the RE supply chain in the USA

## Mining:

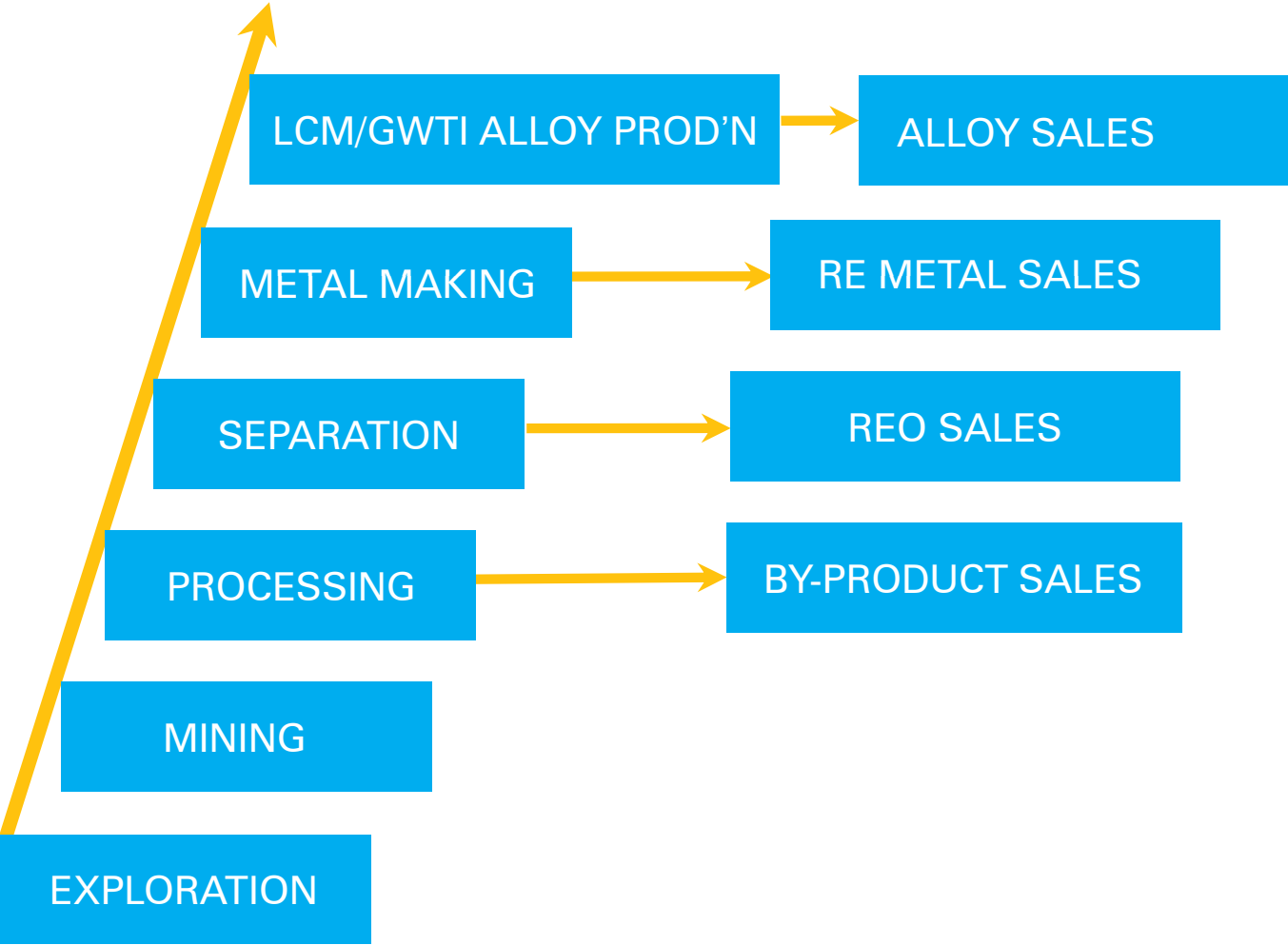
- Put Steenkampskraal mine into production
- Work toward expansion of Steenkampskraal resources

## Corporate:

- To be among the very first fully integrated suppliers of RE
- To create certainty of supply for customers



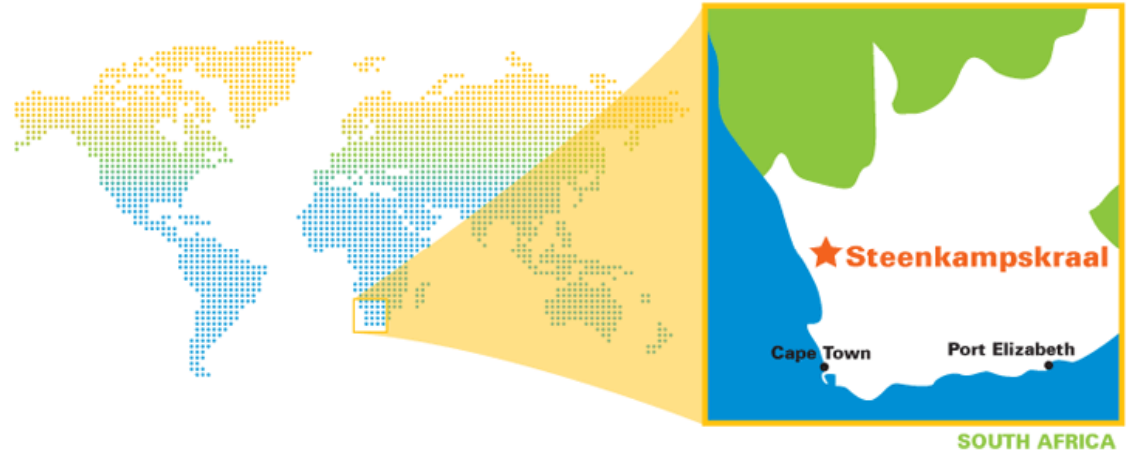
# GWMG Integrated Production Model



# MINING: Steenkampskraal

## Steenkampskraal Background:

- Former operating thorium mine in South Africa.
- Excellent infrastructure with paved and gravel roads.
- Close proximity to rail and sea-port.
- 474 hectare property permitted to current mining requirements
- One of the highest grade RE deposits 16.74% REO (based on historical non-NI 43-101-compliant data supplied by Rareco and reviewed by GWMG management).
- Exploration potential at site and in region.
- Nuclear License allows thorium storage.
- Low capital cost anticipated.



# MINING: Steenkampskraal

## Recently Executed Project Steps in 2011:

- June: Launched mine site refurbishment
- June: Hired Extraction, Processing plant managers
- July: Acquired 100% of Rareco
- July: Heads of Terms with GQD for Separation plant
- July: Contracted Processing plant design team
- August: Hired Monazite expert
- August: Appointed Director, International Exploration
- August: Mine site refurbishment on schedule
- September: Select drill contractor for exploration
- November: Appointed Kennedy as Rareco CEO
- November: Appointed Kabaah as Mine Manager



# MINING: Steenkampskraal Progress



Steenkampskraal decline entrance February 2011



Entrance to decline August 2011



Decline refurbishment materials arrive at site September 2011



Top 45 feet of decline concrete work complete September 2011

# MINING: Steenkampskraal Progress



Containment pond under construction October 2011



Electrical generators installed on base October 2011



Ground prepared for buildings on outcrop bank October 2011



Drill core from Steenkampskraal exploration October 2011

# MINING: Steenkampskraal

## Steenkampskraal Going Forward:

- November: Exploration mini bulk samples, test metallurgy, sampling
- November: Underground mapping of geology
- November: Renew 3D geological model
- December: Complete mine site refurbishment
- December: Finalize GQD joint venture for Separation plant
- December: Complete initial portion of Processing plant design



# Projected Outputs to LCM

Hypothetical model based on standard Monazite REO distribution, assumes 5,000 t.p.a. REO available

REO	REO Production*	REO
Lanthanum	1,084.0	76.0
Cerium	2,334.0	1.2
Praseodymium	250.0	166.0
Neodymium	834.0	834.0
Samarium	125.0	74.0
Europium	4.0	0.0
Gadolinium	83.0	0.0
Terbium	4.0	0.1
Dysprosium	34.0	34.0
Holmium	2.0	0.0
Erbium	4.0	0.0
Thulium	3.0	0.0
Ytterbium	3.0	0.0
Lutetium	0.0	0.0
Yttrium	250.0	0.1
<b>TOTAL (Tonnes)</b>	<b>5,014.0</b>	<b>1,185.4</b>



# Projected Outputs to Off-Take, Market

Hypothetical model based on standard Monazite REO distribution, assumes 5,000 t.p.a. REO available

REO	REO Production*	REO
Lanthanum	1,084.0	1,007.0
Cerium	2,334.0	2,332.0
Praseodymium	250.0	84.0
Neodymium	834.0	0.0
Samarium	125.0	51.0
Europium	4.0	4.0
Gadolinium	83.0	84.0
Terbium	4.0	4.0
Dysprosium	34.0	0.0
Holmium	2.0	3.0
Erbium	4.0	4.0
Thulium	3.0	3.0
Ytterbium	3.0	4.0
Lutetium	0.0	0.5
Yttrium	250.0	250.0
<b>TOTAL (Tonnes)</b>	<b>5,014.0</b>	<b>3,830.5</b>



# PROCESSING: Less Common Metals

## Highlights of LCM:

- Trading globally: European Union 60%, Japan, China, Taiwan 30%, United States 10%
- Focused on permanent magnet industry
- Significant supplier of NdFeB alloys
- Supplies 20% of world's Samarium Cobalt Alloy
- 20 years of high quality production
- Operates a co-reduction process for converting samarium oxide to samarium cobalt metal alloy.
- Developing fused salt electrolysis process for oxides from South Africa to produce lanthanum, neodymium and praseodymium metal
- Developing a process to produce dysprosium, terbium and yttrium metal using calciothermic reduction of rare earth fluorides



# LCM: Global Expansion

- 100% capacity expansion driven by full support of major customers from Europe and Japan seeking NdFeB alloy
- New state of the art facility proceeding for late 2011 development in same region to increase capacity to 2,000 tonnes per annum RE alloy production
- First special casting furnace ordered and scheduled for commissioning in late 2011
- 2<sup>nd</sup> furnace to be ordered in 2012
- First phase of metal-making to be located at LCM
- Processing capacity matches REE distribution of planned output from Steenkampskraal
- Objective is to supply all of GWMG requirements for La, Nd, Pr, Sm, Dy



# Great Western Technologies

- Located in Troy, Michigan, USA
- Strategic asset for revitalization of the Rare Earth industry in the United States
- Working with DARPA on aerospace “Super Alloy” R+D
- Versatile production capacity including:
  - Permanent magnet alloys
  - NiMH alloy for rechargeable batteries
  - “Super Alloy” production for aerospace materials
  - Hydriding capability for solid-state hydrogen-storage alloys, both rare earth and transition metal types



# GWMG Milestones

## GWMG focuses on major milestones:

- December 2011: Complete refurbishment
- Early 2012: Operate at expanded furnace capacity at LCM
- 1<sup>st</sup> Half 2012: Complete NI 43-101 at Steenkampskraal
- 2<sup>nd</sup> Half 2012: Launch mining operations
- December 2012: Complete Processing and Separation plants
- Q1 2013: Begin full production with mining, processing, separation



# GWMG Overview

Shares Outstanding / Fully Diluted (as at November 7, 2011)	384.0 mm / 478.5 mm
Share Price (as at November 7, 2011)	\$0.65
52 week High / Low	\$1.23 / \$0.32
Market Cap (as at November 7, 2011)	\$249.6 million
Cash on hand (as at November 7, 2011)	\$3.5 Million
Insider Holdings / Fully Diluted (est.)	1.9% / 12.0%
Institutional Holdings (est.)	32%



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