

# FORTIS MINING LTD (FMJ)

## Emerging as a World Class Potash Exploration Company

### SPECULATIVE

24 August 2011

#### Share Trading Info

ASX Code	FMJ
Current Share Price	\$1.13
Trading Low /High (Since Listing)	\$0.21 - \$3.98
Mkt Capitalisation (undiluted) \$m	58.0

#### Issued Capital (m)

Total Ordinary Shares*	51.3
Unlisted Options	24.4
<b>Total Diluted Securities</b>	<b>75.7</b>

\* 14.4m shares held in escrow

#### Board of Directors\*

Jitto Arulampalam	Executive Chairman
Frank Cannavo	Executive Director
Paul Bitetto	Non Executive Director
Terry Grammer	Non Executive Director
Terence Wong	Non Executive Director

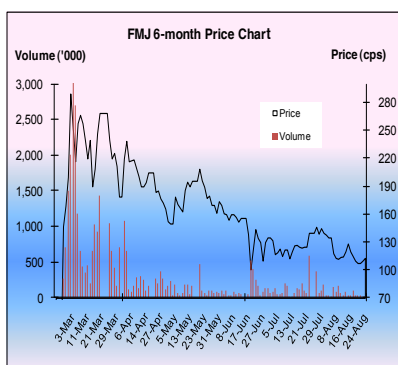
\* Further details on Page 23

#### Major Shareholders

JP Morgan Nominees Aust. Ltd	22.6%
Mr Jordan Lockett	9.7%
Frank Cannavo Investments P/L	5.8%
Pakaya Group P/L	5.8%
Rogue Investments P/L	3.2%

#### Important Disclosure

*Investors should be aware that Fortis Mining Ltd is a corporate client of Alpha and that Alpha will receive a consultancy fee from Fortis Mining Ltd for compiling this research report.*



### EXECUTIVE SUMMARY

Fortis Mining Ltd (ASX Code: FMJ) is an exploration company that has recently made a strategic play to become an emerging global potash explorer and producer, having announced in February 2011 an agreement to indirectly acquire the rights to two potash deposits in the NW region of Kazakhstan - the Zhilyanskoe and Chelkarskaya (also referred to as 'Chelkar') potash deposits. We have identified a number of factors that underpin the FMJ investment case:

#### 1. IPO of the Year

The announcement on the acquisition of the Kazakhstan potash assets triggered a strong re-rating of the share price that led to FMJ being the best-performing IPO of FY2011, having listed on the ASX in December 2010 at 20 cents per share. The IPO was supported by two brokers at major stockbroking houses (RBS Morgans and Macquarie Private Wealth).

#### 2. Acquisition of world class assets

The Zhilyanskoe deposit covers an area of approximately 88km<sup>2</sup> and has an estimated target range (based on previous Soviet drilling) of 670mt of potash ore. The deposit is located in the Aktobe Province, eight kilometres SE of Aktobe and is in close proximity to established infrastructure, including the national rail link to China.

The Chelkarskaya deposit covers an area of approximately 779km<sup>2</sup> and has an estimated target range (based on previous Soviet drilling) of ~6 billion tonnes of potash ore.

Zhilyanskoe is the most advanced of the two assets, with a preliminary non-JORC assessment on the Zhilyanskoe Deposit due in September 2011.

#### 3. Strong fundamentals for potash

Potash describes several types of potassium minerals. The most important mineral is potassium chloride (KCl). Demand for potash is trending upwards, with IFA predicting that global potash demand would increase by 20% between 2010 and 2015. Potash spot prices are forecast to rise to US\$600/t (cost and freight) by late 2011, from US\$490/t in July 2011.

#### 4. Kazakhstan looming as the next big supplier of potash to China

Kazakhstan is strategically well positioned as a location for a potash operation, as it borders China, which is a major importer of potash. In particular, Kazakhstan is strengthening its geopolitical relationship with China (the main customer for future Kazakhstan potash). The surrounding infrastructure for the two potash deposits is well established.

#### **5. Due diligence and Pre-JORC report looking very promising**

FMJ are close to completing due diligence on the two potash assets and a preliminary non-JORC assessment from Ercosplan on the Zhilyanskoe Potash Deposit is due imminently and looks very promising. Ercosplan are of the view that the Zhilyanskoe deposit:

- i) Contains a resource potential comparable to other worldwide potash projects under operation,
- ii) Confirms that the Zhilyanskoe deposit is potentially greater than an earlier assessment by the Soviets that the Zhilyanskoe deposit contains an estimated deposit target of 670mt of potash ore (including <560mt K<sub>2</sub>O) and
- iii) Has potential to produce both the standard potash product - Muriate of Potash (MOP<sup>1</sup>) and the premium product is Sulphate of Potash (SOP<sup>2</sup>).

#### **6. Deal structure highly favourable to FMJ**

The company has secured a revised deal to acquire the two potash assets that increases FMJ's level of direct ownership in the assets; significantly reduces the amount of capital required in the short term to complete the transaction; and is aligned with the level of reported JORC results. FMJ had secured investments from institutional investors in order to fund the remaining commitments under the previous deal structure and these institutional investors remain supportive of the revised deal structure.

#### **7. Funding in place**

FMJ estimate that its funding requirement over the next 12-18 months would be between \$40 million and \$60 million, with the majority to be sourced from institutional investors, who earlier agreed to provide FMJ with funding to complete the acquisition under the previous deal structure.

#### **8. The Next Steps**

Subject to Shareholders' approval of a change of business at a General Meeting on 30 September 2011, FMJ intend to embark on a number of initiatives to progress its strategy of becoming an emerging global potash explorer and producer. These include:

- a. **Strengthen current board** with international recruitment of potash and mining expertise.
- b. **Finalise JORC report for Zhilyanskoe and Chelkarskaya deposits.**  
An initial JORC report for Zhilyanskoe is expected at the completion of the planned drilling program, most likely in the 2<sup>nd</sup> quarter of calendar 2012. FMJ have commenced discussions with drilling companies based in Kazakhstan in order to secure a suitable drill rig to complete approximately 5,000 metres of drilling to commence by the end of 2011.  
Simultaneously, FMJ plan to undertake further exploration at the Chelkarskaya deposit in order to obtain a JORC report. FMJ expect a JORC report for the Chelkarskaya deposit to be completed in at least 12-18 months, as it is a larger area (779km<sup>2</sup>) that requires additional exploration, including further confirmation drilling. Given the large size of the Chelkarskaya deposit, FMJ are likely to work on obtaining a resource for Chelkarskaya based on a section of the deposit, rather than the whole deposit.
- c. **Set up operational capability in Kazakhstan** to begin feasibility studies to bring Zhilyanskoe into production.
- d. **Evaluate options for WA exploration assets.** FMJ completed an IPO late last year which was based on several gold and base metal exploration projects in WA. The company is presently considering commercial options for these assets post completion of the acquisition of the Kazakhstan assets including a possible spin-off into a separate IPO.
- e. **Formally commence discussions with potential vendors,** including the Kazakhstan sovereign fund with a view to acquiring other potash assets in Kazakhstan in order to augment the existing potash asset portfolio.

<sup>1</sup> Muriate of Potash (MOP): Potassium chloride based fertiliser products

<sup>2</sup> Sulphate of Potash (SOP): potassium and/or potassium/magnesium sulphate based fertiliser products

## 1. A STELLAR BEGINNING

From a field of 123 floats in FY2011, FMJ was the best-performing IPO of the year. The company listed on the ASX at 20 cents per share on 15 December 2010, after raising \$3.5 million to fund gold and base metals exploration in WA.

The share price rose strongly following an announcement in February 2011 that FMJ had entered into an agreement to acquire two potash assets in Kazakhstan. The share price at one point reached an intra-day high of \$3.98 on 3 March 2011 following the announcement.

The IPO was supported by two brokers at major stockbroking houses - Ben Faulkner (RBS Morgans) and John Clarkson (Macquarie Private Wealth) - who as a result of their involvement in the IPO, won an award for the best corporate deal at the Australian Stockbrokers Foundation awards in 2011.

**Table 1: Top 10 IPOs in FY2011**

Company Name	Listing Date	Amount Raised (\$m)	% gain as at 30 Jun 2011
<b>Fortis Mining</b>	15-Dec-10	3.5	575%
<b>Guildford Coal</b>	22-Jul-10	2.0	460%
<b>Bailey Minerals</b>	2-Sep-10	3.5	405%
<b>Carabella Resources</b>	17-Dec-10	12.0	366%
<b>Kidman Resources</b>	18-Jan-11	4.3	212%
<b>Forge Resources</b>	23-Sep-10	2.9	169%
<b>Maca</b>	3-Nov-10	60.0	145%
<b>Corporate Travel</b>	15-Dec-10	21.7	95%
<b>GR engineering</b>	19-Apr-11	30.0	95%
<b>Phoenix Gold</b>	22-Dec-10	8.0	94%

Source: Deloitte Corporate Finance IPO Survey

### 1.2 FMJ Capital Structure

Of the 48.3 million shares on issue, 14.4 million shares are held in escrow until December 2012. The top 20 shareholders hold approximately 65% of the company's total shares on issue.

**Table 2: FMJ Capital Structure**

Shares/Options on Issue	Million	Expiry Date
Total Ordinary Shares	51.3	
Unlisted Options		
- Exercise Price 30c	7.0	27-Oct-13
- Exercise Price 30c	0.25	07-Sep-12
- Exercise Price 40c	0.1	01-Feb-14
- Exercise Price \$2.00	17.0	30-Jun-16
<b>Total Unlisted Options</b>	<b>24.4</b>	
<b>Total Issued Securities</b>	<b>75.7</b>	

\* Around 14.4 million of these shares are escrowed.

**Table 3: Top 20 Shareholders**

Shareholder	Amount Held (m)	% Held
JP Morgan Nominees Aust. Ltd	11.6	22.6%
Mr Jordan Luckett	5.0	9.7%
Frank Cannavo Investments P/L	3.0	5.8%
Pakaya Group P/L	3.0	5.8%
Rogue Investments P/L	1.6	3.2%
Gianlimited P/L	1.6	3.0%
Mr Bruce Robert Legendre	0.9	1.8%
Samlisa Nominees P/L	0.8	1.7%
Mr Norman Surtees	0.8	1.5%
A&A Cannavo Nominees P/L	0.6	1.2%
Holdrey P/L	0.6	1.1%
Vertigo Night P/L	0.5	1.0%
Snapdragon Investments P/L	0.5	1.0%
Citicorp Nominees P/L	0.5	0.9%
Gianlimited P/L	0.5	0.9%
CGV Group P/L	0.4	0.8%
F&E Cannavo P/L	0.4	0.8%
Core Business Holding P/L	0.4	0.8%
Minsk P/L	0.4	0.8%
Mr Mark Linney	0.3	0.6%
<b>Total Held by Top 20 Shareholders</b>	<b>33.1</b>	<b>65.0%</b>

*Source: FMJ*

## 2. ACQUISITION OF WORLD CLASS ASSETS

On 22 February 2011, FMJ announced that it had entered into a Heads of Agreement to acquire the rights to two potash assets in the north-west region of Kazakhstan - the Zhilyanskoe and Chelkarskaya potash deposits.

The area surrounding both deposits was initially identified by geologists from the former Soviet Union during the 1950s. Work completed during the 1950s and early 1960s included systematic drilling, chemical analysis, hydrological surveying, seismic surveying and interpretation work. Since work ceased in the early 1960s, no further drilling work has been undertaken at the Zhilyanskoe deposit, although drilling has been undertaken at the Chelkarskaya deposit in recent times.

Geological reports detailing the work completed have been submitted to FMJ and were reviewed by Ercosplan as part of the due diligence process. While the drilling represents a valuable resource of nearly 750 drill holes, with the analysis undertaken in some detail, unfortunately the former Soviet exploration work is not in compliance with the JORC reporting standard.

Both potash deposits are located in relatively close proximity to their respective regional cities and have access to surrounding infrastructure such as a workforce, utilities and transport networks. Some infrastructure around the two deposits already exists as a result of the historical exploration and mining in the region.

FMJ have secured the two deposits under binding contracts that provide for an exploration period of six years and a production period of 45 years (including four years of processing plant development).

**Figure 1: Location of Zhilyanskoe and Chelkarskaya Potash Deposits**



## 2.1 Zhilyanskoe Potash Deposit

The Zhilyanskoe Potash Deposit covers an area of approximately 88km<sup>2</sup> and is located in the Aktobe Province, eight kilometres SE of Aktobe.

Information on the mineralisation is based on Soviet era grid lines between 1,000 and 500 metres apart, with holes drilled between 100 metres and 200 metres along the lines. Potash mineralisation has been identified over an area 500-2,000 metres wide and up to 5,000 metres in length.

The mineralisation occurs between a depth of 430 metres and 700 metres below the surface on the western flank of an anticlinal structure. Drilling has defined three sylvinite/carnallite horizons and three polyhalite horizons. Faulting and salt diapirism has resulted in the sequence forming an elongate fold axis. Up to six separate discontinuous horizons have been identified in the drilling. The remobilisation has resulted in thickening of the potash bearing salts on the core of the fold and thinning on the flanks.

The deposit is situated along an anticlinal structure with a length of approximately 35 kilometres in a north-south direction and eight kilometres in an east-west direction. Two potash horizons are present within the deposit: the lower potash horizon and the upper potash horizon.

The lower potash horizon, situated between 235-700 metres below surface, comprises three layers of polyhalite-bearing rocks, with each of the layers separated by rock salt.

The upper potash horizon has a total thickness of between 118 metres and 180 metres and can be split into two sections; a lower sylvinite and an upper carnallite-sylvinite section. Both of these sections have a strike length of between 1-6 kilometres and a width of 150-500 metres and are located 318-670 metres below surface.

**Table 4: Estimated Target Range for Zhilyanskoe Deposit**

Deposit Type	Potassium Oxide (K <sub>2</sub> O)		Potassium Chloride (KCl)	
	Deposit Content (mt)	grade (%)	Deposit Content (mt)	grade (%)
Polyhalite	545 - 559	8% - 12%		
Sylvinite			106.8 - 112	28% - 35%
Sylvinite-Carnallite			6 - 7	18% - 21%
<b>TOTALS</b>	<b>545 - 559</b>		<b>112.8 - 119</b>	

Source: FMJ

### 2.1.1 Surrounding Infrastructure

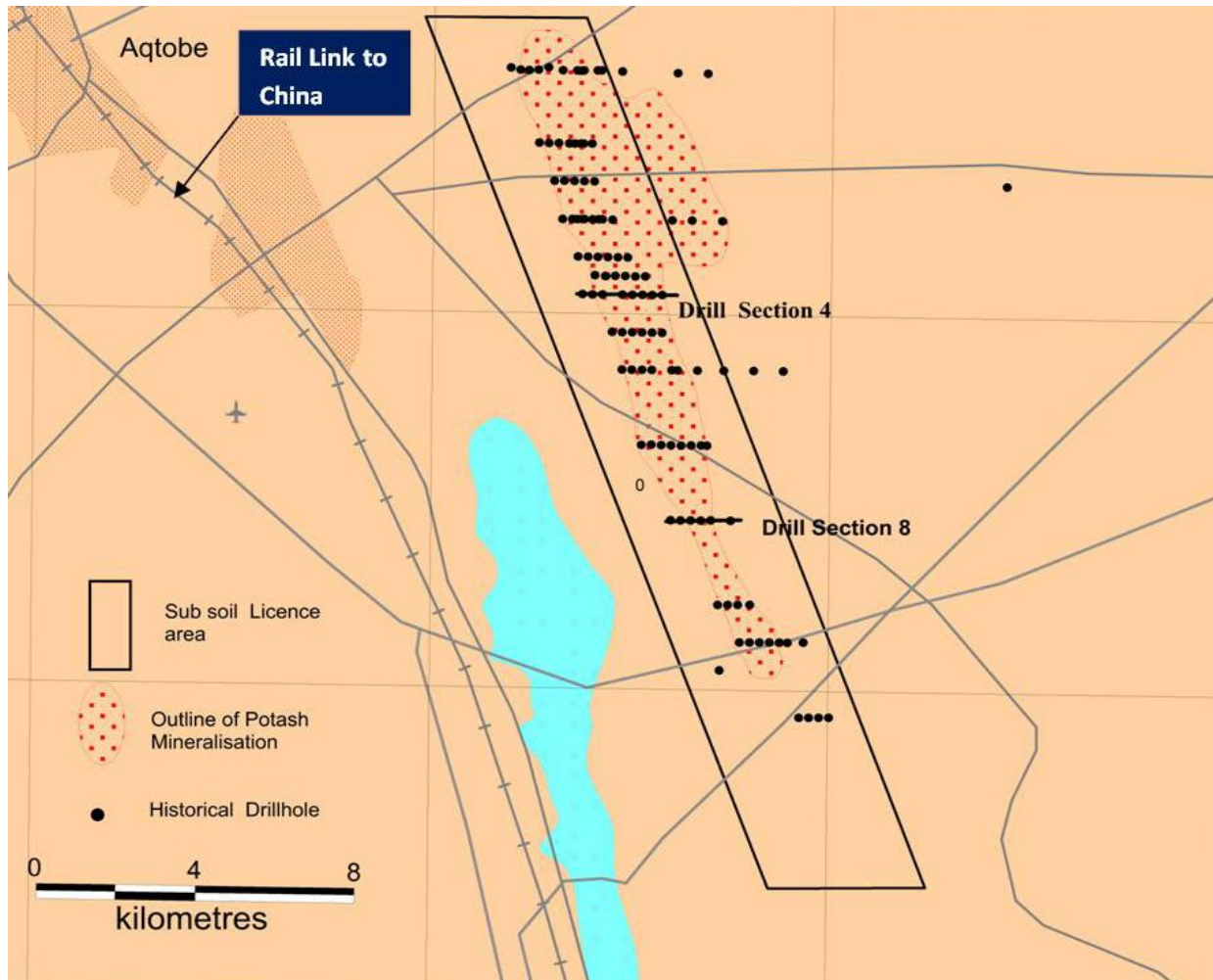
Aktobe, the second largest province by area in Kazakhstan, has an estimated population of 700,000 and is a regional capital with significant infrastructure, including railway and road networks connecting Asia and Europe, an international airport, high voltage power lines and high pressure oil and gas pipelines.

The Zhilyanskoe site is located in close proximity to the national rail link to China. Aktobe city is an important industrial centre of the region, with various plants including a mineral processing facility.

### 2.1.2 Current Activities

The previously-calculated resources (Table 4) are being used as the basis to advance a feasibility study on establishing a 1mtpa potash processing plant on site. Bates have commenced a drilling program targeting hydrological wells across the northern, central and southern parts of the deposit in order to study the ground water table, as well as a series of short geotechnical holes to collect base line data on near-surface ground subsidence.

Figure 2: Existing Drilling Locations at Zhilyanskoe and Surrounding Infrastructure



Source: FMJ, Alpha Securities

### 2.1.3 Project Development Plans

#### i) Initial JORC Report Getting Closer

Ercosplan have indicated that they will complete their preliminary non-JORC assessment on the Zhilyanskoe deposit in September 2011 and will advise on a drilling program to 'twin' the earlier Soviet drilling in order to confirm stratigraphy and potash mineralisation.

At the completion of this drilling program, Ercosplan have indicated that they should have enough data from which to calculate on initial JORC report on the Zhilyanskoe deposit. FMJ have commenced discussions with drilling companies based in Kazakhstan in order to secure a

suitable drill rig to complete approximately 5,000 metres of drilling to commence in the current quarter.

Ercosplan are of the view that Zhilyanskoe contains a resource potential comparable to other worldwide potash projects under operation. Production of potassium fertilisers from these resources may be competitive to the world-leading Saskatchewan operations in Canada and the Upper Kama operations in Russia (for an MOP product).

Ercosplan are likely to recommend a 3-stage project development for Zhilyanskoe:

**1. Confirmation and Selection Phase**

This phase consists of the drilling of two small diameter (1.5" core) confirmation drill hole near historical drill holes with assays to confirm the reliability of the historical assaying data. In parallel to the drilling, further geological studies to refine the geological model should be pursued.

**2. Pre-Feasibility Phase**

A pre-feasibility study would concentrate on selected areas of the 'Confirmation and Selection' phase and a scoping (order of magnitude) study of mining and processing alternatives to identify the most promising concept and to estimate, in some detail, the permitting, mining, processing, transport, marketing and economic basis for the project.

The pre-feasibility phase should include drilling of 15 to 20 larger diameter (4" core) exploration holes, geotechnical and other test work on the core material, 2D and/or 3D seismic investigations to evaluate the continuity of the identified potash horizons, preliminary mine designs, process designs and marketing studies and the completion of a pre-feasibility study to support definition of measured mineral resources and reserves.

**3. Detailed Exploration and Feasibility Phase**

This phase would require exploration activities, notably drilling of further holes and detailed engineering, to focus on a single area, in order to support the final mining and processing concept.

**ii) Feasibility Studies**

Obtaining a mining license under Kazakhstan's government regulations requires hydrological, environmental, geotechnical and civil construction works to be undertaken as part of a Kazakh-style feasibility study, in order to show evidence of a successful plant construction. These works are currently in progress and FMJ envisage completion in the 3<sup>rd</sup> quarter of calendar 2012, based on projects in Russia that indicate a total timeframe for the work required of approximately 15-18 months.

For a **western-style feasibility study**, confirmation drilling including sampling and assaying would be required as a first step. Essentially, there is no difference in the total time frame for a case without a western-style feasibility study and a case including a western-style feasibility study, although the latter is required in order to bring the existing resources at Zhilyanskoe up to JORC standards. In addition, all further works have to follow the domestic regulations of Kazakhstan.

The work required over the 15-18 month period includes:

- Drilling of 5-7 holes would be required at minimum, According to Ercosplan, which should be achievable in approximately 6-8 months (including sampling, assaying and reporting).
- Furthermore, due to the relatively complex dome-structure of the deposit, a certain amount of 2D seismic lines may be required in order to provide evidence about the continuity of the potash horizons between the drill holes. This survey, including the related Vertical Seismic Profiling (VSP), requires an additional 4-6 months.
- The preparation of a western-style feasibility study can start partly parallel to the last drilling, however, will not be completed before three months after drilling and the 2D seismic is completed.

These activities, which are additionally necessary to fulfill the western standards, do not exceed the time frame for the pre-construction phase of 15-18 months period and identifies the Kazakh-style feasibility study as the critical path element.

### iii) **Mining and Processing**

In order to better understand the options available in relation to the mining and processing methods, it is necessary to outline in further detail the potash present at Zhilyanskoe. There are three types of potash-bearing rocks present:

1. **Polyhalite rocks**, consisting of Polyhalite and Halite (together on average 92%).
2. **The Sylvinite horizons**, containing mainly sylvine, halite and anhydrite (together on average 93%).
3. **Sylvinite-Carnallite rocks**, consisting of carnallite, sylvine, halite and anhydrite (together on average 97%).

The mineralised material can be mined by solution mining or conventional mining. Solution mining can be more efficient than conventional mining for deposits at great depth or with higher temperatures, but requires a relatively large deposit thickness. Based on the level of understanding of the Zhilyanskoe deposit to date, the irregular distribution of the mineralised material, and the large changes in thickness of single horizons over relatively short distances, support the view that a highly flexible mining system is required. Ercosplan have proposed using conventional mining, including the drilling and blasting technique, for all three potash bearing rock types identified in the deposit.

In terms of the processing options, either flotation or hot leaching are two feasible processing methods to produce Muriate of Potash (MOP) from conventionally mined material from the sylvinite and sylvinite-carnallite horizons, depending on the exact composition of the mineralised material. If the material is solution mined, the resulting brines can be processed with a slightly modified hot leaching process.

These processes are proven technology and routinely used in different potash production operations worldwide. For the polyhalite in the lower part, only conventional underground mining can be applied. A process based on calcination can be used to produce Sulphate of Potash (SOP), although the process is not yet proven as there are no producers of SOP currently using this method.

**iv) Plant Construction**

Construction and equipment installation for a 1mtpa MOP conventional potash plant requires 30 to 36 months, depending on the weather conditions in NW Kazakhstan. Ramp-up to the final production (which has to consider the relatively complex structure of the deposit) will probably take another 60 months.

Development of a sylvinite flotation plant, in particular to accommodate the requirements of approximately 5 years ramp-up would result in a lower initial CAPEX. Based on the 1mtpa MOP production capacity scenario, the total mainstream of the plant would be divided into two to three production lines, which leads to a plant investment splitting. For a solution mining brine field and a sylvinite brine processing plant, both can be constructed and installed in a modular system.

**2.2 Chelkarskaya Potash Deposit**

The Chelkarskaya Potash Deposit covers an area of approximately 779km<sup>2</sup> and is located in the Terektinsskiy district, in the western region of the Republic of Kazakhstan. Previous work by Soviet geologists in the 1950s to define the mineralisation has included drilling of approximately 600 drill holes at depths ranging between 250 metres to 1,200 metres on grid spacing varying between 1,000m x 1,000m to 200m x 200m, chemical analysis of drill samples, seismic surveying and hydrological studies. Of the approximately 600 drill holes, there are:

- 66 hydrogeological drill holes
- 215 holes up to a depth of 250-300 metres
- 121 holes up to a depth of 350-700 metres
- 76 holes up to a depth of 700-1,000 metres
- 74 holes up to a depth of 1,200 metres

The evaporate layers within the Chelkarskaya Potash Deposit have been subdivided into three zones, with the potash-bearing zones situated between the upper and lower Halite zones. The upper halite zone has a thickness of up to 150 metres and the lower Halite zone has a thickness of up to 1,500 metres. Mineralisation in the form of sylvinite, carnallite-sylvinite and polyhalite occurs at a depth of approximately 300-700 metres below the surface.

**Table 5: Estimated Target Range for Chelkarskaya Deposit**

Deposit Type	Boron Oxide (B <sub>2</sub> O <sub>3</sub> )		Potassium Oxide (K <sub>2</sub> O)		Magnesium Oxide (MgO)	
	Deposit Content (mt)	grade (%)	Deposit Content (mt)	grade (%)	Deposit Content (mt)	grade (%)
Borate	1,059-1,078	2.5% - 3.5%				
Sylvinite			1,558-1,567	26% - 30%		
Carnallite			4,440-4,453	7% - 8%		
Bischofite					94 - 96	14% - 16%
Kiaserite					8.9 - 9	16% - 18%
<b>TOTALS</b>	<b>1,059 - 1,078</b>		<b>5,998 - 6,020</b>		<b>102.9 - 105</b>	

Source: FMJ

### **2.2.1 Surrounding Infrastructure**

The Chelkarskaya Potash Deposit is situated 98 kilometres south of the regional city of Uralsk. Uralsk (or 'Oral') is the capital of the West Kazakhstan Province and has an estimated population of 350,000. It is located on the western side of the Ural River.

Uralsk is an agricultural and industrial centre, with an ample workforce (including oil & gas workers, mechanics and construction workers) and is serviced by an international airport (Ak Zhol Airport). Uralsk has thermal power plants that supply power to the Chelkarskaya deposit, in addition to the Russian thermal plants.

In addition, it has a well-developed railway system that links Uralsk to Europe and China and is one of the major entry points for rail traffic from Europe to Siberia, servicing the many new oil fields in the Caspian basin and the industrial cities of the southern Urals.

### **2.2.2 Current Activities**

Bates Potash Co. has commenced an 11-hole core drilling program as a follow up to the earlier drilling undertaken in the 1950s. In addition, further diamond core drilling and seismic surveying is planned to confirm the earlier drilling and as part of the JORC reporting standard.

Core drilling is being done on an incline, in order to give a better indication of the thickness of the mineralisation. In comparison, the earlier drilling was mostly vertical and completed on a NE-SW orientation lines, ranging from 1-2 kilometres apart, with later drilling completed in closer spacing of 500m x 100m. One drill hole has been completed, two drill holes are in progress; however operations at present have been suspended due to rig breakdown and adverse weather conditions.

To date, 487 drill core holes have been completed (by the Soviets) at depths ranging from 250 metres to 1,200 metres, although more drilling is needed to advance FMJ's understanding of the mineralisation. Approximately 300 samples have been sent to a laboratory in Kazakhstan for analysis and FMJ are presently awaiting feedback. In addition, 30 samples were sent to Ercosplan's laboratory in Germany. Ercosplan have confirmed the presence of sylvinite and carnalite mineralisation in the 30 samples.

## **2.3 Ercosplan: Global Potash Experts**

FMJ has engaged the services of German based global potash experts Ercosplan to undertake technical analyses and prepare a JORC report estimate for the Zhilyanskoe and Chelkarskaya deposits.

Ercosplan is an independent specialist consulting and engineering group and a world-recognised leader with over 50 years experience in potash exploration techniques and potash mining. Their experience lies in all areas of the potash mining and development life cycle, from due diligence, feasibility and exploration through to project development, extraction techniques, processing design and technology. Their clients include some of the world's largest potash producing companies, including the 2nd and 4th largest producers; Uralkali and K+S Group.

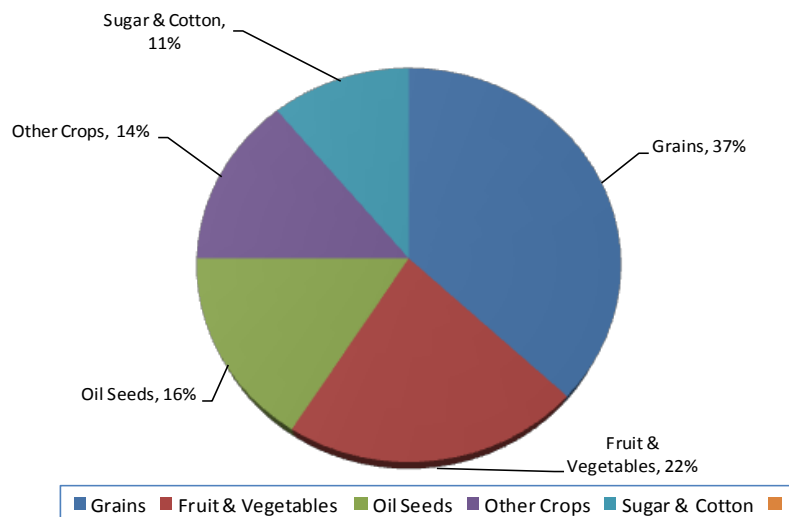
### **3. POTASH INDUSTRY FUNDAMENTALS**

#### **3.1 Overview**

Potash describes several types of potassium minerals. The most important mineral is potassium chloride (KCl), the mineral sylvite; other minerals include sylvinite or potassium chloride, carnallite or potassium magnesium chloride and polyhalite. Approximately 95% of potash production is used in the agriculture fertiliser industry to increase crop yields. It is a source of soluble potassium, a necessary plant nutrient.

There are no substitutes for potassium as an essential plant nutrient and an essential nutritional requirement for animals and humans. Manure and glauconite (greensand) are low-potassium-content sources that can be profitably transported only short distances to the crop fields.

**Figure 3: World Potash Use by Crop**



**Source: IFA, World Bank**

#### **3.2 Potash Deposits and Production**

Potash deposits are derived from evaporated sea water. They occur in beds of sediment at only a few places in the world. The largest deposit, in Saskatchewan, Canada is 2.7 to 23.5 metres thick and found at depths of 1,000 to 10,000 metres. Solution mining methods are used to extract potash at greater depths. Conventional underground dry-shaft mining methods are used in mines as great as 1,100 metres.

The ore is extracted from potash deposits by electrically operated mining machines and conveyed to the surface, where it is crushed. Using a flotation process, salt and clay particles are removed, the brine solution is dried, and the potash is sized by screening. The resultant coarse grade product is then ready for distribution. Fine particles remaining from the screening process are compacted into sheets that are crushed and screened to particle sizes suitable for blending.

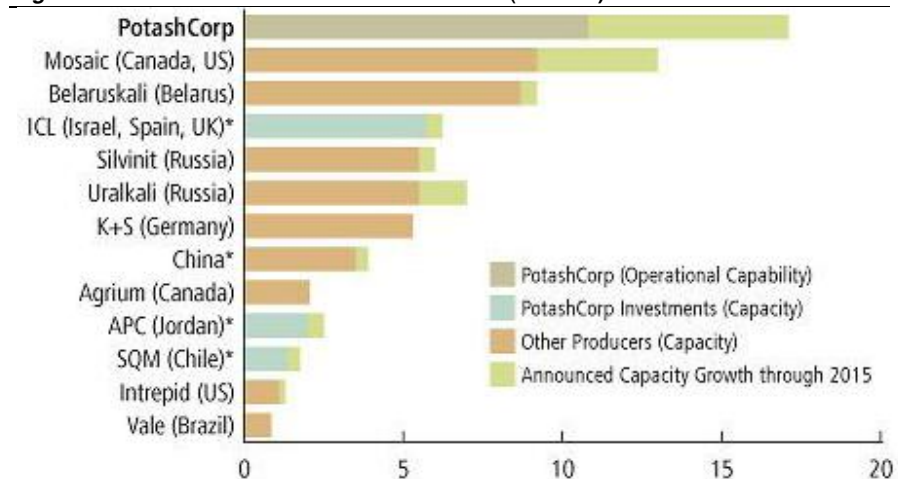
KCl ore deposits are located deep underground and are mined using conventional mining techniques or solution mining for the deeper mineralisations.

In 2009, US potash production was at its lowest point since 1943, and consumption was at the lowest point since 1962. World production was at its lowest level since 1993. In 2010, world potash markets began to recover after potash sales had collapsed from the combined effects of the world economic downturn, high prices, and weak demand.

Although potash is used worldwide, only 12 countries and 13 companies have significant production, as the major barriers to production are time and cost. Potash Corporation estimate that, from the start of development, full operational capability of a 2mtpa mine in Saskatchewan would take at least seven years, assuming no major permitting or construction difficulties. The preliminary feasibility study phase could add several years.

High-quality, economically mineable reserves are geographically concentrated. Together, Canada, Russia and Belarus account for over two-thirds of world production capacity and more than 80% of estimated known reserves.

**Figure 4: Potash Producer Profile – 2009 to 2015 (KCI - mt)**



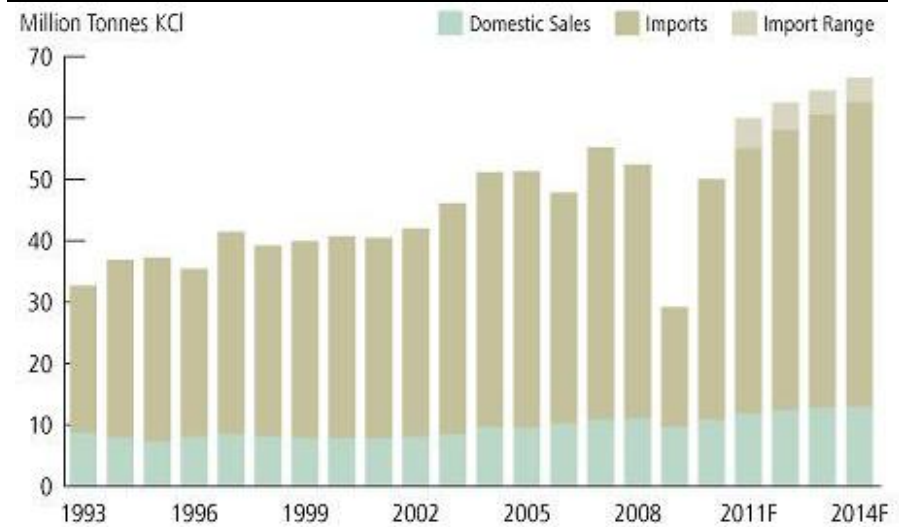
Source: Potash Corp

### 3.3 Demand & Supply Factors

Potash demand has historically trended strongly upward, with the potash market currently being buoyed by higher global demand for potassium-based fertilisers and low stockpiles. Potash spot price increases in both domestic and offshore markets are being realised, with Potash Corporation seeing US\$590/t prices for October deliveries in the US and US\$550/t prices in Brazil.

In addition, Belarussian Potash Company (BPC), a major global fertiliser supplier, has successfully raised prices in Brazil and SE Asia twice this year. In July 2011, BOC raised the spot price for its fertilisers marketed in Brazil to US\$550/t from US\$520/t.

**Figure 5: World Potash Shipments (KCl - mt)**



Source: Potash Corp

Globally, potash demand has historically trended upwards and is currently most evident in China, India, SE Asia and Brazil, where consumption has trended strongly upward since 1993.

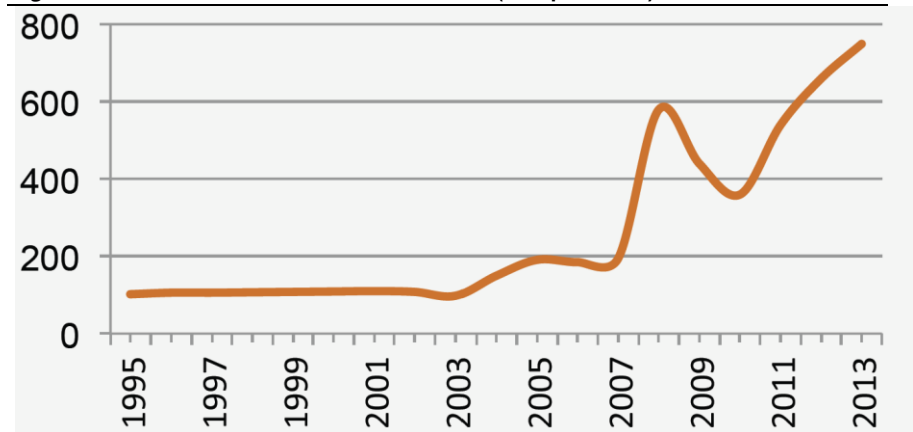
Demand has been supported by rising population and demand in developing countries for more and better-quality food. Over the next 5-10 years, the main driver of growth in these markets is likely to be population growth, the increase of the middle class' diet requirements and the need to produce more from potassium-deficient soils.

According to IFA, world potash effective supply is projected to grow from 38.6 Mt K<sub>2</sub>O in 2010 to 52.3 Mt K<sub>2</sub>O in 2015, supported by planned capacity increased from approximately 30 potash-related projects planned for completion between 2011 and 2015.

Also, IFA predict that global potash demand would grow by 20% between 2010 and 2015 and that the expected supply/demand balance might tighten in 2011 and 2012 to a potential surplus of 6-7mtpa K<sub>2</sub>O from 2013 to 2015 if demand expands above the current forecast growth rate, or if there are delays from increases in potash capacity.

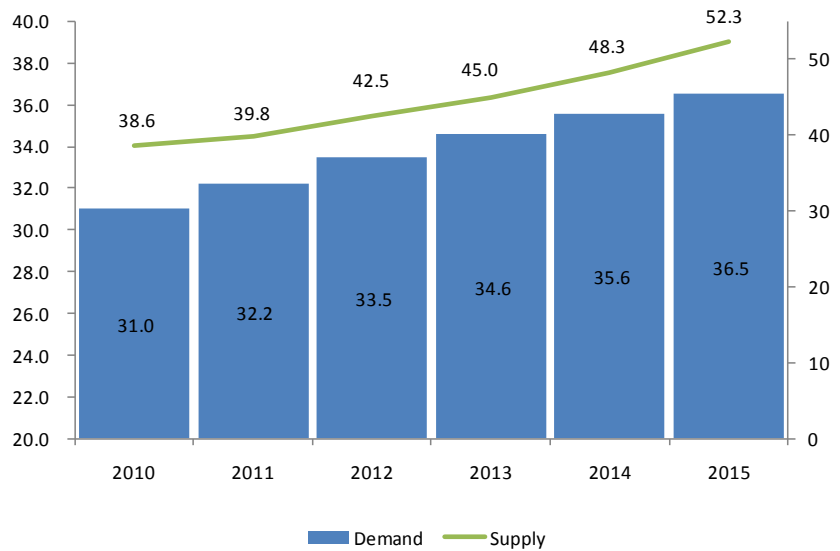
Potash spot prices are forecast to rise to US\$600/t (cost and freight) by late 2011, underpinned by strong demand in most of Asia and Latin America, low stockpiles and successful price increases already implemented this year. According to the Scotiabank's Commodity Price Index, spot potash prices for standard grade (FOB) rose from US\$445/t in May 2011 to US\$481/t in June and US\$490/t in July.

**Figure 6: Historical and Forecast Potash Prices (US\$ per tonne)**



Source: IFA

**Figure 7: World Potash Supply/Demand Balance (Mt K<sub>2</sub>O)**



Source: IFA

## **4. KAZAKHSTAN LOOMING AS NEXT BIG SUPPLIER OF POTASH TO CHINA**

### **4.1 Overview of Kazakhstan**

The Republic of Kazakhstan is a transcontinental country in Central Asia and Eastern Europe with vast mineral resources and stable relationships with all of its neighbouring countries. It borders the northwest part of China and a small part of the Ural River to the west. Kazakhstan is ranked as the 9<sup>th</sup> largest country in the world and is also the world's largest landlocked country. Kazakhstan declared independence from the USSR on 16 December 1991 and was the last of the Soviet republics to declare independence. Administratively, Kazakhstan is divided into 14 provinces, or oblasts, and three cities.

According to the CIA World Factbook, Kazakhstan has a population of ~15.5 million (as at July 2011). Ethnically, the country is diverse, with the Kazakhs making up over half the population, the Russians comprising just over a quarter, and smaller minorities of Uzbeks, Koreans, Chechens and others accounting for the rest.

Kazakh is the 1<sup>st</sup> official language, while Russian is the 2<sup>nd</sup> official language and is used in everyday business and is spoken by most Kazakhs.

#### **Recent history of rapid economic growth**

Since 2000, Kazakhstan has recorded rapid economic growth, averaging about 8% in the decade since 2000 as a result of major foreign investment in the Caspian oil sector. By 2010, per capita GDP was estimated to have grown more than tenfold since the mid-nineties. Total GDP as at 2010 was estimated at US\$196.4 billion, compared with \$183.6 billion as at 2009.

In 2002, Kazakhstan became the first country in the former Soviet Union to receive an investment-grade credit rating, and from 2000 through 2007, Kazakhstan's economy grew more than 9% per year. Extractive industries, particularly hydrocarbons and mining, have been the engines of this growth. Cognisant that its economy suffers from an overreliance on oil and extractive industries, the Kazakhstan Government has embarked on an ambitious diversification program, aimed at developing targeted sectors like transport, pharmaceuticals, telecommunications, petrochemicals and food processing<sup>3</sup>.

#### **Mining investment environment highly favourable**

The mining industry in Kazakhstan is well supported by the Kazakhstan Government. Kazakhstan has an established mining history and large deposits of natural gas, iron ore, manganese, chrome, lead, zinc, copper, titanium, bauxite, gold, silver, phosphates, sulfur, uranium, and nickel. In addition, a pipeline was built in the 1990s to connect the nation's oil fields to the Black Sea and an oil pipeline to China opened in late 2005.

The Kazakh Hills have important mineral resources. Coal is mined at Qaraghandy and Ekibastuz, and there are major oil fields in the Emba basin, the Mangyshlak Peninsula, and at Karachaganak (near the

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<sup>3</sup> Source: CIA World Factbook

Russian border NE of Aksai). Kazakhstan is also the world's largest producer of uranium.

Kazakhstan's industries are located along the margins of the country. Steel, agricultural and mining machinery, electric motors, construction materials, and fertilisers are among the manufactured goods. The main exports are oil and petroleum products, ferrous metals, chemicals, machinery, grain, wool, meat, and coal. Imports include machinery and equipment, metal products, and foodstuffs. The main trading partners are Russia, China, and Germany.

### Stable political environment

Kazakhstan is officially a presidential republic. The first and only president is Nursultan Nazarbayev, who is popular amongst ordinary Kazakhs having been widely credited for the country's impressive economic growth in the first decade of the new millennium.

The Prime Minister chairs the Cabinet of Ministers and serves as Kazakhstan's head of government. There are three deputy prime ministers and 16 ministers in the Cabinet. Karim Massimov has served as the Prime Minister since January 10, 2007.

In April 2011, President Nazarbayev was re-elected to a five-year term as Kazakhstan's President, having received over 95% of the vote with close to 90% of registered voters participating.

**Figure 8: Proximity of Kazakhstan to China**



Source: FMJ and Alpha Securities

## 4.2 China the Main Customer for Kazakhstan Potash

In recent times, Kazakhstan has strengthened its geopolitical relationship with China. In September 2010, Kazakh and Chinese officials marked the opening of a new free-trade zone on the border between Kazakhstan and China as trade is set to increase between the two nations. China is looking to export goods further west along a new highway across Kazakhstan.

**There are a couple of factors that would make Kazakhstan an attractive exporter of potash to China.**

Firstly, China are looking to expand their domestic sources of potash, having spent ¥50 million in 2010 looking for potash in China and expected to spend ¥100 million annually through to 2015<sup>4</sup>.

Secondly, China already source potash from Belorussia and Russia and the emergence of Kazakhstan as another supplier of potash in the Eastern European region would provide future producers in Kazakhstan with an opportunity to supply the China market, given that Kazakhstan deposits have the potential to produce both MOP and SOP and Kazakhstan's proximity to, and established rail infrastructure into China. This is in contrast to Canada, where many of the deposits are located in the centre of the continent and require product to be delivered across distances of around 2,700 kilometres prior to shipment to China.

## 5. DUE DILIGENCE & PRE-JORC REPORT LOOK PROMISING

### 5.1 Progressing Towards a JORC Report for Zhilyanskoe

A preliminary non-JORC assessment on the Zhilyanskoe Deposit is due in September 2011. The assessment will be completed by Ercosplan, who will advise on a drilling program to confirm the earlier Soviet drilling so as to confirm structure, stratigraphy and potash mineralisation.

Ercosplan's preliminary assessment is that the Zhilyanskoe deposit contains a resource potential comparable to other worldwide potash projects under operation and contains a resource larger than the estimated target from previous Soviet drilling of 670mt of potash ore.

### 5.2 Expected Product Quality

There are two types of potash products. The standard potash product currently used by the fertiliser industry is Muriate of Potash (MOP), while the premium product is Sulphate of Potash (SOP).

MOP is a coarse or granular fertiliser grade of potassium chloride, for use where potassium is required. SOP is a granular potassium sulfate fertiliser for use where MOP is unsuitable on account of its chloride content, for example where crops sensitive to chloride are grown, or the soil or irrigation water is saline.

While MOP has long been the standard and preferred product, there has been a trend towards SOP over the last few years, especially as SOP does not contain chloride, which can be harmful to some crops

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<sup>4</sup> According to the Ministry of Land and Resources in China

including tobacco and some fruits and vegetables. Crops that are less sensitive may still require SOP for optimal growth if the soil accumulates chloride from irrigation water.

Most of the greenfield projects worldwide are for MOP, with few worldwide producers of SOP. In addition, there are a small number of projects (either at the greenfield or production stage) that are producing both MOP and SOP. One of the reasons for this is that production of an SOP product requires around 20-25% additional CAPEX (above production of an MOP product).

Ercosplan believe that the Zhilyanskoe and Chelkarskaya deposits have the potential to produce both MOP and SOP, given the presence of polyhalite. Projects that focus on the production of an MOP product do so because of the presence of carnallite and sylvinite in the deposit structure; while the projects that focus on the production of an SOP product do so because of the presence of high quantities of polyhalite in the deposit structure.

This is not only the case for the Zhilyanskoe and Chelkarskaya deposits, but for Satimola, who are not yet producing any potash, but own the mining rights to a potash resource in the NW of Kazakhstan (about 3,000 kilometers from the Chinese border), from which it aims to produce 0.7-1.0mtpa by 2013 as well as a by-production of 100,000tpa of concentrates and boric acid feedstock.

The mine has a 6mtpa targeted production rate. Satimola, not yet producing any potash, has a deposit in western Kazakhstan. Drilling of the deposit so far has discovered a resource of more than 8.5 billion tons of potash, at a 10% potash (KCl) cut-off grade. Satimola believe that the deposit can be expanded from initial annual output of 0.7mtpa to 6mtpa within a decade at an estimated cost of US\$3 billion.

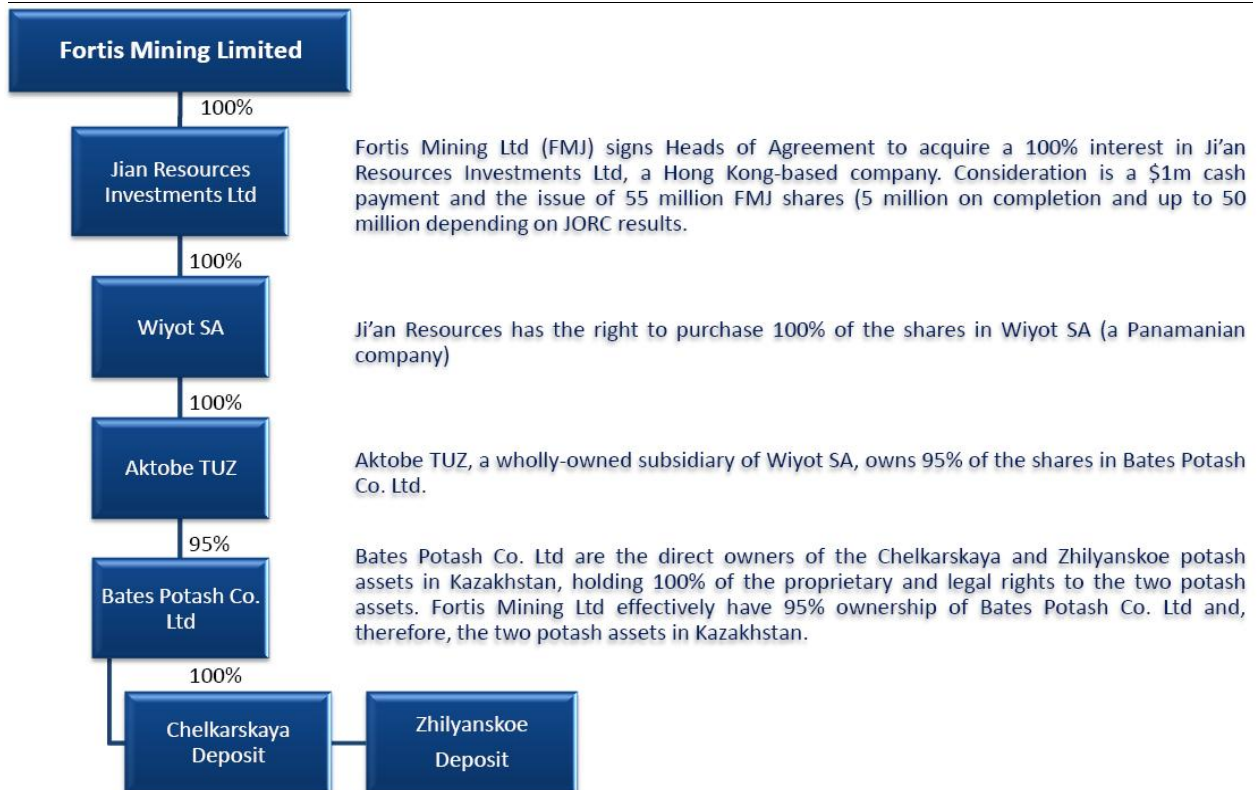
## 6. HIGHLY FAVOURABLE DEAL STRUCTURE

FMJ is acquiring the two assets indirectly, via a revised deal structure (outlined in Figure 9) that will result in FMJ owning 95% of the two assets.

The revised deal structure remains the subject of government and regulatory approvals, as well as shareholder approval. A Shareholder's General Meeting is scheduled on 30 September 2011, with completion of the proposed transactions scheduled to occur by 7 October 2011. The revised deal structure significantly benefits FMJ in three ways:

1. FMJ now propose to take a 95% direct ownership of the two assets (compared to 75% under the previous deal structure).
2. Less capital is required in the short term; with the timeframe to complete the transaction pushed out into the medium-to-longer term. The earlier deal structure required FMJ to pay two installments of US\$24 million and US\$236 million, respectively, over the course of this year. FMJ had entered into agreements with institutional investors to provide funding that would have allowed FMJ to make the two installment payments.
3. The revised deal is essentially an earn-out that reduces the risk profile for both FMJ and its financial supporters, as it ensures that:
  - i) The capital outlaid by the company's financial supporters and
  - ii) The number of shares issued by the company as consideration (i.e. the level of dilution in its share structure),
 is in accordance with the level of reported JORC results.

Figure 9: Deal Structure for Kazakhstan Assets



The acquisition process comprises of two parts. Phase 1 involves the acquisition of a 100% shareholding in a Hong-Kong-based company called Ji'an Resources Investments Ltd, via the issue of up to 55 million FMJ shares and a \$1 million cash payment. Phase 2 of the acquisition involves the acquisition of Wiyot SA for US\$260 million payable in two installments; a cash payment of US\$30 million and up to US\$230 million in Convertible notes.

**In relation to Phase 1 of the acquisition:**

- The \$1 million cash payment is made in equal installments, the first as a non-refundable deposit<sup>5</sup> and the remaining payment to be made on completion of the acquisition.
- Five million of the shares to be issued will be issued on completion of the acquisition and up to 50 million shares will be issued based on reported JORC results for both the Zhilyanskoe and Chelkarskaya Potash Deposits. The number of shares to be issued is linked to the level of JORC results reported<sup>6</sup>, as illustrated in Table 6. FMJ only issue 50 million shares if the reported JORC results exceed three billion tonnes.

**In relation to Phase 2 of the acquisition:**

- Ji'an Resources have already paid \$17 million of the \$30 million payable to Wiyot SA, with the balance to be paid by late August 2011.
- 107.5 million notes (valued at \$US230 million as at the AUD:USD exchange rate as at 21 July 2011) may be converted subject to reported JORC results as outlined in Table 7. The notes have a maturity date of 36 months but may be extended for a further 24 months if a JORC report has not been completed. FMJ only issue 107.5 million shares if the reported JORC results exceed four billion tonnes.

**Table 6: JORC Reported Results & No. of Shares to be Issued (Payment to Ji'an Resources)**

JORC Reported Results	No. of shares Issued (m)
Less than 0.5bt	0
More than 0.5bt; Less than 1bt	15
More than 1bt; Less than 1.5bt	31
More than 1.5bt; Less than 2bt	38
More than 2bt; Less than 3bt	45
More than 3bt	50

Source: ASX Announcement 27 July 2011

**Table 7: JORC Reported Results & No. of notes to be Issued (Payment to Wiyot SA)**

JORC Reported Results	No. of Notes Issued (m)
Less than 0.5bt	0
More than 0.5bt; Less than 1bt	40
More than 1bt; Less than 1.5bt	55
More than 1.5bt; Less than 2bt	70
More than 2bt; Less than 2.5bt	80.5
More than 2.5bt; Less than 3bt	90.75
More than 3bt; Less than 3.5bt	97.5
More than 3.5bt; Less than 4bt	104
More than 4bt	107.5

Source: ASX Announcement 27 July 2011

<sup>5</sup> Already paid (within five days following ASX announcement on 27 July 2011)

<sup>6</sup> For sylvinitic and carnallitic ore types, a lower cut-off grade of 12% K<sub>2</sub>O equivalent will be used to determine the tonnage of resources and for polyhalite, a lower cut-off grade of 8% K<sub>2</sub>O equivalent will be used. The cut-off grades may be varied by mutual consent.

## **7. FUNDING IN PLACE**

### **Funding Commitments Secured Following Previous Deal Structure Still Applicable**

FMJ had secured investments from institutional investors in order to fund the remaining commitments under the previous deal structure. In May 2011, the company entered into agreements with a Hong Kong-based institutional investor (Topsun Holdings (International) Co. Ltd) and a Chinese-based institutional investor (Yubang Industry Development Ltd) to raise \$236 million from the issue of shares and convertible notes, comprising \$224 million from the issue of shares and convertible notes in FMJ; as well as separate agreements with private Hong Kong-based investors to raise a further \$12 million from the issue of convertible notes in FMJ.

Importantly, the above-mentioned institutional investors are supportive of the revised deal structure, as their exposure to FMJ now varies according to the reported JORC report, as opposed to being a fixed funding commitment. In addition, the same institutional investors are expected to support FMJ with its funding requirements (estimate to be \$40 million to \$60 million) over the next 12-18 months. The required funds will be used to:

- i) Complete the \$13 million payment to Wiyot SA required by the end of this month to fund one part of the transaction,
- ii) Continue exploration activities at the two potash deposits, in particular Zhilyanskoe and
- iii) Fund working capital requirements.

Other available funding includes a \$140 million equity facility agreement entered into with the CITEC GEM global investment fund in April 2011. As at the time of writing, FMJ had not drawn down any funds from this equity facility.

## 8. BOARD OF DIRECTORS

DIRECTOR	INTEREST IN FMJ	BACKGROUND
<b>Jitto Arulampalam</b> <i>Exec Chairman</i>	3m ord shares (escrowed until 15 Dec 2012); 3m unlisted options @ 30c, exp 27 Oct 2013	<p>Mr Arulampalam has extensive experience in corporate restructuring. He spent more than eight years with Westpac Banking Corporation in several key operational and strategic roles, prior to accepting the CEO position at Newsnet in 2005, where he assisted in the successful restructuring of the company and its subsequent positioning for an IPO.</p> <p>Mr Arulampalam is currently a non-executive Chairman of two further ASX-listed companies; Great Western Exploration Ltd, a gold and nickel exploration company and Motopia Ltd, which specialises in mobile marketing, platforms and distribution.</p>
<b>Frank Cannavo</b> <i>Exec Director</i>	3.14m ord shares (3m escrowed until 15 Dec 2012); 3m unlisted options @ 30c, exp 27 Oct 2013	<p>Mr Cannavo is an experienced public company director with significant business and investment experience with many exploration companies in the mining industry. He has been instrumental in assisting companies achieve their growth strategies.</p> <p>Mr Cannavo has extensive experience in creating solid, workable business strategies, capital raisings, investment, acquisitions and IPOs. He is also a non-executive director of ASX-listed company Great Western Exploration Ltd.</p>
<b>Paul Bitetto</b> <i>Non Exec Director</i>	50,000 ord shares; 0.5m unlisted options @ 30c, exp 27 Oct 2013	<p>Mr Bitetto has experience in a range of industries including process and electronics engineering, medical devices, renewable energy and finance.</p> <p>Mr Bitetto is also a director of Smart Capital Funds Pty Ltd, a partner in a family of funds merchant banking platform in Europe, which is a global network of independent entrepreneurs and structured asset finance professionals that focus on Development and Project Finance Investment across a number of sectors.</p>
<b>Terry Grammer</b> <i>Non Exec Director</i>	0.5m unlisted options @ 30c, exp 27 Oct 2013;	<p>Mr Grammer is a Geologist with over 35 years experience in mining and mineral exploration with extensive experience in Australia, Africa, East Asia &amp; New Zealand.</p> <p>He has extensive professional experience in exploration of gold, base metals and some industrial minerals. He was a founder and promoter in 1999 of the successful nickel miner Western Areas NL, and was exploration manager of the company from 2000 until retiring in 2004.</p> <p>Since his retirement from active geology in 2004, he has been involved company promotion, company financing and project acquisition.</p> <p>He currently serves as executive Chairman of ASX-listed company South Boulder Mines Ltd, an exploration company focused on gold, nickel and fertiliser prospects.</p>
<b>Terence Wong</b> <i>Non Exec Director</i>	NIL	<p>Mr Wong's has extensive Asian business experience, with his past experience including a directorship of a Hong Kong-listed company and over 18 years' experience in management. Mr Wong was instrumental in assisting Fortis Mining to secure the current Kazakhstan potash assets.</p>

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