

# Matamec Announces Results of Positive Feasibility Study for Kipawa JV Heavy Rare Earth Project

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MONTREAL, QUEBEC--(Marketwire - Sep 4, 2013) - **Matamec Explorations Inc.** ("Matamec" or the "Company") (TSX VENTURE:MAT)(OTCQX:MHREF) is pleased to announce the positive results of the Feasibility Study ("FS") for the Kipawa Joint Venture ("JV") Heavy Rare Earth Elements Project ("HREE") ("the Project"). The FS was prepared by Roche Ltd. and GENIVAR Inc. and supported by SGS Geostat and Golder Associates Ltd. FS results show that the Project is technically and economically feasible. An analyst's conference call will be held today at 10:00 a.m. ET. All numbers are reported in Canadian dollars unless otherwise stated.

The goal of the Kipawa JV is to supply Toyota Tsusho Corp. ("TTC") with heavy rare earths such as dysprosium which is indispensable for hybrid and electric vehicles. The JV partners are presently in discussions and evaluating next steps to advance the project.

KIPAWA HREE PROJECT - FS FINANCIAL MODEL HIGHLIGHTS	
Net Present Value (NPV <sub>10%</sub> ) (Pre-Tax)	\$260 million
Internal Rate of Return (IRR) (Pre-Tax)	21.6%
Revenue	\$2.55 billion
EBITDA	\$1.37 billion
CAPEX (initial)	\$374 million
OPEX (annual)	\$78.5 million
Payback Period (Pre-Tax)	3.9 years
Life of Mine (LOM)	15.2 years
Concentrate Production (annual avg.)	3,653 tonnes

- The Company is committed to bringing the IRR above 25% by continuing to reduce the required CAPEX and OPEX, while optimizing the overall recovery rate.

"Matamec has achieved a major milestone today in its 16-year history as the feasibility study shows that the Kipawa project is technically and economically feasible," said Andre Gauthier, President and CEO of Matamec. "The Company has strategically developed a solid business plan which includes a moderate CAPEX and a manageable scale of annual tonnage while ensuring the required environmental standards are met. With the completion of the feasibility study results, we will continue to work with the citizens of the Temiscamingue area to present the economic benefits this project will create for the region. Matamec is committed to building a sustainable organization with a particular focus on green energy applications."

ECONOMIC SUMMARY OF 2012 PEA VERSUS 2013 FEASIBILITY STUDY RESULTS			
Metric	PEA Quantity March 2012	FS Quantity August 2013	Unit
Total Mine Revenue	2.822	2.548	\$ billion
EBITDA	1.68	1.37	\$ billion
Pre-production Capital Expenditures (initial)	315.8	374.4	\$ million
Sustaining Capital Expenditures (incl. rehab.)	38.2	37.7	\$ million
Additional Working Capital Requirement	9.9	11.2	\$ million
Mine Rehabilitation Costs	7.5	23.1	\$ million
Total Operating Costs	1.142	1.181	\$ billion
Total Before-tax Cash Flow	1.335	960	\$ million
Total Basket Price after discount	42.08	50.12	\$ /kg
HREO* Basket Price - concentrate	-	39.79	\$ /kg
LREO** Basket Price - concentrate	-	10.33	\$ /kg
Economics (Pre-Tax)			

IRR	36.9	21.6	%
NPV @ (PEA 5%) (FS 6%)	811	450	\$ million
NPV @ 8%	606	344	\$ million
NPV @ 10%	500	260	\$ million
NPV @ 12%	-	191	\$ million
Payback Period	2.4	3.88	years
Economics (After-Tax)			
IRR	-	16.8	%
NPV @ (PEA 5%) (FS 6%)	-	257	\$ million
NPV @ 8%	-	185	\$ million
NPV @ 10%	-	128	\$ million
NPV @ 12%	-	81	\$ million
Payback Period	-	4.12	years
Mining			
Mineral reserves	19.00	19.77	millions of tonnes
Production rate (ore)	4,110	3,650	tonnes per day
Life of Mine	12.9	15.2	years
Total CAPEX (based on 3,653 tpa)	86.50	102.57	\$ /kg (+18%)
Total OPEX (based on 3,653 tpa)	24.44	21.53	\$ /kg (-13%)
Total Operating Costs	24.44	21.53	\$ /kg
General and Administration	8.84	11.6	\$ million per year
Mining	16.61	18.1	\$ million per year
Process	58.35	48.7	\$ million per year
Total Recovery Rate***	81	70	%
Heavy average	-	74	%
Light average	-	65	%

\*HREO - Heavy Rare Earth Oxide (Sm, Eu, Gd, Er, Tb, Dy, Ho, Yb, Tm, Lu and Y).

\*\*LREO - Light Rare Earth Oxide (Ce, La, Nd and Pr).

\*\*\*Samples used for PEA represent only the Western part of the deposit whereas FS samples represent the whole deposit.

KIPAWA JV FEASIBILITY STUDY RESULTS HIGHLIGHTS
<b>Environmental and Permitting Process</b> A complete environmental baseline study will be finalized by fall 2013; Environmental and Social Impact Assessment is subjected to the Canadian Environmental Assessment Agency, which will be available Q1 2014. The project notice to begin the Federal environmental permitting process was submitted before the end of Q1 2013 and the official application for the Certificate of Authorization to the Provincial "Ministère du Développement durable, de l'Environnement, de la Faune et des Parcs" (MDDEFP) is planned to be submitted by winter 2014.
<b>Social Acceptability</b> Since 2009, Matamec has been committed to engaging the Temiscamingue communities to include and take into consideration their concerns in the development of the Project.
<b>Mineral Resource Estimates</b> Total measured and indicated resource now stands at 23.857 million tonnes at 0.407% Total Rare Earth Oxide (TREO) representing 88% of total resource.
<b>Mineral Reserve</b> Mine - total projected ore tonnage is 19.8 million tonnes with a TREO diluted grade of 0.4105%.
<b>Mining</b> Projected to produce an avg. 1.33 million tonnes of ore per year (3,650 tonnes per day) and avg. stripping ratio of 0.94 with 15.2 years mine life (excluding pre-production period).
<b>Metallurgical Plant Site</b> The final products of the process plant will be a chloride concentrate of HREE and a concentrate of LREO. FS results show a lower recovery compared to the PEA study, but it also shows that the process is working for the entire ore body, and highlights where the process has to be optimized in order to improve the recovery. From the previous results, a new Master Composite of ore is ready for further piloting planned for fall 2013 to improve the process.

PROJECT DEVELOPMENT - PLANNED NEXT STEPS	
Milestone	Timeline
Second Pilot Plant	Fall 2013
Environmental and Social Impact Study	Q1 2014
Environmental Process - Federal and Provincial	Now to Q1 2015
Development of off-take agreement	2014
Financing CAPEX Process	2014
Detailed Engineering	2014 to mid-2015
Construction of Mine	Q1 2015 to Q4 2016
Start-up of Mining Operation	Q4 2016

Mr. Gauthier commented, "The Company will work with government authorities to ensure that all required

areas are covered to receive environmental permits. We have assembled a highly qualified team who are focused on identifying every risk possible to ensure the environment is given the utmost respect and protected for future generations. The Company will continue its outreach efforts with the community which we have been developing over the past four years to create greater comprehension and visibility for the project. We welcome and value the concerns of the citizens of the Temiscamingue region and look forward to working together in building a sustainable plan."

### **Additional Upside Opportunities for the Kipawa Mine Project**

Matamec has identified a number of opportunities that have the potential to add additional value to the project.

1. The second metallurgical pilot plant testwork should be conducted in addition to the bench scale and first pilot plant testwork conducted up to now. This second pilot plant testwork will be important to confirm, prior to detailed engineering, final sizing of some process equipment. For the time being overcapacities have been built into the design, but it could be reduced during the detailed engineering, pending the pilot plant results. The second pilot plant will also help to confirm improvements in regards of recovery rates since conservative numbers were used for the FS.
2. It would be significant to consider some testworks to separate individual Rare Earths (RE) to increase the value of the project.
3. Depending on the RE market conditions, it will be important to continue the evaluation of other LREE concentrates and HREE concentrates production scenarios in order to optimize the IRR before detailed engineering.
4. In the future and when the project is well in progress, testwork can be performed to evaluate the possibility to recovering zirconium and other minor metal by-products in the RE mineralized zones and in the syenite body.
5. Mineral resources on the Kipawa deposit can be increased by verification of lateral and down dip extensions by drilling.
6. From the last results in the FS it is known that there is the potential room for improvement in the open pit design when entering the detailed engineering phase.

Considering the above mentioned points, the Company strongly believes it can achieve greater success with bringing the IRR above 25% by only slightly reducing the CAPEX and OPEX while improving the recovery.

### **Review of the FS Project Development Model**

The FS covers all aspects of project development, including mining, mineral concentration, hydrometallurgical processing and separation of heavy and light rare earth as well as all related infrastructure. Roche developed its capital and operating cost estimates from first principle capital quotations, estimates from suppliers, manufacturers, contractors and experience based on comparable operations in Canada and abroad. The capital and operating cost estimates were completed to a level consistent with an intended level of accuracy of  $\pm 15\%$ .

### **Project Location**

The Kipawa deposit is located on the Zeus Property (see map below), 50 km east of the town of Temiscaming and 140 km south of Rouyn-Noranda, Quebec. All claims are in good standing. Resources are not subject to any third party royalties.

To view the map of the Kipawa deposit, kindly click on the following link:  
<http://media3.marketwire.com/docs/kipawa0904.jpg>.

### **General Project Infrastructure Description**

About 50 km of the Maniwaki road will be used to access the Kipawa Project and share with public and other logging companies. Then a 4 km road will be built from the Maniwaki road to reach the process plant site.

The Kipawa mining site will consist of the open pit mine, a waste dump, a low grade stockpile and a high

grade truck loading facility. The mine equipment maintenance facility will also be located at the mine site.

The metallurgical process plant site will be located south of the mine site and south of the Kipawa River and a 10 km haul road will be built to link the two sites. The metallurgical site will consist of the ore process plant which will combine the crushing, grinding, magnetic separation and hydrometallurgical circuits. At this site, there will also be the administration and service building, a warehouse and the assay laboratory.

There will be two dewatered tailing storage facilities; one storage facility will be for the rejects of the magnetic separation process located just by the process plant and one other storage facility for the hydrometallurgical tailing located about 4 km south of the process plant.

The employee's parking and the main electrical sub-station will be located near the town of Temiscaming. In the present study it is planned to build a 44kV power line along the Maniwaki logging road to provide power to the mining and processing facilities.

### **Geology, Mineralogy and Mineralization**

The ore deposit is defined by three enriched horizons within the "Syenite Complex", which contains the fifteen rare earths elements present. The Kipawa Alkaline Intrusive Complex consists of peralkaline syenite and granite on average is less than 200 metres thick. It's an elongated, V-shaped body folded around a major southeast plunging anticline. The west limb of this fold includes the Kipawa deposit, which is entirely included within the lower syenite layer of the complex. This mineralized syenite layer is a concordant sheet 50 to 80 meters thick that gently dips 20 to 30 degrees to the south-west. The deposit outcrops over 1.4 km along strike with an additional outcrop discovered 220 m to the north-west during the summer 2011 exploration campaign.

Rare earth-yttrium-zirconium mineralization at the Kipawa deposit is contained in medium grained silicate minerals. Grains are distinct and generally well crystallized. Three minerals are presently considered economical in the Kipawa deposit, namely eudialyte (a sodic silicate), yttrio-titanite/mosandrite (titanite silicate) and britholite (calcic silico-phosphate) for the rare-earth and yttrium, with minor amounts of apatite also present. Vlasovite/gittensite (sodic silicates) and eudialyte (sodic silicate) are also considered for a potential zirconium by-product.

Three vertically-stacked mineralized zones have been defined based on their spatial characteristics: the Eudialyte (60% of existing rare earth-yttrium resources), Mosandrite (25% of existing rare earth-yttrium resources) and Britholite (15% of existing rare earth-yttrium resources) zones. Despite their name, the different zones contain a mix of the potentially economic minerals. The name simply indicates the dominant REE mineral present in that zone. The main Eudialyte zone, for example, consists of intermixed eudialyte (51%) and mosandrite/yttrio-titanite (39%) with trace britholite (10%). It sits near the top of the syenite body and is not associated with any large calco-silicate horizon. Note that all zones outcrop at surface.

The Kipawa deposit contains very low-levels of uranium and thorium in the main REE-Zr mineralization. Average values of Th (193 ppm, or 0.019%) and especially U (22 ppm, or 0.002%): though higher than in the surrounding rocks remains very low in the mineralized syenite portion of the Kipawa deposit. Initial results suggest that most of the thorium is contained in coarse-grained urano-thorite and ekanite crystals, while the uranium is disseminated within said urano-thorite and rare-earth minerals.

The terms "Mineral Resource" and "Mineral Reserve" are defined in the *CIM Definition Standards - For Mineral Resources and Mineral Reserves* adopted by the CIM council of the Canadian Institute of Mining, Metallurgy and Petroleum.

### **Mineral Resources**

The Kipawa Deposit resource are 10,478,000 tonnes at 0.46% TREO in the measured category, 13,379,000 tonnes at 0.36% TREO in the indicated category and 3,268,000 tonnes at 0.31% TREO in the inferred category. The total of measured and indicated resource now stands at 23,857,000 tonnes at 0.41% TREO representing 88% of the total resource. These results are at a 0.2% TREO cut-off and are not limited by an

open pit. The overall total tonnage is about 10% greater than the last resource calculation (see press releases dated June 30 and July 7, 2011).

The Kipawa deposit's mineral resource estimates were updated by SGS Geostat. The drilling done since the 2011 PEA (see press release dated January 30, 2011) totaling 14,293 m was included and permitted to outline some measured resources for the first time in the history of the project. The database now totals 293 drill holes totaling 24,571 m and 13 trenches totalling 631 m. Historical Unocal holes are not in the count and were not used for the estimates. The mineralized zones were interpreted on vertical sections and meshed into volumes as per industry standards. Ordinary Kriging was used to estimate the block model with block size set at 10 m x 5 m x 5 m. The measured and indicated resources required drill grids of 25 m and 50 m, respectively. Resources extrapolated beyond 30 m of those drill grids are considered inferred.

## Mineral Reserves

By using SGS Geostat model, the mineral reserve for this FS was prepared, estimated and supervised by Roche using a cut-off value of \$48.96/t with 5% dilution and a mining recovery of 95.2%. The Kipawa open-pit design utilized a marginal (or milling) cut-off value of \$48.96/t and a break even cut-off value of \$60.70/t. Included in the reserves are 632,000 tonnes of low grade material lying between these 2 cut-offs values. This material will be sent to a low grade stockpile, close to the mine site and will be processed at the end of operation after mine depletion.

In-pit Mineral Reserves	Metric Tonnes
Proven (51.7% of the deposit)	10,219,000
Probable (48.3% of the deposit)	9,550,000
Total	19,769,000
Total Grade	
Cerium (Ce <sub>2</sub> O <sub>3</sub> )	0.1195
Lanthanum (La <sub>2</sub> O <sub>3</sub> )	0.0588
Praseodymium (Pr <sub>6</sub> O <sub>11</sub> )	0.0146
Neodymium (Nd <sub>2</sub> O <sub>3</sub> )	0.0550
Samarium (Sm <sub>2</sub> O <sub>3</sub> )	0.0123
Europium (Eu <sub>2</sub> O <sub>3</sub> )	0.0015
Gadolinium (Gd <sub>2</sub> O <sub>3</sub> )	0.0119
Terbium (Tb <sub>4</sub> O <sub>7</sub> )	0.0022
Dysprosium (Dy <sub>2</sub> O <sub>3</sub> )	0.0147
Holmium (Ho <sub>2</sub> O <sub>3</sub> )	0.0032
Erbium (Er <sub>2</sub> O <sub>3</sub> )	0.0101
Thulium (Tm <sub>2</sub> O <sub>3</sub> )	0.0016
Ytterbium (Yb <sub>2</sub> O <sub>3</sub> )	0.0096
Lutetium (Lu <sub>2</sub> O <sub>3</sub> )	0.0013
Yttrium (Y <sub>2</sub> O <sub>3</sub> )	0.0943
TREO	0.4105

## Design Basis

The Total Rare Earth Oxides (TREO) diluted grade is 0.4105% including a dysprosium (Dy<sub>2</sub>O<sub>3</sub>) diluted grade of 0.0147%. The calculation is using a dilution grade of 0.093% TREO. The recoveries for each element vary from 65% to 74% for a TREO average of 70% for the 10 main REO which are (La<sub>2</sub>O<sub>3</sub>, Ce<sub>2</sub>O<sub>3</sub>, Pr<sub>6</sub>O<sub>11</sub>, Nd<sub>2</sub>O<sub>3</sub>, Sm<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Dy<sub>2</sub>O<sub>3</sub> and Y<sub>2</sub>O<sub>3</sub>). A total production of TREO is expected to be 55,529 tonnes over the mine life. When the mine will be in full production (year 2-15) an average of 3,760 tonnes per year of TREO will be produced.

## Mining

The mine will produce an average of 1,332,250 tonnes of ore per year (3,650 tonnes per day) and has an average stripping ratio (waste : ore - without the overburden) of 0.94 with a mine life of 15.2 years. A standard 55 tonne mining truck and shovel operation will bring the drilled and blasted material out of the mine to their respective destinations (waste dump, low grade stockpile or high grade loading facility). Then the ore is transported by 40 tonne HD dump trucks to the metallurgical plant site.

## Processing

Once at the metallurgical plant site, the ore will be dumped into a crusher dump hopper feeding a two stage crushing circuit. The crushed ore will then be stored into a silo. The crushed ore will feed the process plant at the rate of 3,650 tpd in a single stage grinding circuit. A magnetic separation circuit will recover the rare earth as a first concentrate. The reject from the mag-sep circuit will be pumped to the dewatering circuit and transported by truck to the mag-sep rejects storage facility located outside and nearby the process plant. The magnetic rare earth concentrate will be sent into the regrind mill followed by a thickening circuit and then to the hydrometallurgical process (acid leaching, neutralization, impurities removal and the final precipitation) will then produce the rare earth carbonate concentrates. This hydromet concentrate will then be processed through a purification circuit which will remove the last impurities and also separate the heavies from the lights. The final products of the process plant are a concentrate of heavy rare earth and a concentrate of light rare earth.

The tailings produced from the hydrometallurgical process will be pumped to a thickening facility located by the hydromet tailings storage facility (TSF). The solids will be dewatered in few steps using different technologies and then transported by truck and disposed mechanically into the TSF. This TSF is thus believed to be subject to progressive restoration throughout the mine life. Then the final section is to be restored at the end of the mine life as well as the other sites with varying infrastructures. The hydromet tailing storage facility will require further investigation and design work as the project advances into the next stages.

A total of 10 MW will be needed to power both the mine site and the metallurgical site and will be provided by a new power line to be connected to the Hydro-Quebec network.

In 2010, testwork at SGS Canada Inc. in Lakefield (Ontario) was directed toward examining a known recovery process employing aggressive conditions for extraction of rare earth elements (*acid baked leaching*). By early 2011, it had become evident that much less aggressive conditions than anticipated were possible for the extraction of the particular minerals present in the Kipawa ore (*room temperature leaching*); this allowed a substantial improvement in simplifying the projected process plant design.

The present study is based on metallurgical test work results dating prior to June 1, 2013. A pilot plant was performed during the summer of 2012 with a Composite of ore taken from a bulk sample coming from surface trenches. Then a series of variability samples were taken from trenches and core samples from 18 large caliber drill holes in order to make eight (8) Composites and also a Global Composite in order to verify if the process was valid for the entire ore deposit. Results showed lower recovery compared to the PEA study but it also showed that the process works for the entire ore body and also where the process needs to be optimized in order to improve the recovery.

From these previous results, a new Master Composite representing the ore body is ready for further piloting which is planned for the fall of 2013, to further improve the ore processing plant.

ANNUAL OPERATING SUMMARY					
Production	Unit	Year -1	Year 1	Year 2 to 15 (avg.)	Year 15.2
Reserve mined	Mt	0.022	0.870	1.348	0.000
Waste mined	Mt	0.468	0.928	1.233	0.000
Strip Ratio (waste : ore)			1.1	0.9	
Tonnes processed	Mt	0.000	0.884	1.332	0.232
Overburden	Mt	1.328	0.000	0.000	0.000
Mixed REE concentrate	t	0	2,657	3,759	250
Mixed LREE concentrate	t	0	1,507	2,203	146
Mixed HREE concentrate	t	0	1,150	1,556	104

ANNUAL PRODUCTION REE LIGHT AND HEAVY CONCENTRATES (t)				
REO	Year 1	Year 2-15 (avg.)	Year 15.2	Year 1-15.2 (avg.)
Light Concentrate				
Cerium (Ce <sub>2</sub> O <sub>3</sub> )	727	1,049	69	1,018
Lanthanum (La <sub>2</sub> O <sub>3</sub> )	337	541	36	523
Praseodymium (Pr <sub>6</sub> O <sub>11</sub> )	94	131	9	127

Neodymium (Nd <sub>2</sub> O <sub>3</sub> )	349	482	33	469
Heavy Concentrate				
Samarium (Sm <sub>2</sub> O <sub>3</sub> )	83	113	8	110
Europium (Eu <sub>2</sub> O <sub>3</sub> )	11	15	1	14
Gadolinium (Gd <sub>2</sub> O <sub>3</sub> )	83	115	7	112
Terbium (Tb <sub>4</sub> O <sub>7</sub> )	16	22	1	21
Dysprosium (Dy <sub>2</sub> O <sub>3</sub> )	106	144	9	141
Holmium (Ho <sub>2</sub> O <sub>3</sub> )	24	32	2	31
Erbium (Er <sub>2</sub> O <sub>3</sub> )	73	97	7	95
Thulium (Tm <sub>2</sub> O <sub>3</sub> )	11	14	1	14
Ytterbium (Yb <sub>2</sub> O <sub>3</sub> )	62	81	7	79
Lutetium (Lu <sub>2</sub> O <sub>3</sub> )	7	9	1	9
Yttrium (Y <sub>2</sub> O <sub>3</sub> )	674	913	60	890

### Capital Cost Expenditures (CAPEX)

The capital cost estimate covers the development of the mine, ore processing facilities and infrastructure required for the Kipawa HREE project based on the application of standard methods of achieving a feasibility study with an accuracy of  $\pm 15\%$ . The capital costs have been estimated at \$374.4 million, of which \$257.99 million are direct costs and \$67.56 million are indirect costs such as engineering, procurement, construction management, owner's costs and an overall 15% contingency cost of \$48.83 million as outlined below:

Capital Cost Items	Cost (Million \$ CAD)
Off-Site Installation near Temiscaming town	
Main Sub-Station / Hydro-Quebec Power / Parking	9.76
Inter-Site Services	
Power line 44kV / Communications / Part of Access road	13.35
Mine Site	
Mining Equip / Pre-Prod./ Roads / Shop / and other	41.92
Processing Plant Site	
Support Infrastructures	23.27
Process Plant	137.21
Fresh Water Supply	4.79
Tailing Storage Facilities / Pipelines / Effluent treatment	27.69
Plant Site Sub Total	192.96
Total Direct Costs	257.99
Total Indirect and Owner's Costs	67.56
Overall Contingency (15%)	48.83
Total Costs	374.4

### Operating Cost Expenditures (OPEX)

The operating cost estimate was made for each step and compiled by Roche. The operating cost for the Matamec Kipawa operation covers mining, ore transportation, ore processing, tailings and water management, general and administration fees as well as infrastructure and services. The project operating cost estimate is based on the following main parameters:

- Tonnes of mineralized rock and waste mined per year: 2.5 million;
- Tonnes of mineralized rock milled per year: 1.3 million;
- Tonnes of mixed HRE concentrate: 1,516 tpa;
- Tonnes of mixed LRE concentrate: 2,137 tpa;
- Total manpower required for operation: 229 employees.

The overall operating cost for the Project is estimated at \$78.5 million per year or \$21.53/kg mixed TREO concentrate. A summary of the operating costs for the project is shown below:

	Unit	Average
Net Metal Return (NMR)*	\$ /kg TREO	46.97
Mining	\$ /kg TREO	4.97

Processing**	\$ /kg TREO	13.35
G&A	\$ /kg TREO	3.18
Cash Costs	\$ /kg TREO	21.53
Production of mixed contained Total Rare Earths concentrate	tpa	3,653
*NMR = Grade x Recovery x Revenue		
**Processing includes tailings management costs		

## Market Study

The Rare Earth Elements (REEs) are typically defined as the fifteen lanthanide elements including yttrium and scandium; they form a group of technology enabling materials that are critical inputs for a wide range of everyday consumer products as well as a large number of cutting edge technologies. Strong magnetic, optical, electronic and catalytic properties have made certain rare earth compounds indispensable to a substantial portion of global industry, including but not limited to the automotive, consumer electronics, medical equipment and green technology sectors.

The demand for heavy rare earth materials is expected to benefit from strong growth, particularly in the case of dysprosium, terbium and yttrium, which are likely to realize swiftly expanding consumption from both the permanent magnet and phosphor powder sectors. The permanent magnet sector (neodymium and dysprosium and to a lesser degree terbium) is generally forecasted to realize strong gains in annual consumption through the entirety of the next seven years. The combination of tightening Chinese supply along with growing demand suggests terbium, dysprosium and several other HREEs will see appreciating price levels. Though demand for yttrium is expected to expand.

The Rare Earth Oxide prices used for the economic evaluation are based on a contracted market survey by Asian Metals (one of world's largest metallurgical information providers) in conjunction with discussions with key industrial end-users which were important in defining the forecasted final prices of each rare earth oxide. Other sources consulted for review of the historical pricing data were websites and reports from Metal Pages, Roskill Information Service Limited and Industrial Minerals.

REO PRICES - 2016 FORECAST					
Rare Earth Oxides		FS Market Price Ex-Works Mine-Site (US\$/kg REO)	Refining Cost (%)	REO Price* Ex-Works Mine-Site (US\$/kg REO)	Quantity Sold LOM (est.) (t REO)
Cerium	Ce	\$5.90	30	\$4.13	15,479
Lanthanum	La	\$5.95	30	\$4.17	7,952
Praseodymium	Pr	\$75.40	30	\$52.78	1,930
Neodymium	Nd	\$75.00	30	\$52.50	7,132
Samarium	Sm	\$6.85	30	\$4.80	1,679
Europium	Eu	\$1,100.00	30	\$770.00	215
Gadolinium	Gd	\$59.40	30	\$41.58	1,696
Terbium	Tb	\$1,076.00	30	\$753.20	321
Dysprosium	Dy	\$713.00	30	\$499.10	2,137
Holmium	Ho	\$53.60	40	\$32.16	474
Erbium	Er	\$63.60	40	\$38.16	1,063
Thulium	Tm	\$1,200.00	40	\$720.00	32
Ytterbium	Yb	\$56.70	40	\$34.02	555
Lutetium	Lu	\$1,400.00	40	\$840.00	55
Yttrium	Y	\$29.40	30	\$20.58	13,522
*REO price after deduction of refining and transport - Ex-works Matamec plant-site					

Furthermore, the refining cost to reach 99.9% oxides or even higher purity levels was not evaluated within the FS since refining was not considered in the scope of the FS. It was decided that since the forecasted prices are for 99.9% (min.) pure, individual oxides and Matamec will be producing two mixed Rare Earths concentrates; a mixed light rare earth concentrate that will contain the following REE's: Ce, La, Nd and Pr. With the second product, a mixed heavy rare earth concentrate that will contain the elements of: Sm, Eu, Gd, Er, Tb, Dy, Ho, Yb, Tm, Lu and Y. The projected selling prices for the concentrates will be based on their contained oxide pricing and will be reduced by a refining factor of 30% for the majority of the Rare Earths, but 40% for the REE's: Ho, Er, Yb, Tm and Lu. The higher discount was applied considering that these materials would require more costs associated to process them due to the higher degree of purity that is required by their associated end uses. It is considered that the respective discounts will cover all logistical costs for the material to be shipped to their intended point of separation.



The Project is subject to a joint venture agreement (the "JVA") between Matamec and Toyotsu Rare Earth Canada Inc. ("TRECan"), a subsidiary of TTC (see press release dated July 12, 2012 for more details on the JV and the JVA). As at the date hereof, Matamec holds a 51% and TRECan a 49% interest in the Project (see press release dated August 8, 2013). The JVA contains a provision under which TTC shall become the off taker of the production from the Project, under the terms and conditions set out in the JVA and in the off-take agreement to be negotiated and executed by the parties. Negotiations to convert the agreement into contractual volumes will follow the completion of the FS. TRECan is a well-recognized strategic partner that has funded \$16.0 million to Matamec to complete the FS.

#### ECONOMIC ASSUMPTIONS

Rare Earth Oxides	PEA Market Price Forecast (FOB China 2016 US\$/kg REO)	FS Market Price Forecast (Ex-Works Mine-Site US\$/kg REO)	Quantity Sold per year (avg. est.) (t REO)	Est. Revenue LOM*
Cerium (Ce <sub>2</sub> O <sub>3</sub> )	\$5.00	\$5.90	1,018.4	
Lanthanum (La <sub>2</sub> O <sub>3</sub> )	\$10.00	\$5.95	523.2	
Neodymium (Nd <sub>2</sub> O <sub>3</sub> )	\$75.00	\$75.00	469.2	\$
Praseodymium (Pr <sub>6</sub> O <sub>11</sub> )	\$75.00	\$75.40	127.0	\$
Samarium (Sm <sub>2</sub> O <sub>3</sub> )	\$9.00	\$6.85	110.5	
Europium (Eu <sub>2</sub> O <sub>3</sub> )	\$500.00	\$1,100.00	14.1	\$
Gadolinium (Gd <sub>2</sub> O <sub>3</sub> )	\$30.00	\$59.40	111.6	
Terbium (Tb <sub>4</sub> O <sub>7</sub> )	\$1,500.00	\$1,076.00	21.1	\$
Dysprosium (Dy <sub>2</sub> O <sub>3</sub> )	\$750.00	\$713.00	140.6	\$1
Holmium (Ho <sub>2</sub> O <sub>3</sub> )	\$65.00	\$53.60	31.2	
Erbium (Er <sub>2</sub> O <sub>3</sub> )	\$40.00	\$63.60	70.0	
Thulium (Tm <sub>2</sub> O <sub>3</sub> )*	-	\$1,200.00	2.1	
Ytterbium (Yb <sub>2</sub> O <sub>3</sub> )*	-	\$56.70	36.5	
Lutetium (Lu <sub>2</sub> O <sub>3</sub> )	\$320.00	\$1,400.00	3.6	
Yttrium (Y <sub>2</sub> O <sub>3</sub> )	\$20.00	\$29.40	889.6	\$
Exchange Rate (CAD \$/US \$)	-	1.0 / 1.0		
Discount Rate (%)	8%	10%		

\*At PEA, no value was attributed to Tm and Yb because no prices were available at date of publication.

\*\*Est. Revenue LOM is calculated from the (Price After Refining x Quantity Sold LOM) - Quantity Sold is rounded to nearest tonne (see table pg. 11).

## Economic Analysis

An economic/financial analysis of the project has been carried out using a cash flow model. The model is constructed using annual cash flow in constant money terms (second quarter 2013). No provision is made for the effects of inflation. As required in the financial assessment of investment projects, the evaluation is carried out on a so called "100% equity" basis, i.e. the debt and equity sources of capital funds are ignored.

#### TECHNICAL ASSUMPTIONS

Item	Base Case Value	Unit
Total Ore Mined	19.77	M tonnes
Processing Rate	1.332	M tonnes / year
Life of Mine	15.2	years
Average Combined Process Recovery	70	%
Average Mining Cost	7.03	(\$ / tonne mined)
Average Processing Cost	36.57	(\$ / tonne milled)
Average General & Administration Costs	8.71	(\$ / tonne milled)

## Financial Model and Results

A capital cost breakdown by item provides a preliminary capital spending schedule over a 2-year pre-production period. The total pre-production capital expenditures are evaluated at \$374.4 million, excluding the working capital. The total sustaining capital requirement is evaluated at \$37.7 million which includes rehabilitation expenditures. A working capital equivalent of 3 months of total annual operating costs is maintained throughout the production period. Apart from the first fills and spare parts included in the pre-production capital expenditures, an additional working capital outlay of \$11.2 million is required. The total operating costs are estimated at \$1.181 billion for the life of the mine or an average of \$58.9/tonne milled. The financial results indicate a positive before-tax NPV of \$260 million at a discount rate of 10%, a before-tax IRR of 21.6% and a payback period of 3.88 years.

REVENUES AND EXPENDITURES		
Item	Base Case	Unit
Total Mine Revenue	2.548	billions \$ CAD
Pre-production Capital Expenditures	374.4	millions \$ CAD
Sustaining Capital Expenditures (Incl. Rehab.)	37.7	millions \$ CAD
Additional Working Capital Requirement	11.2	millions \$ CAD
Mine Rehabilitation Costs	23.1	millions \$ CAD
Total Operating Cost	1.181	billions \$ CAD
Total Before-tax Cash Flow	960	millions \$ CAD
Before-tax NPV @ 10%	260	millions \$ CAD
Before-tax NPV @ 8%	344	millions \$ CAD
Before-tax NPV @ 6%	450	millions \$ CAD
Before-tax IRR	21.6	%
Before-tax Payback Period	3.88	years
Total After-tax Cash Flow	602	millions \$ CAD
After-tax NPV @ 10%	128	millions \$ CAD
After-tax NPV @ 8%	185	millions \$ CAD
After-tax NPV @ 6%	257	millions \$ CAD
After-tax IRR	16.8	%
After-tax Payback Period	4.12	years

## Sensitivity Analysis

A sensitivity analysis has been carried out on the base case scenario described above to assess the impact of changes in REE market prices, total pre-production capital costs and operating costs on the project's NPV @ 10% and IRR. Each variable was examined independently. An interval of  $\pm 30\%$  with increments of 10% were used for all three variables. The project's before-tax viability is not significantly vulnerable to the under-estimation of capital and operating costs, taken independently. The net present value is more sensitive to variations in operating expenses. As expected, the NPV is most sensitive to variations in REE prices, followed by operating costs and by capital costs.

## Environment, Permitting and Social Acceptability

### Environment and Permitting

Matamec has always been proactive and has respected the rules outlined by the different government authorities.

After the first drilling campaign outlined a good quality deposit (2009), Matamec decided to begin a baseline study of the territory around the deposit. Enviréo Conseil, an independent firm from Rouyn-Noranda, Quebec, was hired to perform the study of water, fish, aquatic plants and mud samples which were taken from 5 sites, instead of the 3 recommended by regulation.

Then in spring 2012, Matamec hired the firm Golder Associates Ltd to complete the baseline study that was started two years before and also to perform an Environmental and Social Impact Assessment which is planned to be completed by Q1 2014.

A comprehensive program of geochemical characterization has been conducted during the last year in order to classify all the varying rock types to be mined, the ore, the overburden and also all the different waste and residue to be generated by the mine and process operation. The waste rock, ore, and magsep tailings are classified as non-acid generating. The hydromet tailings sample analyzed is classified as acid generating based on its high sulfur content but all sulphur occurs as sulphate which is already oxidized and therefore not expected to generate acidity in the future.

Further radiological analyses of leachates were carried out for safety purpose and as required under Directive 019 of the MDDEFP to evaluate the level of risk associated with possible leaching of radiogenic parameters from mine wastes, magnetic separation rejects and hydrometallurgical tailings. None of the

samples analysed are classified as high risk waste based on radionuclide analyses in leachate. Analyses were also done on the solids themselves and so far the hydrometallurgical tailings are classified as potentially radiogenic, but manageable. The implementation of proper management programs in regards to radioactive elements will ensure the safety of the workers and of the population during operation and after the mine closure. Furthermore, additional geochemical analysis will be conducted before detailed engineering in order to determine all the final classification and design parameters for the infrastructures related to the tailings management.

Hydrological and hydrogeological studies were carried out as well. From the collected information, a water management plan has been put together and will be optimized at further stages in the project. A site-wide water quality evaluation study is underway to determine future water treatment needs at the mine site and hydrometallurgical waste storage sites.

From all the information collected during the FS, it was decided to proceed with dewatered tailings even if it is much more expensive in operating costs in order to minimize environmental risks related to the tailings management. It will also allow the operator to consider progressive site restoration during mine operation.

The mining lease was filed before the end of March 2012. The project notice to begin the Federal environmental permitting process was submitted before the end of Q1 2013. The restoration plan and environmental impact study commenced at the beginning of May 2012 and are still ongoing but are well advanced. The official application for the Certificate of Authorization to the MDDEFP is planned to be submitted by winter 2014.

## **Social Acceptability**

Since 2009, the Matamec Team is making social acceptability a priority for the Kipawa Project, as well, the Company is committed to being visible to the people in the region as a socially responsible neighbour.

In March 2012, our regional office was opened in downtown Temiscaming, creating visibility and allowing easy accessibility to information for people in the region. Regular meetings and discussions are held with the First Nations Communities, with the signature of a Memorandum of Agreement with them. Under this agreement, the First Nations communities completed their own cultural impact assessment study describing the past and current traditions and resources used in the project area. They also completed their socio-economic baseline report for the project. These studies will contribute to the preparation of the environmental effects assessment of the Kipawa project.

There is an open and constant communication between the Matamec team and the citizens. Public information meetings are held throughout the region, highlighting our commitment to dialogue and opportunities for questions about the project.

We strive to understand all stakeholders concerns and maintain our strategy of transparency executed through active and consistent communication.

## **NI 43-101 Disclosure**

The technical information in this news release has been prepared in accordance with Canadian regulatory requirements by the following persons, or under the supervision of, all of whom are independent Qualified Persons as set out in National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101").

Qualified Person	Consulting Firm	Contribution
Guy Saucier, Eng.	Roche Ltd.	Project Supervisor
Yann Camus, Eng.	SGS Geostat	Mineral Resource
Pierre Casgrain, Eng.	Roche Ltd.	Mining
Al Hayden, P. Eng.	EHA Engineering Ltd.	Metallurgy
Eric Poirier, Eng.	GENIVAR Inc.	Infrastructure
Michel Mailloux, Eng.	Golder Associates	Environment
Marc Rougier, Eng.	Golder Associates	Geotechnical

Mayana Kissiova, Eng.	Golder Associates	Tailings & Water Management
Valerie Bertrand, P. Geo.	Golder Associates	Geochemistry
Gaston Gagnon, Eng.	SGS Geostat	Marketing
Michel Bilodeau, Eng.	Roche Ltd.	Financial Model

The Mineral Resource and Mineral Reserve estimates set out in this news release were classified according to the *CIM Definition Standards - For Mineral Resources and Mineral Reserves* (as adopted by CIM Council in November 2010).

Readers are advised that Mineral Resources not included in Mineral Reserves do not demonstrate economic viability. Mineral Resource estimates do not account for mineability, selectivity, mining loss and dilution. These Mineral Resource estimates include Inferred Mineral Resources that are normally considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that Inferred Mineral Resources will be converted to Measured and Indicated categories through further drilling, or into Mineral Reserves, once economic considerations are applied.

Technical information in this press release was reviewed and adopted by Bertho Caron, VP Project Development & Construction (Eng.) and Aline Leclerc, VP Exploration (Geo.), Matamec's Qualified Persons for this press release.

The full feasibility study, prepared in accordance to the NI 43-101 compliant technical report, will be filed under Matamec Explorations' profile on SEDAR at [www.sedar.com](http://www.sedar.com) within 45 days.

### Conference Call

Matamec will be hosting an analyst conference call on **Wednesday, September 4, 2013 at 10:00 a.m. (Eastern Time)**. Participants may join the call by dialing toll free **1-800-381-7839** or **1-416-981-9000**. A live webcast of the call will be available through our website at: [www.matamec.com](http://www.matamec.com). A copy of the presentation will be available on our website one hour prior to the webcast.

A taped replay of the conference call will be available starting that same day at 12:00 p.m. ET by dialing 1-800-558-5253 or 416-626-4100 and entering passcode 21667794#, until September 18 at midnight.

### About Matamec

Matamec Explorations Inc. is a junior mining exploration company whose main focus is in developing the Kipawa HREE deposit with TRECan.

In parallel, the Company is exploring more than 35 km of strike length in the Kipawa Alkalic Complex for rare earths-yttrium-zirconium-niobium-tantalum mineralization on its Zeus property. Since 2008, Matamec discovered many potential showings. Particularly, it drilled the PB-PS Zone in the fall of 2012 and identified similar Eudialyte-Mosandrite/Yttrio-Tantalite/Britholite associated mineralization founded at the HREE Kipawa Deposit. This type of mineralization is presently known over 200 metres long and it opens laterally and at depth. The Company plans to drill these extensions later this year.

The Company is also exploring for gold, base metals and platinum group metals. Its gold portfolio includes the Matheson JV property located along strike and in close proximity to the Hoyle Pond Mine in the prolific gold mining camp of Timmins, Ontario. In Quebec, the Company is exploring for lithium and tantalum on its Tansim property and for precious and base metals on its Sakami, Valmont and Vulcain properties.

### Cautionary Statement Concerning Forward-Looking Statements

*This news release contains "forward-looking information" within the meaning of Canadian Securities legislation. Generally, forward-looking statements can be identified by the use of forward-looking terminology*

*such as "scheduled", "anticipates", "expects" or "does not expect", "is expected", "scheduled", "targeted", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved". Forward-looking statements contained herein include, without limitation, statements relating to mineral reserve estimates, mineral resource estimates, realization of mineral reserve and resource estimates, capital and operating costs estimates, the timing and amount of future production, costs of production, success of mining operations, the ranking of the project in terms of cash cost and production, permitting, economic return estimates, power and storage facilities, life of mine, social, community and environmental impacts, rare metal markets and sales prices, off-take agreements and purchasers for the Company's products, environmental assessment and permitting, securing sufficient financing on acceptable terms, opportunities for short and long term optimization of the Project, and continued positive discussions and relationships with local communities and stakeholders. Forward-looking statements are based on assumptions management believes to be reasonable at the time such statements are made. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements.*

*Accordingly, readers should not place undue reliance on forward-looking statements. Although Matamec has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. Factors that may cause actual results to differ materially from expected results described in forward-looking statements include, but are not limited to: Matamec's ability to secure sufficient financing to advance and complete the Project, uncertainties associated with Matamec's resource and reserve estimates, uncertainties regarding global supply and demand for rare earth materials and market and sales prices, uncertainties associated with securing off-take agreements and customer contracts, uncertainties with respect to social, community and environmental impacts, uncertainties with respect to optimization opportunities for the Project, as well as those risk factors set out in the Company's year-end Management Discussion and Analysis dated December 31, 2012 and other disclosure documents available under the Company's profile at [www.sedar.com](http://www.sedar.com). Forward-looking statements contained herein are made as of the date of this news release and Matamec disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or results or otherwise, except as required by applicable securities laws.*

***"Neither TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release."***

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