

## **PRESS RELEASE**

**Tsx Venture TSX : MAT**

### **Matamec confirms 33 metres at 1.491% TREO**

**Montreal, December 21 2009 - Matamec Explorations Inc. ("Matamec")** is pleased to announce that it confirms that they obtained 1.491% TREO (total of the rare earth oxides and yttrium) up to 33 metres by re-calculating the chemical oxide elements during the re-sampling of the T-1 historic trench, 68 metres long, in the West Zone of the Kipawa deposit. The Company had presented the results of this trench as well as three other historic trenches, T-3, T-11 and T-8, as chemical element results (see press releases dated June 30th and July 16th, 2009) within the framework of a new NI 43-101 resource calculation.

The resource calculation was initiated in November 2008 when Matamec re-sampled, under the supervision of SGS-Geostat four (4) of thirteen (13) previously excavated trenches of which twelve (12) were sampled (excluding T-5 trench) by Unocal Canada Ltd (« Unocal ») in 1990 on the Kipawa deposit. In June 2009, SGS-Geostat produced a first independent report regarding the re-sampling of the four (4) trenches and it was appended to the NI 43-101 report of the Zeus property that Matamec filed on SEDAR July 20th, 2009. The re-sampling permitted the realisation of a first check of the historical results and knowledge of the distribution of the rare earths, previously known prior to 2009 from bulk samples from 1988. SGS-Geostat concluded that the 108 samples collected confirmed the high grade rare earths mineralization of the Kipawa deposit, particularly for cerium, dysprosium, erbium, gadolinium, lanthanum, neodymium, praseodymium, samarium and yttrium (for sampling Quality Control and selection of the most appropriate analytical method, see SGS report, appendix III of the NI 43-101 technical report).

In the re-sampling program (Figure 1: Trenches and bulk sampling – Kipawa Deposit), two of these trenches tested the full width of the West Zone (Trenches T-1 and T-3), one trench tested the East Zone (Trench T-8) and the last trench (Trench T-11) tested the Central Zone between the two. This central Zone was not originally part of the 1990 historical resource calculation. It is important to note that the T-8 and T-11 trenches contain historical bulk sampling sites (samples KBS-2, KBS-3 and KBS-5), solely assayed for cerium, yttrium and zirconium. These sites could not be re-sampled in 2008, due to an irregular sampling surface (5 metres un-sampled on T-8 and 20 metres un-sampled on T-11).

The results of the new oxide calculations for the November 2008 re-sampling program of trenches T-1 and T-3 in the West Zone are presented in the following Table 1:

**Table 1: Summary Results (% oxides), average for trenches T-1 & T-3.**

Kipawa Deposit	West Zone			
	T-1	T-1 Best interval	T-3	T-3 Best interval
Number of samples	36	17	27	12
Sample #	501-536	503-519	537-563	537-548
Sample Width (metres)	68.0	<b>33.0</b>	53.4	<b>24.2</b>
Chemical element	% oxides	% oxides	% oxides	% oxides
La <sub>2</sub> O <sub>3</sub>	0.131	0.228	0.058	0.067
CeO <sub>2</sub>	0.294	0.504	0.156	0.192
Pr <sub>2</sub> O <sub>3</sub>	0.029	0.048	0.019	0.026
Nd <sub>2</sub> O <sub>3</sub>	0.128	0.219	0.075	0.103
Sm <sub>2</sub> O <sub>3</sub>	0.027	0,044	0.016	0.024
Eu <sub>2</sub> O <sub>3</sub>	0.003	0.006	0.002	0.003
Gd <sub>2</sub> O <sub>3</sub>	0.028	0.046	0.017	0.027
<b>LREO*</b>	0.640	<b>1.095</b>	0.343	<b>0.442</b>
Tb <sub>2</sub> O <sub>3</sub>	0.005	0.008	0.003	0.005
Dy <sub>2</sub> O <sub>3</sub>	0.032	0.050	0.021	0.032
HO <sub>2</sub> O <sub>3</sub>	0.007	0.010	0.005	0.007
Er <sub>2</sub> O <sub>3</sub>	0.019	0.031	0.014	0.022
Tm <sub>2</sub> O <sub>3</sub>	0.002	0.005	0.002	0.003
Yb <sub>2</sub> O <sub>3</sub>	0.016	0.023	0.014	0.020
Lu <sub>2</sub> O <sub>3</sub>	0.002	0.002	0.002	0.002
<b>HREO*</b>	0.084	<b>0.129</b>	0.061	<b>0.092</b>
Y <sub>2</sub> O <sub>3</sub>	0.165	<b>0.267</b>	0.114	<b>0.190</b>
<b>TREO</b>	0.889	<b>1.491</b>	0.517	<b>0.723</b>
<b>Total HREO + Y<sub>2</sub>O<sub>3</sub></b>	0.24	<b>0.39</b>	0.17	<b>0.28</b>
ZrO <sub>2</sub>	0.824	0.716	1.175	1.040
* = Light rare earths (LREE) = La <sub>2</sub> O <sub>3</sub> to Gd <sub>2</sub> O <sub>3</sub> , Heavy rare earths (HREE) = Tb <sub>2</sub> O <sub>3</sub> to Lu <sub>2</sub> O <sub>3</sub> .				

The new oxide calculation results from the November 2008 re-sampling program of trench T-11 located in the Central Zone, and including the bulk sample results from 90 KBS-3 and 90 KBS-5 of 350 kilograms each by Unocal-Molycorp Inc. («Molycorp») in 1990 are presented in Table 2 (it is important to note that Trench T-11 that includes the collection sites of two historical bulk samples could not be re-sampled in 2008, because of an irregular sampling surface over 20 metres):

**Table 2: Summary Results (% oxides), average for the re-sampling and the bulk samples # 90 KBS-3 and # 90 KBS-5 of trench T-11**

Kipawa Deposit		Central Zone		
Trench #	T-11	T-11 Best interval	Bulk samples over 20 metres not re-sampled in 2008 and in 2009 on trench T-11 (solely assayed for cerium, yttrium and zirconium)	
Number of samples	29	4		
Sample #	564-592	568-571		
Sample Width (metres)	56.2	8	Bulk sample # 90KBS-3 (350 kilo grams)	Bulk sample # 90KBS-5 (350 kilo grams)
Chemical element	% oxides	% oxides	% oxides	% oxides
La <sub>2</sub> O <sub>3</sub>	0.055	0.096	-	-
CeO <sub>2</sub>	0.135	0.221	1.24	1.24
Pr <sub>2</sub> O <sub>3</sub>	0.014	0.022	-	-
Nd <sub>2</sub> O <sub>3</sub>	0.052	0.076	-	-
Sm <sub>2</sub> O <sub>3</sub>	0.010	0.014	-	-
Eu <sub>2</sub> O <sub>3</sub>	0.001	0.001	-	-
Gd <sub>2</sub> O <sub>3</sub>	0.009	0.015	-	-
<b>LREO*</b>	<b>0.278</b>	<b>0.445</b>	-	-
Tb <sub>2</sub> O <sub>3</sub>	0.002	0.002	-	-
Dy <sub>2</sub> O <sub>3</sub>	0.011	0.016	-	-
HO <sub>2</sub> O <sub>3</sub>	0.002	0.003	-	-
Er <sub>2</sub> O <sub>3</sub>	0.008	0.011	-	-
Tm <sub>2</sub> O <sub>3</sub>	0.001	0.002	-	-
Yb <sub>2</sub> O <sub>3</sub>	0.009	0.010	-	-
Lu <sub>2</sub> O <sub>3</sub>	0.001	0.001	-	-
<b>HREO*</b>	<b>0.035</b>	<b>0.047</b>	-	-
Y <sub>2</sub> O <sub>3</sub>	0.076	<b>0.216</b>	<b>0.32</b>	<b>0.52</b>
<b>TREO</b>	<b>0.389</b>	<b>0.718</b>	-	-
<b>Total HREO + Y<sub>2</sub>O<sub>3</sub></b>	<b>0.11</b>	<b>0.26</b>	-	-
ZrO <sub>2</sub>	1.351	0.419	0.43	1.28
* = Light rare earths (LREE) = La <sub>2</sub> O <sub>3</sub> to Gd <sub>2</sub> O <sub>3</sub> , Heavy rare earths (HREE) = Tb <sub>2</sub> O <sub>3</sub> to Lu <sub>2</sub> O <sub>3</sub> .				

The new oxide calculation results from the November 2008 re-sampling program of trench T-8 located in the East Zone, and including the bulk sample results from 90 KBS-2 of 350 kilograms by Unocal-Molycorp in 1990 are presented in Table 3 (it is important to note that trench T-8 that includes the collection site of a historical bulk sample could not be re-sampled in 2008 because of an irregular sampling surface over 5 metres):

**Table 3: Summary Results (% oxides), average for the re-sampling and bulk sample # 90 KBS-2 of trench T-8**

Kipawa Deposit		East Zone	
Trench #	T-8	T-8 Best interval	Bulk sample over 5 metres not re-sampled in 2008 and in 2009 on trench T-8 (solely assayed for cerium, yttrium and zirconium)
Number of samples	16	10	
Sample #	593-608	599-608	
Sample Width (metres)	30.8	18	Bulk sample # 90KBS-2 (350 kilo grams)
Chemical element	% oxide	% oxide	% oxide
La <sub>2</sub> O <sub>3</sub>	0.133	0.173	-
CeO <sub>2</sub>	0.308	0.415	0.76
Pr <sub>2</sub> O <sub>3</sub>	0.036	0.049	-
Nd <sub>2</sub> O <sub>3</sub>	0.139	0.188	-
Sm <sub>2</sub> O <sub>3</sub>	0.031	0.043	-
Eu <sub>2</sub> O <sub>3</sub>	0.003	0.006	-
Gd <sub>2</sub> O <sub>3</sub>	0.033	0.047	-
<b>LREO*</b>	0.684	<b>0.921</b>	-
Tb <sub>2</sub> O <sub>3</sub>	0.006	0.008	-
Dy <sub>2</sub> O <sub>3</sub>	0.037	0.050	-
HO <sub>2</sub> O <sub>3</sub>	0.009	0.013	-
Er <sub>2</sub> O <sub>3</sub>	0.026	0.038	-
Tm <sub>2</sub> O <sub>3</sub>	0.005	0.006	-
Yb <sub>2</sub> O <sub>3</sub>	0.025	0.034	-
Lu <sub>2</sub> O <sub>3</sub>	0.003	0.005	-
<b>HREO*</b>	0.111	<b>0.153</b>	-
Y <sub>2</sub> O <sub>3</sub>	0.216	<b>0.305</b>	<b>0.31</b>
<b>TREO</b>	1.011	<b>1.379</b>	-
<b>Total HREE + Y<sub>2</sub>O<sub>3</sub></b>	0.32	<b>0.45</b>	-
ZrO <sub>2</sub>	0.878	1.000	0.57
* = Light rare earths (LREE) = La <sub>2</sub> O <sub>3</sub> to Gd <sub>2</sub> O <sub>3</sub> , Heavy rare earths (HREE) = Tb <sub>2</sub> O <sub>3</sub> to Lu <sub>2</sub> O <sub>3</sub> .			

**Sampling from 12 of 13 trenches and 7 bulk samples collected by Unocal and Molycorp in 1988 and 1990 on the Kipawa deposit**

As well as the thirty-four (34) historical drill holes that were done by Unocal in 1988 and 1990 on the Kipawa deposit, thirteen (13) trenches of 100 metres were excavated in the overburden and 12 were channel sampled in 1990 for a total of 666.5 metres sampled.

Also, a total of four (4) bulk samples of approximately 350 kilo grams each and three (3) samples of approximately 20 kilo grams were blasted from these trenches. Of these seven (7) bulk samples, four (4) were sent in 1990 by Molycorp to Mountain States R&D International for separation and lixiviation tests.

Historically, the rare earths were not systematically analyzed during the drilling by Unocal in the 1988 and 1990 exploration campaigns since the main element of interest at the time was yttrium. The rare earth mineralization of the Kipawa deposit is known primarily because of the bulk sampling. Four of these samples were analyzed in 1988 for yttrium, zirconium and cerium, while the other three were analyzed in 1990 for yttrium, zirconium, and the suite of rare earths as indicated in tables 4 and 5 below:

**Table 4: Summary of the bulk samples by Unocal (% oxides)**

Location	Sample	Trench	Weight in kg	Y <sub>2</sub> O <sub>3</sub> %	CeO <sub>2</sub> %	Rare Earths %	ZrO <sub>2</sub> %
West Zone	88-K-1	T-1	20	0.67	-	1.00	-
	90KBS-1	T-2	350	0.67	0.41	-	1.62
	88-K-3	T-2c	20	0.65	-	1.67	-
Central Zone	90KBS-3	T-11	350	0.32	1.24	-	0.43
	90KBS-5	T-11	350	0.52	1.24	-	1.28
East Zone	90KBS-2	T-8	350	0.31	0.76	-	0.57
	88-K-4	T-10	20	0.29	-	2.05	-

**Table 5: The REE Distribution for three bulk samples by Unocal (%)**

Rare Earth elements	88-K-1 (%)	88-K-3 (%)	88-K-4 (%)
Trench #	1	2c	10
Mineralized Zone	Eudialyte	Mosandrite/ Yttrio-titanite	Britholite
La: Lanthanum	0.139	0.231	0.500
Ce: Cerium	0.280	0.570	0.961
Pr: Praeseodymium	0.039	0.077	0.097
Nd: Neodymium	0.140	0.290	0.290
Sm: Samarium	0.039	0.080	0.050
Eu: Europium	0.006	0.010	0.005
Gd: Gadolinium	0.050	0.080	0.030
<b>LREE*</b>	0.692	1.338	1.933
Tb: Terbium	0.010	0.020	0.008
Dy: Dysprosium	0.100	0.121	0.040

Ho: Holmium	0.019	0.030	0.010
Er: Erbium	0.080	0.080	0.030
Tm: Thulium	0.010	0.010	0.004
Yb: Ytterbium	0.080	0.050	0.020
Lu: Lutetium	0.010	0.006	0.003
<b>HREE*</b>	0.309	0.317	0.115
Y: Yttrium	0.673	0.650	0.290
<b>TREE</b>	1.675	2.305	2.338
<b>Total HREE + Y</b>	0.982	0.967	0.405
* = Light rare earths (LREE) = La to Gd, Heavy rare earths (HREE) = Tb to Lu.			

Additional information will be communicated in the near future as the fall 2009 exploration program advances.

The geological data in this press release was prepared by Aline Leclerc, geologist and Matamec's Vice-President Exploration, a Qualified Person as defined by NI 43-101.

### **About Matamec**

**Matamec** is exploring for rare earth elements on the Heavy Rare Earth's Kipawa deposit (Zeus property), located in the Kipawa Alkaline Complex in Temiscamingue, Quebec, and for significant gold deposits in the Timmins mining camp in Ontario, of which the two main targets are the Matheson JV property, with Goldcorp Canada Ltd and Goldcorp Inc, and the Montclerg property.

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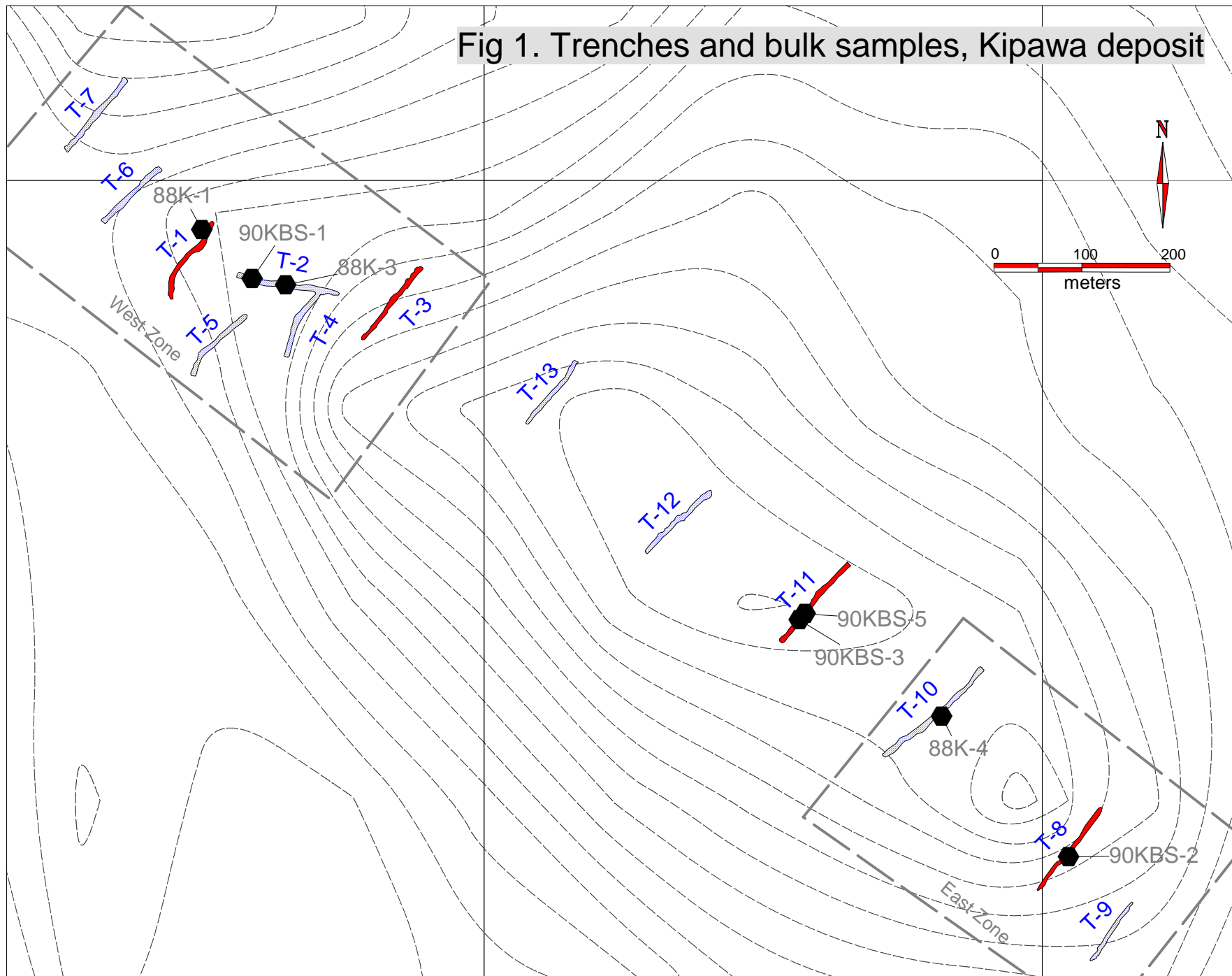
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Fig 1. Trenches and bulk samples, Kipawa deposit



Blue = Unocal trenches, Red = Channeled Matamec 2008

Lat-Long NAD83. 1:6 000. Contour lines = 5m.