

## **PRESS RELEASE**

**TSX Venture: MAT**

### **The drilling campaign has been completed on the heavy rare earth Kipawa Deposit**

**Montreal, December 23, 2009 - Matamec Explorations Inc. ("Matamec")** is pleased to announce that it has completed the drilling that started on November 20th. Thus, thirty one (31) short drill holes have been done on the heavy rare-earth-yttrium-zirconium Kipawa deposit located on the Zeus property, of which five were in the West Zone, 19 in the Central Zone and 7 in the East Zone (Figure 1: Matamec 2009 Drill campaign-Kipawa deposit, available at the following address: [http://media3.marketwire.com/docs/Kipawa\\_ENG\\_1223.pdf](http://media3.marketwire.com/docs/Kipawa_ENG_1223.pdf)).

The goal of the \$1M exploration program initiated in the fall of 2009 consists of:

- 1) Confirming the 1991 historical resources of the Kipawa deposit limited to the eudialyte mineralization and the yttrium and zirconium grades; to increase this resource by drilling the Central Zone that had seen little to no work and 620 metres long between the West and East zones; and, to receive an independent NI 43-101 compliant resource calculation by the firm of SGS-Geostat within the first half of 2010;
- 2) To obtain from the re-sampling of the historical trenches and from the drill holes the necessary material to pursue metallurgical tests done by Mountain States R&D International Inc. in 1990 and 1991 on bulk samples 90KBS-1, KBS-2, KBS3 and KBS-5, these tests having indicated that the rare earths-yttrium-zirconium mineralization are well crystallized medium-sized grains, easily physically separated et easily solubilising. The new metallurgical tests should begin in the first quarter of 2010.

This first drill campaign by Matamec on the Kipawa deposit aims to demonstrate the continuity of the mineralization in rare-earth-yttrium-zirconium over a length of 1.4 kilometres and a width of 35 to 60 metres. With a future financing and a better understanding of the deposit with the addition of the newly acquired data, the next drill campaign will test the lateral and depth extensions of the Kipawa deposit.

The numbering sequence of the 2009 fall drill campaign began with the drill hole 09KM-35. All drill holes were drilled perpendicular to the strike and dip of the strata, thus the reported widths of our drill holes represent the approximate true width of the syenitic complex and its associated mineralization.

Due to the fast pace of the drilling, the following table indicates the true thickness of the syenite and associated rocks, including amphibolites and calc-silicated rocks. The rare-earth, yttrium and zirconium ore-bearing minerals are present along the entire width of

the host rocks and in all drill holes completed to date. However, this type of mineralization is difficult to visually estimate percentages, hence; we must wait for the analytical results to know the true grades.

Results partially communicated :	Drill hole No.	Depth (m)	Dip	Syenite (m) From-to	Syenite width (m) (thickness in the drilling axis)
December 10	KM35	74.0	-60	2.54 – 60.27	57.73
December 10	KM36	71.5	-60	1.20 – 66.27	65.07
December 10	KM37	80.5	-60	0.15 -5 9.96	59.81
December 10	KM38	98.5	-60	10.90 – 66.36	55.46
December 10	KM39	62.5	-60	5.78 – 57.21	51.43
December 10	KM40	56.5	-60	1.75 – 50.50	48.75
December 10	KM41	62.5	-60	16.20 – 56.90	40.70
December 10	KM42	65.5	-60	8.50 – 55.85	39.05
December 10	KM43	59.5	-60	3.30 – 52.52	48.22
December 10	KM44	62.5	-60	6.26 – 54.13	34.13
December 10	KM45	89.5	-60	23.15 – 85.26	37.51
December 10	KM46	53.5	-60	18.42 – 47.09	28.67
December 23	KM47	65.5	-60	7.5 – 61.70	54.2
December 10	KM48	71.5	-60	23.00 – 65.00	41.94
December 23	KM49	80.5	-60	23.12 – 77.3	54.18
December 10	KM50	71.5	-60	9.67 – 63.95	54.28
December 10	KM51	95.5	-60	37.31 – 91.30	65.96
December 10	KM52	86.5	-60	24.51 – 77.50	52.99
December 10	KM53	68.5	-60	25.97 – 63.06	37.09
December 23	KM54	80.5	-60	13.40 – 73.25	59.85
December 23	KM55	74.5	-60	10.79 – 65.11	54.32
December 23	KM56	86.5	-60	20.84 – 73.48	52.64
December 23	KM57	71.5	-60	13.10 – 68.47	55.37
December 23	KM58	77.5	-60	11.50 – 70.54	59.04
December 23	KM59	77.5	-60	7.40 – 63.20	55.80
December 23	KM60	92.5	-60	20.40 – 84.30	58.00
December 23	KM61	104.5	-60	17.48 – 91.18	73.70
December 10	Twin5 (88KU-05)	82.0	-90	11.85 – 73.24	61.39
December 23	Twin7 (88KU-07)	56.5	-45	8.96 – 49.77	34.19
December 23	Twin14 (90KU-14)	89.5	-45	0.89 – 85.40	68.18
December 23	Twin20 (90KU-20)	74.5	-90	0.62 – 74.50	39.87
	<b>Total</b>	<b>2 342.5</b>			

Additional information will be communicated in the near future as the fall 2009 exploration program advances, and among other things, the re-sampling results of the other eight (8) historical trenches and of the 31 drill holes.

### **Summary of the historical geological data of the Kipawa Complex and deposit**

The Zeus property covers most of the Kipawa Alkaline Complex (“KAC”): a concordant folded sheet of mildly peralkaline syenite and granite less than 200 metres thick. The KAC lies entirely within metamorphosed Precambrian gneiss of the Grenville Province, between a paragneissic and quartzo-feldspathic gneissic unit acting as the footwall. The KAC has been divided into two main units in the mineralized zone: a peralkaline granite gneiss unit and a syenite gneiss unit (with calc-silicate rocks intercalated within the syenite gneiss). The numerous REE-Y-Zr showings and zones, such as the Kipawa deposit, dotting the property are centered in and on these syenites.

The Kipawa deposit is defined over a strike length of 1,300 metres with a width ranging from 10 to 80 metres. It was partially drilled and it is the site of an historic yttrium and zirconium resource calculation on the West and East Zones by Unocal in 1990. The Central Zone of the deposit, 620 metres long, has no established resources because only three trenches and two drill holes have been done at very wide spacing even though every trench and drill hole in this part contain mineralization. Due to its favourable location at the top of an elongated hill, an open pit method for the mining of the mineralization was contemplated in 1990. The resource blocks having been calculated down to an average depth of 35 metres and limited to the eudialyte mineralization.

The Kipawa deposit is primarily characterized by four types of mineralization, three with heavy rare-earths-yttrium and one of zirconium. Beginning with the upper-syenite through to the basal portion dominated by calc-alkaline rocks, we firstly encounter a zone dominated by eudialyte (a mineral that contains up to 10% rare earth oxides (“REO”)), followed by a zone dominated by mosandrite and yttrio-titanite (up to 65% REO) and lastly by a calc-alkaline zone dominated by britholite (up to 62% REO). The fourth type of mineralization of zirconium, vlasovite, more or less altered and generally distributed in the syenitic gneiss, is present as independent horizons from the yttrium and rare earth mineralization. All ore-bearing mineralization generally occurs as decimetre bands disseminated along the entire width of the syenite.

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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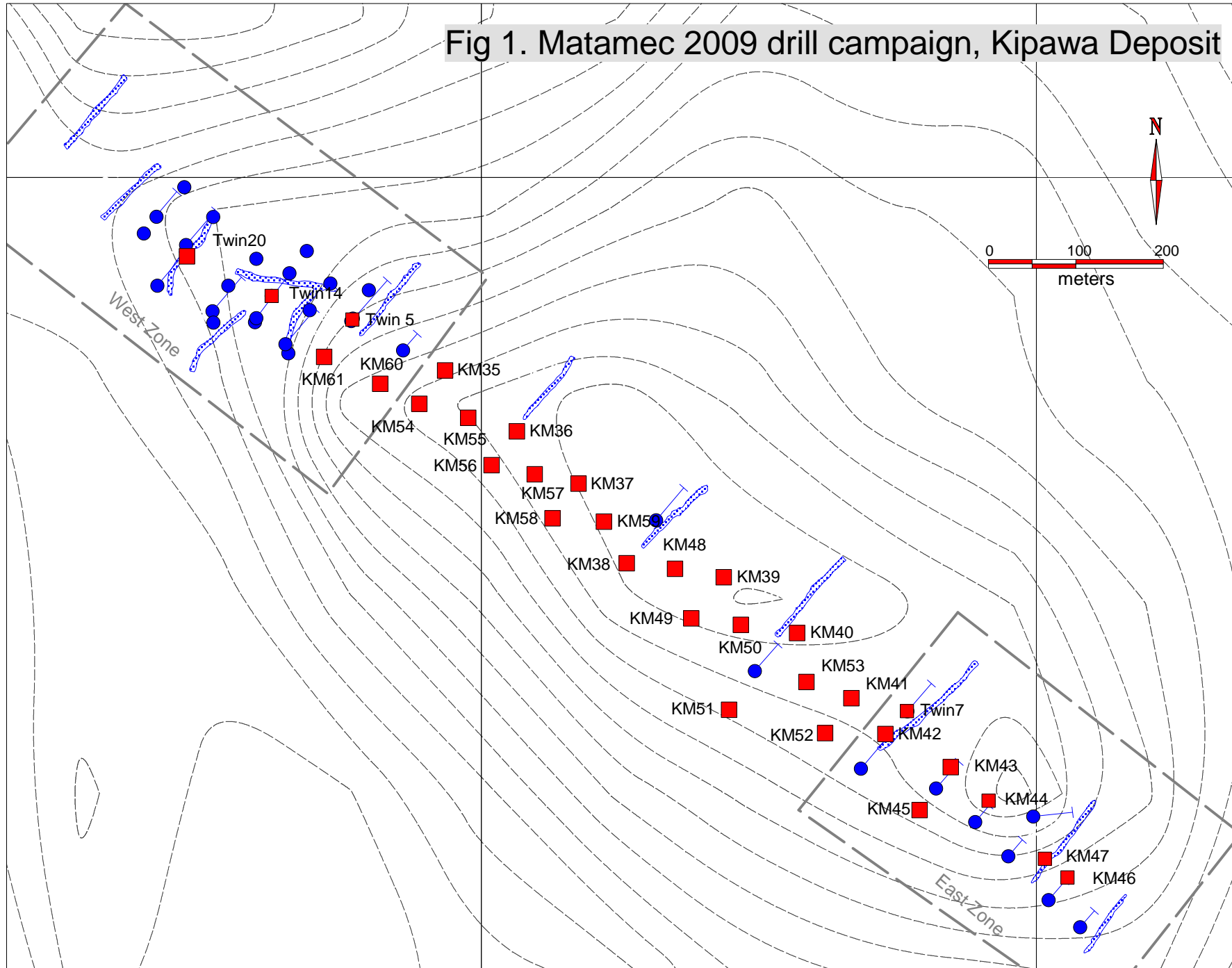
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Fig 1. Matamec 2009 drill campaign, Kipawa Deposit



Blue = Unocal DDH and trenches, Red = Matamec 2009 DDH

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