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ASX RELEASE

23 December 2010

KILLI KILLI (WA) DRILLING RESULTS CONFIRM RARE EARTH ELEMENT (REE) & GOLD MINERALISATION

(In the Tanami area, 200 kms south-east of Halls Creek, WA)

- **Analyses of 30 RC drill holes return encouraging REE values with a high component of Heavy Rare Earth Elements (HREE's) as well as significantly elevated gold values.**
- **HREE-enriched samples & gold mineralisation occurs in a unit of flat dipping basal conglomerate/sandstone and in underlying basement rocks.**
- **Rock chip sampling of the basal conglomerate/sandstone unit has recorded anomalous REE values up to 500 metres east of previous sampling. Importantly these samples are significantly enriched in the high value HREE's.**

Orion Metals Ltd (ASX: ORM) is pleased to report that assay results have now been received from the Company's first scout drilling programme of 30 RC holes and 25 additional rock chip samples on the Killi Killi Rare Earth Element (REE), gold & uranium prospect in Western Australia **(see Figures 1 & 2).**

Twelve of the holes drilled on the prospect in November returned significant intercepts of REE's in the basal conglomerate/sandstone unit, as tabulated in **Table 1,** while more individual intersections of anomalous REE's were recorded in these and other holes.

Table 1 also shows the sporadic correlation between REE concentrations and the anomalous gold mineralisation that was reported in the ASX release of 10 December. In sampling intervals of between 1 and 3 metres in several holes (e.g., KK 03, KK13, KK14 and KK27), total REEY (REE + Yttrium) concentrations range from 2,869 to 4,315 ppm.

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Table 1: REE & Gold Mineralised Drill Intercepts (ppm)

Hole	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Y	Au	Total REEY	Total HREEY*	TREEY/ HREEY	HREE %
KK01 0 – 6															5.58				
KK02 2 - 3															0.21				
KK03 1 - 3	192	605	144	774	224	23	137	19	103	20	55	6	33	534	0.07	2869	907	3	31.6
KK04 0- 3	151	456	109	634	156	14	73	9	50	10	30	4	21	236	0.07	1953	433	5	22.2
KK05 7-11															0.21				
KK0 7 4 - 6															0.30				
KK07 7- 8	168	387	70	326	67	7	29	3	7	1	3	1	2	26	0.04	1097	72	15	6.6
KK09 0 - 2	152	485	119	687	193	17	100	12	57	10	29	3	17	277	0.13	2158	505	4	23.4
KK013 0- 3	554	1367	275	905	248	22	134	20	115	24	76	10	58	507	0.25	4315	944	5	21.9
KK014 0-1	319	1118	303	1000	423	32	175	23	118	25	74	8	47	568	0.02	4233	1038	4	24.5
KK015 3 - 4															0.40				
KK017 1-6	57	130	20	89	22	3	21	3	19	4	10	1	8	82	0.01	468	148	3	31.6
KK019 2-3	251	760	135	667	144	14	67	6	21	3	11	1	9	75	0.02	2164	193	11	8.9
KK020 1-6	61	155	25	117	29	4	24	4	24	5	15	2	12	121	0.02	598	207	3	34.6
KK021 6-11	103	279	52	265	77	10	70	11	68	13	37	5	26	301	0.03	1319	532	2	40.4
KK022 3-4	274	869	153	725	116	9	44	4	13	2	9	1	7	55	0.01	2281	135	17	5.9
KK023 1-6	222	649	105	493	82	7	32	3	11	2	7	1	6	53	0.01	1673	115	15	6.9
KK024 1-4	355	969	155	728	139	12	57	6	26	5	18	2	15	134	0.02	2622	263	10	10.0
KK025 4-8	78	243	37	183	38	4	18	2	6	1	4	1	3	33	0.44	650	67	10	10.4
KK027 2-3	471	1364	273	1000	205	17	99	13	79	18	57	8	48	426	0.01	4078	748	5	18.3
KK030 3-4	184	574	92	463	119	12	52	5	15	2	7	1	5	55	0.02	1586	142	11	9.0

* HREE (Gd to Yb)

Table 2: REE & Gold Intercepts in Basement Rocks (ppm)

Hole	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Y	Au	Total REEY	Total HREEY*	TREEY HREEY	% HREEY
KK05 7 - 11	35	65	7	20	4	1	3	0	2	0	1	0	1	10	0.21	140	19	8	12.5
KK05 11-18	79	176	29	130	31	4	24	4	22	5	13	2	10	116	0.01	528	196	3	30.4
KK013 3-4	143	403	69	326	59	6	26	3	9	1	6	1	1	43	0.15	1050	88	12	8.1
KK013 4 - 12	69	182	29	133	25	3	14	2	9	2	5	1	4	43	0.05	477	79	7	15.2
KK016 6-12	65	151	25	116	28	4	23	4	21	4	12	2	9	99	0.01	464	174	3	30.9

* HREE (Gd to Yb)

Table 3: Significant REE and Gold Rock Chip Sample Results

Sample No	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Y	Au	Total REEY	Total HREEY	TREEY HREEY	% HREEY
KK42	475	1325	235	>1000	319	31	145	12	35	6	19	2	16	121	0.1	2620	356	11	9.5
KK43	606	1468	297	>1000	229	19	119	16	105	24	84	12	76	414	0.01	3055	850	5	19.0
KK48	811	2071	456	>1000	357	36	215	33	207	45	137	18	100	904	0.03	4486	1659	4	26.0
KK49	263	510	131	632	159	23	182	35	274	66	217	31	184	1094	0.01	2707	2083	2	54.8
KK51	159	399	67	329	74	8	41	5	24	5	16	2	13	123	-	1141	229	6	18.1
KK57	367	1118	311	>1000	608	65	382	54	317	63	169	19	93	1444	0.71	3566	2541	2	42.3
KK58	255	667	144	737	181	19	123	20	136	30	94	12	72	677	0.06	2490	1164	3	36.8
KK64	721	1890	263	993	142	12	59	6	18	3	10	1	7	56	0.01	4125	160	26	3.8
KK65	502	1427	228	>1000	176	13	66	7	26	5	20	3	18	108	0.01	2491	253	14	7.0
KK66	600	1657	243	987	159	13	67	6	16	2	8	1	6	51	0.01	3765	157	24	4.1

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Orion's REE specialist consultant, Professor Ken Collerson, has noted that the high mean percentage of HREEY to total REE + Y in these samples at 19% although some individual intervals contain more than 40% HREEY.

This variation in HREEY to total REEY reflects variation in the proportions of the two principal REE – bearing minerals precipitated in the sediments. These minerals, xenotime (HREE - enriched) and florencite (LREE - enriched) are considered to have precipitated from fluids that permeated the porous sediments and possible nearby structures during the mineralisation event.

In some samples there appears to be a good correlation between gold and Total REE + Y, while in others the correlation is less apparent.

Significantly 4 holes intersected anomalous REE mineralisation below the unconformity in altered basement metasediments **(see Table 2).** These assays confirm that the REE and gold mineralisation at Killi Killi is of hydrothermal origin and is not solely restricted to the basal conglomerate/sandstone units.

Along with additional anomalous rock chip sampling this drilling indicates that that HREE mineralisation is likely to be more extensive than was previously thought.

Rock Chip Sampling

Further rock chip sampling (KK42 to KK66) of the basal conglomerate/sandstone unit was conducted to establish the limits of the REE mineralisation in outcrop, and of the 25 samples taken, 8 contained anomalous REE's and gold (up to 0.7 g/t) as detailed in **Table 3.** Of particular note is that samples KK64 – 66 which were up to 500 metres east of the Killi Killi East No.1 mineralised zone **(see Figure 3).**

The assays from this programme clearly indicate that the Company's exploration tenements contain significant sediment-hosted concentrations of high value heavy rare earth element (HREE) mineralisation as well as an important gold association.

During the current wet season in the Tanami region, a full assessment of all available data will be made utilising specialist consultants and in house professionals. This will provide specialised targeting information for next field season's activities which will largely be focusing on:-

- modelling the genesis of the REE-Au-U/Th mineralisation;
- testing other radiometric anomalies in the tenement area;
- reviewing the regional geology to identify possible new exploration targets;
- new and/or additional drill targets; and
- possible joint venture or acquisition of exploration licences in the immediate vicinity of the Killi Killi tenements.

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Technical information and exploration results contained in this report has been compiled by Orion Metals Ltd Director Adrian Day is a members of the Australasian Institute of Geoscientists and has relevant experience to the mineralisation being reported on to qualify as Competent Persons as defined by the Australasian Code for Reporting of Minerals Resources and Reserves. Mr Day consents to the inclusion in this release of the matters based on the information in the form and context in which is appears.

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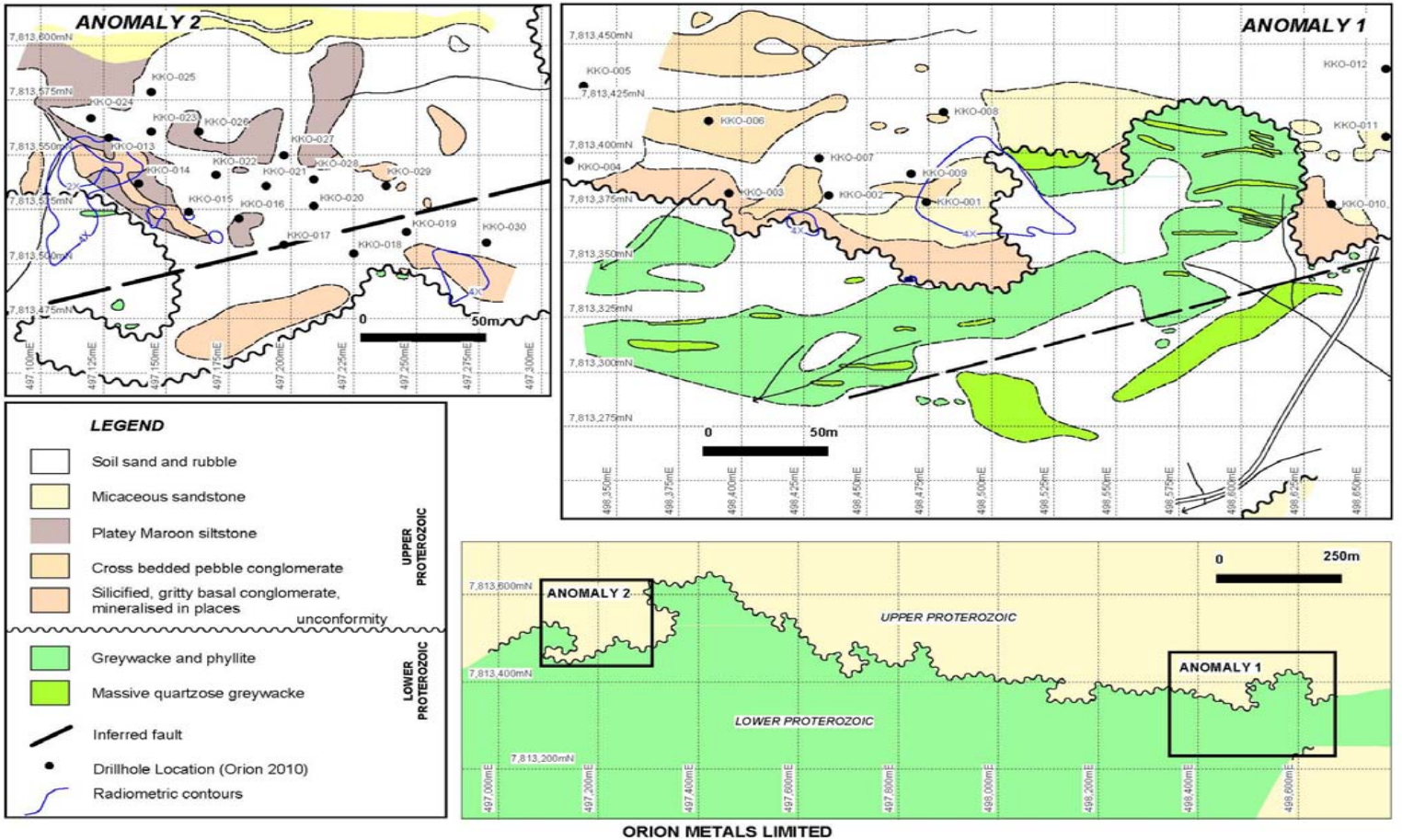
Figure 1:



ORION METALS LIMITED

KILLI KILLI EAST PROJECT - WESTERN AUSTRALIA
DRILLHOLE LOCATIONS (2010)

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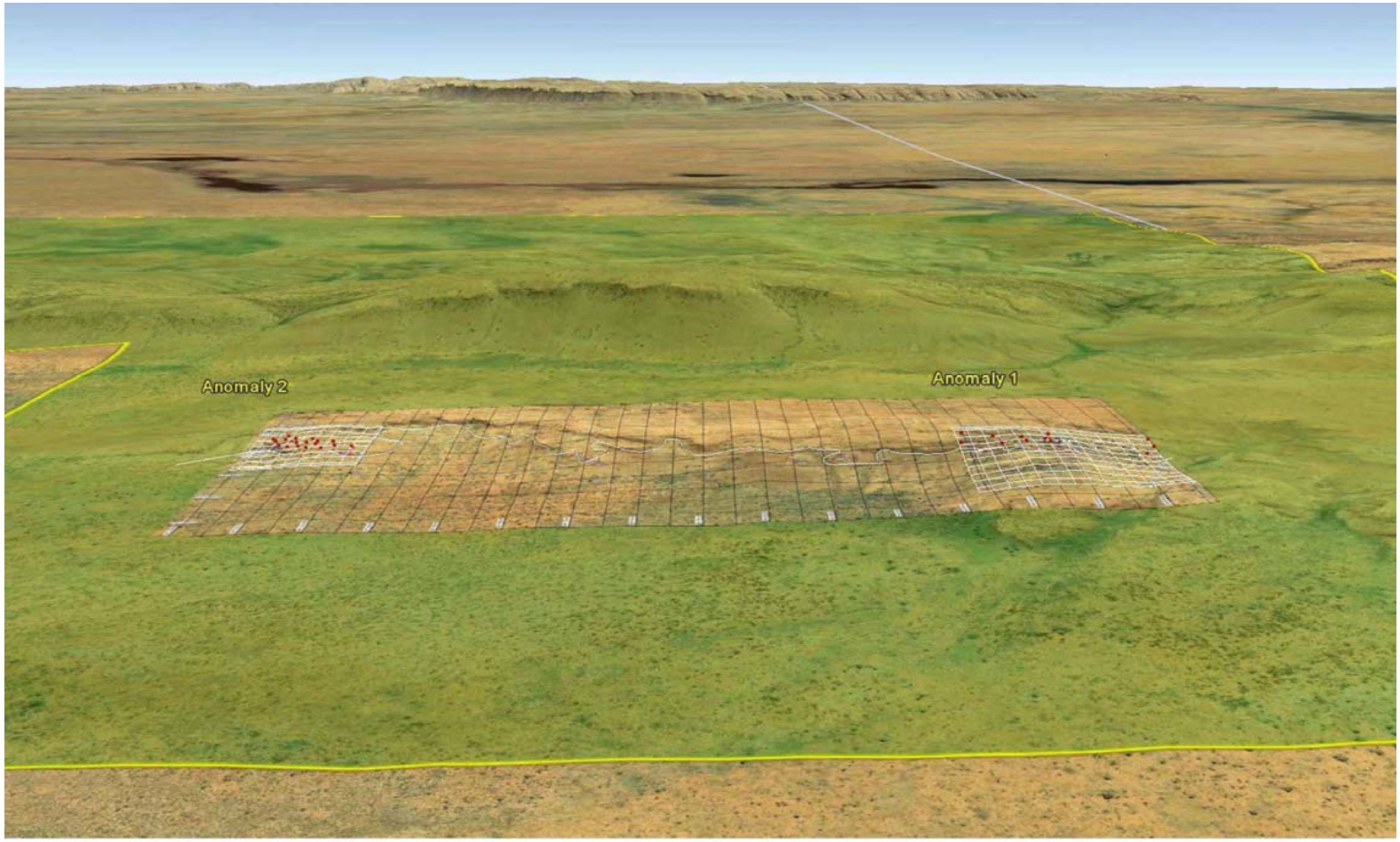
Figure 2:



Drilling locations (red dots) on the EL 80/4029 tenements looking north at the anomalies joined by the Killi Killi Hills unconformity. The coarse grid is 40x40m and the fine grid is 20x20m.

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Figure 3: