



Quest Rare Minerals Ltd.

QUEST RARE MINERALS' B-ZONE DEFINITION DRILLING EXTENDS REE DEPOSIT TO OVER 309.0 VERTICAL METRES, STRANGE LAKE, QUÉBEC

Highlights:

- *B-Zone drilling continues to expand the mineralized granite and has shown important expansion of the high grade surface pegmatite zone for over 1.0 km in strike length, with widths varying from 225 to 550 m and vertical thickness from 10 to over 112 metre*
- *Multiple, high grade intersections of between 1.21% and 5.31% TREO over widths of 1.43m and 112.65m characterize all holes drilled into the surface pegmatite zone, within a larger, 140.86 and 309.9 m-thick, mineralized envelope grading between 0.86%-1.02% TREO*
- *Deepening of 2009 drillholes into the B-Zone deposit have extended the granite hosted mineralization from a maximum vertical thickness of 135.2 m to over 309 m vertical*
- *Drilling will focus on further refinement of the high grade surface pegmatite mineralized zone*

Toronto, September 16, 2010 – Quest Rare Minerals Ltd. (TSX-V : QRM) is pleased to report the first results from 2010 diamond drilling of their B-Zone rare earth element (REE) deposit. The drilling is intended to determine the vertical extent of the mineralized system defined in 2009, to improve the confidence of the continuity of the system, and to better define the higher grade pegmatite resource observed to outcrop at surface as defined by previous Quest drilling. The B-Zone REE deposit has now been defined over a minimum of 1.1 km in strike length, over a width of up to 600 m and up to a vertical thickness of 309.9 m, more than double the previously reported vertical thickness (*see* Press Release: November 12, 2009). Lab results for holes BZ-10-20 to BZ-10-30A have returned multiple, high Total Rare Earth Oxide (TREO) grade intersections **of between 1.21 % and 5.31%** over thicknesses of 1.43 m to 112.65 m. Heavy REE (HREE) represents between **39% and 76.6%** of the Total REE (TREO) content intersected in the new drilling. Mineralization continues to be open to resource expansion along strike length and across width of the zone.

“Drilling on the B-Zone continues to support management’s view that the B-Zone represents a very large rare earth element resource,” said Peter Cashin, Quest’s President & CEO. “With a very positive Preliminary Economic Assessment for the B-Zone in hand and evidence that the deposit continues to expand in all directions, particularly for the higher grade surface pegmatite mineralization, we view that the project’s prospects will only improve as our exploration progresses.”

B-Zone Definition Drill Program

Assays have been received for the first 11 definition drillholes of the program representing 2244.0 m (*see* Table 1, 2). Currently three diamond drills are probing the B-Zone at drill centers of between 50-100 m. Drill results have confirmed strong REE mineralization over **1.1 km strike length and over widths of up to 600 m**. Drilling continues to confirm mineralization to be relatively flat dipping. A north trending pegmatite zone at the core of the mineralized envelop (*see* Figure 1) which is observed to outcrop, has

been defined along a minimum strike length of 1.0 km and vertical thicknesses of up to 112.65 m and constitute the highest grades observed in the B-Zone deposit. The surface footprint of the deposit is expressed as a two km-long, northeast trending airborne radiometric anomaly northwest of the Strange Lake Main Deposit. The radiometric anomaly abuts to the northwest against Brisson Lake and may extend further under the lake. Historical IOC drilling indicates that mineralization continues in this direction.

The best results returned from the first 11 holes of the program (*see* Table 2), are:

Borehole #	From (m)	To (m)	Length (m)	TREO (%)	HREE (%)
<u>BZ-10-021</u>	3.40	227.75	224.35	0.99	41.8
including	6.00	66.73	60.73	1.24	49.9
and including	29.10	38.95	9.85	2.36	58.2
<u>BZ-10-022</u>	1.23	197.30	196.07	1.02	41.5
including	2.05	43.04	40.99	1.24	49.7
and including	16.20	18.31	2.11	2.97	76.6
<u>BZ-10-023</u>	3.50	215.40	211.90	1.02	44.2
including	20.84	88.65	67.81	1.28	51.3
and including	54.40	63.25	8.85	2.04	61.3
<u>BZ-10-027</u>	4.50	314.40	309.90	1.00	39.4
including	13.50	126.15	112.65	1.30	47.8
and including	68.33	96.71	28.38	1.48	50.4
and including	68.33	70.40	2.07	4.40	49.7
and including	121.87	123.30	1.43	5.31	17.8
<u>BZ-10-028</u>	2.00	226.20	224.20	1.00	38.3
including	16.00	57.80	41.80	1.33	46.3
and including	16.00	19.00	3.00	2.90	73.5
<u>BZ-10-030A</u>	4.89	65.20	60.31	1.15	44.6
including	7.40	15.04	7.64	2.16	56.1
and including	53.88	65.20	11.32	1.27	51.0

Note: Drill was lost in a fault zone and in mineralization at 65.2 m. Hole will be re-drilled as BZ-10-30B

The better grades of mineralization are associated with what is termed the Pegmatite Zone which is composed of a high proportion of very coarse-grained pegmatite intercalated with extremely altered intrapegmatitic Strange Lake peralkaline granite at the uppermost parts of the B-Zone mineralized system (*see* Diamond Drill Sections in Figures 2, 3). The highly-altered granite hosting pegmatites continues to carry elevated grades of REE in excess of 0.7% TREO over core lengths of over 309 m. A 0.85% TREO cut-off, as specified in Quest's recent Preliminary Resource Estimate (*see* Press Release: April 7, 2010), was used in determining the average grades of diamond drill intersections.

In addition, we anticipate that the final Preliminary Economic Assessment (PEA) report by Wardrop Engineering Inc. will be filed on www.SEDAR.com shortly. Clarification on the many economic parameters presented in the PEA (*see* Press Release: September 9, 2010), including the pricing assumptions used in the study, will be elaborated on.

Quality Control

Mr. Peter Cashin, P. Geo., is the qualified person on the Strange Lake Project under National Instrument 43-101 and was responsible for this news release. Material for analysis has been obtained from drill core which was cut in half using a diamond saw. Half of the core was sent to the lab for analysis, with the remaining half left on-site for future reference. A strict QA/QC program is followed which includes the use of elemental standards, duplicates and blanks. Analyses were performed by Activation Laboratory Limited of Ancaster, Ontario.

About Quest Rare Minerals

Quest Rare Minerals Ltd. is a Canadian-based, exploration company focused on the identification and discovery of new and significant Rare Earth deposit opportunities. The Corporation is publicly listed on the TSX Venture Exchange as "QRM" and is led by a highly respected management and technical team with a proven mine finding track record. Quest is currently advancing several high potential projects in Canada's premier exploration areas: the Strange Lake and Misery Lake areas of northeastern Québec, the Kenora area of northwestern Ontario and the Plaster Rock area of northwestern New Brunswick. Quest's 2009 exploration led to the discovery of a significant new Rare Earth metal deposit, the B-Zone, on its Strange Lake property in northeastern Québec. The Corporation recently filed a 43-101 Inferred Resource Estimate on the B-Zone deposit and has completed a Preliminary Economic Assessment (PEA) for the deposit. In addition, Quest announced the discovery of an important new area of REE mineralization on its Misery Lake project, approximately 120 km south of Strange Lake project. Quest continues to pursue high-value project opportunities throughout North America.

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Forward-Looking Statements

This news release contains statements that may constitute "forward-looking information" or "forward-looking statements" within the meaning of applicable securities legislation. More particularly, this news release may contain forward-looking information concerning the Strange Lake B-Zone Rare Earth Element (REE) deposit held by Quest Rare Minerals Ltd. ("Quest"). This forward-looking information is subject to numerous risks and uncertainties, certain of which are beyond the control of Quest. Actual results or achievements may differ materially from those expressed in, or implied by, this forward-looking information. No assurance can be given that any events anticipated by the forward-looking information will transpire or occur, or if any of them do so, what benefits that Quest will derive. In particular, no assurance can be given with respect to the development by Quest of the Strange Lake B-Zone Rare Earth REE deposit. Forward-looking information is based on the estimates and opinions of Quest's management at the time the information is released and Quest does not undertake any obligation to update publicly or to revise any of the forward-looking statements, whether as a result of new information, future events or otherwise, except as may be 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.

Figure 1 – Geological and Diamond Drilling Compilation Map, B-Zone REE Deposit, Strange Lake Project, Québec

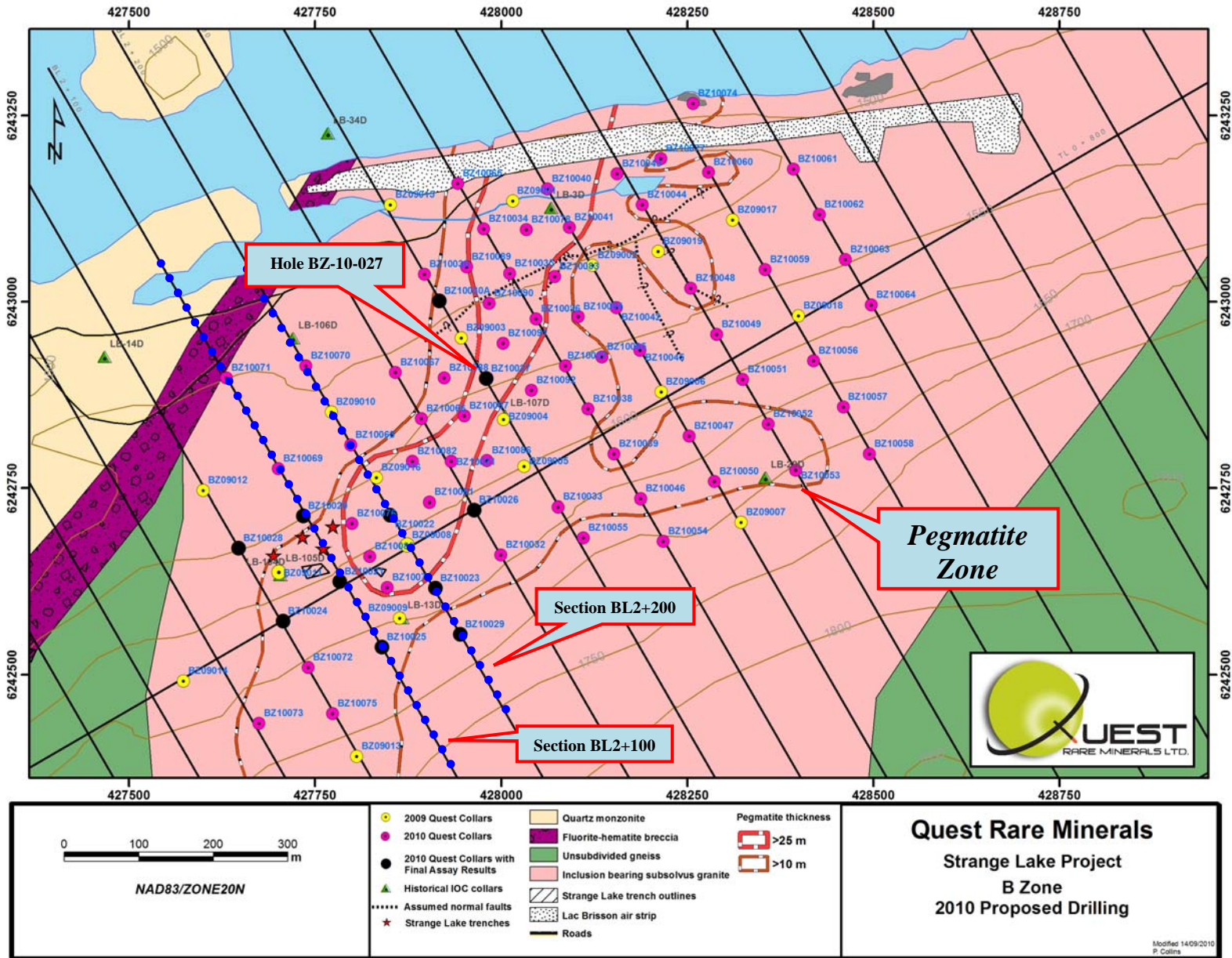


Figure 2 – Composite Diamond Drill Section BL2+100, B-Zone REE Deposit, Strange Lake Project, Québec

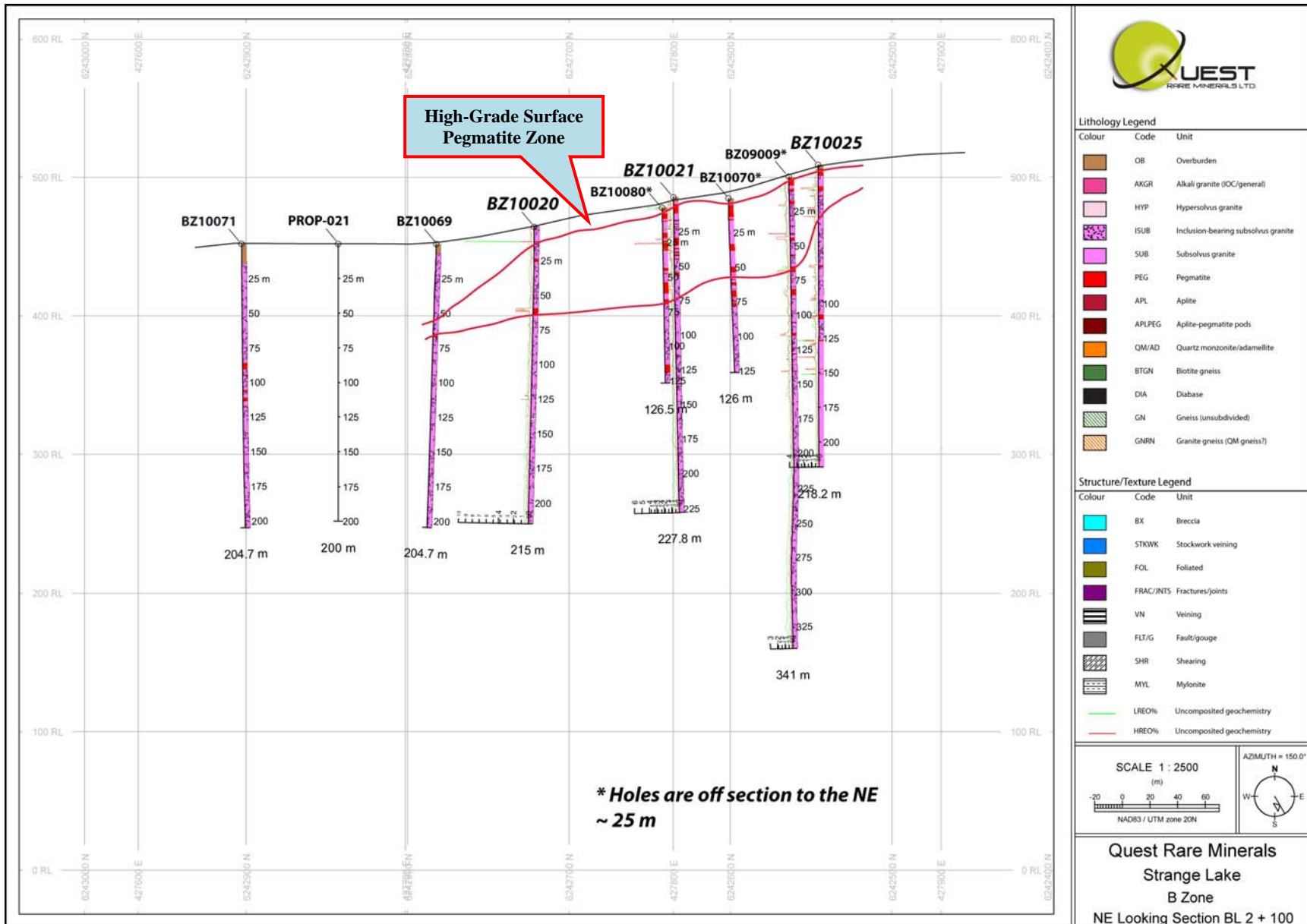


Figure 3 – Composite Diamond Drill Section BL2+200, B-Zone REE Deposit, Strange Lake Project, Québec

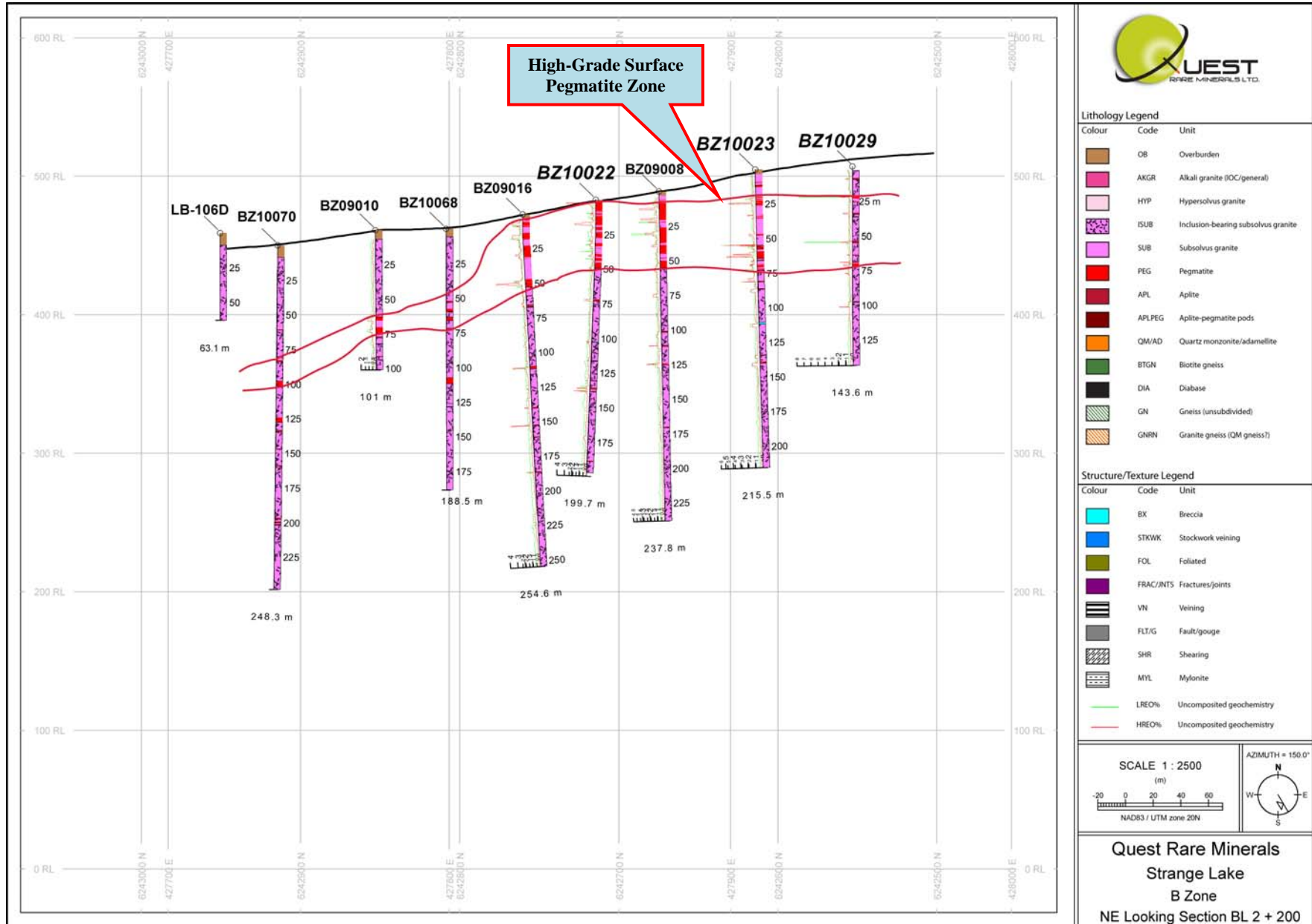


Table 1 – B-Zone Definition Diamond Drilling Assay Results, Strange Lake Project, Quebec

Borehole	From (m)	To (m)	Length (m)	TREO%	HREO%	LREO%	HREO %	La2O3	Ce2O3	Pr2O3	Nd2O3	Sm2O3	Eu2O3	Gd2O3	Tb2O3	Dy2O3	Ho2O3	Er2O3	Tm2O3	Yb2O3	Lu2O3	Y2O3	ZrO2	HfO2	Nb2O5
BZ10020	0.50	215.00	214.50	0.924	0.360	0.563	39.02	0.131	0.283	0.032	0.117	0.026	0.001	0.024	0.005	0.031	0.007	0.022	0.003	0.023	0.003	0.214	1.799	0.043	0.151
BZ10020	11.34	11.54	0.20	11.675	2.090	9.585	17.90	1.842	4.977	0.621	2.145	0.383	0.017	0.229	0.032	0.164	0.031	0.082	0.011	0.059	0.007	1.075	1.198	0.028	0.202
BZ10020	59.53	62.00	2.47	3.422	1.991	1.431	58.17	0.283	0.729	0.087	0.333	0.097	0.006	0.107	0.024	0.179	0.041	0.130	0.019	0.118	0.016	1.253	2.580	0.054	0.360
BZ10021	3.40	227.75	224.35	0.986	0.413	0.574	41.84	0.133	0.290	0.032	0.119	0.028	0.001	0.026	0.005	0.035	0.008	0.024	0.004	0.026	0.004	0.253	1.895	0.044	0.170
BZ10021	6.00	66.73	60.73	1.357	0.676	0.680	49.85	0.149	0.349	0.038	0.144	0.038	0.002	0.039	0.008	0.059	0.013	0.040	0.006	0.042	0.006	0.423	2.410	0.053	0.263
BZ10021	7.27	8.95	1.68	5.020	1.896	3.123	37.78	0.634	1.656	0.184	0.650	0.139	0.007	0.100	0.022	0.166	0.038	0.116	0.017	0.088	0.010	1.196	0.880	0.017	0.621
BZ10021	29.10	38.95	9.85	2.359	1.373	0.985	58.23	0.212	0.504	0.055	0.215	0.065	0.004	0.073	0.017	0.126	0.027	0.081	0.013	0.081	0.012	0.875	2.755	0.058	0.375
BZ10022	1.23	197.30	196.07	1.017	0.422	0.595	41.50	0.139	0.299	0.033	0.123	0.028	0.001	0.026	0.005	0.036	0.008	0.026	0.004	0.027	0.004	0.255	2.137	0.051	0.183
BZ10022	2.05	43.04	40.99	1.237	0.615	0.622	49.74	0.138	0.315	0.037	0.133	0.035	0.002	0.035	0.008	0.054	0.012	0.041	0.006	0.043	0.006	0.374	3.250	0.076	0.277
BZ10022	16.20	18.31	2.11	2.974	2.278	0.696	76.60	0.138	0.349	0.043	0.165	0.067	0.004	0.101	0.027	0.214	0.049	0.160	0.023	0.127	0.015	1.491	1.862	0.039	0.524
BZ10022	134.66	138.50	3.84	1.664	0.789	0.875	47.40	0.204	0.444	0.048	0.178	0.043	0.002	0.044	0.009	0.065	0.015	0.048	0.008	0.048	0.007	0.500	2.253	0.052	0.248
BZ10023	3.50	215.40	211.90	1.016	0.449	0.567	44.20	0.132	0.284	0.032	0.119	0.028	0.001	0.027	0.006	0.039	0.009	0.028	0.004	0.030	0.005	0.272	2.028	0.047	0.231
BZ10023	20.84	88.65	67.81	1.284	0.659	0.625	51.34	0.140	0.323	0.035	0.127	0.033	0.002	0.034	0.008	0.057	0.013	0.043	0.007	0.046	0.007	0.410	2.614	0.057	0.383
BZ10023	20.84	24.78	3.94	2.462	1.253	1.209	50.90	0.255	0.630	0.073	0.250	0.054	0.003	0.047	0.013	0.106	0.026	0.090	0.015	0.097	0.014	0.790	3.778	0.075	0.616
BZ10023	54.40	63.25	8.85	2.044	1.253	0.791	61.29	0.166	0.407	0.044	0.174	0.054	0.003	0.063	0.015	0.110	0.025	0.077	0.011	0.075	0.011	0.809	3.119	0.066	0.322
BZ10024	4.26	218.66	214.40	0.949	0.399	0.550	42.03	0.129	0.271	0.031	0.118	0.027	0.001	0.025	0.005	0.035	0.008	0.025	0.004	0.024	0.003	0.241	1.839	0.044	0.170
BZ10024	12.00	52.20	40.20	1.213	0.620	0.593	51.13	0.132	0.301	0.033	0.126	0.033	0.002	0.034	0.007	0.054	0.012	0.042	0.006	0.041	0.006	0.383	2.401	0.055	0.257
BZ10025	2.87	218.00	215.13	0.857	0.386	0.471	45.08	0.111	0.238	0.026	0.096	0.023	0.001	0.021	0.005	0.033	0.007	0.024	0.004	0.026	0.004	0.237	1.917	0.045	0.172
BZ10025	13.53	37.22	23.69	1.093	0.525	0.568	48.01	0.128	0.292	0.032	0.117	0.031	0.002	0.028	0.006	0.047	0.010	0.032	0.005	0.034	0.005	0.325	2.210	0.050	0.219
BZ10025	126.35	151.28	24.93	0.957	0.454	0.503	47.44	0.118	0.249	0.029	0.106	0.025	0.001	0.024	0.005	0.038	0.009	0.028	0.005	0.032	0.005	0.281	2.147	0.051	0.156
BZ10026	4.50	202.50	198.00	0.931	0.385	0.546	41.38	0.128	0.277	0.030	0.111	0.026	0.001	0.024	0.005	0.033	0.007	0.022	0.004	0.025	0.004	0.234	2.076	0.048	0.183
BZ10026	4.96	63.88	58.92	1.004	0.456	0.548	45.42	0.124	0.282	0.030	0.112	0.028	0.002	0.027	0.006	0.039	0.009	0.028	0.005	0.034	0.005	0.273	2.743	0.060	0.251
BZ10026	7.95	13.57	5.62	1.256	0.491	0.765	39.07	0.178	0.387	0.042	0.158	0.036	0.002	0.035	0.007	0.043	0.009	0.026	0.004	0.029	0.004	0.296	2.767	0.060	0.177
BZ10026	21.70	22.17	0.47	4.839	2.125	2.713	43.92	0.565	1.429	0.158	0.561	0.151	0.008	0.131	0.028	0.195	0.041	0.129	0.020	0.122	0.015	1.285	3.285	5.285	7.285
BZ10027	4.50	314.40	309.90	1.001	0.394	0.606	39.40	0.144	0.302	0.034	0.127	0.028	0.001	0.026	0.005	0.035	0.008	0.025	0.004	0.025	0.004	0.233	1.630	0.039	0.157
BZ10027	13.50	43.31	29.81	1.478	0.835	0.643	56.47	0.142	0.332	0.037	0.133	0.037	0.002	0.040	0.010	0.072	0.017	0.055	0.009	0.058	0.008	0.527	2.646	0.058	0.322
BZ10027	13.50	126.15	112.65	1.304	0.624	0.680	47.84	0.156	0.341	0.039	0.143	0.035	0.002	0.036	0.008	0.057	0.013	0.042	0.007	0.042	0.006	0.375	2.110	0.050	0.247
BZ10027	68.33	96.71	28.38	1.476	0.743	0.732	50.37	0.165	0.363	0.045	0.159	0.041	0.002	0.044	0.010	0.077	0.018	0.056	0.008	0.050	0.007	0.430	1.784	0.044	0.249
BZ10027	68.33	70.40	2.07	4.402	2.186	2.216	49.67	0.464	1.109	0.141	0.501	0.130	0.007	0.134	0.031	0.242	0.055	0.169	0.024	0.128	0.015	1.251	1.642	0.041	0.530
BZ10027	121.87	123.30	1.43	5.308	0.943	4.365	17.77	1.090	2.131	0.232	0.912	0.175	0.008	0.131	0.016	0.078	0.013	0.033	0.004	0.022	0.003	0.460	2.460	4.460	6.460
BZ10028	2.00	226.20	224.20	0.995	0.381	0.614	38.29	0.143	0.311	0.033	0.127	0.028	0.001	0.025	0.005	0.033	0.007	0.023	0.004	0.023	0.003	0.229	1.651	0.041	0.160
BZ10028	16.00	57.80	41.80	1.330	0.616	0.714	46.30	0.166	0.360	0.039	0.149	0.036	0.002	0.036	0.007	0.053	0.012	0.038	0.006	0.038	0.005	0.382	1.923	0.045	0.264
BZ10028	16.00	19.00	3.00	2.899	2.131	0.768	73.51	0.163	0.400	0.041	0.163	0.071	0.006	0.100	0.025	0.183	0.043	0.137	0.021	0.136	0.018	1.392	3.133	0.058	0.944
BZ10029	2.74	143.6	140.86	0.921	0.395	0.526	42.86	0.123	0.264	0.030	0.109	0.026	0.001	0.024	0.005	0.034	0.008	0.025	0.004	0.027	0.004	0.238	2.033	0.048	0.178
BZ10029	20.77	54.78	34.01	1.016	0.428	0.588	42.13	0.134	0.295	0.034	0.124	0.028	0.001	0.026	0.005	0.037	0.008	0.026	0.004	0.028	0.004	0.259	2.161	0.052	0.206
BZ10029	22	22.2	0.20	9.443	2.033	7.410	21.53	1.572	3.864	0.447	1.527	0.339	0.016	0.211	0.033	0.176	0.030	0.071	0.009	0.051	0.007	1.091	1.091	1.091	1.091
BZ10029	54.58	54.78	0.20	8.276	1.730	6.546	20.90	1.372	3.408	0.413	1.353	0.249	0.012	0.156	0.022	0.126	0.027	0.082	0.012	0.075	0.010	0.959	0.959	0.959	0.959
BZ10030A	4.89	65.2	60.31	1.145	0.511	0.635	44.57	0.153	0.316	0.035	0.131	0.027	0.001	0.027	0.006	0.043	0.010	0.033	0.006	0.042	0.006	0.310	1.843	0.040	0.228
BZ10030A	7.4	15.04	7.64	2.155	1.210	0.946	56.12	0.258	0.484	0.048	0.156	0.037	0.002	0.044	0.013	0.102	0.025	0.084	0.015	0.100	0.015	0.773	3.025	0.054	0.466
BZ10030A	53.88	65.2	11.32	1.267	0.647	0.620	51.04	0.141	0.309	0.036	0.135	0.030	0.001	0.030	0.007	0.053	0.012	0.047	0.009	0.075	0.012	0.370	2.131	0.048	0.224

Where: Be=beryllium, Zr=zirconium, Y=yttrium, Nb=niobium, La=lanthanum, Ce=cerium, Nd=neodymium, Sm=samarium, Pr=praseodymium, Eu=europium, Gd=gadolinium, Tb=terbium, Dy=dysprosium, Lu=lutetium, Tm=thulium, LREE=light rare earth elements, HREE=heavy rare earth elements, TREE= Total Rare Earth metals, TREO= Total Rare Earth Oxides.

Table 2 – Diamond Drillhole Location Table, B-Zone Deposit, Strange Lake Project, Québec

DDH	Easting	Northing	Elevation	Depth	Dip	Azimuth
BZ10021	427783	6242625	486	215.00	-90	0
BZ10020	427734	6242713	465	227.75	-90	0
BZ10022	427851	6242714	483	197.30	-90	0
BZ10023	427912	6242616	505	215.50	-90	0
BZ10024	427707	6242572	495	218.66	-90	0
BZ10025	427840	6242537	509	218.00	-90	0
BZ10026	427964	6242721	487	202.50	-90	0
BZ10027	427980	6242897	465	314.40	-90	0
BZ10028	427647	6242670	467	226.20	-90	0
BZ10029	427945	6242554	507	143.60	-90	0
BZ10030A	427917	6243001	445	65.20	-90	0