



*Ministry of Energy and Mineral Resources
The Hashemite Kingdom Of Jordan*

WADI LUBNAN

“PROPOSED AREA FOR INVESTMENT OPPORTUNITY”

“Gold, Base Metals, & REEs”

“Brief”

Geology and Mining Directorate

Geological and Geochemical Surveys Division

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1. OVERVIEW

1.1. Objective

The aim is to open the area for private sector investment for exploration as it has been identified through a previous regional geochemical survey as containing significant anomalies indicating the presence of base metals, REEs and niobium, and elevated values of gold.

1.2. Area of Interest

The proposed area is located in the Aqaba Governorate region, about 13 km southeast of the city of Aqaba, and encompassing approximately 80 km² ([Table-1](#)) ([Fig. 1](#)).

Its proximity to infrastructures such as tarmac roads, power lines, and the Aqaba port, enhances the project's development potential.

High mountains with rugged surfaces form the prominent terrain element with wide, deeply incised valleys. Elevations range from 416m to 1424m a.m.s.l ([Fig. 2](#)).

Table 1: Wadi Lubnan proposed investment area coordinates.

P	X (WGS 84 / UTM 36N)	Y (WGS 84 / UTM 36N)
1	704839	3247031
2	698378	3248353
3	698560	3253412
4	702470	3258612
5	703451	3257773
6	707483	3258819
7	708531	3252794
8	705904	3251741

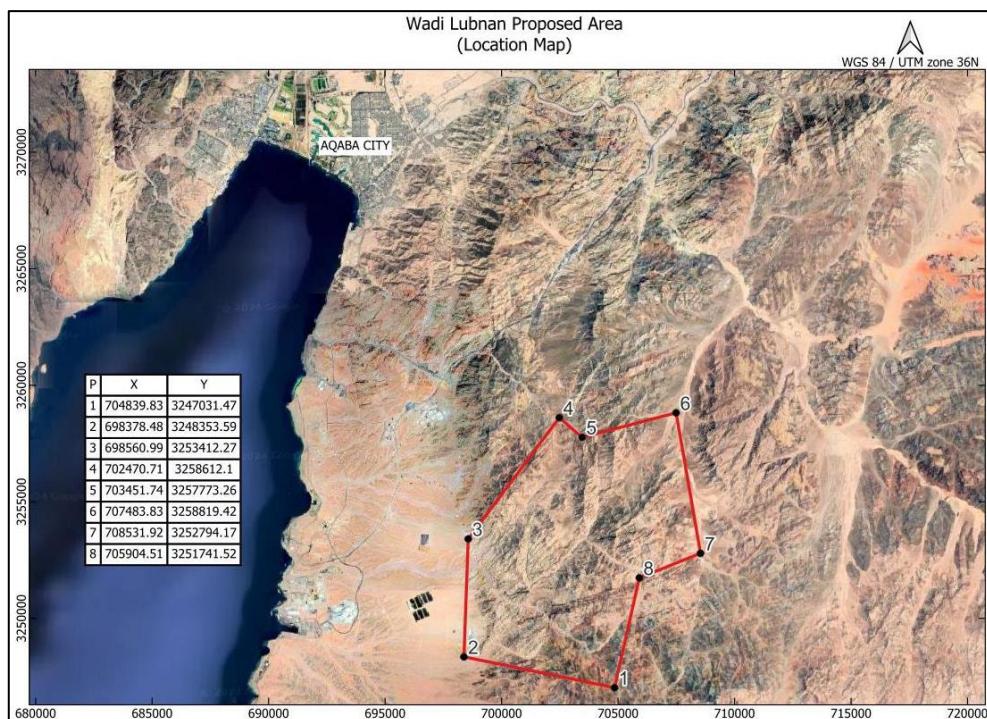


Figure 1: Location map of Wadi Lubnan proposed area.

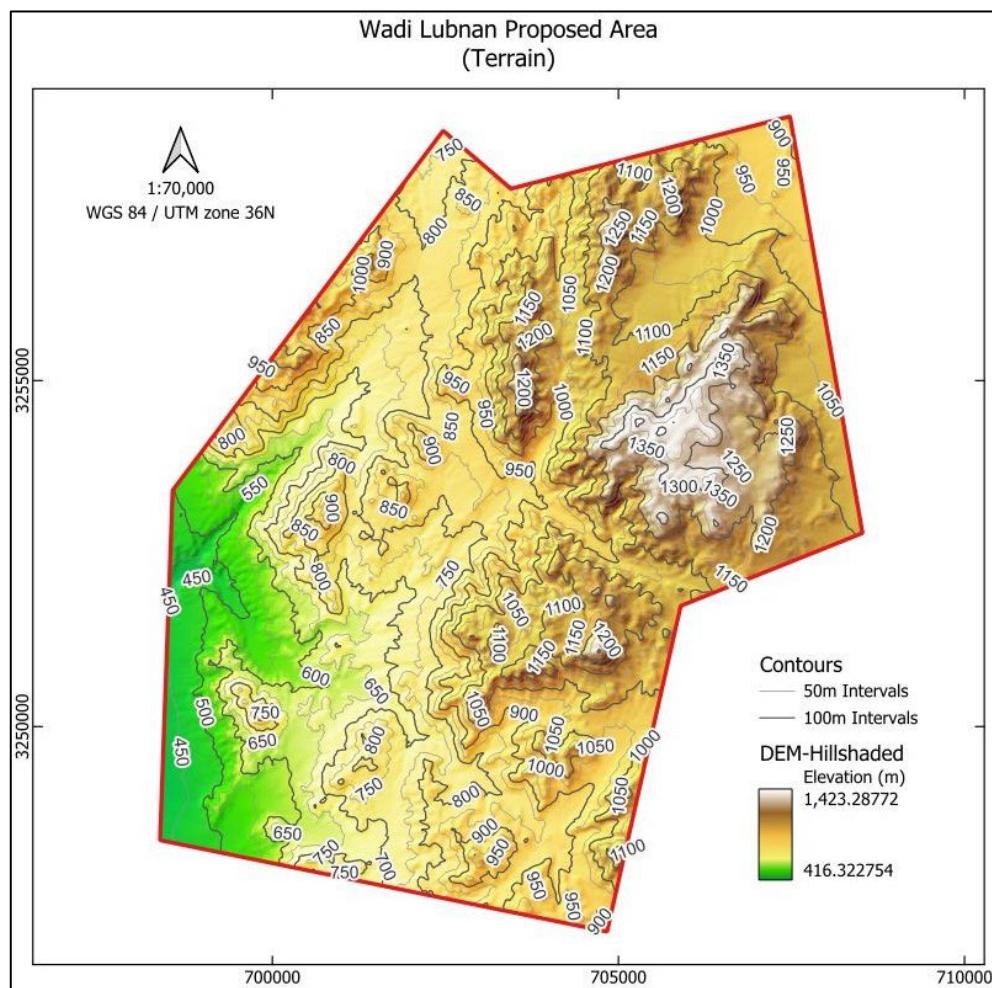


Figure 2: DEM and elevations of Wadi Lubnan proposed area.

1.3. Previous Work

A regional geochemical survey was conducted on the basement igneous rocks in the southern part of the Kingdom by the Geochemical Survey Division (formerly part of the Natural Resources Authority), in cooperation with the French Geological Survey (BRGM). The survey involved collecting samples of stream sediments and heavy minerals.

This survey, reported in 1994, identified several areas in the Aqaba and Wadi Araba regions that contained elements at above-normal concentrations, known as geochemical anomalies.

These elements included zinc, lead, copper, and other elements, which suggest the presence of mineralized zones.

The study recommended continued exploration in these anomaly areas in detail, including the proposed Wadi Lubnan area.

2. REGIONAL BACKGROUND

2.1. Geological Setting

The proposed area is underlain by basement igneous and metamorphic rocks, which are considered the northernmost extension of the Arabian-Nubian Shield ([Fig. 3](#)).

The igneous rocks are primarily represented by the Yutum Granite suite, which is the dominant, and the Ruman Granodiorite suite, which has a geochemical profile rich in iron group elements with a more potassic fringe of an alkaline tendency (BRGM, 1994).

The metamorphic rocks are represented by the Janub Metamorphic suite, which is outcropped in the southernmost part of the area and largely overlapping with the Ruman Granodiorite suite. It consists mainly of quartzite and a few undifferentiated meta-sedimentary facies, as well as acidic and basic volcanites. It is metamorphosed in the greenschist facies and is cut by major NW-SE, NE-SW and N-S faults.

The Yutum suite contains outcrops of the Abu Jeddah granite, which is overlapping with the Humrat granite units in the north of the area, while the Ruman suite consists of the Sabil granodiorite unit, which shows Ba enrichment.

The area is interspersed with acidic and basic dykes with a dominant ENE-WSW and NE-SW directions, and other secondary directions, especially NW-SE and E-W.

The area is strongly influenced by structures associated with the Dead Sea Transform Fault System (DSTFS), which formed in the Miocene, as well as by Precambrian faults that contributed to the opening of the Red Sea and the submergence of the Aqaba Gulf by water near the end of the Miocene.

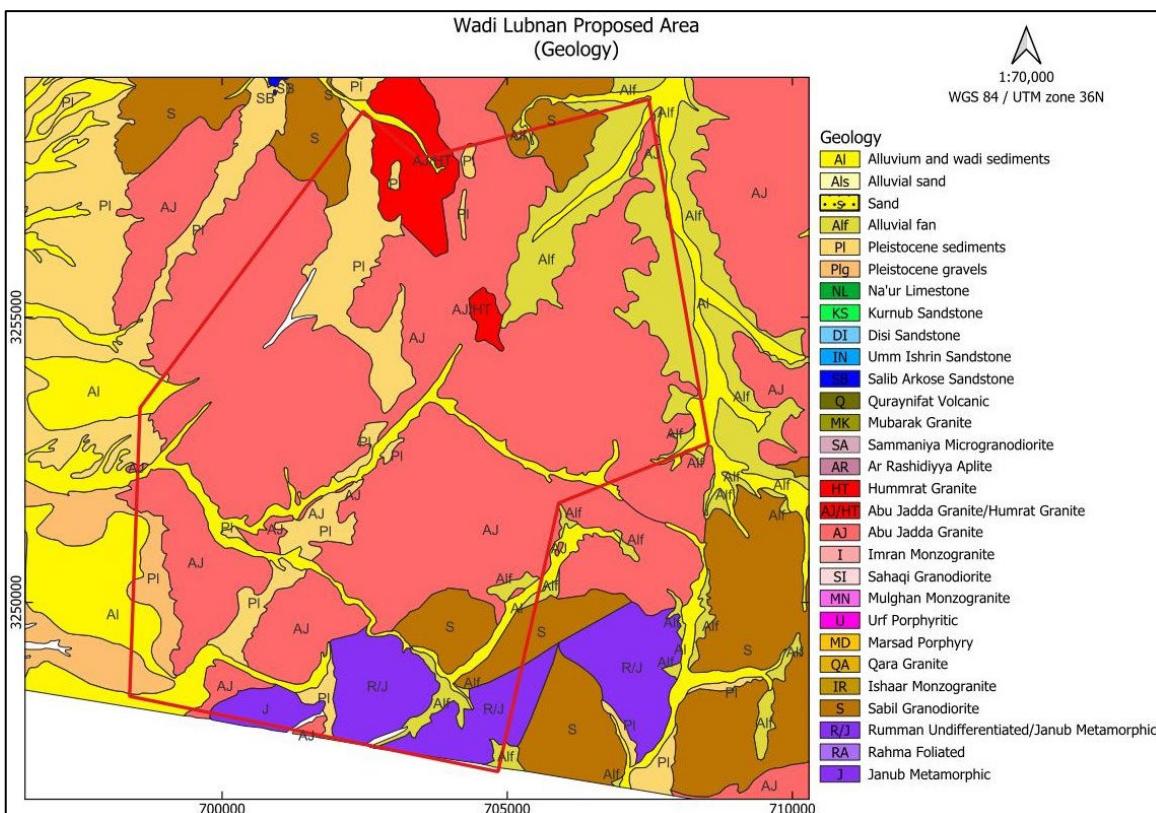


Figure 3: Geology of Wadi Lubnan proposed area. *Legend includes units other than those within the area's boundaries.*

2.2. Geochemical Survey Results

2.2.1. Survey Results

The Wadi Lubnan proposed area was surveyed by collecting stream sediment (SS) samples ([Appendix 1](#)).

The results from the BRGM regional geochemical survey provide valuable insights into the mineral potential of the proposed investment area ([Table 2](#)).

The survey identified significant geochemical anomalies that highlight prospective zones for mineral exploration ([Fig. 4](#)).

- **Zinc, Lead, and Copper**

Zinc, lead, and copper values up to 1288 ppm, 424 ppm, and 238 ppm, respectively, were observed in stream sediment samples. Most of the highest Zn, Pb and Cu values fell within the Janub Metamorphic suite in the south in

association with elevated gold values, where only few high values fell within the Abu Jeddah granite unit in the western part of the area.

The elevated Pb values within the Abu Jeddah granite unit are likely related to alkaline differentiation within the granite, where Zn values correlate with high V, Fe₂O₃, and TiO₂ values characterize the basic rocks, i.e., is related to the lithology.

- REEs and Niobium

Yttrium, cerium, and lanthanum, as proxies for REEs, elevated values up to 224 ppm, 951 ppm, and 240 ppm, respectively, were observed in stream sediment samples in association with anomalous phosphorous values within the Abu Jeddah granite unit in the western part of the area.

Niobium elevated values up to 262 ppm were observed in association with REEs within the Abu Jeddah granite unit in the western part of the area.

- Gold

Maximum gold values detected in a detailed (50x100 m grid) geochemical rock and soil survey, conducted by the BRGM within the Janub Metamorphic suite in the south, were 69 ppb and 31 ppb in rock and soil samples respectively. The lower gold value in soil samples may be due to the fact that gold is very fine and thus lost during the sieving process to 250-1000 µm fraction.

Table 2: Summary statistics of BRGM base metals, REEs, and Nb results.

	SS (ppm)						
	Zn	Pb	Cu	Y	La	Ce	Nb
Min.	46.0	7.0	6.0	12.0	24.0	24.0	5.0
Max.	1288.0	424.0	238.0	224.0	240.0	951.0	262.0
Range	1242.0	417.0	232.0	212.0	216.0	927.0	257.0
Mean	161.9	36.4	21.7	38.6	63.2	126.2	43.1
St. Dev.	152.2	56.4	26.2	35.0	39.7	151.5	32.3
Qr1	115.0	26.0	15.0	25.0	45.0	65.3	28.0
Qr2	149.5	33.0	19.0	34.0	54.0	124.0	43.0
Qr3	215.0	46.0	29.0	57.0	87.0	209.0	65.8
Skew.	3.9	3.9	4.8	2.5	1.8	2.2	2.0
kurt.	20.2	17.4	30.3	6.9	3.5	6.2	7.2
CI_{95%}	143.1- 180.6	29.4- 43.3	18.5- 24.9	34.3- 42.9	58.3- 68.1	107.6- 144.8	39.1- 47.0

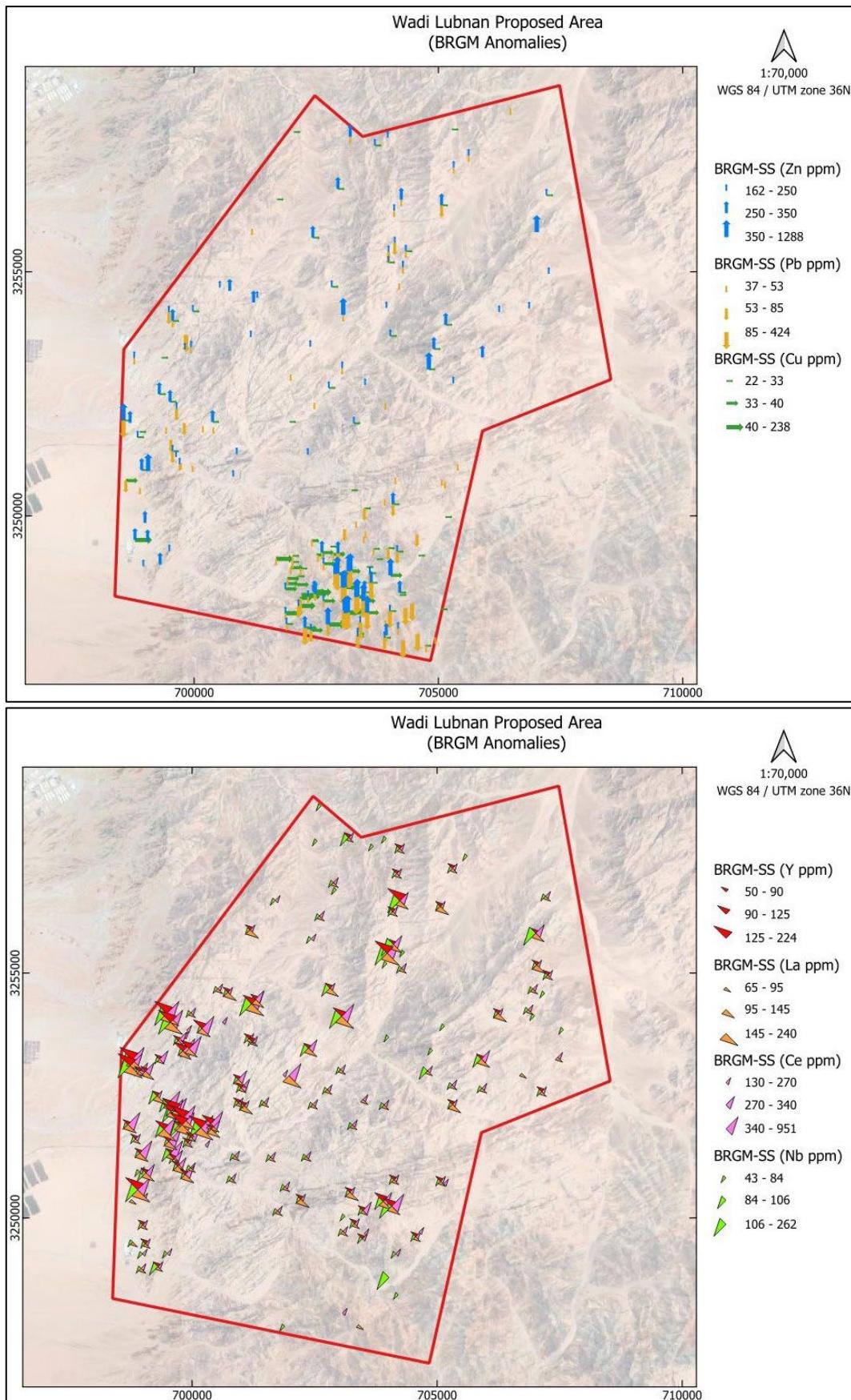


Figure 4: BRGM anomaly concentrations in SS samples.

2.2.2. Anomaly Areas

The survey results were mapped to identify two anomalous areas ([Fig. 5](#)), which are outlined as follows:

- **Anomaly-1 (southern part)**

This area exhibits anomalous Zn, Pb, and Cu concentrations with elevated Au values within the Janub Metamorphic suite.

According to BRGM, the Zn, Pb, Cu, and Au anomalies in this anomaly area represent three types of mineralization, where only quartz veinlets with chalcopyrite type is known as disseminated sulfide mineralization mainly with Au, Pb, and Zn in rhyolite, which is kaolinized in places.

An extension of sampling grid to the north and west of the detail-studied area (MUNRA-1) is recommended ([Fig. 6](#)). Further details are in BRGM (1994).

- **Anomaly-2 (western parts)**

This area exhibits anomalous REEs and Nb concentrations along with elevated values of Zn and Pb within the Abu Jeddah granite unit.

The identified anomaly area (1) was found to be almost identical to that identified by BRGM, while the anomaly area (2) was largely inconsistent in terms of size, possibly due to the way the data were interpreted ([Fig. 7](#))

These anomalous areas represent the primary targets for further prospecting and exploration works.

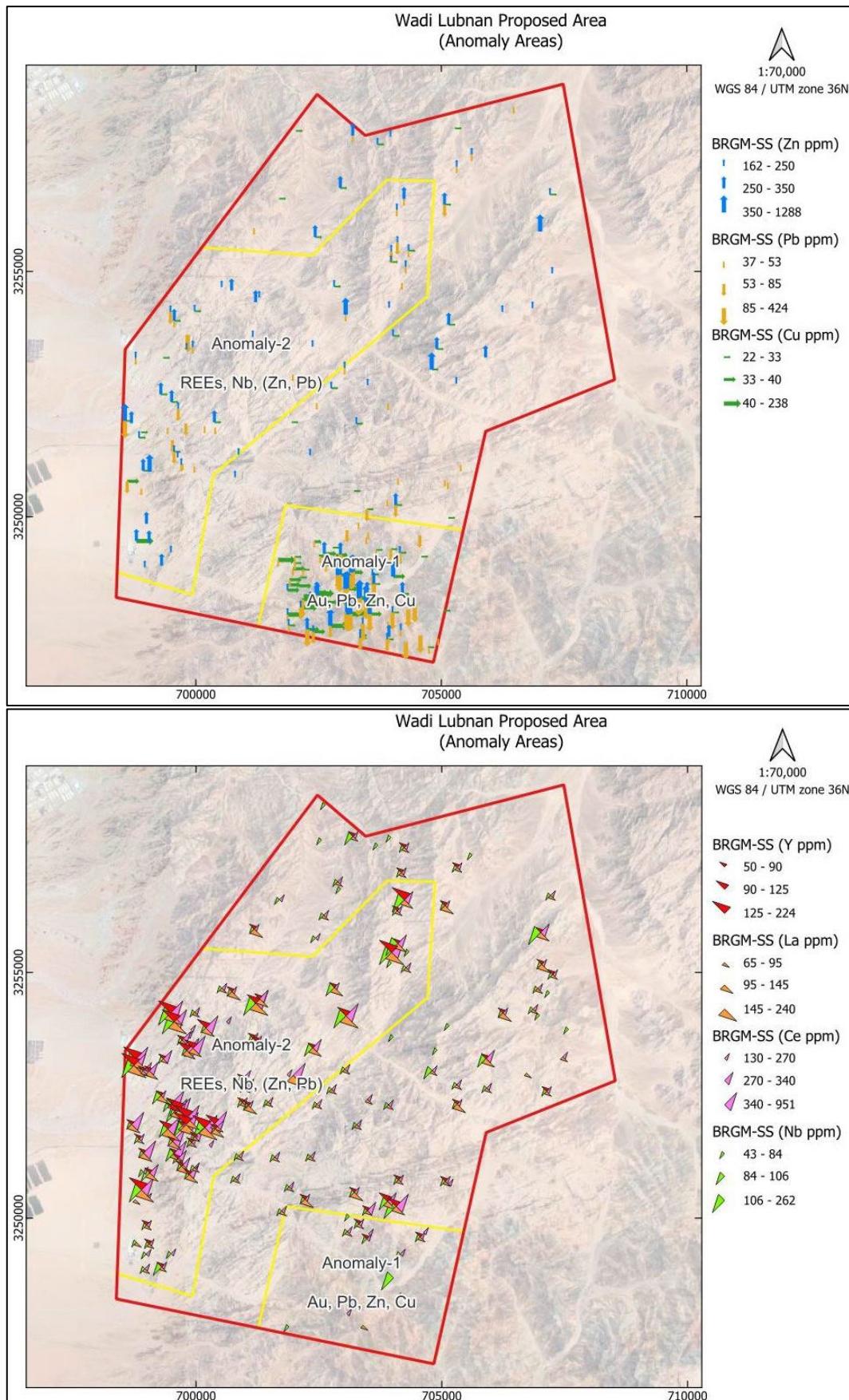


Figure 5: Anomaly areas identified in Wadi Lubnan proposed area.

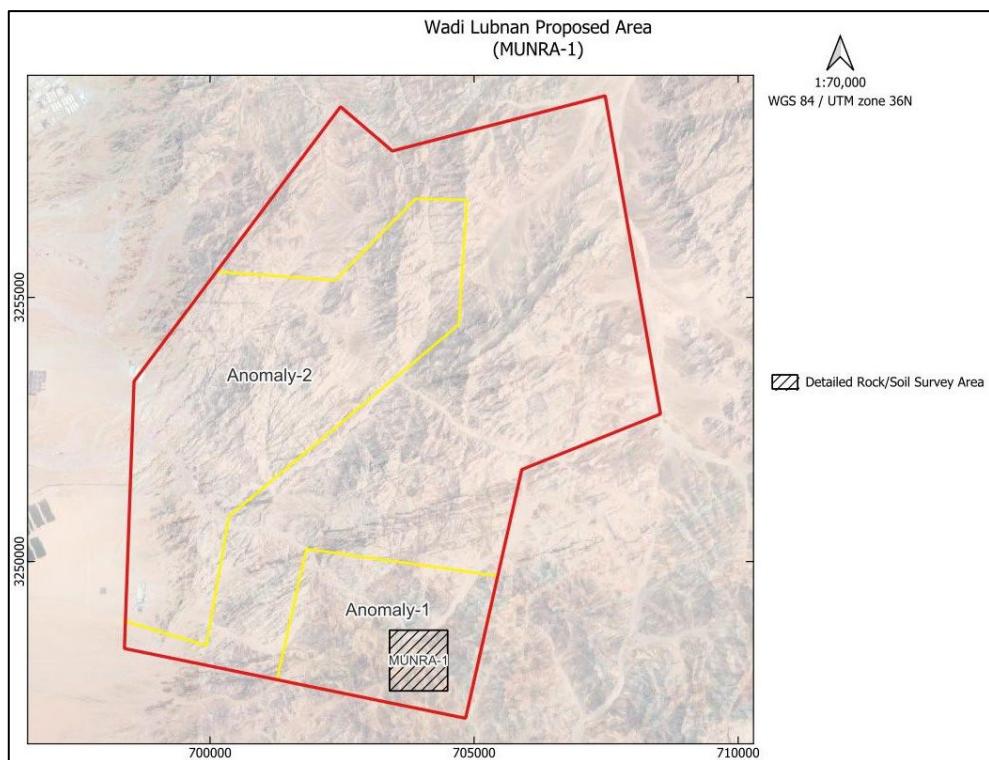


Figure 6: BRGM's detail rock/soil surveyed area (MUNRA-1).

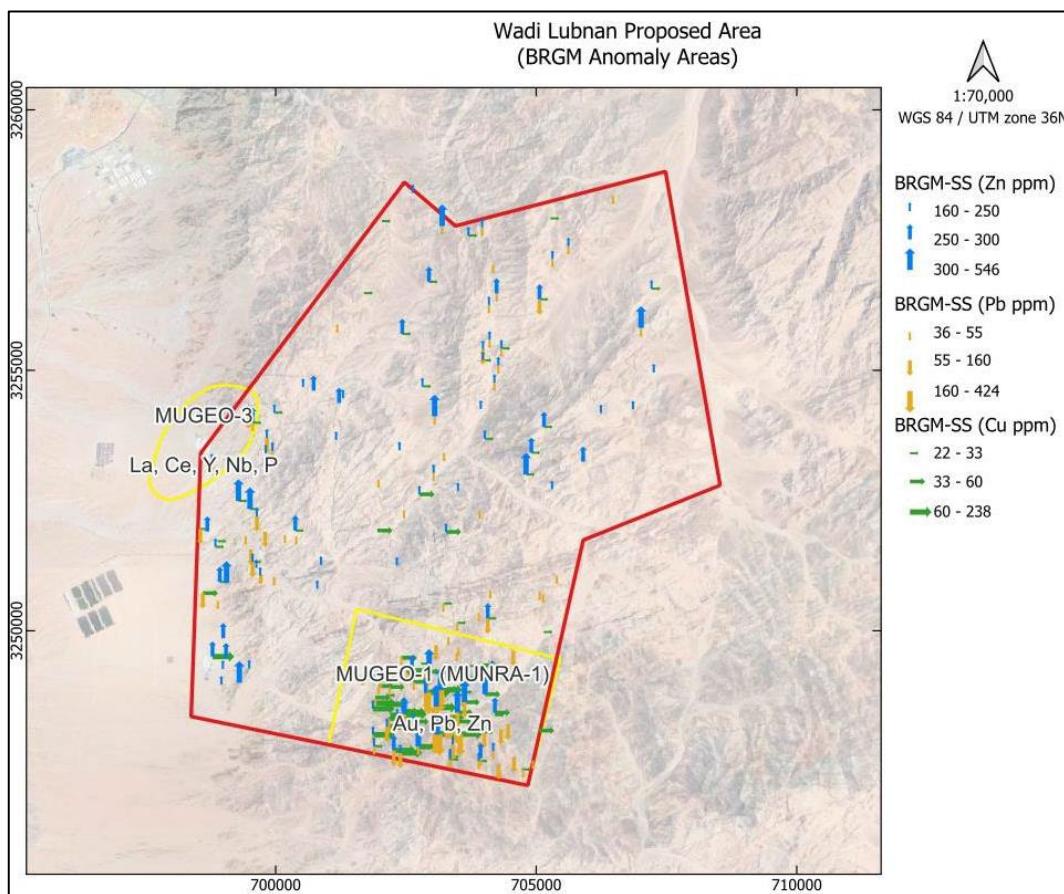


Figure 7: Anomaly areas identified by the BRGM in Wadi Lubnan proposed area.

3. REFERENCES

BRGM. (1994). Geochemical and Mineral Exploration of Aqaba-Araba Complex, *Ministry of Energy & Mineral Resources, Amman, Jordan. Internal Report.*

4. APPENDICES

Appendix 1: Analysis results of BRGM's stream sediment (SS) samples.

SS	X	Y	SiO2	Al2O3	Fe2O3	CaO	MgO	K2O	MnO	TiO2	Zn	Pb	Cu	Y
SID	WGS84/UTM36N	WGS84/UTM36N	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm
1	698554	3251955	43.9	7.4	6	4.6	1.7	1.1	0.3	1.48	1104	99	33	24
4	698601	3250723	27.1	4.2	3.2	5.8	1.1	0.8	0.1	0.69	128	76	43	12
5	698763	3250375	59	11.7	14.3	4.6	2.8	2	0.2	3.08	139	15	20	37
7	698994	3249856	47.2	9.1	24.7	4.1	2.3	1.8	0.4	6.16	269	24	17	56
8	698789	3249505	58	10.3	23.9	5.6	3.4	1.8	0.3	6.62	297	17	97	42
16	701677	3249119	74.4	13.8	9.7	5.1	2.6	2.6	0.3	2.43	152	46	238	25
20	703068	3248056	70.2	12.2	3.8	5.7	0.9	3	0.4	0.53	275	297	19	28
21	703489	3248433	58.5	11.6	11.4	5.7	2.6	2.4	0.4	2.94	337	151	39	24
22	703597	3248825	68.1	12.9	9.3	6.7	2	2.9	0.3	2.14	175	81	27	27
23	703971	3249338	69.5	13.2	9.4	4.8	2.2	2.8	0.2	1.89	137	75	37	28
24	704020	3248781	20.5	5.5	41	3	2.1	0.7	0.5	18.9	506		53	21
25	703916	3247870	55.5	11.2	9.1	5.8	2.2	2.6	0.3	2.12	120	42	21	28
26	704462	3248200	62.1	11.6	5.4	5.6	1.2	2.9	0.3	0.94	116	86	15	24
27	704472	3247684	55.6	10.7	18.1	5	1.8	2.3	0.2	2.57	90	23	18	28
28	705054	3248085	54.7	12.3	13.9	7.1	3.2	1.8	0.2	4.22	156	30	36	36
29	704726	3247338	61.3	11.9	8.2	5.4	2.1	2.5	0.2	2	97	27	22	24
30	704847	3247387	65.7	13	4.2	3.4	1.4	3.2	0.1	0.88	55	14	14	15
31	704593	3249186	58.8	12.6	8.1	4.7	2.4	2.4	0.2	1.66	110	24	26	24
32	705146	3249977	53.1	12.5	11.3	5.4	2.9	2	0.2	2.57	121	10	30	24
34	705071	3250748	63.4	11.4	11.6	3.2	1.3	4.2	0.2	1.62	95	41	14	61
36	705937	3252027	69.6	12.1	3.5	4.2	0.9	5	0.1	0.7	46	30	7	23
109	707134	3252579	50.2	10.3	23.1	3.9	1.5	2.3	0.3	2.11	117	24	14	74
110	707462	3253280	63	12.5	6.9	4.1	1.9	2.8	0.1	1.53	72	28	13	36
111	707581	3253844	57.6	12.3	8.5	5.2	2.4	2.5	0.2	2.22	107	25	17	35

269	705902	3253247	43.3	9.3	29.3	6.6	2.5	1.6	0.3	4.89	258	27	17	67
273	706954	3254673	58	13.1	8.9	5.8	2	2.3	0.2	1.8	101	7	14	29
274	707196	3254586	54.5	12.1	12.4	7.9	2.7	2	0.2	2.69	125	13	19	28
275	706990	3254126	54.3	12.1	12.3	7.9	2.7	2	0.2	2.64	124	12	19	28
276	706859	3254253	51.7	11.4	18.2	7.7	2.7	1.9	0.3	3.53	166	17	18	41
277	706244	3254177	43.2	9.6	28	6.6	2.4	1.6	0.3	3.95	200	21	16	58
278	707014	3255815	35.1	7.4	37.8	6.5	2.2	1.2	0.6	8.62	351	36	20	89
279	707215	3256569	61.1	13.3	20.3	9.9	4.2	1.9	0.4	5.45	200	7	27	36
282	702053	3257439	60.9	12.5	10.7	7.5	2.8	2.3	0.2	2.13	128	12	21	20
301	699050	3252996	64.9	11.7	16.4	3.1	0.8	2.8	0.2	1.1	99	27	6	57
302	699832	3253706	69.3	12.8	7.7	4.6	1.9	3.1	0.2	1.17	160	102	19	26
303	699975	3254190	49.5	10.6	17	8.9	3.9	1.5	0.3	3.8	170	9	25	44
304	700336	3254286	68.6	12.4	5.7	3.9	1.9	3	0.2	1.17	115	10	11	20
305	700729	3254611	40.3	8.3	31.1	7.1	3	1.2	0.4	6.94	285	16	21	59
306	701217	3254373	42.9	8.2	29.5	7.7	3	1.2	0.4	7.54	276	22	16	106
307	701292	3254468	49.1	10.6	24	6.7	2.7	1.5	0.3	4.55	207	13	17	66
308	700526	3254679	51.7	9.5	24.8	4.1	1.4	2.3	0.3	4.33	203	28	9	47
309	702884	3256849	47.9	11.1	14.4	9.9	4.5	1.4	0.3	3.53	143	18	21	26
310	701697	3256484	52.8	12.3	14.4	8.5	3.5	2	0.3	3.32	157	13	22	37
311	701185	3255885	59.2	12.4	11.3	5.4	2	2.4	0.2	1.87	122	39	11	57
313	702038	3257866	54.7	11.7	13.7	8.3	3.4	1.8	0.2	3.19	145	19	22	22
601	701063	3252291	57.5	11.9	10.6	7	2.7	1.9	0.2	2.6	126	27	18	58
602	700940	3252831	60.7	10.5	14.4	5.6	2.2	2	0.2	3.09	134	29	13	60
603	701468	3252359	54.7	11.5	11.3	7.2	2.5	2	0.2	2.66	135	33	17	48
604	701952	3251926	39.6	7.6	12.1	4.7	2.1	1.7	0.2	2.66	133	24	34	20
605	701853	3252922	43.3	10.2	8.9	4.6	2.3	1.8	0.2	2.08	103	13	14	31
606	701976	3252903	32.4		7.2	2.6	1.5		0.1	1.42	98	49	11	12
607	702377	3253466	57.7	10.6	17.3	8.3	3.3	1.6	0.3	4.39	184	33	19	71
608	703052	3254117	55.4	6.6	47.5	6.6	2.5	0.9	0.5	7.34	389	46	16	102
609	702464	3252319	72.1	13	12.2	5.6	2	2.8	0.2	2.33	148	40	16	31
610	702758	3252621	59.4	11.9	18.9	7.7	3.1	2	0.3	4.15	215	33	34	31

611	703270	3251899	62.5	12.8	13.8	7.5	2.9	2.2	0.2	2.93	168	34	37	27
612	703032	3253030	63.5	11.2	18.5	5.8	2.3	2.3	0.3	3.5	204	38	18	32
613	703500	3252680	64.5	12.1	12.9	7	2.5	2.3	0.2	2.58	164	29	17	21
614	703488	3252418	61.5	11.8	13.4	6.4	2.4	2.2	0.2	2.52	157	29	21	29
615	703917	3252307	67.8	12	13	5.5	2.1	2.6	0.2	2.28	143	45	18	26
616	703234	3253415	65.7	11.7	13.7	6.5	2.3	2.3	0.2	2.78	158	36	15	21
617	703937	3254260	56.8	11.7	16.2	9.3	3.3	1.8	0.3	3.5	186	31	18	28
618	704080	3254443	77.3	12.6	4.9	3.9	1.3	3.1	0.1	0.83	67	31	8	25
619	704199	3254764	60.3	12.7	14.3	9.4	3.3	2	0.2	3.02	160	38	19	24
620	704274	3255097	57.1	10.9	19.4	8.5	3.4	1.6	0.3	4.44	225	41	18	37
621	703976	3255193	52.8	11.6	19.6	8.1	3.6	1.3	0.3	5.01	199	28	24	33
622	703980	3255407	49	8.8	30.2	6	2.1	1.4	0.9	7.47	238	66	18	187
623	704334	3255423	57.2	11.7	14.1	9.1	4.1	1.6	0.2	3.59	166	38	23	30
624	704107	3255589	53.5	9.2	25.8	7.4	2.9	1.6	0.5	6.28	244	54	19	83
625	704016	3253688	56.7	11	18.3	9	3.8	1.5	0.3	4.86	194	32	30	25
626	704377	3253355	67.7	11.8	9.6	7.1	2.6	2.4	0.2	1.94	104	10	19	20
627	704234	3252994	69.7	11.6	7.4	5.2	2	2.7	0.1	1.48	91	19	16	17
628	704806	3253002	40.3	7.6	33.9	8	3.4	1	0.5	9.35	359	21	27	35
629	704980	3253153	64.8	11.9	11.4	6.5	2.7	2.2	0.2	2.52	132	16	16	24
630	704909	3253419	45.2	9.3	28.5	7.5	3.2	1.3	0.4	7.08	289	25	26	29
631	705151	3253915	44.8	9.3	27.7	7.6	3.2	1.2	0.4	6.89	272	22	26	30
632	704746	3252597	78.8	11.9	5.3	4.1	1.4	3	0.1	1.06	55	20	17	15
633	705306	3252716	56.9	9.9	20.1	6.9	3.2	1.6	0.3	4.43	215	28	19	39
634	705314	3252319	66	11.8	13.6	4.3	1.7	2.3	0.3	1.87	123	33	17	50
635	705916	3252647	69.4	12.6	10.9	6.8	3	2.1	0.2	2.45	115	26	17	33
636	706727	3252952	71.6	13.4	8.1	5.8	2.4	2.4	0.2	1.68	84	27	15	24
645	707034	3255167	62.3	11.6	15.7	5.5	1.9	2	0.2	2.4	140	32	13	63
646	707259	3254959	52.1	9.7	28.6	5.8	1.9	1.8	0.3	4.12	218	31	13	53
901	700799	3250806	60	10.1	18.9	6.8	2.5	2	0.3	4.88	184	26	17	38
902	700870	3251266	64.9	10.8	18	5.9	2.1	2.2	0.3	3.76	169	25	17	44
903	701605	3251242	75.9	11.7	11.2	5.4	2.1	2.5	0.2	2.3	116	24	16	34

904	702327	3251254	68.3	11.4	15.1	6.4	2.6	2.2	0.3	3.25	175	28	20	35
905	701894	3250635	70.8	11.7	14.8	6.7	2.7	2.2	0.3	3.28	159	26	21	35
906	701743	3250143	76.9	10.7	12.2	4.7	1.7	2.4	0.2	2.95	129	18	14	35
907	702216	3250385	74.2	11.6	13.7	5.4	1.7	2.4	0.2	2.39	133	29	17	50
908	702422	3249480	78.2	12.5	7.5	6.2	1.8	2.5	0.2	1.55	134	30	34	16
909	702884	3256849	70.7	12.3	8	7.2	2.2	2.7	0.2	1.4	126	35	14	47
910	702944	3256700	51.7	10.1	26.3	9.4	4.3	1	0.4	7.18	260	29	25	36
911	702600	3256165	86.9	13.3	5.8	4	0.7	2.8	0.2	0.82	99	32	8	45
912	702431	3255700	52.4	10	28.1	8.4	3.5	1.1	0.4	6.9	271	31	23	38
913	702817	3254694	55.4	8.7	23.4	11	4.6	1	0.3	5.72	215	32	26	61
914	702124	3257160	85.3	12.3	4.5	5.6	1.4	2.5	0.1	0.69	53	24	12	12
915	702553	3257695	78.9	11.2	10.9	6.1	2.1	2.1	0.2	2.3	109	30	17	28
1201	699287	3252494	43.2	9.4	30.8	6.1	3.6	1	0.4	7.39	326	35	33	85
1202	699640	3252196	41.5	7.6	39.7	4.4	1.7	1.3	0.3	3.18	198	65	12	168
1203	699723	3251886	61.6	12	14.9	5.6	2.6	1.8	0.2	2.77	158	34	18	79
1204	699731	3251081	69.6	11.4	11	4	1.9	2.6	0.2	1.88	111	41	14	44
1205	699969	3251029	71.9	11.7	10.7	5.1	2.5	2.4	0.2	2.5	117	38	19	39
1261	702631	3258410	50.8	10.3	16.7	5.4	2.8	2	0.3	4.81	160	25	17	42
1262	703197	3257770	27.6	5.9	37	5.5	2.7	0.8	0.6	11.5	345	44	16	89
1265	703700	3257590	43.5	10.1	22.3	6.7	4.4	1.1	0.3	6.16	223	28	24	41
1266	703964	3257748	46.4	10.3	19.8	6.6	4.2	1.4	0.3	5.56	204	36	21	45
1267	704234	3257542	61.1	11.4	11.1	4.1	2	2.4	0.3	2.2	132	32	12	61
1268	704177	3257031	61.6	12.1	9.1	4.4	2.3	2.2	0.2	1.98	126	36	16	63
1269	704241	3256478	41.5	8.9	29.1	5.4	3.4	1.1	0.6	6.85	292	43	17	129
1270	704095	3256256	57.9	11.9	13.6	4.9	3	1.9	0.3	3.47	171	43	21	73
1277	703403	3248795	52.8	11.5	10.4	5.9	3.3	2.3	0.2	2.13	148	35	19	32
1285	705066	3256364	51.1	10.8	18.9	5.7	2.8	1.9	0.3	3.28	258	74	29	65
1286	705314	3257138	49.9	10.4	15.3	6.2	3.3	1.7	0.3	3.03	194	50	18	68
1287	705619	3257386	48.5	10.3	18.4	6.9	4.1	1.5	0.3	4.51	206	37	21	42
1288	706476	3258351	53	10.1	20.9	5.2	2.5	1.8	0.2	2.33	153	41	17	33
1311	705277	3257918	57.9	9.1	9.1	5.8	3.3	1.8	0.1	1.56	90	29	22	23

1501	702782	3249874	56.8	11.9	10.1	6.9	3.5	1.7	0.2	2.21	116	30	20	26
1502	703121	3250033	72.8	13.5	4.9	2.3	1.1	3	0.2	0.91	74	35	11	42
1503	703221	3250525	65	11.6	9.7	4.6	2.4	2.1	0.2	2.8	111	36	24	72
1504	703899	3250340	66.6	12.6	13.9	3	1.4	2.3	0.3	1.95	117	52	13	104
1505	704121	3250779	69.2	13.4	10.3	4.7	2.3	2.4	0.2	2.4	109	43	21	59
1506	703078	3249726	71.6	12.8	11	4.1	1.6	2.5	0.2	1.57	108	68	19	47
1507	702946	3249234	77.2	13.3	6.4	5.1	1.6	2.5	0.3	1.22	323	111	29	23
1508	698825	3253138	77.7	13.4	7.4	5.8	2.2	2	0.2	1.55	120	36	13	38
1510	699483	3254174	37.6	7.5	38.2	5.7	2.4	1.2	0.3	4.69	236	66	14	161
3001	704573	3247574	61.6	11	7.2	6.3	1.9	2.9	0.34	1.61	155	92	16	29
3003	704596	3247757	62.8	11.1	7.4	4.9	1.9	2.4	0.14	1.42	91	27	15	20
3004	704660	3247732	63.4	13.1	9.4	5.3	2.2	2.4	0.13	1.96	112	35	18	25
3005	704741	3247683	69	13.5	4.4	4.3	1.7	2.9	0.08	0.83	88	29	19	15
3006	704889	3247519	62.5	12.8	7.9	4.6	1.7	2.8	0.12	1.45	93	32	16	21
3007	704937	3247510	65.9	13.2	7.9	4.6	1.7	2.7	0.11	1.35	91	37	17	21
3008	704749	3247337	66.8	12.8	6.5	6.2	1.9	2.7	0.12	1.35	105	38	20	20
3009	704818	3247233	66	12.7	5.7	6.9	1.9	2.8	0.11	1.19	103	33	19	19
3010	703934	3247556	65.5	13.3	8.6	4.2	2	2	0.28	1.64	278	44	19	30
3011	703898	3247500	58.8	11.4	13.5	6.4	2.2	2.4	0.39	3.05	200	55	24	34
3012	704176	3247414	57.2	11.6	9.4	6.2	2.8	2.3	0.22	2.26	126	32	21	28
3013	704272	3247395	61.2	11.5	6.1	6.6	1.6	2.9	0.21	1.33	111	36	13	27
3014	704279	3247442	55	10.7	7.2	8	2	2.3	0.37	1.33	125	93	18	30
3015	704175	3247690	57.1	11.1	10.5	6.5	2.2	2.4	0.28	2.42	164	51	20	30
3016	704006	3248048	58.9	12.1	6.8	6.3	2	2.4	0.45	1.08	199	141	23	31
3017	704325	3248109	58.3	11.3	6.2	5.5	1.3	2.6	0.31	1.13	143	128	16	25
3018	704477	3248198	58.6	12.3	6.9	4.4	1.8	2.8	0.13	1.34	105	27	15	22
3019	704443	3248244	60	12.6	6	4.4	1.8	2.9	0.12	1.19	104	31	15	21
3020	704213	3248380	58	12.7	10.7	5	2.1	2.4	0.2	3.01	139	23	25	25
3021	704208	3248429	41.5	10.5	23	6	2.8	1.7	0.36	9.29	289	27	38	23
3022	703467	3248257	54.5	12.2	11.8	6.1	2.6	2.4	0.47	2.89	660	263	41	28
3023	703320	3248334	48.6	11.8	14.8	6.3	3.1	1.8	0.49	3.72	692	206	47	30

3024	703341	3248362	56.9	13.1	6.4	6.9	2.3	2.6	0.5	1.12	876	320	33	25
3025	703627	3248629	60.3	13.8	8.9	4.7	2.3	2.5	0.22	1.55	317	146	34	26
3026	703533	3248953	58.3	12.3	13.4	5.1	2.5	2.2	0.2	2.77	132	34	32	34
3027	703200	3248881	64.2	14.1	7.4	5	1.8	2.9	0.32	1.45	412	146	37	24
3028	703166	3248864	64.9	13.9	8	4.9	1.9	2.8	0.39	1.59	447	174	68	25
3029	702933	3248817	59.6	12.9	12.8	5	2.2	2.3	0.65	2.71	590	301	61	31
3030	702880	3248806	62.4	14	5.2	3.5	1.5	2.8	0.19	0.97	254	84	29	18
3031	703045	3248528	48.3	10.5	20	4.8	2	2	0.8	4.26	657	424	66	33
3032	703083	3248543	55.7	12.1	9.4	4.5	1.9	2.4	0.42	1.95	501	217	44	25
3033	702792	3249369	61.5	12.5	7.4	3.5	1.8	2.3	0.16	1.82	94	35	25	26
3034	702761	3249336	62.4	13.4	6.2	3.5	1.6	2.5	0.12	1.16	78	30	20	20
3035	702852	3249210	58.5	11.8	11.7	4.3	2.3	2	0.26	2.93	135	46	41	34
3036	702506	3249213	60	13.8	5.5	5.3	1.9	2.8	0.14	1.34	95	31	28	21
3037	702535	3249187	59.3	13.1	7.7	5.3	2	2.6	0.2	1.91	114	48	40	25
3038	702617	3249247	51.3	11.2	16.1	5.2	2.2	2.1	0.28	3.85	258	47	48	26
3039	702648	3249018	56.9	12.2	10.8	5.2	2.3	2.1	0.22	2.32	237	41	46	25
3040	702413	3249503	54.6	12	10.2	5.7	3.7	1.8	0.2	2.18	130	37	32	31
3041	702130	3249557	69.2	12.5	5.8	3.3	1.5	3.1	0.12	1.32	83	33	11	29
3042	701946	3249363	75.9	12.3	3.7	2.5	1.2	3.2	0.1	0.68	65	35	14	22
3043	702015	3249181	60.1	12.1	9.6	4.2	2.3	2.3	0.22	1.99	134	43	40	27
3044	702015	3249056	68.3	13.1	5.7	2.7	1.2	3.2	0.2	0.97	100	50	36	23
3045	701977	3248939	60	13.5	7.6	5	1.6	2.8	0.21	1.74	102	42	49	25
3046	702184	3248921	61.2	14.2	6.3	5.3	1.5	2.9	0.17	1.29	94	37	40	21
3047	701910	3248717	54.5	12.4	13.6	5.8	1.9	2.3	0.22	3.06	139	46	52	28
3048	702129	3248762	57.8	13.1	5.2	5.5	1.7	2.4	0.11	1.12	82	27	31	17
3049	701886	3248611	52.8	12.1	12.1	5.3	2.9	2	0.22	3.16	157	35	66	26
3050	702106	3248590	53.9	12.6	11.4	5.1	2.6	2.1	0.2	2.75	156	33	60	24
3051	701867	3248503	49.6	10.9	13.7	5.1	2.6	1.7	0.21	3.53	181	35	64	24
3052	702164	3248308	60.8	13.1	5.2	4.8	1.7	2.7	0.23	0.95	145	154	45	23
3053	702199	3248375	58	12.9	9.1	4.3	2	2.3	0.19	1.68	127	35	132	24
3054	702332	3248343	57.9	12.9	8.7	4.9	2.2	2.2	0.28	1.88	225	42	49	27

3055	702432	3248460	54.6	11.9	14.9	5.6	2.9	1.9	0.23	3.62	215	33	49	25
3056	702463	3248435	61.9	13.5	8.4	3.7	1.9	2.6	0.25	1.73	300	44	73	23
3057	702482	3248397	67.3	14.4	5.5	2.7	1.4	3.1	0.19	1.11	300	37	66	21
3058	702647	3248256	60.7	13.5	9.5	5.3	2.5	2.2	0.33	1.99	250	50	54	29
3059	701869	3248005	60.8	14.1	8.8	6	2.8	2.4	0.26	1.81	164	45	178	24
3060	702135	3248154	56.7	13.2	11.2	6	2.8	2.2	0.32	2.51	193	56	211	25
3061	701891	3247784	67.2	11.4	9.7	3.5	1.6	2.5	0.28	2.04	163	52	32	45
3062	702269	3247703	65.7	13.2	7.4	2.9	1.7	3	0.33	1.57	297	117	65	31
3063	702392	3247655	59.2	13.5	9.9	4.4	2.2	2.5	0.41	2.12	242	79	64	28
3064	702739	3247775	54.1	12.9	13.6	4.7	2.5	1.7	0.51	2.63	373	54	89	37
3065	703104	3248005	58.3	13.2	11.2	5.8	2.5	1.7	0.38	2.11	442	147	44	34
3066	703147	3248021	61.8	13.1	11.2	4.7	2.2	210	0.61	1.97	1288	371	109	43
3067	703543	3248015	50.3	12	16.8	6.6	3.7	1.3	0.49	3.81	1031	278	64	34
3068	703400	3247815	61.5	12.6	7.1	8.2	1.8	2.6	0.43	1.28	204	138	18	34
3069	703348	3247579	61.5	12.9	11.6	6.5	3	2.4	0.37	2.25	198	46	26	32
3070	703348	3247528	65.1	12.6	10.5	6	2.4	2.4	0.42	1.89	217	55	31	30
3294	703315	3249882	66.8	13.5	6.6	2.9	1.2	3.1	0.19	1.03	103	53	14	59
3295	703485	3250152	54.8	12.1	13.4	6.1	2.6	2.1	0.24	2.3	138	54	33	70
3296	704072	3250237	46.8	9.5	30.2	4.9	2.4	1.8	0.4	5.97	258	72	26	119
3297	703510	3249680	69.1	13.4	5.3	4.5	1.3	3.2	0.14	0.88	75	38	15	41
3298	703475	3249576	70	12.9	6	3.9	1.2	3.2	0.14	0.92	76	37	15	50
3299	703670	3249324	61	12.4	12.9	6.2	2.6	2.3	0.17	2.12	125	42	33	30
3300	703738	3249111	61.9	12.4	10.6	7.1	3.1	2.3	0.14	1.87	98	24	27	28
3301	704157	3249267	61.6	10.9	18.6	5.2	2.5	2.3	0.24	2.97	164	74	35	42
3302	704562	3249616	59	10.5	8	3.2	1.6	2.3	0.18	1.27	131	57	16	50
3303	705415	3250042	62.9	10.8	4.4	3	1.1	2.6	0.1	0.83	74	31	9	28
3304	704630	3249708	54.6	10.7	9.1	4.6	1.3	2.3	0.18	1.18	103	29	11	34
3308	705134	3250696	63.2	11.5	7.8	3.6	1.6	2.8	0.14	1.38	79	43	12	39
3309	705244	3250785	65.4	11.8	5.4	3.4	1.4	3	0.11	0.99	70	27	11	30
3310	705316	3251083	50.9	9.4	4.3	2.8	1.2	2.6	0.08	0.73	68	12	11	28
3311	705397	3251058	69.4	10.4	5.6	5.3	1.3	3.1	0.1	0.94	63	52	13	23

3328	698774	3253235	50.4	8.8	40.7	4.3	1.5	1.7	0.37	4.9	233	45	12	224
3329	699560	3253995	50.1	9.5	34.4	7.2	3.3	1.5	0.43	5.9	264	48	24	183
3330	698734	3253106	47.4	8.5	19.2	3.3	1	1.7	0.2	2.81	106	29	8	191
3331	698922	3252995	51.5	9.6	14.8	4.2	1.8	1.5	0.19	1.76	124	25	12	61
3332	699335	3253241	45.9	9	17.2	4.7	2.4	1.2	0.24	2.83	157	24	31	68
3333	699719	3253624	53.7	9.7	9.1	4.7	2.1	1.7	0.18	1.68	109	25	16	66
3334	699811	3253410	44.7	8.3	20.9	4.2	2.2	1.4	0.25	3.57	189	27	16	97
3335	699938	3253458	46.2	8.3	20.8	4.2	2.2	1.3	0.26	3.63	182	40	15	116
3336	699891	3253833	53.7	9.7	8.1	4.2	2.2	1.8	0.16	1.66	102	28	16	32
3337	700200	3253870	65.9	12	12.6	5.1	2.4	2.3	0.21	2.52	132	12	15	99
3338	700621	3253997	76.8	13	4.9	2.8	1.3	3.2	0.15	0.86	101	14	7	36
3339	699507	3252338	45.9	9.4	35.2	6.1	3.7	1.2	0.42	7.93	347	23	27	87
3340	699566	3252170	62.8	11.4	13.4	5.5	2.6	1.9	0.22	2.81	132	26	21	102
3341	699424	3251813	72.2	12	12.2	3.6	1.4	3.1	0.18	1.59	106	39	9	121
3342	699816	3252045	59.1	10.9	21.1	4.8	2	2.1	0.24	2.96	156	25	12	147
3343	699797	3251902	43.3	6.7	30.7	3.7	1.1	1.5	0.23	2.67	138	63	13	157
3344	699524	3251560	46.4	8.2	17.7	5.2	1.9	1.7	0.22	2.86	151	66	17	69
3345	699557	3251324	48.3	7.9	22.4	4.6	1.9	1.7	0.33	5.26	221	60	24	71
3346	699629	3251206	61.3	11.6	15	5.2	2.3	2.3	0.26	3.39	162	34	16	66
3347	699704	3251058	61.1	11.8	17.6	5.4	2.8	2.1	0.27	3.23	201	39	21	62
3348	699864	3250887	67.2	11.3	13.7	4	2	2.6	0.21	2.28	132	30	13	57
3349	699976	3251653	61.8	11.7	12.9	5.4	2.7	1.9	0.22	2.61	146	19	19	78
3350	700178	3251840	53.1	9.6	27	4.5	1.4	1.8	0.24	2.6	141	39	9	191
3351	700378	3251925	41.6	8.8	33.7	5.7	3	1.1	0.37	6.06	285	30	22	105
3352	700394	3251816	64	12	10.9	5	2.3	2.1	0.2	1.8	139	41	14	76
3353	699910	3251538	67	12.1	8.1	4.6	2	2.3	0.17	1.58	121	27	13	62
3354	700264	3251485	65.1	11.8	9.1	4.7	2.2	2.4	0.16	1.8	116	22	13	40
3355	700944	3252352	77.3	12.6	5.7	3.1	1.3	3.2	0.13	1.11	92	18	9	57
3356	700999	3252656	76.9	12.4	6	2.5	1	3.4	0.13	1.23	79	16	12	72
3357	701237	3253606	60.6	11.9	14.6	5.4	3.2	2	0.21	3.04	151	10	18	58
3358	701161	3253664	60.3	10.6	19.5	4.2	2.1	2.6	0.23	3.89	169	8	14	61

3359	698689	3251906	53.9	9.8	30.7	4.1	1.9	2.2	0.35	5.23	251	24	14	80
3360	698887	3251721	56.8	11.5	12.7	7.8	3.5	1.8	0.25	2.17	116	16	29	30
3361	698844	3251611	50.8	11.6	19.4	6.7	3.6	1.9	0.29	5.12	191	24	22	54
3362	699492	3249276	58.9	10.3	18.4	5.1	3.2	2.1	0.28	4.02	198	18	19	39
3363	698987	3249266	62.4	11.9	15.4	5.4	3.2	2.3	0.22	3.05	160	21	21	37
3364	699303	3249003	47.7	8.4	33	4.7	2.5		0.43	7.75	349	17	20	57
3365	698959	3248967	56.1	9.4	19.3	5.4	3.3	1.7	0.3	5.04	204	21	19	44
3366	699048	3249475	48.8	8.4	28.5	4.4	2.3	1.8	0.38	6.18	297	29	17	52
3367	698994	3250408	56.5	11.4	11.6	6.3	2.3	2	0.2	2.33	133	26	21	45
3368	698890	3250573	46.3	8.1	35.1	3.3	2.7	1.9	0.27	2.34	135	38	6	161
3369	699058	3250921	39.3	8.1	39.5	5	1	1.3	0.45	8.67	362	33	19	82
3370	698928	3250939	45.2	10.8	24	7.2	3.7	1.2	0.33	6.41	256	26	26	43
3371	698931	3251323	60.4	10.9	15.3	4.8	1.9	2.2	0.23	2.83	143	33	15	90
SS	La	Ce	Nb	P	Li	V	Cr	Co	Ni	Sr	Sn	Ba	Zr	
SID	ppm													
1	31	56	26	2083	11	119	183	15	49	318	9	329	410	
4	24	24	13	2247	7	60	75	8	36	297	10	180	217	
5	66	124	41	3085	29	310	103	36	65	316	12	336	235	
7	84	172	80	2876	25	626	164	43	61	205	6	278	387	
8	69	128	60	4661	29	577	194	50	81	291	38	321	321	
16	43	94	28	3266	24	158	34	39	71	359	33	593	251	
20	57	133	16	1015	14	69	14	18	30	181	25	853	287	
21	39	95	28	2317	20	243	43	35	60	320	15	486	234	
22	44	100	28	2772	18	165	28	26	49	338	32	653	470	
23	48	99	29	3479	26	159	39	27	52	349	33	571	361	
24	34	99	143	3728	15	###	29	75	53	216	20	176	3278	
25	40	91	24	2315	19	141	35	15	36	248	18	675	913	
26	46	98	14	1411	15	61	23	4	17	306	12	573	269	
27	47	89	31	2788	21	261	92	13	33	362	17	591	517	
28	61	117	42	3281	26	253	45	23	43	631	20	460	508	
29	42	82	23	2411	19	145	29	13	34	421	14	614	302	

30	31	55	12	1445	21	61	20	2	20	374	9	840	208
31	42	81	20	2931	24	128	43	16	37	410	17	607	517
32	38	71	26	3314	21	211	38	21	52	452	22	824	351
34	78	174	64	1670	20	145	20	17	33	166	21	308	589
36	49	90	28	803	18	34	14	5	21	168	16	331	290
109	89	199	75	1634	30	305	43	26	50	159	21	243	519
110	74	137	42	1954	30	107	37	21	40	183	24	297	201
111	61	115	43	2420	28	154	52	25	51	230	26	348	206
269	141	316	89	4120	29	582	214	40	63	239	20	319	603
273	71	147	43	3371	30	177	39	21	46	250	28	348	239
274	54	116	43	4130	28	282	84	32	60	283	27	400	286
275	54	115	43	4095	28	279	84	31	61	283	29	398	253
276	86	190	63	2954	28	350	103	34	59	279	29	398	385
277	116	263	82	4139	25	464	125	31	56	239	24	322	553
278	129	322	160	5995	24	633	69	37	53	173	34	247	684
279	69	154	80	7722	30	321	32	45	57	436	34	546	341
282	49	101	33	5811	29	206	65	27	55	357	32	633	213
301	122	279	62	1887	25	166	26	10	26	128	15	299	575
302	58	130	32	1732	37	140	15	17	44	223	21	503	252
303	87	196	55	4630	29	412	105	43	62	290	23	342	297
304	54	109	30	2593	36	137	24	13	33	207	20	531	159
305	108	260	79	3507	23	778	231	55	66	216	6	242	484
306	175	461	126	3927	25	744	219	54	69	208	15	236	497
307	116	284	77	4236	31	495	104	32	59	249	24	291	503
308	80	200	68	2329	18	502	150	24	48	186	10	469	478
309	35	88	31	5891	43	363	83	49	62	451	28	1200	187
310	61	147	54	7079	32	294	94	40	61	346	28	483	206
311	97	254	71	3148	33	147	43	11	35	203	21	277	447
313	43	85	36	7144	25	245	81	22	48	403	15	696	194
601	108	265	64	3687	27	213	54	21	49	298	28	311	275
602	111	279	71	3216	24	288	77	17	43	236	24	295	349

603	87	218	57	4521	29	213	40	19	39	283	27	354	270
604	31	66	30	4454	26	248	48	14	30	198	17	275	210
605	64	144	37	3045	38	183	54	19	37	284	11	233	177
606	159	549	31	2263		154	40	358	676				152
607	123	318	87	3569	28	400	139	47	68	275	30	271	381
608	164	410	118	3383	19	946	297	72	82	165	7	165	1054
609	80	178	54	4051	33	201	52	28	54	281	28	375	308
610	78	163	54	4395	31	386	90	47	82	328	28	349	336
611	65	134	44	4076	34	264	52	41	75	334	32	365	330
612	77	167	55	3640	28	368	120	33	63	255	23	364	378
613	46	97	30	5735	26	254	111	35	58	366	28	508	313
614	69	146	41	4024	33	259	75	32	57	280	28	376	322
615	68	147	43	3096	29	239	67	30	61	242	29	370	307
616	52	108	36	4833	27	273	76	35	56	296	27	430	289
617	59	124	34	7941	28	328	71	42	58	351	33	503	343
618	41	88	21	2437	22	85	36	22	40	191	28	356	188
619	50	106	30	7325	31	277	66	43	63	339	35	511	336
620	75	161	53	6470	25	416	134	47	70	320	29	381	351
621	50	115	56	5934	24	410	161	46	69	412	34	341	308
622	199	623	262	4749	29	422	46	46	53	177	50	241	1198
623	53	114	46	7179	32	228	92	44	65	385	39	420	278
624	102	287	120	5127	33	500	160	49	65	232	42	284	664
625	45	102	48	8642	24	324	51	51	67	381	40	492	300
626	42	80	29	4053	27	143	31	23	42	344	21	423	252
627	44	87	25	3657	24	96	57	18	38	275	17	471	253
628	65	142	102	5843	26	807	166	58	75	262	25	289	380
629	53	109	36	5637	29	184	105	24	46	358	19	506	259
630	54	115	73	5830	26	636	93	51	72	317	18	353	360
631	54	117	73	5819	24	586	87	48	69	308	19	348	391
632	49	96	28	1966	25	63	16	16	33	211	17	385	168
633	93	204	68	4065	31	448	138	44	64	266	25	333	361

634	122	263	78	1495	28	186	33	24	50	174	25	222	440
635	89	183	52	4416	33	177	68	30	50	302	24	393	281
636	84	128	41	3168	28	111	37	24	48	269	27	440	270
645	113	266	84	3619	31	210	46	23	49	203	36	275	526
646	93	213	77	3657	24	459	137	27	54	210	29	310	550
901	80	167	67	5291	28	318	98	28	58	247	31	411	394
902	93	206	77	2876	25	347	102	27	53	249	24	337	390
903	94	192	59	3177	26	192	53	22	50	265	29	418	305
904	84	170	61	3635	26	302	79	32	66	286	30	570	402
905	86	173	62	3837	26	308	81	33	66	301	35	602	356
906	81	168	67	3051	21	236	53	22	49	186	27	299	368
907	127	258	74	2681	24	206	32	25	55	226	34	286	489
908	38	84	28	3024	17	111	34	26	51	275	30	573	259
909	83	182	60	3398	38	102	42	22	45	188	37	309	431
910	51	122	72	6288	27	640	223	52	85	354	31	572	376
911	72	187	73	985	21	47	18	13	27	122	32	193	425
912	63	140	74	5235	23	669	213	51	81	313	32	336	422
913	107	261	92	4133	21	587	208	53	80	256	44	257	392
914	37	82	22	1589	16	60	48	22	38	264	31	470	197
915	52	112	48	2888	24	230	80	32	54	284	36	430	314
1201	103	234	85	4110	23	775	295	51	79	262	6	304	451
1202	188	460	117	3901	22	509	87	25	46	144	24	232	1257
1203	104	250	72	3949	31	254	44	23	40	253	27	373	372
1204	87	173	54	1778	29	212	35	23	46	193	30	305	280
1205	73	139	47	3431	24	224	52	31	55	253	33	398	220
1261	54	100	47	4469	28	402	142	24	46	308	9	592	297
1262	73	167	89	4725	24	###	402	47	61	271		840	596
1265	47	86	44	5181	28	572	156	41	61	368	10	359	254
1266	53	103	50	5943	39	479	135	37	58	348	16	420	298
1267	77	171	63	3652	34	184	61	11	36	209	22	325	364
1268	83	186	57	3495	43	163	42	13	39	204	21	287	300

1269	114	307	125	3775	26	638	201	44	64	220	17	246	717
1270	86	201	73	3827	30	298	70	19	47	220	27	316	322
1277	41	81	20	4373	41	248	82	24	45	285	18	514	262
1285	101	211	61	4708	33	322	98	27	60	230	28	443	412
1286	78	176	63	4501	32	275	107	30	66	227	34	316	453
1287	47	100	45	5319	41	410	139	40	72	301	34	331	324
1288	46	94	31	3681	26	401	174	25	42	284	21	486	479
1311	34	54	16	3940	31	198	60	23	45	416	20	515	197
1501	39	66	20	3874	32	240	63	19	41	365	18	616	221
1502	46	106	45	927	17	106	54	2	28	81	12	191	955
1503	121	258	70	2764	23	227	42	18	49	235	22	353	381
1504	114	282	94	1629	27	176	34	14	40	129	20	287	977
1505	90	185	64	2591	20	204	62	19	49	204	21	360	441
1506	67	138	55	2108	17	193	65	14	40	209	18	529	667
1507	45	97	23	1915	14	136	48	14	38	266	18	703	614
1508	70	131	37	3278	32	163	58	16	44	210	23	387	545
1510	185	468	119	5159	23	576	118	27	52	155	18	421	940
3001	37	55	24	1516	15	135	26	14	49	195	14	595	280
3003	33	36	21	1943	21	133	42	1	38	336	15	704	260
3004	50	48	26	2460	23	177	55	5	40	466	15	725	353
3005	27	27	5	2046	19	97	22	3	22	400	20	836	223
3006	38	42	21	1730	27	142	47	3	18	375	17	858	312
3007	36	43	21	1766	26	148	50	5	27	371	18	835	294
3008	33	37	19	2141	20	128	30	7	34	395	23	762	234
3009	33	36	17	1656	21	116	39	8	19	386	24	859	290
3010	54	59	19	3661	34	153	44	17	55	225	24	714	261
3011	45	61	35	2655	24	244	32	22	62	232	35	983	353
3012	37	44	27	2132	20	186	41	12	55	245	20	654	294
3013	37	42	18	1572	16	116	21	3	37	198	18	894	297
3014	48	65	20	1924	17	128	32	8	35	231	19	374	284
3015	39	51	28	2201	19	206	37	10	50	235	20	742	302

3016	52	79	18	1340	20	128	26	12	50	275	25	557	272
3017	47	56	15	1175	15	104	27	2	15	293	5	602	284
3018	40	41	17	1676	20	124	32	7	28	365	9	738	257
3019	39	39	14	1768	20	116	27	7	20	376	10	761	255
3020	38	37	27	1907	24	241	38	12	47	433	6	639	299
3021	33	33	65	2215	24	742	34	42	72	356	9	483	303
3022	46	59	31	2117	17	242	32	28	67	338	17	540	250
3023	46	55	37	2648	19	304	40	41	76	384	20	496	256
3024	48	54	22	2061	18	129	45	18	59	365	14	649	247
3025	40	46	18	2377	25	167	46	16	49	350	10	652	247
3026	46	48	35	2133	20	267	51	17	47	385	15	633	269
3027	46	55	18	1767	20	136	30	15	44	359	11	691	248
3028	45	59	19	1967	20	145	31	14	45	362	11	701	255
3029	51	74	29	2142	20	230	48	30	51	359	10	668	315
3030	30	29	5	1695	19	92	16		11	358		689	197
3031	50	86	40	1995	18	384	76	50	68	299	11	589	347
3032	43	63	25	2138	17	173	41	18	54	318	12	585	247
3033	44	47	27	2380	19	137	28	12	45	282	13	663	259
3034	40	39	17	2126	19	115	27	9	32	290	13	675	245
3035	51	60	37	3087	22	204	37	28	60	283	20	696	300
3036	44	44	29	3040	18	111	37	12	53	220	16	567	250
3037	50	49	38	3355	19	136	47	19	60	217	21	713	270
3038	43	50	41	3338	18	315	63	29	69	249	21	548	310
3039	41	50	28	3598	20	192	39	25	58	326	26	616	270
3040	45	46	37	4682	28	205	63	28	91	284	31	483	245
3041	50	52	35	2615	22	114	26	18	32	188	29	363	220
3042	39	43	22	1072	18	73	18	19	28	218	25	404	208
3043	39	45	26	3637	24	182	40	22	67	351	20	620	227
3044	44	46	23	1869	19	82	30	12	47	195	14	838	243
3045	49	54	26	2584	21	120	38	18	51	245	18	899	322
3046	45	48	19	2228	20	111	33	16	40	247	19	784	308

3047	40	48	33	3381	18	245	65	24	58	288	15	803	324
3048	33	35	16	2125	16	97	25	14	36	286	14	583	205
3049	39	44	33	2893	19	237	41	30	65	276	18	560	267
3050	38	43	30	2917	19	219	42	25	62	269	20	573	279
3051	31	36	33	2623	17	288	35	28	65	264	23	459	234
3052	48	52	25	1685	20	90	41	15	49	181	15	538	229
3053	47	53	25	2309	23	131	48	25	56	316	20	636	342
3054	46	58	27	2635	17	152	28	26	61	341	26	540	262
3055	35	44	36	3167	17	310	41	33	71	324	33	514	263
3056	47	57	31	2825	19	127	36	23	48	289	23	623	274
3057	47	53	29	2823	18	92	27	20	25	247	23	634	255
3058	49	67	31	3000	19	165	30	28	63	358	33	556	262
3059	40	55	29	3587	24	154	38	28	68	392	33	717	262
3060	40	60	35	3459	24	197	44	45	78	373	36	703	295
3061	52	66	51	1907	20	174	41	22	33	174	28	334	358
3062	47	62	35	2385	20	119	29	19	48	249	16	621	303
3063	40	51	31	3408	22	172	23	28	61	401	21	757	271
3064	53	69	28	3394	24	240	28	51	78	382	24	565	256
3065	47	72	27	2410	21	217	42	34	66	384	26	395	307
3066	60	84	29	2584	19	191	27	33	60	356	29	410	309
3067	38	56	38	3584	28	360	75	59	100	410	30	361	251
3068	66	100	24	2230	20	113	32	28	59	261	30	958	355
3069	49	60	28	3763	30	196	36	36	76	324	37	880	297
3070	41	61	28	2815	26	178	33	36	64	309	35	773	304
3294	65	209	63	2034	18	82	20	29	54	121	34	232	1008
3295	87	281	66	3324	28	205	31	57	105	326	50	384	1441
3296	126	454	112	5075	25	571	74	68	109	226	33	321	1923
3297	52	148	42	2228	16	43	32	10	32	224	16	486	304
3298	51	154	46	2138	14	53	32	6	28	219	15	484	336
3299	45	119	32	5147	19	192	52	25	49	441	24	681	306
3300	40	104	30	4869	19	144	49	26	60	507	33	697	349

3301	52	159	52	5465	20	313	81	39	69	349	26	545	368
3302	67	190	49	3681	24	96	24	15	36	191	23	271	281
3303	53	124	33	2943	19	45	14	3	17	185	21	266	193
3304	50	130	30	3624	18	97	25	2	25	284	16	703	282
3308	60	162	42	3540	22	90	19	17	32	184	21	318	331
3309	49	126	31	3071	20	51	15	12	35	180	19	319	350
3310	41	95	27	1454	18	42	14		11	143	12	218	233
3311	54	116	29	3049	20	65	23	22	46	259	31	416	206
3328	240	951	149	6399	26	618	145	29	60	228	2	249	1190
3329	206	770	143	10778	35	572	128	49	91	281	38	533	906
3330	208	822	128	5743	21	216	25	19	49	182	18	239	710
3331	88	285	50	4989	30	189	56	26	56	234	13	261	323
3332	90	301	59	6574	29	283	94	38	61	267	19	285	352
3333	86	295	54	4118	29	117	36	28	64	227	22	289	255
3334	116	416	79	6193	23	370	139	40	68	210	12	271	477
3335	135	487	90	6252	26	359	110	38	63	211	26	267	546
3336	44	146	34	4149	20	125	47	36	51	247	26	333	201
3337	124	417	80	5313	32	181	50	28	49	265	31	372	357
3338	54	178	32	3354	22	46	16	22	35	224	28	415	220
3339	107	372	98	6658	28	859	324	74	108	325	9	314	458
3340	128	444	81	5905	28	195	70	50	74	317	48	354	371
3341	179	585	95	3041	32	121	22	44	65	203	48	391	535
3342	165	583	100	5410	30	278	56	8	42	233	16	322	609
3343	193	722	124	5167	22	371	66	96	119	186	87	220	849
3344	115	388	77	5558	28	295	78	108	128	240	98	293	391
3345	112	382	101	4402	22	470	109	106	135	244	92	301	660
3346	94	276	65	5647	25	250	51	24	43	271	16	396	464
3347	100	282	65	5016	28	323	81	43	71	282	34	311	646
3348	98	280	58	3507	32	229	43	21	43	230	27	313	618
3349	91	292	61	6488	31	182	35	11	24	300	20	374	439
3350	218	760	125	5757	34	289	41	4	27	185	9	255	970

3351	120	404	93	9206	32	599	68	32	50	279	19	320	778
3352	99	308	57	5954	38	131	39	15	35	256	18	333	485
3353	82	251	49	4472	33	93	27	12	28	248	20	359	365
3354	55	150	38	5062	26	134	45	12	30	279	23	381	299
3355	79	234	44	2628	31	63	21			195		378	245
3356	95	303	52	2438	24	70	16			178		379	340
3357	72	209	45	6613	30	262	87		16	324		390	651
3358	78	243	56	5206	22	387	122		14	244		360	473
3359	105	354	80	5797	25	600	163	5	27	225		330	686
3360	43	123	28	7519	42	188	93	16	30	390		583	334
3361	66	179	51	9495	31	410	137	10	41	364	10	371	1214
3362	50	162	52	5471	25	405	148	14	28	271		330	305
3363	49	146	43	5717	27	292	98	12	37	301		369	226
3364	70	196	87	5555	9	818	226	27	53			5	360
3365	71	191	57	7259	23	420	138	18	41	245		314	262
3366	75	216	76	5116	24	663	173	21	45	201		289	419
3367	63	179	37	7800	32	196	76	13	27	306		372	253
3368	220	738	123	4258	26	370	43	6	30	138	5	241	1081
3369	106	340	100	6289	24	931	275	33	57	214		268	567
3370	46	133	53	11150	25	541	163	30	55	377		406	297
3371	130	397	81	4445	28	239	50	17	38	218	9	307	453

Note: The sample locations are inaccurate as the shift can be up to a hundred meters from the actual location due to the methods adopted for conducting the regional survey in the 1990s.